

CKM Series



- Ratings from 10A to 30A @ 60 VDC
- Slim 22.5mm (width) package
- Low Leakage
- LED input status indicator
- DC control
- DIN Rail and Panel Mount

PRODUCT SELECTION

Description	10 A	20 A	30 A
4.5-32 VDC Control	CKM6010	CKM6020	CKM6030

OUTPUT SPECIFICATIONS (1)

Description	CKM0610	CKM0620	CKM0630
Operating Voltage [VDC]	0-60	0-60	0-60
Maximum Off-State Leakage Current @ Rated Voltage [mAmps]	0.1	0.1	0.1
Maximum Load Current [Amps]	10	20	30
Maximum Surge Current (10msec) [ADC]	30	60	90
Maximum On-State Voltage Drop @ Rated Current [VDC]	0.2	0.4	0.5
Maximum On-state Resistance @ Rated current (RDS-ON) [ohms]	0.02	0.018	0.016

INPUT SPECIFICATIONS (1)

Description	
Control Voltage Range	4.0-32 VDC
Maximum Turn-On Voltage	4.0 VDC
Minimum Turn-Off Voltage	1.0 VDC
Maximum Input Current (4)	9 mA @ 5 VDC, 11 mA @ 32 VDC (3)
Maximum Turn-On Time [msec]	1.0
Maximum Turn-Off Time [msec]	1.0

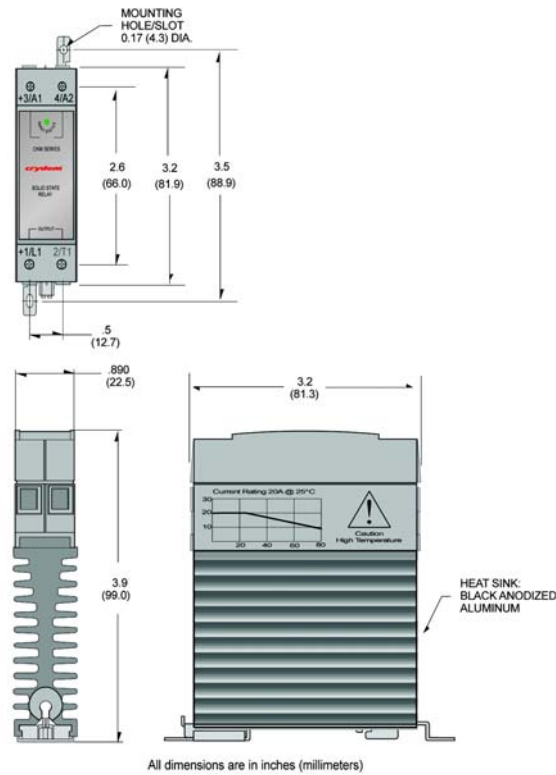
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	2500Vrms
Minimum Insulation Resistance (@ 500 V DC)	10 ⁹ Ohms
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range	-40°C to 80°C
Ambient Storage Temperature Range	-40°C to 125°C
Status Indicator Display	Green LED
Weight (typical)	10 oz. (280g)
Encapsulation	Thermally Conductive Epoxy
Terminals	Box Clamp Type
Maximum Wire Size:	AWG # 10 (3mm)
Recommended Terminal Screw Torque Range:	5.0-6.0 in lb (0.6-0.7 Nm)
Min. Side by Side Spacing	0.8 inch (20mm)

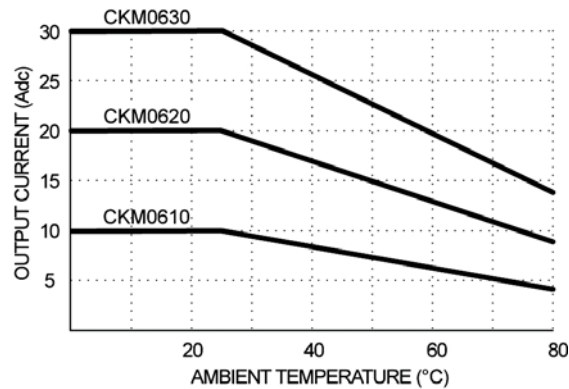
GENERAL NOTES

- 1) All parameters at 25°C unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- 3) Turn-on time for DC control random turn-on versions is 0.02 msec
- 4) Input circuitry for DC control version incorporates active current limiter.

MECHANICAL SPECIFICATIONS



THERMAL DERATE INFORMATION



AGENCY APPROVALS



Rev. 011209

 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor der Inbetriebnahme alle Anschlüsse überprüfen und alle Gehäuseteile montieren. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenda tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

CKR24 Series

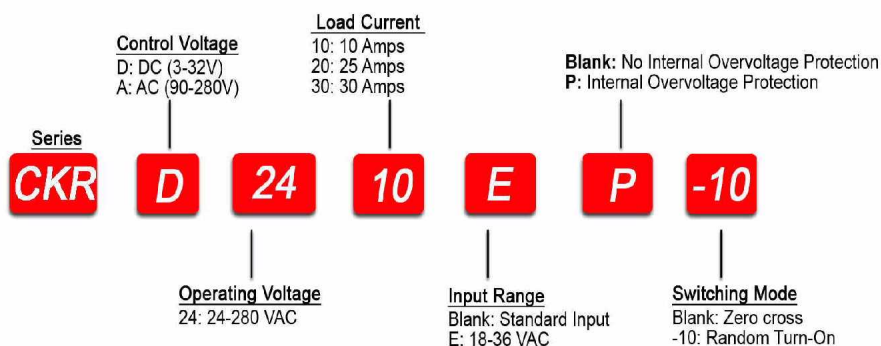


- Ratings from 10A to 30A @ 280 VAC
- Slim 22.5mm (width) package
- SCR output for heavy industrial loads
- LED input status indicator
- AC or DC control
- Zero-crossing (resistive loads) or random-fire (inductive loads) output

PRODUCT SELECTION

Description	10 A	20 A	30 A
4.5-32 VDC Control	CKRD2410	CKRD2420	CKRD2430
90-280 VAC Control	CKRA2410	CKRA2420	CKRA2430
18-36 VAC Control	CKRA2410E	CKRA2420E	CKRA2430E

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description	10 A	20 A	30 A
Operating Voltage (47-63Hz) [Vrms]	24-280	24-280	24-280
Transient Overvoltage [Vpk]	600	600	600
Maximum Off-State Leakage Current @ Rated Voltage [mA]	10	10	10
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	500	500	500
Maximum Load Current [A]	10	20	30
Minimum Load Current [A]	0.15	0.15	0.15
Maximum Surge Current (16.6ms) [A]	120	250	625
Maximum On-State Voltage Drop @ Rated Current [V]	1.6	1.6	1.6
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	60	260	1620
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5

INPUT SPECIFICATIONS (1)

Description			
Control Voltage Range	4.0-32 VDC	90-280 Vrms	18-36 Vrms
Maximum Turn-On Voltage	4.0 VDC	90 Vrms	18 Vrms
Minimum Turn-Off Voltage	1.0 VDC	10 Vrms	4.0 Vrms
Typical Input Current (4)	8-12 mA	2 mA @ 120 Vrms, 4 mA @ 240 Vrms	10 mA @ 240 Vrms
Maximum Turn-On Time [msec] (3)	1/2 Cycle	10	10
Maximum Turn-Off Time [msec]	1/2 Cycle	40	40

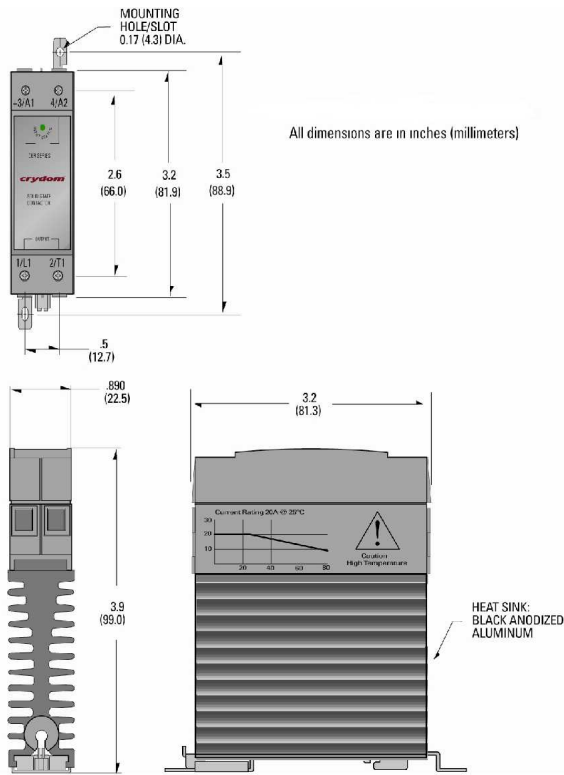
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000Vrms
Minimum Insulation Resistance (@ 500 V DC)	10 ⁹ Ohms
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range	-40°C to 80°C
Ambient Storage Temperature Range	-40°C to 125°C
Status Indicator Display	Green LED
Weight (typical)	10 oz. (280g)
Encapsulation	Thermally Conductive Epoxy
Terminals	Box Clamp Type
Maximum Wire Size:	AWG # 10 (3mm)
Recommended Terminal Screw Torque Range:	5.0-6.0 in lb (0.6-0.7 Nm)
Min. Side by Side Spacing	0.8 inch (20mm)

GENERAL NOTES

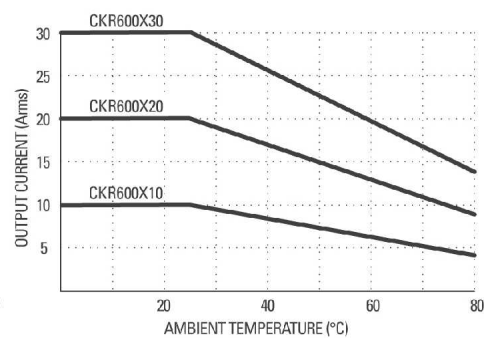
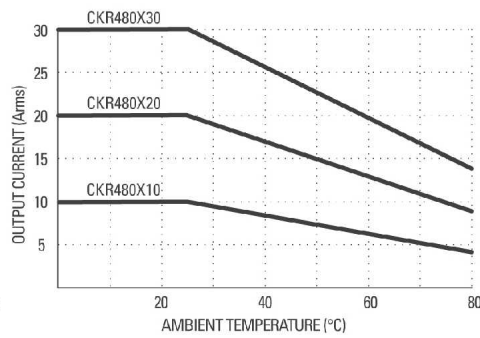
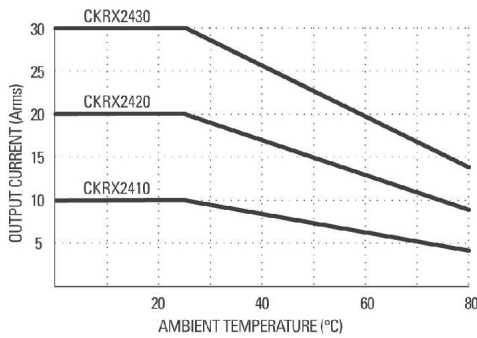
- 1) All parameters at 25°C unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- 3) Turn-on time for DC control random turn-on versions is 0.02 msec
- 4) Input circuitry for DC control version incorporates active current limiter.

MECHANICAL SPECIFICATIONS



THERMAL DERATE INFORMATION

CURRENT DERATING CURVES



AGENCY APPROVALS

UL E116950
CSA LR81689
VDE 129156ÜG
CE

Rev. 072208

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 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.

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Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

CKR48Series

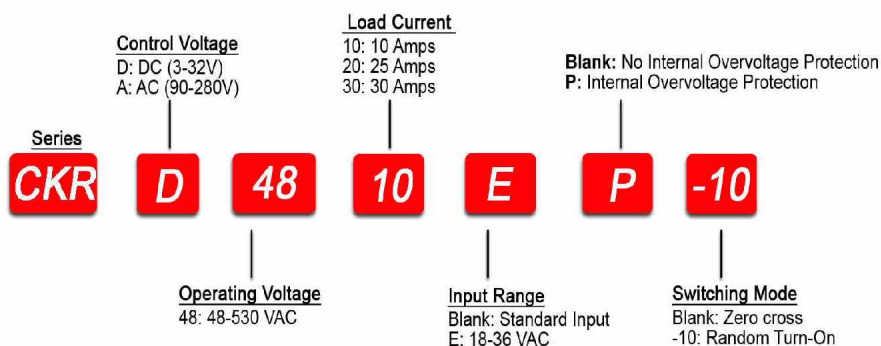


- Ratings from 10A to 30A @ 530 VAC
- Slim 22.5mm (width) package
- SCR output for heavy industrial loads
- LED input status indicator
- AC or DC control
- Zero-crossing (resistive loads) or random-fire (inductive loads) output

PRODUCT SELECTION

Description	10 A	20 A	30 A
4.5-32 VDC Control	CKRD4810	CKRD4820	CKRD4830
90-280 VAC Control	CKRA4810	CKRA4820	CKRA4830
18-36 VAC Control	CKRA4810E	CKRA4820E	CKRA4830E

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description	10 A	20 A	30 A
Operating Voltage (47-63Hz) [Vrms]	48-530	48-530	48-530
Transient Overvoltage [Vpk]	1200	1200	1200
Maximum Off-State Leakage Current @ Rated Voltage [mA]	10	10	10
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	500	500	500
Maximum Load Current [A]	10	20	30
Minimum Load Current [A]	0.15	0.15	0.15
Maximum Surge Current (16.6ms) [A]	120	250	625
Maximum On-State Voltage Drop @ Rated Current [Vpk]	1.6	1.6	1.6
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	60	260	1620
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5

INPUT SPECIFICATIONS (1)

Description			
Control Voltage Range	4.0-32 VDC	90-280 Vrms	18-36 Vrms
Maximum Turn-On Voltage	4.0 VDC	90 Vrms	18 Vrms
Minimum Turn-Off Voltage	1.0 VDC	10 Vrms	4.0 Vrms
Typical Input Current (4)	8-12 mA	2 mA @ 120 Vrms, 4 mA @ 240 Vrms	10 mA @ 24 Vrms
Maximum Turn-On Time [msec] (3)	1/2 Cycle	10	10
Maximum Turn-Off Time [msec]	1/2 Cycle	40	40

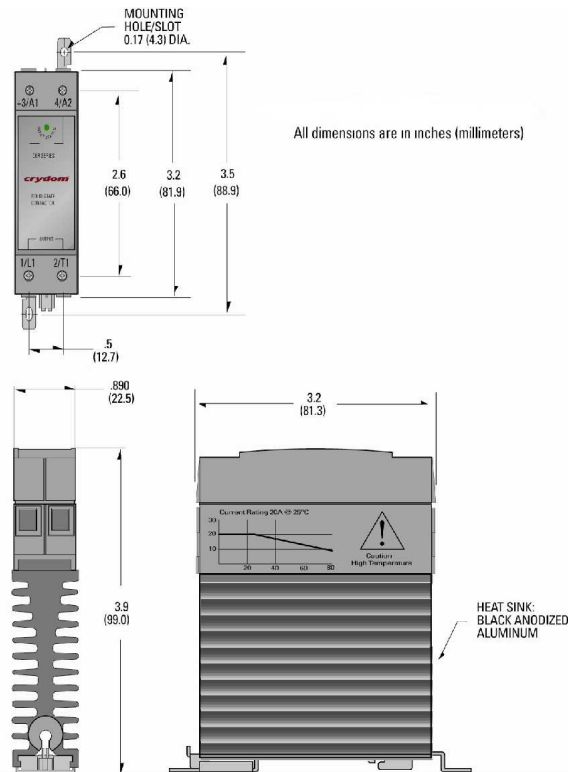
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000Vrms
Minimum Insulation Resistance (@ 500 V DC)	10 ⁹ Ohms
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range	-40°C to 80°C
Ambient Storage Temperature Range	-40°C to 125°C
Status Indicator Display	Green LED
Weight (typical)	10 oz. (280g)
Encapsulation	Thermally Conductive Epoxy
Terminals	Box Clamp Type
Maximum Wire Size:	AWG # 10 (3mm)
Recommended Terminal Screw Torque Range:	5.0-6.0 in lb (0.6-0.7 Nm)
Min. Side by Side Spacing	0.8 inch (20mm)

GENERAL NOTES

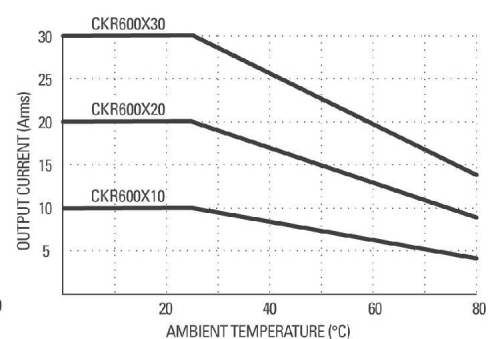
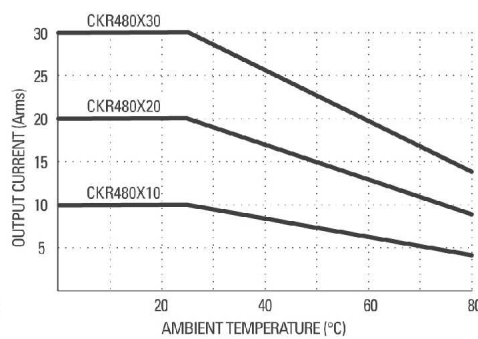
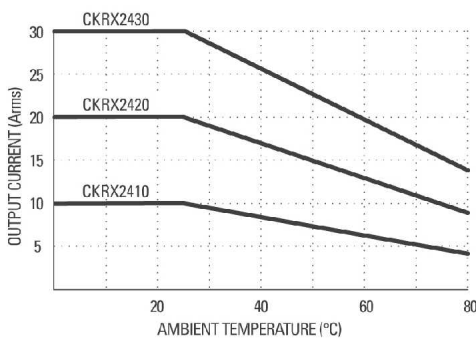
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- 4) Input circuitry for DC control version incorporates active current limiter.

MECHANICAL SPECIFICATIONS



THERMAL DERATE INFORMATION

CURRENT DERATING CURVES



AGENCY APPROVALS

UL E116950
CSA LR81689
VDE 129156ÜG
CE

Rev. 072308

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HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

CKR60 Series

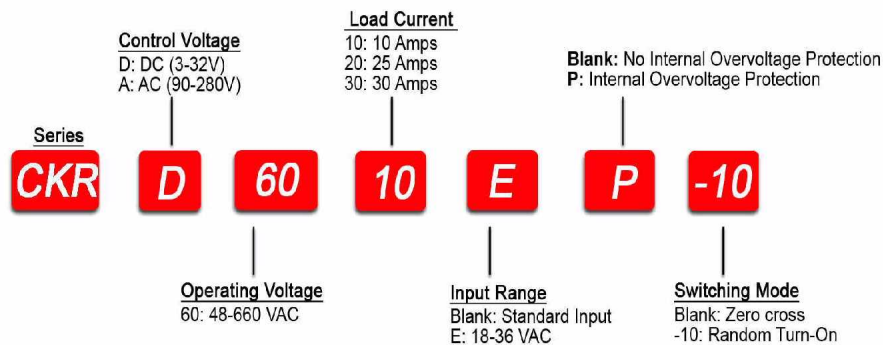


- Ratings from 10A to 30A @ 660 VAC
- Slim 22.5mm (width) package
- SCR output for heavy industrial loads
- LED input status indicator
- AC or DC control
- Zero-crossing (resistive loads) or random-fire (inductive loads) output

PRODUCT SELECTION

Description	10 A	20 A	30 A
4.5-32 VDC Control	CKRD6010	CKRD6020	CKRD6030
90-280 VAC Control	CKRA6010	CKRA6020	CKRA6030
18-36 VAC Control	CKRA6010E	CKRA6020E	CKRA6030E

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description	10 A	20 A	30 A
Operating Voltage (47-63Hz) [VRMS]	48-660	48-660	48-660
Transient Overvoltage [Vpk]	1200	1200	1200
Maximum Off-State Leakage Current @ Rated Voltage [mA _{rms}]	1.0	1.0	1.0
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	500	500	500
Maximum Load Current (3) [A _{rms}]	10	20	30
Minimum Load Current [A _{rms}]	0.15	0.15	0.15
Maximum Surge Current (16.6ms) [A _{pk}]	120	250	625
Maximum On-State Voltage Drop @ Rated Current [V _{pk}]	1.6	1.6	1.6
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	60	260	1620
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5

INPUT SPECIFICATIONS (1)

Description			
Control Voltage Range	4.0-32 VDC	90-280 Vrms	18-36 Vrms
Maximum Turn-On Voltage	4.0 VDC	90 Vrms	18 Vrms
Minimum Turn-Off Voltage	1.0 VDC	10 Vrms	4.0 Vrms
Typical Input Current (4)	8-12 mA	2 mA @ 120 Vrms, 4 mA @ 240 Vrms	10 mA @ 24 Vrms
Maximum Turn-On Time [msec] (3)	1/2 Cycle	10	10
Maximum Turn-Off Time [msec]	1/2 Cycle	40	40

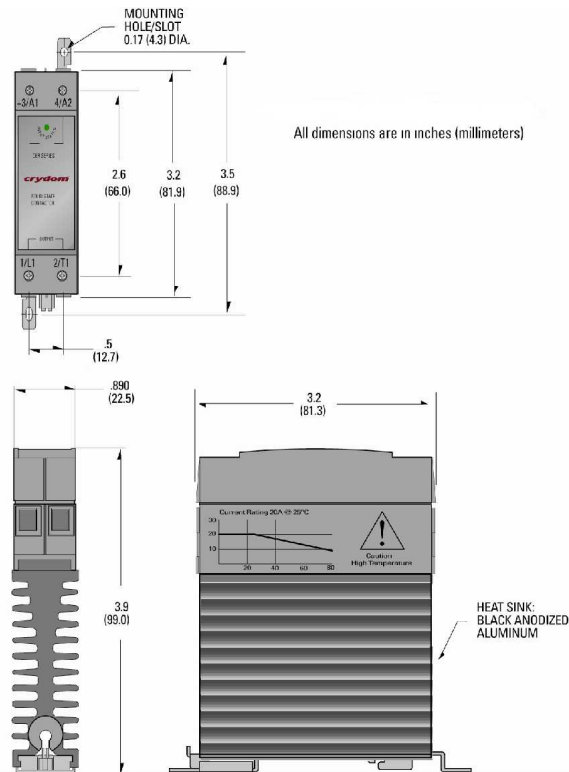
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000Vrms
Minimum Insulation Resistance (@ 500 V DC)	10 9 Ohms
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range	-40°C to 80°C
Ambient Storage Temperature Range	-40°C to 125°C
Status Indicator Display	Green LED
Weight (typical)	10 oz. (280g)
Encapsulation	Thermally Conductive Epoxy
Terminals	Box Clamp Type
Maximum Wire Size:	AWG # 10 (3mm)
Recommended Terminal Screw Torque Range:	5.0-6.0 in lb (0.6-0.7 Nm)
Min. Side by Side Spacing	0.8 inch (20mm)

GENERAL NOTES

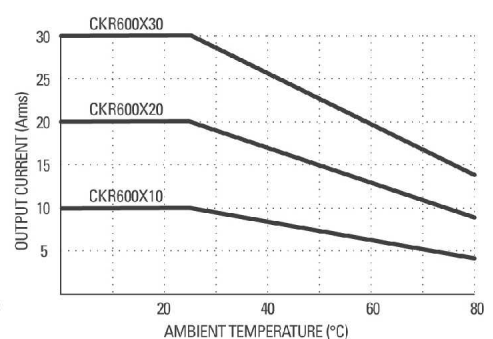
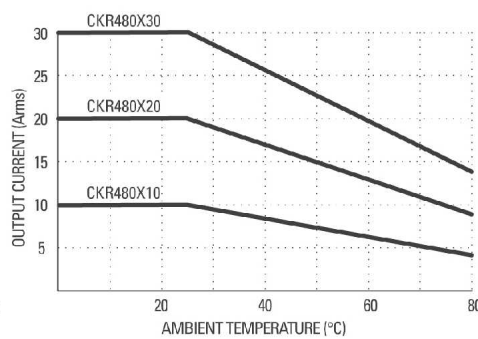
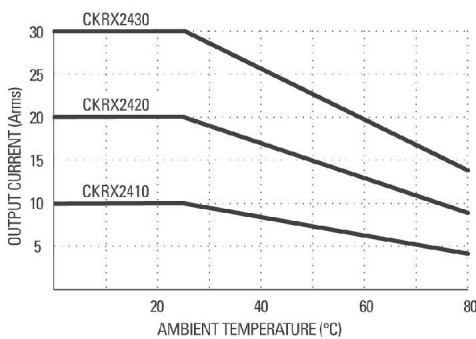
- 1) All parameters at 25°C unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- 3) Turn-on time for DC control random turn-on versions is 0.02 msec
- 4) Input circuitry for DC control version incorporates active current limiter.

MECHANICAL SPECIFICATIONS



THERMAL DERATE INFORMATION

CURRENT DERATING CURVES



AGENCY APPROVALS

UL E116950
CSA LR81689
VDE 129156ÜG
CE

Rev. 072308

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 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

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Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

CMR24 Series

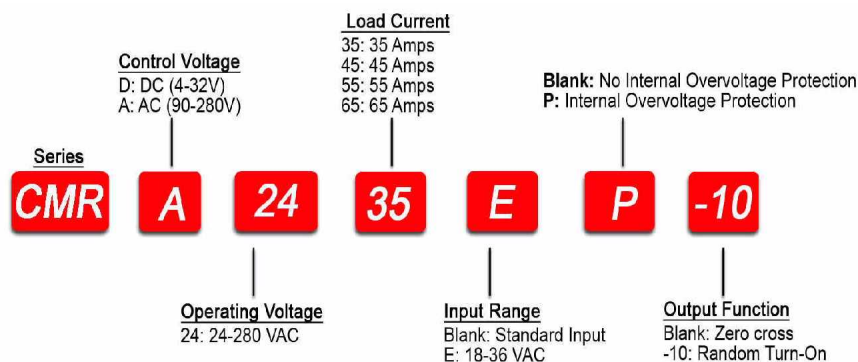


- Ratings from 35A to 65A @ 280 VAC
- 45mm (width) package
- SCR output for heavy industrial loads
- LED input status indicator
- AC or DC control
- Zero-crossing (resistive loads) or random-fire (inductive loads) output

PRODUCT SELECTION

Description	35 A	45 A	55 A	65 A
3-32 VDC Control	CMRD2435	CMRD2445	CMRD2455	CMRD2465
90-140 VAC Control	CMRA2435	CMRA2445	CMRA2455	CMRA2465
18-36 VAC Control	CMRA2435E	CMRA2445E	CMRA2455E	CMRA2465E

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description	35 A	45 A	55 A	65 A
Operating Voltage (47-63Hz) [Vrms]	24-280	24-280	24-280	24-280
Transient Overvoltage [Vpk]	600	600	600	600
Maximum Off-State Leakage Current @ Rated Voltage [mA]	10	10	10	10
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	500	500	500	500
Maximum Load Current [Arms]	35	45	55	65
Minimum Load Current [Arms]	0.15	0.15	0.25	0.25
Maximum Surge Current (16.6ms) [A _{pk}]	250	625	1000	1200
Maximum On-State Voltage Drop @ Rated Current [V _{pk}]	1.6	1.6	1.6	1.6
Thermal Resistance Junction to Case (R _{jc}) [°C/W]	1.02	0.63	0.31	0.28
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	260	1620	4150	6000
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5	0.5

INPUT SPECIFICATIONS (1)

Description		
Control Voltage Range (DC or RMS)	3-32 VDC	90-140 Vrms
Maximum Turn-On Voltage	4.0 VDC	90 Vrms
Minimum Turn-Off Voltage	1.0 VDC	10 Vrms
Maximum Reverse Voltage	32 VDC	-
Maximum Off-State Voltage	1.0 VDC	10 VAC
Maximum Input Current	30 mA (4)	-
Typical Input Current (4)	17 mA @ 5 Vdc	15 mA @ 120 Vrms
Maximum Turn-On Time [msec] (3)	1/2 Cycle	10
Maximum Turn-Off Time [msec]	1/2 Cycle	40

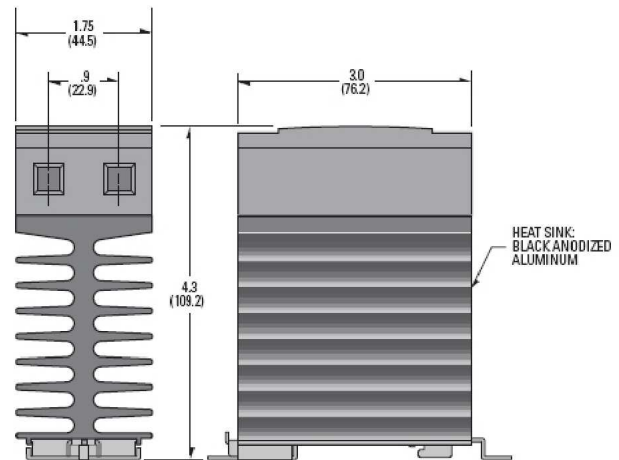
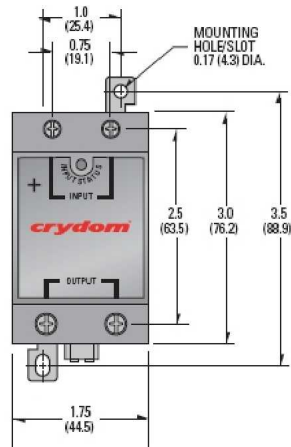
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 V DC)	10 9 Ohms
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range	-40 to 80°C
Ambient Storage Temperature Range	-40 to 125°C
Status Indicator Display	Green LED
Weight (typical)	16.8 oz. (476g)
Encapsulation	Themally Conductive Epoxy
Terminals	Cage Type
Maximum Wire Size:	Output: AWG 8 (3.8mm) Input: AWG12(2.5mm)
Recommended Terminal Screw Torque Range:	Output:10-15 in lb (1.1-1.7 Nm) Input: 5-6in lb (0.6-0.7 Nm)

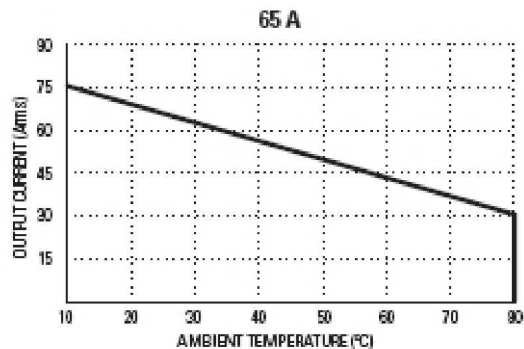
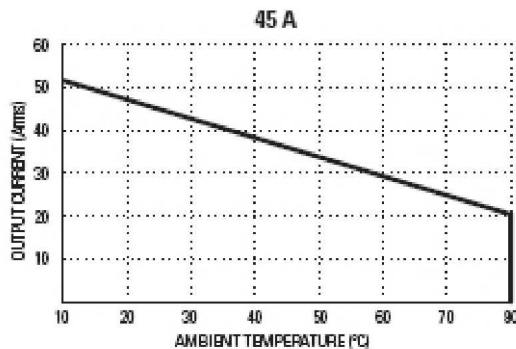
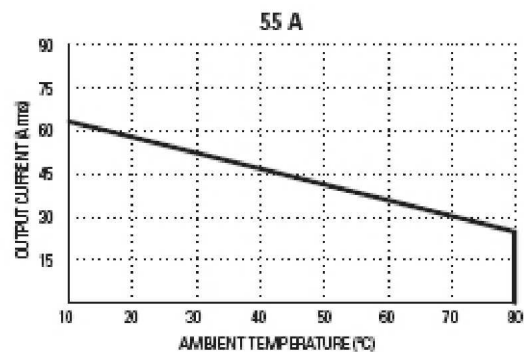
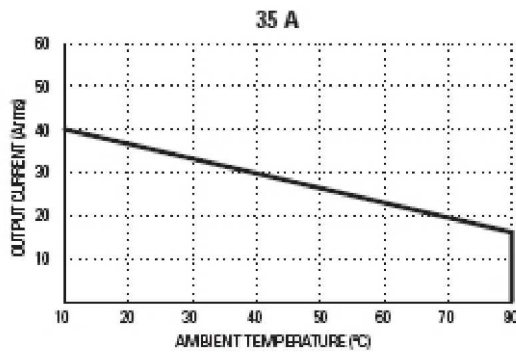
GENERAL NOTES

- 1) All parameters at 25°C unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- 3) Turn-on time for DC control random turn-on versions is 0.02 msec
- 4) Input circuitry version incorporates active current limiter.

MECHANICAL SPECIFICATIONS



THERMAL DERATE INFORMATION



AGENCY APPROVALS

UL E116950
CSA LR81689
VDE 126921 UG
CE

Rev. 072308

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 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

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	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

CMR48 Series

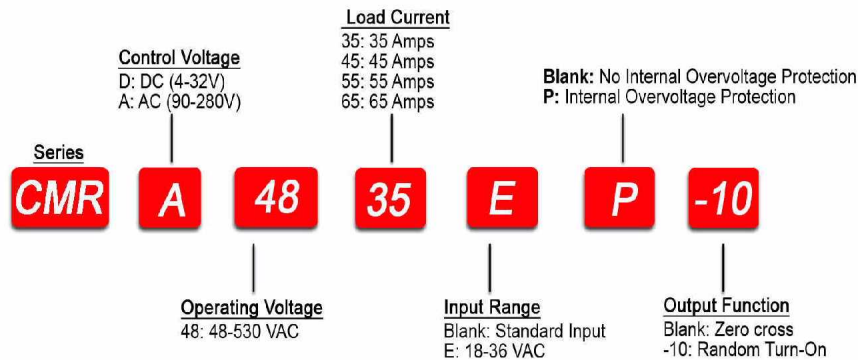


- Ratings from 35A to 65A @ 530 VAC
- 45mm (width) package
- SCR output for heavy industrial loads
- LED input status indicator
- AC or DC control
- Zero-crossing (resistive loads) or random-fire (inductive loads) output

PRODUCT SELECTION

Description	35 A	45 A	55 A	65 A
3-32 VDC Control	CMRD4835	CMRD4845	CMRD4855	CMRD4865
90-140 VAC Control	CMRA4835	CMRA4845	CMRA4855	CMRA4865
18-36 VAC Control	CMRA4835E	CMRA4845E	CMRA4855E	CMRA4865E

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description	35 A	45 A	55 A	65 A
Operating Voltage (47-63Hz) [Vrms]	48-530	48-530	48-530	48-530
Transient Overvoltage [Vpk]	1200	1200	1200	1200
Maximum Off-State Leakage Current @ Rated Voltage [mA _{rms}]	10	10	10	10
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	500	500	500	500
Maximum Load Current [A _{rms}]	35	45	55	65
Minimum Load Current [A _{rms}]	0.15	0.15	0.25	0.25
Maximum Surge Current (16.6ms) [A _{pk}]	250	625	1000	1200
Maximum On-State Voltage Drop @ Rated Current [V _{pk}]	1.7	1.7	1.7	1.7
Thermal Resistance Junction to Case (R _{jc}) [°C/W]	1.02	0.63	0.31	0.28
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	260	1620	4150	6000
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5	0.5

INPUT SPECIFICATIONS (1)

Description		
Control Voltage Range	4-32 VDC	90-140 Vrms
Maximum Turn-On Voltage	4.0 VDC	90 Vrms
Minimum Turn-Off Voltage	1.0 VDC	10 Vrms
Maximum Reverse Voltage	32 VDC	-
Maximum Input Current	30 mA (4)	-
Typical Input Current (4)	14 mA @ 5 VDC	15 mA @ 120 Vrms
Maximum Turn-On Time [msec] (3)	1/2 Cycle	10
Maximum Turn-Off Time [msec]	1/2 Cycle	40

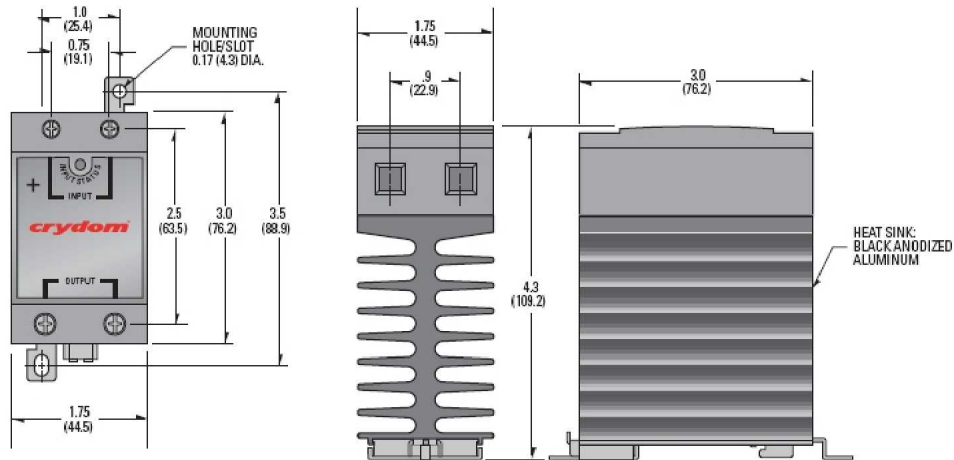
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 V DC)	10 9 Ohms
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range	-40 to 80°C
Ambient Storage Temperature Range	-40 to 125°C
Status Indicator Display	Green LED
Weight (typical)	16.8 oz. (476g)
Encapsulation	Themally Conductive Epoxy
Terminals	Cage Type
Maximum Wire Size:	Output: AWG 8 (3.8mm) Input: AWG12(2.5mm)
Recommended Terminal Screw Torque Range:	Output:10-15 in lb (1.1-1.7 Nm) Input: 5-6 in lb (0.6-0.7 Nm)

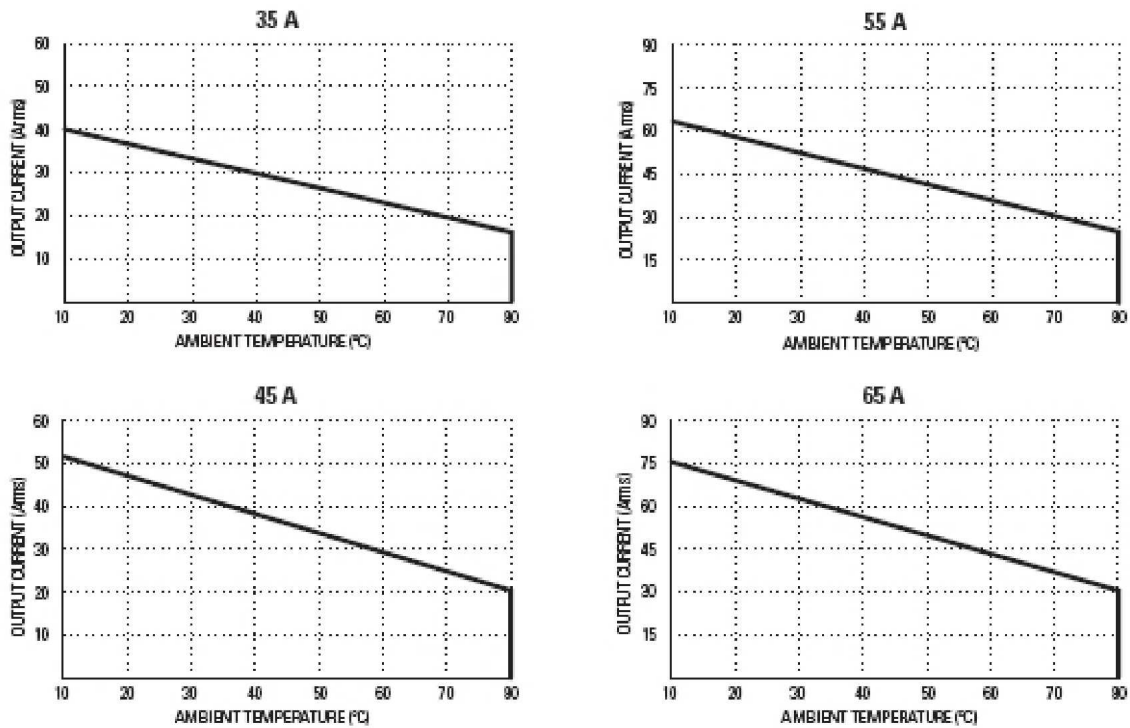
GENERAL NOTES

- 1) All parameters at 25°C unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- 3) Turn-on time for DC control random turn-on versions is 0.02 msec
- 4) Input circuitry version incorporates active current limiter.

MECHANICAL SPECIFICATIONS



THERMAL DERATE INFORMATION



AGENCY APPROVALS

UL E116950
CSA LR81689
VDE 126921 UG
CE

Rev. 072308

For Contact information visit our web site.

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Specifications subject to change without notice.

 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

CMR60 Series

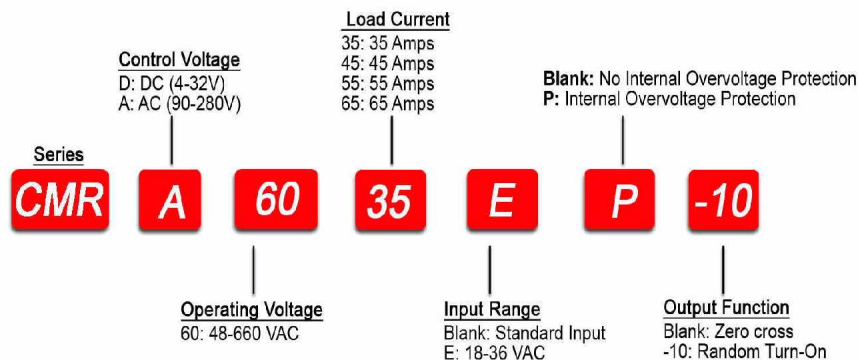


- Ratings from 35A to 65A @ 660 VAC
- 45mm (width) package
- SCR output for heavy industrial loads
- LED input status indicator
- AC or DC control
- Zero-crossing (resistive loads) or random-fire (inductive loads) output

PRODUCT SELECTION

Description	35 A	45 A	55 A	65 A
3-32 VDC Control	CMRD6035	CMRD6045	CMRD6055	CMRD6065
90-140 VAC Control	CMRA6035	CMRA6045	CMRA6055	CMRA6065
18-36 VAC Control	CMRA6035E	CMRA6045E	CMRA6055E	CMRA6065E

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description	35 A	45 A	55 A	65 A
Operating Voltage (47-63Hz) [Vrms]	48-660	48-660	48-660	48-660
Transient Overvoltage [Vpk]	1200	1200	1200	1200
Maximum Off-State Leakage Current @ Rated Voltage [mA]	1.0	1.0	1.0	1.0
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	500	500	500	500
Maximum Load Current [Arms]	35	45	55	65
Minimum Load Current [Arms]	0.15	0.15	0.25	0.25
Maximum Surge Current (16.6ms) [Apk]	250	625	1000	1200
Maximum On-State Voltage Drop @ Rated Current [Vpk]	1.7	1.7	1.7	1.7
Thermal Resistance Junction to Case (Rjc) [°C/W]	1.02	0.63	0.31	0.28
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	260	1620	4150	6000
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5	0.5

INPUT SPECIFICATIONS (1)

Description		
Control Voltage Range	4-32 VDC	90-140 Vrms
Maximum Turn-On Voltage	4.0 VDC	90 Vrms
Minimum Turn-Off Voltage	1.0 VDC	10 Vrms
Maximum Reverse Voltage	32 VDC	-
Maximum Input Current	30 mA (4)	
Typical Input Current (4)	14 mA @ 5 VDC	15 mA @ 120 Vrms
Maximum Turn-On Time [msec] (3)	1/2 Cycle	10
Maximum Turn-Off Time [msec]	1/2 Cycle	40

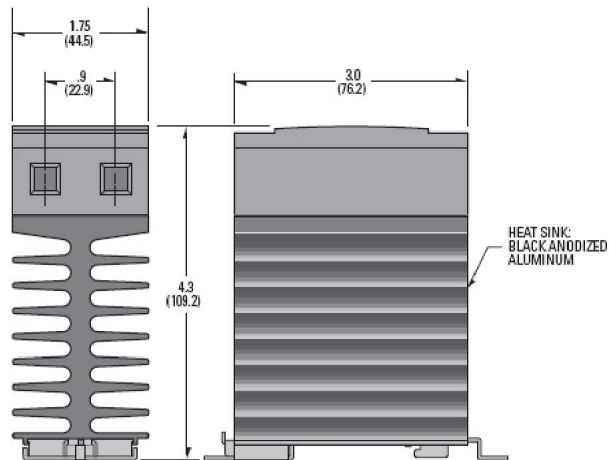
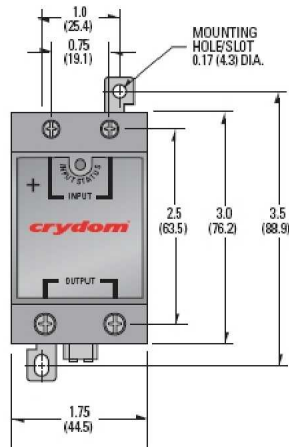
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 V DC)	10 9 Ohms
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range	-40 to 80°C
Ambient Storage Temperature Range	-40 to 125°C
Status Indicator Display	Green LED
Weight (typical)	16.8 oz. (476g)
Encapsulation	Themally Conductive Epoxy
Terminals	Cage Type
Maximum Wire Size:	Output: AWG 8 (3.8mm) Input: AWG12(2.5mm)
Recommended Terminal Screw Torque Range:	Output:10-15 in lb(1.1-1.7 Nm) Input: 5-6 in lb (0.6-0.7 Nm)

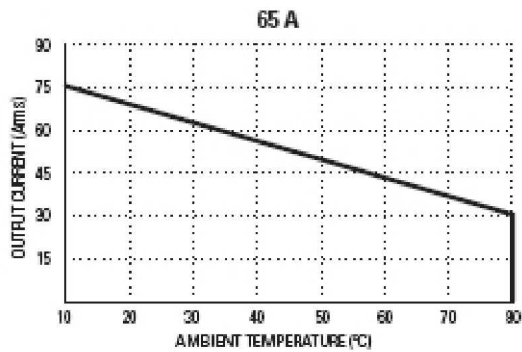
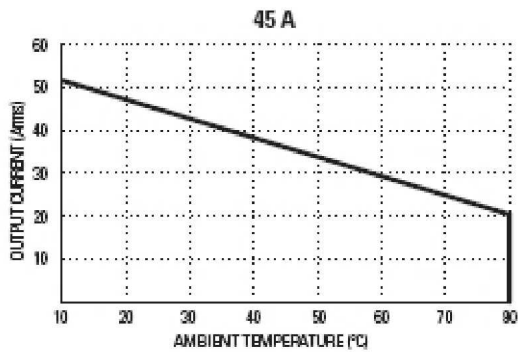
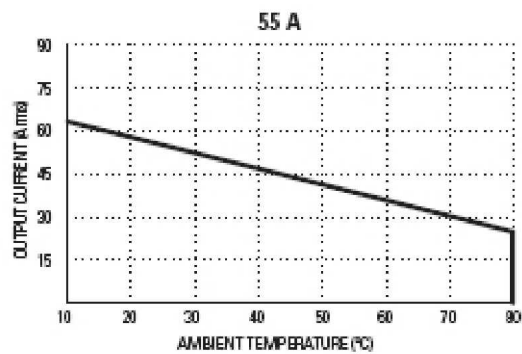
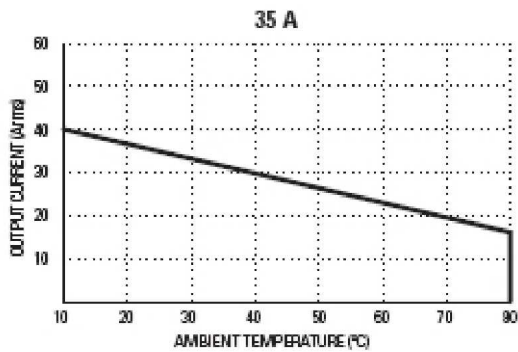
GENERAL NOTES

- 1) All parameters at 25°C unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- 3) Turn-on time for DC control random turn-on versions is 0.02 msec
- 4) Input circuitry version incorporates active current limiter.

MECHANICAL SPECIFICATIONS



THERMAL DERATE INFORMATION



AGENCY APPROVALS

UL E116950
CSA LR81689
VDE 126921 UG
CE

Rev. 072308

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HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.

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Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

- DIN Rail Mount (TS 35)
- MOSFET Output
- Extra Low On State Resistance
- Input Status LED

DC output SPST-NO solid state relays use MOSFET output for high switching capabilities in a DIN Rail (TS-35) mount air-cooled package.

MODEL NO.	MS11-CMX60D5	MS11-CMX60D10	MS11-CMX100D6	MS11-CMX200D3
INPUT SPECIFICATIONS ①				
Control Voltage Range	5-10 Vdc	5-10 Vdc	5-10 Vdc	6-10 Vdc
Nominal Input Impedance	300 Ohm	300 Ohm	300 Ohm	300 Ohm
Typical Input Current @ 5 Vdc	12 mA	12 mA	12 mA	12 mA
Must Turn On Voltage	5 Vdc	5 Vdc	5 Vdc	6 Vdc
Must Turn Off Voltage	1.0 Vdc	1.0 Vdc	1.0 Vdc	1.0 Vdc
OUTPUT SPECIFICATIONS ① ③				
Operating Voltage Range	0-60 Vdc	0-60 Vdc	0-100 Vdc	0-200 Vdc
Load Current Range	0-5 Adc	0-10 Adc	0-6 Adc	0-3 Adc
Max. Surge Current, (10 msec)	60 Apk	100 Apk	100 Apk	30 Apk
Max. Off-State Leakage @ Rated Voltage	100 µAdc	100 µAdc ④	100 µAdc	100 µAdc
Max. On-State Resistance @ Rated Current (R _{DS-ON})	.10 Ohm	.018 Ohm	.040 Ohm	.20 Ohm
Max. On-State Voltage Drop @ Rated Current	0.5V	0.18V	0.24V	0.6V
Max. Turn-On Time @ 10Vdc Control	1.0 msec	1.0 msec	1.0 msec	1.0 msec
Max. Turn-Off Time @ 10Vdc Control	300 µsec	300 µsec	300 µsec	300 µsec

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GENERAL NOTES

- ① All parameters at 25°C unless otherwise specified.
- ② Dielectric and insulation resistance are measured between input and output.
- ③ Inductive loads should be diode suppressed.
- ④ At 55 Vdc.

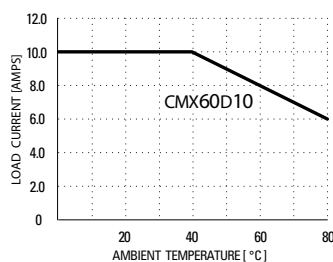
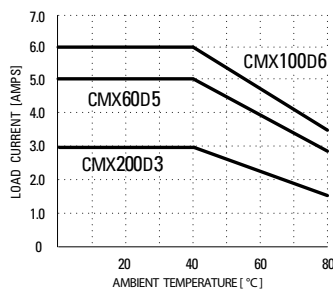
GENERAL SPECIFICATIONS

Dielectric Strength ②	2500 Vrms
Insulation Resistance (Min.) @ 500 Vdc ②	10 ⁹ Ohm
Max. Capacitance (Input/Output)	15 pF
Ambient Operating Temperature Range	-30 to 80°C
Ambient Storage Temperature Range	-30 to 125°C

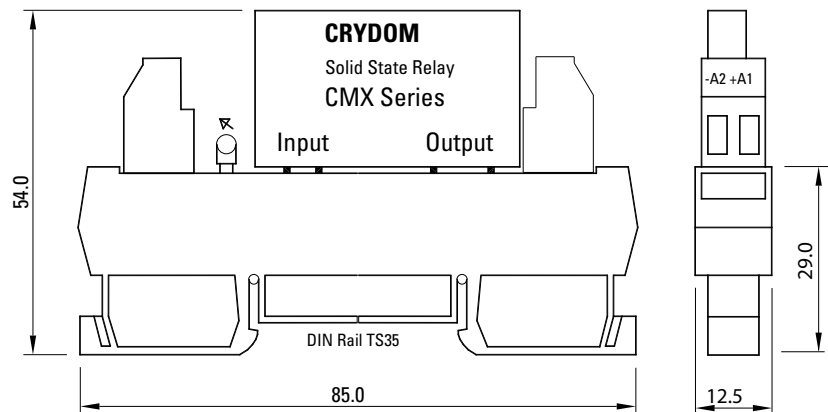
MECHANICAL SPECIFICATIONS

Weight: (typical)	30 g
Encapsulation(SSR):	Thermally Conductive Epoxy

CURRENT DERATING CURVES



Max. Load Current vs. Temp.



All dimensions are in millimeters (not to scale)
Colour of carrier including terminations - orange

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APPROVALS (SSR ONLY)

UL E116950 (3A, 6A & 10A Models)

- DIN Rail Mount (TS-35)
- SCR Output Rating
- Ultra High Surge
- Crydom's Patented Design
- Input Status LED

Crydom's family of SPST-NO relays achieves the highest power switching capability in a DIN mounted air-cooled package. Advanced features include exceptional steady state current, plus ultra-high surge ratings. Models are available to switch up to 280 Vrms with AC or DC control, and either zero-cross or random turn-on ("R") switching versions.

MODEL NUMBERS	AC CONTROL (120Vac) (24Vac)	MS11-CX2405A MS11-CXE240A5
	DC CONTROL (5Vdc) (24Vdc)	MS11-CX240D5 MS11-CXE240D5
OUTPUT SPECIFICATIONS ①		
Operating Voltage (47-63 Hz) [Vrms]		12-280
Load Current Range [Arms]		.06-5
Transient Overvoltage [Vpk]		600
Max. Surge Current, (16.6ms) [Apk]		250
Max. On-State Voltage Drop @ Rated Current [Vpk]		1.4
Maximum I ² t for Fusing, (8.3 msec.) [A ² sec]		260
Max. Off-State Leakage Current @ Rated Voltage [mArms]		0.1
Min. Off-State dv/dt @ Max. Rated Voltage [V/μsec] ②		500
Max. Turn-On Time ③	1/2 Cycle (DC Control), 10.0 msec (AC Control)	
Max. Turn-Off Time	1/2 Cycle (DC Control), 40.0 msec (AC Control)	
Power Factor (Min.) with Max. Load	0.5	

MODEL NUMBERS	DC CONTROL		AC CONTROL ④	
	5Vdc	24Vdc	120Vac	24Vac
Nominal Voltage				
MS11-CX240D5		MS11-CXE240D5	MS11-CX240A5	MS11-CXE240A5
Control Voltage Range	4-5 Vdc	15-32 Vdc	90-140 Vrms	18-36 Vrms
Max. Turn-On Voltage	3.0 Vdc	15.0 Vdc	90.0 Vrms	18.0 Vrms
Min. Turn-Off Voltage	1.0 Vdc	1.0 Vdc	10.0 Vrms	2.0 Vrms
Nominal Input Impedance	300 Ohm	1.0k Ohm	14.1k Ohm	4.2k Ohm
Typical Input Current @ Nominal Voltage	12 mA	8 mA	10 mArms	5 mArms

GENERAL NOTES

© 2005 CRYDOM CORP, Specifications subject to change without notice.

① All parameters at 25°C unless otherwise specified.

② Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1

③ Turn-On Time for Random Turn-On versions 0.1msec (DC Control Models).

④ No input status LED on AC control modules.

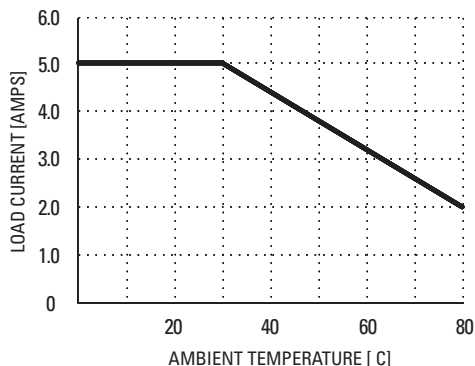
GENERAL SPECIFICATIONS

Dielectric Strength 50/60Hz Input/Output/Base	2500 Vrms
Insulation Resistance (Min.) @ 500 Vdc	10 ⁹ Ohm
Max. Capacitance Input/Output	10 pF
Ambient Operating Temperature Range	-30 to 80°C
Ambient Storage Temperature Range	-30 to 80°C

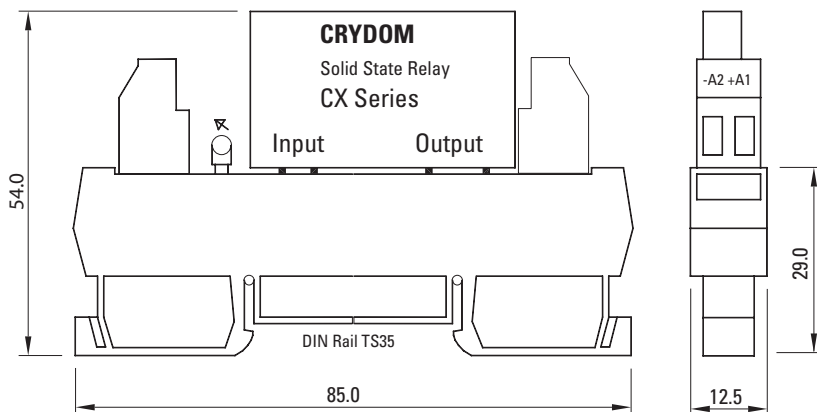
MECHANICAL SPECIFICATION

Weight: (typical)	30 grms
Encapsulation (SSR):	Thermally Conductive Epoxy

CURRENT DERATING CURVE



Max. Load Current vs. Temp.



- All dimensions are in millimeters (not to scale)
- Colour of carrier and termination housing - orange
- Input status LED is on DC control module only

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AVAILABLE OPTIONS

- R Random Turn-On Switching
Example: MS11-CX240D5R, MS11-CX240A5R

APPROVALS (SSR ONLY)

UL E 116949
CSA LR 81689
VDE 70938
UG (240V, DC Control Only)



! DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. • Disconnect all power before installing or working with this equipment. • Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. • Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. • Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION • Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil • Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.	GEFAHR EINES ELEKTRISCHEN SCHLAGES ODER EINER EXPLOSION. • Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen • Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. • Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura • Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO • Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento • Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.
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! WARNING / AVERTISSEMENT / WARNUNG / ADVERTENCIA / AVVERTENZA / AVISO

RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE • The product's side panels may be hot, allow time for product to cool before touching. • Follow proper mounting instructions including torque values. • Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER • Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. • Respecter les consignes de montage, et notamment les couples de serrage. • Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG • Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. • Beachten Sie die Montageanweisungen, • Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD • Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. • Respetar las instrucciones de montaje, y en particular los pares de apretado. • No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO • I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. • Seguire le istruzioni di montaggio corrette. • Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO • Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. • Siga devidamente as instruções de montagem. • Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX – ENVIRONMENTAL INFORMATION:

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

附件 - 环保信息:

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

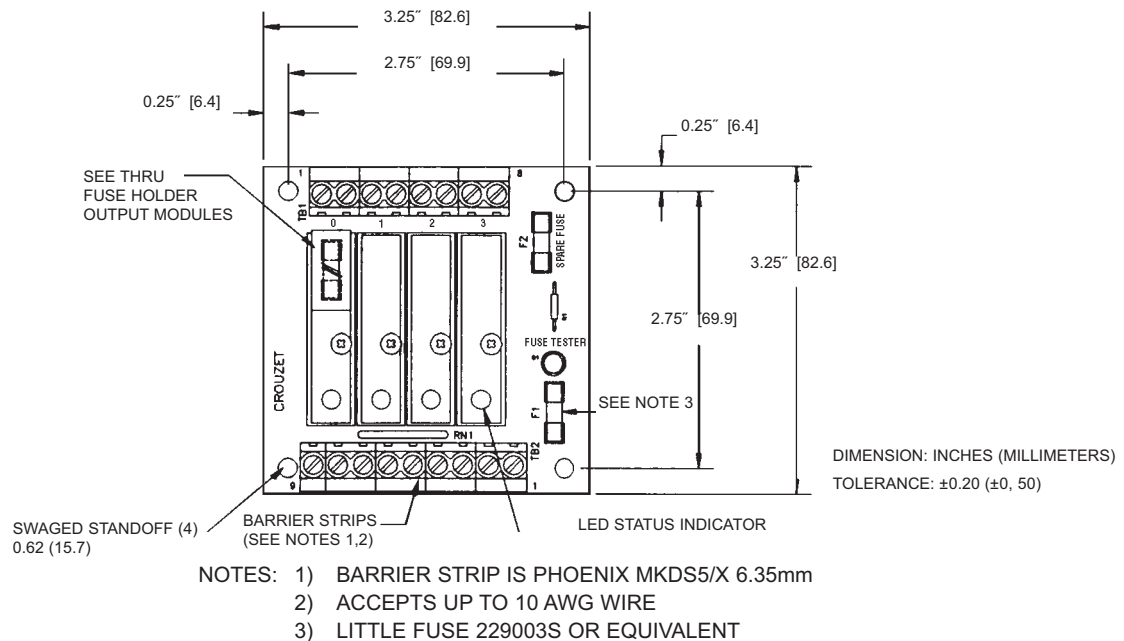


PB4C4

MOUNTING BOARD

- Screw terminal barrier block for logic connections
- Screw terminal barrier block for load connections
- Resident pull-up resistors
- 5 amp field-replaceable fuses (LITTLEFUSE #251005 or equivalent)
- LEDs indicate logic status
- All even-numbered logic connections are logic ground
- Input and output modules accepted interchangeably
- Operate with 5, 15 or 24 volt logic supplies
- Captive-screw retaining system for C4 Modules

MECHANICAL SPECIFICATIONS



⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

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Semiconductor die	○	○	○	○	○	○
Solder	○	○	○	○	○	○

此附件所标示的包括电子信息产品污染图标的环保信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求

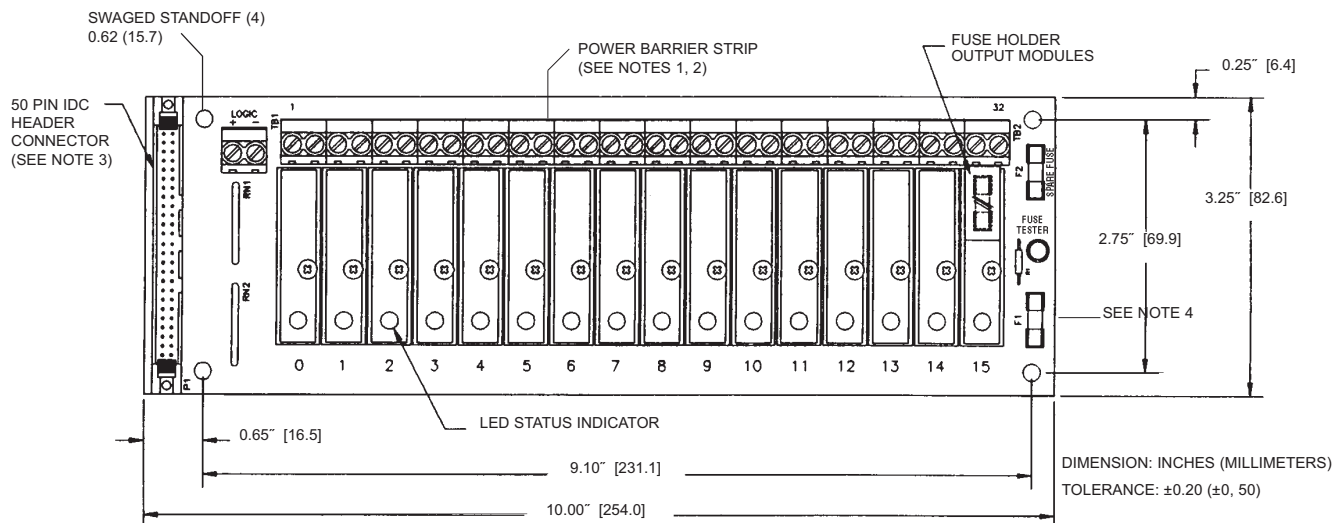


部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	○	○	○	○	○	○
焊接点	○	○	○	○	○	○

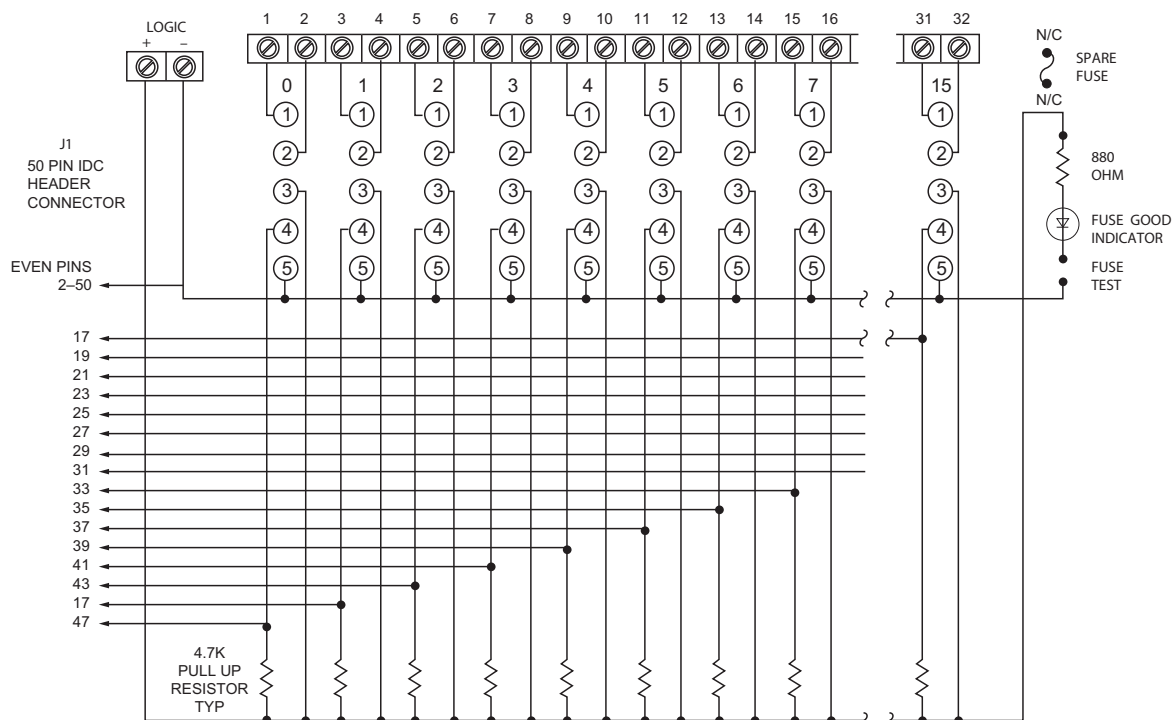
PB16C4 MOUNTING BOARD

- Plug-compatible logic connections
- Screw terminal barrier block for load connections
- Resident pull-up resistors
- 5 amp field-replaceable fuses (LITTLEFUSE #251005 or equivalent)
- All even-numbered logic connections are logic ground
- Input and output modules accepted interchangeably
- Operate with 5, 15 or 24 volt logic supplies
- Captive-screw retaining system for C4 modules

MECHANICAL SPECIFICATIONS



NOTES: 1) BARRIER STRIP IS PHOENIX MKDS5/X 6.35mm
2) ACCEPTS UP TO 10 AWG WIRE
3) CONNECTOR IS CIRCUIT ASSEMBLY CA-50H-2B OR EQUIVALENT
4) LITTLE FUSE 229003S OR EQUIVALENT



Rev. 070808

⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

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Semiconductor die	○	○	○	○	○	○
Solder	○	○	○	○	○	○

此附件所标示的包括电子信息产品污染图标的环保信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



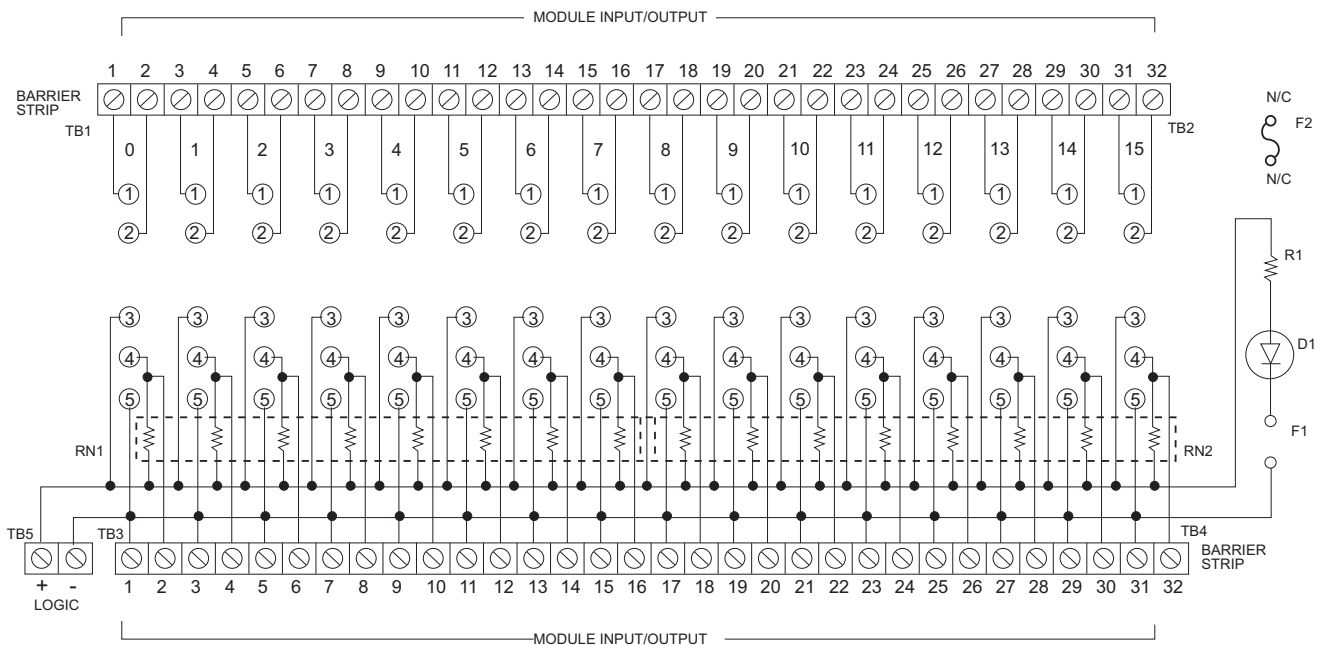
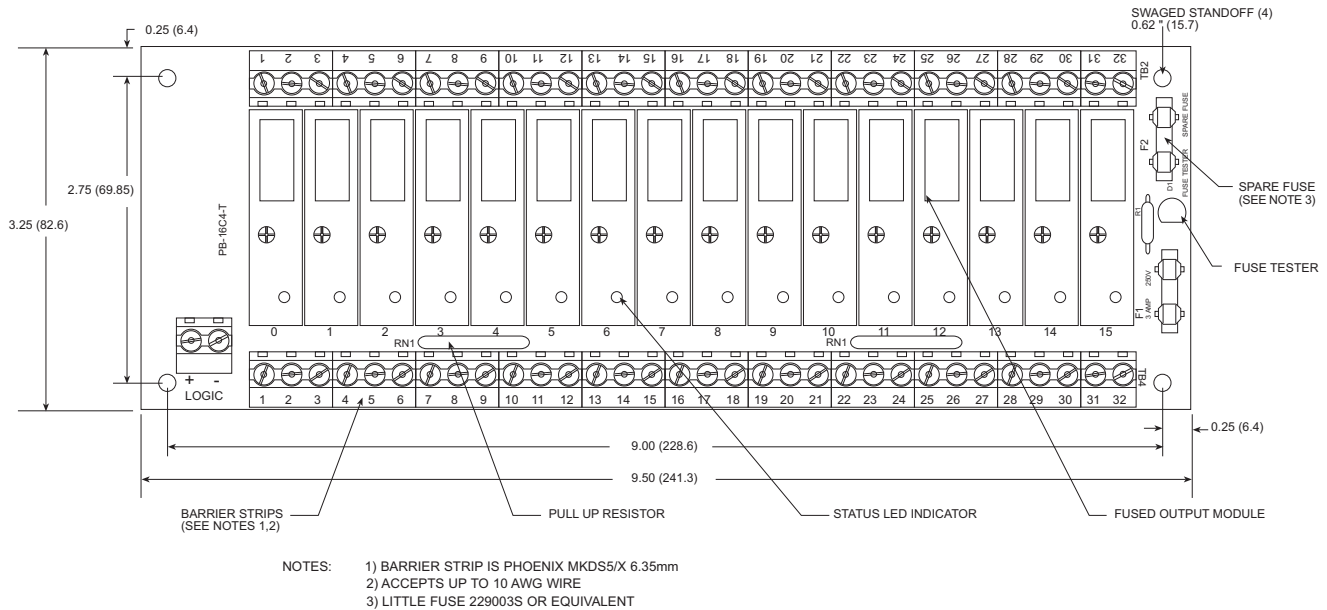
部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	○	○	○	○	○	○
焊接点	○	○	○	○	○	○

PB16C4T

MOUNTING BOARD

- Screw terminal barrier block for logic connections
- Screw terminal barrier block for load connections
- Resident pull-up resistors
- 5 amp field-replaceable fuses (LITTLEFUSE #251005 or equivalent)
- All even-numbered logic connections are logic ground
- Input and output modules accepted interchangeably
- Operate with 5, 15 or 24 volt logic supplies
- Captive-screw retaining system for C4 modules

MECHANICAL SPECIFICATIONS



Rev. 070808

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Semiconductor die	○	○	○	○	○	○
Solder	○	○	○	○	○	○

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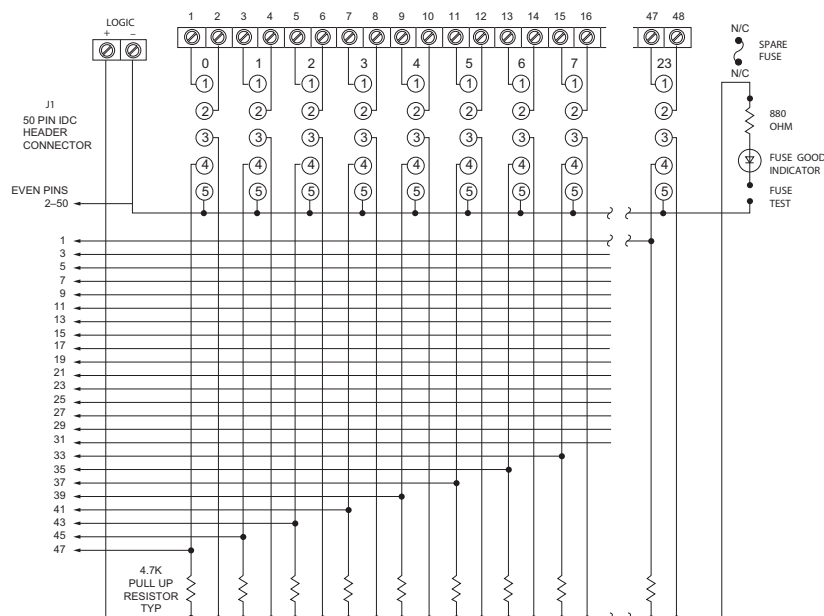
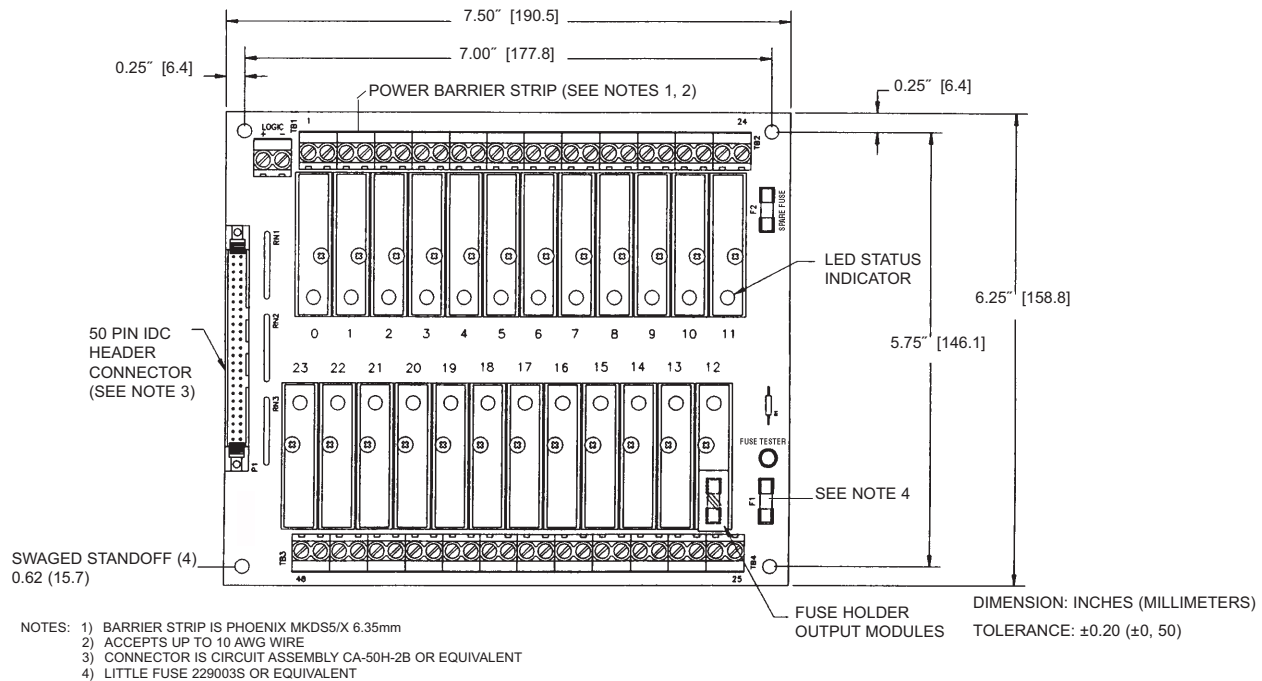
部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	○	○	○	○	○	○
焊接点	○	○	○	○	○	○

PB24C4

MOUNTING BOARD

- Plug-compatible logic connections
- Screw terminal barrier block for load connections
- Resident pull-up resistors
- 5 amp field-replaceable fuses (LITTLEFUSE #251005 or equivalent)
- All even-numbered logic connections are logic ground
- Input and output modules accepted interchangeably
- Operate with 5, 15 or 24 volt logic supplies
- Captive-screw retaining system for C4 modules

MECHANICAL SPECIFICATIONS



Rev. 070808

⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

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Semiconductor die	○	○	○	○	○	○
Solder	○	○	○	○	○	○

此附件所标示的包括电子信息产品污染图标的环保信息
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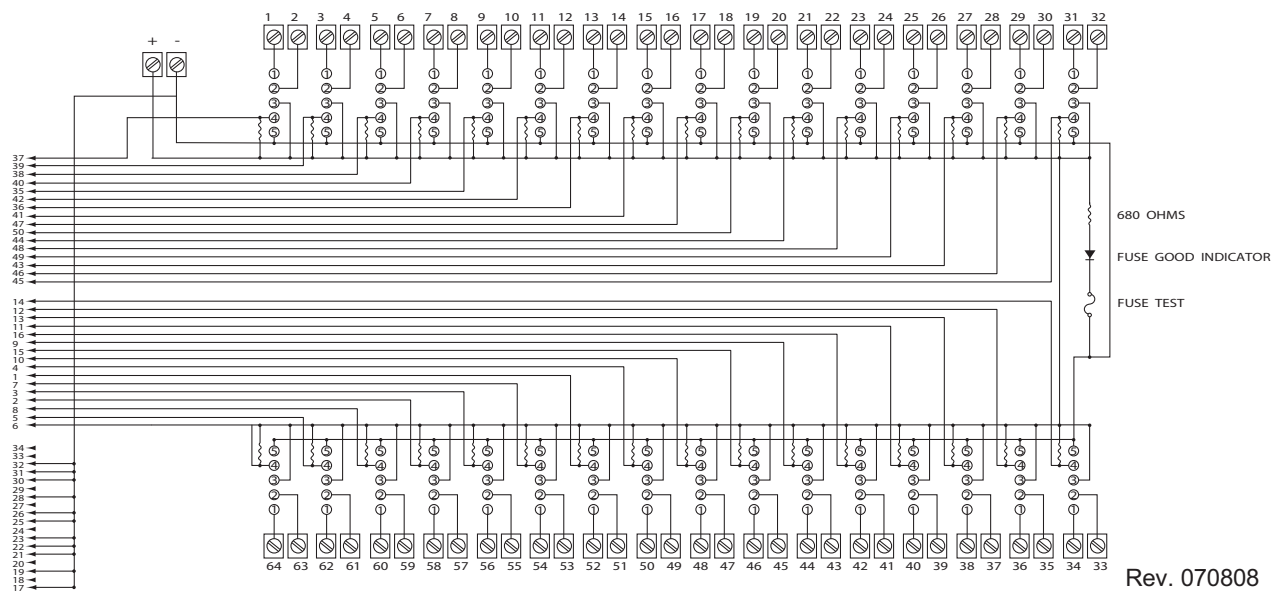
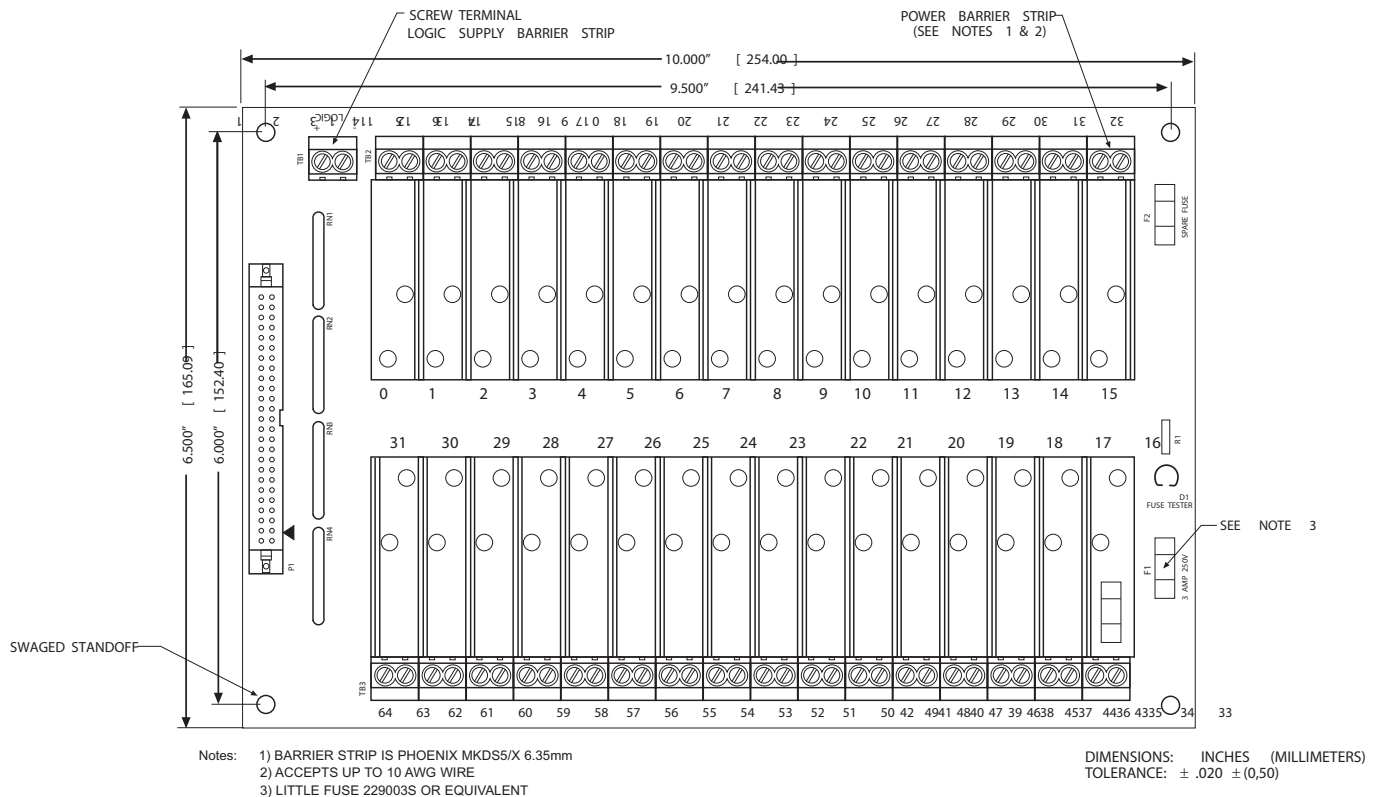


部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	○	○	○	○	○	○
焊接点	○	○	○	○	○	○

PB32C4 MOUNTING BOARD

- Plug-compatible logic connections
- Screw terminal barrier block for load connections
- Resident pull-up resistors
- 5 amp field-replaceable fuses (LITTLEFUSE #251005 or equivalent)
- All even-numbered logic connections are logic ground
- Input and output modules accepted interchangeably
- Operate with 5, 15 or 24 volt logic supplies
- Captive-screw retaining system for C4 modules

MECHANICAL SPECIFICATIONS



Rev. 070808

⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. • Disconnect all power before installing or working with this equipment. • Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. • Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. • Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION • Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil • Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.	GEFAHR EINES ELEKTRISCHEN SCHLAGES ODER EINER EXPLOSION. • Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen • Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. • Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura • Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO • Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento • Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.
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ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	○	○	○	○	○	○
Solder	○	○	○	○	○	○

此附件所标示的包括电子信息产品污染图标的环保信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



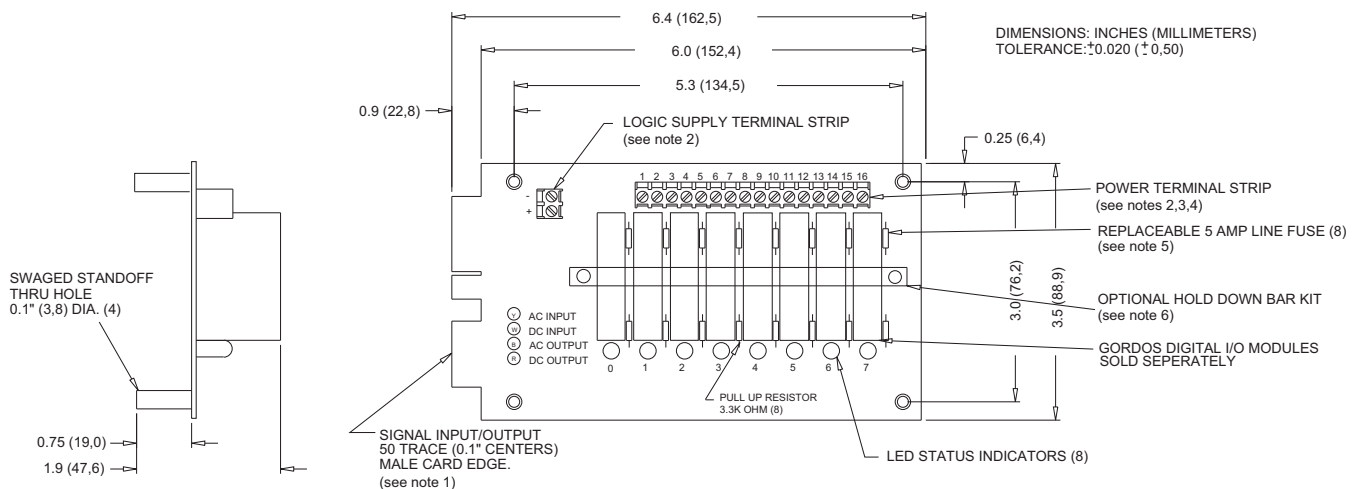
部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	○	○	○	○	○	○
焊接点	○	○	○	○	○	○

PB8M

MOUNTING BOARD

- Plug-compatible logic connections
- Screw terminal barrier block for load connections
- Resident pull-up resistors
- 5 amp field-replaceable fuses (LITTLEFUSE #251005 or equivalent)
- LEDs indicate logic status
- All even-numbered logic connections are logic ground
- Input and output modules accepted interchangeably
- Operate with 5, 15 or 24 volt logic supplies
- Optional Hold Down Bar for retaining "M" series modules

MECHANICAL SPECIFICATIONS



NOTES: 1) MATING CONNECTOR IS BERG 66317-150 OR EQUIVALENT. SPECIFY SUFFIX 'C' FOR OPTIONAL 65823-093 OR EQUIVALENT MALE PIN CONNECTOR FOR PARALLEL-TO-THE-BOARD CABLE CONNECTION. SPECIFY SUFFIX 'V' FOR OPTIONAL CIRCUIT ASSEMBLY CA-50H-2B-SR OR EQUIVALENT MALE PIN CONNECTOR FOR PERPENDICULAR-TO-THE-BOARD CABLE CONNECTION.

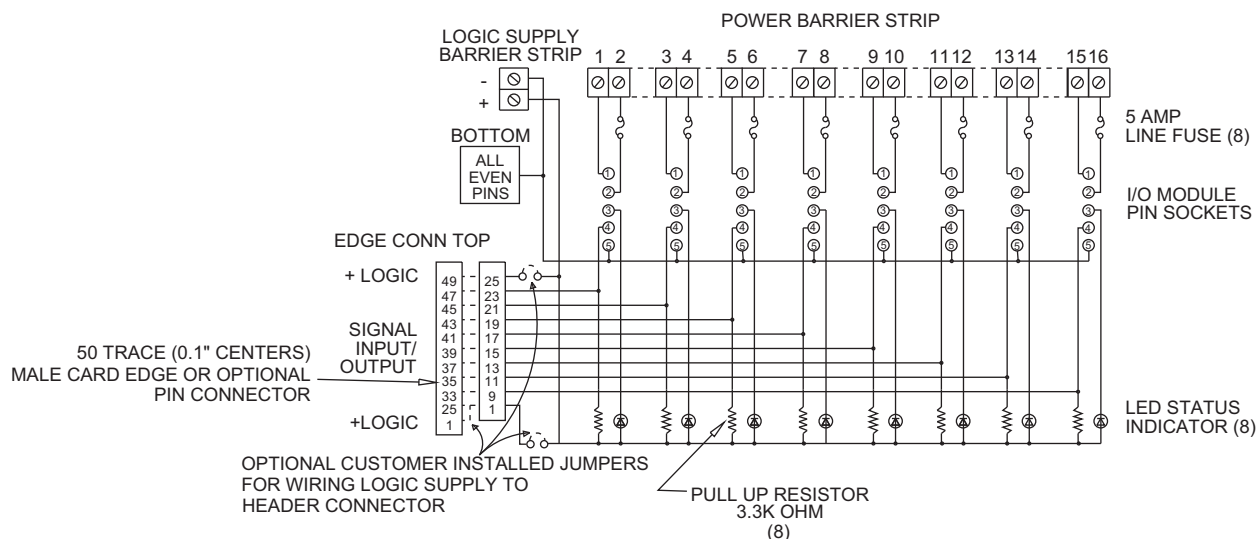
2) 4-40 SCREW TERMINAL STRIPS ACCEPT WIRE SIZES FROM 26 TO 14 AWG.

3) OPTIONAL JUMPERS ARE AVAILABLE TO INTERCONNECT BARRIER STRIP COMMONS. ORDER 1 EACH "JM8".

4) PHOENIX MKD51.5 5.08mm SERIES (OR EQUIVALENT) SCREW TERMINAL BLOCKS STANDARD. SPECIFY SUFFIX "A" FOR BOARD-MOUNTED PHOENIX MSTBVA 1.5/16-G-5.08 (OR EQUIVALENT) MALE CONNECTOR. SPECIFY SUFFIX "B" FOR BOARD-MOUNTED PHOENIX MSTBVA 1.5/16-G-5.08 (OR EQUIVALENT) MALE CONNECTOR AND MATING PHOENIX MSTBVA 1.5/16-ST-5.08 (OR EQUIVALENT) FEMALE, SCREW-TERMINAL PLUG-IN CONNECTOR.

5) LITTLE FUSE 251005 OR EQUIVALENT.

6) TWO HOLD-DOWN BAR KITS ARE AVAILABLE SEPARATELY. MODEL NO. 11.06.414 EMPLOYS A PLAIN ALUMINUM CHANNEL WHILE MODEL NO. 11.06.293 PROVIDES POCKETS IN THE CHANNEL FOR INDIVIDUAL MODULES.



Rev. 070808

⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. • Disconnect all power before installing or working with this equipment. • Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. • Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. • Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION • Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil • Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.	GEFAHR EINES ELEKTRISCHEN SCHLAGES ODER EINER EXPLOSION. • Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen • Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. • Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura • Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO • Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento • Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.
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ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	○	○	○	○	○	○
Solder	○	○	○	○	○	○

此附件所标示的包括电子信息产品污染图标的环保信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



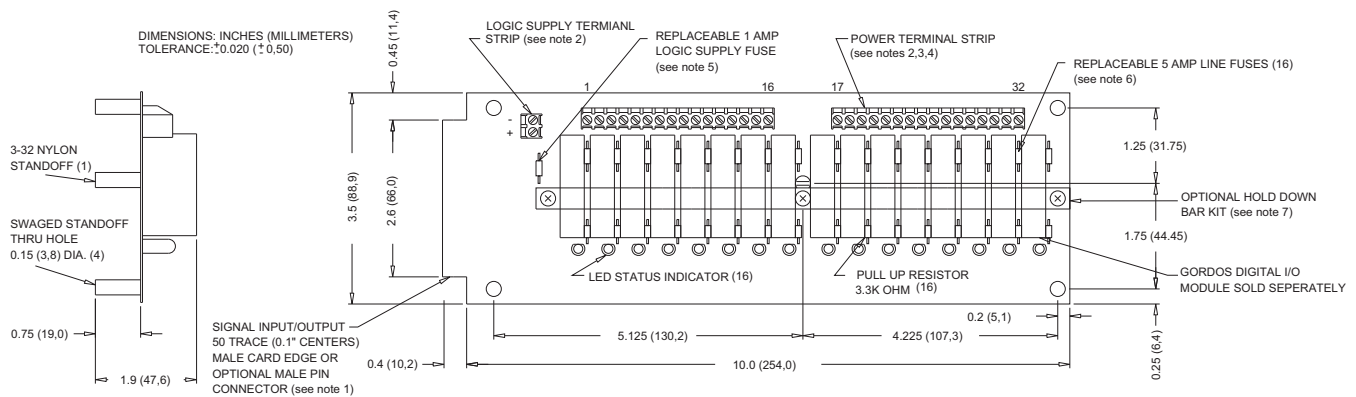
部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	○	○	○	○	○	○
焊接点	○	○	○	○	○	○

PB16M

MOUNTING BOARD

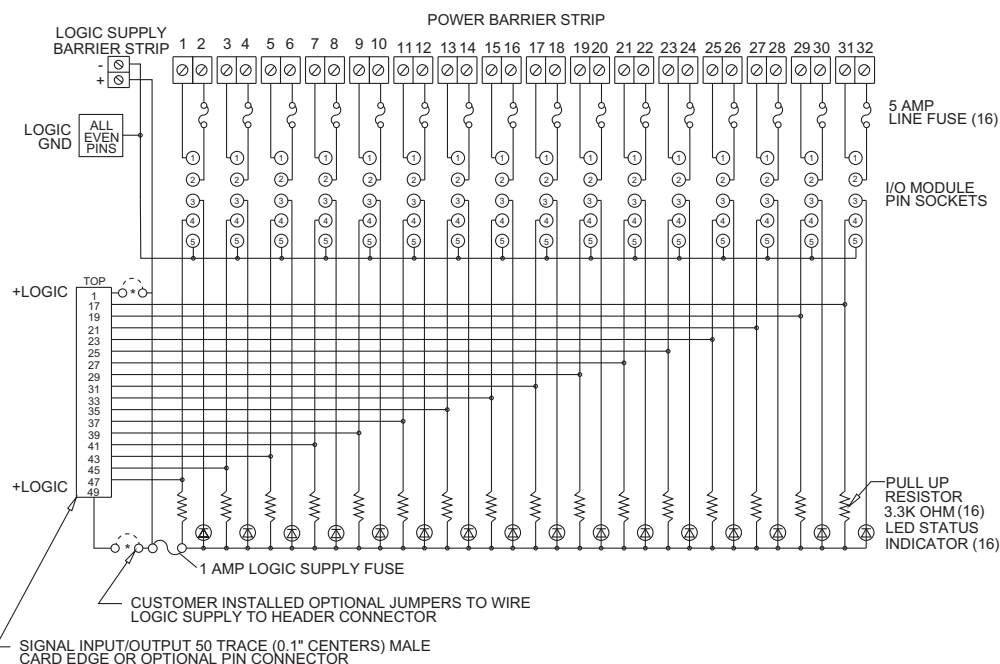
- Plug-compatible logic connections
- Screw terminal barrier block for load connections
- Resident pull-up resistors
- 5 amp field-replaceable fuses (LITTLEFUSE #251005 or equivalent)
- LEDs indicate logic status
- All even-numbered logic connections are logic ground
- Input and output modules accepted interchangeably
- Operate with 5, 15 or 24 volt logic supplies
- Optional Hold Down Bar for retaining "M" series modules

MECHANICAL SPECIFICATIONS



NOTES: 1) MATING CONNECTOR IS BERG 66317-150 OR EQUIVALENT. SPECIFY SUFFIX 'C' FOR OPTIONAL 65823-093 OR EQUIVALENT MALE PIN CONNECTOR FOR PARALLEL-TO-THE-BOARD CABLE CONNECTION. SPECIFY SUFFIX 'V' FOR OPTIONAL CIRCUIT ASSEMBLY CA-50H-2B-SR OR EQUIVALENT MALE PIN CONNECTOR FOR PERPENDICULAR-TO-THE-BOARD CABLE CONNECTION.
2) 4-40 SCREW TERMINAL STRIPS ACCEPT WIRE SIZES FROM 26 TO 14 AWG.
3) OPTIONAL JUMPERS ARE AVAILABLE TO INTERCONNECT BARRIER STRIP ORDER 1 EACH "JM2" AND 2 EACH "JM8".

4) PHOENIX MKD51.5 5.08mm SERIES (OR EQUIVALENT) SCREW TERMINAL BLOCKS STANDARD. SPECIFY SUFFIX 'A' FOR BOARD-MOUNTED PHOENIX MSTBVA 1.5/16-G-5.08 (OR EQUIVALENT) MALE CONNECTOR. SPECIFY SUFFIX 'B' FOR BOARD-MOUNTED PHOENIX MSTBVA 1.5/16-G-5.08 (OR EQUIVALENT) MALE CONNECTOR AND MATING PHOENIX MSTBVA 1.5/16-ST-5.08 (OR EQUIVALENT) FEMALE. SCREW-TERMINAL PLUG-IN CONNECTOR.
5) LITTLE FUSE 251001 OR EQUIVALENT.
6) LITTLE FUSE 251005 OR EQUIVALENT.
7) TWO HOLD-DOWN BAR KITS ARE AVAILABLE SEPARATELY. MODEL NO. 11.06.415 EMPLOY A PLAIN ALUMINUM CHANNEL WHILE MODEL NO. 11.06.278 PROVIDES POCKETS IN THE CHANNEL FOR INDIVIDUAL MODULES.



Rev. 070808

⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. • Disconnect all power before installing or working with this equipment. • Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. • Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. • Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION • Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil • Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.	GEFAHR EINES ELEKTRISCHEN SCHLAGES ODER EINER EXPLOSION. • Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen • Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. • Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura • Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO • Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento • Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.
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ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	○	○	○	○	○	○
Solder	○	○	○	○	○	○

此附件所标示的包括电子信息产品污染图标的环保信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



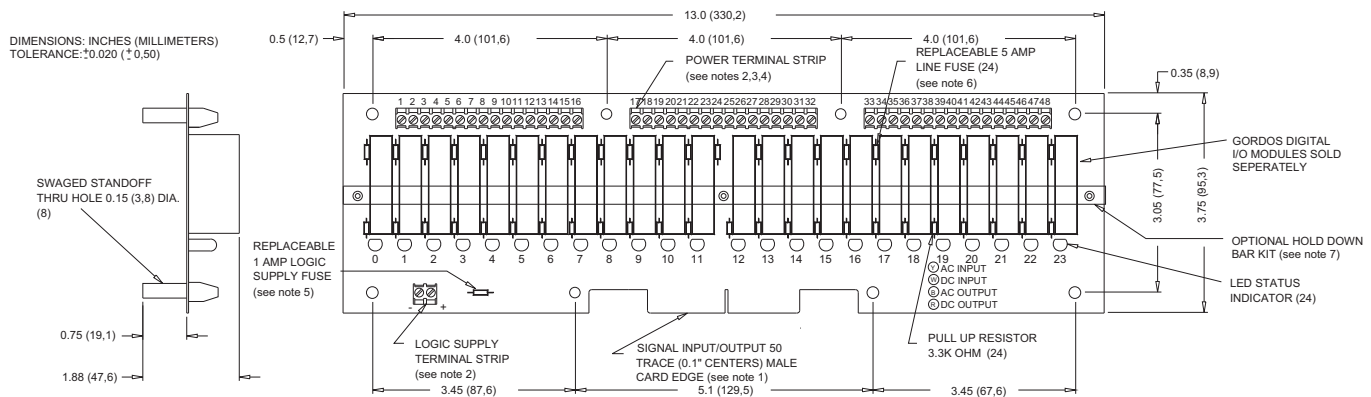
部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	○	○	○	○	○	○
焊接点	○	○	○	○	○	○

PB24M

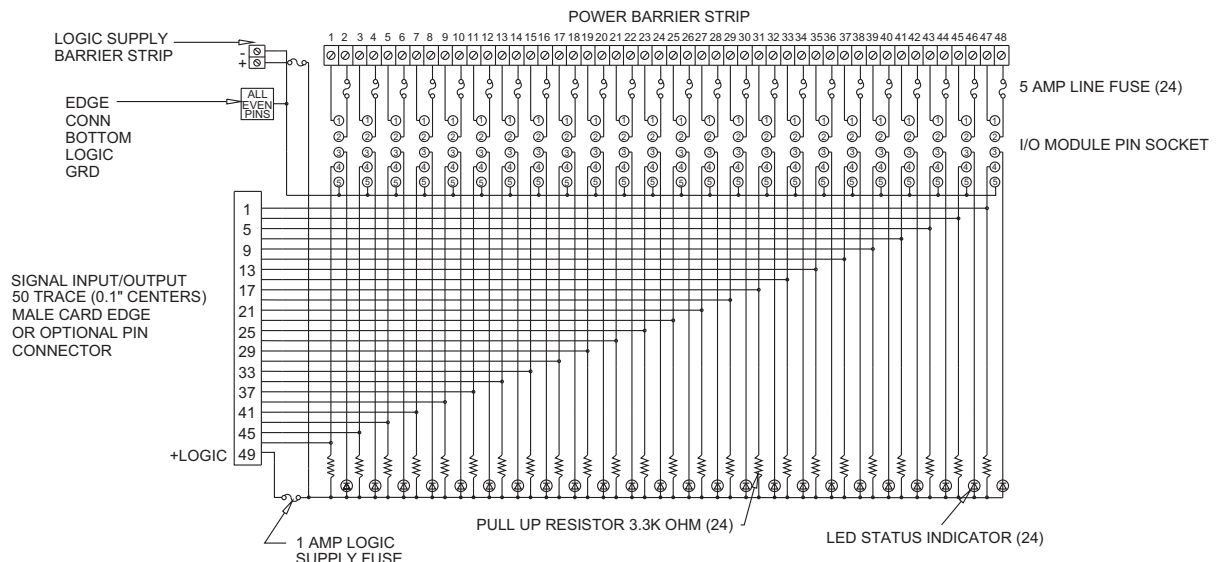
MOUNTING BOARD

- Plug-compatible logic connections
- Screw terminal barrier block for load connections
- Resident pull-up resistors
- 5 amp field-replaceable fuses (LITTLEFUSE #251005 or equivalent)
- LEDs indicate logic status
- All even-numbered logic connections are logic ground
- Input and output modules accepted interchangeably
- Operate with 5, 15 or 24 volt logic supplies
- Optional Hold Down Bar for retaining "M" series modules

MECHANICAL SPECIFICATIONS



- NOTES: 1) MATING CONNECTOR IS BERG 66317-150 OR EQUIVALENT. SPECIFY SUFFIX "C" FOR OPTIONAL 65823-093 OR EQUIVALENT MALE PIN CONNECTOR FOR PARALLEL-TO-THE-BOARD CABLE CONNECTION. SPECIFY SUFFIX "V" FOR OPTIONAL CIRCUIT ASSEMBLY CA-50H-2B-SR OR EQUIVALENT MALE PIN CONNECTOR FOR PERPENDICULAR-TO-THE-BOARD CABLE CONNECTION.
- 2) 4-40 TERMINAL STRIPS ACCEPT WIRE SIZES FROM 26 TO 14 AWG.
- 3) OPTIONAL JUMPERS ARE AVAILABLE TO INTERCONNECT BARRIER STRIP ORDER 3 EACH "JMB".
- 4) PHOENIX MKD51.5 5.08mm SERIES (OR EQUIVALENT) SCREW TERMINAL BLOCKS STANDARD. SPECIFY SUFFIX "A" FOR BOARD-MOUNTED PHOENIX MSTBVA 1.5/16-G-5.08 (OR EQUIVALENT) MALE CONNECTOR. SPECIFY SUFFIX "B" FOR BOARD-MOUNTED PHOENIX MSTBVA 1.5/16-G-5.08 (OR EQUIVALENT) MALE CONNECTOR AND MATING PHOENIX MSTBVA 1.5/16-ST-5.08 (OR EQUIVALENT) FEMALE. SCREW-TERMINAL PLUG-IN CONNECTOR.
- 5) LITTLE FUSE 251001 OR EQUIVALENT.
- 6) LITTLE FUSE 251005 OR EQUIVALENT.
- 7) TWO HOLD-DOWN BAR KITS ARE AVAILABLE SEPARATELY. MODEL NO. 11.06.413 EMPLOY A PLAIN ALUMINUM CHANNEL WHILE MODEL NO. 11.06.288 PROVIDES POCKETS IN THE CHANNEL FOR INDIVIDUAL MODULES.



Rev. 070808

⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. • Disconnect all power before installing or working with this equipment. • Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. • Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. • Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION • Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil • Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.	GEFAHR EINES ELEKTRISCHEN SCHLAGES ODER EINER EXPLOSION. • Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen • Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. • Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura • Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO • Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento • Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.
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ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	○	○	○	○	○	○
Solder	○	○	○	○	○	○

此附件所标示的包括电子信息产品污染图标的环保信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



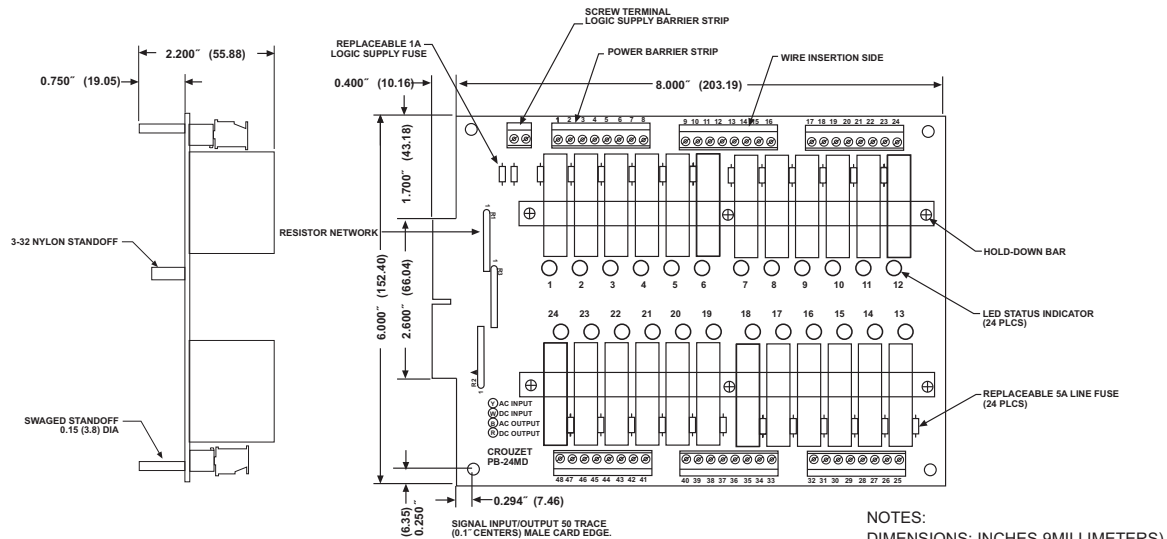
部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	○	○	○	○	○	○
焊接点	○	○	○	○	○	○

PB24MD

MOUNTING BOARD

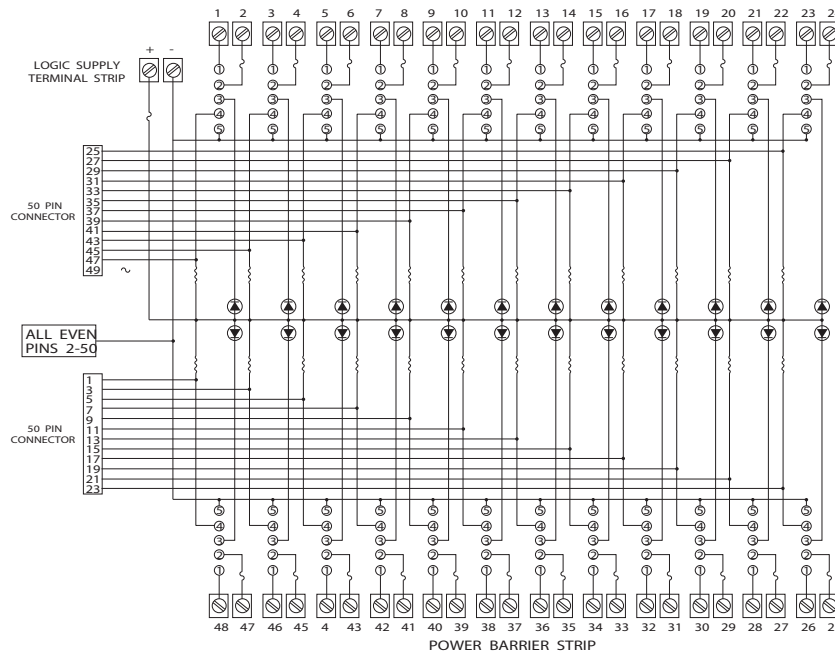
- Plug-compatible logic connections
- Screw terminal barrier block for load connections
- Resident pull-up resistors
- 5 amp field-replaceable fuses (LITTLEFUSE #251005 or equivalent)
- LEDs indicate logic status
- All even-numbered logic connections are logic ground
- Input and output modules accepted interchangeably
- Operate with 5, 15 or 24 volt logic supplies
- Optional Hold Down Bar for retaining "M" series modules

MECHANICAL SPECIFICATIONS



- NOTES:
- 1) MATING CONNECTOR IS BERG66317-150 OR EQUIVALENT. SPECIFY SUFFIX 'C' FOR OPTIONAL 65823-093 OR EQUIVALENT MALE PIN CONNECTOR FOR PARALLEL-TO-THE-BOARD CABLE CONNECTION. SPECIFY SUFFIX 'V' FOR OPTIONAL CIRCUIT ASSEMBLY CA-50H-2B-SR OR EQUIVALENT MALE PIN CONNECTOR FOR PERPENDICULAR-TO-THE-BOARD CABLE CONNECTION.
 - 2) 4-40 TERMINAL STRIPS ACCEPT WIRE SIZES FROM 26 TO 14 AWG.
 - 3) OPTIONAL JUMPERS ARE AVAILABLE TO INTERCONNECT BARRIER STRIP ORDER "JM8"
 - 4) PHOENIX MKD51.5 5.08mm SERIES (OR EQUIVALENT) SCREW TERMINAL BLOCKS STANDARD. SPECIFY SUFFIX "A" FOR BOARD-MOUNTED PHOENIX MSTBVA 1.5/16-G-5.08 (OR EQUIVALENT) MALE CONNECTOR. SPECIFY SUFFIX "B" FOR BOARD-MOUNTED PHOENIX MSTBVA 1.5/16-G-5.08 (OR EQUIVALENT) MALE CONNECTOR AND MATING PHOENIX MSTBVA 1.5/16-ST-5.08 (OR EQUIVALENT) FEMALE. SCREW-TERMINAL PLUG-IN CONNECTOR.
 - 5) LITTLE FUSE 251001 OR EQUIVALENT.
 - 6) LITTLE FUSE 251005 OR EQUIVALENT.

NOTES:
DIMENSIONS: INCHES 9MILLIMETERS
TOLERANCE: +0.020 (+.50)



Rev. 070808

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HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. • Disconnect all power before installing or working with this equipment. • Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. • Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. • Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION • Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil • Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.	GEFAHR EINES ELEKTRISCHEN SCHLAGES ODER EINER EXPLOSION. • Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen • Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. • Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura • Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO • Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento • Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.
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ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	○	○	○	○	○	○
Solder	○	○	○	○	○	○

此附件所标示的包括电子信息产品污染图标的环保信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



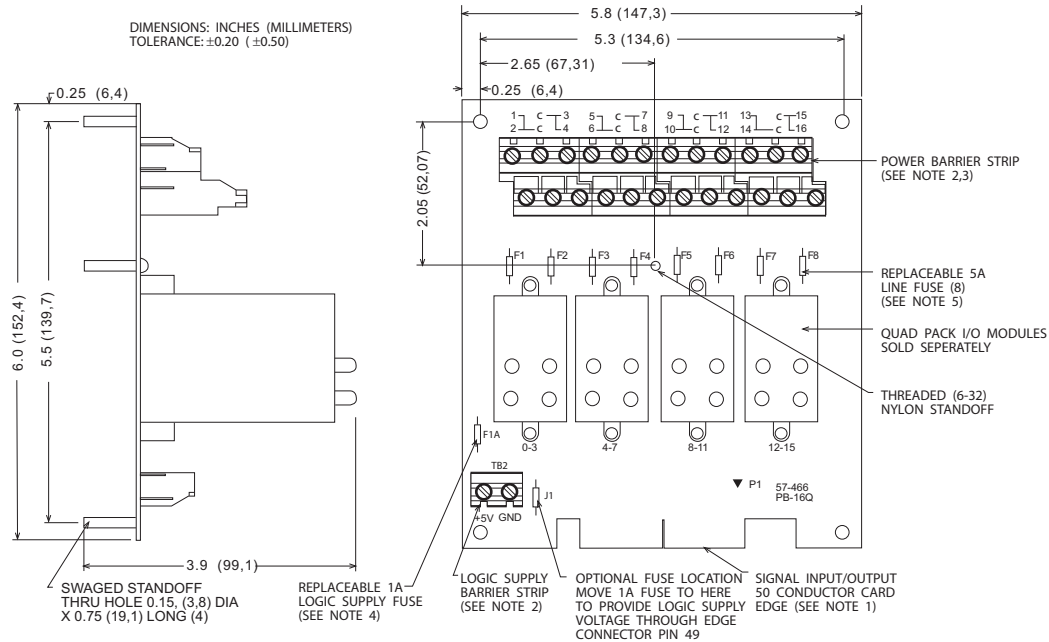
部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	○	○	○	○	○	○
焊接点	○	○	○	○	○	○

PB16Q

MOUNTING BOARD

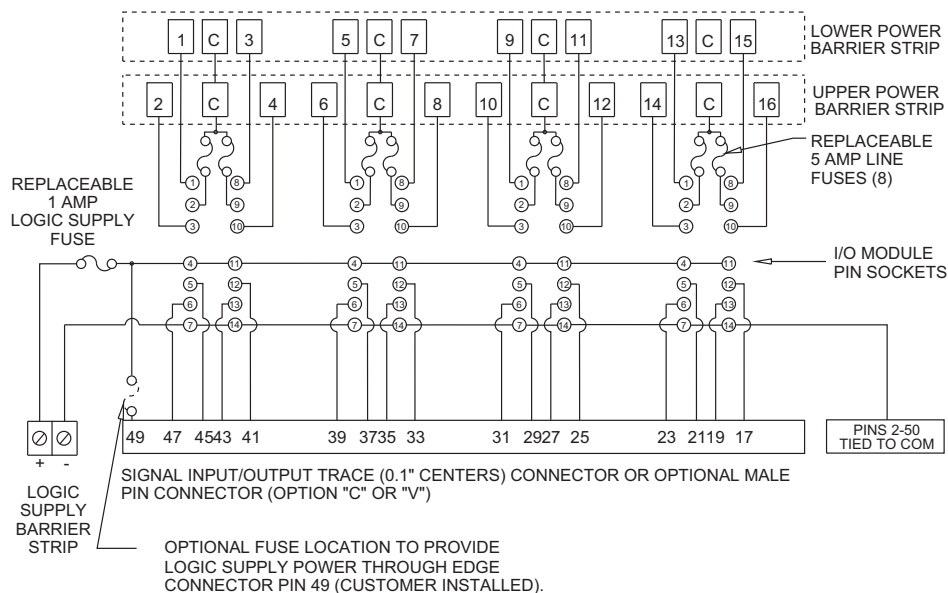
- Plug-compatible logic connections
- Screw terminal barrier block for load connections
- 5 amp field-replaceable fuses (LITTLEFUSE #251005 or equivalent)
- All even-numbered logic connections are logic ground
- Input and output modules accepted interchangeably
- Operate with 5, 15 or 24 volt logic supplies
- Captive-screw retaining system for Quad-Pack modules

MECHANICAL SPECIFICATIONS



NOTES:

- 1) MATING CONNECTOR IS BERG 66317-150 OR EQUIVALENT.
SPECIFY SUFFIX "C" FOR OPTIONAL BERG 65823-093 (OR EQUIVALENT) MALE PIN CONNECTOR FOR PARALLEL-TO-THE BOARD CABLE CONNECTION.
SPECIFY SUFFIX "V" FOR OPTIONAL CIRCUIT ASSEMBLY CA-50H-2B-SR (OR EQUIVALENT) MALE PIN CONNECTOR FOR PERPENDICULAR-TO-THE-BOARD CABLE CONNECTION.
- 2) BARRIER STRIPS ACCEPT WIRE SIZES FROM 24 TO 12 AWG.
3) OPTIONAL JUMPERS AVAILABLE TO INTERCONNECT BARRIER STRIP COMMONS.
ORDER 2 EACH JUMPER "J04".
4) LITTLE FUSE 251001 OR EQUIVALENT.
5) LITTLE FUSE 251005 OR EQUIVALENT.



Rev. 070808

⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. • Disconnect all power before installing or working with this equipment. • Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. • Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. • Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION • Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil • Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.	GEFAHR EINES ELEKTRISCHEN SCHLAGES ODER EINER EXPLOSION. • Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen • Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. • Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura • Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO • Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento • Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.
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ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	○	○	○	○	○	○
Solder	○	○	○	○	○	○

此附件所标示的包括电子信息产品污染图标的环保信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



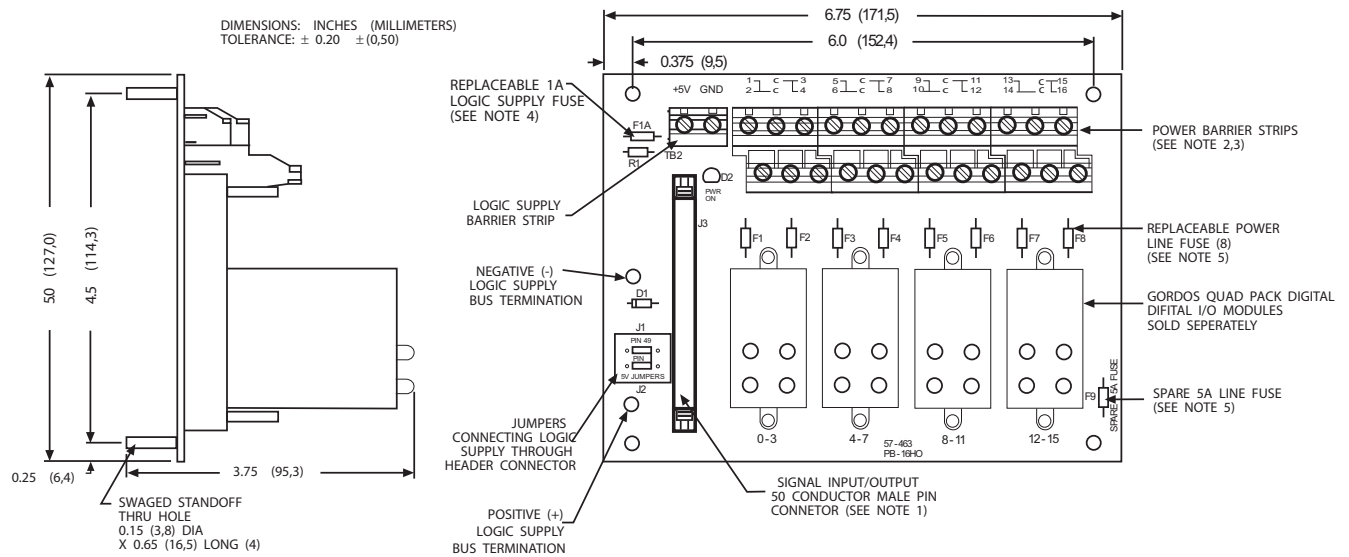
部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	○	○	○	○	○	○
焊接点	○	○	○	○	○	○

PB16HQ

MOUNTING BOARD

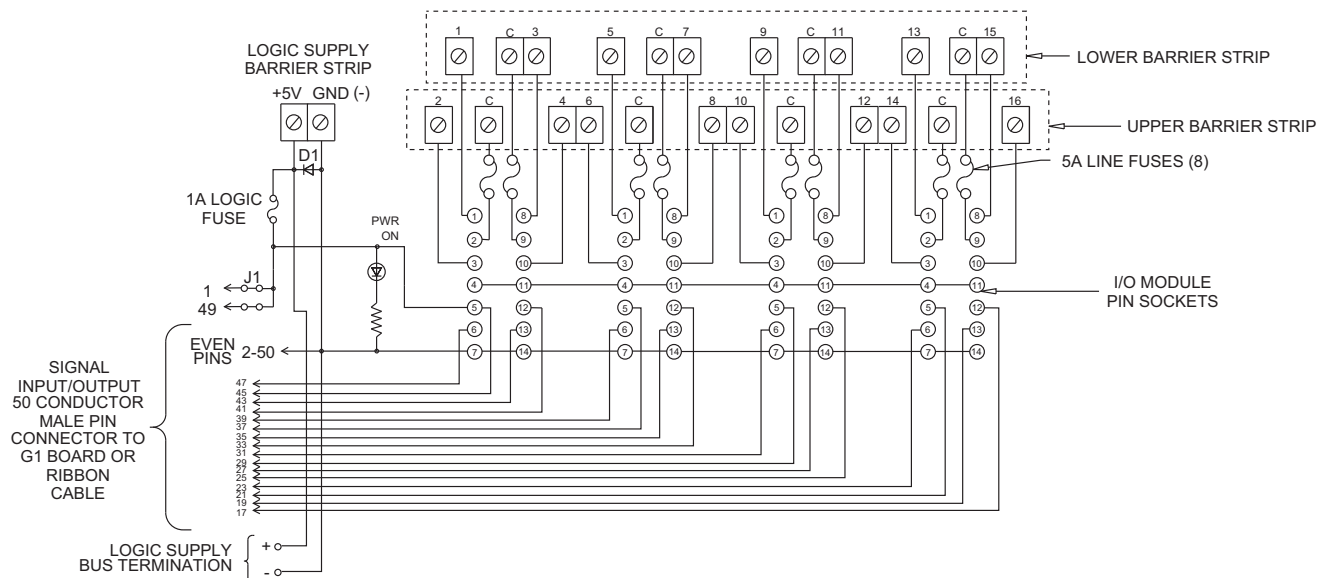
- Plug-compatible logic connections
- Screw terminal barrier block for load connections
- 5 amp field-replaceable fuses (LITTLEFUSE #251005 or equivalent)
- All even-numbered logic connections are logic ground
- Input and output modules accepted interchangeably
- Operate with 5, 15 or 24 volt logic supplies
- Captive-screw retaining system for Quad-Pack modules

MECHANICAL SPECIFICATIONS



NOTES:

- 1) CONNECTOR IS BERG 65863-145 OR EQUIVALENT.
- 2) 6-32 SCREW TERMINAL BARRIER STRIPS ACCEPT WIRE SIZES FROM 24 TO 12 AWG.
- 3) OPTIONAL JUMPERS AVAILABLE TO INTERCONNECT BARRIER STRIP COMMONS. ORDER 2 EACH JUMPER "JQ4".
- 4) LITTLE FUSE 251001 OR EQUIVALENT.
- 5) LITTLE FUSE 251005 OR EQUIVALENT.



Rev. 070808

⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. • Disconnect all power before installing or working with this equipment. • Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. • Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. • Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION • Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil • Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.	GEFAHR EINES ELEKTRISCHEN SCHLAGES ODER EINER EXPLOSION. • Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen • Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. • Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura • Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO • Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento • Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.
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ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	○	○	○	○	○	○
Solder	○	○	○	○	○	○

此附件所标示的包括电子信息产品污染图标的环保信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



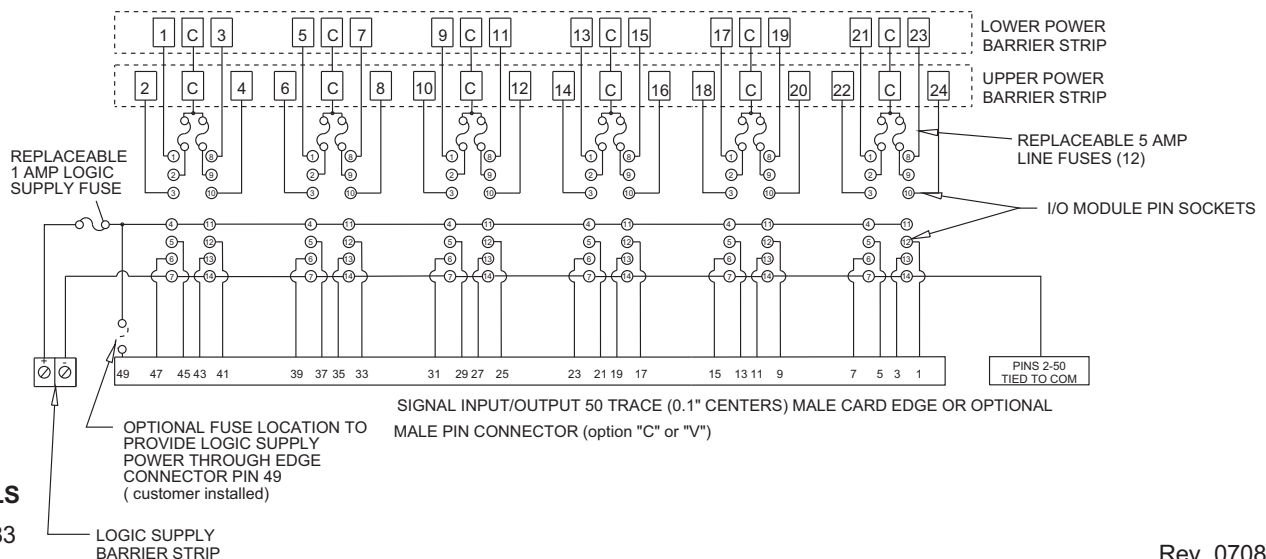
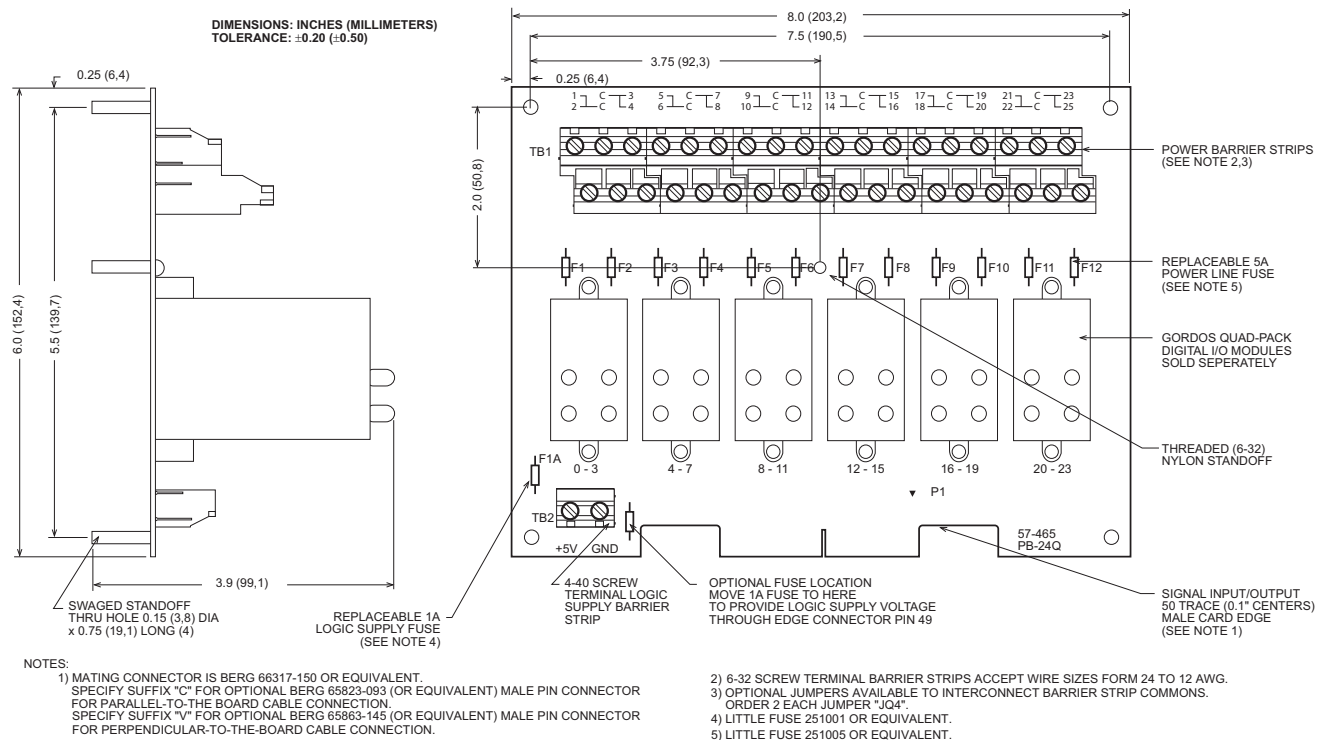
部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	○	○	○	○	○	○
焊接点	○	○	○	○	○	○

PB24Q

MOUNTING BOARD

- Plug-compatible logic connections
- Screw terminal barrier block for load connections
- 5 amp field-replaceable fuses (LITTLEFUSE #251005 or equivalent)
- All even-numbered logic connections are logic ground
- Input and output modules accepted interchangeably
- Operate with 5, 15 or 24 volt logic supplies
- Captive-screw retaining system for Quad-Pack modules

MECHANICAL SPECIFICATIONS



APPROVALS

UL E79183
CSA 38595

Rev. 070808

⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. • Disconnect all power before installing or working with this equipment. • Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. • Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. • Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION • Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil • Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.	GEFAHR EINES ELEKTRISCHEN SCHLAGES ODER EINER EXPLOSION. • Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen • Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. • Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura • Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO • Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento • Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.
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ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	○	○	○	○	○	○
Solder	○	○	○	○	○	○

此附件所标示的包括电子信息产品污染图标的环保信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



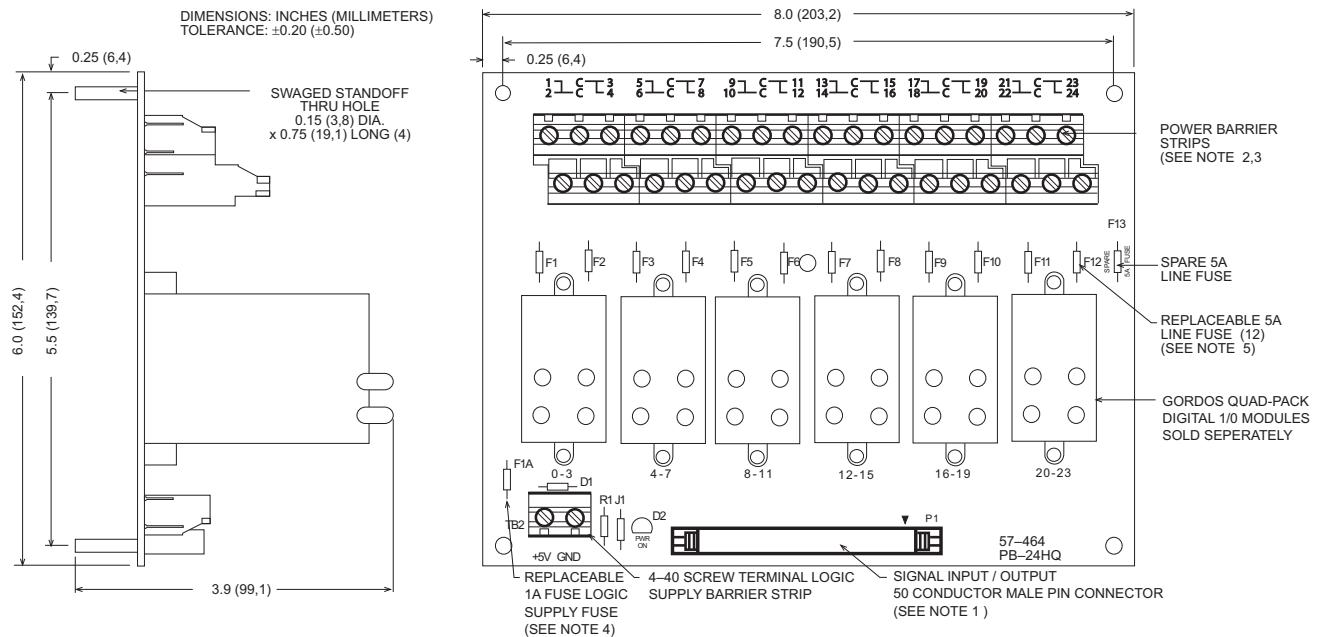
部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	○	○	○	○	○	○
焊接点	○	○	○	○	○	○

PB24HQ

MOUNTING BOARD

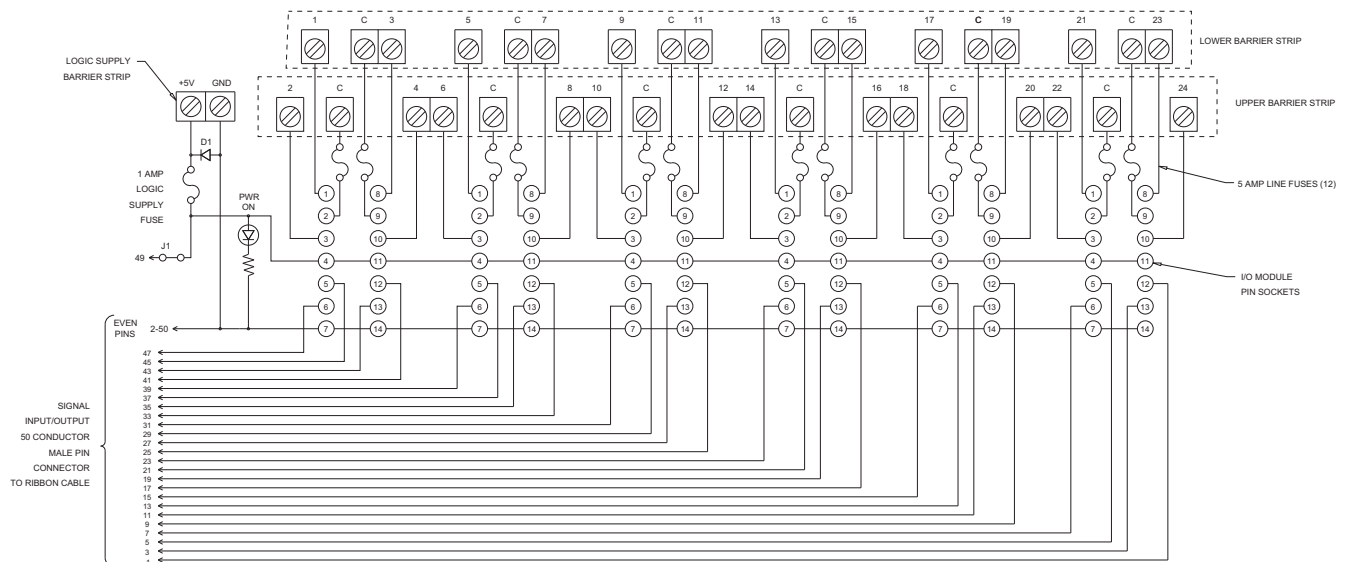
- Plug-compatible logic connections
- Screw terminal barrier block for load connections
- 5 amp field-replaceable fuses (LITTLEFUSE #251005 or equivalent)
- All even-numbered logic connections are logic ground
- Input and output modules accepted interchangeably
- Operate with 5, 15 or 24 volt logic supplies
- Captive-screw retaining system for Quad-Pack modules

MECHANICAL SPECIFICATIONS



NOTES: 1) CONNECTOR IS CIRCUIT ASSEMBLY CA-50H-2B-SR OR EQUIVALENT.
2) 6-32 SCREW TERMINAL BARRIER STRIPS ACCEPT WIRE SIZES FROM 24 TO 12 AWG.
3) OPTIONAL JUMPERS AVAILABLE TO INTERCONNECT BARRIER STRIP COMMONS.
ORDER 2 EACH JUMPERS "JQ2" AND 4 EACH JUMPERS "JQ4".
JQ4 REQUIRES CUSTOMER MODIFICATIONS TO USE WITH PB24HQ.

4) LITTLE FUSE 251001 OR EQUIVALENT.
5) LITTLE FUSE 251005 OR EQUIVALENT.



Rev. 070808

⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. • Disconnect all power before installing or working with this equipment. • Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. • Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. • Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION • Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil • Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.	GEFAHR EINES ELEKTRISCHEN SCHLAGES ODER EINER EXPLOSION. • Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen • Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. • Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura • Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO • Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento • Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.
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ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	○	○	○	○	○	○
Solder	○	○	○	○	○	○

此附件所标示的包括电子信息产品污染图标的环保信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



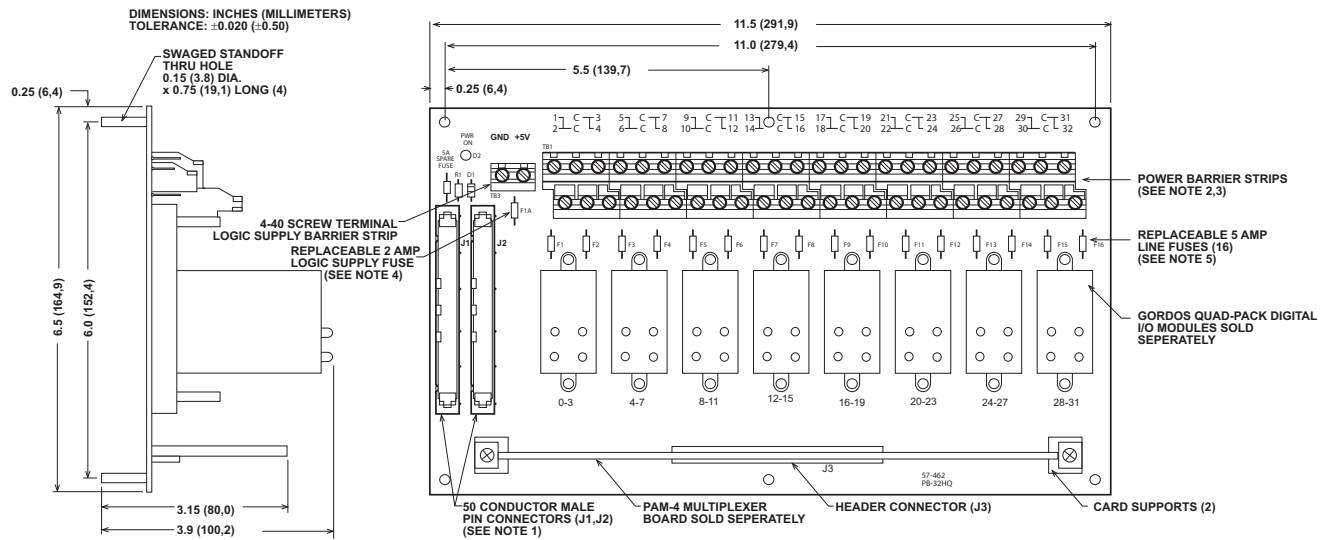
部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	○	○	○	○	○	○
焊接点	○	○	○	○	○	○

PB32HQ

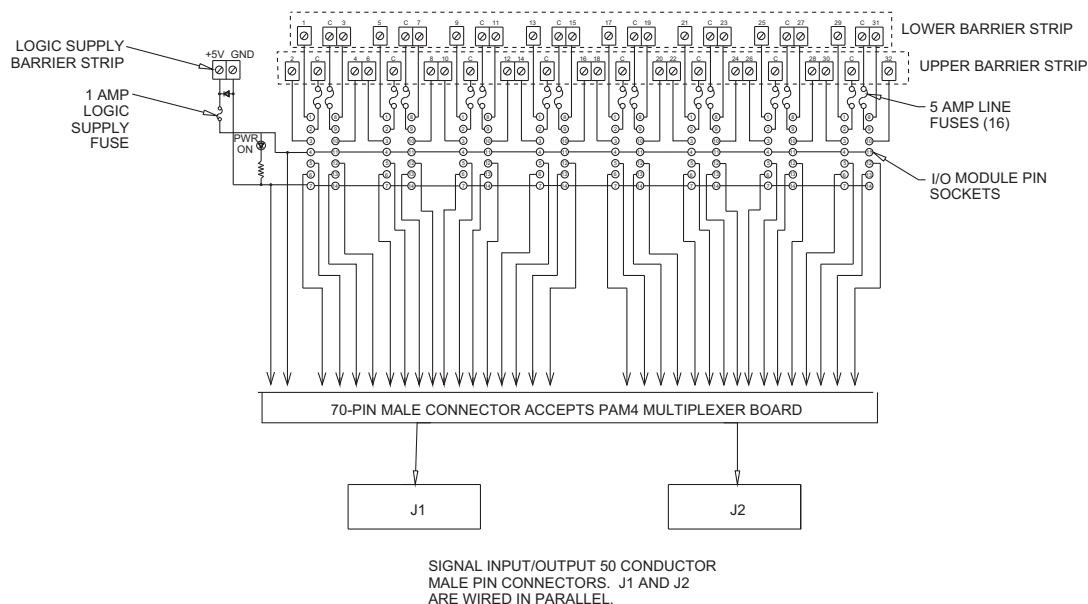
MOUNTING BOARD

- Plug-compatible logic connections
- Screw terminal barrier block for load connections
- 5 amp field-replaceable fuses (LITTLEFUSE #251005 or equivalent)
- All even-numbered logic connections are logic ground
- Input and output modules accepted interchangeably
- Operate with 5, 15 or 24 volt logic supplies
- Captive-screw retaining system for Quad-Pack modules

MECHANICAL SPECIFICATIONS



- NOTES: 1) CONNECTOR IS CIRCUIT ASSEMBLY CA-50H-28-SR OR EQUIVALENT.
CONNECTORS ARE WIRED IN PARALLEL.
2) 6-32 SCREW TERMINAL BARRIER STRIPS ACCEPT WIRE SIZES FROM 24 TO 12 AWG.
3) OPTIONAL JUMPERS AVAILABLE TO INTERCONNECT BARRIER STRIP COMMONS.
ORDER 2 EACH JUMPERS "JQ2" AND 4 EACH JUMPERS "JQ4".
4) LITTLE FUSE 251001 OR EQUIVALENT.
5) LITTLE FUSE 251005 OR EQUIVALENT.



Rev. 070808

⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. • Disconnect all power before installing or working with this equipment. • Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. • Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. • Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION • Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil • Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.	GEFAHR EINES ELEKTRISCHEN SCHLAGES ODER EINER EXPLOSION. • Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen • Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. • Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura • Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO • Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento • Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.
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ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	○	○	○	○	○	○
Solder	○	○	○	○	○	○

此附件所标示的包括电子信息产品污染图标的环保信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



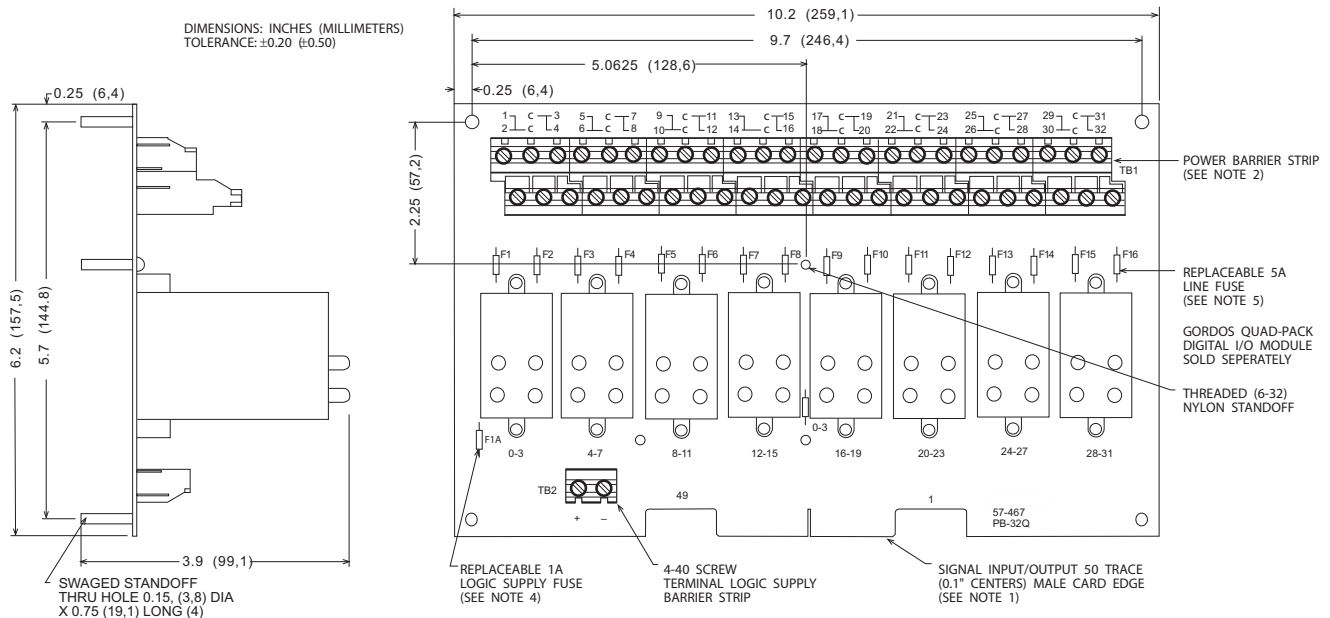
部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	○	○	○	○	○	○
焊接点	○	○	○	○	○	○

PB32Q

MOUNTING BOARD

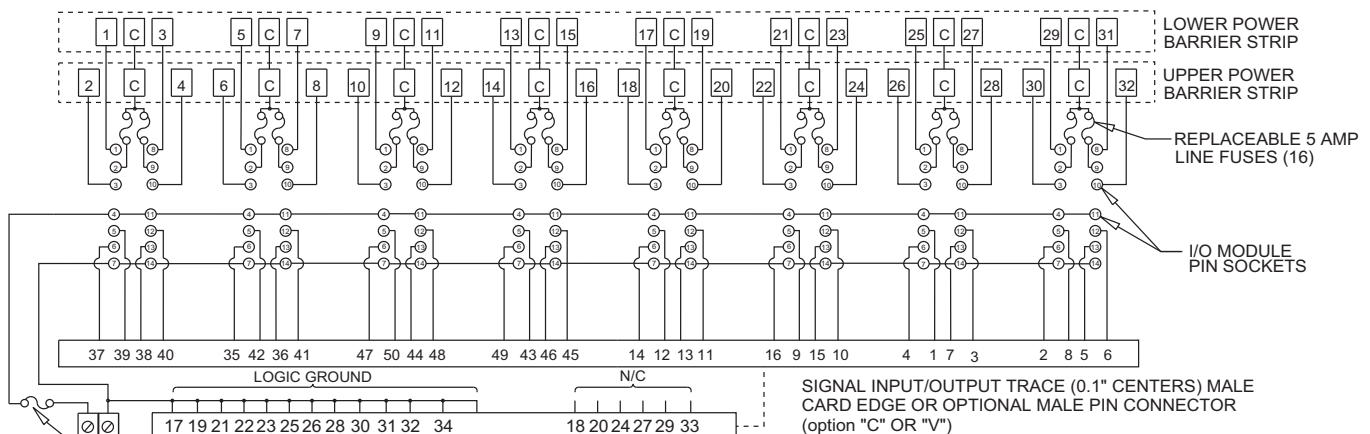
- Plug-compatible logic connections
- Screw terminal barrier block for load connections
- 5 amp field-replaceable fuses (LITTLEFUSE #251005 or equivalent)
- LEDs indicate logic status
- All even-numbered logic connections are logic ground
- Input and output modules accepted interchangeably
- Operate with 5, 15 or 24 volt logic supplies
- Captive-screw retaining system for Quad-Pack modules

MECHANICAL SPECIFICATIONS



NOTES:

- 1) MATING CONNECTOR IS BERG 66317-150 OR EQUIVALENT. SPECIFY SUFFIX "C" FOR OPTIONAL BERG 65823-093 (OR EQUIVALENT) MALE PIN CONNECTOR FOR PARALLEL-TO-THE BOARD CABLE CONNECTION. SPECIFY SUFFIX "V" FOR OPTIONAL CIRCUIT ASSEMBLY CA-50H-2B-SR (OR EQUIVALENT) MALE PIN CONNECTOR FOR PERPENDICULAR-TO-THE-BOARD CABLE CONNECTION.
- 2) 6-32 SCREW TERMINAL BARRIER STRIPS ACCEPT WIRE SIZES FROM 24 TO 12 AWG.
- 3) OPTIONAL JUMPERS AVAILABLE TO INTERCONNECT BARRIER STRIP COMMONS. ORDER 2 EACH JUMPERS "JQ2" AND 2 EACH JUMPERS "JQ4".
- 4) LITTLE FUSE 251001 OR EQUIVALENT.
- 5) LITTLE FUSE 251005 OR EQUIVALENT.



⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. • Disconnect all power before installing or working with this equipment. • Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. • Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. • Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION • Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil • Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.	GEFAHR EINES ELEKTRISCHEN SCHLAGES ODER EINER EXPLOSION. • Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen • Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. • Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura • Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO • Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento • Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.
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ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	○	○	○	○	○	○
Solder	○	○	○	○	○	○

此附件所标示的包括电子信息产品污染图标的环保信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	○	○	○	○	○	○
焊接点	○	○	○	○	○	○

⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. • Disconnect all power before installing or working with this equipment. • Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. • Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. • Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION • Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil • Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.	GEFAHR EINES ELEKTRISCHEN SCHLAGES ODER EINER EXPLOSION. • Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen • Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. • Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura • Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO • Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento • Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.
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Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	○	○	○	○	○	○
Solder	○	○	○	○	○	○

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电子信息产品污染控制标识要求



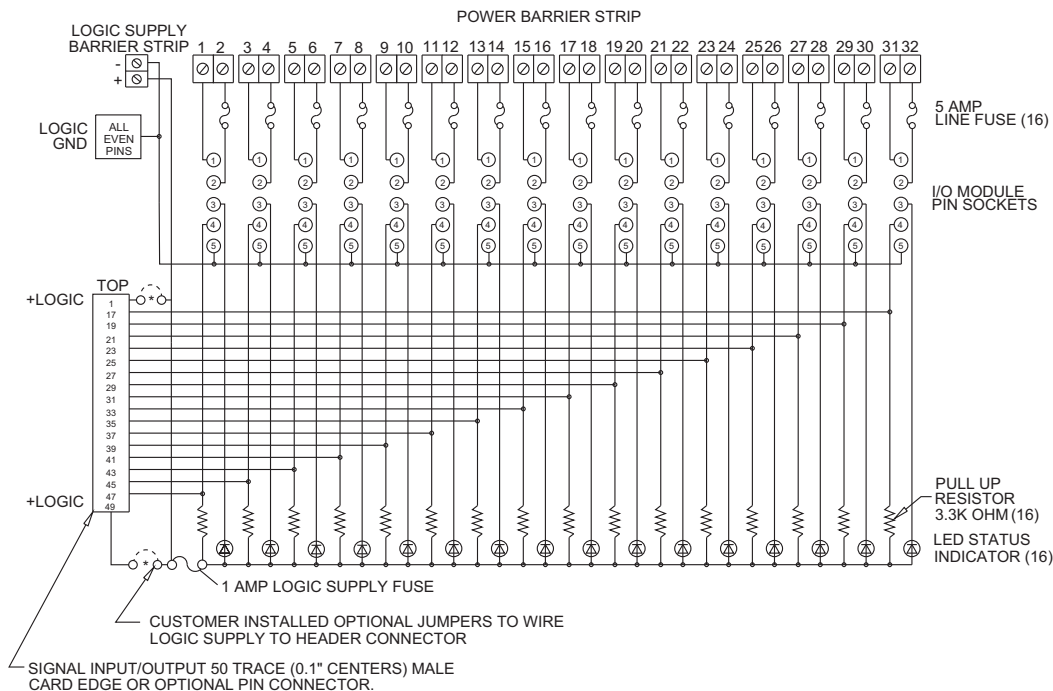
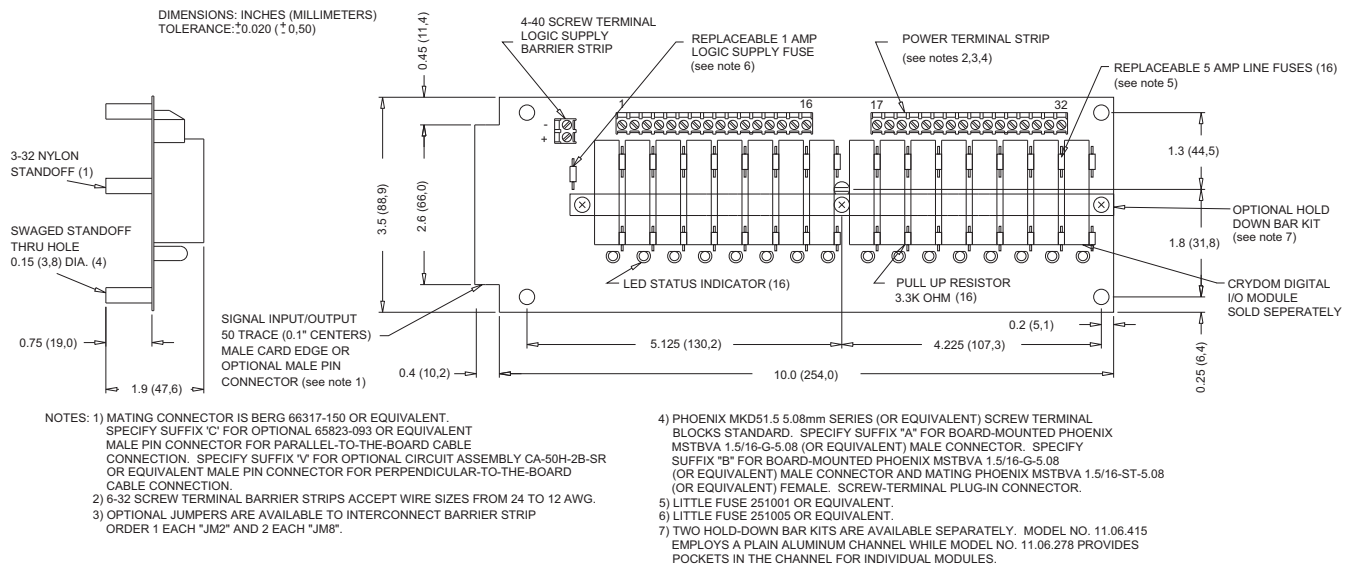
部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	○	○	○	○	○	○
焊接点	○	○	○	○	○	○

PB16SM

MOUNTING BOARD

- Plug-compatible logic connections
- Screw terminal barrier block for load connections
- Resident pull-up resistors
- 5 amp field-replaceable fuses (LITTLEFUSE #251005 or equivalent)
- LEDs indicate logic status
- All even-numbered logic connections are logic ground
- Input and output modules accepted interchangeably
- Operate with 5, 15 or 24 volt logic supplies
- Pin retaining system for "SM" series miniature modules.

MECHANICAL SPECIFICATIONS



Rev. 070808

⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. • Disconnect all power before installing or working with this equipment. • Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. • Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. • Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION • Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil • Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.	GEFAHR EINES ELEKTRISCHEN SCHLAGES ODER EINER EXPLOSION. • Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen • Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. • Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura • Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO • Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento • Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.
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Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	○	○	○	○	○	○
Solder	○	○	○	○	○	○

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电子信息产品污染控制标识要求



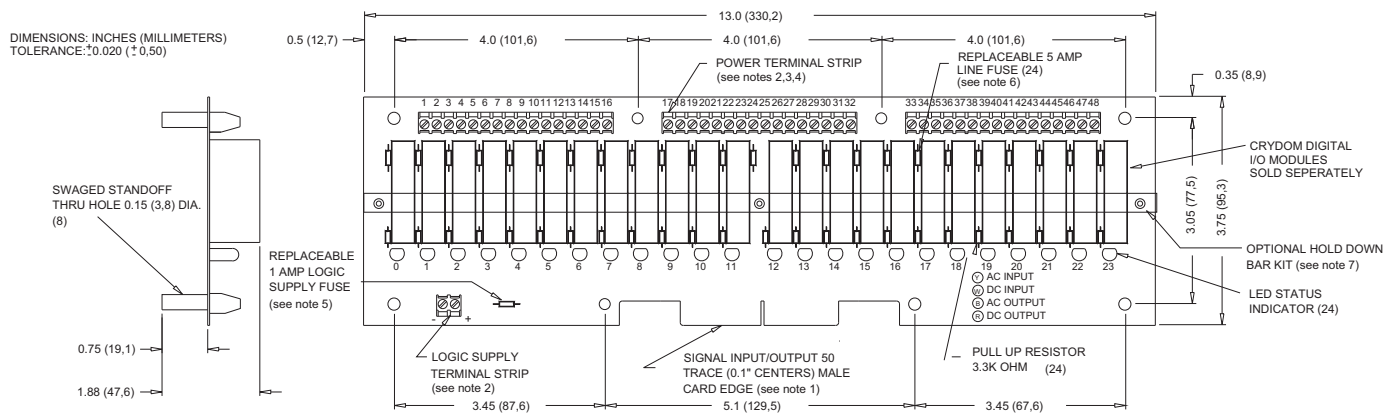
部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	○	○	○	○	○	○
焊接点	○	○	○	○	○	○

PB24SM

MOUNTING BOARD

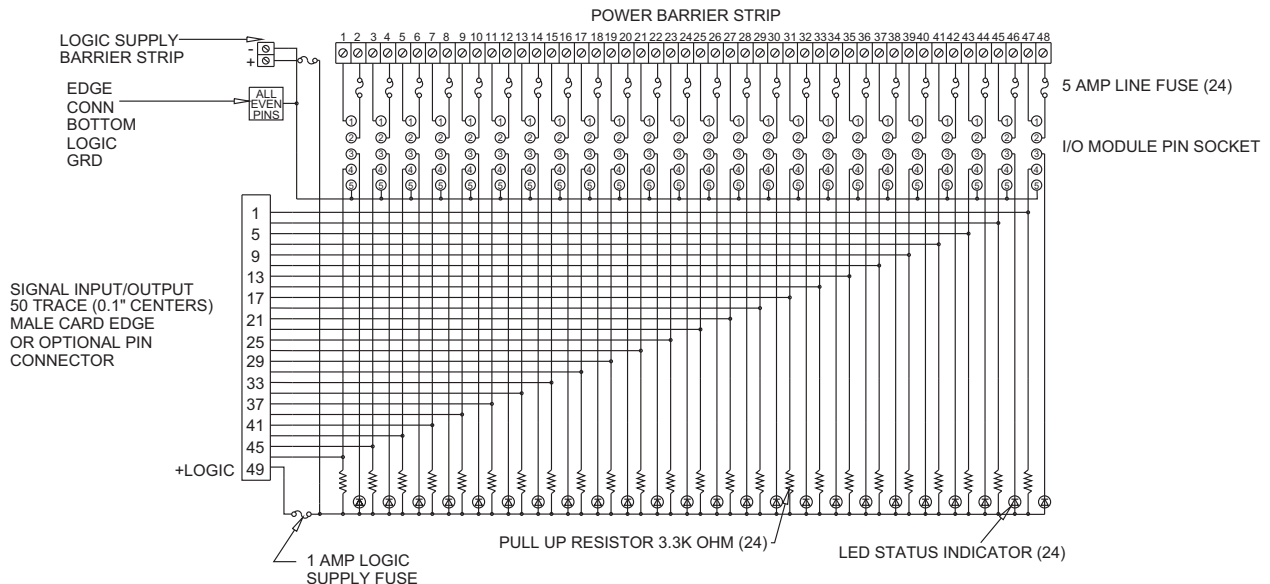
- Plug-compatible logic connections
- Screw terminal barrier block for load connections
- Resident pull-up resistors
- 5 amp field-replaceable fuses (LITTLEFUSE #251005 or equivalent)
- LEDs indicate logic status
- All even-numbered logic connections are logic ground
- Input and output modules accepted interchangeably
- Operate with 5, 15 or 24 volt logic supplies
- Pin retaining system for "SM" series miniature modules

MECHANICAL SPECIFICATIONS



NOTES: 1) MATING CONNECTOR IS BERG 66317-150 OR EQUIVALENT. SPECIFY SUFFIX "C" FOR OPTIONAL 65823-093 OR EQUIVALENT MALE PIN CONNECTOR FOR PARALLEL-TO-THE-BOARD CABLE CONNECTION. SPECIFY SUFFIX "V" FOR OPTIONAL CIRCUIT ASSEMBLY CA-50H-2B-SR OR EQUIVALENT MALE PIN CONNECTOR FOR PERPENDICULAR-TO-THE-BOARD CABLE CONNECTION.
2) 4-40 SCREW TERMINAL STRIPS ACCEPT WIRE SIZES FROM 26 TO 14 AWG.
3) OPTIONAL JUMPERS ARE AVAILABLE TO INTERCONNECT BARRIER STRIP ORDER 3 EACH "JM8".

4) PHOENIX MKD51.5 5.08mm SERIES (OR EQUIVALENT) SCREW TERMINAL BLOCKS STANDARD. SPECIFY SUFFIX "A" FOR BOARD-MOUNTED PHOENIX MSTBVA 1.5/16-G-5.08 (OR EQUIVALENT) MALE CONNECTOR. SPECIFY SUFFIX "B" FOR BOARD-MOUNTED PHOENIX MSTBVA 1.5/16-G-5.08 (OR EQUIVALENT) MALE CONNECTOR AND MATING PHOENIX MSTBVA 1.5/16-ST-5.08 (OR EQUIVALENT) FEMALE. SCREW-TERMINAL PLUG-IN CONNECTOR.
5) LITTLE FUSE 251001 OR EQUIVALENT.
6) LITTLE FUSE 251005 OR EQUIVALENT.
7) TWO HOLD-DOWN BAR KITS ARE AVAILABLE SEPARATELY. MODEL NO. 11.06.413 EMPLOYS A PLAIN ALUMINUM CHANNEL WHILE MODEL NO. 11.06.298 PROVIDES POCKETS IN THE CHANNEL FOR INDIVIDUAL MODULES.



Rev. 070808

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Semiconductor die	○	○	○	○	○	○
Solder	○	○	○	○	○	○

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电子信息产品污染控制标识要求



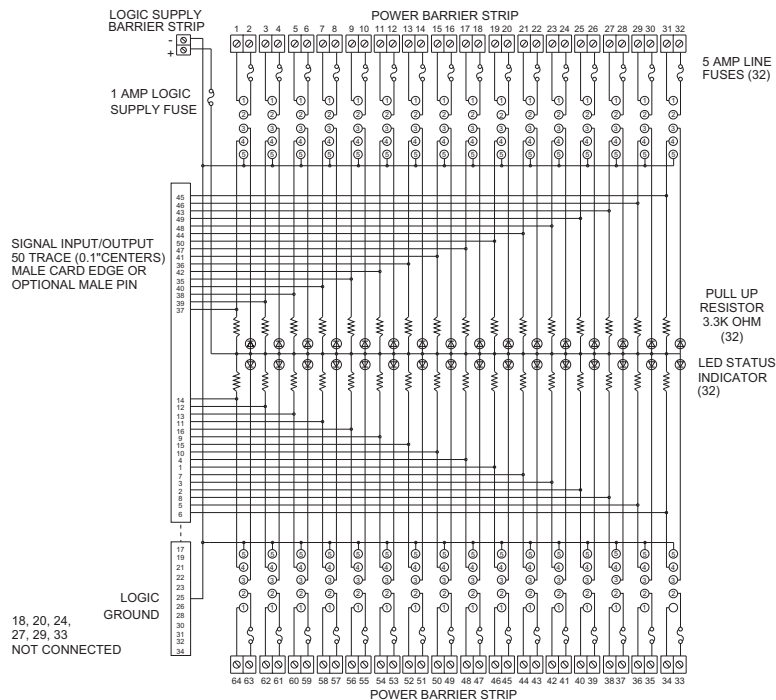
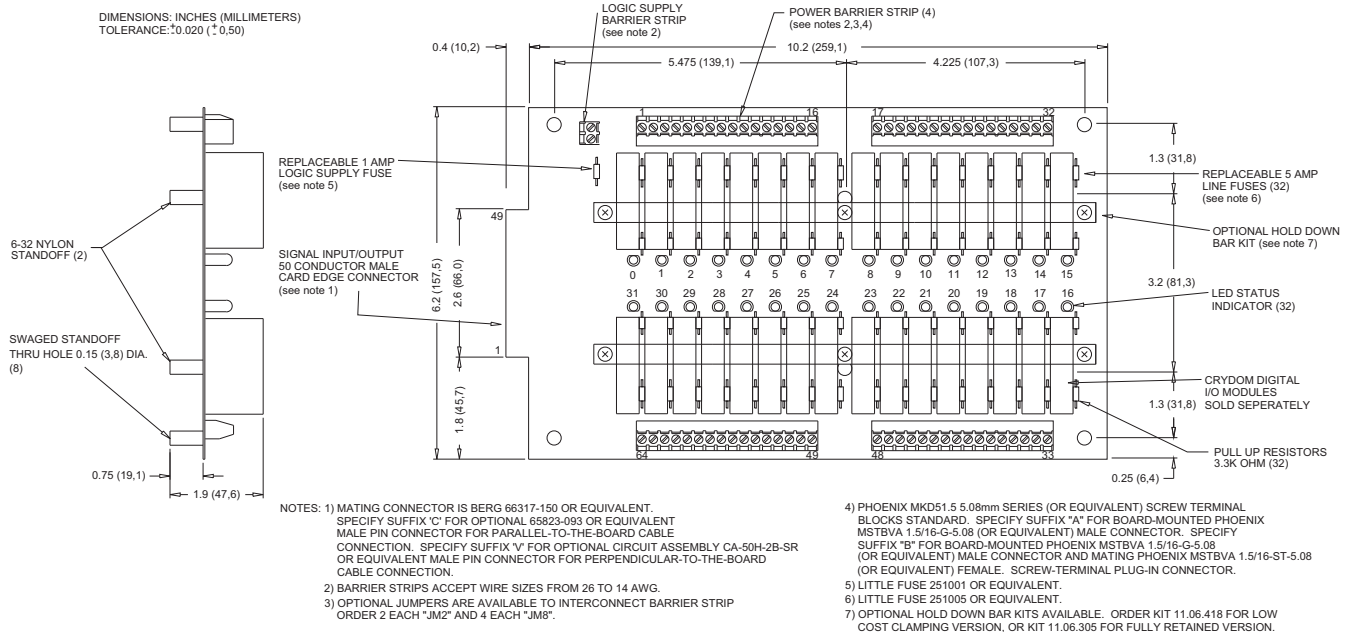
部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	○	○	○	○	○	○
焊接点	○	○	○	○	○	○

PB32SM

MOUNTING BOARD

- Plug-compatible logic connections
- Screw terminal barrier block for load connections
- Resident pull-up resistors
- 5 amp field-replaceable fuses (LITTLEFUSE #251005 or equivalent)
- LEDs indicate logic status
- All even-numbered logic connections are logic ground
- Input and output modules accepted interchangeably
- Operate with 5, 15 or 24 volt logic supplies
- Pin retaining system for "SM" series miniature modules

MECHANICAL SPECIFICATIONS



Rev. 070808

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	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	○	○	○	○	○	○
Solder	○	○	○	○	○	○

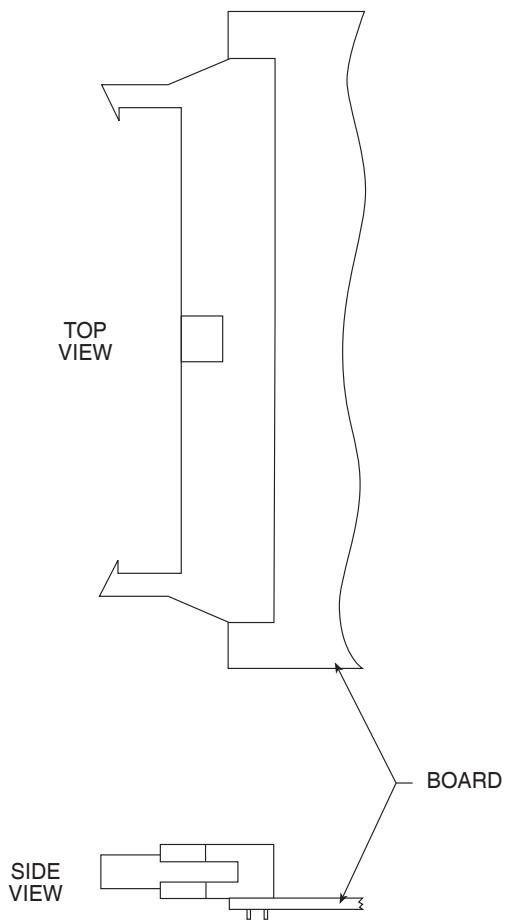
此附件所标示的包括电子信息产品污染图标的环保信息
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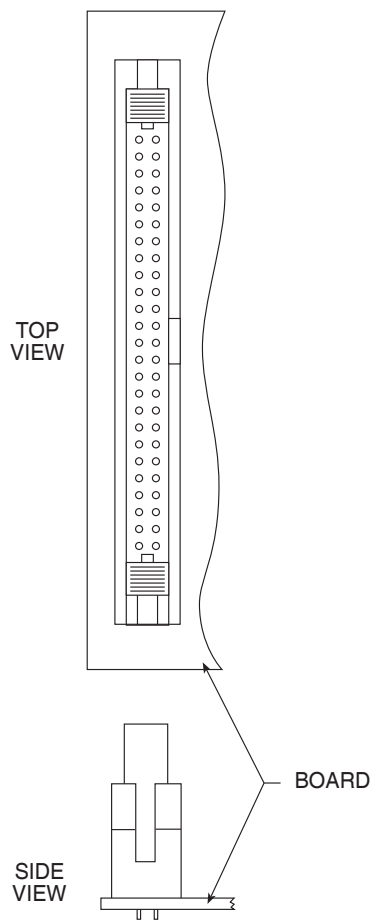
部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	○	○	○	○	○	○
焊接点	○	○	○	○	○	○

HEADER CONNECTOR OPTION

"-C" CONNECTOR OPTION (1)

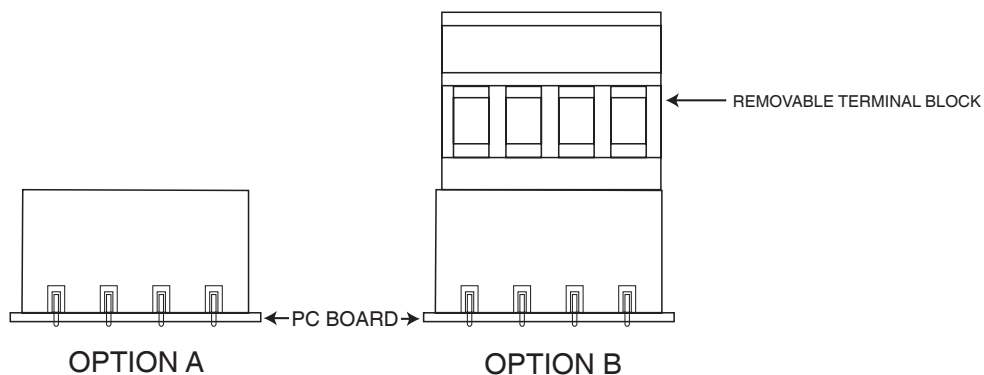


"-V" CONNECTOR OPTION (2)



NOTES: 1.) CONNECTOR IS BERG 65823-093 OR EQUIVALENT
2.) CONNECTOR IS CIRCUIT ASSEMBLY CA-50H-2B OR EQUIVALENT

TERMINAL OPTIONS FOR "M" AND "SM" I/O MOUNTING BOARDS

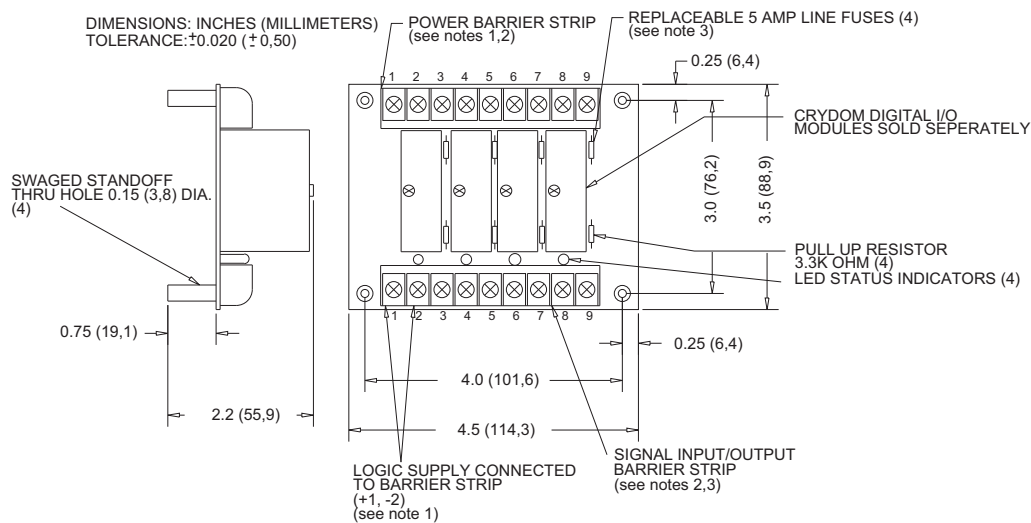


PB4

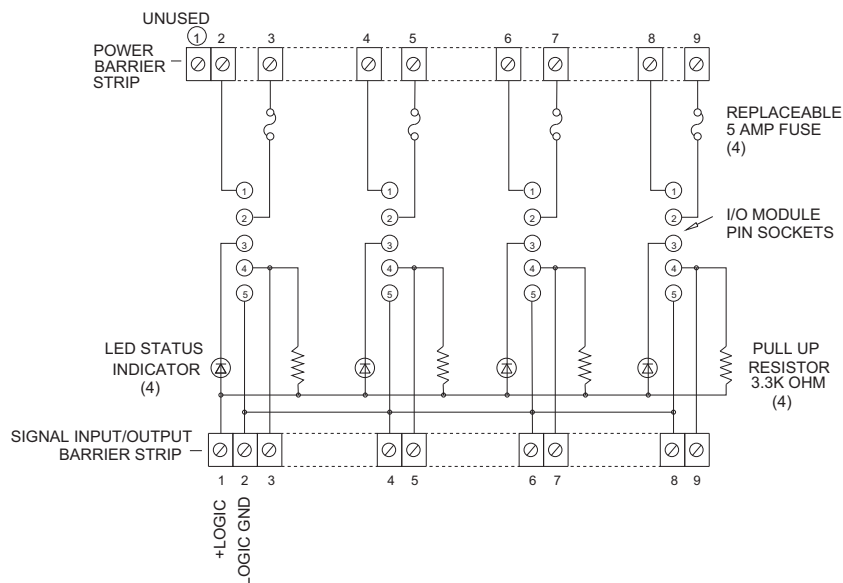
MOUNTING BOARD

- Screw terminal barrier block for logic connections
- Screw terminal barrier block for load connections
- Resident pull-up resistors
- 5 amp field-replaceable fuses (LITTLEFUSE #251005 or equivalent)
- LEDs indicate logic status
- All even-numbered logic connections are logic ground
- Input and output modules accepted interchangeably
- Operate with 5, 15 or 24 volt logic supplies
- Captive-screw retaining system for standard-size modules

MECHANICAL SPECIFICATIONS



NOTES: 1) 6-32 SCREW TERMINAL BARRIER STRIPS ACCEPT WIRE SIZES FROM 24 TO 12 AWG.
2) OPTIONAL JUMPERS AVAILABLE TO INTERCONNECT BARRIER STRIP COMMONS. ORDER 1 EACH "JS8" AND CUT IN HALF.
3) LITTLE FUSE 251005 OR EQUIVALENT.



APPROVALS

UL E79183
CSA 38595

Rev. 070808

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	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	○	○	○	○	○	○
Solder	○	○	○	○	○	○

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符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



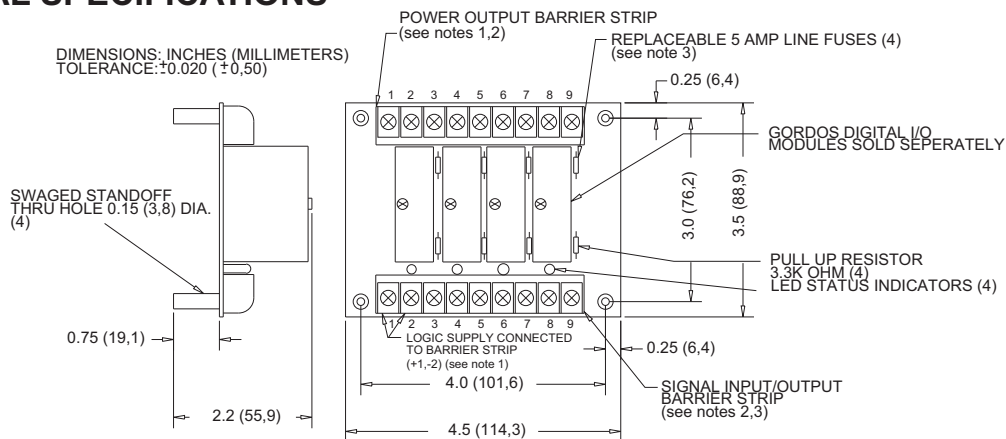
部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	○	○	○	○	○	○
焊接点	○	○	○	○	○	○

PB4R

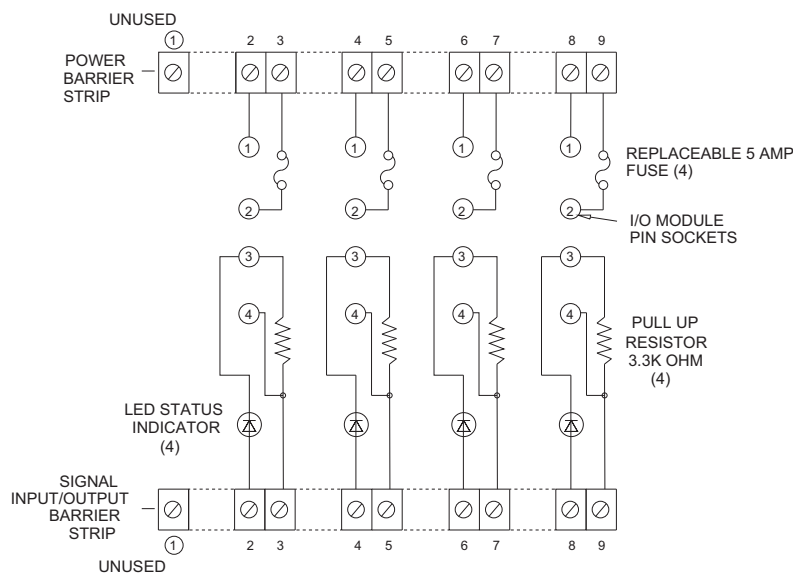
MOUNTING BOARD

- Screw terminal barrier block for logic connections
- Screw terminal barrier block for load connections
- Resident pull-up resistors
- 5 amp field-replaceable fuses (LITTLEFUSE #251005 or equivalent)
- LEDs indicate logic status
- All even-numbered logic connections are logic ground
- Accepts only output modules
- Operate with 5, 15 or 24 volt logic supplies
- Captive-screw retaining system for standard-size modules

MECHANICAL SPECIFICATIONS



- NOTES: 1) 6-32 SCREW TERMINAL BARRIER STRIPS ACCEPT WIRE SIZES FROM 24 TO 12 AWG.
2) OPTIONAL JUMPERS AVAILABLE TO INTERCONNECT BARRIER STRIP COMMONS. ORDER 1 EACH "JS8" AND CUT IN HALF.
3) LITTLE FUSE 251005 OR EQUIVALENT.
4) **PB4R ACCEPTS ONLY OUTPUT MODULES. INPUT MODULES WILL NOT PLUG INTO PB4R.**



APPROVALS

UL E79183
CSA 38595

Rev. 070808

⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. • Disconnect all power before installing or working with this equipment. • Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. • Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. • Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION • Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil • Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.	GEFAHR EINES ELEKTRISCHEN SCHLAGES ODER EINER EXPLOSION. • Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen • Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. • Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura • Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO • Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento • Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.
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ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	○	○	○	○	○	○
Solder	○	○	○	○	○	○

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



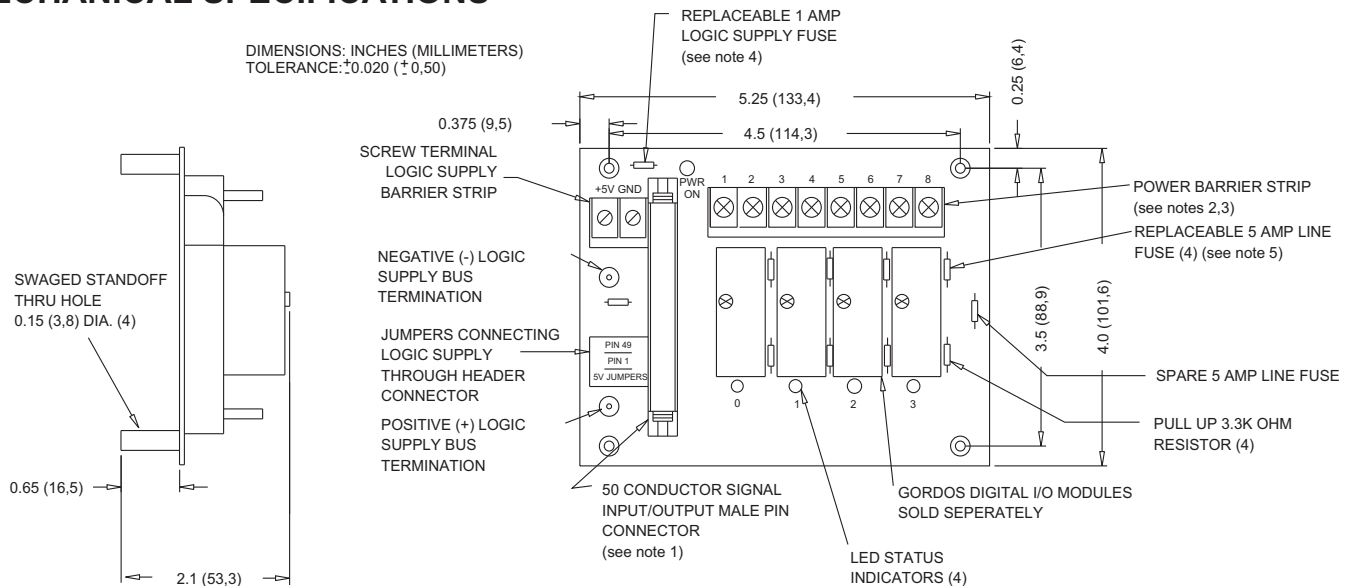
部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	○	○	○	○	○	○
焊接点	○	○	○	○	○	○

PB4H

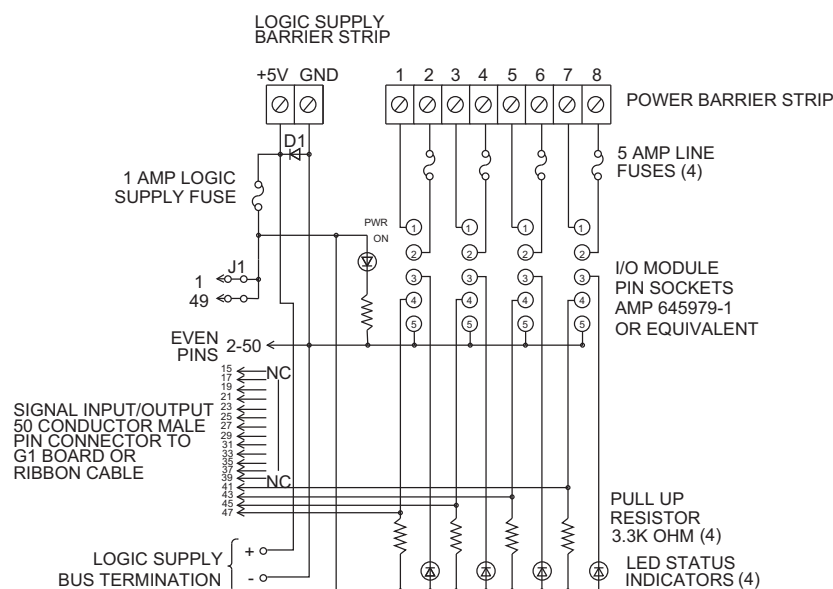
MOUNTING BOARD

- Plug-compatible logic connections
- Screw terminal barrier block for load connections
- Resident pull-up resistors
- 5 amp field-replaceable fuses (LITTLEFUSE #251005 or equivalent)
- LEDs indicate logic status
- All even-numbered logic connections are logic ground
- Input and output modules accepted interchangeably
- Operate with 5, 15 or 24 volt logic supplies
- Captive-screw retaining system for standard-size modules

MECHANICAL SPECIFICATIONS



- NOTES: 1) CONNECTOR IS CIRCUIT ASSEMBLY CA-50H-2B-SR OR EQUIVALENT.
2) 6-32 SCREW TERMINAL BARRIER STRIPS ACCEPT WIRE SIZES FROM 24 TO 12 AWG.
3) OPTIONAL JUMPERS ARE AVAILABLE TO INTERCONNECT BARRIER STRIP COMMONS. ORDER 1 EACH "JS8" AND



Rev. 070808

⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. • Disconnect all power before installing or working with this equipment. • Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. • Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. • Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION • Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil • Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.	GEFAHR EINES ELEKTRISCHEN SCHLAGES ODER EINER EXPLOSION. • Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen • Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. • Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura • Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO • Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento • Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.
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ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	○	○	○	○	○	○
Solder	○	○	○	○	○	○

此附件所标示的包括电子信息产品污染图标的环保信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



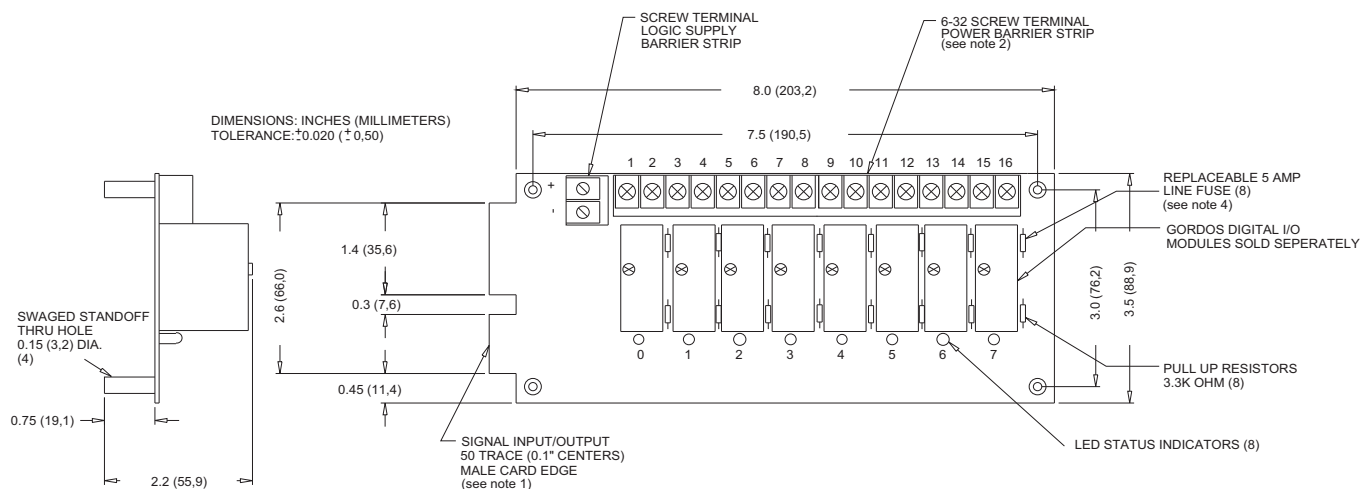
部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	○	○	○	○	○	○
焊接点	○	○	○	○	○	○

PB8

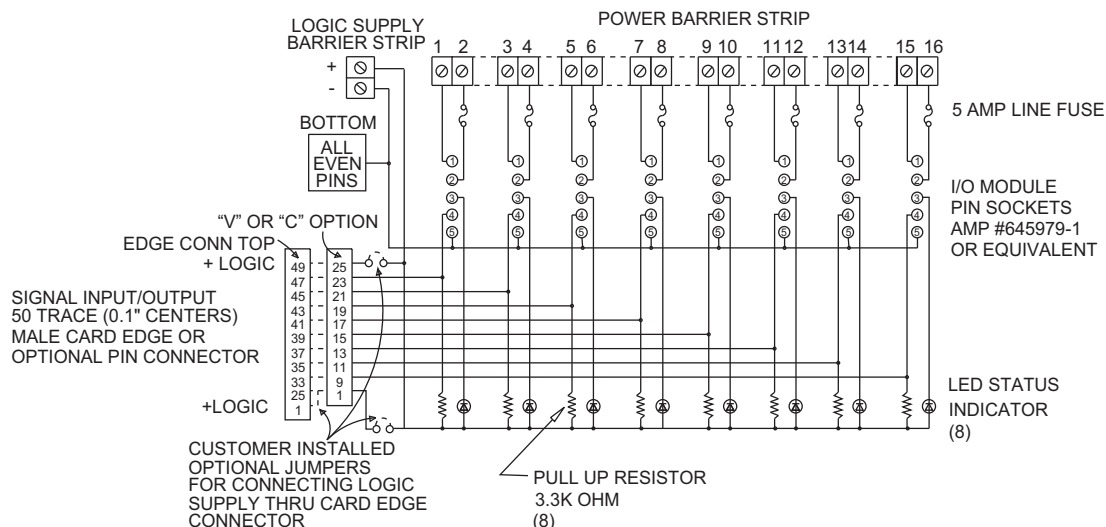
MOUNTING BOARD

- Plug-compatible logic connections
- Screw terminal barrier block for load connections
- Resident pull-up resistors
- 5 amp field-replaceable fuses (LITTLEFUSE #251005 or equivalent)
- LEDs indicate logic status
- All even-numbered logic connections are logic ground
- Input and output modules accepted interchangeably
- Operate with 5, 15 or 24 volt logic supplies
- Captive-screw retaining system for standard-size modules

MECHANICAL SPECIFICATIONS



- NOTES: 1) MATING CONNECTOR IS BERG 66317-150 OR EQUIVALENT. SPECIFY SUFFIX "V" FOR OPTIONAL CA26HM-2F-SR CIRCUIT ASSEMBLY OR EQUIVALENT 26 CONDUCTOR PERPENDICULAR-TO-THE-BOARD MALE PIN CONNECTOR.
- 2) 6-32 SCREW TERMINAL BARRIER STRIPS ACCEPT WIRE SIZES FROM 24 TO 12 AWG.
- 3) OPTIONAL JUMPERS ARE AVAILABLE TO INTERCONNECT BARRIER STRIP COMMONS. ORDER 1 EACH "JS8".
- 4) LITTLE FUSE 251005 OR EQUIVALENT.



APPROVALS

UL E79183
CSA 38595

Rev. 070808

⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

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ANNEX - ENVIROMENTAL INFORMATION

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Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	○	○	○	○	○	○
Solder	○	○	○	○	○	○

此附件所标示的包括电子信息产品污染图标的环保信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



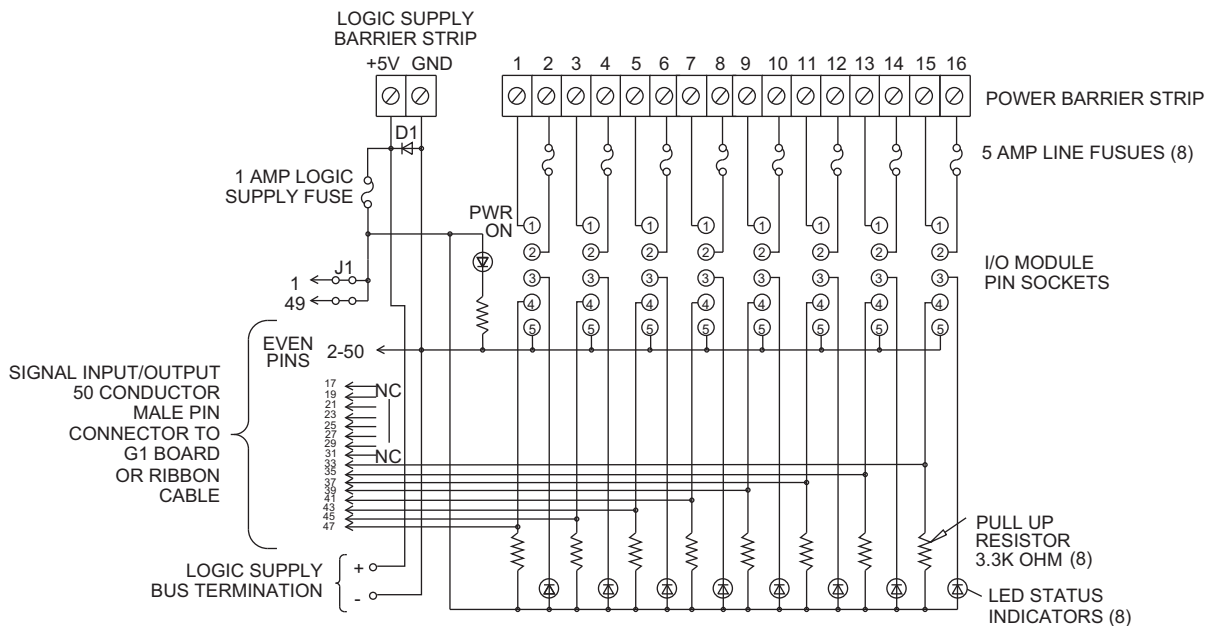
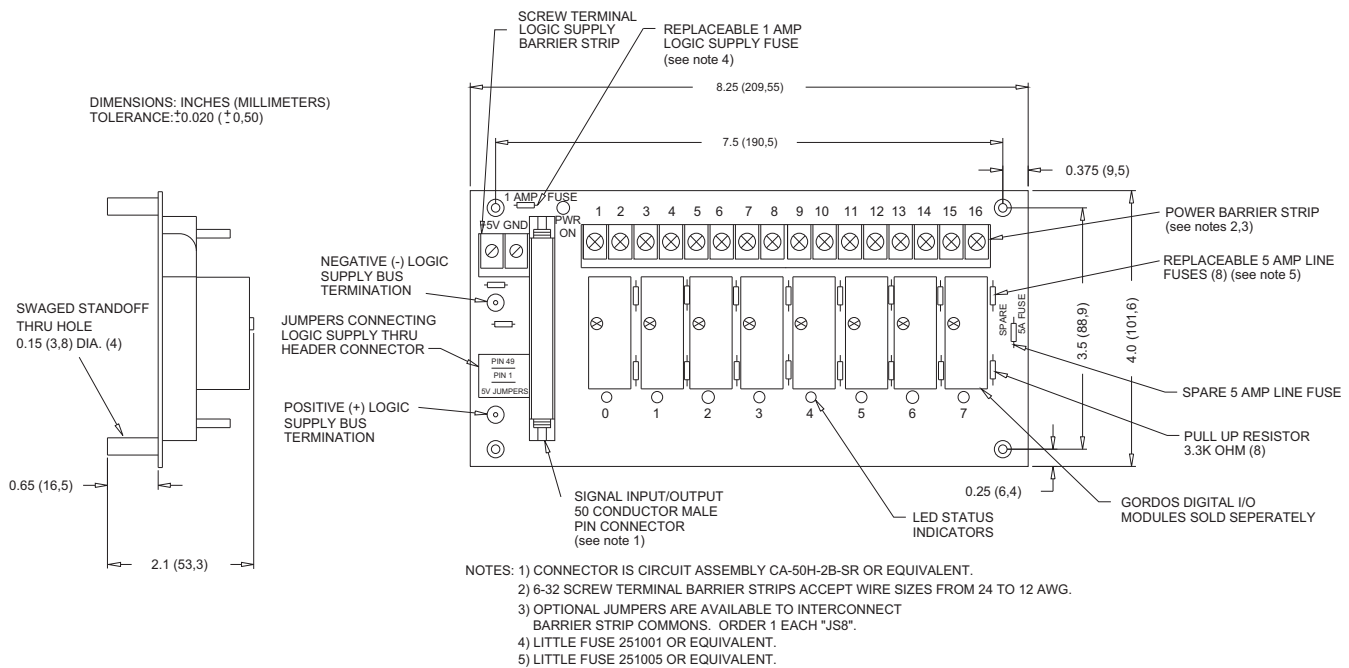
部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	○	○	○	○	○	○
焊接点	○	○	○	○	○	○

PB8H

MOUNTING BOARD

- Plug-compatible logic connections
- Screw terminal barrier block for load connections
- Resident pull-up resistors
- 5 amp field-replaceable fuses (LITTLEFUSE #251005 or equivalent)
- LEDs indicate logic status
- All even-numbered logic connections are logic ground
- Input and output modules accepted interchangeably
- Operate with 5, 15 or 24 volt logic supplies
- Captive-screw retaining system for standard-size modules

MECHANICAL SPECIFICATIONS



Rev. 070808

⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

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Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	○	○	○	○	○	○
Solder	○	○	○	○	○	○

此附件所标示的包括电子信息产品污染图标的环保信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



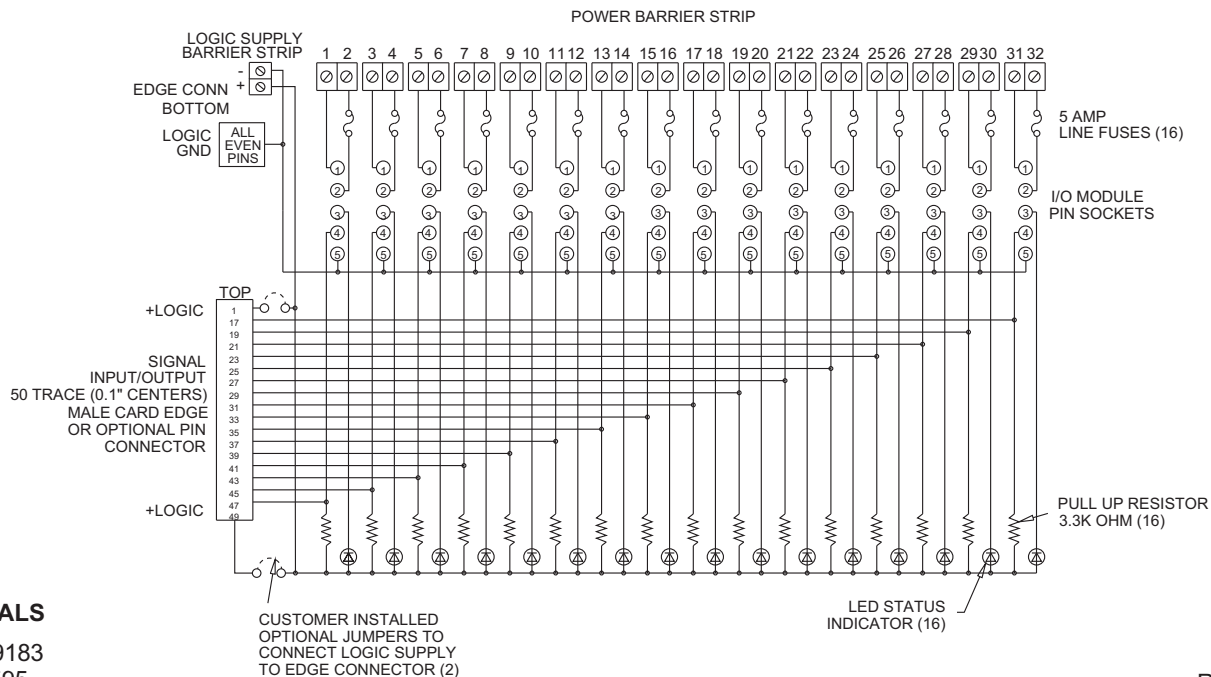
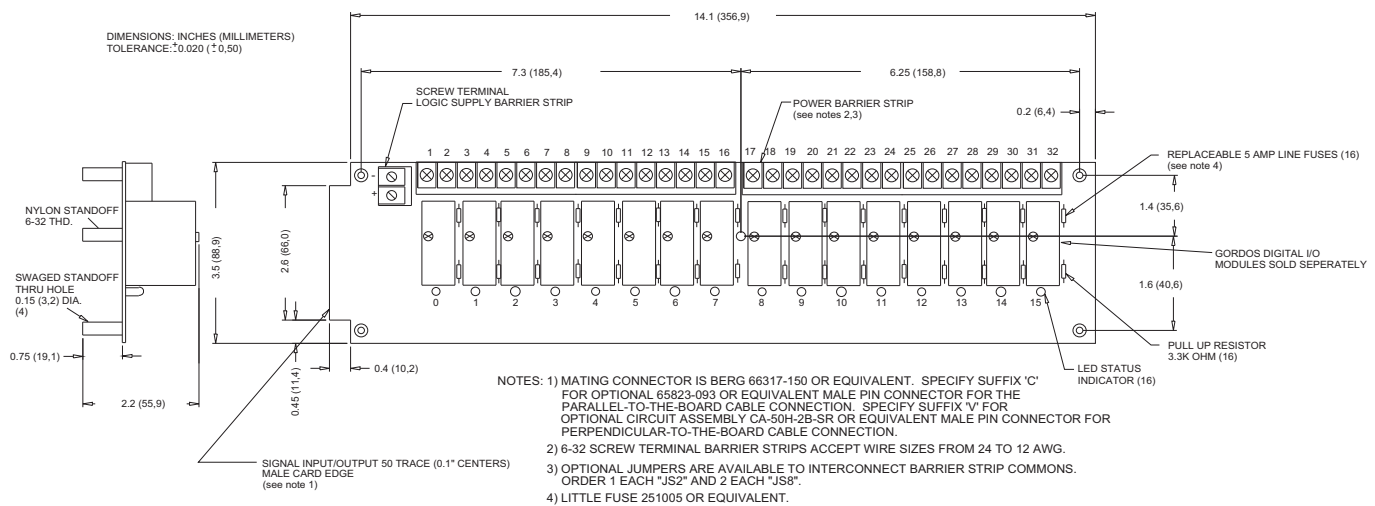
部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	○	○	○	○	○	○
焊接点	○	○	○	○	○	○

PB16

MOUNTING BOARD

- Plug-compatible logic connections
- Screw terminal barrier block for load connections
- Resident pull-up resistors
- 5 amp field-replaceable fuses (LITTLEFUSE #251005 or equivalent)
- LEDs indicate logic status
- All even-numbered logic connections are logic ground
- Input and output modules accepted interchangeably
- Operate with 5, 15 or 24 volt logic supplies
- Captive-screw retaining system for standard-size modules

MECHANICAL SPECIFICATIONS



APPROVALS

UL E79183
CSA 38595

Rev. 070808

⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

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ANNEX - ENVIROMENTAL INFORMATION

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Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	○	○	○	○	○	○
Solder	○	○	○	○	○	○

此附件所标示的包括电子信息产品污染图标的环保信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



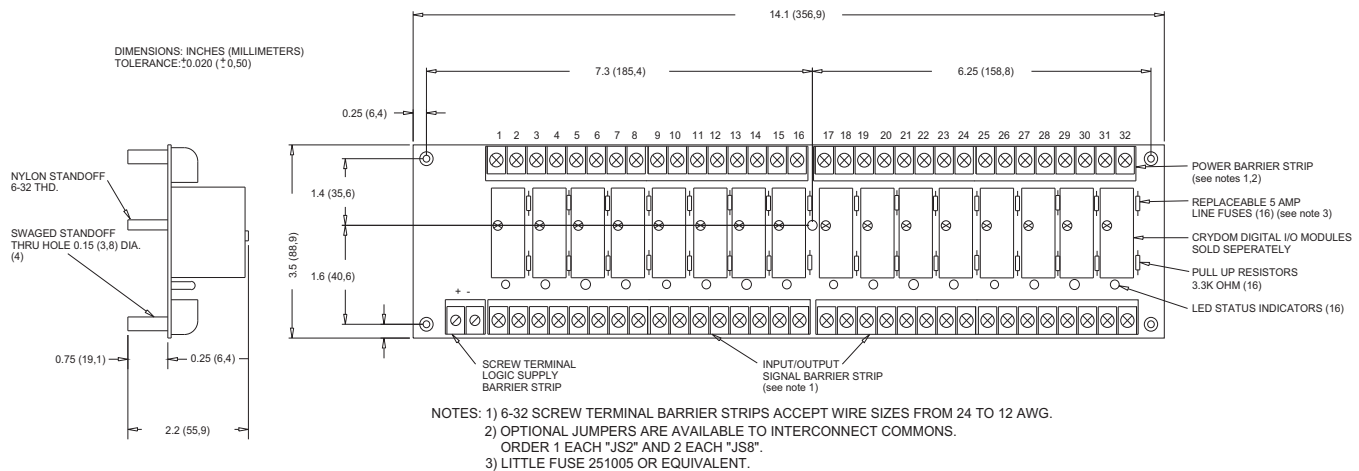
部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	○	○	○	○	○	○
焊接点	○	○	○	○	○	○

PB16S

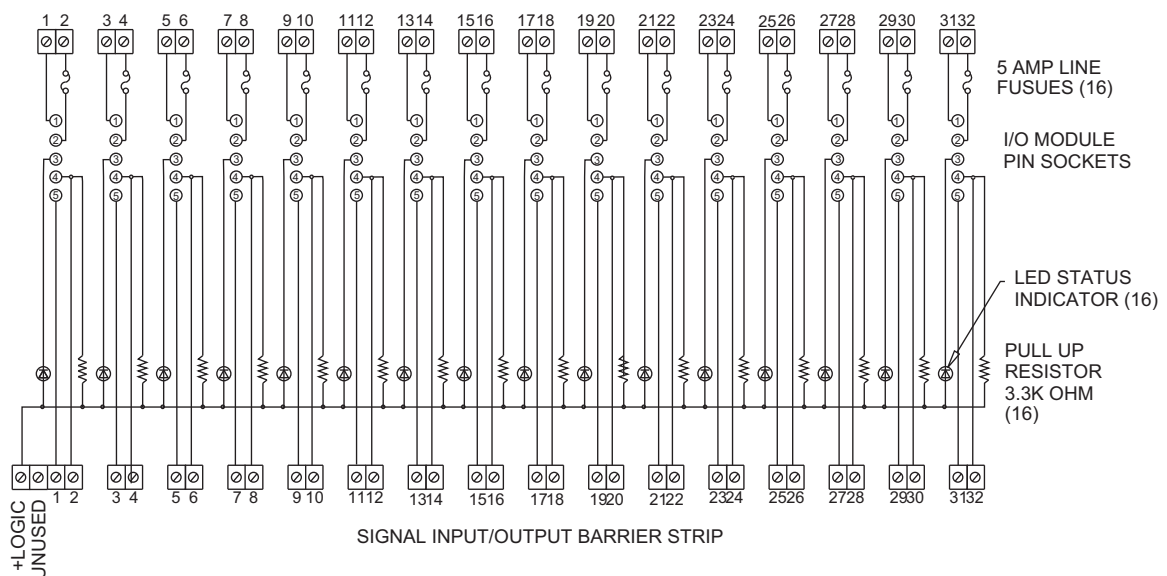
MOUNTING BOARD

- Screw terminal barrier block for logic connections
- Screw terminal barrier block for load connections
- Resident pull-up resistors
- 5 amp field-replaceable fuses (LITTLEFUSE #251005 or equivalent)
- LEDs indicate logic status
- Logic ground separate for each channel (no common)
- Input and output modules accepted interchangeably
- Operate with 5, 15 or 24 volt logic supplies
- Captive-screw retaining system for standard-size modules

MECHANICAL SPECIFICATIONS



POWER BARRIER STRIP



APPROVALS

UL E79183
CSA 38595

Rev. 070808

⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

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ANNEX - ENVIROMENTAL INFORMATION

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Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	○	○	○	○	○	○
Solder	○	○	○	○	○	○

此附件所标示的包括电子信息产品污染图标的环保信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



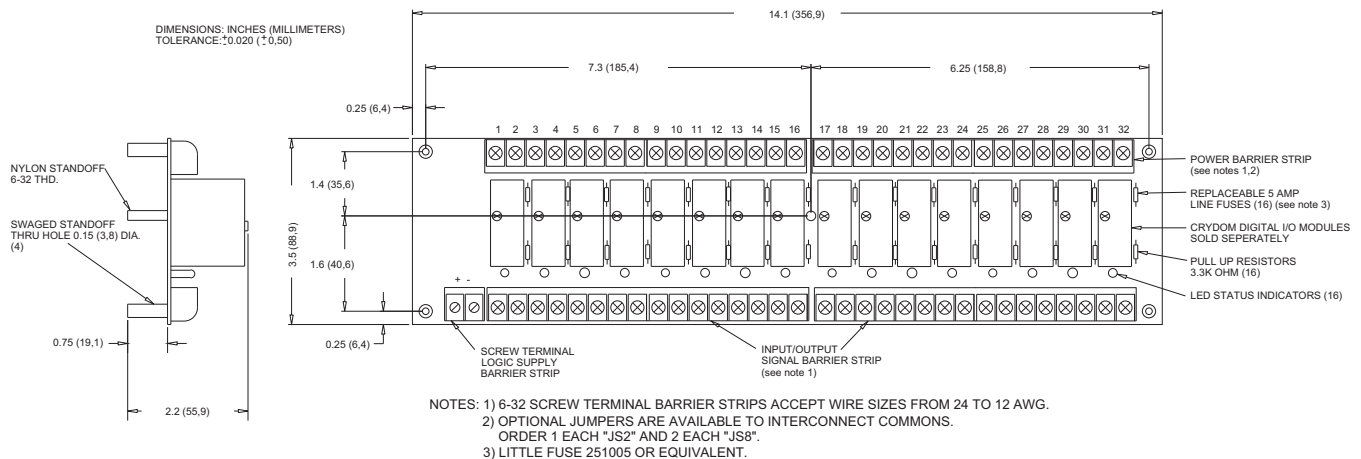
部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	○	○	○	○	○	○
焊接点	○	○	○	○	○	○

PB16T

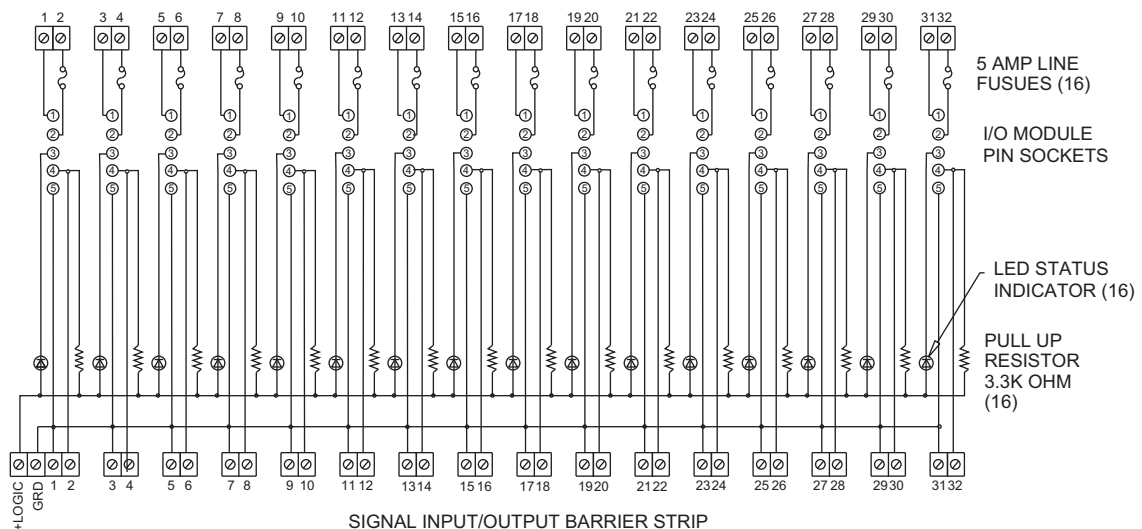
MOUNTING BOARD

- Screw terminal barrier block for logic connections
- Screw terminal barrier block for load connections
- Resident pull-up resistors
- 5 amp field-replaceable fuses (LITTLEFUSE #251005 or equivalent)
- LEDs indicate logic status
- All even-numbered logic connections are logic ground
- Input and output modules accepted interchangeably
- Operate with 5, 15 or 24 volt logic supplies
- Captive-screw retaining system for standard-size modules

MECHANICAL SPECIFICATIONS



POWER BARRIER STRIP



APPROVALS

UL E79183
CSA 38595

Rev. 070808

⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

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	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	○	○	○	○	○	○
Solder	○	○	○	○	○	○

此附件所标示的包括电子信息产品污染图标的环保信息
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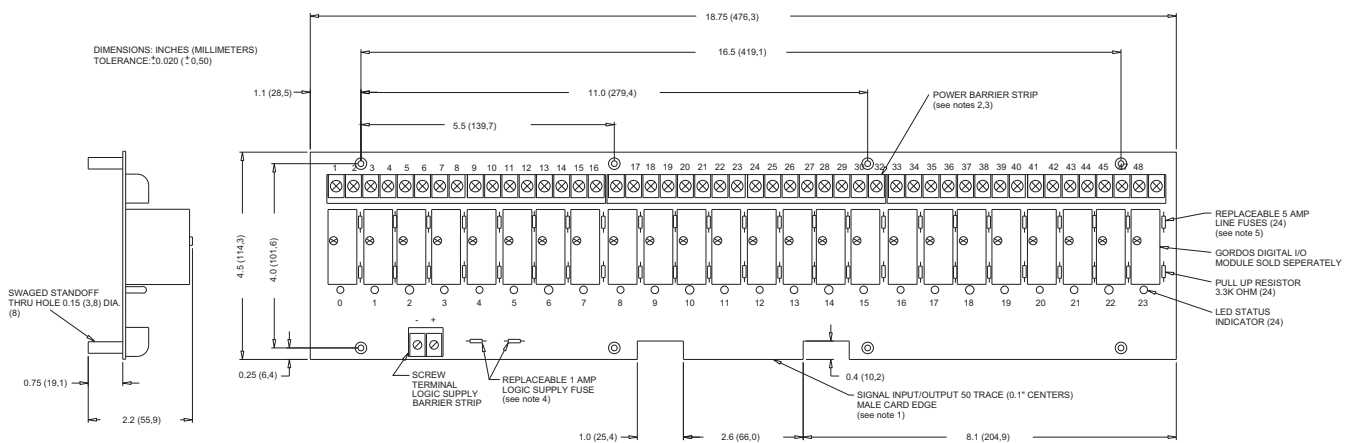
部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	○	○	○	○	○	○
焊接点	○	○	○	○	○	○

PB24

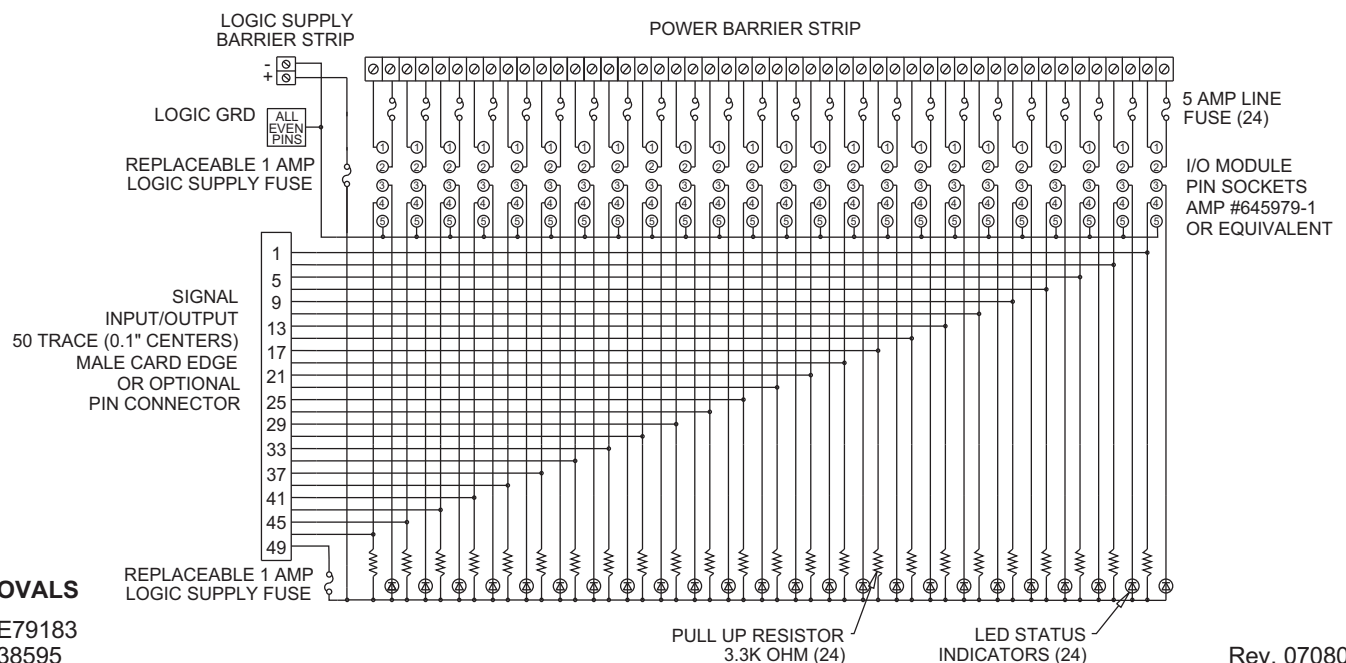
MOUNTING BOARD

- Plug-compatible logic connections
- Screw terminal barrier block for load connections
- Resident pull-up resistors
- 5 amp field-replaceable fuses (LITTLEFUSE #251005 or equivalent)
- LEDs indicate logic status
- All even-numbered logic connections are logic ground
- Input and output modules accepted interchangeably
- Operate with 5, 15 or 24 volt logic supplies
- Captive-screw retaining system for standard-size modules

MECHANICAL SPECIFICATIONS



- NOTES: 1) MATING CONNECTOR IS BERG 66317-150 OR EQUIVALENT. SPECIFY SUFFIX 'C' FOR OPTIONAL 65823-093 OR EQUIVALENT MALE PIN CONNECTOR FOR PARALLEL-TO-THE-BOARD CABLE CONNECTION. SPECIFY SUFFIX 'V' FOR OPTIONAL CIRCUIT ASSEMBLY CA-50H-2B-SR OR EQUIVALENT MALE PIN CONNECTOR FOR PERPENDICULAR-TO-THE-BOARD CABLE CONNECTION.
- 2) 6-32 SCREW TERMINAL BARRIER STRIPS ACCEPT WIRE SIZES FROM 24 TO 12 AWG.
- 3) OPTIONAL JUMPERS ARE AVAILABLE TO INTERCONNECT BARRIER STRIP COMMONS. ORDER 2 EACH "JS2" AND 3 EACH "JS8".
- 4) LITTLE FUSE 251001 OR EQUIVALENT.
- 5) LITTLE FUSE 251005 OR EQUIVALENT.



APPROVALS

UL E79183
CSA 38595

Rev. 070808



DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

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Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	○	○	○	○	○	○
Solder	○	○	○	○	○	○

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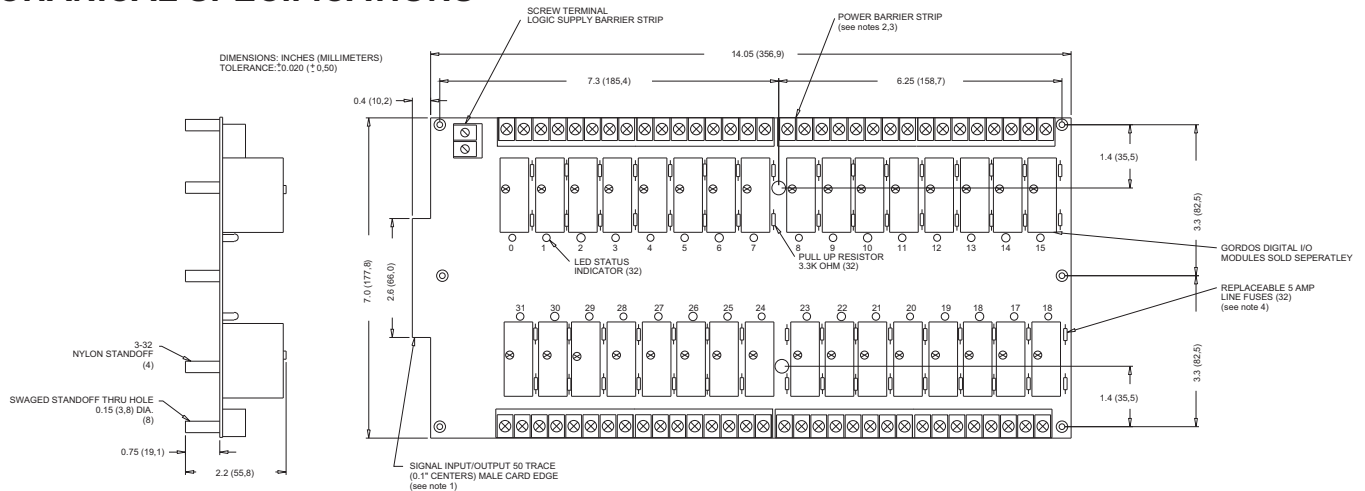
部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	○	○	○	○	○	○
焊接点	○	○	○	○	○	○

PB32D

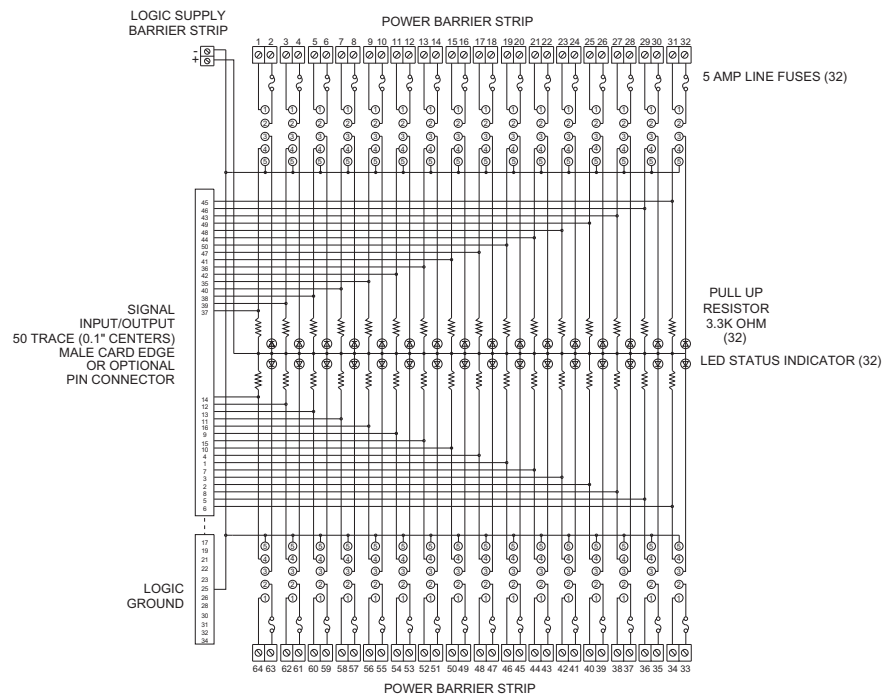
MOUNTING BOARD

- Plug-compatible logic connections
- Screw terminal barrier block for load connections
- Resident pull-up resistors
- 5 amp field-replaceable fuses (LITTLEFUSE #251005 or equivalent)
- LEDs indicate logic status
- All even-numbered logic connections are logic ground
- Input and output modules accepted interchangeably
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MECHANICAL SPECIFICATIONS



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Rev. 070808

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	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	○	○	○	○	○	○
Solder	○	○	○	○	○	○

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电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	○	○	○	○	○	○
焊接点	○	○	○	○	○	○

C4 SERIES INPUT MODULES



- Plug into mounting boards for C4 Series modules
- AC Inputs (Yellow Case)
- DC Inputs (White Case)
- 4kV Optical isolation
- Open-collector Output
- Industry standard packaging
- Built-in LED Status Indicator

SPECIFICATIONS (1)

Input

Part Number	C4IAC	C4IACA	C4IDC
Voltage Range	90-140 VAC	180-280 VAC	10-32 VDC
Maximum Current [mA](4)	14	5	20
Resistance [Ohms](2)(3)	22 k	75 k	2 k
Drop-out Current [mA](5)	3	1	1.5
Allowable Voltage for No Output [VAC/VDC](6)	50	50	3.0
Allowable Current for No Output [mA](6)	2.5	0.7	1.0

Output

Maximum Logic Supply Voltage[VDC](9)	30	30	30
Maximum Output Voltage Drop [VDC](12)	0.2	0.2	0.2
Minimum Logic Supply Voltage [VDC]	4.5	4.5	4.5
Logic Supply Voltage Range [VDC]	4.5-30	4.5-30	4.5-30
Maximum Current [mA](10)	50	50	50
Maximum Logic Supply Current [mA](7)	25.0	25.0	25.0
Maximum Logic Supply Leakage Current [μA](8)	10.0	10.0	10.0
Maximum Leakage Current [μA](11)	10.0	10.0	10.0
Maximum Turn-On Time [msec] (13)	20	20	5.0
Maximum Turn-Off Time [msec] (13)	20	20	5.0

SPECIFICATIONS (1)

Input

Part Number	C4IDCB	C4IDCG	C4IDCK
Voltage Range	4-16 VDC	35-60 VDC	2.5-16 VDC
Maximum Current [mA](4)	40	10	60
Resistance [Ohms](2)(3)	400	10 k	300
Drop-out Current [mA](5)	2	1	2
Allowable Voltage for No Output [VAC/VDC](6)	1	7	1
Allowable Current for No Output [mA](6)	0.7	0.7	0.2

Output

Maximum Logic Supply Voltage[VDC](9)	30	30	30
Maximum Output Voltage Drop [VDC](12)	0.2	0.2	0.2
Minimum Logic Supply Voltage [VDC]	4.5	4.5	4.5
Logic Supply Voltage Range [VDC]	4.5-30	4.5-30	4.5-30
Maximum Current [mA](10)	50	50	50
Maximum Logic Supply Current [mA](7)	25.0	25.0	25.0
Maximum Logic Supply Leakage Current [μA](8)	10.0	10.0	10.0
Maximum Leakage Current [μA](11)	10.0	10.0	10.0
Maximum Turn-On Time [msec] (13)	0.05	10.0	0.025
Maximum Turn-Off Time [msec] (13)	0.1	10.0	0.025

GENERAL SPECIFICATIONS

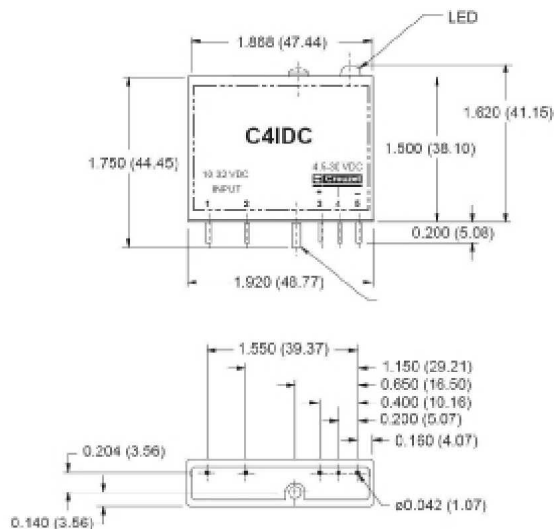
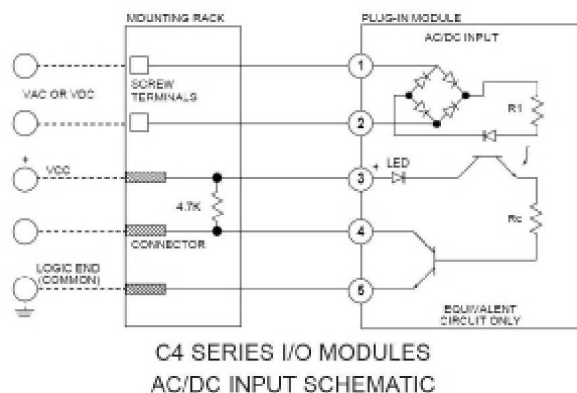
Description

Input/Output Isolation Voltage (14)	4000
Input/Output Capacitance	8
Operating Temperature Range	-30 to 80°C
Storage Temperature Range	-40 to 100°C
Weight	1.1 oz. (31.2g)

GENERAL NOTES:

- (1) Specifications apply to an ambient temperature of -30 to 80 °C unless otherwise noted.
- (2) Resistance values for C4IAC modules are effective impedance values at 25 °C.
- (3) Resistance values are +/-10% at 25 °C.
- (4) Measured at maximum specified input voltage, 25°C.
- (5) Defined as the maximum current allowed through the module's input to guarantee that the output will switch from "on" to "off". Higher currents may result in the output remaining in the "on" state.
- (6) Defined as the maximum current allowed through the module's input that will not switch the module's output state from "off" to "on".
- (7) At maximum logic supply voltage and 25°C.
- (8) At maximum specified logic voltage and 25°C.
- (9) Maximum allowable sinking current through open collector output transistor.
- (10) At maximum output voltage and 25°C.
- (11) At maximum output current and 25°C.
- (12) At 15 VDC logic, 30 VDC output, 50 mA, 25°C and nominal input voltage.
- (13) At 25°C for 1 second maximum duration.

MECHANICAL SPECIFICATIONS



AGENCY APPROVALS

UL E46203
CSA 38595



Rev. 072808

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⚠ WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO

RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

C4 SERIES OUTPUT MODULES



- Plug into mounting boards for C4 Series modules
- AC Outputs (Black Case)
- DC Outputs (Red Case)
- 4kV Optical isolation
- Replaceable 2 AG Type Fuse
- Industry standard packaging
- Built-in LED Status Indicator

SPECIFICATIONS (1)

Input

Part Number	C4OAC	C4OACA	C4OACR	C4OACAR	C4ODC	C4ODCA
Nominal Voltage VDC	4-32	4-32	4-32	4-32	4-32	4-32
Minimum Voltage VDC	4.0	4.0	4.0	4.0	4.0	4.0
Maximum Voltage VDC	32	32	32	32	32	32
Drop-out Voltage	1.0	1.0	1.0	1.0	1.0	1.0
Maximum Current (2) (3)	22	22	22	22	16	16
Resistance	Regulated Input	Regulated Input	Regulated Input	Regulated Input	Regulated Input	Regulated Input

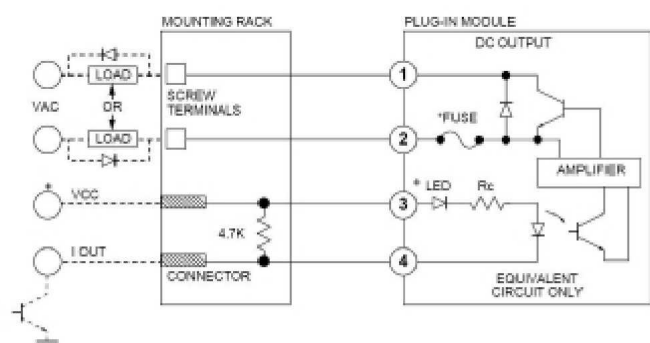
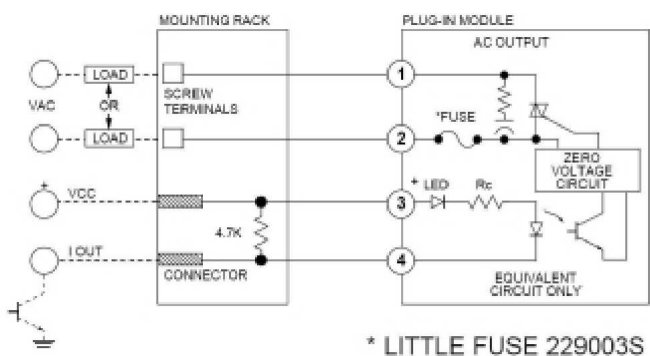
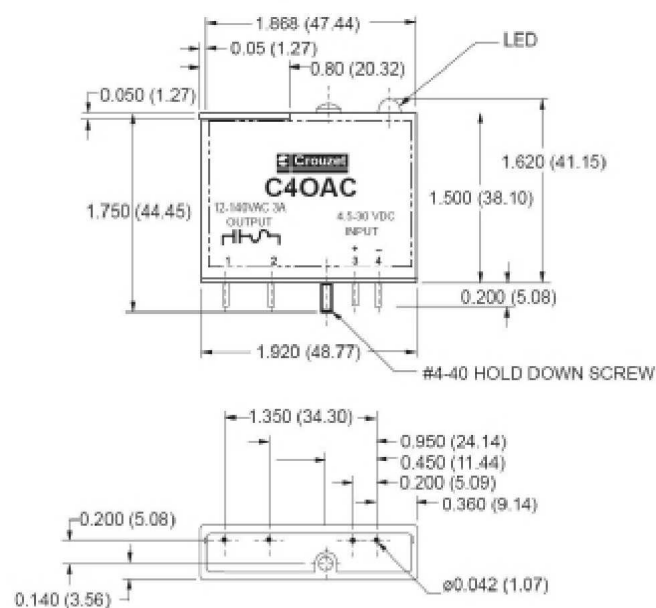
Output

Nominal Line Voltage	120 VAC	240 VAC	120 VAC	240 VAC	5-48 VDC	5-150 VDC
Minimum Line Voltage	12 VAC	12 VAC	12 VAC	12 VAC	5.0 VDC	3 VDC
Maximum Line Voltage	140 VAC	280 VAC	140 VAC	280 VAC	60 VDC	250 VDC
Max Off-State Voltage (4)	600 Vpeak	600 Vpeak	600 Vpeak	600 Vpeak	60 VDC	250 VDC
Max Off-State Leakage (5)	0.1mArms	0.1mArms	0.1mArms	0.1mArms	10 uA	10 uA
Static Off-State dv/dt (6)	200 V/usec	200 V/usec	200 V/usec	200 V/usec	n/a	n/a
Maximum Rated On-State Current (7)	3.0 Arms	3.0 Arms	3.0 Arms	3.0 Arms	3.0 A	1.0 A
Minimum On-State Current	50 mArms	50 mArms	50 mArms	50 mArms	10 mA	10 mA
Max Surge Current (8)	100 Apeak	100 Apeak	100 Apeak	100 Apeak	5.0 Apeak	5.0 Apeak
On-State Voltage Drop or Resistance (9)	1.6 V	1.6 V	1.6 V	1.6 V	1.6 V	1.6 V
HP Rating	1/4	1/4	1/4	1/4	n/a	n/a
Maximum Turn-On Time [msec] (10)	8.33	8.33	0.1	0.1	0.05	0.05
Maximum Turn-Off Time [msec]	8.33	8.33	8.33	8.33	0.05	0.05
Input/Output Isolation Voltage (11)	4000	4000	4000	4000	4000	4000
Input/Output Capacitance	4	4	4	4	4	4
Operating Temperature Range	-30 to 80°C	-30 to 80°C	-30 to 80°C	-30 to 80°C	-30 to 80°C	-30 to 80°C
Storage Temperature Range	-40 to 100°C	-40 to 100°C	-40 to 100°C	-40 to 100°C	-40 to 100°C	-40 to 100°C
Line Frequency Range	47 to 63 Hz	47 to 63 Hz	47 to 63 Hz	47 to 63 Hz	DC	DC
Weight	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)

General Notes:

- (1) Specifications apply to an ambient temperature of -30 to 80 °C unless otherwise noted.
- (2) At 32 VDC typical.
- (3) 13 m at 5 VDC for AC output modules only.
- (4) Maximum 1 minute duration.
- (5) At maximum rated line voltage, TA=80°C.
- (6) Minimum DV/DT per EIA/NARM RS433, method RS397. DV/DT ratings do not apply to DC output modules.
- (7) Without any external heat sink in still air, TA=45°C, at 40°C derate 40 mA/°C to 80°C.
- (8) At 25°C for 1 second maximum duration: 1 AC cycle for AC modules, 1 second for DC modules.
- (9) At peak rated current.
- (10) Before zero voltage, Vin=4V AC modules only based on 60Hz. Vin=15V for DC modules.
- (11) For 1 second maximum duration TA= 25°C.

MECHANICAL SPECIFICATIONS



AGENCY APPROVALS

UL E46203
CSA 38595



Rev. 072808

⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenda tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.
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⚠ WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO

RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
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	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
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部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

Solid State Relays

I/O Modules

DR INPUT MODULES



- DIN-Rail Mountable Single Point Input Modules
- AC Inputs (Yellow Case)
- DC Inputs (White Case)
- 4kV Optical isolation
- Input and Output Barrier Strips Accept 14 to 28 AWG Wire
- Configured for Panel Mounting
- Open-Collector Output, with LED Status Indicator

SPECIFICATIONS (1)

Input

Part Number	DR-IAC5	DR- IAC5A	DR- IAC24	DR- IAC24A
Voltage Range	90-140 VAC/DC	180-280 VAC/DC	90-140 VAC/DC	180-280 VAC/DC
Maximum Current [mA](4)	6	5	6	5
Resistance [Ohms](2)(3)	28 k	75 k	28 k	75 k
Drop-out Current [mA](5)	2	1.5	2	1.5
Voltage for No Output [VAC/VDC](6)	50	50	50	50
Allowable Current [mA]	2.5	2	2.5	2

Output

Maximum Voltage[VDC](9)	30	30	30	30
Maximum Voltage Drop [VDC](12)	0.2	0.2	0.2	0.2
Nominal Logic Supply Voltage [VDC]	5.0	5.0	24	24
Logic Supply Voltage Range [VDC]	3.0-6.0	3.0-6.0	20-30	20-30
Maximum Current [mA](10)	50	50	50	50
Maximum Logic Supply Current [mA](7)	28	28	28	28
Maximum Logic Supply Leakage Current [μA](8)	10.0	10.0	10.0	10.0
Maximum Leakage Current [μA](11)	10.0	10.0	10.0	10.0
Maximum Turn-On Time [msec] (13)	20	20	20	20
Maximum Turn-Off Time [msec] (13)	30	30	30	30

SPECIFICATIONS (1)

Input

Part Number	DR-IDC5	DR-IDC5A	DR-IDC24	DR-IDC24A
Voltage Range	4-32 VDC/AC	10-48 VDC	4-32 VDC/AC	10-48 VDC
Maximum Current [mA](4)	34	34	34	34
Resistance [Ohms](2)(3)	1 k	2 k	1 k	2 k
Drop-out Current [mA](5)	1	1	1	1
Voltage for No Output [VAC/VDC](6)	2	4	2	4
Allowable Current [mA]	1.5	1.5	1.5	1.5

Output

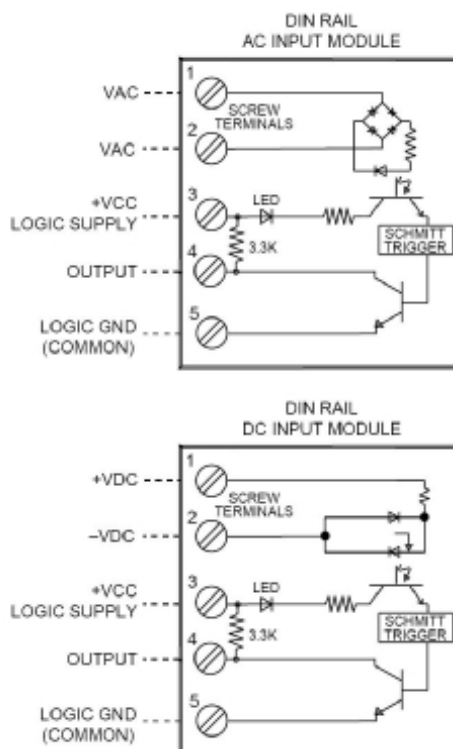
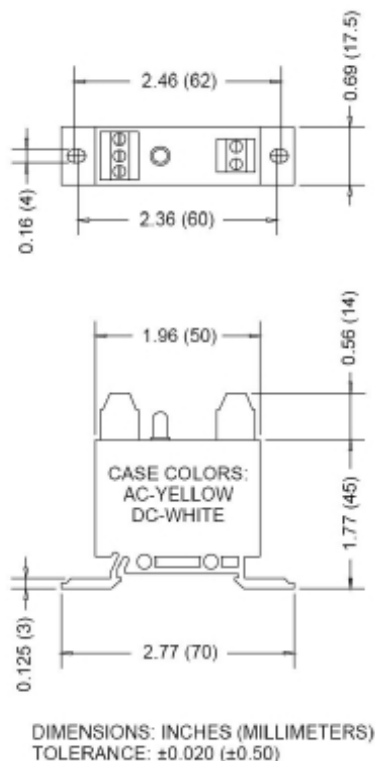
Maximum Voltage[VDC](9)	30	30	30	30
Maximum Voltage Drop [VDC](12)	0.2	0.2	0.2	0.2
Nominal Logic Supply Voltage [VDC]	5.0	5.0	5.0	5.0
Logic Supply Voltage Range [VDC]	3.0-6.0	3.0-6.0	20-30	20-30
Maximum Current [mA](10)	50	50	50	50
Maximum Logic Supply Current [mA](7)	28	28	28	28
Maximum Logic Supply Leakage Current [μA](8)	10.0	10.0	10.0	10.0
Maximum Leakage Current [μA](11)	10.0	10.0	10.0	10.0
Maximum Turn-On Time [msec] (13)	1.0	1.0	1.0	1.0
Maximum Turn-Off Time [msec] (13)	1.0	1.0	1.0	1.0

GENERAL SPECIFICATIONS

Description

Input/Output Isolation Voltage (14)	4000
Input/Output Capacitance	8
Operating Temperature Range	-30 to 80°C
Storage Temperature Range	-40 to 100°C
Line Frequency Range	47 to 63
Weight	1.1 oz. (31.2g)

MECHANICAL SPECIFICATIONS



AGENCY APPROVALS

UL E46203
CSA 38595



Rev. 072808

 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
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	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
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部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

DR OUTPUT MODULES



- DIN-Rail Mountable Single Point Output Modules (35mm DIN)
- Plug into mounting boards for 0.6" modules
- Zero Voltage Turn-On for AC Modules
- 4kV Optical isolation with LED Indicator
- UL Recognized, CSA Certified, CE Compliant
- Industry standard Color Coding Black (AC Output) Red (DC Output)
- Barrier Strips Accept 14 to 28 AWG Wire.

SPECIFICATIONS (1)

Input

Part Number	DR-OAC	DR-ODC5	DR-ODC24
Nominal Voltage VDC	5-24	5.0	24.0
Minimum Voltage VDC	3.7	3.5	18.0
Maximum Voltage VDC	32	8.0	32.0
Drop-out Voltage	1.0	1.0	1.0
Maximum Current (2)	18	18	13
Resistance (3)	NA	250	2000

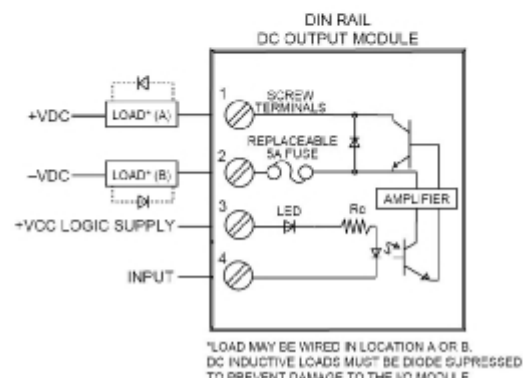
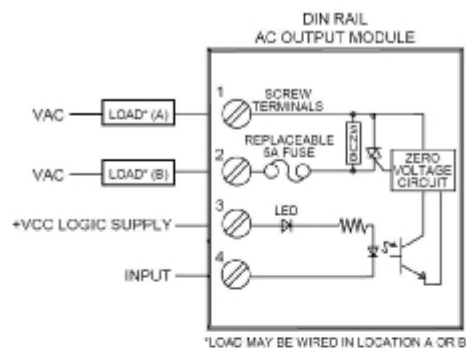
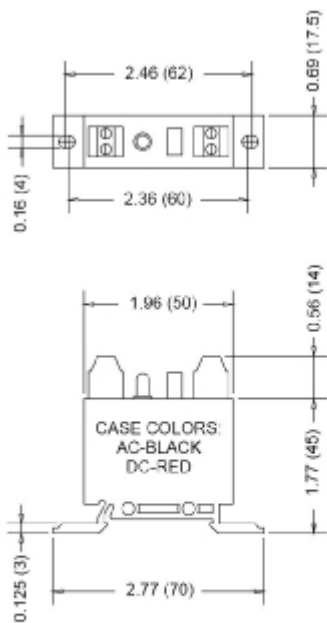
Output

Nominal Line Voltage	240 VAC	5-48 VDC	5-48 VDC
Minimum Line Voltage	12 VAC	3 VDC	3 VDC
Maximum Line Voltage	280 VAC	60 VDC	60 VDC
Max Off-State Voltage (4)	600 Vpeak	60 VDC	60 VDC
Max Off-State Leakage (5)	0.1mA _{rms}	10 μ A	10 μ A
Static Off-State dv/dt (6)	200 V/ μ sec	N/A	N/A
Maximum Rated On-State Current (7)	5.0 Arms	3.0 A	3.0 A
Minimum On-State Current	50 mA _{rms}	10 mA	10 mA
Max Surge Current (8)	250 A _{peak}	5.0 A	5.0 A
On-State Voltage Drop or Resistance (9)	1.6 V	1.6 V	1.6 V
Horse P _O wer Rating (13)	1/2 H.P.	N/A	N/A
Maximum Turn-On Time [msec] (13)	8.33	0.1	0.1
Maximum Turn-Off Time [msec] (13)	8.33	0.75	0.75
Input/Output Isolation Voltage (14)	4000	4000	4000
Input/Output Capacitance	8	8	8
Operating Temperature Range	-30 to 80°C	-30 to 80°C	-30 to 80°C
Storage Temperature Range	-40 to 80°C	-40 to 80°C	-40 to 80°C
Line Frequency Range	47 to 63	DC	DC
Weight	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)

General Notes:

- (1) Specifications apply to an ambient temperature of -30 to 80 °C unless otherwise noted.
- (2) At nominal input voltage, without external LED status indicator.
- (3) +/-10% at 25°C.
- (4) Maximum 1 minute duration for OAC modules when applied as a DC voltage rather than a peak AC voltage.
- (5) At maximum line voltage, 25°C for OAC modules, and 80°C for ODC modules.
- (6) Minimum DV/DT per EIA/NARM RS433, method RS397, DV/DT ratings do not apply to DC output models
- (7) At 40°C, derate OAC modules 58 mA/°C to 80°C, derate ODC, ODCxMC and ODCxML modules 50 mA/°C to 80°C. CSA rating of OAC modules is 3.0 Arms at 40°C.
- (8) At 25°C for 1 second maximum duration: 1 AC cycle for AC modules, 1 second for DC modules.
- (9) At maximum rated on-state current and 25°C.
- (10) At maximum line voltage, maximum rated output current, nominal input voltage and 25°C. Switching speed of OAC modules is based upon 60 Hz line frequency.
- (11) At 25°C for 1 second maximum duration.
- (12) 1/3 H.P. at 240 VAC, 1/8 H.P. at 120 VAC.

MECHANICAL SPECIFICATIONS



AGENCY APPROVALS

UL E46203
CSA 38595



Rev. 072808

 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**, 电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

M SERIES INPUT MODULES



- Plug into mounting boards for M Series modules
- AC Inputs (Yellow Case) for 24 V, 120 V, 240 V
- DC Inputs (White Case) for 3.3 to 32 V, 10 to 48 V
- 4kV Optical isolation
- Open-collector Output
- Industry standard packaging

SPECIFICATIONS (1)

Input

Part Number	M-IAC5	M- IAC5A	M- IAC24	M- IAC24A	M-IDC5
Voltage Range	90-140 VAC/DC	180-280 VAC/DC	90-140 VAC/DC	180-280 VAC/DC	3.3-32 VDC/AC
Maximum Current [mA](4)	6	5	6	5	34
Resistance [Ohms](2)(3)	28 k	75 k	28 k	75 k	500
Drop-out Current [mA](5)	2	1.5	2	1.5	1.0
Voltage for No Output [VAC/VDC](6)	50	50	50	50	2.0
Allowable Current [mA]	2.5	2	2.5	2	1.5

Output

Maximum Voltage[VDC](9)	30	30	30	30	30
Maximum Voltage Drop [VDC](12)	0.2	0.2	0.2	0.2	0.2
Nominal Logic Supply Voltage [VDC]	5.0	5.0	5.0	5.0	5.0
Logic Supply Voltage Range [VDC]	3.0-6.0	3.0-6.0	20-30	20-30	3.0-6.0
Maximum Current [mA](10)	50	50	50	50	50
Maximum Logic Supply Current [mA](7)	16.0	16.0	16.0	16.0	16.0
Maximum Logic Supply Leakage Current [μA](8)	10.0	10.0	10.0	10.0	10.0
Maximum Leakage Current [μA](11)	10.0	10.0	10.0	10.0	10.0
Maximum Turn-On Time [msec] (13)	20	20	20	20	1.0
Maximum Turn-Off Time [msec] (13)	20	20	20	20	1.0

SPECIFICATIONS (1)

Input

Part Number	M-IDC24	M-IDC5F	M-IDC24F	M-IDC5N	M-IDC24N
Voltage Range	3.3-32 VDC/AC	4-32 V	4-32 V	10-48 VDC/AC	10-48 VDC/AC
Maximum Current [mA](4)	34	68	68	34	34
Resistance [Ohms](2)(3)	1 k	500	500	1 k	1 k
Drop-out Current [mA](5)	1	1	1	1	1
Voltage for No Output [VAC/VDC](6)	2	2	2	4	4
Allowable Current [mA]	1.5	1.5	1.5	1.5	1.5

Output

Maximum Voltage[VDC](9)	30	30	30	30	30
Maximum Voltage Drop [VDC](12)	0.2	0.2	0.2	0.2	0.2
Nominal Logic Supply Voltage [VDC]	5.0	5.0	5.0	5.0	5.0
Logic Supply Voltage Range [VDC]	3.0-6.0	3.0-6.0	20-30	3.0-6.0	20-30
Maximum Current [mA](10)	50	50	50	50	50
Maximum Logic Supply Current [mA](7)	16.0	16.0	16.0	16.0	16.0
Maximum Logic Supply Leakage Current [μA](8)	10.0	10.0	10.0	10.0	10.0
Maximum Leakage Current [μA](11)	10.0	10.0	10.0	10.0	10.0
Maximum Turn-On Time [msec] (13)	1.0	0.05	0.05	8.0	8.0
Maximum Turn-Off Time [msec] (13)	1.0	0.10	0.10	7.0	7.0

GENERAL SPECIFICATIONS

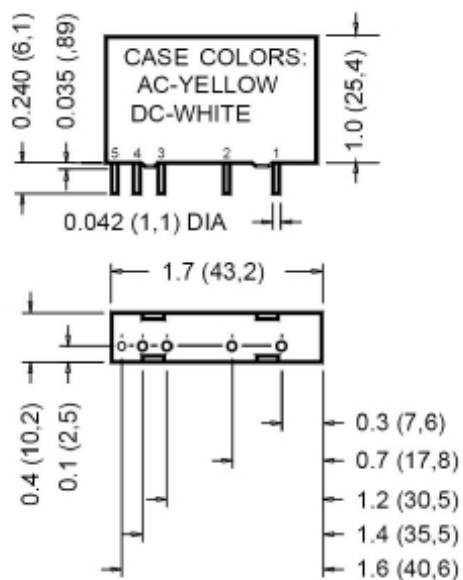
Description

Input/Output Isolation Voltage (14)	4000
Input/Output Capacitance	8
Operating Temperature Range	-30 to 80°C
Storage Temperature Range	-40 to 80°C
Line Frequency Range	47 to 63
Weight	1.1 oz. (31.2g)

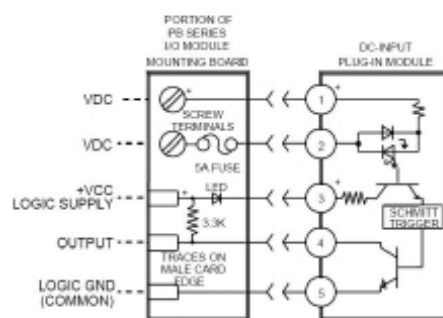
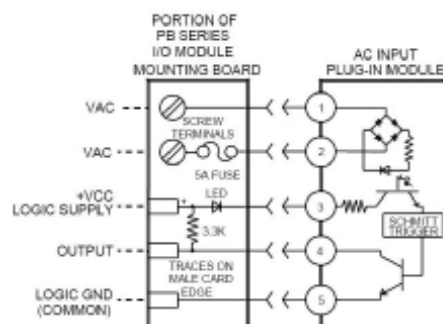
GENERAL NOTES:

- (1) Specifications apply to an ambient temperature of -30 to 80 °C unless otherwise noted.
- (2) Resistance values for IAC modules are effective impedance values at 25 °C.
- (3) Resistance values are +/-10% at 25 °C.
- (4) Measured at maximum specified input voltage, 25°C.
- (5) Defined as the maximum current allowed through the module's input to guarantee that the output will switch from "on" to "off". Higher currents may result in the output remaining in the "on" state.
- (6) Defined as the maximum current allowed through the module's input that will not switch the module's output state from "off" to "on".
- (7) With external LED status indicator at maximum specified logic supply voltage and 25°C. 18mA without external LED.
- (8) At maximum specified logic voltage and 25°C.
- (9) Applied across open collector output transistor.
- (10) Sinking current through the open collector output transistor.
- (11) At maximum output voltage and 25°C.
- (12) At maximum output current and 25°C.
- (13) At nominal logic supply voltage, 25mA output sinking current, nominal input voltage and 25°C
- (14) At 25°C for 1 second maximum duration.

MECHANICAL SPECIFICATIONS



DIMENSIONS: INCHES (MILLIMETERS)
TOLERANCE: ± 0.020 (± 0.50)



(EQUIVALENT CIRCUIT DIAGRAMS)

AGENCY APPROVALS

UL E46203
CSA 38595



Rev. 072808

For Contact information visit our web site.

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 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHEN SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenda tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO			
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.	
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.	

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

M SERIES OUTPUT MODULES



- AC Modules have High Current Thyristors with 100 Amp Surge Capability
- Plug into mounting boards for 0.6" modules
- Zero or Random Turn-On Available in AC Modules
- 4kV Optical isolation (1500 VAC Isolation for FET DC Output Modules)
- UL Recognized, CSA Certified, CE Compliant
- Industry standard packaging and Color Coding
Black (AC Output) Red (DC Output)

SPECIFICATIONS (1)

Input

Part Number	M-OAC5	M-OAC5A	M-OAC5AH	M-OAC5AR	M-OAC5R
Nominal Voltage VDC	5.0	5.0	5.0	5.0	5.0
Minimum Voltage VDC (2)	2.75	2.75	2.75	2.75	2.75
Maximum Voltage VDC	8.0	8.0	8.0	8.0	8.0
Drop-out Voltage	1.0	1.0	1.0	1.0	1.0
Maximum Current (3)	20	20	20	20	20
Resistance (4)	220	220	220	220	220

Output

Nominal Line Voltage	120 VAC	240 VAC	240 VAC	240 VAC	120 VAC
Minimum Line Voltage	12 VAC	24 VAC	24 VAC	24 VAC	12 VAC
Maximum Line Voltage	140 VAC	280 VAC	280 VAC	280 VAC	140 VAC
Max Off-State Voltage (5)	400 Vpeak	600 Vpeak	600 Vpeak	600 Vpeak	400 Vpeak
Max Off-State Leakage (6)	0.1mArms	0.1mArms	0.1mArms	0.1mArms	0.1mArms
Static Off-State dv/dt (7)	200 V/usec	200 V/usec	200 V/usec	200 V/usec	200 V/usec
Maximum Rated On-State Current (8)	3.5 Arms	3.5 Arms	5.0 Arms	3.5 Arms	3.5 Arms
Minimum On-State Current	50 mArms	50 mArms	50 mArms	50 mArms	50 mArms
Max Surge Current (9)	100 Apeak	100 Apeak	100 Apeak	100 Apeak	100 Apeak
On-State Voltage Drop or Resistance (10)	1.6 V	1.6 V	1.6 V	1.6 V	1.6 V
Maximum Turn-On Time [msec] (13)	8.33	8.33	8.33	0.1	0.1
Maximum Turn-Off Time [msec] (13)	8.33	8.33	8.33	8.33	8.33
Input/Output Isolation Voltage (14)	4000	4000	4000	4000	4000
Input/Output Capacitance	8	8	8	8	8
Operating Temperature Range	-30 to 80°C	-30 to 80°C	-30 to 80°C	-30 to 80°C	-30 to 80°C
Storage Temperature Range	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C
Line Frequency Range	47 to 63	47 to 63	47 to 63	47 to 63	47 to 63
Weight	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)

SPECIFICATIONS (1)

Input

Part Number	M-OAC24	M-OAC24A	M-ODC5	M-ODC5A	M-ODC5F
Nominal Voltage VDC	24	24	5.0	5.0	5.0
Minimum Voltage VDC (2)	18	18	2.75	2.75	2.75
Maximum Voltage VDC	32	32	8.0	8.0	8.0
Drop-out Voltage	1.0	1.0	1.0	1.0	1.0
Maximum Current (3)	13	13	18	18	18
Resistance (4)	2000	2000	250	250	250

Output

Nominal Line Voltage	120 VAC	240 VAC	5-48 VDC	5-150 VDC	5-48 VDC
Minimum Line Voltage	12 VAC	24 VAC	3.0 VDC	3.0 VDC	3.0 VDC
Maximum Line Voltage	140 VAC	280 VAC	60 VDC	250 VDC	60 VDC
Max Off-State Voltage (5)	400 Vpeak	600 Vpeak	60 VDC	250 VDC	60 VDC
Max Off-State Leakage (6)	0.1mAmps	0.1mAmps	10 uA	10 uA	10 uA
Static Off-State dv/dt (7)	200 V/usec	200 V/usec	N/A	N/A	N/A
Maximum Rated On-State Current (8)	3.5 Arms	3.5 Arms	3.0 A	1.0 A	3.0 A
Minimum On-State Current	50 mAmps	50 mAmps	10 mA	10 mA	10 mA
Max Surge Current (9)	100 Apeak	100 Apeak	5.0 A	5.0 A	5.0 A
On-State Voltage Drop or Resistance (10)	1.6 V	1.6 V	1.5 V	1.5 V	1.5 V
Maximum Turn-On Time [msec] (13)	8.33	8.33	0.1	0.1	0.025
Maximum Turn-Off Time [msec] (13)	8.33	8.33	0.75	0.75	0.05
Input/Output Isolation Voltage (14)	4000	4000	4000	4000	4000
Input/Output Capacitance	8	8	8	8	8
Operating Temperature Range	-30 to 80°C	-30 to 80°C	-30 to 80°C	-30 to 80°C	-30 to 80°C
Storage Temperature Range	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C
Line Frequency Range	47 to 63	47 to 63	DC	DC	DC
Weight	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)

SPECIFICATIONS (1)

Input

Part Number	M-ODC5MA	M-ODC5MC	M-ODC5ML	M-ODC24	M-ODC24A
Nominal Voltage VDC	5.0	5.0	5.0	24	24
Minimum Voltage VDC (2)	2.75	2.75	2.75	18	18
Maximum Voltage VDC	8.0	8.0	8.0	32	32
Drop-out Voltage	1.0	1.0	1.0	1.0	1.0
Maximum Current (3)	18	18	18	13	13
Resistance (4)	250	250	250	2000	2000

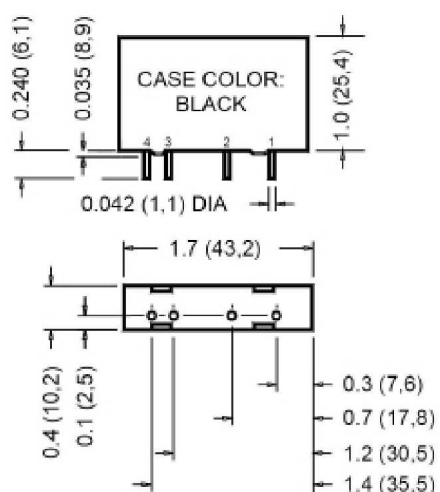
Output

Nominal Line Voltage	5-150 VDC	5-90 VDC	5-48 VDC	5-48 VDC	5-150 VDC
Minimum Line Voltage	1.0 VDC	1.0 VDC	50 VDC	60 VDC	250 VDC
Maximum Line Voltage	200 VDC	100 VDC	50 VDC	60 VDC	250 VDC
Max Off-State Voltage (5)	200 VDC	100 VDC	50 VDC	60 VDC	250 VDC
Max Off-State Leakage (6)	10 uA	10 uA	10 uA	10 uA	10 uA
Static Off-State dv/dt (7)	N/A	N/A	N/A	N/A	N/A
Maximum Rated On-State Current (8)	3.0 A	5.0 A	1.0 A	3.0 A	1.0 A
Minimum On-State Current	1.0 mA	1.0 mA	10 mA	10 mA	10 mA
Max Surge Current (9)	10 A	10 A	10 A	5.0 A	5.0 A
On-State Voltage Drop or Resistance (10)	0.25 Ohms	0.10 Ohms	0.05 Ohms	1.5 V	1.5 V
Maximum Turn-On Time [msec] (13)	1.0	1.0	1.0	0.1	0.1
Maximum Turn-Off Time [msec] (13)	0.05	0.05	0.05	0.75	0.75
Input/Output Isolation Voltage (14)	1500	1500	1500	4000	4000
Input/Output Capacitance	8	8	8	8	8
Operating Temperature Range	-30 to 80°C	-30 to 80°C	-30 to 80°C	-30 to 80°C	-30 to 80°C
Storage Temperature Range	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C
Line Frequency Range	DC	DC	DC	DC	DC
Weight	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)

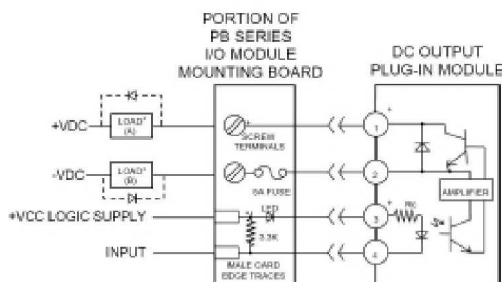
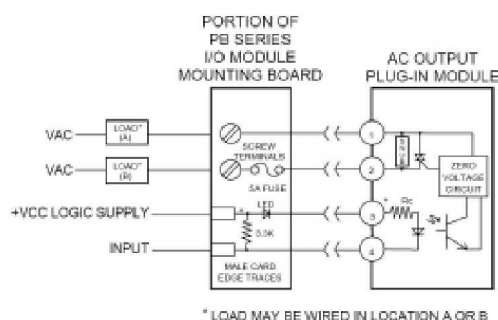
General Notes:

- (1) Specifications apply to an ambient temperature of -30 to 80 °C unless otherwise noted.
- (2) Without external LED status indicator. Add 1.7 volts for external LED if utilized.
- (3) At nominal input voltage, without external LED status indicator.
- (4) $\pm 10\%$ at 25°C.
- (5) Maximum 1 minute duration for OAC modules when applied as a DC voltage rather than a peak AC voltage.
- (6) At maximum line voltage, 25°C for OAC modules, and 80°C for ODC modules.
- (7) Minimum DV/DT per EIA/NARM RS433, method RS397, DV/DT ratings do not apply to DC output models.
- (8) At 40°C, derate OAC modules 58 mA/°C to 80°C, derate ODC, ODCxMC and ODCxML modules 50 mA/°C to 80°C. CSA rating of OAC modules is 3.0 Arms at 40°C.
- (9) At 25°C for 1 second maximum duration: 1 AC cycle for AC modules, 1 second for DC modules.
- (10) At maximum rated on-state current and 25°C.
- (11) At maximum line voltage, maximum rated output current, nominal input voltage and 25°C. Switching speed of OAC modules is based upon 60 Hz line frequency.
- (12) At 25°C for 1 second maximum duration.
- (13) 1/3 H.P. at 240 VAC, 1/8 H.P. at 120 VAC.

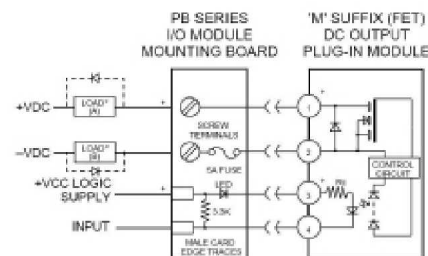
MECHANICAL SPECIFICATIONS



DIMENSIONS: INCHES (MILLIMETERS)
TOLERANCE: ± 0.020 (± 0.50)



* LOAD MAY BE WIRED IN LOCATION A OR B
DC INDUCTIVE LOADS MUST BE DIODE SUPPRESSED



AGENCY APPROVALS

UL E46203
CSA 38595



Rev. 072808

⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connexions, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenda tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.
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⚠ WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO

RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

QUAD SERIES INPUT MODULES



- Plug into mounting boards for Quad Series modules
- AC Inputs (Yellow Case) for 24 V, 120 V, 240 V
- DC Inputs (White Case) for 4 to 32 V, 10 to 60 V
- 4kV Optical isolation
- Open-collector Output
- Industry standard packaging

SPECIFICATIONS (1)

Input

Part Number	IAC5Q	IAC5AQ	IAC5EQ
Voltage Range	90-140 VAC/DC	180-280 VAC/DC	18-36 VAC/DC
Maximum Current [mA](4)	6	5	10
Resistance [Ohms](2)(3)	28 k	75 k	3.3 k
Drop-out Current [mA](5)	2	1.5	1.0
Voltage for No Output [VAC/VDC](6)	50	50	50
Allowable Current [mA]	2.5	2	1.5

Output

Maximum Voltage[VDC](9)	30	30	30
Maximum Voltage Drop [VDC](12)	0.2	0.2	0.2
Nominal Logic Supply Voltage [VDC]	5.0	5.0	5.0
Logic Supply Voltage Range [VDC]	3.0-6.0	3.0-6.0	3.0-6.0
Maximum Current [mA](10)	50	50	50
Maximum Logic Supply Current [mA](7)	16.0	16.0	16.0
Maximum Logic Supply Leakage Current [μA](8)	10.0	10.0	10.0
Maximum Leakage Current [μA](11)	10.0	10.0	10.0
Maximum Turn-On Time [msec] (13)	20	20	60
Maximum Turn-Off Time [msec] (13)	20	20	30

SPECIFICATIONS (1)

Input

Part Number	IDC5Q	IDC5BQ
Voltage Range	12-60 VDC/AC	5-32 VDC
Maximum Current [mA](4)	34	68
Resistance [Ohms](2)(3)	2 k	500
Drop-out Current [mA](5)	1	1
Voltage for No Output [VAC/VDC](6)	1	2
Allowable Current [mA]	4	1.5

Output

Maximum Voltage[VDC](9)	30	30
Maximum Voltage Drop [VDC](12)	0.2	0.2
Nominal Logic Supply Voltage [VDC]	5.0	5.0
Logic Supply Voltage Range [VDC]	3.0-6.0	3.0-6.0
Maximum Current [mA](10)	50	50
Maximum Logic Supply Current [mA](7)	16.0	16.0
Maximum Logic Supply Leakage Current [μA](8)	10.0	10.0
Maximum Leakage Current [μA](11)	10.0	10.0
Maximum Turn-On Time [msec] (13)	1.0	0.05
Maximum Turn-Off Time [msec] (13)	1.0	0.10

GENERAL SPECIFICATIONS

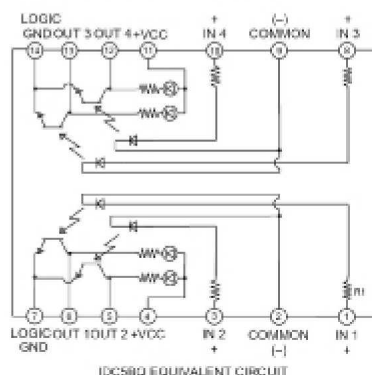
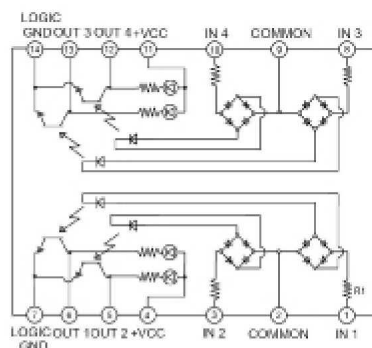
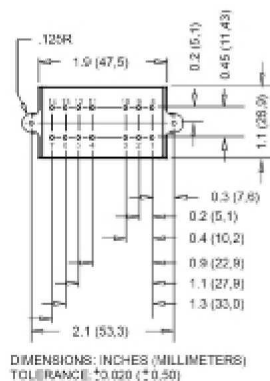
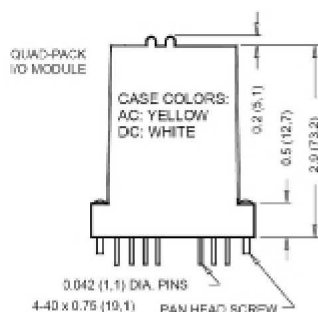
Description

Input/Output Isolation Voltage (14)	4000
Input/Output Capacitance	8
Operating Temperature Range	-30 to 80°C
Storage Temperature Range	-40 to 100°C
Line Frequency Range	47 to 63

GENERAL NOTES:

- (1) Specifications apply to an ambient temperature of -30 to 80 °C unless otherwise noted.
- (2) Resistance values for IAC modules are effective impedance values at 25 °C.
- (3) Resistance values are +/-10% at 25 °C.
- (4) Measured at maximum specified input voltage, 25°C.
- (5) Defined as the maximum current allowed through the module's input to guarantee that the output will switch from "on" to "off". Higher currents may result in the output remaining in the "on" state.
- (6) Defined as the maximum current allowed through the module's input that will not switch the module's output state from "off" to "on".
- (7) With external LED status indicator at maximum specified logic supply voltage and 25°C. 18mA without external LED.
- (8) At maximum specified logic voltage and 25°C.
- (9) Applied across open collector output transistor.
- (10) Sinking current through the open collector output transistor.
- (11) At maximum output voltage and 25°C.
- (12) At maximum output current and 25°C.
- (13) At nominal logic supply voltage, 25mA output sinking current, nominal input voltage and 25°C.
- (14) At 25°C for 1 second maximum duration.

MECHANICAL SPECIFICATIONS



AGENCY APPROVALS

UL E46203
CSA 38595



Rev. 072808

For Contact information visit our web site.

www.crydom.com

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Specifications subject to change without notice.

⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connexions, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenda tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.
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⚠ WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO

RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

QUAD SERIES OUTPUT MODULES



- AC Modules have High Current Thyristors with 100 Amp Surge Capability
- Plug into mounting boards for Quad modules
- Zero or Random Turn-On Available in AC Modules
- 4kV Optical isolation
- 4 Outputs per Quad-Pack Module
- UL Recognized, CSA Certified, CE Compliant
- Industry standard packaging and Color Coding
Black (AC Output) Red (DC Output)

SPECIFICATIONS (1)

Input

Part Number	OAC5Q	OAC5AQ	OAC5RQ	OAC5ARQ	ODC5Q	ODC5Q-11
Nominal Voltage VDC	5	5	5	5	5	5
Minimum Voltage VDC	4.0	4.0	4.0	4.0	4.0	4.0
Maximum Voltage VDC	8	8	8	8	8	8
Drop-out Voltage	1.0	1.0	1.0	1.0	1.0	1.0
Maximum Current (2) (3)	20 mA	20 mA	20 mA	20 mA	18 mA	18 mA
Resistance	220 Ohms	220 Ohms	220 Ohms	220 Ohms	250 Ohms	250 Ohms

Output

Nominal Line Voltage	120 VAC	240 VAC	120 VAC	240 VAC	5-48 VDC	5-48 VDC
Minimum Line Voltage	12 VAC	12 VAC	12 VAC	12 VAC	3.0 VDC	3.0 VDC
Maximum Line Voltage	140 VAC	280 VAC	140 VAC	280 VAC	60 VDC	60 VDC
Max Off-State Voltage (4)	600 Vpeak	600 Vpeak	600 Vpeak	600 Vpeak	60 VDC	60 VDC
Max Off-State Leakage (5)	0.1mA Arms	0.1mA Arms	0.1mA Arms	0.1mA Arms	10 uA	10 uA
Static Off-State dv/dt (6)	200 V/usec	200 V/usec	200 V/usec	200 V/usec	n/a	n/a
Maximum Rated On-State Current (7)	3.0 Arms	3.0 Arms	3.0 Arms	3.0 Arms	3.0 A	1.0 A
Minimum On-State Current	50 mA Arms	50 mA Arms	50 mA Arms	50 mA Arms	10 mA	10 mA
Max Surge Current (8)	100 Apeak	100 Apeak	100 Apeak	100 Apeak	5.0 Apeak	5.0 Apeak
On-State Voltage Drop or Resistance (9)	1.6 V	1.6 V	1.6 V	1.6 V	1.6 V	1.6 V
HP Rating	1/4	1/4	1/4	1/4	n/a	n/a
Maximum Turn-On Time [msec] (10)	8.33	8.33	0.1	0.1	0.1	0.05
Maximum Turn-Off Time [msec]	8.33	8.33	8.33	8.33	0.05	0.05
Input/Output Isolation Voltage (11)	4000	4000	4000	4000	4000	4000
Input/Output Capacitance	4	4	4	4	4	4
Operating Temperature Range	-30 to 80°C	-30 to 80°C	-30 to 80°C	-30 to 80°C	-30 to 80°C	-30 to 80°C
Storage Temperature Range	-40 to 100°C	-40 to 100°C	-40 to 100°C	-40 to 100°C	-40 to 100°C	-40 to 100°C
Line Frequency Range	47 to 63 Hz	47 to 63 Hz	47 to 63 Hz	47 to 63 Hz	DC	DC
Weight	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)

General Notes:

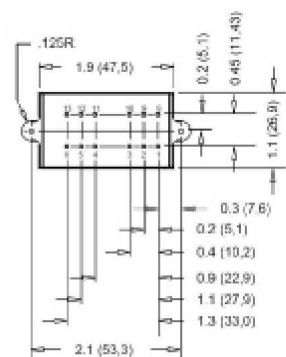
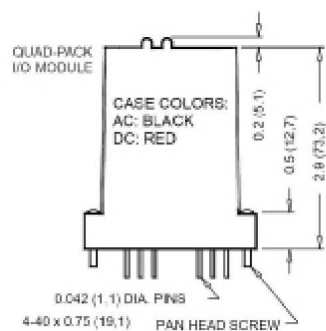
- (1) Specifications apply to Each Quad-Pack channel at an ambient temperature of -30 to 80 °C unless otherwise noted.
- (2) At nominal input voltage, without external LED status indicator.
- (3) +/-10% at 25 °C.
- (4) Maximum 1 minute duration for OACQ modules when applied as a DC voltage rather than peak AC voltage.
- (5) At maximum line voltage, 25°C for OACQ modules, and 80°C for ODCQ modules.
- (6) Minimum DV/DT per EIA/NARM RS433, method RS397. DV/DT ratings do not apply to ODCQ models.
- (7) At 40 °C, derate OACQ modules by 58mA/°C to 80°C; derate ODCQ modules By 50 mA/°C to 80°C; CSA rating for OACQ modules is 3.0 Arms at 40°C..
- (8) At 25°C maximum duration: 1 AC cycle for OACQ modules, 1 second for ODCQ modules..
- (9) At maximum rated on-state current and 25°C.
- (10) At maximum line voltage, maximum rated output current, nominal input voltage, 25°C. Switching speed for OACQ modules based upon 60Hz..
- (11) At 25 °C for 1 second maximum duration.

For Contact information visit our web site.

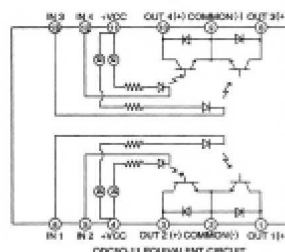
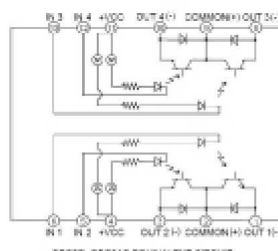
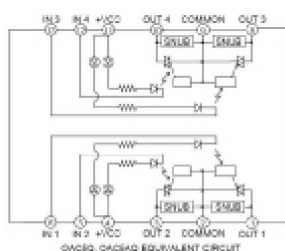
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MECHANICAL SPECIFICATIONS



DIMENSIONS: INCHES (MILLIMETERS)
TOLERANCE: *0.020 (* 0.50)



DC INDUCTIVE LOADS MUST BE DIODE SUPPRESSED TO PREVENT DAMAGE TO THE I/O MODULE.

AGENCY APPROVALS

UL E46203
CSA 38595



Rev. 072808

⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenda tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.
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⚠ WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO

RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

SM SERIES INPUT MODULES



- Plug into mounting boards for SM Series modules
- AC Inputs (Yellow Case) for 24 V, 120 V, 240 V
- DC Inputs (White Case) for 3.3 to 32 V, 10 to 48 V
- 4kV Optical isolation
- Open-collector Output
- Industry standard packaging

SPECIFICATIONS (1)

Input

Part Number	SM-IAC5	SM- IAC5A	SM- IAC24	SM- IAC24A	SM-IDC5
Voltage Range	90-140 VAC/DC	180-280 VAC/DC	90-140 VAC/DC	180-280 VAC/DC	3.3-32 VDC/AC
Maximum Current [mA](4)	6	5	6	5	34
Resistance [Ohms](2)(3)	28 k	75 k	28 k	75 k	500
Drop-out Current [mA](5)	2	1.5	2	1.5	1.0
Voltage for No Output [VAC/VDC](6)	50	50	50	50	2.0
Allowable Current [mA]	2.5	2	2.5	2	1.5

Output

Maximum Voltage[VDC](9)	30	30	30	30	30
Maximum Voltage Drop [VDC](12)	0.2	0.2	0.2	0.2	0.2
Nominal Logic Supply Voltage [VDC]	5.0	5.0	5.0	5.0	5.0
Logic Supply Voltage Range [VDC]	3.0-6.0	3.0-6.0	20-30	20-30	3.0-6.0
Maximum Current [mA](10)	50	50	50	50	50
Maximum Logic Supply Current [mA](7)	16.0	16.0	16.0	16.0	16.0
Maximum Logic Supply Leakage Current [μA](8)	10.0	10.0	10.0	10.0	10.0
Maximum Leakage Current [μA](11)	10.0	10.0	10.0	10.0	10.0
Maximum Turn-On Time [msec] (13)	20	20	20	20	1.0
Maximum Turn-Off Time [msec] (13)	20	20	20	20	1.0

SPECIFICATIONS (1)

Input

Part Number	SM-IDC24	SM-IDC5F	SM-IDC24F	SM-IDC5N	SM-IDC24N
Voltage Range	3.3-32 VDC/AC	4-32 V	4-32 V	10-48 VDC/AC	10-48 VDC/AC
Maximum Current [mA](4)	34	68	68	34	34
Resistance [Ohms](2)(3)	1 k	500	500	1 k	1 k
Drop-out Current [mA](5)	1	1	1	1	1
Voltage for No Output [VAC/VDC](6)	2	2	2	4	4
Allowable Current [mA]	1.5	1.5	1.5	1.5	1.5

Output

Maximum Voltage[VDC](9)	30	30	30	30	30
Maximum Voltage Drop [VDC](12)	0.2	0.2	0.2	0.2	0.2
Nominal Logic Supply Voltage [VDC]	5.0	5.0	5.0	5.0	5.0
Logic Supply Voltage Range [VDC]	3.0-6.0	3.0-6.0	20-30	3.0-6.0	20-30
Maximum Current [mA](10)	50	50	50	50	50
Maximum Logic Supply Current [mA](7)	16.0	16.0	16.0	16.0	16.0
Maximum Logic Supply Leakage Current [μA](8)	10.0	10.0	10.0	10.0	10.0
Maximum Leakage Current [μA](11)	10.0	10.0	10.0	10.0	10.0
Maximum Turn-On Time [msec] (13)	1.0	0.05	0.05	8.0	8.0
Maximum Turn-Off Time [msec] (13)	1.0	0.10	0.10	7.0	7.0

GENERAL SPECIFICATIONS

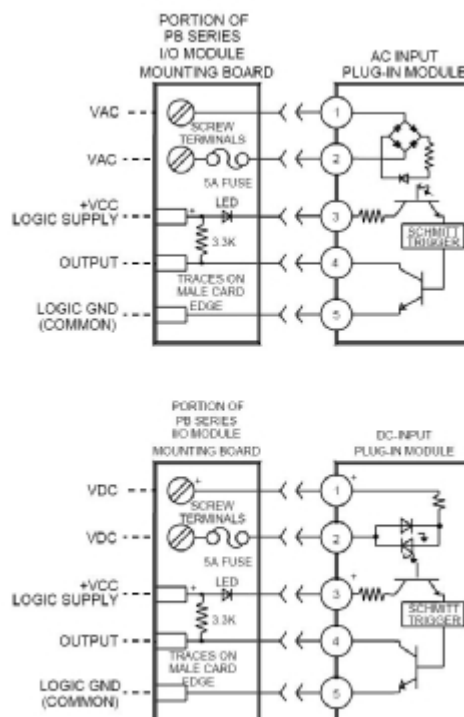
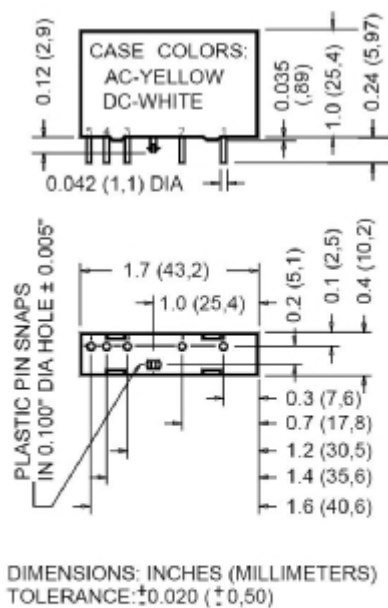
Description

Input/Output Isolation Voltage (14)	4000
Input/Output Capacitance	8
Operating Temperature Range	-30 to 80°C
Storage Temperature Range	-40 to 80°C
Line Frequency Range	47 to 63
Weight	1.1 oz. (31.2g)

GENERAL NOTES:

- (1) Specifications apply to an ambient temperature of -30 to 80 °C unless otherwise noted.
- (2) Resistance values for IAC modules are effective impedance values at 25 °C.
- (3) Resistance values are +/-10% at 25 °C.
- (4) Measured at maximum specified input voltage, 25°C.
- (5) Defined as the maximum current allowed through the module's input to guarantee that the output will switch from "on" to "off". Higher currents may result in the output remaining in the "on" state.
- (6) Defined as the maximum current allowed through the module's input that will not switch the module's output state from "off" to "on".
- (7) With external LED status indicator at maximum specified logic supply voltage and 25°C. 18mA without external LED.
- (8) At maximum specified logic voltage and 25°C.
- (9) Applied across open collector output transistor.
- (10) Sinking current through the open collector output transistor.
- (11) At maximum output voltage and 25°C.
- (12) At maximum output current and 25°C.
- (13) At nominal logic supply voltage, 25mA output sinking current, nominal input voltage and 25°C
- (14) At 25°C for 1 second maximum duration.

MECHANICAL SPECIFICATIONS



AGENCY APPROVALS

UL E46203
CSA 38595



Rev. 072808

For Contact information visit our web site.

www.crydom.com

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Specifications subject to change without notice.

 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
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 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO			
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Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

SM SERIES OUTPUT MODULES



- AC Modules have High Current Thyristors with 100 Amp Surge Capability
- Plug into mounting boards for 0.6" modules
- Zero or Random Turn-On Available in AC Modules
- 4kV Optical isolation (1500 VAC Isolation for FET DC Output Modules)
- UL Recognized, CSA Certified, CE Compliant
- Industry standard packaging and Color Coding
Black (AC Output) Red (DC Output)

SPECIFICATIONS (1)

Input

Part Number	SM-OAC5	SM-OAC5A	SM-OAC5AH	SM-OAC5AR	SM-OAC5R
Nominal Voltage VDC	5.0	5.0	5.0	5.0	5.0
Minimum Voltage VDC (2)	2.75	2.75	2.75	2.75	2.75
Maximum Voltage VDC	8.0	8.0	8.0	8.0	8.0
Drop-out Voltage	1.0	1.0	1.0	1.0	1.0
Maximum Current (3)	20	20	20	20	20
Resistance (4)	220	220	220	220	220

Output

Nominal Line Voltage	120 VAC	240 VAC	240 VAC	240 VAC	120 VAC
Minimum Line Voltage	12 VAC	24 VAC	24 VAC	24 VAC	12 VAC
Maximum Line Voltage	140 VAC	280 VAC	280 VAC	280 VAC	140 VAC
Max Off-State Voltage (5)	400 Vpeak	600 Vpeak	600 Vpeak	600 Vpeak	400 Vpeak
Max Off-State Leakage (6)	0.1mArms	0.1mArms	0.1mArms	0.1mArms	0.1mArms
Static Off-State dv/dt (7)	200 V/usec	200 V/usec	200 V/usec	200 V/usec	200 V/usec
Maximum Rated On-State Current (8)	3.5 Arms	3.5 Arms	5.0 Arms	3.5 Arms	3.5 Arms
Minimum On-State Current	50 mArms	50 mArms	50 mArms	50 mArms	50 mArms
Max Surge Current (9)	100 Apeak	100 Apeak	100 Apeak	100 Apeak	100 Apeak
On-State Voltage Drop or Resistance (10)	1.6 V	1.6 V	1.6 V	1.6 V	1.6 V
Maximum Turn-On Time [msec] (13)	8.33	8.33	8.33	0.1	0.1
Maximum Turn-Off Time [msec] (13)	8.33	8.33	8.33	8.33	8.33
Input/Output Isolation Voltage (14)	4000	4000	4000	4000	4000
Input/Output Capacitance	8	8	8	8	8
Operating Temperature Range	-30 to 80°C	-30 to 80°C	-30 to 80°C	-30 to 80°C	-30 to 80°C
Storage Temperature Range	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C
Line Frequency Range	47 to 63	47 to 63	47 to 63	47 to 63	47 to 63
Weight	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)

SPECIFICATIONS (1)

Input

Part Number	SM-OAC24	SM-OAC24A	SM-ODC5	SM-ODC5A	SM-ODC5F
Nominal Voltage VDC	24	24	5.0	5.0	5.0
Minimum Voltage VDC (2)	18	18	2.75	2.75	2.75
Maximum Voltage VDC	32	32	8.0	8.0	8.0
Drop-out Voltage	1.0	1.0	1.0	1.0	1.0
Maximum Current (3)	13	13	18	18	18
Resistance (4)	2000	2000	250	250	250

Output

Nominal Line Voltage	120 VAC	240 VAC	5-48 VDC	5-150 VDC	5-48 VDC
Minimum Line Voltage	12 VAC	24 VAC	3.0 VDC	3.0 VDC	3.0 VDC
Maximum Line Voltage	140 VAC	280 VAC	60 VDC	250 VDC	60 VDC
Max Off-State Voltage (5)	400 Vpeak	600 Vpeak	60 VDC	250 VDC	60 VDC
Max Off-State Leakage (6)	0.1mA _{rms}	0.1mA _{rms}	10 uA	10 uA	10 uA
Static Off-State dv/dt (7)	200 V/usec	200 V/usec	N/A	N/A	N/A
Maximum Rated On-State Current (8)	3.5 Arms	3.5 Arms	3.0 A	1.0 A	3.0 A
Minimum On-State Current	50 mA _{rms}	50 mA _{rms}	10 mA	10 mA	10 mA
Max Surge Current (9)	100 Apeak	100 Apeak	5.0 A	5.0 A	5.0 A
On-State Voltage Drop or Resistance (10)	1.6 V	1.6 V	1.5 V	1.5 V	1.5 V
Maximum Turn-On Time [msec] (13)	8.33	8.33	0.1	0.1	0.025
Maximum Turn-Off Time [msec] (13)	8.33	8.33	0.75	0.75	0.05
Input/Output Isolation Voltage (14)	4000	4000	4000	4000	4000
Input/Output Capacitance	8	8	8	8	8
Operating Temperature Range	-30 to 80°C	-30 to 80°C	-30 to 80°C	-30 to 80°C	-30 to 80°C
Storage Temperature Range	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C
Line Frequency Range	47 to 63	47 to 63	DC	DC	DC
Weight	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)

SPECIFICATIONS (1)

Input

Part Number	SM-ODC5MA	SM-ODC5MC	SM-ODC5ML	SM-ODC24	SM-ODC24A
Nominal Voltage VDC	5.0	5.0	5.0	24	24
Minimum Voltage VDC (2)	2.75	2.75	2.75	18	18
Maximum Voltage VDC	8.0	8.0	8.0	32	32
Drop-out Voltage	1.0	1.0	1.0	1.0	1.0
Maximum Current (3)	18	18	18	13	13
Resistance (4)	250	250	250	2000	2000

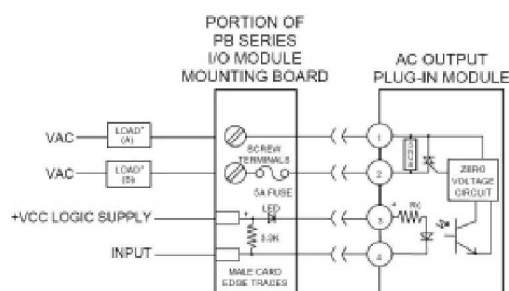
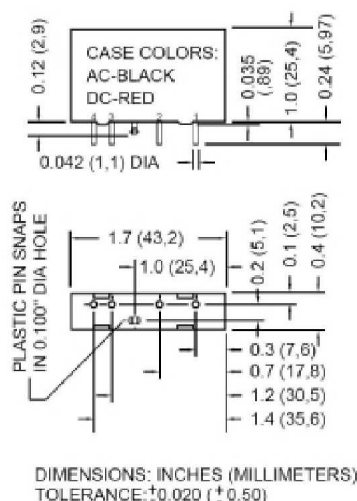
Output

Nominal Line Voltage	5-150 VDC	5-90 VDC	5-48 VDC	5-48 VDC	5-150 VDC
Maximum Line Voltage	200 VDC	100 VDC	50 VDC	60 VDC	250 VDC
Max Off-State Voltage (5)	200 VDC	100 VDC	50 VDC	60 VDC	250 VDC
Max Off-State Leakage (6)	10 uA	10 uA	10 uA	10 uA	10 uA
Static Off-State dv/dt (7)	N/A	N/A	N/A	N/A	N/A
Maximum Rated On-State Current (8)	3.0 A	5.0 A	1.0 A	3.0 A	1.0 A
Minimum On-State Current	1.0 mA	1.0 mA	10 mA	10 mA	10 mA
Max Surge Current (9)	10 A	10 A	10 A	5.0 A	5.0 A
On-State Voltage Drop or Resistance (10)	0.25 Ohms	0.10 Ohms	0.05 Ohms	1.5 V	1.5 V
Maximum Turn-On Time [msec] (13)	1.0	1.0	1.0	0.1	0.1
Maximum Turn-Off Time [msec] (13)	0.05	0.05	0.05	0.75	0.75
Input/Output Isolation Voltage (14)	1500	1500	1500	4000	4000
Input/Output Capacitance	8	8	8	8	8
Operating Temperature Range	-30 to 80	-30 to 80°C	-30 to 80°C	-30 to 80°C	-30 to 80°C
Storage Temperature Range	-40 to 80	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C
Line Frequency Range	DC	DC	DC	DC	DC
Weight	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)

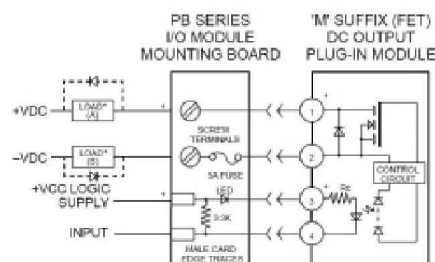
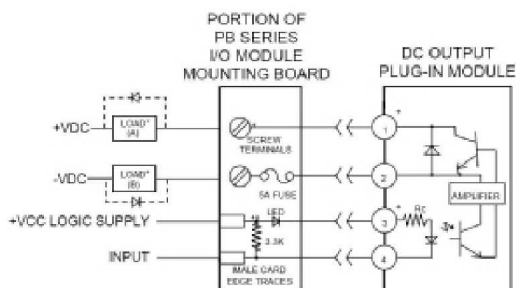
General Notes:

- (1) Specifications apply to an ambient temperature of -30 to 80 °C unless otherwise noted.
- (2) Without external LED status indicator. Add 1.7 volts for external LED if utilized.
- (3) At nominal input voltage, without external LED status indicator.
- (4) $\pm 10\%$ at 25°C.
- (5) Maximum 1 minute duration for OAC modules when applied as a DC voltage rather than a peak AC voltage.
- (6) At maximum line voltage, 25°C for OAC modules, and 80°C for ODC modules.
- (7) Minimum DV/DT per EIA/NARM RS433, method RS397, DV/DT ratings do not apply to DC output models.
- (8) At 40°C, derate OAC modules 58 mA/°C to 80°C, derate ODC, ODCxMC and ODCxML modules 50 mA/°C to 80°C. CSA rating of OAC modules is 3.0 Arms at 40°C.
- (9) At 25°C for 1 second maximum duration: 1 AC cycle for AC modules, 1 second for DC modules.
- (10) At maximum rated on-state current and 25°C.
- (11) At maximum line voltage, maximum rated output current, nominal input voltage and 25°C. Switching speed of OAC modules is based upon 60 Hz line frequency.
- (12) At 25°C for 1 second maximum duration.
- (13) 1/3 H.P. at 240 VAC, 1/8 H.P. at 120 VAC.

MECHANICAL SPECIFICATIONS



* LOAD MAY BE WIRED IN LOCATION A OR B



* LOAD MAY BE WIRED IN LOCATION A OR B
DC INDUCTIVE LOADS MUST BE DIODE SUPPRESSED TO PREVENT DAMAGE TO THE I/O MODULE.

AGENCY APPROVALS

UL E46203
CSA 38595



Rev. 072808

⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connexions, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenda tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.
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⚠ WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO

RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

0.6" SERIES INPUT MODULES



- Plug into mounting boards for 0.6" modules
- AC Inputs for 24 V, 120 V, 240 V
- DC Inputs for 3.3 to 32 V, 10 to 48 V
- 4kV Optical isolation
- Open-collector Output
- Industry standard packaging

SPECIFICATIONS (1)

Input

Part Number	IAC5	IAC5A	IAC24	IAC24A	IDC5
Voltage Range	90-140 VAC/DC	180-280 VAC/DC	90-140 VAC/DC	180-280 VAC/DC	3.3-32 VDC/AC
Maximum Current [mA](4)	6	5	6	5	34
Resistance [Ohms](2)(3)	28 k	75 k	28 k	75 k	500
Drop-out Current [mA](5)	2	1.5	2	1.5	1.0
Voltage for No Output [VAC/VDC](6)	50	50	50	50	2.0
Allowable Current [mA]	2.5	2	2.5	2	1.5

Output

Maximum Voltage[VDC](9)	30	30	30	30	30
Maximum Voltage Drop [VDC](12)	0.2	0.2	0.2	0.2	0.2
Nominal Logic Supply Voltage [VDC]	5.0	5.0	5.0	5.0	5.0
Logic Supply Voltage Range [VDC]	3.0-6.0	3.0-6.0	20-30	20-30	3.0-6.0
Maximum Current [mA](10)	50	50	50	50	50
Maximum Logic Supply Current [mA](7)	16.0	16.0	16.0	16.0	16.0
Maximum Logic Supply Leakage Current [μA](8)	10.0	10.0	10.0	10.0	10.0
Maximum Leakage Current [μA](11)	10.0	10.0	10.0	10.0	10.0
Maximum Turn-On Time [msec] (13)	20	20	20	20	1.0
Maximum Turn-Off Time [msec] (13)	20	20	20	20	1.0

SPECIFICATIONS (1)

Input

Part Number	IDC24	IDC5F	IDC24F	IDC5N	IDC24N
Voltage Range (VAC or VDC)	3.3-32 VDC/AC	4-32 VDC	4-32 VDC	10-48 VDC/AC	10-48 VDC/AC
Maximum Current [mA](4)	34	68	68	34	34
Resistance [Ohms](2)(3)	1 k	500	500	1 k	1 k
Drop-out Current [mA](5)	1	1	1	1	1
Voltage for No Output [VAC/VDC](6)	2	2	2	4	4
Allowable Current [mA]	1.5	1.5	1.5	1.5	1.5

Output

Maximum Voltage[VDC](9)	30	30	30	30	30
Maximum Voltage Drop [VDC](12)	0.2	0.2	0.2	0.2	0.2
Nominal Logic Supply Voltage [VDC]	5.0	5.0	5.0	5.0	5.0
Logic Supply Voltage Range [VDC]	3.0-6.0	3.0-6.0	20-30	3.0-6.0	20-30
Maximum Current [mA](10)	50	50	50	50	50
Maximum Logic Supply Current [mA](7)	16.0	16.0	16.0	16.0	16.0
Maximum Logic Supply Leakage Current [μA](8)	10.0	10.0	10.0	10.0	10.0
Maximum Leakage Current [μA](11)	10.0	10.0	10.0	10.0	10.0
Maximum Turn-On Time [msec] (13)	1.0	0.05	0.05	8.0	8.0
Maximum Turn-Off Time [msec] (13)	1.0	0.10	0.10	7.0	7.0

GENERAL SPECIFICATIONS

Description

Input/Output Isolation Voltage (14)	4000
Input/Output Capacitance	8
Operating Temperature Range	-30 to 80°C
Storage Temperature Range	-40 to 80°C
Line Frequency Range	47 to 63
Weight	1.1 oz. (31.2g)

GENERAL NOTES:

- (1) Specifications apply to an ambient temperature of -30 to 80 °C unless otherwise noted.
- (2) Resistance values for IAC modules are effective impedance values at 25 °C.
- (3) Resistance values are +/-10% at 25 °C.
- (4) Measured at maximum specified input voltage, 25°C.
- (5) Defined as the maximum current allowed through the module's input to guarantee that the output will switch from "on" to "off". Higher currents may result in the output remaining in the "on" state.
- (6) Defined as the maximum current allowed through the module's input that will not switch the module's output state from "off" to "on".
- (7) With external LED status indicator at maximum specified logic supply voltage and 25°C. 18mA without external LED.
- (8) At maximum specified logic voltage and 25°C.
- (9) Applied across open collector output transistor.
- (10) Sinking current through the open collector output transistor.
- (11) At maximum output voltage and 25°C.
- (12) At maximum output current and 25°C.
- (13) At nominal logic supply voltage, 25mA output sinking current, nominal input voltage and 25°C.
- (14) At 25°C for 1 second maximum duration.

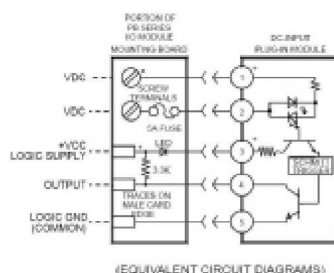
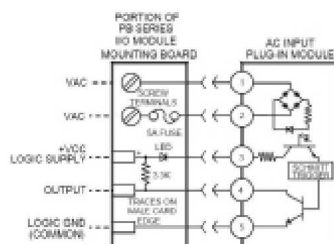
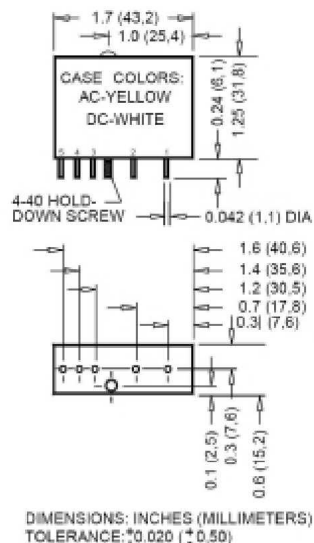
AGENCY APPROVALS

UL E46203
CSA 38595



Rev. 072808

MECHANICAL SPECIFICATIONS



ANNEX - ENVIROMENTAL INFORMATION

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Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

0.6" SERIES OUTPUT MODULES



- AC Modules have High Current Thyristors with 100 Amp Surge Capability
- Plug into mounting boards for 0.6" modules
- Zero or Random Turn-On Available in AC Modules
- 4kV Optical isolation (1500 VAC Isolation for FET DC Output Modules)
- UL Recognized, CSA Certified, CE Compliant
- Industry standard packaging and Color Coding
Black (AC Output) Red (DC Output)

SPECIFICATIONS (1)

Input

Part Number	OAC5	OAC5A	OAC5AH	OAC5AR	OAC5R	OAC24
Nominal Voltage VDC	5.0	5.0	5.0	5.0	5.0	24
Minimum Voltage VDC (2)	2.75	2.75	2.75	2.75	2.75	18
Maximum Voltage VDC	8.0	8.0	8.0	8.0	8.0	32
Drop-out Voltage	1.0	1.0	1.0	1.0	1.0	1.0
Maximum Current (3)	20	20	20	20	20	13
Resistance (4)	220	220	220	220	220	2000

Output

Nominal Line Voltage	120 VAC	240 VAC	240 VAC	240 VAC	120 VAC	120 VAC
Minimum Line Voltage	12 VAC	24 VAC	24 VAC	24 VAC	12 VAC	12 VAC
Maximum Line Voltage	140 VAC	280 VAC	280 VAC	280 VAC	140 VAC	140 VAC
Max Off-State Voltage (5)	400 Vpeak	600 Vpeak	600 Vpeak	600 Vpeak	400 Vpeak	400 Vpeak
Max Off-State Leakage (6)	0.1mArms	0.1mArms	0.1mArms	0.1mArms	0.1mArms	0.1mArms
Static Off-State dv/dt (7)	200 V/usec	200 V/usec	200 V/usec	200 V/usec	200 V/usec	200 V/usec
Maximum Rated On-State Current (8)	3.5 Arms	3.5 Arms	5.0 Arms	3.5 Arms	3.5 Arms	3.5 Arms
Minimum On-State Current	50 mArms	50 mArms	50 mArms	50 mArms	50 mArms	50 mArms
Max Surge Current (9)	100 Apeak	100 Apeak	100 Apeak	100 Apeak	100 Apeak	100 Apeak
On-State Voltage Drop or Resistance (10)	1.6 V	1.6 V	1.6 V	1.6 V	1.6 V	1.6 V
Maximum Turn-On Time [msec] (13)	8.33	8.33	8.33	0.1	0.1	8.33
Maximum Turn-Off Time [msec] (13)	8.33	8.33	8.33	8.33	8.33	8.33
Input/Output Isolation Voltage (14)	4000	4000	4000	4000	4000	4000
Input/Output Capacitance	8	8	8	8	8	8
Operating Temperature Range	-30 to 80°C	-30 to 80°C	-30 to 80°C	-30 to 80°C	-30 to 80°C	-30 to 80°C
Storage Temperature Range	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C
Line Frequency Range	47 to 63	47 to 63	47 to 63	47 to 63	47 to 63	47 to 63
Weight	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)

Input

Part Number	OAC24A	ODC5	ODC5A	ODC5F	ODC5MA
Nominal Voltage VDC	24	5.0	5.0	5.0	5.0
Minimum Voltage VDC (2)	18	2.75	2.75	2.75	2.75
Maximum Voltage VDC	32	8.0	8.0	8.0	8.0
Drop-out Voltage	1.0	1.0	1.0	1.0	1.0
Maximum Current (3)	13	18	18	18	18
Resistance (4)	2000	250	250	250	250

Output

Nominal Line Voltage	240 VAC	5-48 VDC	5-150 VDC	5-48 VDC	5-150 VDC
Minimum Line Voltage	24 VAC	3.0 VDC	3.0 VDC	3.0 VDC	1.0 VDC
Maximum Line Voltage	280 VAC	60 VDC	250 VDC	60 VDC	200 VDC
Max Off-State Voltage (5)	600 Vpeak	60 VDC	250 VDC	60 VDC	200 VDC
Max Off-State Leakage (6)	0.1mA _{rms}	10 μ A	10 μ A	10 μ A	10 μ A
Static Off-State dv/dt (7)	200 V/ μ sec	N/A	N/A	N/A	N/A
Maximum Rated On-State Current (8)	3.5 Arms	3.0 A	1.0 A	3.0 A	3.0 A
Minimum On-State Current	50 mA _{rms}	10 mA	10 mA	10 mA	1.0 mA
Max Surge Current (9)	100 Apeak	5.0 A	5.0 A	5.0 A	10 A
On-State Voltage Drop or Resistance (10)	1.6 V	1.5 V	1.5 V	1.5 V	0.25 Ohms
Maximum Turn-On Time [msec] (13)	8.33	0.1	0.1	0.025	1.0
Maximum Turn-Off Time [msec] (13)	8.33	0.75	0.75	0.05	0.05
Input/Output Isolation Voltage (14)	4000	4000	4000	4000	1500
Input/Output Capacitance	8	8	8	8	8
Operating Temperature Range	-30 to 80°C	-30 to 80°C	-30 to 80°C	-30 to 80°C	-30 to 80°C
Storage Temperature Range	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C
Line Frequency Range	47 to 63	DC	DC	DC	DC
Weight	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)

Input

Part Number	ODC5MC	ODC5ML	ODC24	ODC24A	ODC24F
Nominal Voltage VDC	5.0	5.0	24	24	24
Minimum Voltage VDC (2)	2.75	2.75	18	18	18
Maximum Voltage VDC	8.0	8.0	32	32	32
Drop-out Voltage	1.0	1.0	1.0	1.0	1.0
Maximum Current (3)	18	18	13	13	13
Resistance (4)	250	250	2000	2000	2000

Output

Nominal Line Voltage	5-90 VDC	5-48 VDC	5-48 VDC	5-150 VDC	5-48 VDC
Minimum Line Voltage	1.0 VDC	1.0 VDC	3.0 VDC	3.0 VDC	3.0 VDC
Maximum Line Voltage	100 VDC	50 VDC	60 VDC	250 VDC	60 VDC
Max Off-State Voltage (5)	50 VDC	60 VDC	250 VDC	60 VDC	60 VDC
Max Off-State Leakage (6)	10 μ A	10 μ A	10 μ A	10 μ A	10 μ A
Static Off-State dv/dt (7)	N/A	N/A	N/A	N/A	N/A
Maximum Rated On-State Current (8)	5.0 A	1.0 A	3.0 A	1.0 A	3.0 A
Minimum On-State Current	1.0 mA	10 mA	10 mA	10 mA	10 mA
Max Surge Current (9)	10 A	10 A	5.0 A	5.0 A	5.0 A
On-State Voltage Drop or Resistance (10)	0.10 Ohms	0.05 Ohms	1.5 V	1.5 V	1.5 V
Maximum Turn-On Time [msec] (13)	1.0	1.0	0.1	0.1	0.025
Maximum Turn-Off Time [msec] (13)	0.05	0.05	0.75	0.75	0.05
Input/Output Isolation Voltage (14)	1500	1500	4000	4000	4000
Input/Output Capacitance	8	8	8	8	8
Operating Temperature Range	-30 to 80°C	-30 to 80°C	-30 to 80°C	-30 to 80°C	-30 to 80°C
Storage Temperature Range	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C
Line Frequency Range	DC	DC	DC	DC	DC
Weight	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)	1.1 oz. (31.2g)

 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.	GEFAHR EINES ELEKTRISCHEN SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenda tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO			
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.	
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.	

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

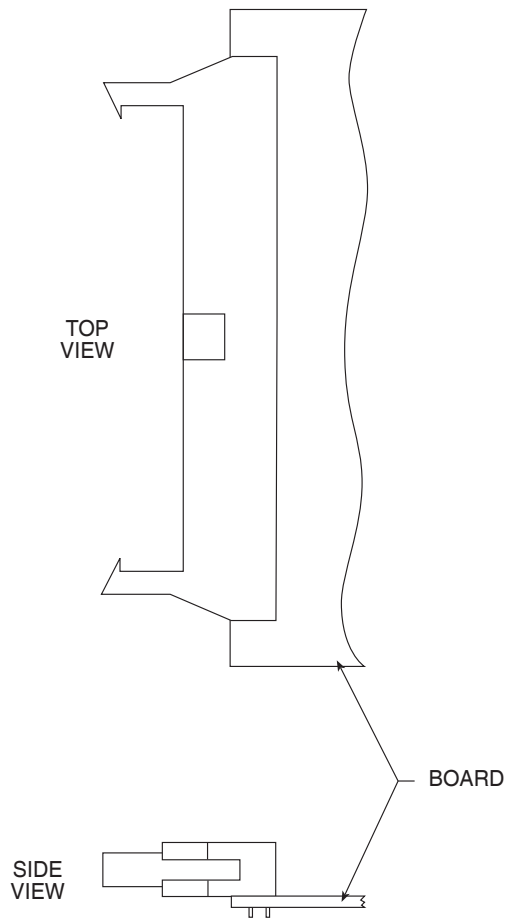
此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



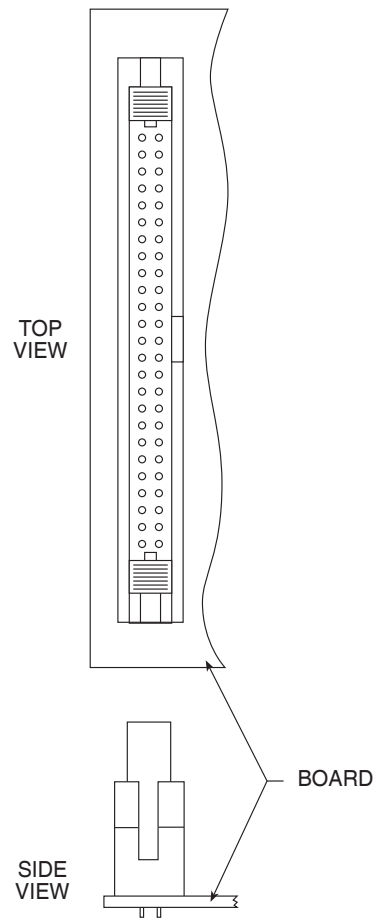
部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

HEADER CONNECTOR OPTION

"-C" CONNECTOR OPTION (1)

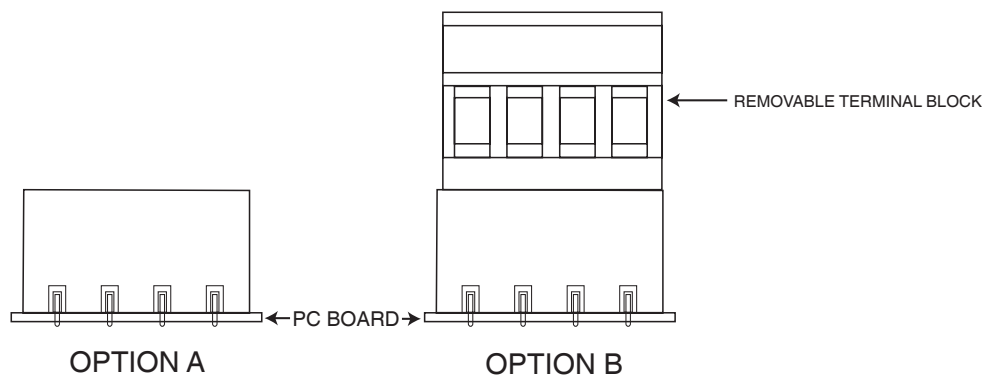


"-V" CONNECTOR OPTION (2)



NOTES: 1.) CONNECTOR IS BERG 65823-093 OR EQUIVALENT
2.) CONNECTOR IS CIRCUIT ASSEMBLY CA-50H-2B OR EQUIVALENT

TERMINAL OPTIONS FOR "M" AND "SM" I/O MOUNTING BOARDS



Series 1-DC



- D1D to D5D series SSRs; MOSFET output
- Ratings from 7A to 40A @ 200 VDC, and from 7A to 10A @ 500 VDC
- DC Control
- Relays are easily paralleled for higher-current applications

PRODUCT SELECTION

Load Voltage	7A	10A	12A	20A	40A
100 VDC	D1D07		D1D12	D1D20	D1D40
200 VDC	D2D07		D2D12		D2D40
400 VDC	D4D07		D4D12		
500 VDC	D5D07	D5D10			

OUTPUT SPECIFICATIONS (1)

Description	7A	12A	20A	40A	7A	12A	40A	7A	12A	7A	10A
Operating Voltage Range	0-100	0-100	0-100	0-100	0-200	0-200	0-200	0-400	0-400	0-500	0-500
Maximum Off-State Leakage Current @ Rated Voltage [mArms]	0.1	0.2	0.3	0.3	0.1	0.3	0.3	0.3	0.3	0.2	0.3
Maximum Load Current (3) [Adc]	7	12	20	40	7	12	40	7	12	7	10
Minimum Load Current [mA]	0	0	0	0	0	0	0	0	0	0	0
Maximum Surge Current (16.6ms) [Apk]	15	28	42	106	22	27	106	17	36	19	29
Maximum On-State Voltage Drop @ Rated Current [Vpk]	2.0	1.6	2.1	2.1	2.0	2.8	2.1	4.2	4.2	5.7	5.5
Thermal Resistance Junction to Case [Rjc] [°C/W]	2.2	1.34	1.06	0.83	1.5	1.06	0.83	1.06	0.8	1.0	0.8
Maximum On-State Resistance [RDS-ON][Ohms]	0.29	0.13	0.10	0.05	0.29	0.23	0.05	0.6	0.35	0.8	0.55

INPUT SPECIFICATIONS (1)

Description	DC Control
Control Voltage Range	3.5-32 VDC
Maximum Turn-On Voltage	3.5 VDC
Minimum Turn-Off Voltage	1.0 VDC
Maximum Input Current (1-DC only)	1.6 mA (5 VDC), 28 mA (32 VDC)
Nominal Input Impedance	See Note 4
Maximum Turn-On Time [µsec]	100
Maximum Turn-Off Time [msec]	1.0

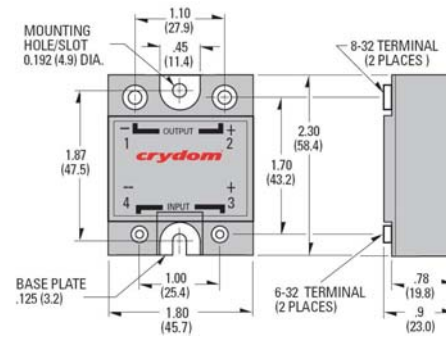
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	2500 VRMS
Minimum Insulation Resistance (@ 500 V DC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	50 pF
Ambient Operating Temperature Range	-20 to 80°C
Ambient Storage Temperature Range	-20 to 125 °C
Weight (typical)	3.0 oz (86.5g)
Encapsulation	Thermally conductive Epoxy
Terminals	Screws and Saddle Clamps Furnished, Unmounted
Recommended Terminal Screw Torque Range:	6-32 Screws - 10 in lbs. 8-32 and 10-32 Screws -20 in. lbs. (Screws dry without grase)

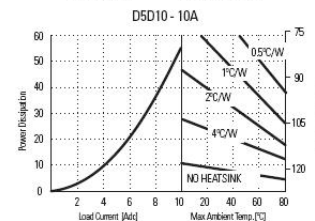
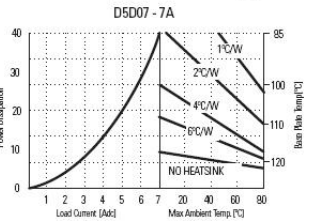
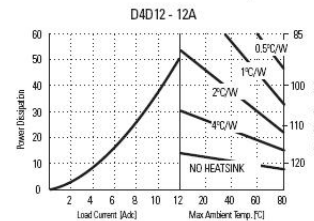
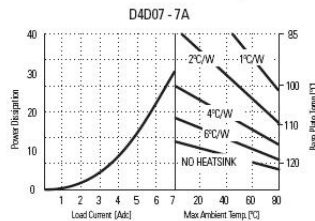
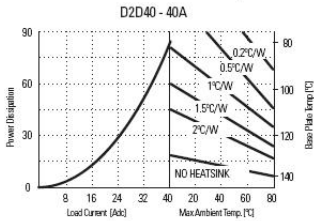
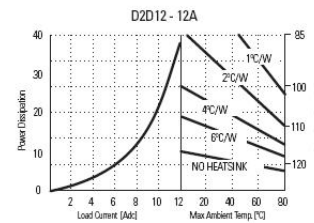
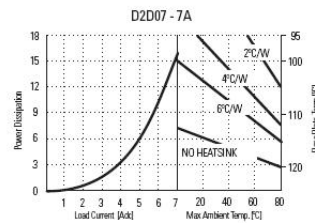
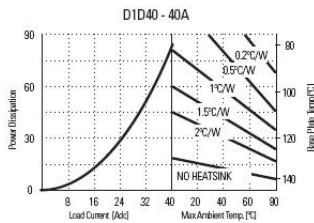
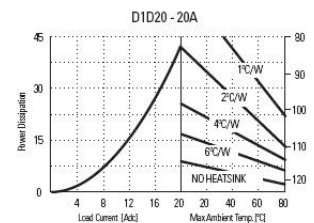
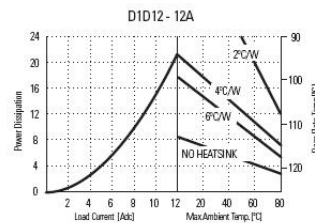
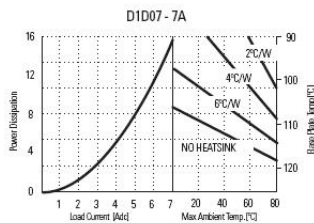
GENERAL NOTES

- 1) All parameters at 25°C and per section unless otherwise specified.
- 2) Dielectric strength and insulation resistance are measured between input and output
- 3) Heat sinking required, for derating curves see page 3.
- 4) Input circuitry version incorporates active current limiter.

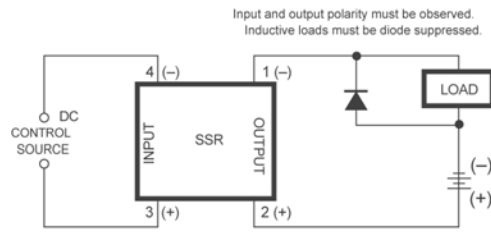
MECHANICAL SPECIFICATIONS



THERMAL DERATE INFORMATION

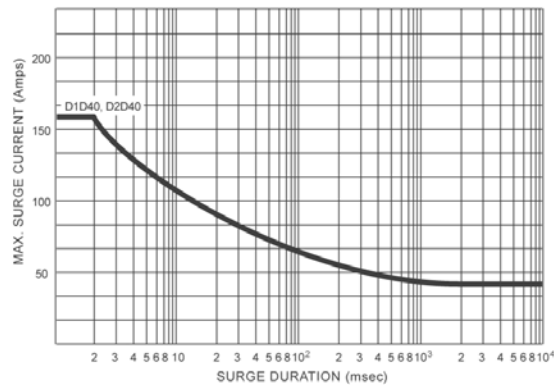
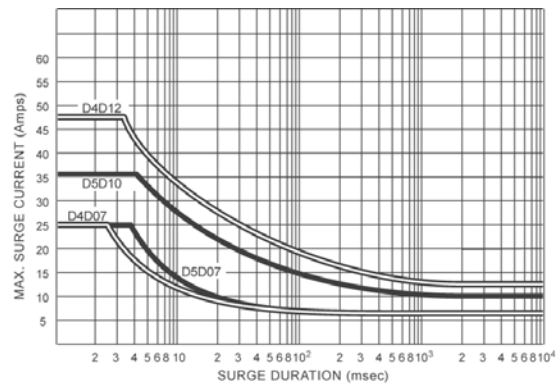
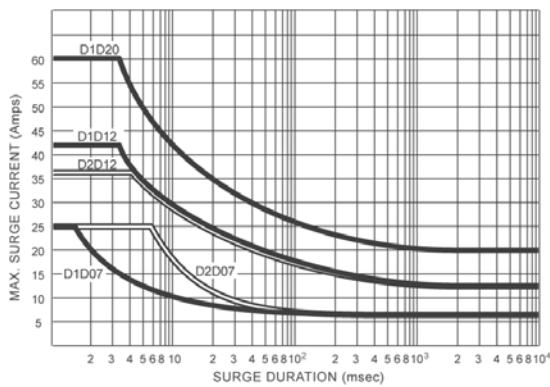


WIRING DIAGRAM



Transient Protection

MAXIMUM SURGE VS DURATION



AGENCY APPROVALS

UL E116950 (100 Volt Models 1-DC Only)



Rev. 121608

 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor der Inbetriebnahme alle Anschlüsse überprüfen und alle Gehäuseteile montieren. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenda tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

Series 1-DCL



- Optically Coupled MOSFET output
- Ratings from 7A to 40A @ 200 VDC, and from 7A to 10A @ 500 VDC
- DC Control
- Relays are easily paralleled for higher-current applications

PRODUCT SELECTION

Load Voltage	7A	10A	12A	20A	40A
100 VDC	D1D07L		D1D12L	D1D20L	D1D40L
200 VDC	D2D07L		D2D12L		D2D40L
400 VDC	D4D07L		D4D12L		
500 VDC	D5D07L	D5D10L			

OUTPUT SPECIFICATIONS (1)

Description	7A	12A	20A	40A	7A	12A	40A	7A	12A	7A	10A
Operating Voltage Range	0-100	0-100	0-100	0-100	0-200	0-200	0-200	0-400	0-400	0-500	0-500
Maximum Off-State Leakage Current @ Rated Voltage [mArms]	0.1	0.2	0.3	0.3	0.1	0.3	0.3	0.3	0.3	0.2	0.3
Maximum Load Current (3) [Adc]	7	12	20	40	7	12	40	7	12	7	10
Minimum Load Current [mA]	0	0	0	0	0	0	0	0	0	0	0
Maximum Surge Current (16.6ms) [Apk]	15	28	42	106	22	27	106	17	36	19	29
Maximum On-State Voltage Drop @ Rated Current [Vpk]	2.0	1.6	2.1	2.1	2.0	2.8	2.1	4.2	4.2	5.7	5.5
Thermal Resistance Junction to Case [Rjc] [°C/W]	2.2	1.34	1.06	0.83	1.5	1.06	0.83	1.06	0.8	1.0	0.8
Maximum On-State Resistance [RDS-ON][Ohms]	0.29	0.13	0.10	0.05	0.29	0.23	0.05	0.6	0.35	0.8	0.55

INPUT SPECIFICATIONS (1)

Description	
Control Voltage Range	3.5-32 VDC
Maximum Turn-On Voltage	3.5 VDC
Minimum Turn-Off Voltage	1.0 VDC
Typical Input Current	10 mA
Nominal Input Impedance	See Note 4
Maximum Turn-On Time [µsec]	100
Maximum Turn-Off Time [msec]	1.0

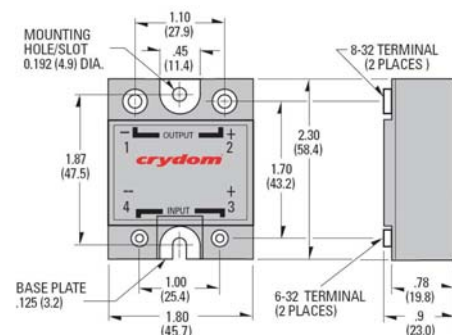
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	2500 VRMS
Minimum Insulation Resistance (@ 500 V DC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	50 pF
Ambient Operating Temperature Range	-20 to 80°C
Ambient Storage Temperature Range	-20 to 125 °C
Weight (typical)	3.0 oz (86.5g)
Encapsulation	Thermally conductive Epoxy
Terminals	Screws and Saddle Clamps Furnished, Unmounted
Recommended Terminal Screw Torque Range:	6-32 Screws - 10 in lbs. 8-32 and 10-32 Screws -20 in. lbs. (Screws dry without grase)

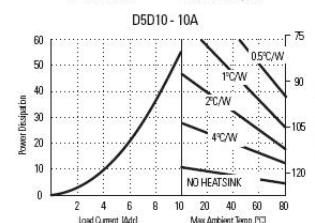
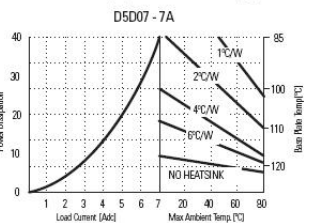
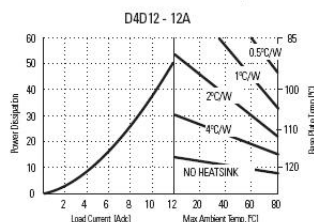
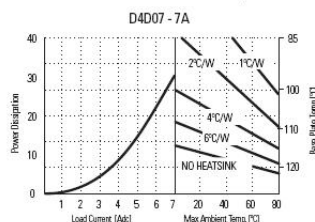
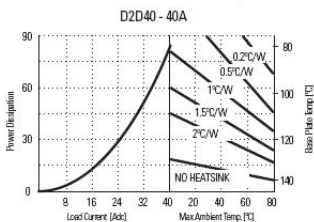
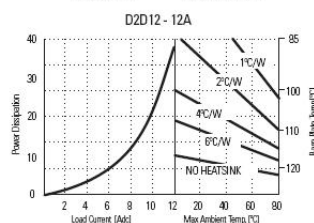
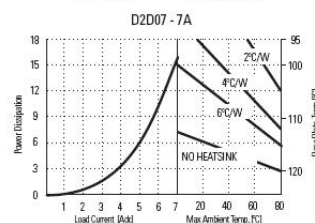
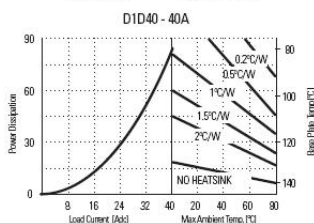
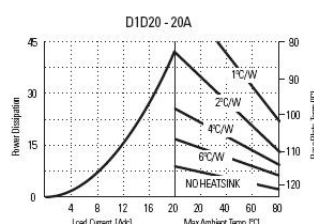
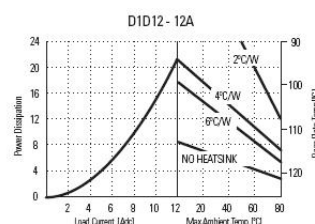
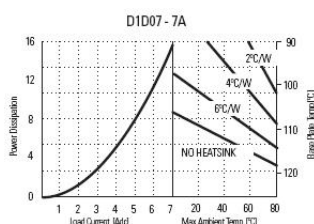
GENERAL NOTES

- 1) All parameters at 25°C and per section unless otherwise specified.
- 2) Dielectric strength and insulation resistance are measured between input and output
- 3) Heat sinking required, for derating curves see page 3.
- 4) Input circuitry version incorporates active current limiter.

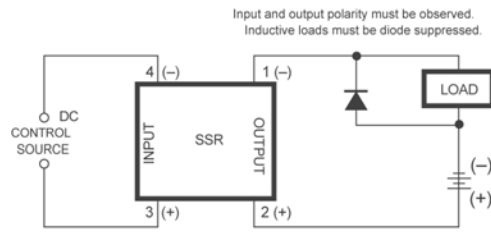
MECHANICAL SPECIFICATIONS



THERMAL DERATE INFORMATION

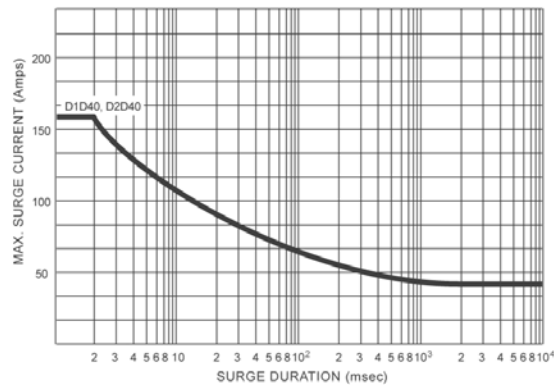
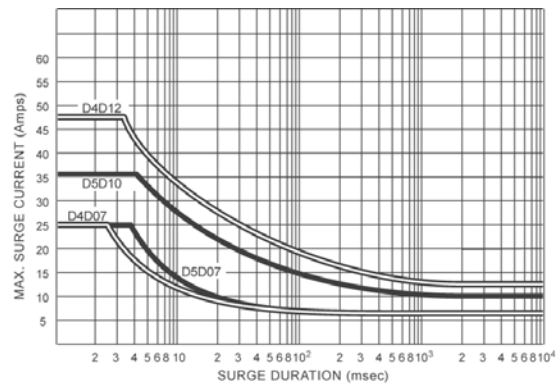
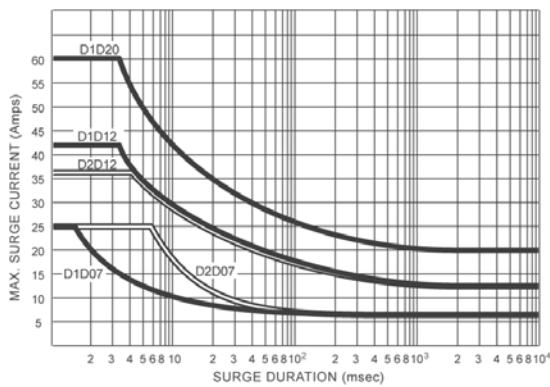


WIRING DIAGRAM



Transient Protection

MAXIMUM SURGE VS DURATION



AGENCY APPROVALS

UL E116950 (100 Volt Models 1-DC Only)



Rev. 121608

 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor der Inbetriebnahme alle Anschlüsse überprüfen und alle Gehäuseteile montieren. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenda tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

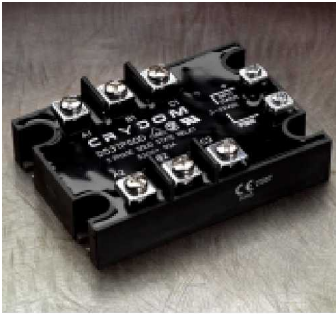
Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

53TP Series

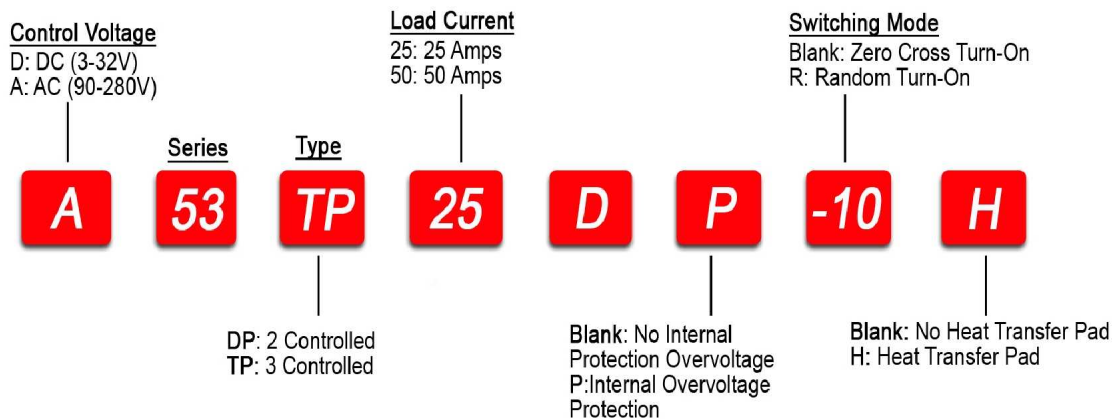


- Three-phase solid-state relay; Ratings from 25A to 50A @ 48-530 VAC
- SCR output for heavy industrial loads
- AC or DC control
- Zero-crossing (resistive loads) or random-fire (inductive loads) output
- LED input status indicator

PRODUCT SELECTION

Control Voltage	25A	50A
3-32 VDC	D53TP25D	D53TP50D
90-280 VAC	A53TP25D	A53TP50D

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description	25A	50A
Operating Voltage (47-63Hz) [Vrms]	48-530	48-530
Transient Overvoltage [Vpk]	1200	1200
Maximum Off-State Leakage Current @ Rated Voltage [mA rms]	10	10
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	500	500
Maximum Load Current (3) [Arms]	25	50
Minimum Load Current [Arms]	0.05	0.05
Maximum Surge Current (16.6ms) [A pk]	250	625
Maximum On-State Voltage Drop @ Rated Current [Vpk]	1.6	1.6
Thermal Resistance Junction to Case (Rjc) [°C/W]	1.02	0.63
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	260	1620
Minimum Power Factor (with Maximum Load)	0.5	0.5

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INPUT SPECIFICATIONS (1)

Description		
Control Voltage Range	3-32 VDC	90-280 VAC
Maximum Turn-On Voltage	3.0 VDC	90 Vrms
Minimum Turn-Off Voltage	1.0 VDC	10 Vrms
Typical Input Current	10 mA @ 5 VDC	2.2 mA @ 120 Vrms, 4.4 mA @ 240 Vrms
Nominal Input Impedance	450 Ohm	54.8 k Ohm
Maximum Turn-On Time [msec] (4)	1/2 Cycle	10
Maximum Turn-Off Time [msec]	1/2 Cycle	40

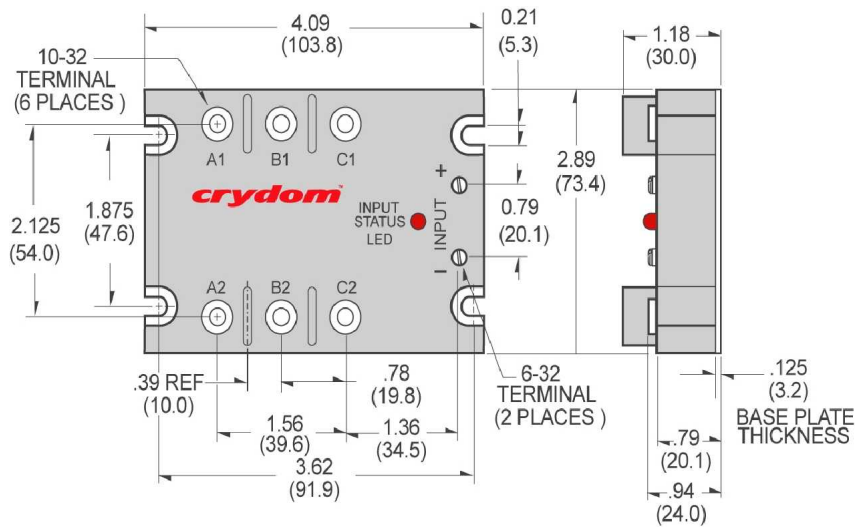
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 V DC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range	-40 to 80°C
Ambient Storage Temperature Range	-40 to 125 °C
Weight (typical)	10.3 oz (315g)
Encapsulation	Thermally conductive Epoxy
Terminals	Screws and Saddle Clamps Furnished, Unmounted
Recommended Terminal Screw Torque Range:	6-32 Screws - 10 in lbs. 8-32 and 10-32 Screws -20 in. lbs. Screws dry without grase)

GENERAL NOTES

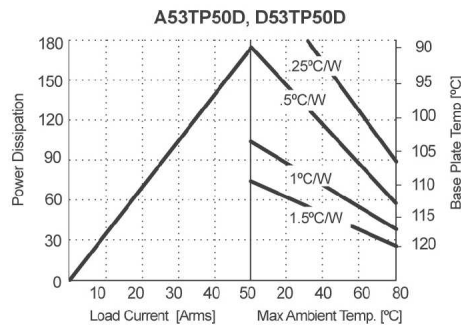
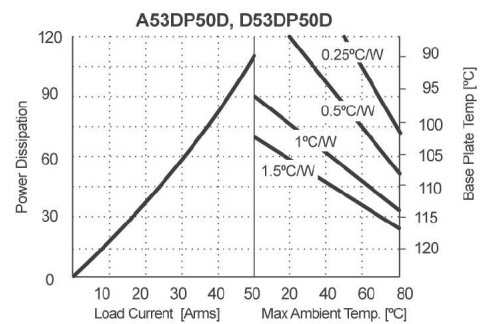
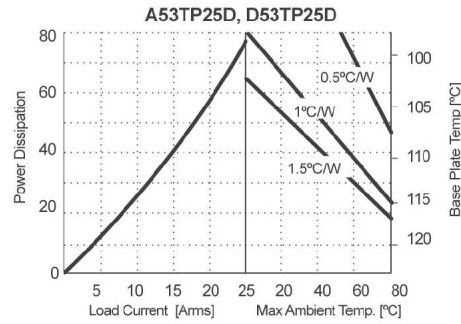
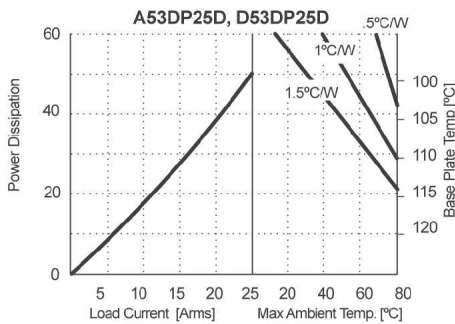
- 1) All parameters at 25°C unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- 4) Turn-on time for Random turn-on versions is 0.02 msec (DC Control Models)

MECHANICAL SPECIFICATIONS



All dimensions are in inches (millimeters)

THERMAL DERATE INFORMATION



AGENCY APPROVALS

UL E116950
CSA LR81689
VDE 5941 UG



Rev. 071108

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RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
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Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

CMD/CMA24 Series

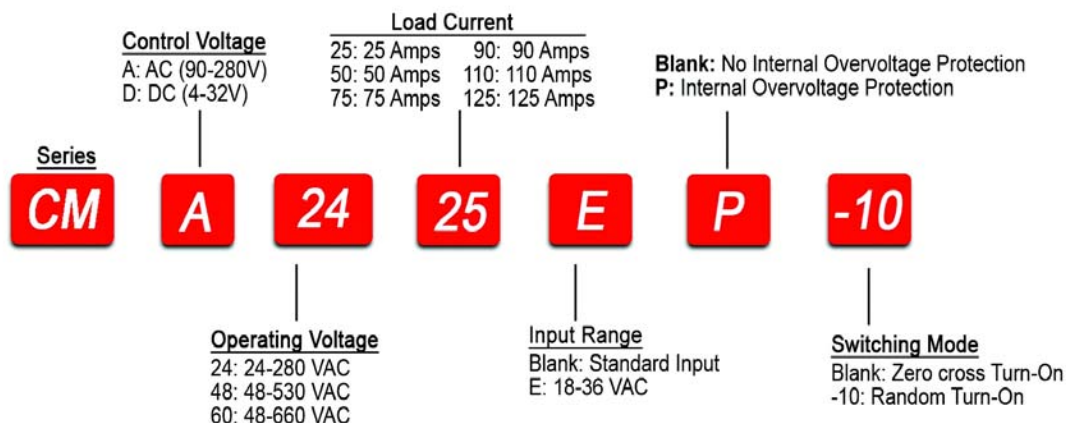


- Ratings from 25A to 125A @ 24-280 VAC
- SCR output for heavy industrial loads
- AC or DC control
- LED input status indicator
- Zero-crossing (resistive loads) or random-fire (inductive loads) output
- IP20 touch-safe housing
- Standard box-clamp connections

PRODUCT SELECTION

Control Voltage	25A	50A	75A	90A	110A	125A
3-32 VDC	CMD2425	CMD2450	CMD2475	CMD2490	CMD24110	CMD24125
90-140 VAC	CMA2425	CMA2450	CMA2475	CMA2490	CMA24110	CMA24125
18-36 VAC	CMA2425E	CMA2450E	CMA2475E	CMA2490E	CMA24110E	CMA24125E

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description	24-280	24-280	24-280	24-280	24-280	24-280
Operating Voltage (47-63Hz) [Vrms]	24-280	24-280	24-280	24-280	24-280	24-280
Transient Overvoltage [Vpk]	600	600	600	600	600	600
Maximum Off-State Leakage Current @ Rated Voltage [mA _{rms}]	10	10	10	10	10	10
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	500	500	500	500	500	500
Maximum Load Current (3) [A _{rms}]	25	50	75	90	110	125
Minimum Load Current [A _{rms}]	0.15	0.15	0.25	0.25	0.25	0.025
Maximum Surge Current (16.6ms) [A _{pk}]	250	625	1000	1200	1500	1750
Maximum On-State Voltage Drop @ Rated Current [V _{pk}]	1.6	1.6	1.6	1.6	1.6	1.6
Thermal Resistance Junction to Case [R _{jc}] [°C/W]	1.02	0.63	0.31	0.28	0.25	0.22
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	260	1620	4150	6000	9340	12700
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5	0.5	0.5	0.5

INPUT SPECIFICATIONS (1)

Description		
Control Voltage Range	3-32 VDC	90-140 Vrms
Maximum Reverse Voltage	32 VDC	-
Minimum Turn-On Voltage	3.0 VDC	90 Vrms
Minimum Turn-Off Voltage	1.0 VDC	10 Vrms
Maximum Input Current	30 mA	-
Typical Input current	17 mA @ 5 VDC	15 mA @ 120 Vrms
Maximum Turn-On Time [msec] (4)	1/2 Cycle	10
Maximum Turn-Off Time [msec]	1/2 Cycle	40

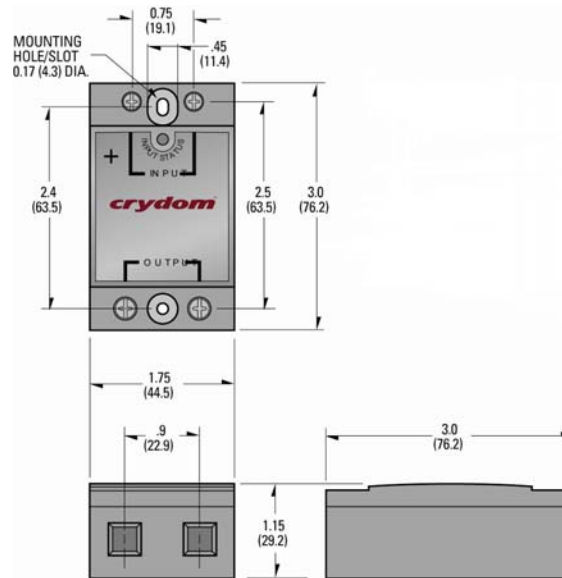
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 VDC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range	-40 to 80 °C
Ambient Storage Temperature Range	-40 to 125 °C
Status Indicating Display	Green LED
Weight (typical)	3.0 oz (86.5 g)
Encapsulation	Thermally conductive Epoxy
Terminals	Cage type
Maximum Wire Size-Output:	AWG 8 (3.8mm)
Maximum Wire Size-Input:	AWG 12 (2.5mm)
Recommended Terminal Screw Torque Range:	Output: 10-15 in lb (1.1-1.7 Nm) Input: 5-6 in lb (0.6-0.7 Nm)

GENERAL NOTES

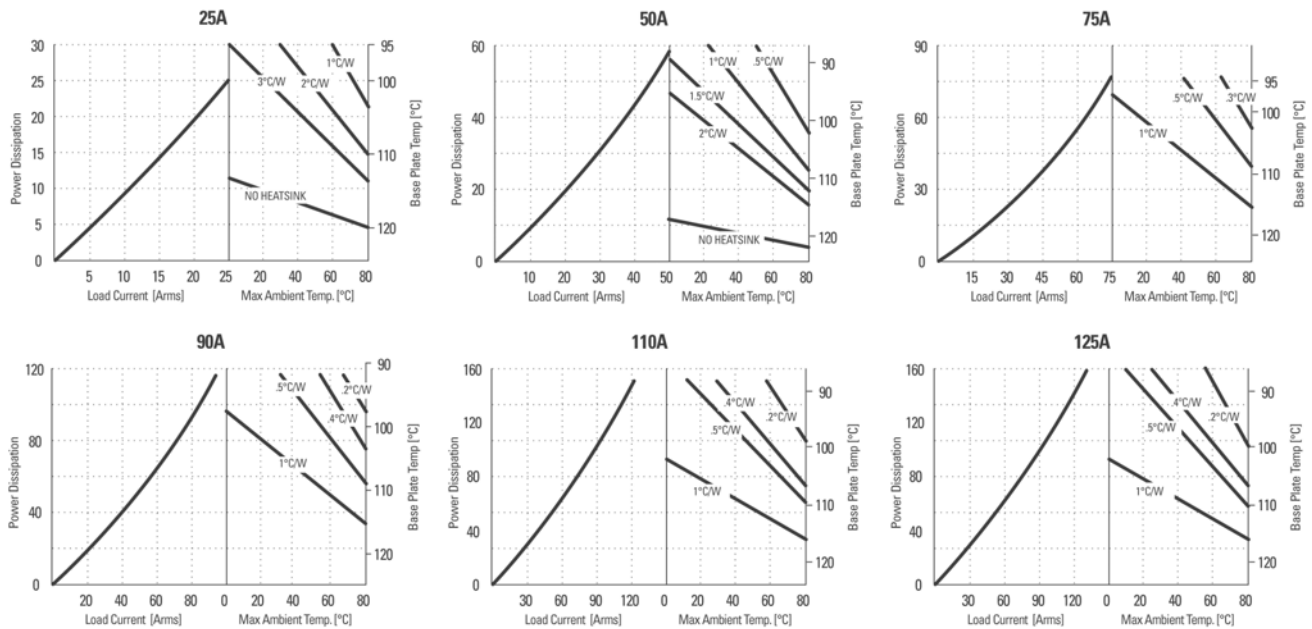
- 1) All parameters at 25°C unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- 3) HEAT SINKING REQUIRED, FOR DERATING curves see page 2.
- 4) Turn-on time for DC control random turn-on versions is 0.02msec
- 5) Input circuitry incorporates active current limiter

MECHANICAL SPECIFICATIONS



THERMAL DERATE INFORMATION

CURRENT DERATING CURVES



AGENCY APPROVALS

UL E116949, E116950
CSA LR81689
VDE 126921 UG (up to 90A models only)



Rev. 062508

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Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
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电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

CMD / CMA48 Series

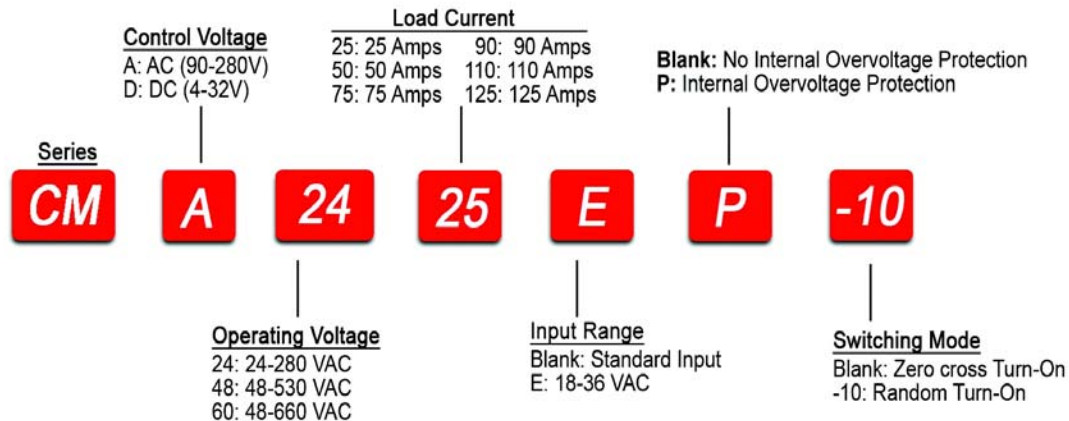


- Ratings from 25A to 125A @ 48-530 VAC
- SCR output for heavy industrial loads
- AC or DC control
- LED input status indicator
- Zero-crossing (resistive loads) or random-fire (inductive loads) output
- IP20 touch-safe housing
- Standard box-clamp connections

PRODUCT SELECTION

Control Voltage	25A	50A	75A	90A	110A	125A
4-32 VDC	CMD4825	CMD4850	CMD4875	CMD4890	CMD48110	CMD48125
90-140 VAC	CMA4825	CMA4850	CMA4875	CMA4890	CMA48110	CMA48125
18-36 VAC	CMA4825E	CMA4850E	CMA2475E	CMA4890E	CMA48110E	CMA48125E

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description	25A	50A	75A	90A	110A	125A
Operating Voltage (47-63Hz) [Vrms]	48-530	48-530	48-530	48-530	48-530	48-530
Transient Overvoltage [Vpk]	1200	1200	1200	1200	1200	1200
Maximum Off-State Leakage Current @ Rated Voltage [mA _{rms}]	10	10	10	10	10	10
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	500	500	500	500	500	500
Maximum Load Current (3) [A _{rms}]	25	50	75	90	110	125
Minimum Load Current [A _{rms}]	0.15	0.15	0.25	0.25	0.25	0.025
Maximum Surge Current (16.6ms) [A _{pk}]	250	625	1000	1200	1500	1750
Maximum On-State Voltage Drop @ Rated Current [V _{pk}]	1.6	1.6	1.6	1.6	1.6	1.6
Thermal Resistance Junction to Case [R _{jc}] [°C/W]	1.02	0.63	0.31	0.28	0.25	0.22
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	260	1620	4150	6000	9340	12700
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5	0.5	0.5	0.5

INPUT SPECIFICATIONS (1)

Description		
Control Voltage Range	3-32 VDC	90-140 Vrms
Maximum Reverse Voltage	32 VDC	-
Minimum Turn-On Voltage	3.0 VDC	90 Vrms
Minimum Turn-Off Voltage	1.0 VDC	10 Vrms
Maximum Input Current	30 mA (5)	-
Typical Input current	17 mA @ 5 VDC	15 mA @ 120 Vrms
Maximum Turn-On Time [msec] (4)	1/2 Cycle	10
Maximum Turn-Off Time [msec]	1/2 Cycle	40

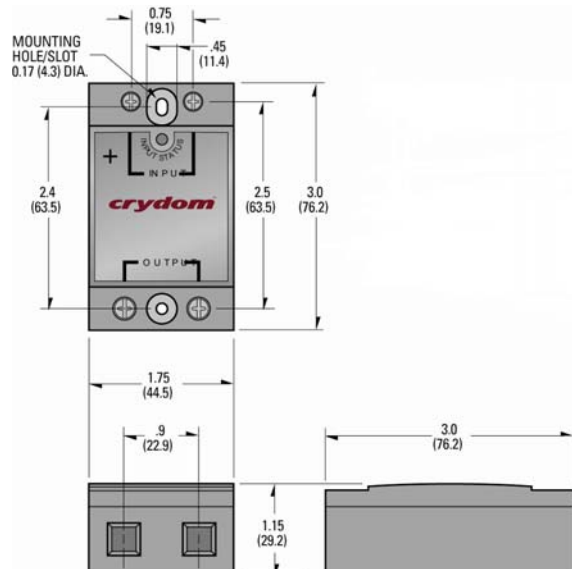
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 VDC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range	-40 to 80 °C
Ambient Storage Temperature Range	-40 to 125 °C
Status Indicating Display	Green LED
Weight (typical)	3.0 oz (86.5 g)
Encapsulation	Thermally conductive Epoxy
Terminals	Cage type
Maximum Wire Size-Output:	AWG 8 (3.8mm)
Maximum Wire Size-Input:	AWG 12 (2.5mm)
Recommended Terminal Screw Torque Range:	Output: 10-15 in lb (1.1-1.7 Nm) Input: 5-6 in lb (0.6-0.7 Nm)

GENERAL NOTES

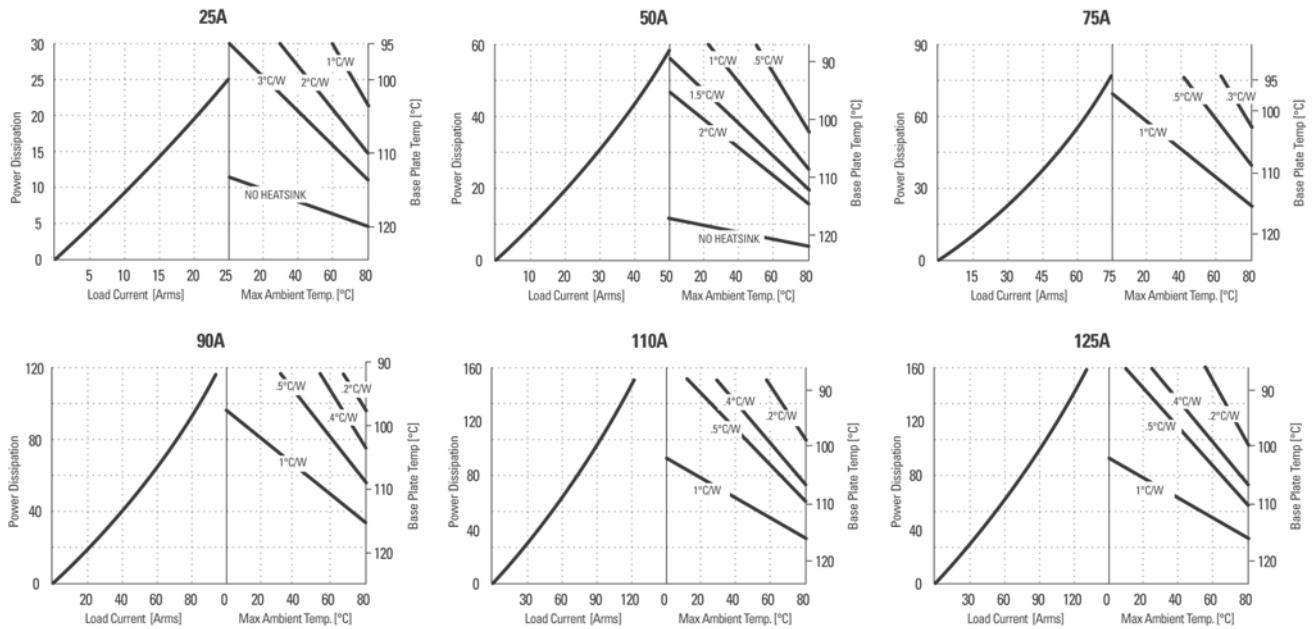
- 1) All parameters at 25°C unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- 3) HEAT SINKING REQUIRED, FOR DERATING curves see page 2.
- 4) Turn-on time for DC control random turn-on versions is 0.02msec
- 5) Input circuitry incorporates active current limiter.

MECHANICAL SPECIFICATIONS



THERMAL DERATE INFORMATION

CURRENT DERATING CURVES



AGENCY APPROVALS

CSA LR81689
VDE 126921 UG (up to 90A models only)



Rev. 070808

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⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.

⚠ WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

CMD / CMA60 Series

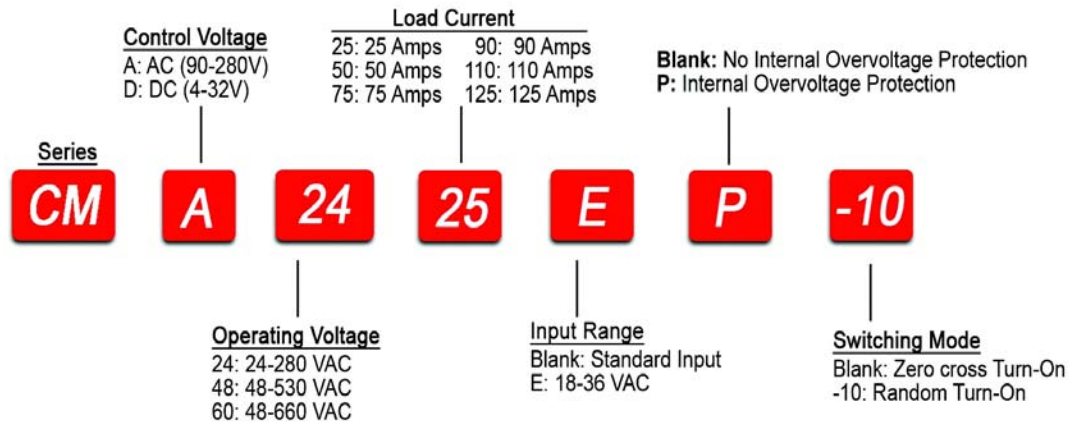


- Ratings from 25A to 125A @ 48-660 VAC
- SCR output for heavy industrial loads
- AC or DC control
- LED input status indicator
- Zero-crossing (resistive loads) or random-fire (inductive loads) output
- IP20 touch-safe housing
- Standard box-clamp connections
- Ratings from 25A to 125A @ 48-660 VAC

PRODUCT SELECTION

Control Voltage	25A	50A	75A	90A	110A	125A
4-32 VDC	CMD6025	CMD6050	CMD6075	CMD6090	CMD60110	CMD60125
90-140 Vrms	CMA6025	CMA6050	CMA6075	CMA6090	CMA60110	CMA60125
18-36 Vrms	CMA6025E	CMA6050E	CMA6075E	CMA6090E	CMA60110E	CMA60125E

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description	25A	50A	75A	90A	110A	125A
Operating Voltage (47-63Hz) [Vrms]	48-660	48-660	48-660	48-660	48-660	48-660
Transient Overvoltage [Vpk]	1200	1200	1200	1200	1200	1200
Maximum Off-State Leakage Current @ Rated Voltage [mA _{rms}]	1.0	1.0	1.0	1.0	1.0	1.0
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	500	500	500	500	500	500
Maximum Load Current (3) [A _{rms}]	25	50	75	90	110	125
Minimum Load Current [A _{rms}]	0.15	0.15	0.25	0.25	0.25	0.025
Maximum Surge Current (16.6ms) [A _{pk}]	250	625	1000	1200	1500	1750
Maximum On-State Voltage Drop @ Rated Current [V _{pk}]	1.6	1.6	1.6	1.6	1.6	1.6
Thermal Resistance Junction to Case (R _{jc}) [°C/W]	1.02	0.63	0.31	0.28	0.25	0.22
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	260	1620	4150	6000	9340	12700
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5	0.5	0.5	0.5

INPUT SPECIFICATIONS (1)

Description		
Control Voltage Range	3-32 VDC	90-140 Vrms
Maximum Reverse Voltage	32 VDC	-
Minimum Turn-On Voltage	3.0 VDC	90 Vrms
Minimum Turn-Off Voltage	1.0 VDC	10 Vrms
Maximum Input Current	30 mA(5)	-
Typical Input current	17 mA @ 5 VDC	15 mA @ 120 Vrms
Maximum Turn-On Time [msec] (4)		10
Maximum Turn-Off Time [msec]	1/2 Cycle	40

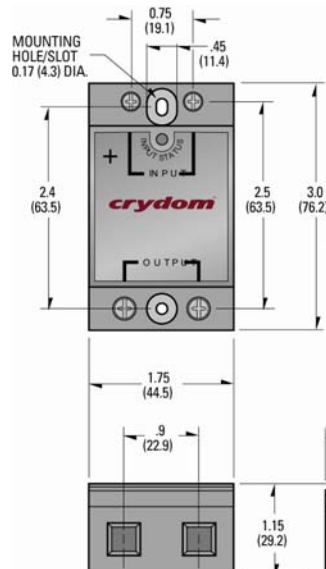
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 VDC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range	-40 to 80 °C
Ambient Storage Temperature Range	-40 to 125 °C
Status Indicating Display	Green LED
Weight (typical)	3.0 oz (86.5 g)
Encapsulation	Thermally conductive Epoxy
Terminals	Cage type
Maximum Wire Size-Output:	AWG 8 (3.8mm)
Maximum Wire Size-Input:	AWG 12 (2.5mm)
Recommended Terminal Screw Torque Range:	Output: 10-15 in lb (1.1-1.7 Nm) Input: 5-6 in lb (0.6-0.7 Nm)

GENERAL NOTES

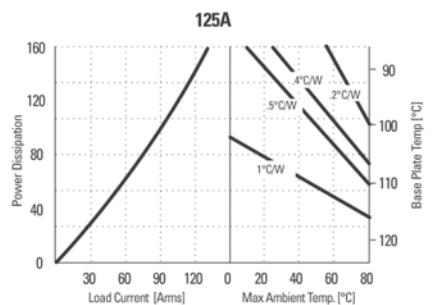
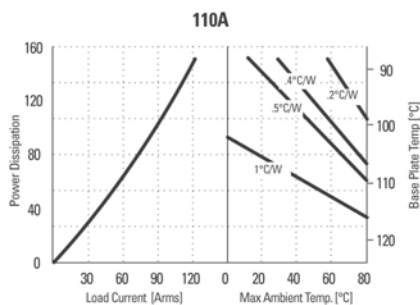
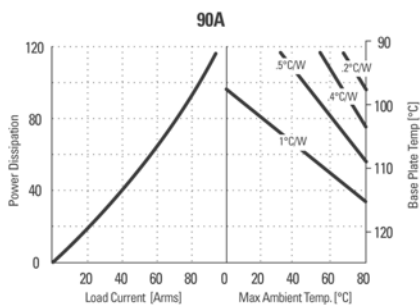
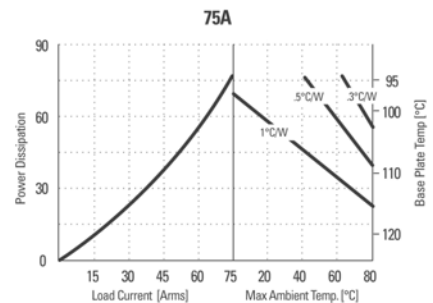
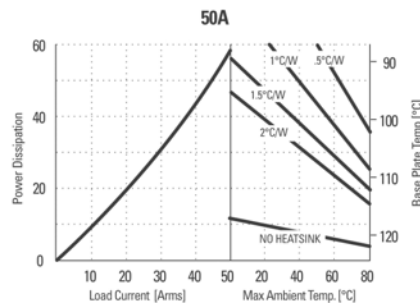
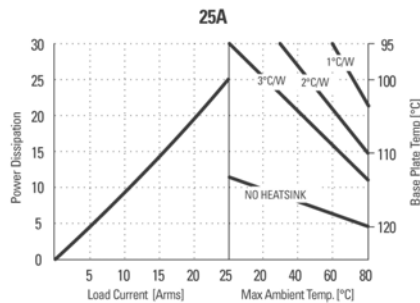
- 1) All parameters at 25°C unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- 3) HEAT SINKING REQUIRED, FOR DERATING curves see page 2.
- 4) Turn-on time for DC control random turn-on versions is 0.02msec
- 5) Input circuitry incorporates active current limiter.

MECHANICAL SPECIFICATIONS



THERMAL DERATE INFORMATION

CURRENT DERATING CURVES



AGENCY APPROVALS

UL E116949, E116950
CSA LR81689
VDE 126921 UG (up to 90A models only)



Rev. 062508

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⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.

⚠ WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

CSW Series

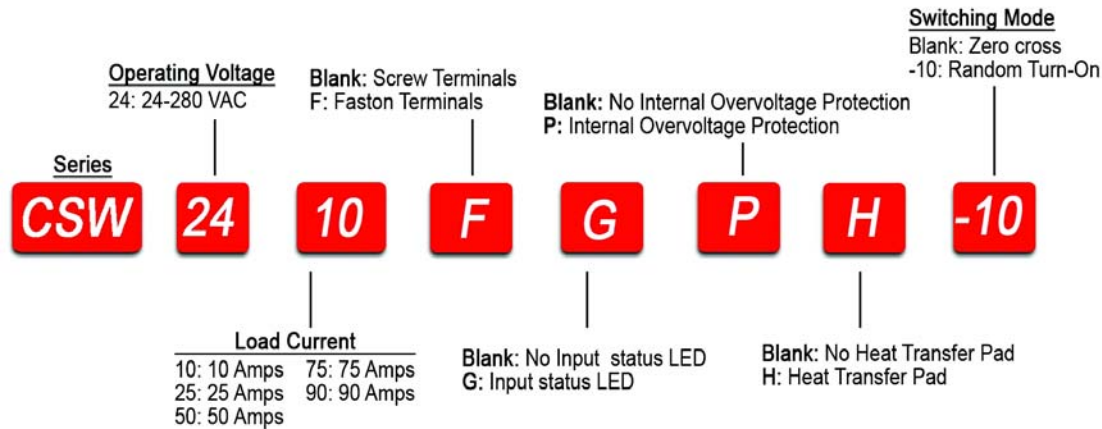


- Ratings from 10A to 90A @ 12-280 V AC
- 3-32 V DC input range
- Low off-state leakage current (snubberless)
- SCR output for heavy industrial loads
- Replaces the popular CSD/CSE series relays

PRODUCT SELECTION

Control Voltage	10A	25A	50A	75A	90A
3-32 VDC	CSW2410	CSW2425	CSW2450	CSW2475	CSW2490

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description	10A	25A	50A	75A	90A
Operating Voltage (47-63Hz) [Vrms]	24-280	24-280	24-280	24-280	24-280
Transient Overvoltage [Vpk]	600	600	600	600	600
Maximum Off-State Leakage Current @ Rated Voltage [mA _{rms}]	1.0	1.0	1.0	1.0	1.0
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	500	500	500	500	500
Maximum Load Current (3) [Arms]	10	25	50	75	90
Minimum Load Current [Arms]	0.15	0.15	0.15	0.25	0.25
Maximum Surge Current (16.6ms) [A _{pk}]	120	250	625	1000	1200
Maximum On-State Voltage Drop @ Rated Current [V _{pk}]	1.6	1.6	1.6	1.6	1.6
Thermal Resistance Junction to Case (R _{jc}) [°C/W]	1.48	1.02	0.63	0.31	0.28
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	60	260	1620	4150	6000
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5	0.5	0.5

INPUT SPECIFICATIONS (1)

Description	
Control Voltage Range	3-32 VDC
Minimum Turn-On Voltage	3 VDC
Minimum Turn-Off Voltage	1.0 VDC
Typical Input Current	10 mA @ 12 VDC
Nominal Input Impedance	See note 4
Maximum Turn-On Time [msec] (4)	1/2 Cycle
Maximum Turn-Off Time [msec]	1/2 Cycle

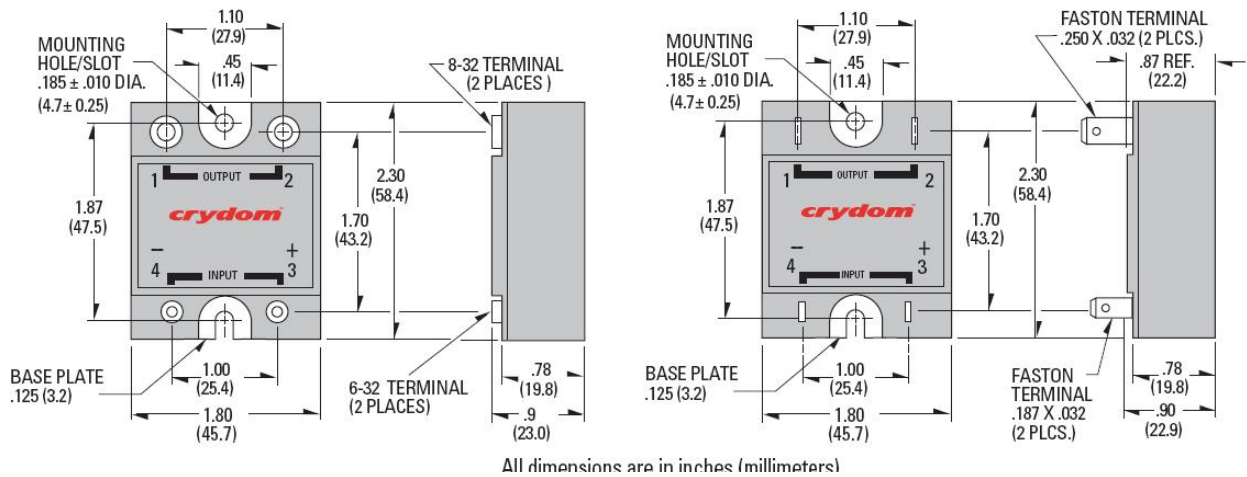
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 V DC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	10 pF
Ambient Operating Temperature Range	-40 to 80 °C
Ambient Storage Temperature Range	-40 to 125 °C
Weight (typical)	3.0 oz (86.5 g)
Encapsulation	Thermally conductive Epoxy
Terminals	Screws and Saddle Clamps Furnished, Unmounted
Recommended Terminal Screw Torque Range:	6-32 Screws - 10 in/lbs. 8-32 & 10-32 Screws - 20 in. lbs. (Screws dry without grease)
Fastons:	Single pair (up to 25A) Double pair* (up to 50A). *Caution: User must connect to both pairs

GENERAL NOTES

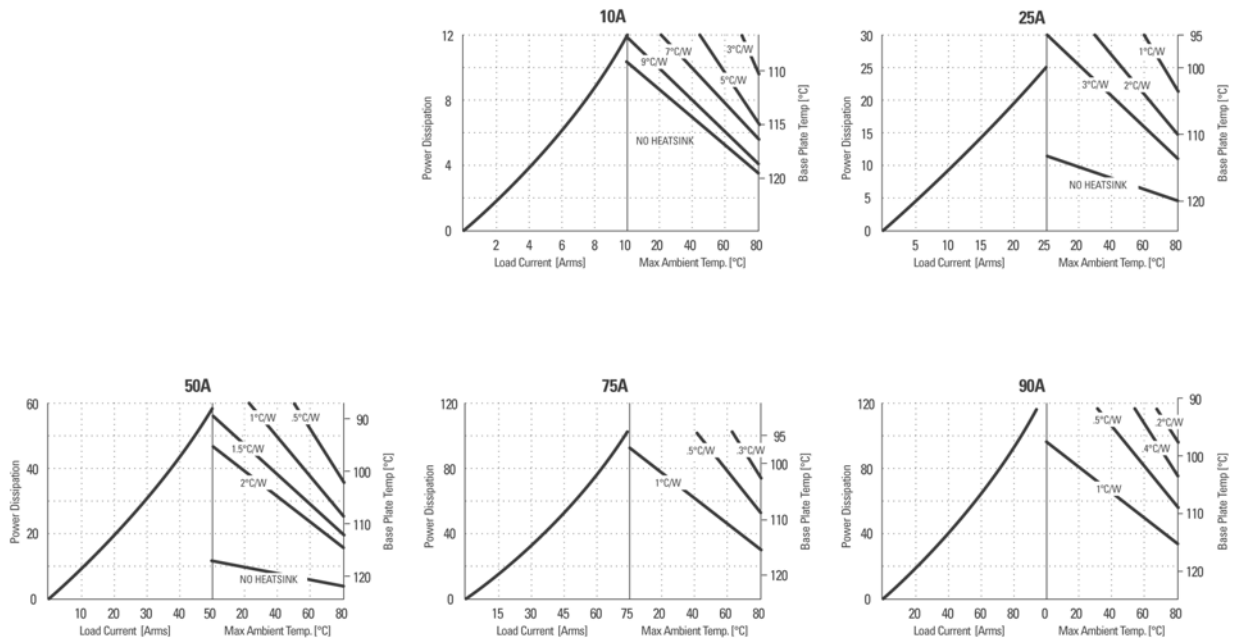
- 1) All parameters at 25°C unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- 3) Heat sinking required, for derating curves see page 2.
- 4) Turn-on time for random turn-on version (-10 suffix) is 0.1ms

MECHANICAL SPECIFICATIONS



THERMAL DERATE INFORMATION

CURRENT DERATING CURVES



AGENCY APPROVALS

UL E116949
CSA LR81689
VDE 10143 UG



Rev. 070908

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⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.	GEFAHR EINES ELEKTRISCHEN SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenda tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.

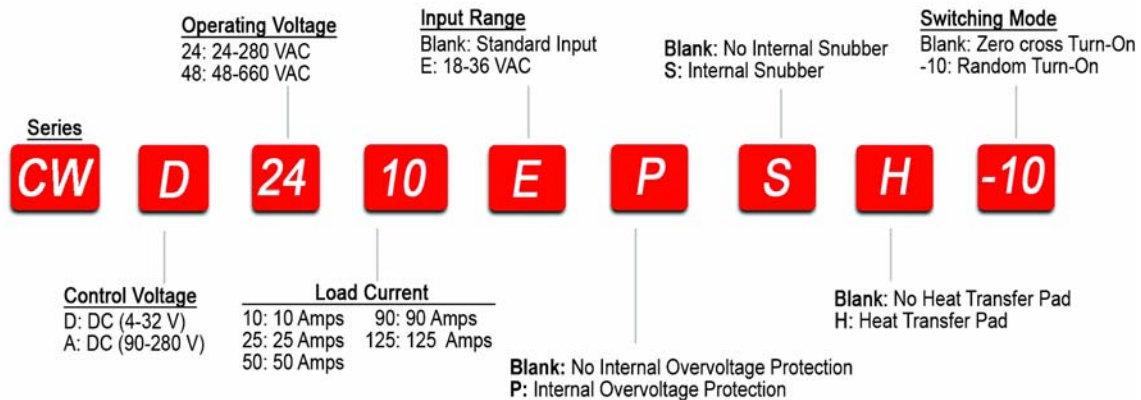
⚠ WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

CW24 Series



- The newest family to the SSR range; Ratings from 10A to 125A @ 12-660 V AC
- SCR output for heavy industrial loads
- EMC Compliant for reliable operation in harsh environments
- Removable IP 20 touch-safe cover
- DBC substrate for superior thermal performance
- LED input status indicator
- AC or DC input
- Zero-crossing (resistive loads) or random-fire (inductive loads) output

PRODUCT SELECTION



Description	10A	25A	50A	90A	125A
3-32 VDC	CWD2410	CWD2425	CWD2450	CWD2490	CWD24125
90-280 Vrms	CWA2410	CWA2425	CWA2450	CWA2490	CWA24125
18-36 Vrms	CWA2410E	CWA2425E	CWA2450E	CWA2490E	CWA24125E

OUTPUT SPECIFICATIONS (1)

Description	10A	25A	50A	90A	125A
Operating Voltage (47-63Hz) [Vrms]	24-280	24-280	24-280	24-280	24-280
Transient Overvoltage [Vpk]	600	600	600	600	600
Maximum Off-State Leakage Current @ Rated Voltage [mA] (6)	1	1	1	1	1
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	500	500	500	500	500
Maximum Load Current (3) [Arms]	10	25	50	90	125
Minimum Load Current [Arms]	0.15	0.15	0.15	0.25	0.25
Maximum Surge Current (16.6ms) [A _{pk}]	400	600	850	1350	2000
Maximum Surge Current (20ms) [A _{pk}]	380	570	810	1290	1900
Maximum On-State Voltage Drop @ Rated Current [V _{pk}]	1.3	1.3	1.3	1.3	1.25
Thermal Resistance Junction to Case (R _{jc}) [°C/W]	0.35	0.35	0.2	0.14	0.13
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	660	1500	3000	7560	16600
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5	0.5	0.5

INPUT SPECIFICATIONS (1)

Description			
Control Voltage Range	3-32 VDC	90-280 Vrms	18-36 Vrms
Minimum Turn-On Voltage	3 VDC	90 Vrms	18 Vrms
Minimum Turn-Off Voltage	1.0 VDC	10 Vrms	2 Vrms
Typical Input Current	10 mA @ 12 VDC	6 mA @ 120 Vrms	24 mA @ 24 Vrms
Nominal Input Impedance	See note 7	21.5 Ohms	1.0 Ohm
Maximum Turn-On Time [msec] (4)(5)	1/2 Cycle	1/2 Cycle	1/2 Cycle
Maximum Turn-Off Time [msec] (5)	1/2 Cycle	1/2 Cycle	1/2 Cycle

GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 VDC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range	-40 to 80 °C
Ambient Storage Temperature Range	-40 to 125 °C
Weight (typical)	3.0 oz (86.5 g)
Encapsulation	Thermally conductive Epoxy
Terminals	Screw Type, Finger Proof Output: 8-32, Combo Drive Input: 6-32, Combo Drive
Max. Torque	Output: 20 in lb (2.2Nm) Input: 10 in lb (1.1Nm)
Max. Wire Size	Output: 2 x AWG 8 (3.8mm) Input: 2 x AWG 12 (2.5mm)

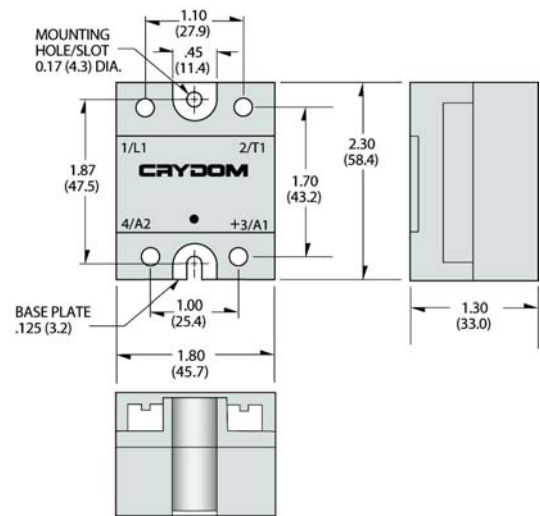
GENERAL NOTES

- 1) All parameters at 25°C unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- 3) Heat sinking required, for derating curves see page 2.
- 4) Turn-on time for random turn-on version is 0.02 msec.
- 5) Turn-on and turn-off time for AC input models is 50 ms.
- 6) 10mA for models with snubber.
- 7) Input circuit incorporates active current limiter.

MECHANICAL SPECIFICATIONS

EMC Compatibility

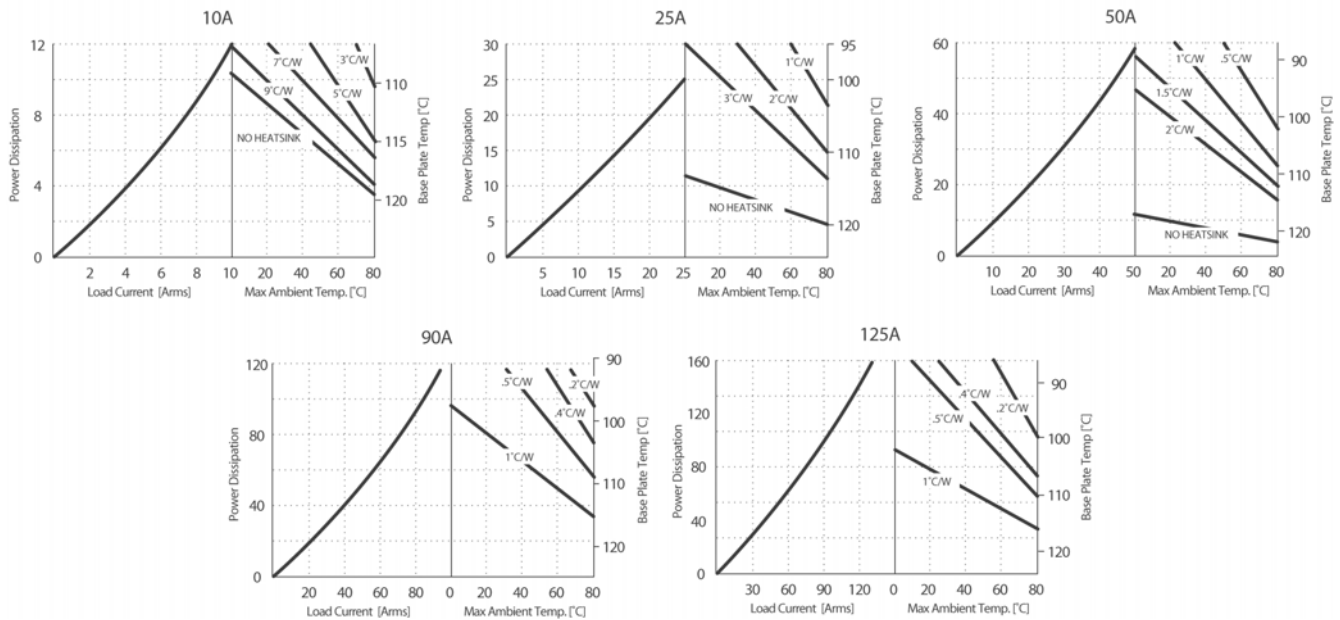
Input: EN61000-4-2, Level 3 ESD
EN61000-4-4, Level 3 Burst
Output: EN61000-4-2, Level 3 ESD
Level 4 ESD (with P option)
EN61000-4-4, Level 3 Burst
Level 4 Burst (with P option)
EN61000-4-5, Level 4 Surge



All dimensions are in inches (millimeters)

THERMAL DERATE INFORMATION

CURRENT DERATING CURVES



AGENCY APPROVALS

UL E116949
CSA 1405925
VDE 40007242



Rev. 062508

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HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.

⚠ WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

CW48 Series

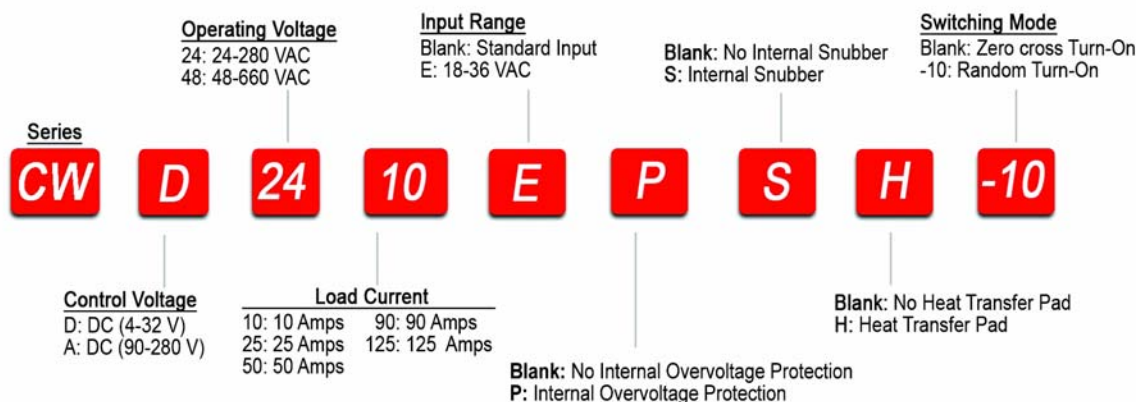


- The newest family to the SSR range; Ratings from 10A to 125A @ 12-660 VAC
- SCR output for heavy industrial loads
- EMC Compliant for reliable operation in harsh environments
- Removable IP 20 touch-safe cover
- DBC substrate for superior thermal performance
- LED input status indicator
- AC or DC input

PRODUCT SELECTION

Control Voltage	10A	25A	50A	90A	125A
3-32 VDC	CWD4810	CWD4825	CWD4850	CWD4890	CWD48125
90-280 Vrms	CWA4810	CWA4825	CWA4850	CWA4890	CWA48125
18-36 Vrms	CWA4810E	CWA4825E	CWA4850E	CWA4890E	CWA48125E

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description	10A	25A	50A	90A	125A
Operating Voltage (47-63Hz) [Vrms]	48-660	48-660	48-660	48-660	48-660
Transient Overvoltage [Vpk]	1200	1200	1200	1200	1200
Maximum Off-State Leakage Current @ Rated Voltage [mA rms] (6)	1.0	1.0	1.0	1.0	1.0
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	500	500	500	500	500
Maximum Load Current (3) [A rms]	10	25	50	90	125
Minimum Load Current [A rms]	0.15	0.15	0.15	0.25	0.25
Maximum Surge Current (16.6ms) [A pk]	400	600	850	1350	2000
Maximum Surge Current (20ms) [A pk]	380	570	810	1290	1900
Maximum On-State Voltage Drop @ Rated Current [V pk]	1.3	1.3	1.3	1.3	1.25
Thermal Resistance Junction to Case (Rjc) [°C/W]	0.35	0.35	0.2	0.14	0.13
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	660	1500	3000	7560	16600
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5	0.5	0.5

INPUT SPECIFICATIONS (1)

Description			
Control Voltage Range	3-32 VDC	18-36 Vrms	90-280 Vrms
Minimum Turn-On Voltage	3 VDC	18 Vrms	90 Vrms
Minimum Turn-Off Voltage	1.0 VDC	2 Vrms	10 Vrms
Typical Input Current	10 mA @ 12 VDC	24 mA @ 24 Vrms	6 mA @ 120 Vrms
Nominal Input Impedance	See note 7	1.0 k Ohm	21.5 k Ohms
Maximum Turn-On Time [msec] (4)(5)	1/2 Cycle	1/2 Cycle	1/2 Cycle
Maximum Turn-Off Time [msec] (5)	1/2 Cycle	1/2 Cycle	1/2 Cycle

GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 V DC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range	-40 to 80 °C
Ambient Storage Temperature Range	-40 to 125 °C
Weight (typical)	3.0 oz (86.5 g)
Encapsulation	Thermally conductive Epoxy
Terminals	Screw Type, Finger Proof Output: 8-32, Combo Drive Input: 6-32, Combo Drive
Max. Torque	Output: 20 in lb (2.2Nm) Input: 10 in lb (1.1Nm)
Max. Wire Size	Output: 2 x AWG 8 (3.8mm) Input: 2 x AWG 12 (2.5mm)

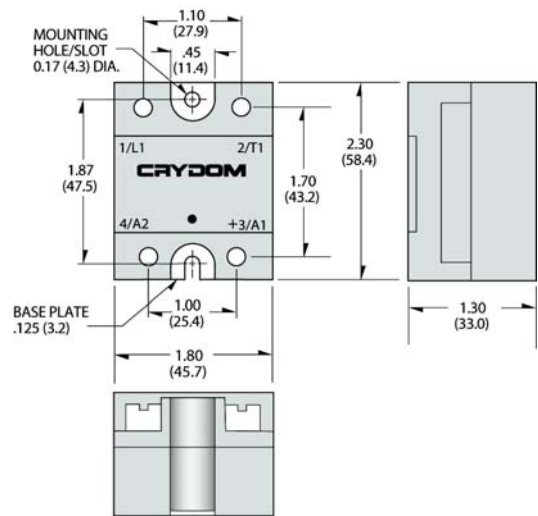
GENERAL NOTES

- 1) All parameters at 25°C unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- 3) Heat sinking required, for derating curves see page 2.
- 4) Turn-on time for random turn-on version is 0.02 msec.
- 5) Turn-on and turn-off time for AC input models is 50 ms.
- 6) 10mA for models with snubber.
- 7) Input circuit incorporates active current limiter.
- 8) 48-530 VRMS for models with snubber.

MECHANICAL SPECIFICATIONS

EMC Compatibility

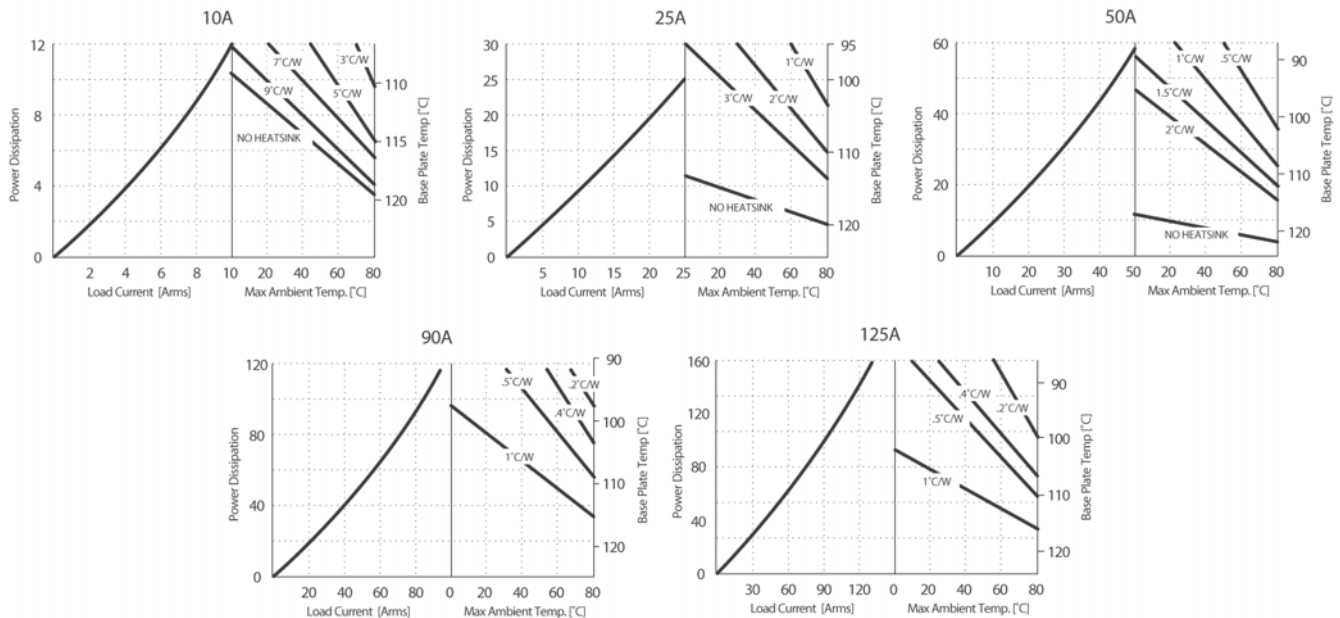
Input: EN61000-4-2, Level 3 ESD
EN61000-4-4, Level 3 Burst
Output: EN61000-4-2, Level 3 ESD
Level 4 ESD (with P option)
EN61000-4-4, Level 3 Burst
Level 4 Burst (with P option)
EN61000-4-5, Level 4 Surge



All dimensions are in inches (millimeters)

THERMAL DERATE INFORMATION

CURRENT DERATING CURVES



AGENCY APPROVALS

UL E116949
CSA 1405925
VDE 40007242



Rev. 071008

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HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.

⚠ WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

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Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

D06D Series



- MOSFET output
- Ratings from 60A to 100A @ 60 VDC
- DC control
- Relays are easily paralleled for higher-current applications

PRODUCT SELECTION

Control Voltage	60A	80A	100A
3.5-32 VDC	D06D60	D06D80	D06D100

OUTPUT SPECIFICATIONS (1)

Description			
Operating Voltage (47-63Hz) [Vrms]	0-60 VDC	0-60 VDC	0-60 VDC
Maximum Off-State Leakage Current @ Rated Voltage [mArms]	0.1	0.2	0.3
Maximum On-State Resistance @ Rated Current [RDS-ON][Ohms]	0.010	0.008	0.005
Maximum Load Current (3) [Arms]	60	80	100
Minimum Load Current [mArms]	5	5	5
Maximum Surge Current (16.6ms) [Apk]	180	220	270
Maximum On-State Voltage Drop @ Rated Current [Vpk]	0.6	0.7	0.5
Thermal Resistance Junction to Case (Rjc) [°C/W]	0.6	0.47	0.32

INPUT SPECIFICATIONS (1)

Description	DC Control
Control Voltage Range	3.5-32 VDC
Maximum Turn-On Voltage	3.5 VDC
Minimum Turn-Off Voltage	1.0 VDC
Maximum Input Current	1.6 mA (5 VDC), 28 mA (32 VDC)
Nominal Input Impedance	See Note 4
Maximum Turn-On Time [µsec]	300
Maximum Turn-Off Time [µsec]	1.0

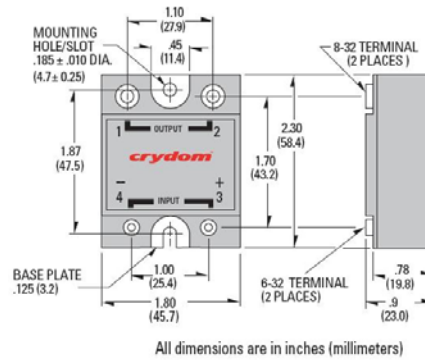
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	2500 Vrms
Minimum Insulation Resistance (@ 500 V DC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	50 pF
Ambient Operating Temperature Range	-30 to 80°C
Ambient Storage Temperature Range	-40 to 125 °C
Weight (typical)	3.0 oz (86.5g)
Encapsulation	Thermally conductive Epoxy
Terminals	Screws and Saddle Clamps Furnished, Unmounted
Recommended Terminal Screw Torque Range:	6-32 Screws - 10 in lbs. 8-32 and 10-32 Screws -20 in. lbs. (Screws dry without grase)

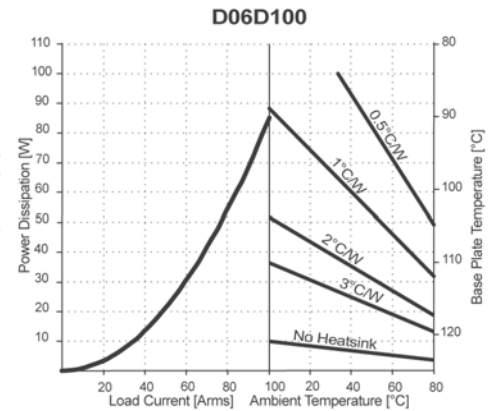
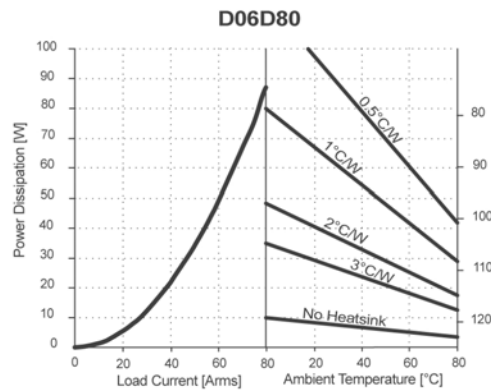
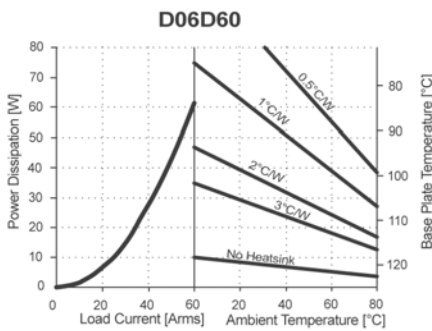
GENERAL NOTES

- 1) All parameters at 25°C unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- 3) Heat sinking required, for derating curves see page 2.
- 4) Input circuitry incorporates active current limiter

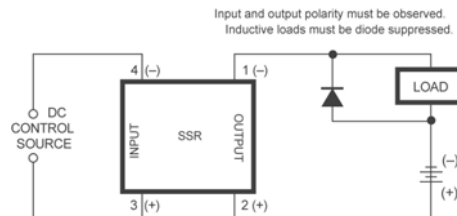
MECHANICAL SPECIFICATIONS



THERMAL DERATE INFORMATION



WIRING DIAGRAM



 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

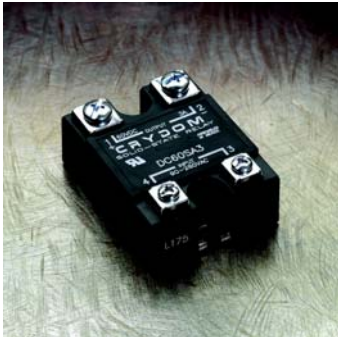
Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

DC60 Series

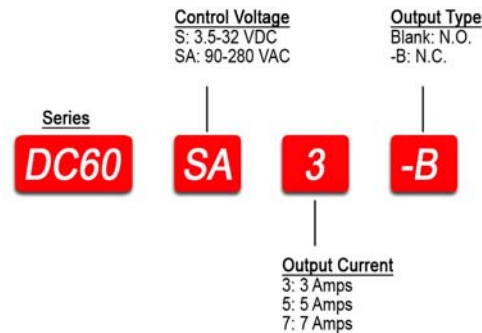


- Bi-polar transistor output
- Ratings from 3A to 7A @ 60 VDC
- AC or DC control

PRODUCT SELECTION

Control Voltage	3A	5A	7A
3.5-32 VDC	DC60S3	DC60S5	DC60S7
90-280 VAC	DC60SA3	DC60SA5	DC60SA7

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description	3A	5A	7A
Operating Voltage (47-63Hz) [VDC]	3-60	3-60	3-60
Maximum Off-State Leakage Current @ Rated Voltage [mAmps]	0.1	0.1	0.1
Maximum Load Current (2) [ADC]	3	5	7
Minimum Load Current [Arms]	0.02	0.02	0.02
Maximum Surge Current (16.6ms) [Apk]	6	10	14
Maximum On-State Voltage Drop @ Rated Current [Vpk]	1.3	1.5	1.7
Thermal Resistance Junction to Case (Rjc) [°C/W]	2.2	2.2	2.2

INPUT SPECIFICATIONS (1)

Description	DC Control	AC Control
Control Voltage Range	3.5-32 VDC	90-280 Vrms
Maximum Turn-On Voltage	3.5 VDC	90 Vrms
Minimum Turn-Off Voltage	1.0 VDC	10 Vrms
Typical Input Current	2.2 mA @ 5 VDC	2 mA @ 120 Vrms, 4 mA @ 240 Vrms
Nominal Input Impedance	1500 Ohm	60K
Maximum Turn-On Time [msec]	0.1	10
Maximum Turn-Off Time [msec]	0.3	40

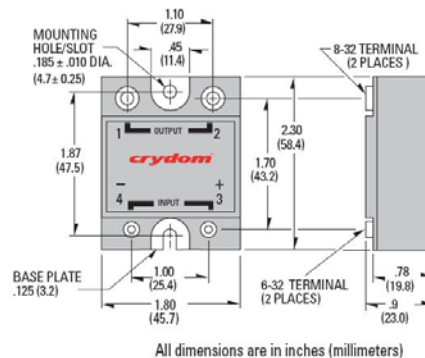
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz) [Vrms]	4000
Minimum Insulation Resistance (@ 500 V DC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range	-30 to 80 °C
Ambient Storage Temperature Range	-40 to 125 °C
Weight (typical)	3.0 oz (86.5g)
Encapsulation	Thermally conductive Epoxy
Terminals	Screws and Saddle Clamps Furnished, Unmounted
Recommended Terminal Screw Torque Range:	6-32 Screws - 10 in lbs. 8-32 and 10-32 Screws -20 in. lbs. (Screws dry without grase)

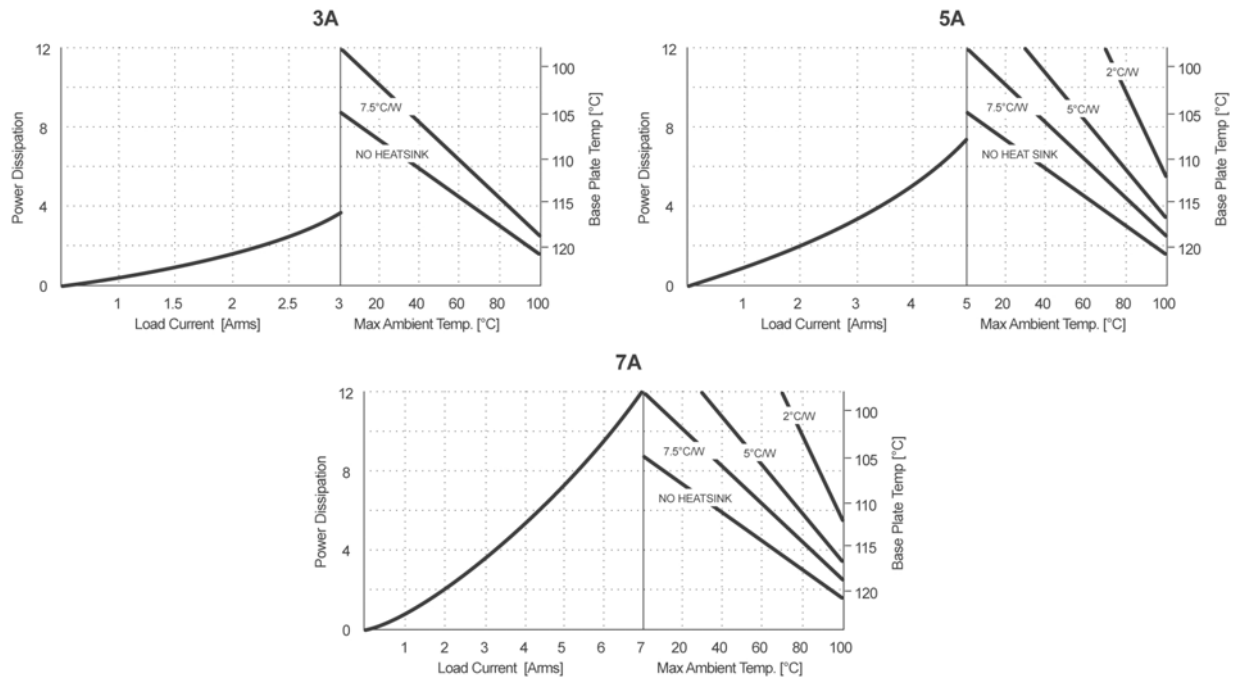
GENERAL NOTES

- 1) All parameters at 25°C unless otherwise specified.
- 2) Heat sinking required, see derating curves.

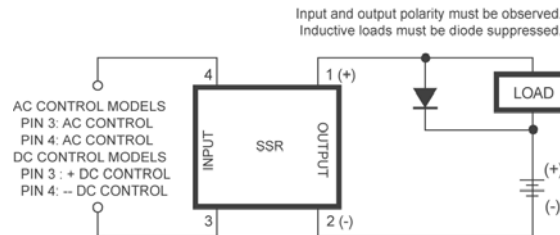
MECHANICAL SPECIFICATIONS



THERMAL DERATE INFORMATION



WIRING DIAGRAM



 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

DUAL

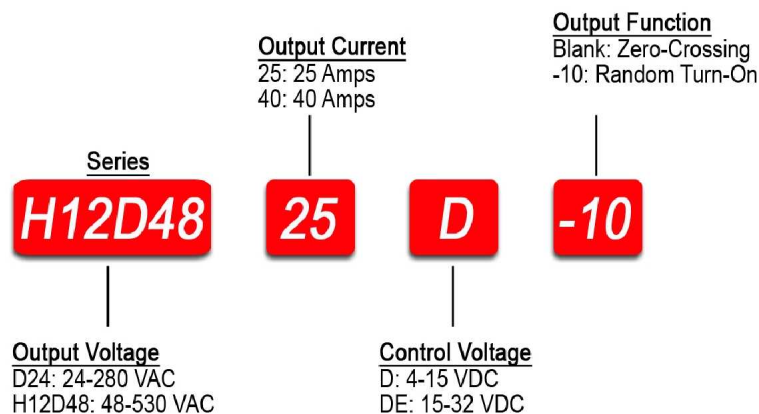


- Independently controlled dual output solid-state relay
- Ratings from 25A to 40A @ 24-530 VAC
- Industry standard package
- SCR output for heavy industrial loads
- DC Control
- Zero-crossing (resistive loads) or random-fire (inductive loads) output

PRODUCT SELECTION

Control Voltage	25A	40A
4-15 VDC	D2425D	D2440D
15-32 VDC	D2425DE	D2440DE
4-15 VDC	H12D4825D	H12D4840D
15-32 VDC	H12D4825DE	H12D4840DE

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description	24-280	24-280	48-530	48-530
Operating Voltage (47-63Hz) [Vrms]	24-280	24-280	48-530	48-530
Transient Overvoltage [Vpk]	600	600	1200	1200
Maximum Off-State Leakage Current @ Rated Voltage [mA _{rms}]	10	10	10	10
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	500	500	500	500
Maximum Load Current (3) [A _{rms}]	25	40	25	40
Minimum Load Current [A _{rms}]	0.15	0.15	0.15	0.15
Maximum Surge Current (16.6ms) [A _{pk}]	250	625	250	625
Maximum On-State Voltage Drop @ Rated Current [V _{pk}]	1.6	1.6	1.6	1.6
Thermal Resistance Junction to Case (R _{jc}) [°C/W]	1.02	0.63	1.02	0.63
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	260	1620	260	1620
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5	0.5

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INPUT SPECIFICATIONS (1)

Description	D24XXD	H12D48XXD	E-SUFFIX
Control Voltage Range	4-15 VDC	4-15 VDC	15-32 VDC
Maximum Turn-On Voltage	4.0 VDC	4.0 VDC	15.0 VDC
Minimum Turn-Off Voltage	1.0 VDC	1.0 VDC	1.0 VDC
Typical Input Current @ 5 VDC (@ 24 VDC for E-Suffix)	13 mA	13 mA	15 mA
Nominal Input Impedance	300 Ohm	240 Ohm	1500 Ohm
Maximum Turn-On Time [msec] (4)	1/2 cycle	1/2 cycle	1/2 cycle
Maximum Turn-Off Time [msec]	1/2 cycle	1/2 cycle	1/2 cycle

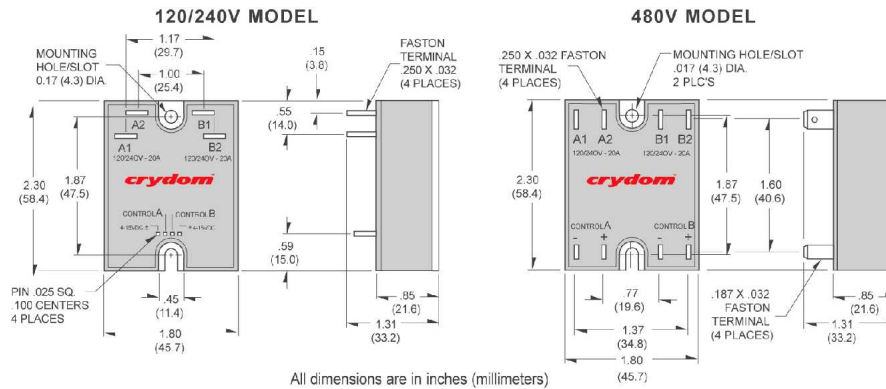
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 V DC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	10 pF
Ambient Operating Temperature Range	-40 to 80°C
Ambient Storage Temperature Range	-40 to 125 °C
Weight (typical)	3.0 oz (86.5g)
Encapsulation	Thermally conductive Epoxy
Terminals	.25" Fastons, .025" Square Pins

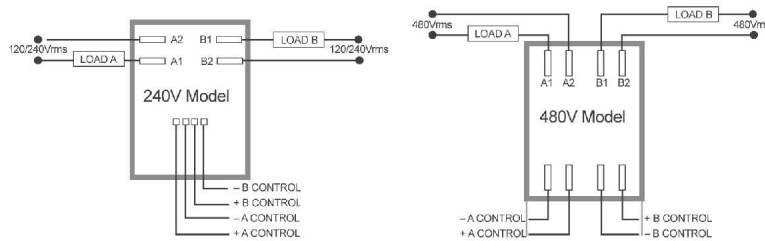
GENERAL NOTES

- 1) All parameters at 25°C and per section unless otherwise specified.
- 3) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- 3) Heat sinking required, for derating curves see next page.
- 4) Turn-on time for random turn-on (-10) versions is 0.1 msec

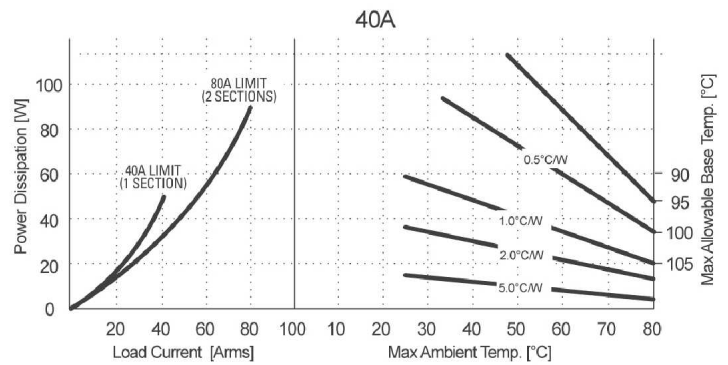
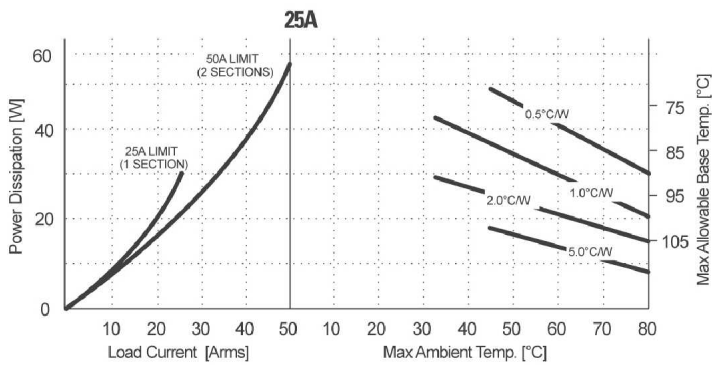
MECHANICAL SPECIFICATIONS



WIRING DIAGRAM



THERMAL DERATE INFORMATION



AGENCY APPROVALS

UL E116949
CSA LR81689 (240 V only)
VDE 5902 UG



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Rev. 071408

 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

Quad

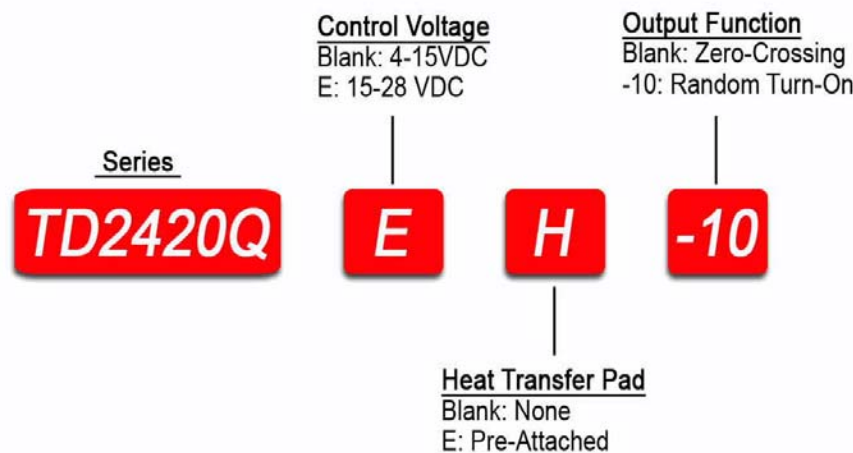


- Industry standard package
- SCR output for heavy industrial loads
- DC Control
- Zero-crossing (resistive loads) or random-fire (inductive loads) output

PRODUCT SELECTION

Control Voltage	20A
4-15 VDC	TD2420Q
15-28 VDC	TD2420QE

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description	
Operating Voltage (47-63Hz) [VRMS]	24-280
Transient Overvoltage [Vpk]	600
Maximum Off-State Leakage Current @ Rated Voltage [mArms]	10
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	200
Maximum Load Current (3) [Arms]	20
Minimum Load Current [Arms]	0.15
Maximum Surge Current (16.6ms) [Apk]	250
Maximum On-State Voltage Drop @ Rated Current [Vpk]	1.6
Thermal Resistance Junction to Case (Rjc) [°C/W]	1.2
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	260
Minimum Power Factor (with Maximum Load)	0.5

INPUT SPECIFICATIONS (1)

Description		
Control Voltage Range	4-15 VDC	15-28 VDC
Maximum Turn-On Voltage	4.0 VDC	15.0 VDC
Minimum Turn-Off Voltage	1.0 VDC	1.0 VDC
Typical Input Current	12 mA	15 mA
Nominal Input Impedance	330 Ohm	1500 Ohm
Maximum Turn-On Time [msec] (4)	1/2 cycle	1/2 cycle
Maximum Turn-Off Time [msec]	1/2 cycle	1/2 cycle

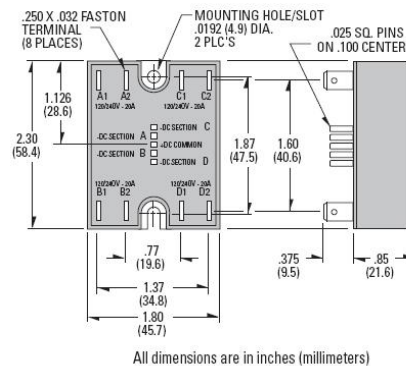
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	2500 VRMS
Minimum Insulation Resistance (@ 500 V DC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	10 pF
Ambient Operating Temperature Range	-40 to 80°C
Ambient Storage Temperature Range	-40 to 125 °C
Weight (typical)	3.5 oz (109g)
Encapsulation	Thermally conductive Epoxy
Terminals	.25" Fastons, .025" Square Pins

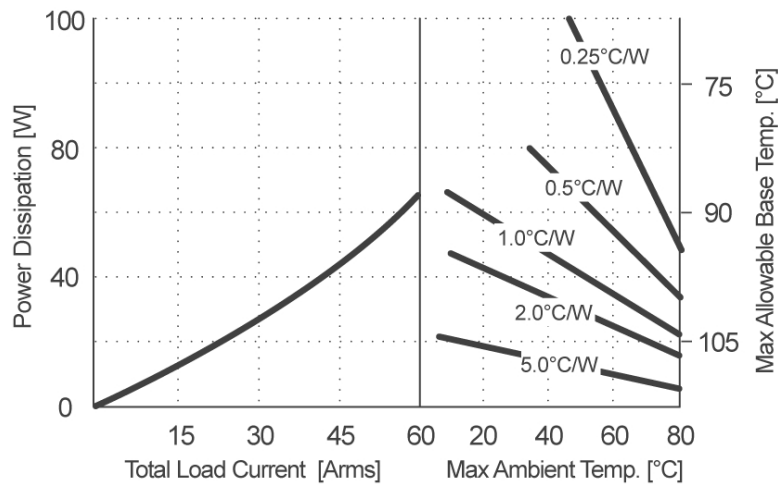
GENERAL NOTES

- 1) All parameters at 25°C and per section unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- 3) Heat sinking required, max. 20A per section, max 60A per package.
- 4) Turn-on time for random turn-on versions is 0.1 msec

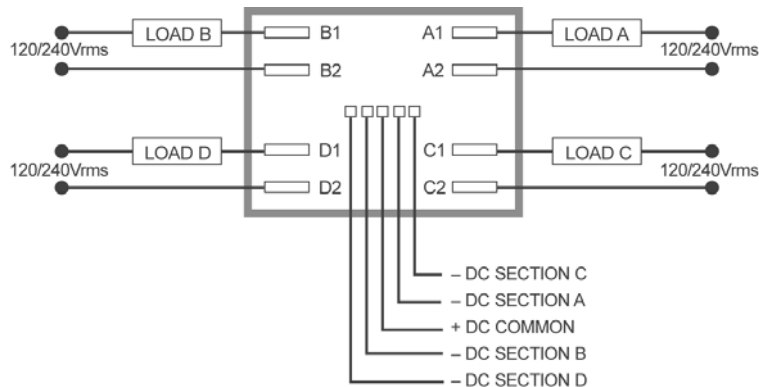
MECHANICAL SPECIFICATIONS



THERMAL DERATE INFORMATION



WIRING DIAGRAM



AGENCY APPROVALS

UL E116949
CSA LR81689



Rev. 121808

 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor der Inbetriebnahme alle Anschlüsse überprüfen und alle Gehäuseteile montieren. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenda tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

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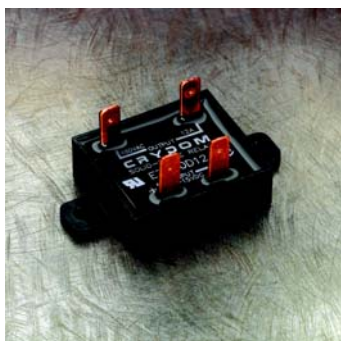
Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

EZ Series

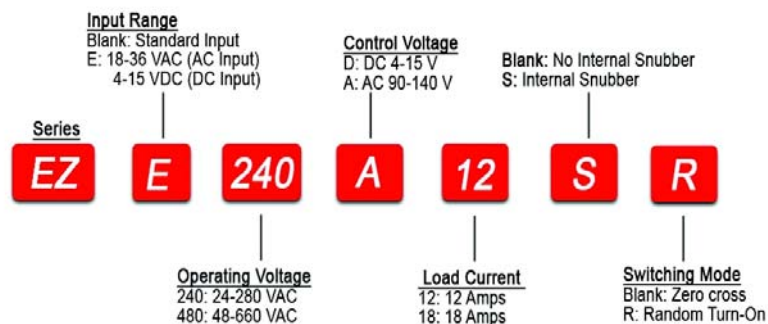


- Compact design for low-profile applications; Ratings from 5A to 18A @ 600 VAC
- SCR output for heavy industrial loads
- AC or DC control
- 1/4" fast-on terminals for easy installation

PRODUCT SELECTION

Control Voltage	5A	12A	18A
4-15 VDC	EZ240D5	EZ240D12	EZ240D18
15-32 VDC		EZE240D12	EZE240D18
90-140 Vrms		EZ240A12	EZ240A18
18-36 Vrms		EZE240A12	EZE240A18
4-15 VDC		EZ480D12	EZ480D18
15-32 VDC		EZE480D12	EZE480D18
90-140 Vrms		EZ480A12	EZ480A18
18-36 Vrms		EZE480A12	EZE480A18

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description	24-280	24-280	24-280	48-660	48-660
Operating Voltage (47-63Hz) [Vrms]	24-280	24-280	24-280	48-660	48-660
Transient Overvoltage [Vpk]	600	600	600	1200	1200
Maximum Off-State Leakage Current @ Rated Voltage [mA rms](5)	0.1	0.1	0.1	0.1	0.1
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	500	500	500	500	500
Maximum Load Current (4) [A rms]	5	12	18	12	18
Minimum Load Current [mA rms]	150	150	150	150	150
Maximum Surge Current (16.6ms) [A pk]	40	150	200	150	200
Maximum On-State Voltage Drop @ Rated Current [Vpk]	1.5	1.5	1.5	1.5	1.5
Thermal Resistance Junction to Case (Rjc) [°C/W]	2	2	1.1	2	1.1
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	95	95	170	95	170
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5	0.5	0.5

For Contact information visit our web site.

www.crydom.com

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 Specifications subject to change without notice.

INPUT SPECIFICATIONS (1)

Description	EZ240D5	EZ240Dxx	EZ480Dxx	EZExxxDxx	EZxxxAxx	EZExxxAxx
Control Voltage Range	4-15 VDC	3-15 VDC	4-15 VDC	15-32 VDC	90-140 Vrms	18-36 Vrms
Minimum Turn-On Voltage	4.0 VDC	3.0 VDC	4.0 VDC	15.0 VDC	90.0 Vrms	18.0 Vrms
Minimum Turn-Off Voltage	1.0 VDC	1.0 VDC	1.0 VDC	1.0 VDC	10.0 Vrms	2.0 Vrms
Typical Input Current @ Nominal Voltage	13 mAdc	15 mAdc	15 mAdc	15 mAdc	10 mAdc	10 mAdc
Nominal Input Impedance	300 Ohm	300 Ohm	240 Ohm	1500 Ohm	10.6 k Ohm	1.8 k Ohm
Maximum Turn-On Time [msec] (6)	1/2 Cycle	1/2 Cycle	1/2 Cycle	1/2 Cycle	10	10
Maximum Turn-Off Time [msec]	1/2 Cycle	1/2 Cycle	1/2 Cycle	1/2 Cycle	40	40

GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)(3)	4000 Vrms *
Minimum Insulation Resistance (@ 500 V DC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range	-40 to 80 °C
Ambient Storage Temperature Range	-40 to 125 °C
Weight (typical)	1.5 oz (43 g)
Encapsulation	Thermally conductive Epoxy
Terminals	0.25 Inch Faston

GENERAL NOTES

- 1) All parameters at 25°C unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- 3) 240V, DC control models only, all others 2500VRMS
- 4) Heat sinking required, for derating curves see page 2.
- 5) Off- state leakage for snubbed version (suffix S) is 10.0mArms
- 6) Turn-on time for random turn-on versions is 0.1 msec (DC Control Models).

MECHANICAL SPECIFICATIONS

*240, DC Control Models Only

DC CONTROL

PIN 1: AC LOAD

PIN 2: AC LOAD

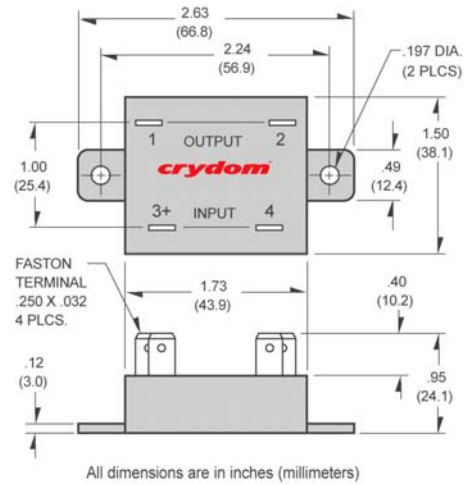
PIN 3: +DC CONTROL

PIN 4: -DC CONTROL

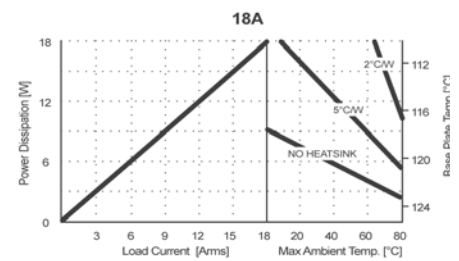
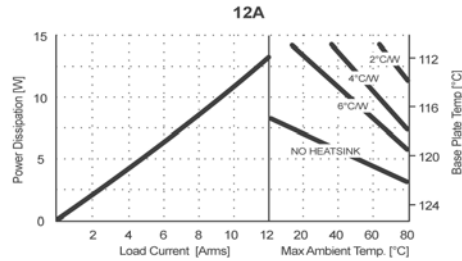
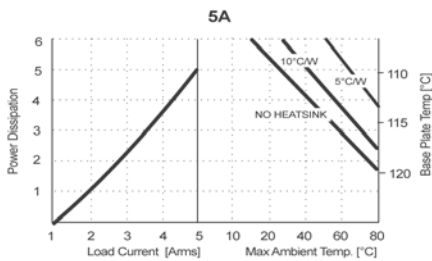
Note:

Recommended torque for mounting Screw is 8 – 14 in lb (1.1 – 1.6 Nm)

This assumes a standard # 8-32 UNC screw



THERMAL DERATE INFORMATION



AGENCY APPROVALS

UL E116950

CSA LR81689

VDE 10139 UG (240 VDC Control Only)



Rev. 062708

⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.

⚠ WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
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Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

H12C Series

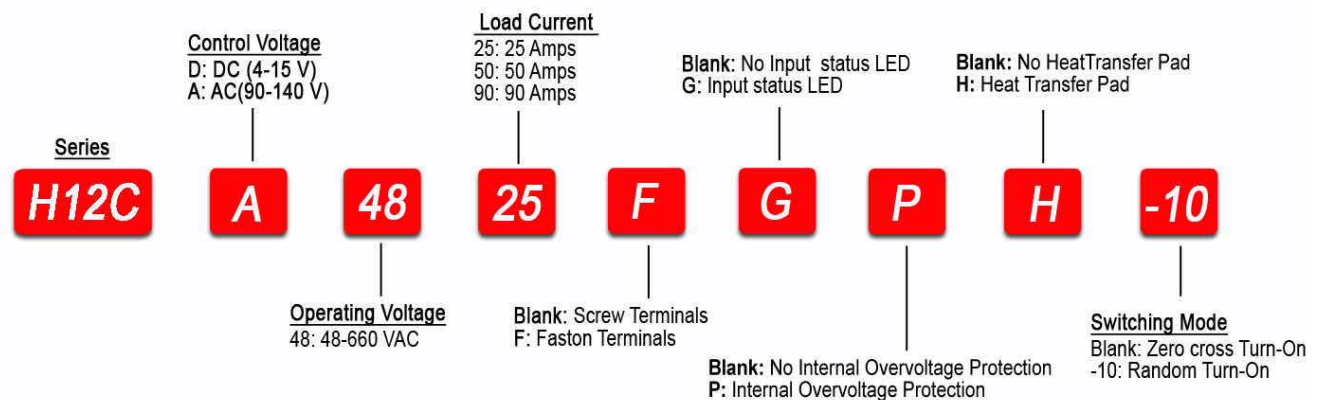


- Ratings from 25A to 125A @ 48-660 VAC
- SCR output for heavy industrial loads
- AC or DC control
- Zero-crossing (resistive loads) or random-fire (inductive loads) output

PRODUCT SELECTION

Control Voltage	25A	50A	90A
4-15 VDC	H12CD4825	H12CD4850	H12CD4890
90-140 Vrms	H12CA4825	H12CA4850	H12CA4890

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description			
Operating Voltage (47-63Hz) [Vrms]	48-660	48-660	48-660
Transient Overvoltage [Vpk]	1200	1200	1200
Maximum Off-State Leakage Current @ Rated Voltage [mArms]	1.0	1.0	1.0
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	500	500	500
Maximum Load Current (3) [Arms]	25	50	90
Minimum Load Current [mArms]	150	150	150
Maximum Surge Current (16.6ms) [Apk]	250	625	1200
Maximum On-State Voltage Drop @ Rated Current [Vpk]	1.6	1.6	1.6
Thermal Resistance Junction to Case (Rjc) [°C/W]	1.02	0.63	0.28
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	260	1620	6000
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5

INPUT SPECIFICATIONS (1)

Description		
Control Voltage Range	4-15 VDC	90-140 Vrms
Minimum Turn-On Voltage	4.0 VDC	90 VAC
Minimum Turn-Off Voltage	1.0 VDC	10.0 VAC
Typical Input Current	15 mA	15 mA
Nominal Input Impedance	300 Ohm	8k Ohm
Maximum Turn-On Time [msec] (4)	1/2 Cycle	10
Maximum Turn-Off Time [msec]	1/2 Cycle	40

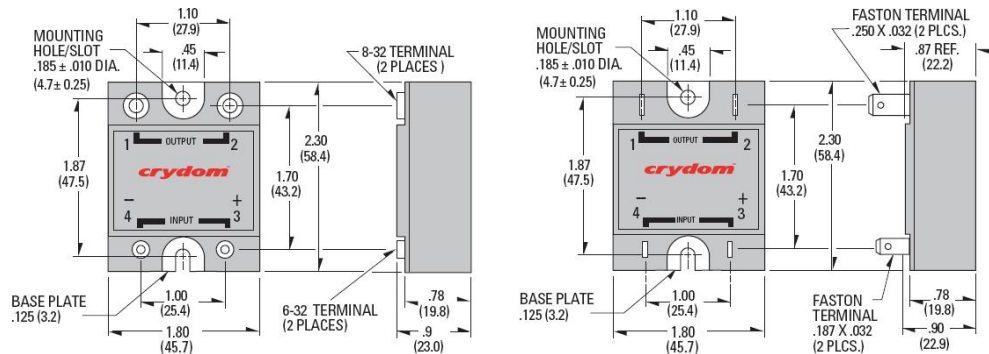
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 V DC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range	-40 to 80 °C
Ambient Storage Temperature Range	-40 to 125 °C
Weight (typical)	3 oz (86.5 g)
Encapsulation	Thermally conductive Epoxy
Terminals	Screw and saddle Clamps Furnished, Unmounted
Recommended Terminal Screw Torque Range:	6-32 Screws - 10 in/lbs. 8-32 & 10-32 Screws - 20 in. lbs. (Screws dry without grease)
Fastons:	Double pair* (50A model only) Caution: User must connect to both pairs

GENERAL NOTES

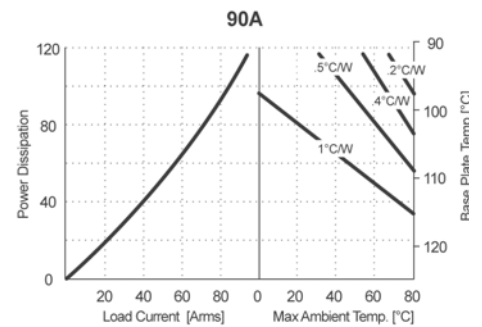
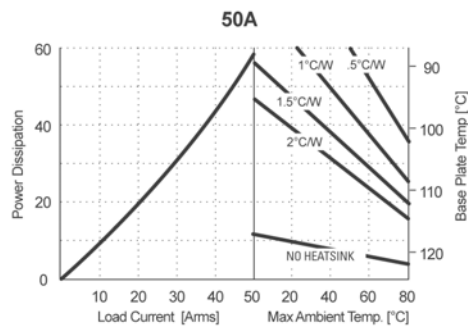
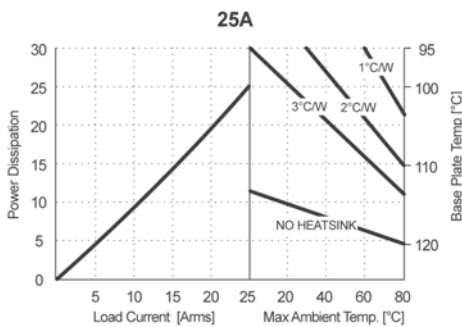
- 1) All parameters at 25°C unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- 3) Heat sinking required, for derating curves see page 2.
- 4) Turn-on time for DC random turn-on versions is 0.02 msec (DC Control Models).

MECHANICAL SPECIFICATIONS



All dimensions are in inches (millimeters)

THERMAL DERATE INFORMATION



AGENCY APPROVALS

UL E116949
CSA LR81689
VDE 10143 UG



Rev. 062708

⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.

⚠ WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

H12 Series

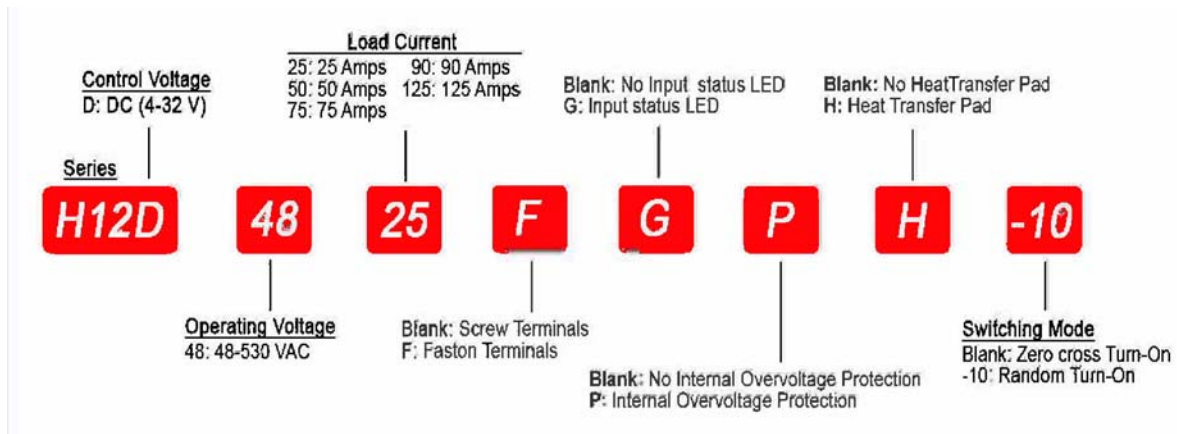


- Ratings from 25A to 125A @ 48-660 V AC
- SCR output for heavy industrial loads
- AC or DC control
- Zero-crossing (resistive loads) or random-fire (inductive loads) output

PRODUCT SELECTION

Control Voltage	25A	50A	75A	90A	125A
4-32 VDC	H12D4825	H12D4850	H12D4875	H12D4890	H12D48125

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description	25A	50A	75A	90A	125A
Operating Voltage (47-63Hz) [Vrms]	48-530	48-530	48-530	48-530	48-530
Transient Overvoltage [Vpk]	1200	1200	1200	1200	1200
Maximum Off-State Leakage Current @ Rated Voltage [mA _{rms}]	10	10	10	10	10
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	500	500	500	500	500
Maximum Load Current (3) [A _{rms}]	25	50	75	90	125
Minimum Load Current [mA _{rms}]	150	150	150	150	150
Maximum Surge Current (16.6ms) [A _{pk}]	250	625	1000	1200	1750
Maximum On-State Voltage Drop @ Rated Current [V _{pk}]	1.6	1.6	1.6	1.6	1.7
Thermal Resistance Junction to Case (R _{jc}) [°C/W]	1.02	0.63	0.31	0.28	0.22
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	260	1620	4150	6000	12700
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5	0.5	0.5

INPUT SPECIFICATIONS (1)

Description	DC Control
Control Voltage Range	4-32 VDC
Maximum Turn-On Voltage	4.0 VDC
Minimum Turn-Off Voltage	1.0 VDC
Typical Input Current	15 mADC (5)
Nominal Input Impedance	See Note 5
Maximum Turn-On Time [msec] (4)	1/2 Cycle
Maximum Turn-Off Time [msec]	1/2 Cycle

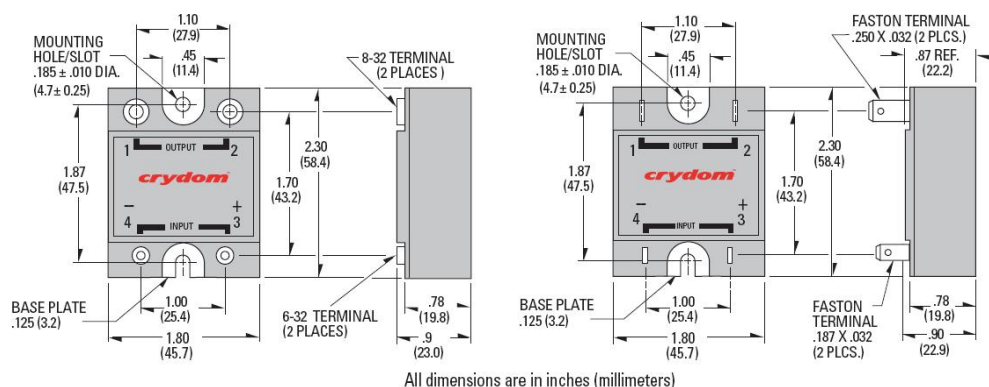
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 V DC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range	-40 to 80 °C
Ambient Storage Temperature Range	-40 to 125 °C
Weight (typical)	3 oz (86.5 g)
Encapsulation	Thermally conductive Epoxy
Terminals	Screw and saddle Clamps Furnished, Unmounted
Recommended Terminal Screw Torque Range:	6-32 Screws - 10 in/lbs. 8-32 & 10-32 Screws - 20 in. lbs. (Screws dry without grease)
Fastons:	Single pair (up to 25A) Double pair* (50A model only) Caution: User must connect to both pairs

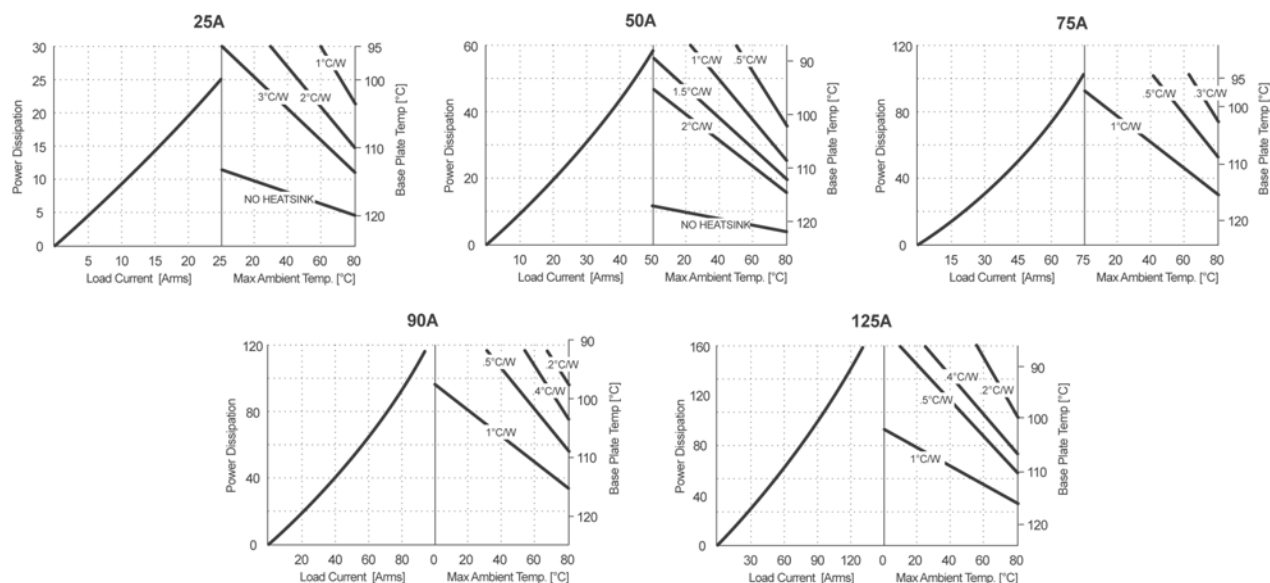
GENERAL NOTES

- 1) All parameters at 25°C and per section unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- 3) Heat sinking required, for derating curves see page 2.
- 4) Turn-on time for DC control random turn-on versions is 0.02 msec
- 5) Input circuitry version incorporates active current limiter.
- 6) Only 125A model CE Compliant.

MECHANICAL SPECIFICATIONS



THERMAL DERATE INFORMATION



AGENCY APPROVALS

UL E116949
CSA LR81689
VDE 10143 UG



Rev. 063008

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 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环保信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

HA / HD48 Series

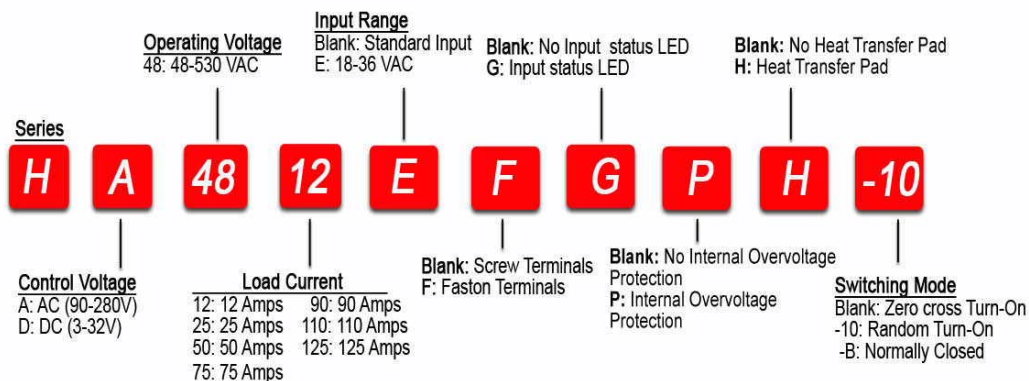


- Ratings from 12A to 125A @ 48-530 VAC
- SCR output for heavy industrial loads
- AC or DC control
- Zero-crossing (resistive loads) or random-fire (inductive loads) output

PRODUCT SELECTION

Control Voltage	12A	25A	50A	75A	90A	110A	125A
3-32 VDC	HD4812	HD4825	HD4850	HD4875	HD4890	HD48110	HD48125
90-280 Vrms	HA4812	HA4825	HA4850	HA4875	HA4890	HA48110	HA48125
18-36 Vrms	HA4812E	HA4825E	HA4850E	HA4875E	HA4890E	HA48110E	HA48125E

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description	48-530	48-530	48-530	48-530	48-530	48-530	48-530
Operating Voltage (47-63Hz) [Vrms]	48-530	48-530	48-530	48-530	48-530	48-530	48-530
Transient Overvoltage [Vpk]	1200	1200	1200	1200	1200	1200	1200
Maximum Off-State Leakage Current @ Rated Voltage [mArms]	10	10	10	10	10	10	10
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	500	500	500	500	500	500	500
Maximum Load Current (3) [Arms]	12	25	50	75	90	110	125
Minimum Load Current [mArms]	40	40	40	40	40	150	150
Maximum Surge Current (16.6ms) [Apk]	140	250	625	1000	1200	1500	1750
Maximum On-State Voltage Drop @ Rated Current [Vpk]	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Thermal Resistance Junction to Case [Rjc] [°C/W]	1.48	1.02	0.63	0.31	0.28	0.25	0.22
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	81	260	1620	4150	6000	9340	12700
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5	0.5	0.5	0.5	0.5

INPUT SPECIFICATIONS (1)

Description	D PREFIX	A PREFIX	E PREFIX
Control Voltage Range	3-32 VDC	90-280 Vrms	18-36 Vrms
Maximum Turn-On Voltage	3.0 VDC	90 Vrms	18 Vrms
Minimum Turn-Off Voltage	1.0 VDC	10 Vrms	4.0 Vrms
Maximum Reverse Voltage	-32 VDC	-	-
Typical Input Current	2.0 mA (6)	2 mA @ 120 Vrms, 4mA @ 240 Vrms	3 mA @ 240 Vrms
Nominal Input Impedance	See Note 6	60 K ohms	9.0 K ohms
Maximum Turn-On Time [msec] (5)	1/2 Cycle	10	10
Maximum Turn-Off Time [msec]	1/2 Cycle	40	40

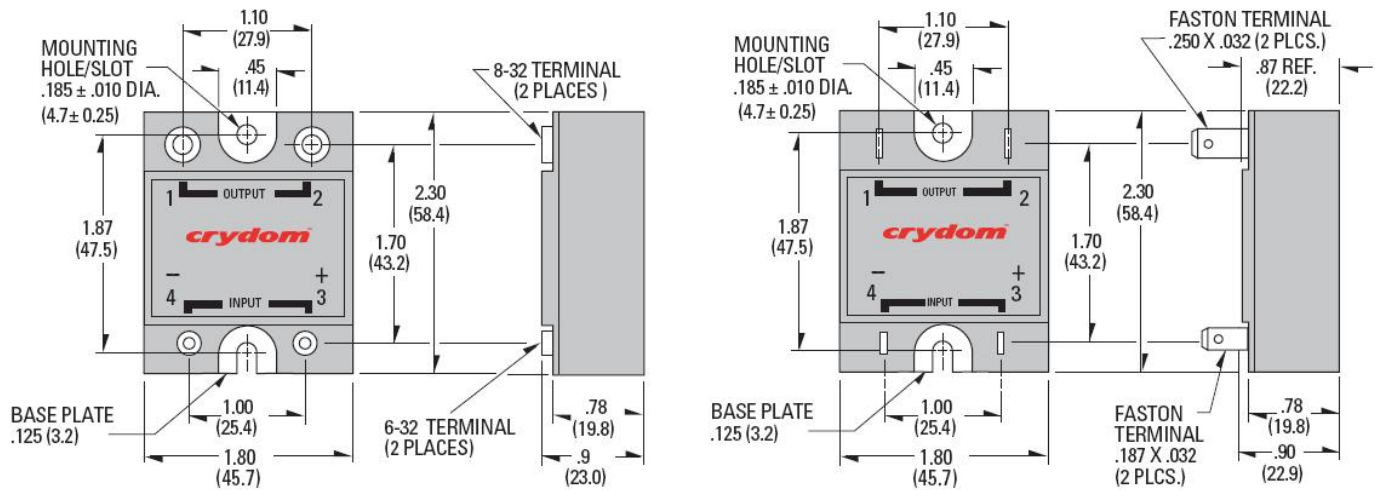
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 V DC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range	-40 to 80 °C
Ambient Storage Temperature Range	-40 to 125 °C
Weight (typical)	3.0 oz (86.5 g)
Encapsulation	Thermally conductive Epoxy
Terminals	Screw and saddle Clamps Furnished, Unmounted
Recommended Terminal Screw Torque Range:	6-32 Screws - 10 in/lbs. 8-32 & 10-32 Screws - 20 in. lbs. (Screws dry without grease)
Fastons:	Single pair (up to 25A) Double pair* (50A model only) *Caution: User must connect to both pairs

GENERAL NOTES

- 1) All parameters at 25°C unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- 3) Heat sinking required, for derating curves see page 2.
- 4) 24 VAC Input option, E suffix
- 5) Turn-on time for random turn-on versions is 0.02 msec (DC control Models)
- 6) Input circuitry incorporates active current limiter.

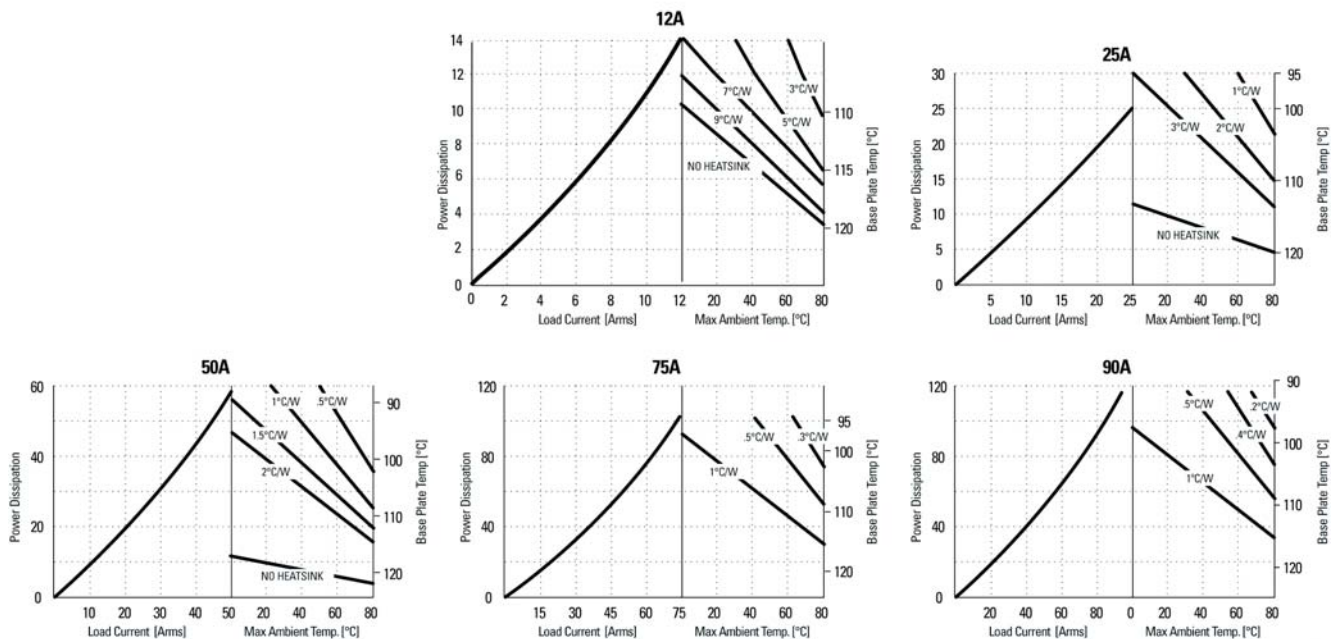
MECHANICAL SPECIFICATIONS



All dimensions are in inches (millimeters)

THERMAL DERATE INFORMATION

CURRENT DERATING CURVES



AGENCY APPROVALS

UL E116949
CSA LR81689
VDE 10143 UG



Rev. 063008

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Specifications subject to change without notice.

 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环保信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

HA / HD60 Series

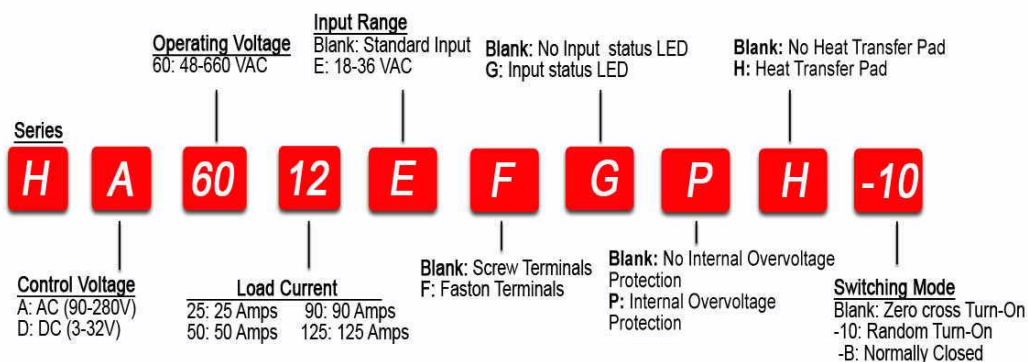


- Ratings from 25A to 125A @ 48-660 VAC
- SCR output for heavy industrial loads
- AC or DC control
- Zero-crossing (resistive loads) or random-fire (inductive loads) output

PRODUCT SELECTION

Control Voltage	25A	50A	90A	125A
3-32 VDC	HD6025	HD6050	HD6090	HD60125
90-280 Vrms	HA6025	HA6050	HA6090	HA60125
18-36 Vrms	HA6025E	HA6050E	HA6090E	HA60125E

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description	25A	50A	90A	125A
Operating Voltage (47-63Hz) [Vrms]	48-660	48-660	48-660	48-660
Transient Overvoltage [Vpk]	1200	1200	1200	1200
Maximum Off-State Leakage Current @ Rated Voltage [mArms]	5	5	5	5
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	500	500	500	500
Maximum Load Current (3) [Arms]	25	50	90	125
Minimum Load Current [mArms]	40	40	40	150
Maximum Surge Current (16.6ms) [Apk]	250	625	1200	1750
Maximum On-State Voltage Drop @ Rated Current [Vpk]	1.7	1.7	1.7	1.7
Thermal Resistance Junction to Case [Rjc] [°C/W]	1.02	0.63	0.28	0.22
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	260	1620	6000	12700
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5	0.5

INPUT SPECIFICATIONS (1)

Description	D PREFIX	A PREFIX	E SUFFIX
Control Voltage Range	3-32 VDC	90-280 Vrms	18-36 Vrms
Maximum Turn-On Voltage	3.0 VDC	90 Vrms	18 Vrms
Minimum Turn-Off Voltage	1.0 VDC	10 Vrms	4.0 Vrms
Maximum Reverse Voltage	-32 VDC	-	-
Typical Input Current	2.0 mA (6)	2 mA @ 120 Vrms, 4 mA @ 240 Vrms	3 mA @ 24 Vrms
Nominal Input Impedance [kOhms]	See Note 6	60	9.0
Maximum Turn-On Time [msec] (5)	1/2 Cycle	10	10
Maximum Turn-Off Time [msec]	1/2 Cycle	40	40

GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 V DC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range	-40 to 80 °C
Ambient Storage Temperature Range	-40 to 125 °C
Weight (typical)	3.0 oz (86.5 g)
Encapsulation	Thermally conductive Epoxy
Terminals	Screw and saddle Clamps Furnished, Unmounted
Recommended Terminal Screw Torque Range:	6-32 Screws - 10 in/lbs. 8-32 & 10-32 Screws - 20 in. lbs. (Screws dry without grease)
Fastons:	Single pair (up to 25A) Double pair* (50A model only) *Caution: User must connect to both pairs

GENERAL NOTES

- 1) All parameters at 25°C unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- 3) Heat sinking required, for derating curves see page 2.
- 4) 24 VAC Input option, E suffix
- 5) Turn-on time for random turn-on versions is 0.02 msec (DC control Models)
- 6) Input circuitry incorporates active current limiter.

Courtesy of Steven Engineering, Inc.-230 Ryan Way, South San Francisco, CA 94080-6370-Main Office: (650) 588-9200-Outside Local Area: (800) 258-9200-www.stevenengineering.com

 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

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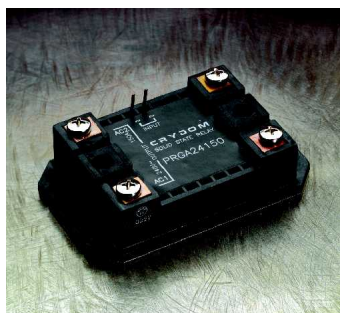
Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环保信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

PRG Series

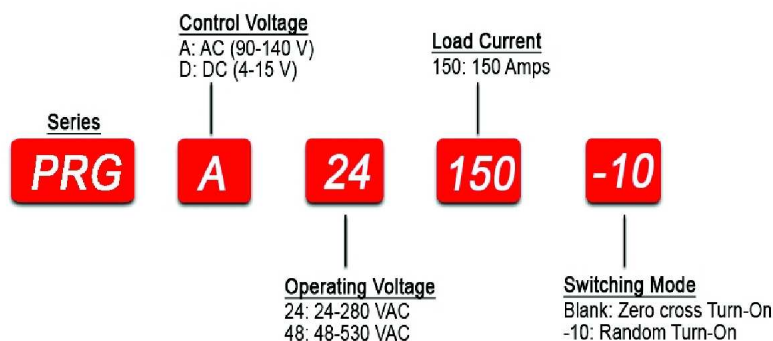


- High current SSR rated to 150A @ 48-660 VAC
- SCR output for heavy industrial loads
- AC or DC control
- Zero-crossing (resistive loads) or random-fire (inductive loads) output

PRODUCT SELECTION

Control Voltage	150A	150A	150A
3-15 VDC	PRGD24150		
90-140 VAC	PRGA24150	PRGA48150	PRGA60150
4-15 VDC		PRGD48150	PRGD60150

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description	24-280	48-530	48-660
Operating Voltage (47-63Hz) [Vrms]	24-280	48-530	48-660
Transient Overvoltage [Vpk]	600	1200	1200
Maximum Off-State Leakage Current @ Rated Voltage [mA _{rms}]	5.0	5.0	1.0
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	500	500	500
Maximum Load Current (3) [A _{rms}]	150	150	150
Minimum Load Current [A _{rms}]	0.15	0.15	0.15
Maximum Surge Current (16.6ms) [A _{pk}]	1750	1750	1750
Maximum On-State Voltage Drop @ Rated Current [V _{pk}]	1.7	1.7	1.7
Thermal Resistance Junction to Case (R _{jc}) [°C/W]	0.15	0.15	0.15
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	12700	12700	12700
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5

INPUT SPECIFICATIONS (1)

Description	240 V Models		
Control Voltage Range	3-15 VDC	4-15 VDC	90-140 Vrms
Maximum Turn-On Voltage	3.0 VDC	4.0 VDC	90 Vrms
Minimum Turn-Off Voltage	1.0 VDC	1.0 VDC	10 Vrms
Typical Input Current	15 mA @5 VDC	15 mA @ 5 VDC	10 mA @ 120 VAC
Nominal Input Impedance	300 Ohm	300 Ohm	14.1 K Ohm
Maximum Turn-On Time [msec] (4)	1/2 Cycle	1/2 Cycle	10
Maximum Turn-Off Time [msec]	1/2 Cycle	1/2 Cycle	40

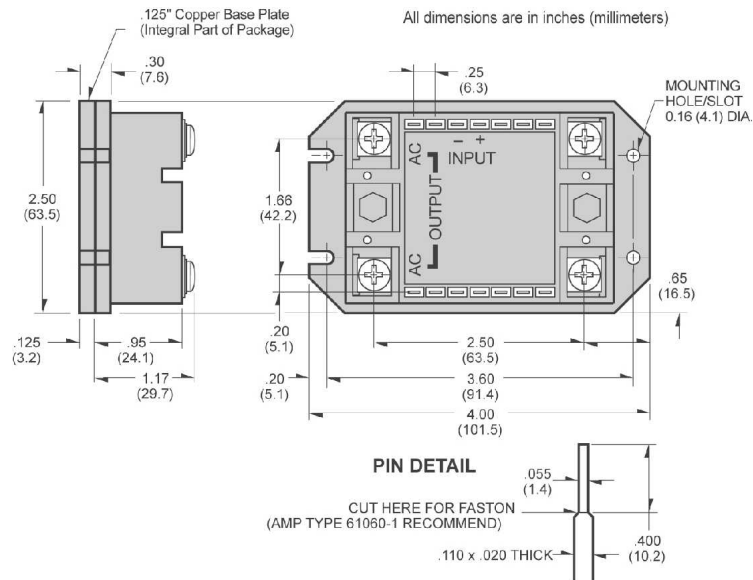
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 V DC)	
Maximum Capacitance, Input/Output	10 pF
Ambient Operating Temperature Range	-30 to 80 °C
Ambient Storage Temperature Range	-40 to 125 °C
Weight (typical)	12 oz (340g)
Encapsulation	Thermally conductive Epoxy
Power Terminals:	MS Screws Furnished, Mounted
Control Terminals:	.050 x .020 Square Pins

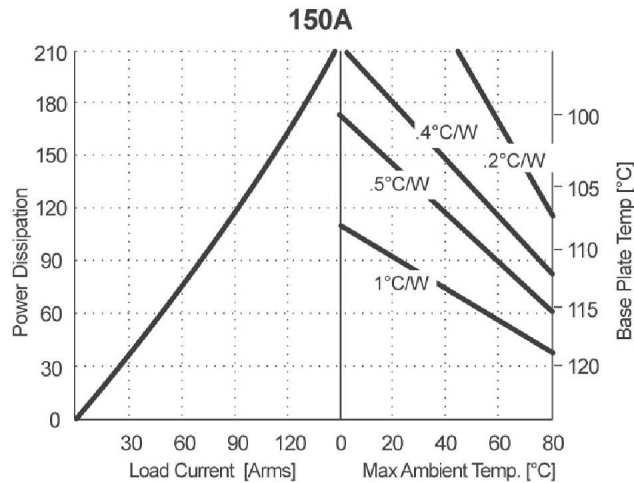
GENERAL NOTES

- 1) All parameters at 25°C unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- 3) Heat sinking required, for derating curves see page 2.
- 4) Turn-on time for Random turn-on versions is 0.02 msec (DC Control Models)

MECHANICAL SPECIFICATIONS



THERMAL DERATE INFORMATION



AGENCY APPROVALS



Rev. 0070208

 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
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RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

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Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

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电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

PS24 Series

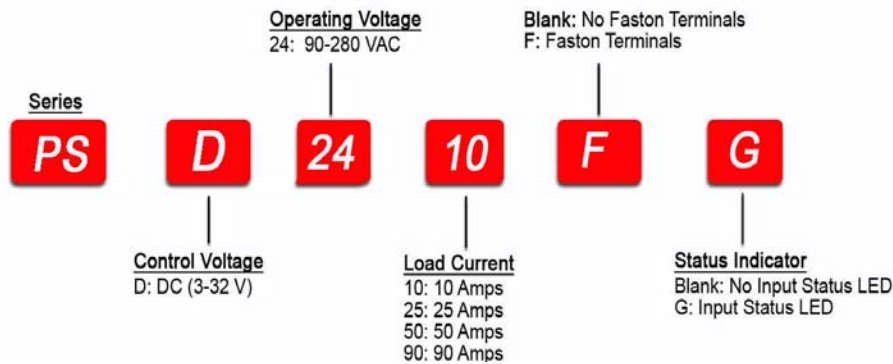


- Peak-fire SSR for high inductance applications; Ratings from 10A to 90A @ 90- 280 VAC
- SCR output for heavy industrial loads
- DC control

PRODUCT SELECTION

Control Voltage	10A	25A	50A	90A
3-32 VDC	PSD2410	PSD2425	PSD2450	PSD2490

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description	10A	25A	50A	90A
Operating Voltage (47-63Hz) [Vrms]	90-280	90-280	90-280	90-280
Transient Overvoltage [Vpk]	600	600	600	600
Maximum Off-State Leakage Current @ Rated Voltage [mA _{rms}]	10	10	10	10
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	500	500	500	500
Maximum Load Current (3) [A _{rms}]	10	25	50	90
Minimum Load Current [mA _{rms}]	40m	40	40	40
Maximum Surge Current (16.6ms) [A _{pk}]	120	250	625	1200
Maximum On-State Voltage Drop @ Rated Current [V _{pk}]	1.6	1.6	1.6	1.6
Thermal Resistance Junction to Case (R _{jc}) [°C/W]	1.48	1.02	0.63	0.28
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	60	260	1620	6000
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5	0.5

INPUT SPECIFICATIONS (1)

Description	DC Control
Control Voltage Range	3-32 VDC
Maximum Turn-On Voltage	3.0 VDC
Minimum Turn-Off Voltage	1.0 VDC
Maximum Reverse Voltage	-32
Typical Input Current	2 mA(4)
Nominal Input Impedance	See Note 4
Maximum Turn-On Time [msec]	1/2 Cycle
Maximum Turn-Off Time [msec]	1/2 Cycle

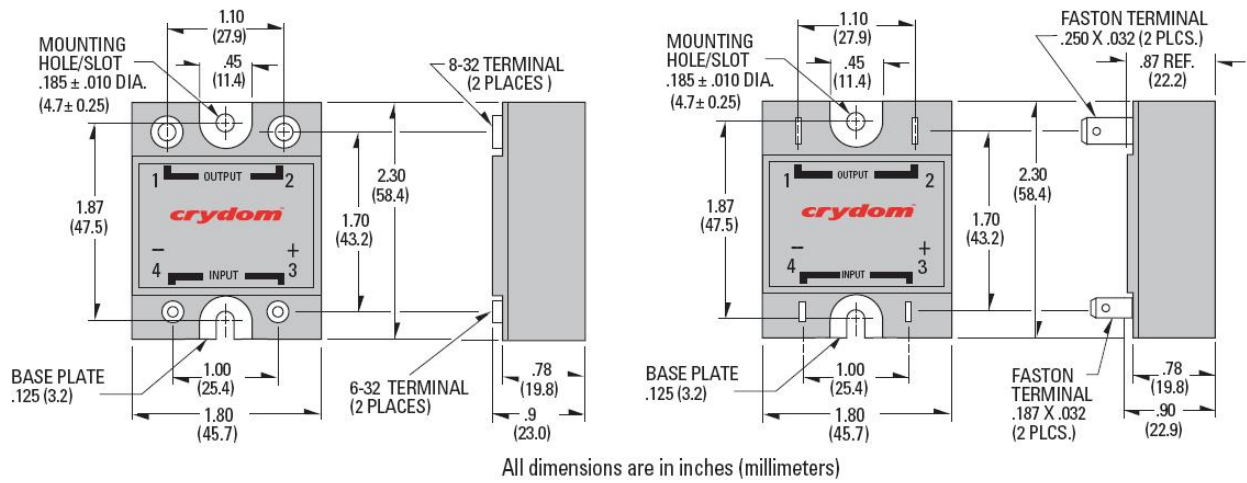
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 V DC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range	-40 to 80 °C
Ambient Storage Temperature Range	-40 to 125 °C
Weight (typical)	3.0 oz (86.5g)
Encapsulation	Thermally conductive Epoxy
Terminals	Screw and saddle Clamps Furnished, Unmounted
Recommended Terminal Screw Torque Range:	6-32 Screws - 10 in/lbs. 8-32 & 10-32 Screws - 20 in. lbs. (Screws dry without grease)
Fastons:	Single pair (up to 25A) Double pair* (50A model only) *Caution: User must connect to both pairs

GENERAL NOTES

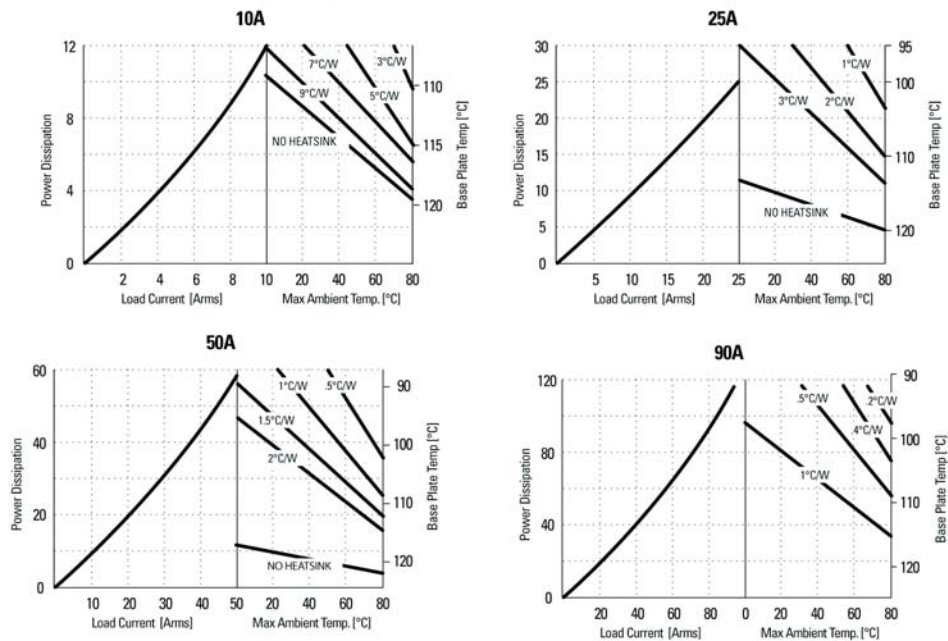
- 1) All parameters at 25°C unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- 3) Heat sinking required, for derating curves see page 3.
- 4) Input circuit incorporates active current limiter

MECHANICAL SPECIFICATIONS



THERMAL DERATE INFORMATION

CURRENT DERATING CURVES



AGENCY APPROVALS

UL, cUL E116950



Rev. 052307

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 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

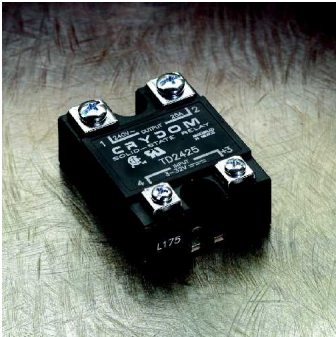
Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环保信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

Quad

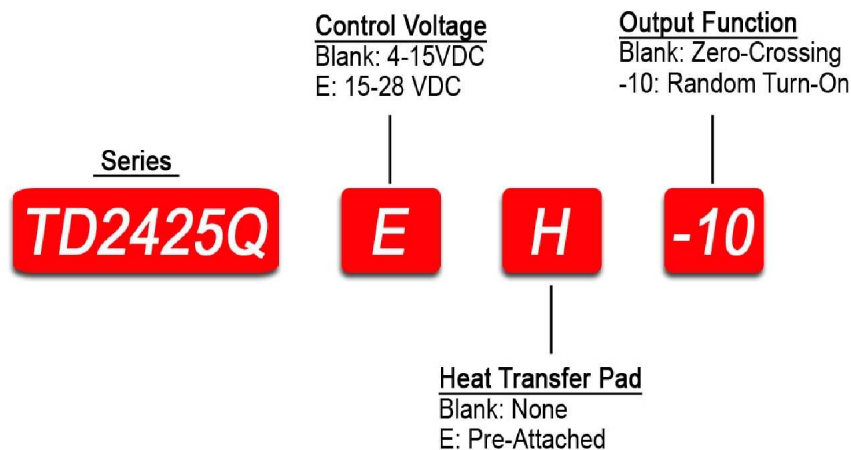


- Industry standard package
- SCR output for heavy industrial loads
- DC Control
- Zero-crossing (resistive loads) or random-fire (inductive loads) output

PRODUCT SELECTION

Control Voltage	20A
4-15 VDC	TD2420Q
15-28 VDC	TD2420QE

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description	
Operating Voltage (47-63Hz) [VRMS]	24-280
Transient Overvoltage [Vpk]	600
Maximum Off-State Leakage Current @ Rated Voltage [mA _{rms}]	10
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	200
Maximum Load Current (3) [A _{rms}]	20
Minimum Load Current [A _{rms}]	0.15
Maximum Surge Current (16.6ms) [A _{pk}]	250
Maximum On-State Voltage Drop @ Rated Current [V _{pk}]	1.6
Thermal Resistance Junction to Case (R _{jc}) [°C/W]	1.2
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	260
Minimum Power Factor (with Maximum Load)	0.5

INPUT SPECIFICATIONS (1)

Description		
Control Voltage Range	4-15 VDC	15-28 VDC
Maximum Turn-On Voltage	4.0 VDC	15.0 VDC
Minimum Turn-Off Voltage	1.0 VDC	1.0 VDC
Typical Input Current	12 mA	15 mA
Nominal Input Impedance	330 Ohm	1500 Ohm
Maximum Turn-On Time [msec] (4)	1/2 cycle	1/2 cycle
Maximum Turn-Off Time [msec]	1/2 cycle	1/2 cycle

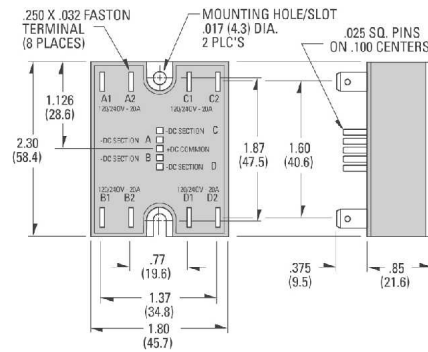
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	2500 VRMS
Minimum Insulation Resistance (@ 500 V DC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	10 pF
Ambient Operating Temperature Range	-40 to 80°C
Ambient Storage Temperature Range	-40 to 125 °C
Weight (typical)	3.5 oz (109g)
Encapsulation	Thermally conductive Epoxy
Terminals	.25" Fastons, .025" Square Pins

GENERAL NOTES

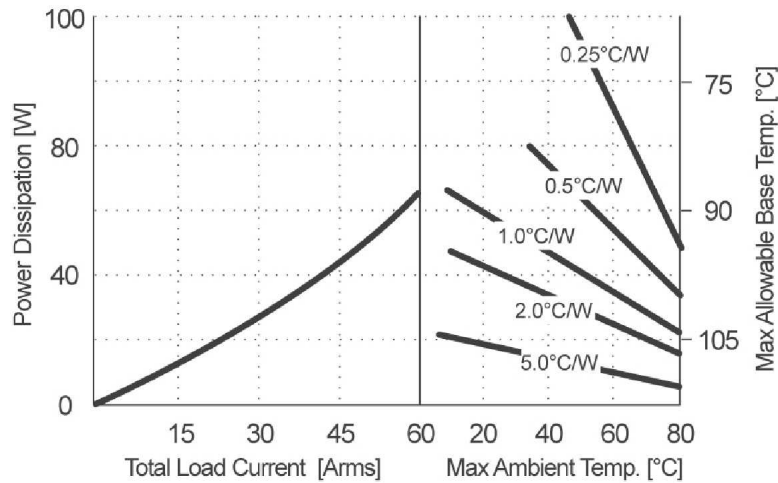
- 1) All parameters at 25°C and per section unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- 3) Heat sinking required, max. 20A per section, max 60A per package.
- 4) Turn-on time for random turn-on versions is 0.1 msec

MECHANICAL SPECIFICATIONS

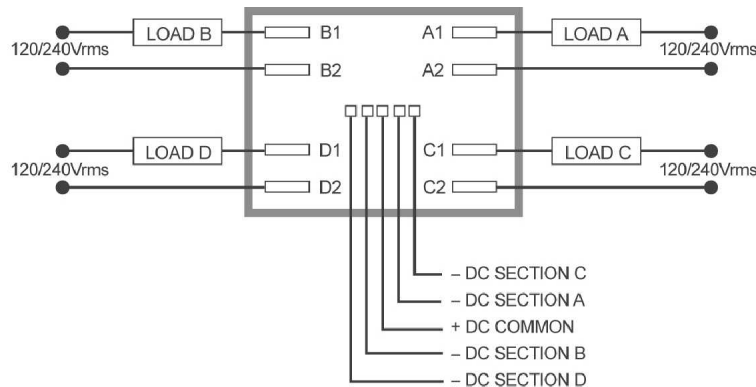


All dimensions are in inches (millimeters)

THERMAL DERATE INFORMATION



WIRING DIAGRAM



AGENCY APPROVALS

UL E116949
CSA LR81689



Rev. 071408

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HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

Series 1 240 VAC

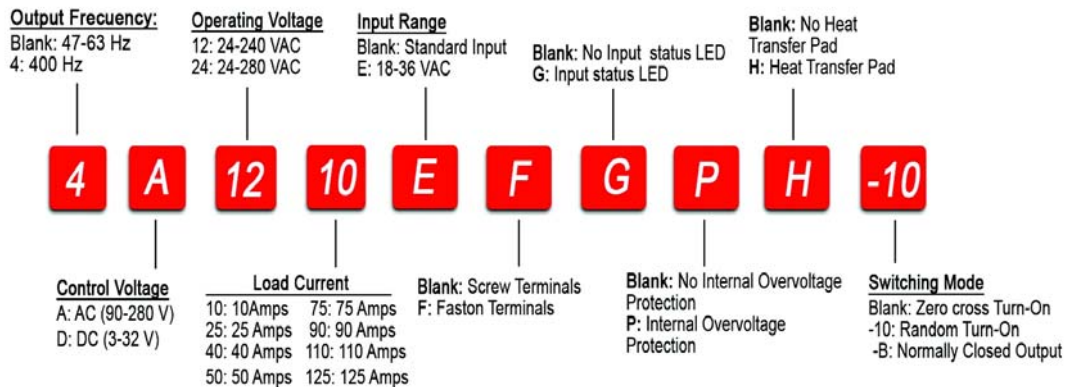


- Crydom's signature family of solid-state relays. Ratings from 10A to 125A @ 12-280 VAC
- SCR output for heavy industrial loads
- AC or DC control
- Zero-crossing (resistive loads) or random-fire (inductive loads) output

PRODUCT SELECTION

Control Voltage	10A	25A	50A	75A	90A	110A	125A
3-32 VDC	D2410	D2425	D2450	D2475	D2490	D21110	D24125
90-280 VAC	A2410	A2425	A2450	A2475	A2490	A24110	A24125
18-36 VAC	A2410E	A2425E	A2450E	A2475E	A2490E	A24110E	A24125E

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description	24-280	24-280	24-280	24-280	24-280	24-280	24-280
Operating Voltage (47-63Hz) [Vrms]	24-280	24-280	24-280	24-280	24-280	24-280	24-280
Transient Overvoltage [Vpk]	600	600	600	600	600	600	600
Maximum Off-State Leakage Current @ Rated Voltage [mA _{rms}]	10	10	10	10	10	10	10
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	500	500	500	500	500	500	500
Maximum Load Current (3) [A _{rms}]	10	25	50	75	90	110	125
Minimum Load Current [mA _{rms}]	40	40	40	40	40	150	150
Maximum Surge Current (16.6ms) [A _{pk}]	120	250	625	1000	1200	1500	1750
Maximum On-State Voltage Drop @ Rated Current [V _{pk}]	1.6	1.6	1.6	1.6	1.6	1.7	1.7
Thermal Resistance Junction to Case [R _{jc}] [°C/W]	1.48	1.02	0.63	0.31	0.28	0.25	0.22
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	60	260	1620	4150	6000	9340	12700
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5	0.5	0.5	0.5	0.5

INPUT SPECIFICATIONS (1)

Description	(D PREFIX)	(A PREFIX)	(E SUFFIX)
Control Voltage Range	3-32 VDC	90-280 Vrms	18-36 Vrms
Maximum Reverse Voltage	-32	-	-
Maximum Turn-On Voltage	3.0 VDC	90 Vrms	18 Vrms
Minimum Turn-Off Voltage	1.0 VDC	10 Vrms	4.0 Vrms
Typical Input Current	3.4-20 mA	2.0-4.0 mA	3 mA
Nominal Input Impedance [Ohms]	1500 Ohm	60 K Ohm	9.0 K Ohm
Maximum Turn-On Time [msec] (4)	1/2 Cycle	10	10
Maximum Turn-Off Time [msec]	1/2 Cycle	40	40

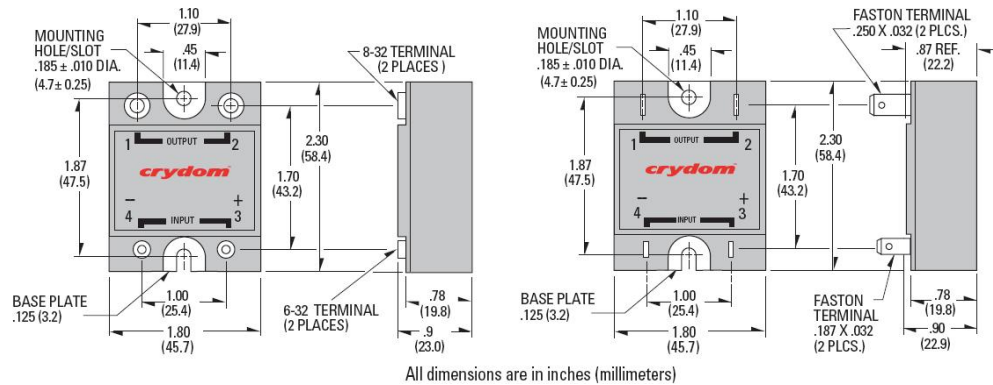
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 V DC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range	-40 to 80 °C
Ambient Storage Temperature Range	-40 to 125 °C
Weight (typical)	3 oz (86.5g)
Encapsulation	Thermally conductive Epoxy
Terminals	Screw and saddle Clamps Furnished, Unmounted
Recommended Terminal Screw Torque Range:	6-32 Screws - 10 in/lbs. 8-32 & 10-32 Screws - 20 in. lbs. (Screws dry without grease)
Fastons:	Single pair (up to 25A) Double pair* (50A model only) *Caution: User must connect to both pairs

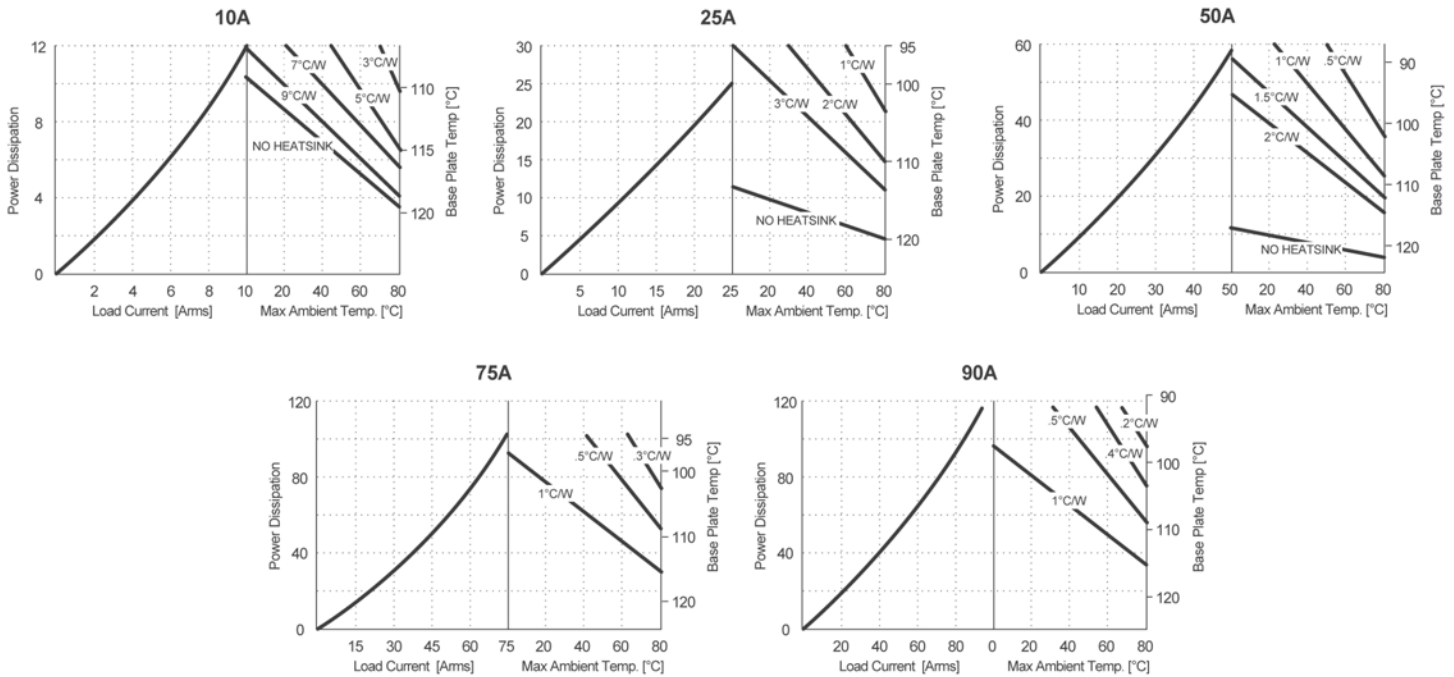
GENERAL NOTES

- 1) All parameters at 25°C unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- 3) Heat sinking required, for derating curves see page 3.
- 4) Turn-on time for Random turn-on versions is 0.02 msec (DC Control Models)

MECHANICAL SPECIFICATIONS



THERMAL DERATE INFORMATION



AGENCY APPROVALS

UL E116949
CSA LR81689
VDE 10143 UG (Not Applicable: -B and 4D)



Rev. 070308

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 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环保信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

Series 2



- Triac output SSRs; Output rated at 8A @ 20-280 VAC
- Zero-crossing (resistive loads) output
- DC control
- 3/16" fast-on terminals

PRODUCT SELECTION

Control Voltage	S218	S228	S228C
3.5-8 VDC			

OUTPUT SPECIFICATIONS (1)

Description	S218	S228	S228C
Operating Voltage (47-63Hz) [Vrms]	20-140	40-280	40-280
Transient Overvoltage [Vpk]	400	600	600
Maximum Off-State Leakage Current @ Rated Voltage [mA]	4.0	4.0	1.0
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (3)	200	200	200
Maximum Load Current [Arms]	8.0	8.0	8.0
Minimum Load Current [Arms]	0.15	0.15	0.15
Maximum Surge Current (16.6ms) [Apk]	120	120	120
Maximum On-State Voltage Drop @ Rated Current [Vpk]	1.6	1.6	1.6
Thermal Resistance Junction to Case [Rjc] [°C/W]	1.5	1.5	1.5
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	60	60	60
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5

INPUT SPECIFICATIONS (1)

Description	DC Control
Control Voltage Range	3.5-8.0 VDC
Maximum Turn-On Voltage	3.5 VDC
Minimum Turn-Off Voltage	1.0 VDC
Typical Input Current @ 5 VDC	18 mA
Nominal Input Impedance	200 Ohm
Maximum Turn-On Time [msec] (4)	1/2 Cycle
Maximum Turn-Off Time [msec] (4)	1/2 Cycle

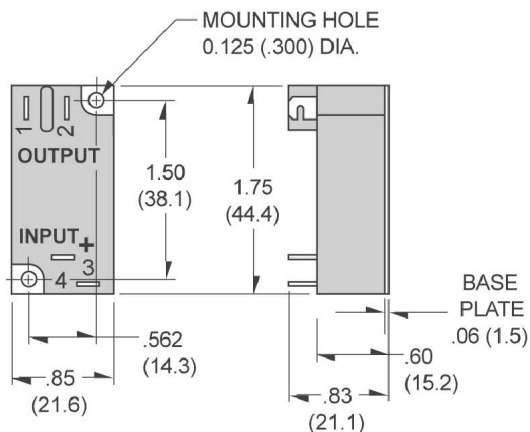
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)(2)	2500 Vrms
Minimum Insulation Resistance (@ 500 V DC)(2)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	8.0 pF
Ambient Operating Temperature Range	-30 to 80 °C
Ambient Storage Temperature Range	-30 to 125 °C
Weight (typical)	1.3 oz (40g)
Encapsulation	Thermally conductive Epoxy

GENERAL NOTES

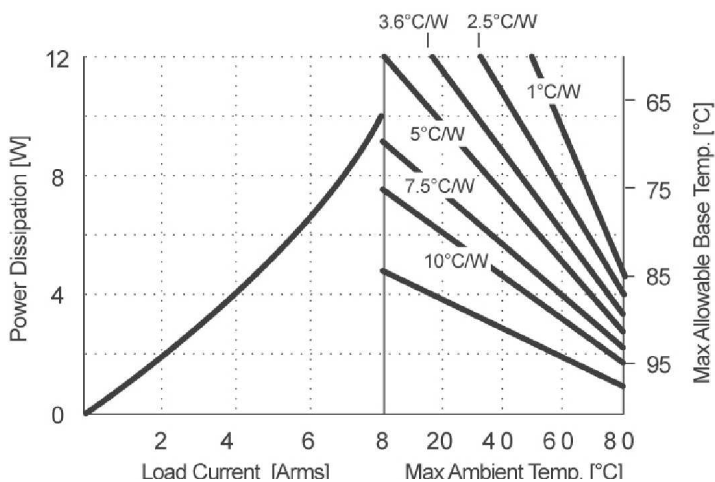
- 1) All parameters at 25 °C and per section unless otherwise specified.
- 2) Dielectric and insulation resistance are measured between input and output
- 3) Off-State dv/dt test method per EIA/NARM standard RS-443

MECHANICAL SPECIFICATIONS



All dimensions are in inches (millimeters)

THERMAL DERATE INFORMATION



AGENCY APPROVALS

UL E116949
CSA LR81689



Rev. 070308

 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

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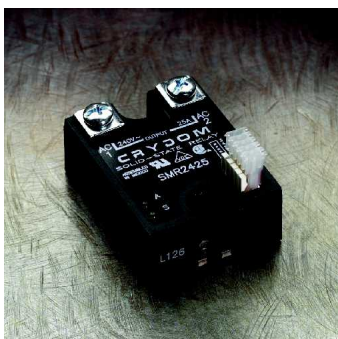
Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环保信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

SMR Series

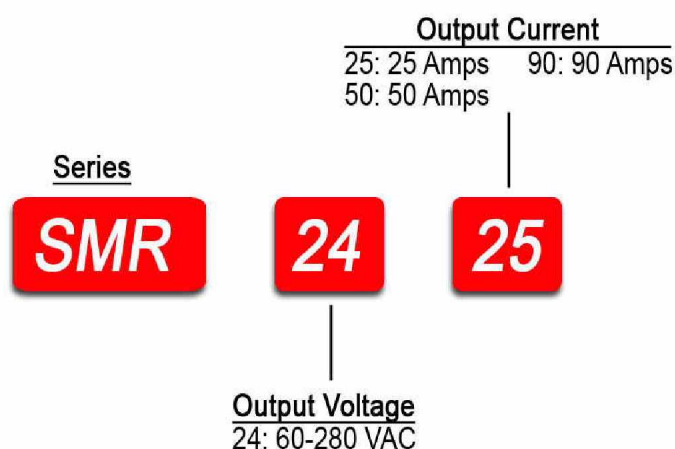


- System monitoring solid-state relay
- Ratings from 25A to 90A @ 60-280 V AC
- DC control
- LED status indicators
- Alarm output signal
- Inverting or non-inverting input
- Normally open or normally closed alarm output

PRODUCT SELECTION

Control Voltage	25A	50A	90A
8-32 VDC	SMR2425	SMR2450	SMR2490

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description	25A	50A	90A
Operating Voltage (47-63Hz) [Vrms]	60-280	60-280	60-280
Transient Overvoltage [Vpk]	600	600	600
Maximum Off-State Leakage Current @ Rated Voltage [mA _{rms}]	10	10	10
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	500	500	500
Maximum Load Current (3) [A _{rms}]	25	50	90
Minimum Load Current [mA _{rms}]	40	40	40
Maximum Surge Current (16.6ms) [A _{pk}]	250	625	1200
Maximum On-State Voltage Drop @ Rated Current [V _{pk}]	1.6	1.6	1.6
Thermal Resistance Junction to Case (R _{jc}) [°C/W]	1.02	0.63	0.28
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	260	1620	6000
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5

INPUT SPECIFICATIONS (1)

Description	DC Control
Control Voltage Range	8-32 VDC
Minimum Turn-Off Voltage (pin 6)	0.4 VDC
DC Supply Current @ 12 VDC	8 mA
DC Control Current @ 12 VDC	6 mA
Maximum Alarm Output Current	100 mA
Alarm On Output Voltage (Open), (pin 7)	Supply Voltage
Maximum Alarm Off Output Voltage @ 100 mA (Active Low), (pin 7)	1.5 VDC
Alarm Delay (Min.-Max.)	30-100 msec
Maximum Turn-On Time [msec]	1/2 Cycle
Maximum Turn-Off Time [msec]	1/2 Cycle

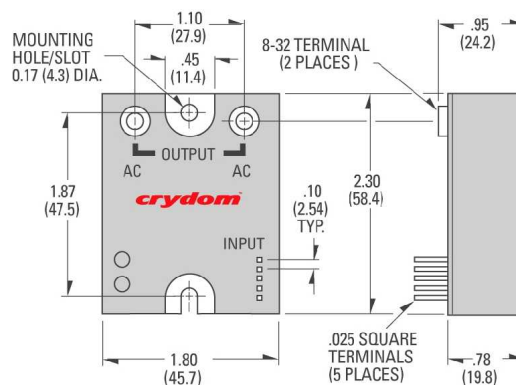
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 V DC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range	-40 to 80°C
Ambient Storage Temperature Range	-40 to 125 °C
Weight (typical)	3.0 oz (86.5g)
Encapsulation	Thermally conductive Epoxy
Output Terminals:	Screws and Saddle Clamps Furnished, Unmounted
Input Connector (locking):	Panduit No. MLSS100-5 or Equivalent
Mating Connector (supplied):	Panduit No. CT00F22-5 or Equivalent
Recommended Terminal Screw Torque Range:	8-32 & 10-32 Screws - 20 in. lbs. (Screws dry without grease)

GENERAL NOTES

- 1) All parameters at 25°C unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- 3) Heat sinking required, see derating curves.

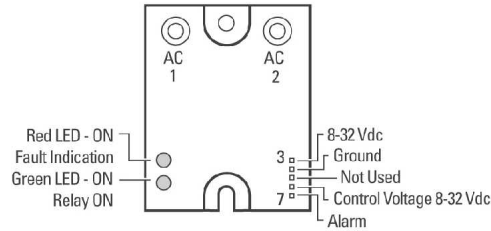
MECHANICAL SPECIFICATIONS



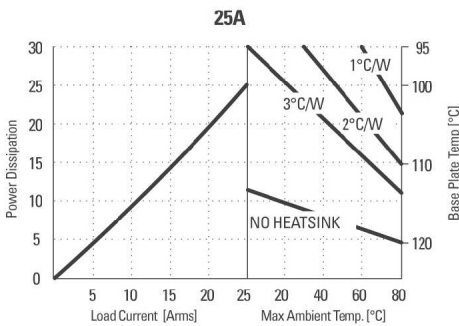
All dimensions are in inches (millimeters)

WIRING DIAGRAM

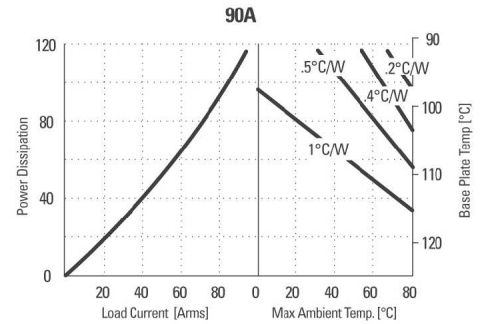
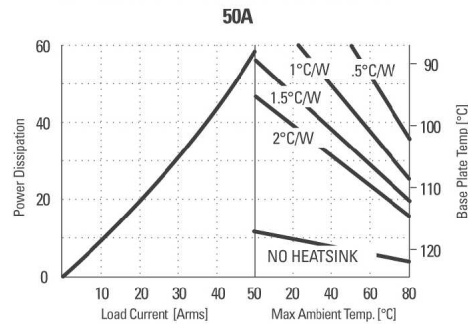
WIRING DIAGRAM



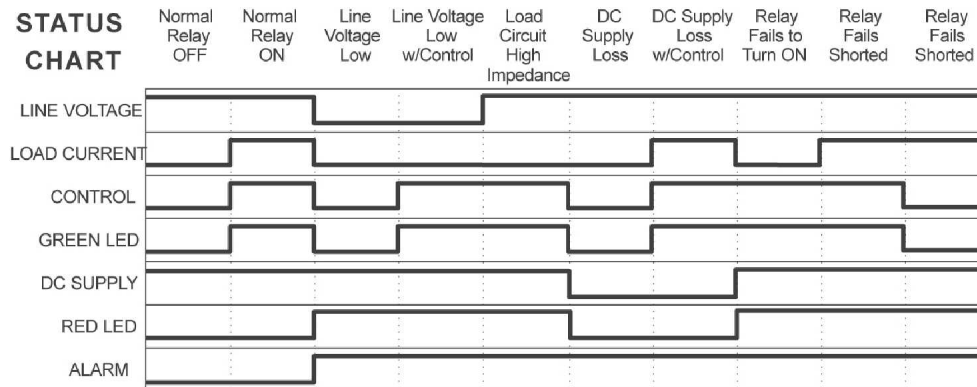
THERMAL DERATE INFORMATION



CURRENT DERATING CURVES



STATUS CHART



AGENCY APPROVALS

UL E116949
CSA LR81689
VDE 10143 UG
CE

Rev. 071108

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 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
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RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

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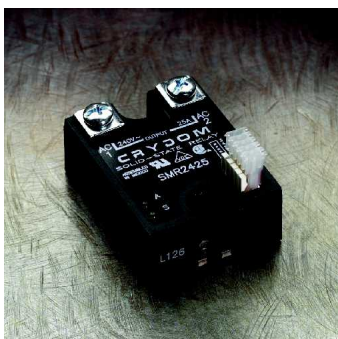
Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

SMR -6 Series

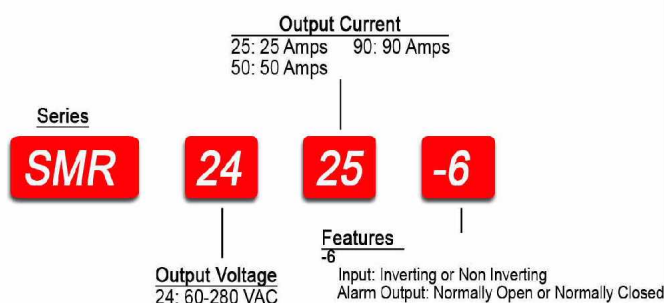


- System monitoring solid-state relay
- Ratings from 25A to 90A @ 60-280 V AC
- DC control
- LED status indicators
- Alarm output signal
- Inverting or non-inverting input
- Normally open or normally closed alarm output

PRODUCT SELECTION

Control Voltage	25A	50A	90A
8-32 VDC	SMR2425-6	SMR2450-6	SMR2490-6

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description			
Operating Voltage (47-63Hz) [Vrms]	60-280	60-280	60-280
Transient Overvoltage [Vpk]	600	600	600
Maximum Off-State Leakage Current @ Rated Voltage [mA _{rms}]	10	10	10
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	500	500	500
Maximum Load Current (3) [A _{rms}]	25	50	90
Minimum Load Current [mA _{rms}]	40	40	40
Maximum Surge Current (16.6ms) [A _{pk}]	250	625	1200
Maximum On-State Voltage Drop @ Rated Current [V _{pk}]	1.6	1.6	1.6
Thermal Resistance Junction to Case (R _{jc}) [°C/W]	1.02	0.63	0.28
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	260	1620	6000
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5

CONTROL SPECIFICATIONS (1)(4)

Description	INVERTING	NON-INVERTING
Logic Supply Voltage Range	8-32 VDC (pin 3)	8-32 VDC (pin 3)
Logic Supply Current @ 12	8 mA	14 mA (plus pin 8 loading)
Input-On Voltage Range	8-32 VDC (pin 6)	0-1.0 VDC (pin 5)
Input-Off Voltage Range	0-0.4 VDC (pin 6)	8-32 VDC (pin 5)
Input-On Current @ 12 VDC[Logic Supply]	6 mA	1.0 mA
Maximum Turn-On Time [msec]	1/2 Cycle	1/2 Cycle
Maximum Turn-Off Time [msec]	1/2 Cycle	1/2 Cycle

ALARM SPECIFICATIONS (1)(4)

Description	NORMALLY CLOSED	NORMALLY OPEN
Alarm-On Voltage	"Supply Voltage (with load) Open Col. NPN (pin 7)"	"Supply Voltage (minus 1.0 V) Active High PNP (pin 8)"
Alarm-Off Voltage	"1.5 VDC Active Low NPN (pin 7)"	"0.0 VDC (with load) Open Col. PNP (pin 8)"
Maximum Alarm Output Current	100 mA	100 mA
Alarm Delay (Min.-Max.)	30-100 msec	30-100 msec

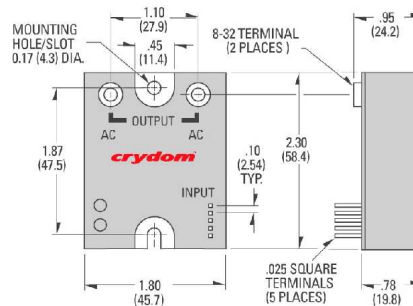
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 VDC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range	-40 to 80°C
Ambient Storage Temperature Range	-40 to 125 °C
Weight (typical)	3.0 oz (86.5g)
Encapsulation	Thermally conductive Epoxy
Output Terminals:	Screws and Saddle Clamps Furnished, Unmounted
Input Connector (locking):	Panduit No. MLSS100-6 or Equivalent
Mating Connector (supplied):	Panduit No. CT00F22-6 or Equivalent
Recommended Terminal Screw Torque Range:	8-32 & 10-32 Screws - 20 in. lbs. (Screws dry without grease)

GENERAL NOTES

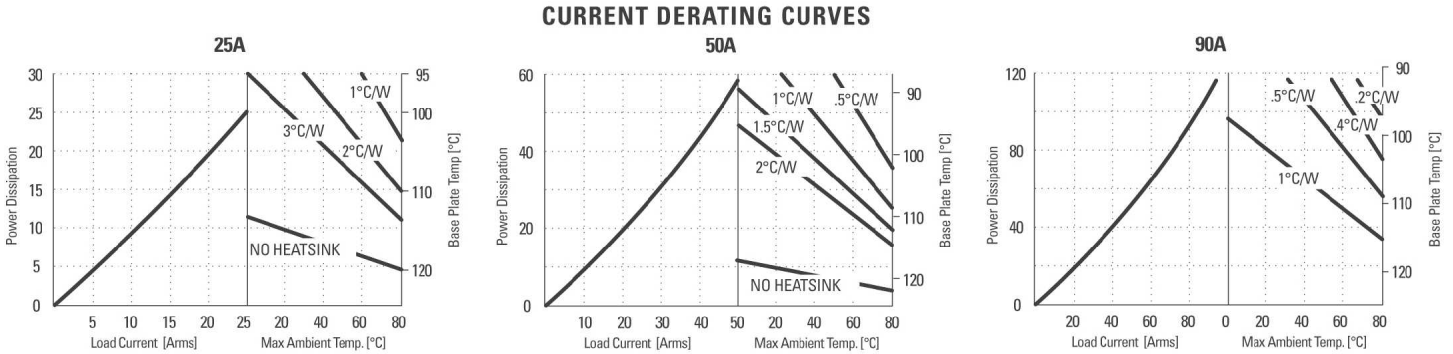
- 1) All parameters at 25°C unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- 3) Heat sinking required, for derating curves see page 2.
- 4) All voltages are positive in respect to common (pin 4)

MECHANICAL SPECIFICATIONS



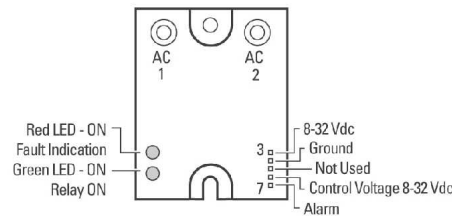
All dimensions are in inches (millimeters)

THERMAL DERATE INFORMATION

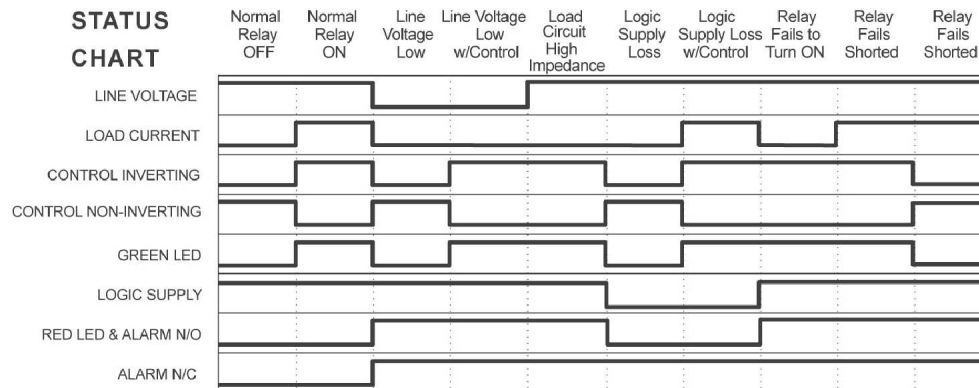


WIRING DIAGRAM

WIRING DIAGRAM



STATUS CHART



AGENCY APPROVALS



Rev. 071108

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 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

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Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

SSC Series



- IGBT based solid-state relay
- Ratings up to 25A @ 1,000 VDC
- DC control

PRODUCT SELECTION

25A	25A
SSC800-25	SSC1000-25

OUTPUT SPECIFICATIONS (1)

Description	800 VDC	1000 VDC
Operating Voltage [VDC]	0-800	0-1000
Maximum Transient Overvoltage [Vpk]	900(4)	1200(5)
Maximum Off-State Leakage Current @ Rated Voltage [mA]	0.3	0.3
Maximum Load Current (3) [Arms]	25	25
Minimum Load Current [mA]	20	20
Maximum Surge Current (16.6ms) [Apk]	75	75
Maximum On-State Voltage Drop @ Rated Current [Vpk]	1.6	1.6
Thermal Resistance Junction to Case (Rjc) [°C/W]	0.8	0.8

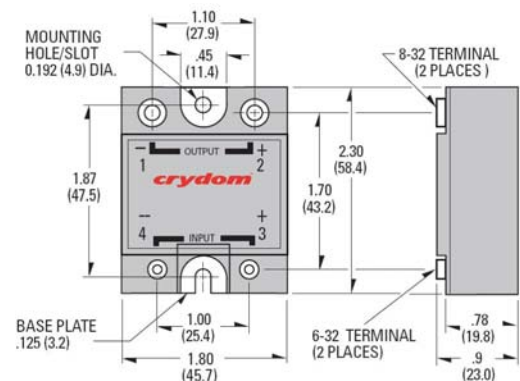
INPUT SPECIFICATIONS (1)

Description	Suffix -12	Suffix -24	Suffix -36
Nominal Control Voltage (6)	12 VDC	24 VDC	36 VDC
Control Voltage Range	8-16 VDC	20-28 VDC	32-40 VDC
Maximum Turn-On Voltage	8 VDC	20 VDC	32 VDC
Minimum Turn-Off Voltage	1.0 VDC	1.0 VDC	1.0 VDC
Typical Input Current at Nominal Voltage	15 mA	15 mA	15 mA
Nominal Input Impedance	780 Ohm	1500 Ohm	2400 Ohm
Maximum Turn-On Time [msec] (4)	1.5	1.5	1.5
Maximum Turn-Off Time [msec]	1.5	1.5	1.5

GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)(2)	2500 VRMS
Minimum Insulation Resistance (@ 500 V DC)(2)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	50 pF
Ambient Operating Temperature Range	-30 to 80°C
Ambient Storage Temperature Range	-40 to 125 °C
Weight (typical)	3.0 oz (86.5g)
Encapsulation	Thermally conductive Epoxy
Terminals	Screws and Saddle Clamps Furnished, Unmounted
Recommended Terminal Screw Torque Range:	6-32 Screws - 10 in lbs. 8-32 -20 in. lbs. (Screws dry without grase)

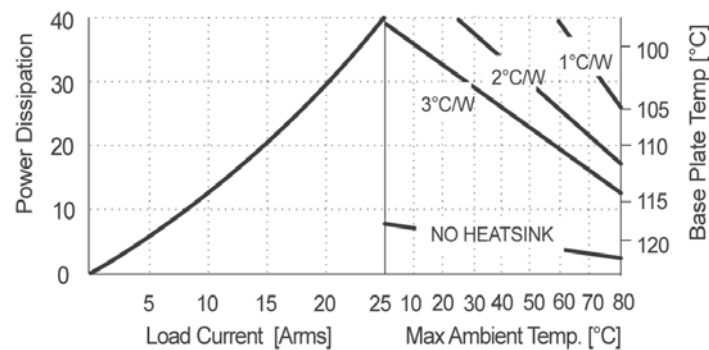
MECHANICAL SPECIFICATIONS



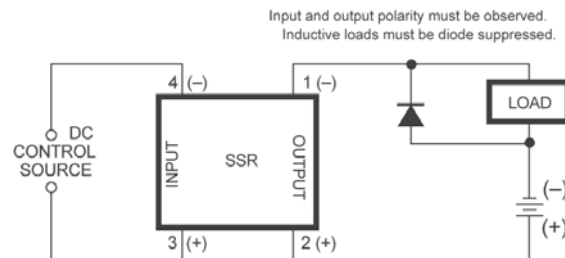
GENERAL NOTES

- 1) All parameters at 25°C unless otherwise specified.
- 2) Dielectric strength and insulation resistance are measured between input and output
- 3) Heat sinking required, for derating curves see next page.
- 4) Internal overvoltage protection included.
- 5) Internal overvoltage protection not included.
- 6) Use suffix -12, -24 or -36 to specify control voltage. For other values call factory Sample: **SSC800-25-24**

THERMAL DERATE INFORMATION



WIRING DIAGRAM



Transient Protection

All loads are inductive, even ones that are not so labeled. An inductive load will produce harmful transient voltages when it is turned off. The more perfect the switch, the larger the transient voltages; the MOSFET output is so nearly an ideal switch that the transient voltages produced by seemingly "non-inductive" loads can cause damage if not suppressed. Diodes should be fast recovery type with PIV rated greater than supply voltage.

Rev.010509

 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
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ANNEX - ENVIROMENTAL INFORMATION

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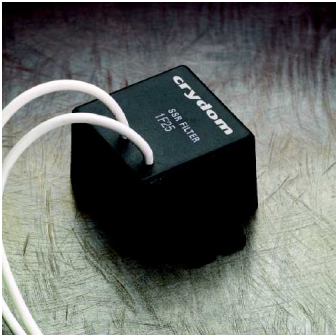
Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

AC Filters



EMI noise suppression filters for SSRs
in single-phase and three-phase systems

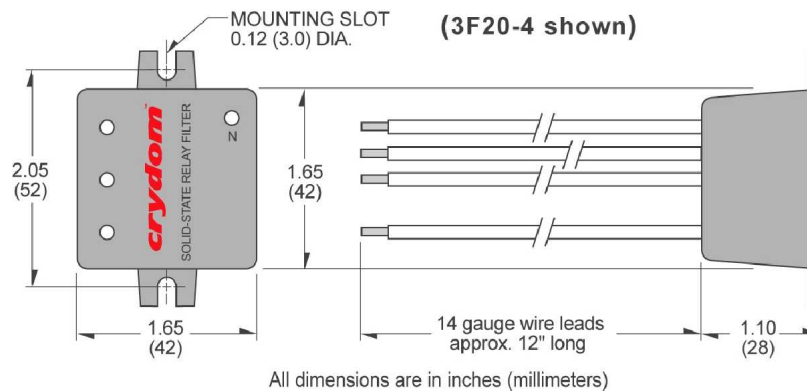
SPECIFICATIONS

Description			
Model Number	1F25	3F20	3F20-4
Connection (number of phases)	Single	Three	Three (w/neutral)
Maximum Operating Voltage	275 VRMS	475 VRMS	475 VRMS
Operating Temperature Range	-40 to +100 ° C		
Attenuation (150 to 250 KHz), typical	30 dBμV	25 dBμV	25 dBμV
Current Drain at VRMS max	40 mA	35 mA	35 mA

GENERAL NOTES

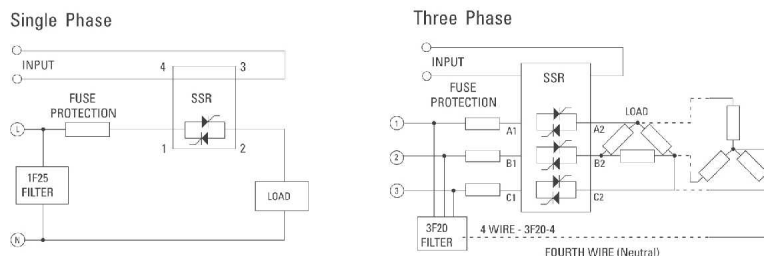
1) All parameters at 25°C unless otherwise specified.

MECHANICAL SPECIFICATIONS



WIRING DIAGRAM

WIRING DIAGRAM



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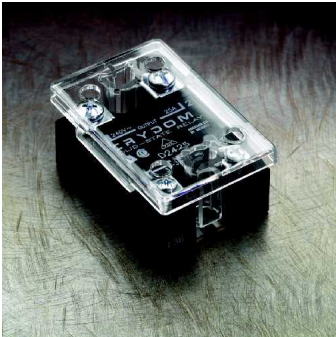
Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
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电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

Protective Covers



Protective covers designed for use with Crydom single-phase (Series 1 housing) and three-phase solid-state relays

KS100

PRODUCTION DESCRIPTION

The KS100 and KS300 are protective covers made of clear polycarbonate material, which are designed to fit over standard CRYDOM SSRs.

They provide added protection from electric shock when installing or checking equipment.

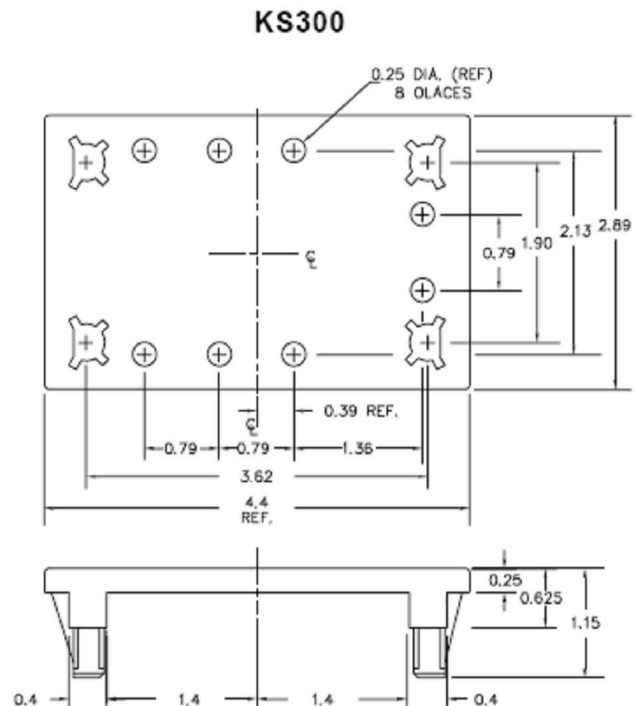
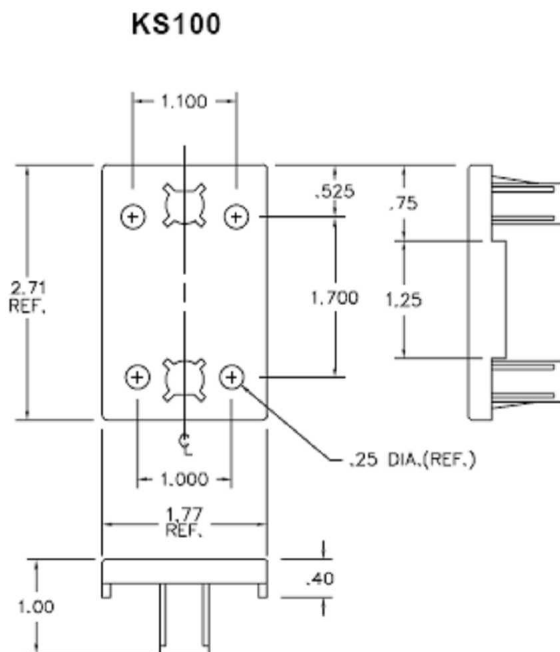
USE GUIDE

Care should be taken to fit the KS100 or KS300 as per instructions to ensure maximum protection

DESIGN ADVANTAGE

The CRYDOM KS100 and KS300 protective covers have been designed specially for Crydom Solid State Relays, and have been made simple to install. The polycarbonate material used is UL94V-0 approved.

MECHANICAL OUTLINE



MECHANICAL SPECIFICATIONS

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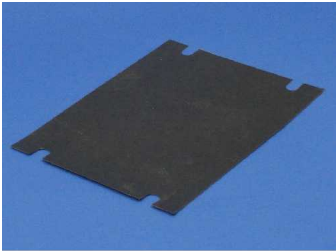
Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
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部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

Heat Transfer Pad



- Easy-to-use thermal interface Material designed for use with Crydom single-phase (Series 1 housing) and three-phase solid-state relays
- Excellent alternative to thermal grease

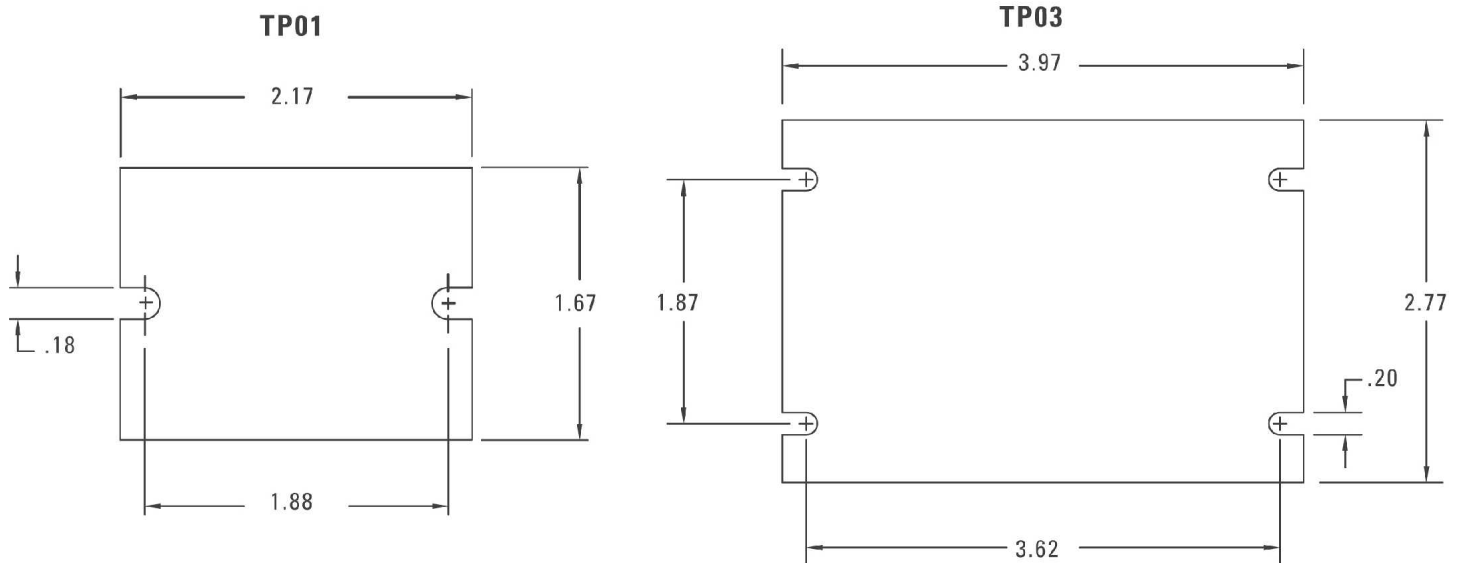
TP01

All single phase Panel mount SSRs auxiliary function modules and M50 power modules.

TP03

Three phase (53TP)

MECHANICAL SPECIFICATIONS



CMX Series



- SIP SSR
- Ratings to 10A @ 100 VDC, 10A @ 60 VDC and 3A @ 200 VDC
- MOSFET output
- DC control
- Low on-state impedance

PRODUCT SELECTION

Control Voltage	3A	5A	6A	10A	10A	20A
3-10 VDC	CMX200D3	CMX60D5	CMX100D6	CMX60D10	CMX100D10	CMX60D20

OUTPUT SPECIFICATIONS (1)(4)

Description						
Operating Voltage [VDC]	0-200	0-60	0-100	0-60	0-100	0-60
Maximum Off-State Leakage Current @ Rated Voltage [μ Adc]	100	100	100	100 (5)	100	100
Maximum Load Current [Arms]	3	5	6	10	10	20
Minimum Load Current [Arms]	0	0	0	0	0	0
Maximum On-State Resistance [Ohm] (2)	0.20	.10	.040	.018	.010	.0033
Maximum Surge Current (10msec) [Apk]	30	60	100	100	100	200
Maximum On-State Voltage Drop @ Rated Current [VDC]	0.6	0.5	0.24	0.18	0.1	0.1

INPUT SPECIFICATIONS (1)

Description	
Control Voltage Range	3.0-10.0 VDC
Must Turn On Voltage	3.0 VDC
Must Turn Off Voltage	1.0 VDC
Typical Input Current @ 5 VDC	15 mAdc
Nominal Input Impedance	300 Ohm
Maximum Turn-On Time [msec]	1.0
Maximum Turn-Off Time [μ sec]	300

GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)(3)	2500 Vrms
Minimum Insulation Resistance (@ 500 VDC)(3)	10^9 Ohm
Maximum Capacitance, Input/Output	15 pF
Ambient Operating Temperature Range	-30 to 80°C
Ambient Storage Temperature Range	-30 to 125°C
Weight (typical)	0.4 oz. (.11g)
Encapsulation	Thermally Conductive Epoxy

1) All parameters at 25°C unless otherwise specified.

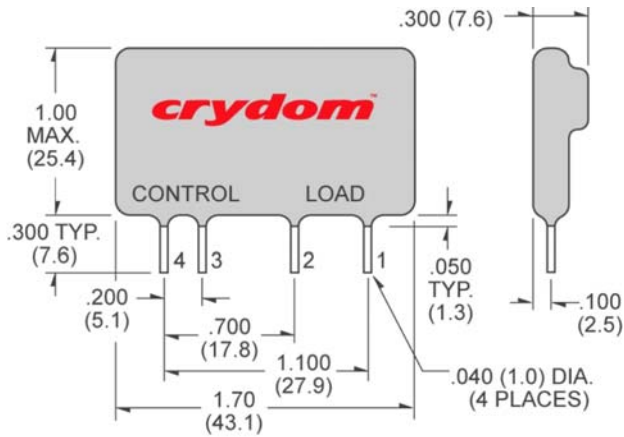
2) @ rated current (RDS-ON)

3) Dielectric and insulation resistance are measured between input and output

4) Inductive loads should be diode suppressed

5) At 55 Vdc

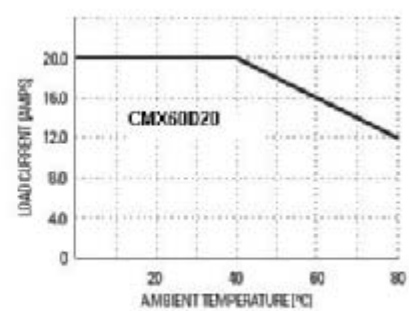
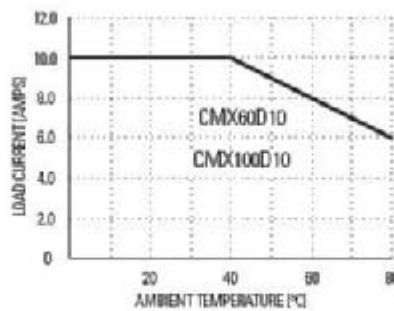
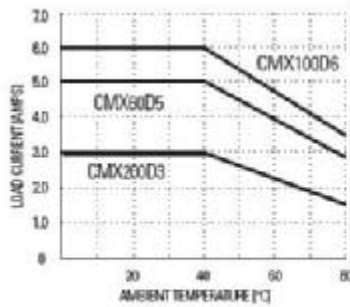
MECHANICAL SPECIFICATIONS



DC CONTROL
PIN 1: +DC LOAD
PIN 2: -DC LOAD
PIN 3: +DC CONTROL
PIN 4: -DC CONTROL

All dimensions are in inches (millimeters)

THERMAL DERATE INFORMATION



Max. Load Current vs. Temp.

AGENCY APPROVALS

UL E116950(3 Amps, 6 Amps and 10 Amps Models)



Rev. 010509

 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor der Inbetriebnahme alle Anschlüsse überprüfen und alle Gehäuseteile montieren. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenda tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

CX Series

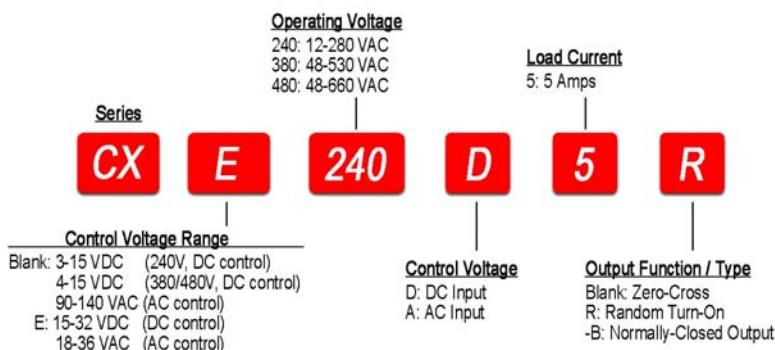


- SIP SSR
- Ratings of 5A @ 660 VAC
- SCR output for heavy industrial loads
- AC or DC control
- Zero-crossing (resistive loads) or random-fire (inductive loads) output

PRODUCT SELECTION

Control Voltage			
3-15 VDC	CX240D5		
4-15 VDC		CX380D5	CX480D5
15-32 VDC	CXE240D5	CXE380D5	CXE480D5
18-36 VAC	CXE240A5		
90-140 VAC	CX240A5		

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description			
Operating Voltage (47-63Hz) [Vrms]	12-280	48-530	48-660
Transient Overvoltage [Vpk]	600	1200	1200
Maximum Off-State Leakage Current @ Rated Voltage [mA]	0.1	0.1	0.1
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	500	500	500
Maximum Load Current [Arms]	5	5	5
Minimum Load Current [Arms]	0.06	0.06	0.06
Maximum Surge Current (16.6ms) [A]	250	250	250
Maximum On-State Voltage Drop @ Rated Current [Vpk]	1.4	1.4	1.4
Maximum I ² t for fusing (8.3 msec) [A ² sec]	260	260	260
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5

INPUT SPECIFICATIONS (1)

Description	CX240Dx	CX380Dx	CXExxxDx	CX240A5	CXE240A5
Nominal Voltage	5 VDC	5 VDC	24 VDC	120 VAC	24 VAC
Control Voltage Range	3-15 VDC	4-15 VDC	15-32 VDC	90-140 VAC	18-36 VAC
Minimum Turn-On Voltage	3.0 VDC	4.0 VDC	15.0 VDC	90.0 Vrms	18.0 Vrms
Drop Out Voltage	1.0 VDC	1.0 VDC	1.0 VDC	10.0 Vrms	2.0 Vrms
Typical Input Current	15 mAdc	15 mAdc	15 mAdc	10 mArms	10 mArms
Nominal Input Impedance	300 Ohm	240 Ohm	1500 Ohm	14.1 Ohm	2.1 Ohm
Maximum Turn-On Time [msec] (3)	1/2 Cycle	1/2 Cycle	1/2 Cycle	10	10
Maximum Turn-Off Time [msec]	1/2 Cycle	1/2 Cycle	1/2 Cycle	40	40

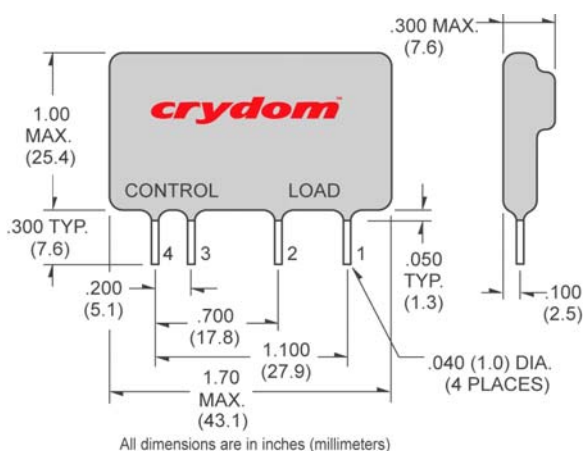
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 VDC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	10 pF
Ambient Operating Temperature Range	-30 to 80 °C
Ambient Storage Temperature Range	-30 to 125 °C
Weight (typical)	0.4 oz. (11g)
Encapsulation	Thermally Conductive Epoxy

GENERAL NOTES

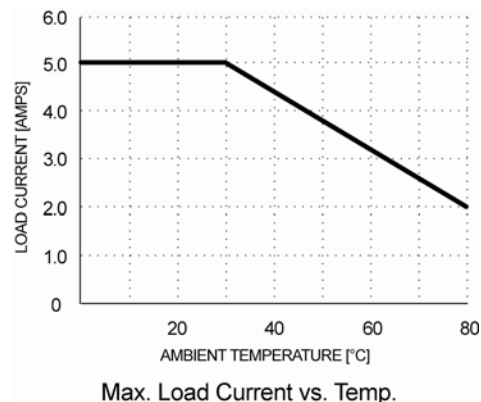
- 1) All parameters at 25°C unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- 3) Turn-On time for random turn-on versions is 0.1 msec (DC Control Models).

MECHANICAL SPECIFICATIONS



DC CONTROL.
 PIN 1: AC LOAD
 PIN 2: AC LOAD
 PIN 3: +DC CONTROL
 PIN 4: -DC CONTROL

AC CONTROL.
 PIN 1: AC LOAD
 PIN 2: AC LOAD
 PIN 3: AC CONTROL
 PIN 4: AC CONTROL



AGENCY APPROVALS

UL E116949
 CSA LR81689
 VDE 70938 UG(240 V, 380V, DC Control Only)
 VG (240 V, 380 V, DC Control Only)



Rev. 06132008

 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenda tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
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RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

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Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

CX-B Series



- SCR Output
- NC (Normally Closed) Configuration
- Ultra High Surge Rating
- Crydom's Patented Design

PRODUCT SELECTION

Control Voltage	5 A
3-15 VDC	CX240D5-B
4-15 VDC	CX480D5-B

OUTPUT SPECIFICATIONS (1)

Description		
Operating Voltage (47-63Hz) [Vrms]	12-280	48-530
Transient Overvoltage [Vpk]	600	1200
Maximum Off-State Leakage Current @ Rated Voltage [mArms]	5.0	5.0
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	500	500
Maximum Load Current [Arms]	5	5
Minimum Load Current [Arms]	0.06	0.06
Maximum Surge Current (16.6ms) [Apk]	250	250
Maximum On-State Voltage Drop @ Rated Current [Vpk]	1.4	1.4
Maximum I ² t for fusing (8.3 msec) [A ² sec]	260	260
Minimum Power Factor (with Maximum Load)	0.5	0.5

INPUT SPECIFICATIONS (1)

Description	
Must Turn On Voltage Range	0-1.0 VDC
Must Turn Off Voltage Range	4-28 VDC
Typical Input Current @ 15 VDC	10 mAdc
Nominal Input Impedance	1360 Ohm
Maximum Turn-On Time [msec] (3)	1/2 Cycle
Maximum Turn-Off Time [msec]	1/2 Cycle

GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 VDC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	10 pF
Ambient Operating Temperature Range	-30 to 80 °C
Ambient Storage Temperature Range	-30 to 125 °C
Weight (typical)	0.4 oz. (11g)
Encapsulation	Thermally Conductive Epoxy

GENERAL NOTES

- 1) All parameters at 25°C unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- 3) Turn-On time for random turn-on versions is 0.01 msec (DC Control Models).

Technical drawing of the Crydom 1000W LED driver showing top and side views with dimensions.

Top View Dimensions:

- Overall Width: 1.70 MAX. (43.1)
- Overall Height: H
- Mounting Pad Spacing (Center-to-Center): 1.100 (27.9)
- Mounting Pad Width: .700 (17.8)
- Mounting Pad Spacing (Edge-to-Edge): .200 (5.1)
- Terminal Spacing (Center-to-Center): .300 TYP. (7.6)
- Terminal Width: .050 TYP. (1.3)
- Terminal Diameter: .040 (1.0) DIA. (4 PLACES)
- Terminal Spacing (Edge-to-Edge): .100 (2.5)
- Terminal Height: .300 MAX. (7.6)

Side View Dimensions:

- Overall Height: H
- Terminal Height: .300 MAX. (7.6)
- Terminal Width: .050 TYP. (1.3)
- Terminal Diameter: .040 (1.0) DIA. (4 PLACES)
- Terminal Spacing (Edge-to-Edge): .100 (2.5)

Labels:

- CONTROL**: Label for the control terminal.
- LOAD**: Label for the load terminal.
- 1, 2, 3, 4**: Terminal numbers corresponding to the pins.

DC CONTROL
PIN 1: AC LOAD
PIN 2: AC LOAD
PIN 3: +DC CONTROL
PIN 4: -DC CONTROL

AC CONTROL
PIN 1: AC LOAD
PIN 2: AC LOAD
PIN 3: AC CONTROL
PIN 4: AC CONTROL

H = 1.0 (25.4) max for CX240
H = 1.5 (36.8) max for CX480

Ambient Temperature [°C]	Load Current [Amps]
0	5.0
30	5.0
80	2.0

AGENCY APPROVALS

CE

Rev. 061608

 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenda tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
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	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环保信息
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部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

D2W Series



- SIP SSR
- Ratings to 3.5A @ 280 VAC
- DC control
- Zero-crossing (resistive loads) output
- Internal snubber network

PRODUCT SELECTION

Control Voltage	2A	3A	3.5A
3-32 VDC	D2W202F	D2W203F	D2W203F-11

OUTPUT SPECIFICATIONS (1)

Description			
Operating Voltage (47-63Hz) [Vrms]	24-280	24-280	24-280
Transient Overvoltage [Vpk]	600	600	600
Maximum Off-State Leakage Current @ Rated Voltage [mA]	8	8	8
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (3)	200	200	200
Maximum Load Current [A]	2	3	3.5
Minimum Load Current [A]	0.06	0.06	0.06
Maximum Surge Current (16.6ms) [A]	28	70	80
Maximum On-State Voltage Drop @ Rated Current [Vpk]	1.4	1.4	1.4
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5

INPUT SPECIFICATIONS (1)

Description	
Control Voltage Range	3-32 VDC
Must Turn On Voltage	3.0 VDC
Must Turn Off Voltage	1.0 VDC
Typical Input Current @ 5 VDC	3.0 mA
Nominal Input Impedance	1500 Ohm
Maximum Turn-On Time [msec]	1/2 Cycle
Maximum Turn-Off Time [msec]	1/2 Cycle

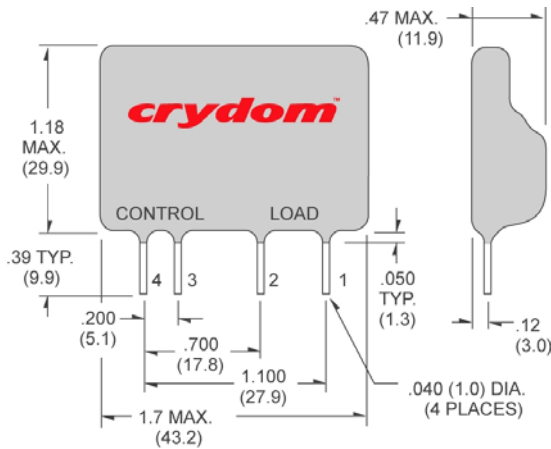
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)(2)	4000 Vrms
Minimum Insulation Resistance (@ 500 VDC)(2)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	10 pF
Ambient Operating Temperature Range	-30 to 80°C
Ambient Storage Temperature Range	-30 to 125°C
Weight (typical)	0.6 oz. (17g)
Encapsulation	Thermally Conductive Epoxy

GENERAL NOTES

- 1) All parameters at 25°C unless otherwise specified.
- 2) Dielectric and insulation resistance are measured between input and output
- 3) Off-State dv/dt test method per EIA/NARM standard RS

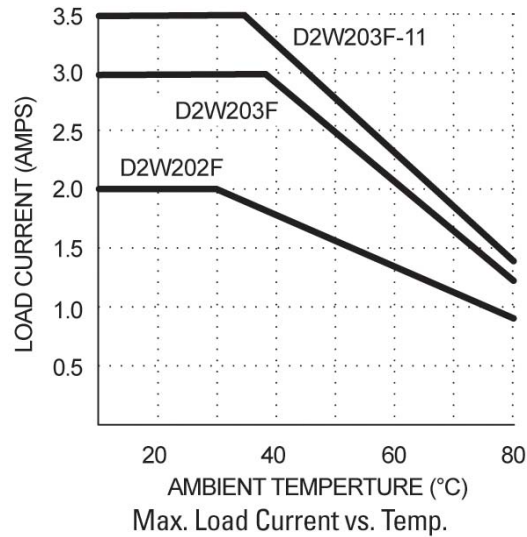
MECHANICAL SPECIFICATIONS



PIN 1: AC LOAD
PIN 2: AC LOAD
PIN 3: +DC CONTROL
PIN 4: -DC CONTROL

All dimensions are in inches (millimeters)

THERMAL DERATE INFORMATION



AGENCY APPROVALS

UL E116950
CSA LR81689



Rev. 061608

 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenda tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

LR Series

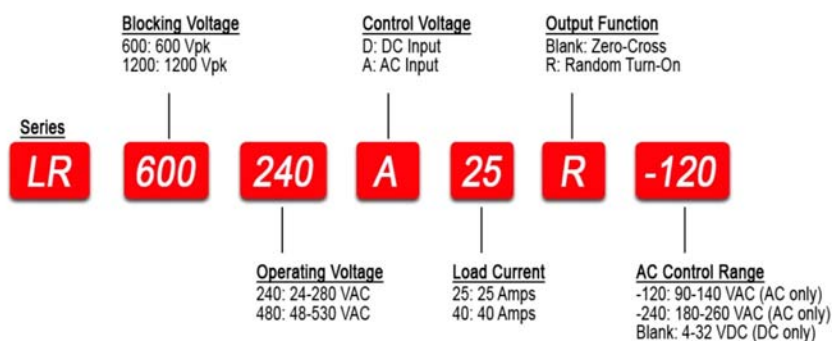


- DIP SSR
- Ratings to 40A @ 480 V AC with external heat sink
- SCR output for heavy industrial loads
- AC or DC control
- Zero-crossing (resistive loads) or random-fire (inductive loads) output

PRODUCT SELECTION

Control Voltage	25A	25A	40A	40A
90-140 VAC	LR600240A25	LR600240A40	LR1200480A25	LR1200480A40
180-260 VAC	LR600240A25	LR600240A40	LR1200480A25	LR1200480A40
4-32 VDC	LR600240D25	LR600240D40	LR1200480D25	LR1200480D40

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description	24-280	24-280	48-530	48-530
Operating Voltage (47-63Hz) [Vrms]	24-280	24-280	48-530	48-530
Transient Overvoltage [Vpk]	600	600	1200	1200
Maximum Off-State Leakage Current @ Rated Voltage [mA]	0.1	0.1	0.1	0.1
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (3)	500	500	500	500
Maximum Load Current [A]	25	40	25	40
Minimum Load Current [A]	0.15	0.15	0.15	0.15
Maximum Surge Current Non-Repetitive(16.6ms) [A]	250	400	250	400
Maximum On-State Voltage Drop @ Rated Current [Vpk]	1.6	1.6	1.6	1.6
Maximum I ² t for fusing (8.3 msec) [A ² sec]	260	660	260	660
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5	0.5

INPUT SPECIFICATIONS (1)

Description			
Control Voltage Range	4-32 VDC	90-140 V	180-260 V
Must Turn On Voltage	4.0 VDC	90 VAC	180 VAC
Must Turn Off Voltage	1.0 VDC	10 VAC	10 VAC
Typical Input Current (5)(6)	9 mAdc	15	11
Maximum Turn-On Time [msec] (4)	1/2 Cycle	10.0	10.0
Maximum Turn-Off Time [msec]	1/2 Cycle	40.0	40.0

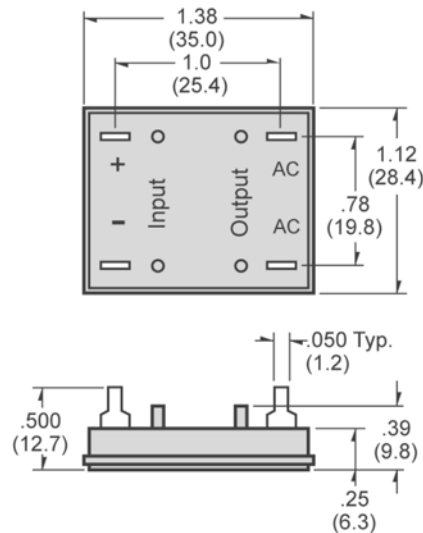
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	2500 Vrms
Minimum Insulation Resistance (@ 500 VDC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	8.0 pF
Ambient Operating Temperature Range	-30 to 80°C
Ambient Storage Temperature Range	-30 to 125°C
Weight (typical)	0.5 oz. (14.4g)
Encapsulation	Thermally Conductive Epoxy

GENERAL NOTES

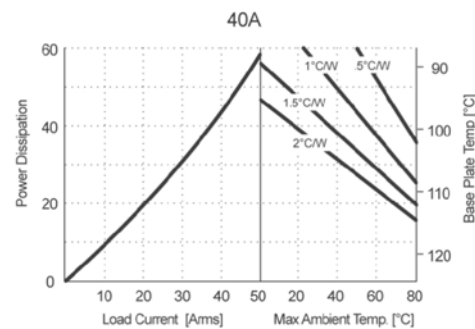
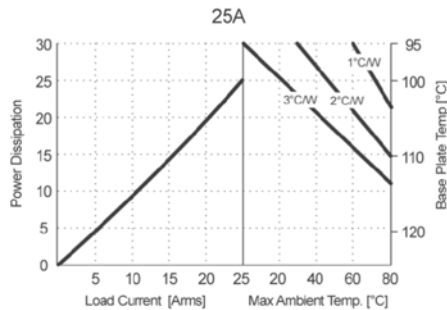
- 1) All parameters at 25°C and per section unless otherwise specified.
- 2) Dielectric and insulation resistance are measured between input and output
- 3) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- 4) Turn-on time for random Switching models is 0.1 ms.
- 5) DC Input circuitry incorporates active current limiter.
- 6) Use suffix-120 for 120 VAC control and -240 for 240VAC control

MECHANICAL SPECIFICATIONS



All dimensions are in inches (millimeters)

THERMAL DERATE INFORMATION



AGENCY APPROVALS

UL/cUL E116950



 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.	GEFAHR EINES ELEKTRISCHEN SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环保信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

LS Series

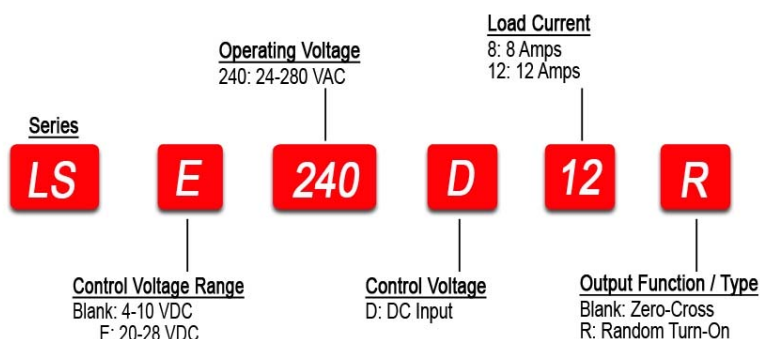


- SIP SSR
- Ratings to 12A @ 280 VAC
- SCR output for heavy industrial loads
- DC control
- Zero-crossing (resistive loads) or random-fire (inductive loads) output

PRODUCT SELECTION

Control Voltage	8A	12A
4-10 VDC	LS240D8	LS240D12
20-28 VDC	LSE240D8	LSE240D12

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description		
Operating Voltage (47-63Hz) [Vrms]	24-280	24-280
Transient Overvoltage [Vpk]	600	600
Maximum Off-State Leakage Current @ Rated Voltage [mA _{rms}]	0.1	0.1
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	500	500
Maximum Load Current [A _{rms}](3)	8	12
Minimum Load Current [A _{rms}]	0.15	0.15
Maximum Surge Current (16.6ms) [A _{pk}]	80	120
Maximum On-State Voltage Drop @ Rated Current [V _{pk}]	1.6	1.6
Minimum Power Factor (with Maximum Load)	0.5	0.5

INPUT SPECIFICATIONS (1)

Description

Control Voltage Range	4-10 VDC	20-28 VDC
Minimum Turn On Voltage	4.0 VDC	20 VDC
Minimum Turn-Off Voltage	1.0 VDC	1.0 VDC
Typical Input Current @ Nominal Voltage	15 mAdc	15 mAdc
Nominal Input Impedance	270 Ohm	1500 Ohm
Maximum Turn-On Time [msec]	1/2 Cycle	1/2 Cycle
Maximum Turn-Off Time [msec]	1/2 Cycle	1/2 Cycle

GENERAL SPECIFICATIONS

Description

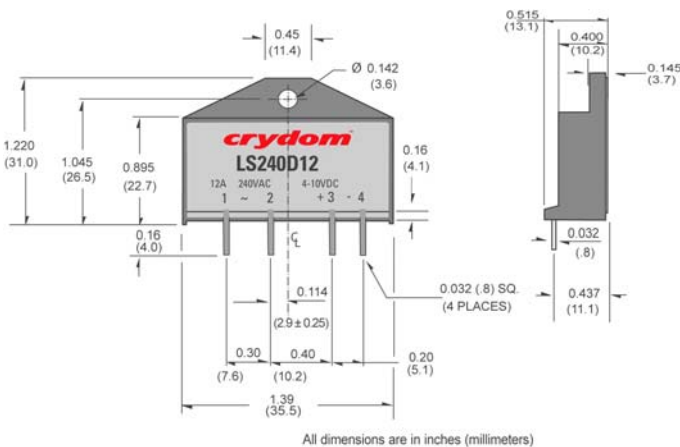
Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	2500 Vrms
Minimum Insulation Resistance (@ 500 VDC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	10pF
Ambient Operating Temperature Range	-30 to 80°C
Ambient Storage Temperature Range	-30 to 125°C
Weight (typical)	0.6 oz. (17g)
Encapsulation	Thermally Conductive Epoxy

GENERAL NOTES

- 1) All parameters at 25°C unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1

3) See current derating curve.

MECHANICAL SPECIFICATIONS



PIN 1: AC LOAD
PIN 2: AC LOAD
PIN 3: + DC CONTROL
PIN 4: -DC CONTROL

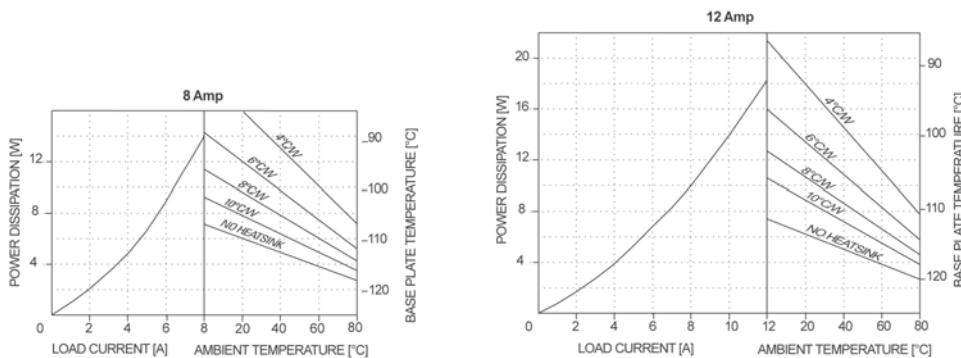
Notes:

- 1.-Tolerances are ± 0.02 " (0.5mm) unless otherwise stated.
- 2.-All pin dimensions are from center of pin

UL E116950
CSA LR816889
TUV E2072777
CE

Rev. 071608

THERMAL DERATE INFORMATION



For Contact information visit our web site.

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 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG / ADVERTENCIA / AVVERTENZA / AVISO		
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RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

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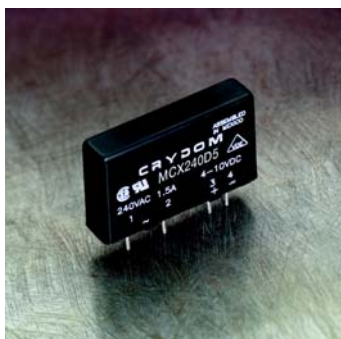
Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

MCX Series

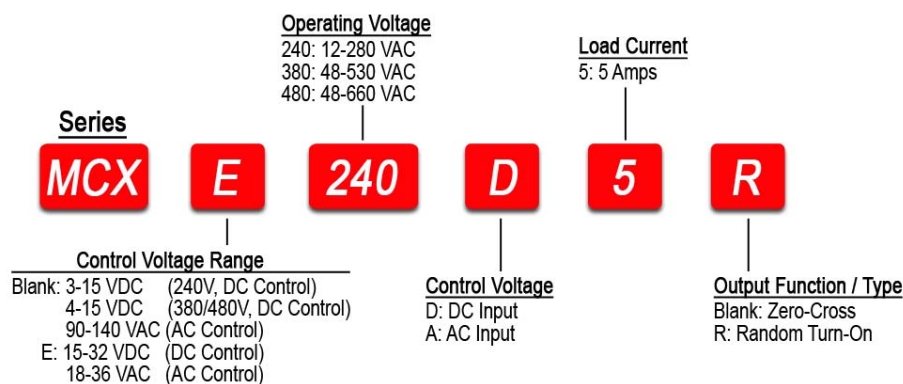


- SIP SSR
- Ratings to 5A @ 280 VAC
- SCR output for heavy industrial loads
- AC or DC control
- Zero-crossing (resistive loads) or random-fire (inductive loads) output
- Plastic encapsulated

PRODUCT SELECTION

Control Voltage	5A	5A	5A
3-15 VDC	MCX240D5		
4-15 VDC		MCX380D5	MCX480D5
15-32 VDC	MCXE240D5	MCXE380D5	MCXE480D5
18-36 VAC	MCXE240A5		
90-140 VAC	MCX240A5		

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description	12-280	48-530	48-660
Operating Voltage (47-63Hz) [Vrms]	12-280	48-530	48-660
Transient Overvoltage [Vpk]	600	1200	1200
Maximum Off-State Leakage Current @ Rated Voltage [mA]	0.1	0.1	0.1
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	500	500	500
Maximum Load Current [Arms](3)	5	5	5
Minimum Load Current [Arms]	0.06	0.06	0.06
Maximum Surge Current (16.6ms) [A _{pk}]	250	250	250
Maximum On-State Voltage Drop @ Rated Current [V _{pk}]	1.4	1.4	1.4
Maximum I ² t for fusing (8.3 msec) [A ² sec]	260	260	260
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5

INPUT SPECIFICATIONS (1)

Description	MCX240Dx	MCX380Dx	MCXExxxDx	MCX240A5	MCXE240A5
Control Voltage Range	3-15 VDC	4-15 VDC	15-32 VDC	90-140 VAC	18-36 VAC
Maximum Turn On Voltage	3.0 VDC	4.0 VDC	15.0 VDC	90.0 Vrms	18.0 Vrms
Mimimum Turn-Off Voltage	1.0 VDC	1.0 VDC	1.0 VDC	10.0 Vrms	2.0 VDC
Input Current @ Nominal Voltage	15 mAdc	15 mAdc	15 mAdc	10 mAdc	10 mAdc
Nominal Input Impedance	300 Ohm	240 Ohm	1500 Ohm	14.1 Ohm	2.1 k Ohm
Maximum Turn-On Time [msec] (3)	1/2 Cycle	1/2 Cycle	1/2 Cycle	10	10
Maximum Turn-Off Time [msec]	1/2 Cycle	1/2 Cycle	1/2 Cycle	40	40

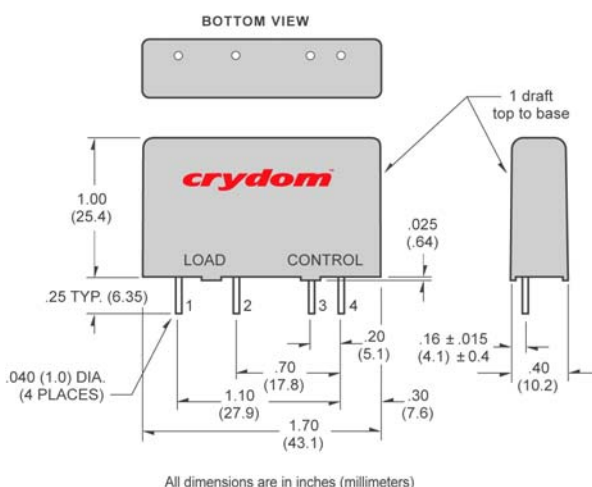
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 VDC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	10pF
Ambient Operating Temperature Range	-40 to 80 °C
Ambient Storage Temperature Range	-40 to 125 °C
Weight (typical)	0.7 oz. (20g)
Encapsulation	Thermally Conductive Epoxy

GENERAL NOTES

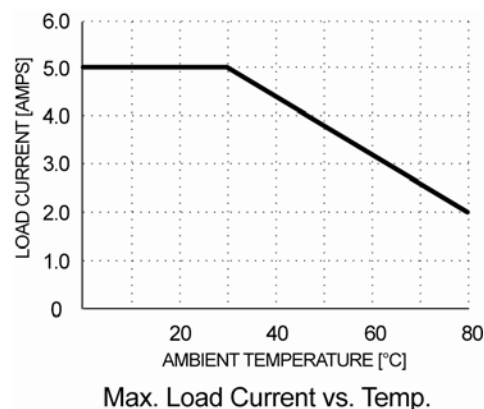
- 1) All parameters at 25°C unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- 3) Turn-On time for random turn-on versions is 0.01 msec (DC Control Models).

MECHANICAL SPECIFICATIONS



DC CONTROL.
PIN 1: AC LOAD
PIN 2: AC LOAD
PIN 3: +DC CONTROL
PIN 4: -DC CONTROL

AC CONTROL.
PIN 1: AC LOAD
PIN 2: AC LOAD
PIN 3: AC CONTROL
PIN 4: AC CONTROL



AGENCY APPROVALS

UL E116949



Rev. 061608

For Contact information visit our web site.

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 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenda tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

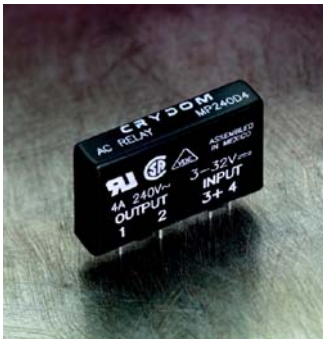
Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

MP Series

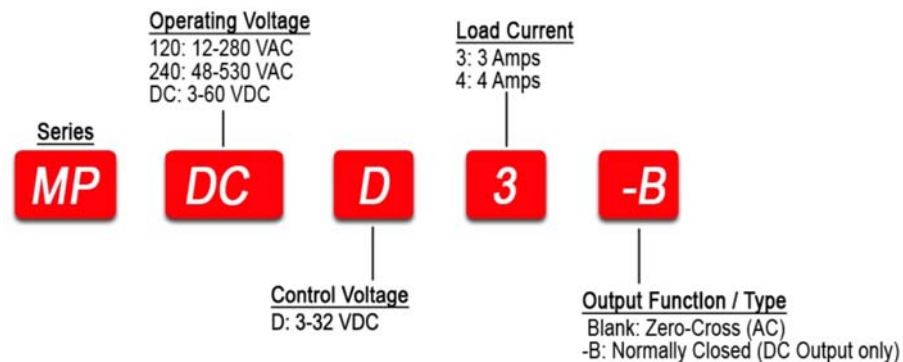


- SIP SSR
- Ratings to 3A @ 60 VDC
- MOSFET output
- DC Control
- Low on-state impedance
- Normally open or normally closed output

PRODUCT SELECTION

Control Voltage	3A	3A	4A	3A
3-32 VDC	MP120D3	MP240D3	MP240D4	MPDCD3

AVAILABLE OPTIONS



AC OUTPUT SPECIFICATIONS (1)

Description	12-140	24-280	24-280
Operating Voltage (47-63Hz) [Vrms]	12-140	24-280	24-280
Transient Overvoltage [Vpk]	400	600	600
Maximum Off-State Leakage Current @ Rated Voltage [mA]	5	5	5
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	200	200	200
Maximum Load Current [Arms]	3	3	4
Minimum Load Current [Arms]	0.02	0.02	0.02
Maximum Surge Current (16.6ms) [A _{pk}]	90	90	130
Maximum On-State Voltage Drop @ Rated Current [V _{pk}]	1.6	1.6	1.6
Maximum I ² t for fusing (8.3 msec) [A ² sec]	36	36	72
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5

DC OUTPUT SPECIFICATIONS (1)

Description	
Operating Voltage Range [VDC]	3-60
Maximum Load Current [Arms]	3
Minimum Load Current [Arms]	0.02
Maximum Surge Current [Adc]	5
Maximum On-State Voltage Drop @ Rated Current [V _{pk}]	1.5

INPUT SPECIFICATIONS (1)

Description	AC Output	DC Output	DC Output (-B)
Control Voltage Range	3-32 VDC	3-32 VDC	3-32 VDC
Must Turn On Voltage	3.0 VDC	3.0 VDC	1.0 VDC
Must Turn Off Voltage	1.0 VDC	1.0 VDC	3.0 VDC
Nominal Input Impedance	1500 Ohm	1500 Ohm	1500 Ohm
Maximum Turn-On Time [msec]	1/2 Cycle	100 μ s	100 μ s
Maximum Turn-Off Time [msec]	1/2 Cycle	100 μ s	100 μ s

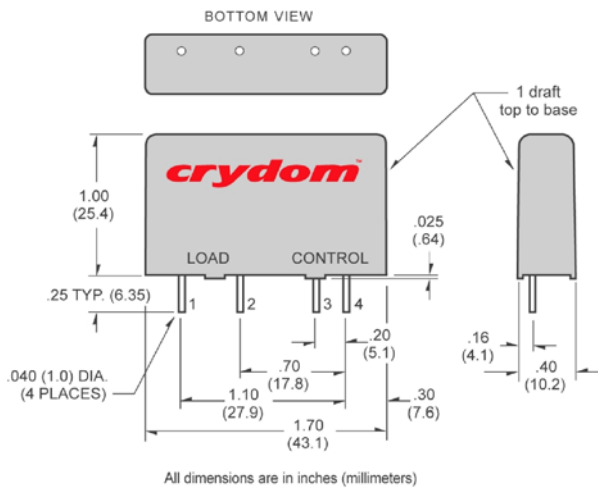
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 VDC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range	-40 to 80°C
Ambient Storage Temperature Range	-40 to 125°C
Weight (typical)	0.7 oz. (20g)
Encapsulation	Thermally Conductive Epoxy

GENERAL NOTES

- 1) All parameters at 25°C unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443,13.11.1
- 3) Inductive loads should be diode suppressed

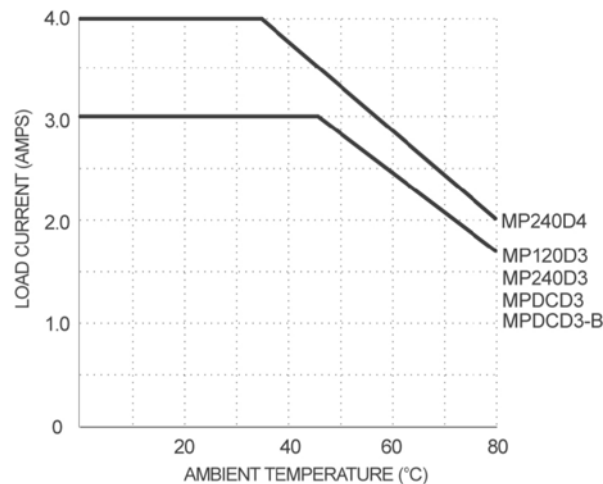
MECHANICAL SPECIFICATIONS



DC OUTPUT
PIN 1: +DC LOAD
PIN 2: -DC LOAD
PIN 3: +DC CONTROL
PIN 4: -DC CONTROL

AC Output
PIN 1: AC LOAD
PIN 2: AC LOAD
PIN 3: +DC CONTROL
PIN 4: -DC CONTROL

THERMAL DERATE INFORMATION



AGENCY APPROVALS

UL E116950
CSA LR81689 (AC Output Only)
VDE 5900 UG (AC Output Only)



 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.	GEFAHR EINES ELEKTRISCHEN SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环保信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

MPF Series



- SIP SSR
- Ratings to 4A @ 280 VAC
- SCR output for heavy industrial loads
- DC control
- Zero-crossing (resistive loads) or random-fire (inductive loads) output

PRODUCT SELECTION

Control Voltage	Zero Crossing	Random Fire
4-10 VDC	MPF240D4	MPF240D4R

OUTPUT SPECIFICATIONS (1)

Description		
Operating Voltage (47-63Hz) [Vrms]	12-280	12-280
Transient Overvoltage [Vpk]	600	600
Maximum Off-State Leakage Current @ Rated Voltage [mArms]	0.1	0.1
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (3)	500	500
Maximum Load Current [Arms]	4	4
Minimum Load Current [Arms]	0.1	0.1
Maximum Surge Current (16.6ms) [Apk]	40	40
Maximum On-State Voltage Drop @ Rated Current [Vpk]	1.5	1.5
Minimum Power Factor (with Maximum Load)	0.5	0.5

INPUT SPECIFICATIONS (1)

Description	
Control Voltage Range	4-10 VDC
Must Turn On Voltage	4.0 VDC
Must Turn Off Voltage	1.0 VDC
Typical Input Current @ 5 VDC	15 mAdc
Nominal Input Impedance	300 Ohm
Maximum Turn-On Time [msec] *	1/2 Cycle
Maximum Turn-Off Time [msec]	1/2 Cycle

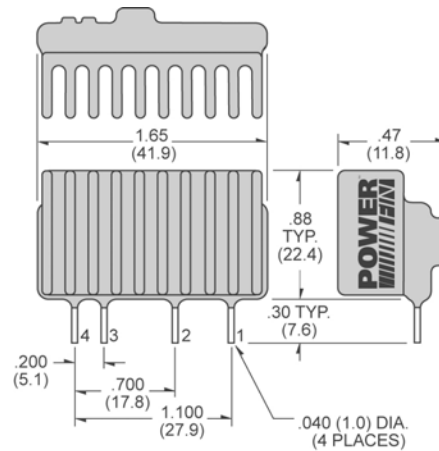
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)(2)	3750 Vrms
Minimum Insulation Resistance (@ 500 VDC)(2)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	8.0 pF
Ambient Operating Temperature Range	-30 to 80°C
Ambient Storage Temperature Range	-30 to 125°C
Weight (typical)	0.6 oz. (17g)
Encapsulation	Thermally Conductive Epoxy

GENERAL NOTES

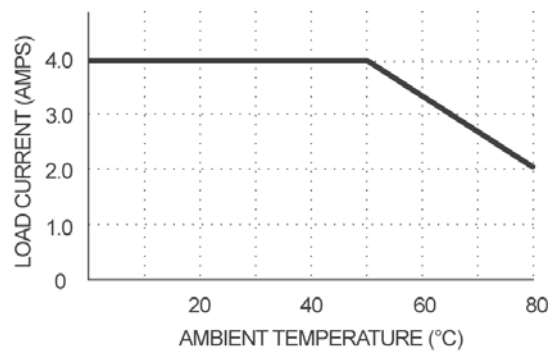
- 1) All parameters at 25°C unless otherwise specified.
- 2) Dielectric and insulation resistance are measured are between input and output
- 3) Off-State dv/dt test method per EIA/NARM standard RS-443

MECHANICAL SPECIFICATIONS



All dimensions are in inches (millimeters)

THERMAL DERATE INFORMATION



Max. Load Current vs. Temp.

AGENCY APPROVALS

UL E116950
CSA LR81689



Rev. 0061608

 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenda tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

PF Series

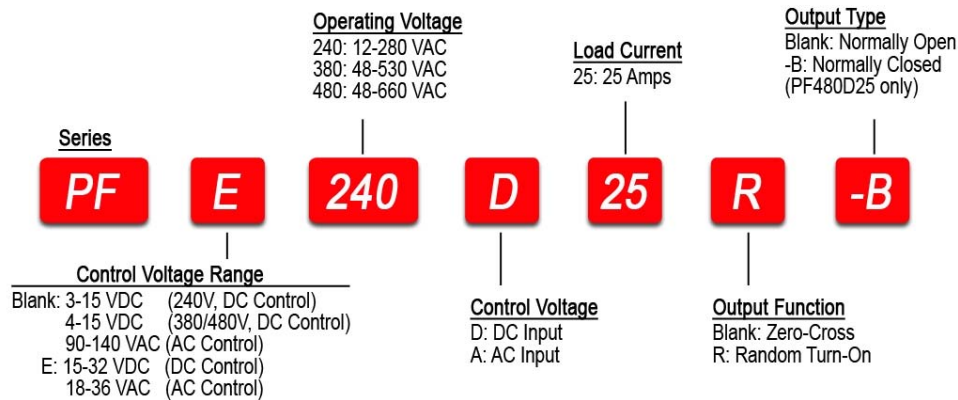


- SIP SSR
- Ratings to 25A (forced air) @ 480 VAC
- SCR output for heavy industrial loads
- AC or DC control
- Zero-crossing (resistive loads) or random-fire (inductive loads) output

PRODUCT SELECTION

Control Voltage	25A	25A	25A
3-15 VDC	PF240D25		
4-15 VDC		PF380D25	PFE480D25
15-32 VDC	PFE240D25	PFE380D25	PF480D25
18-36 VAC	PFE240A25		
90-140 VAC	PF240A25		

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description	12-280	48-530	48-660
Operating Voltage (47-63Hz) [Vrms]	12-280	48-530	48-660
Transient Overvoltage [Vpk]	600	1200	1200
Maximum Off-State Leakage Current @ Rated Voltage [mArms]	0.1	0.1	0.1
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	500	500	500
Maximum Load Current [Arms](3)	Forced Air 25 Convection Air 10	Forced Air 25 Convection Air 10	Forced Air 25 Convection Air 10
Minimum Load Current [Arms]	0.06	0.06	0.06
Maximum Surge Current (16.6ms) [Apk]	250	250	250
Maximum On-State Voltage Drop @ Rated Current [Vpk]	1.6	1.6	1.6
Maximum I ² t for fusing (8.3 msec) [A ² sec]	260	260	260
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5

INPUT SPECIFICATIONS (1)

Description	PF240D25	PF380D/480D	PFExxxD25	PF240A25	PFE240A25
Control Voltage Range	3-15 VDC	4-15 VDC	15-32 VDC	90-140 VAC	18-36 VAC
Maximum Turn On Voltage	3.0 VDC	4.0 VDC	15.0 VDC	90.0 Vrms	18.0 Vrms
Minimum Turn-Off Voltage	1.0 VDC	1.0 VDC	1.0 VDC	10.0 Vrms	2.0 Vrms
Typical Input Current @ Nominal Voltage	15 mAdc	15 mAdc	15 mAdc	10 mAdc	10 mAdc
Nominal Input Impedance	300 Ohm	240 Ohm	1500 Ohm	14.1 k Ohm	2.1 k Ohm
Maximum Turn-On Time [msec] (4)	1/2 Cycle	1/2 Cycle	1/2 Cycle	10	10
Maximum Turn-Off Time [msec]	1/2 Cycle	1/2 Cycle	1/2 Cycle	40	40

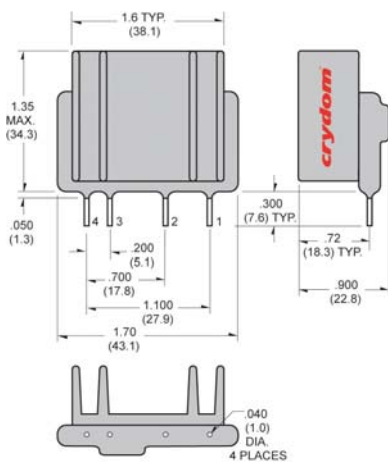
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 VDC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range	-30 to 80°C
Ambient Storage Temperature Range	-30 to 125°C
Weight (typical)	0.85 oz. (25g)
Encapsulation	Thermally Conductive Epoxy

GENERAL NOTES

- 1) All parameters at 25°C unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443,13.11.1
- 3) Heatsink temperature 85 °C Maximum.
- 4) Turn-On Time for Random Turn-On versions 0.1 msec (DC Control Models)

MECHANICAL SPECIFICATIONS



DC CONTROL.
 PIN 1: AC LOAD
 PIN 2: AC LOAD
 PIN 3: +DC CONTROL
 PIN 4: -DC CONTROL

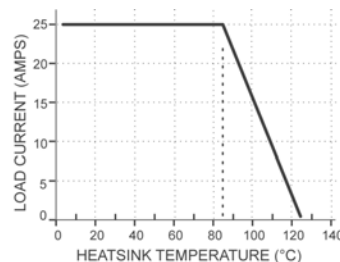
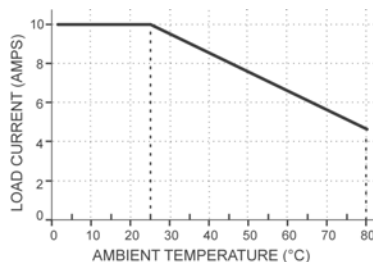
AC CONTROL.
 PIN 1: AC LOAD
 PIN 2: AC LOAD
 PIN 3: AC CONTROL
 PIN 4: AC CONTROL

UL E116950
 CSA LR70938(DC Control Only)



Rev. 061608

THERMAL DERATE INFORMATION



For Contact information visit our web site.

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 Specifications subject to change without notice.

AGENCY APPROVALS

UL E116950
CSA LR70938(DC Control Only)



Rev. 0061608

DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.	GEFAHR EINES ELEKTRISCHEN SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.



WARNING / AVERTISSEMENT / WARNUNG / ADVERTENCIA / AVVERTENZA / AVISO

RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE

- The product's side panels may be hot, allow time for product to cool before touching.
- Follow proper mounting instructions including torque values.
- Do not allow liquids or foreign objects to enter this product.

Failure to follow this instruction can result in serious injury, or equipment damage.

RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER

- Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher.
- Respecter les consignes de montage, et notamment les couples de serrage.
- Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit.

Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.

GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG

- Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren.
- Beachten Sie die Montageanweisungen.
- Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein.

Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.

RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD

- Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo.
- Respetar las instrucciones de montaje, y en particular los pares de apretado.
- No dejar que penetren líquidos o cuerpos extraños en el producto.

Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.

RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO

- I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo.
- Seguire le istruzioni di montaggio corrette.
- Non far entrare liquidi o oggetti estranei in questo apparecchio.

La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.

RISCO DE DANO MATERIAL E DE AQUECIMENTO

- Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar.
- Siga devidamente as instruções de montagem.
- Não permita a entrada de líquidos e de objectos estranhos no produto.

A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环保信息符合中华人民共和国电子行业标准 SJ/T11364 - 2006, 电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

CTX SERIES



- Independently controlled quad output solid-state relay; Rated at 20A @ 24-280 VAC
- Industry standard package
- DC Control
- Zero-crossing (resistive loads) or random-fire (inductive loads) output
- Ideal for limited-space applications

PRODUCT SELECTION

Control Voltage	Zero-crossing	Random Fire
3-15 VDC	CX240D3Q	
4-10 VDC	CTX240D3Q	CTX240D3QR

OUTPUT SPECIFICATIONS (1)(3)

Description	
Operating Voltage (47-63Hz) [Vrms]	24-280
Transient Overvoltage [Vpk]	600
Maximum Off-State Leakage Current @ Rated Voltage [mArms]	0.1
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	200
Maximum Load Current [Arms](3)	1 Section ON: 0.1-6.0 2 Section ON: 0.1-4.0 3 Section ON: 0.1-3.0 4 Section ON: 0.1-2.5
Maximum Surge Current (16.6ms) [Apk]	120
Maximum On-State Voltage Drop @ Rated Current [Vpk]	1.4
Maximum I ² t for fusing (8.3 msec) [A ² sec]	60
Minimum Power Factor (with Maximum Load)	0.5

INPUT SPECIFICATIONS (1)(3)

Description	
Control Voltage Range	4-10 VDC
Must Turn On Voltage	4.0 VDC
Must Turn Off Voltage	1.0 VDC
Typical Input Current @ 5 VDC	15 mAdc
Nominal Input Impedance	270 Ohm
Maximum Turn-On Time [msec]	1/2 Cycle
Maximum Turn-Off Time [msec]	1/2 Cycle

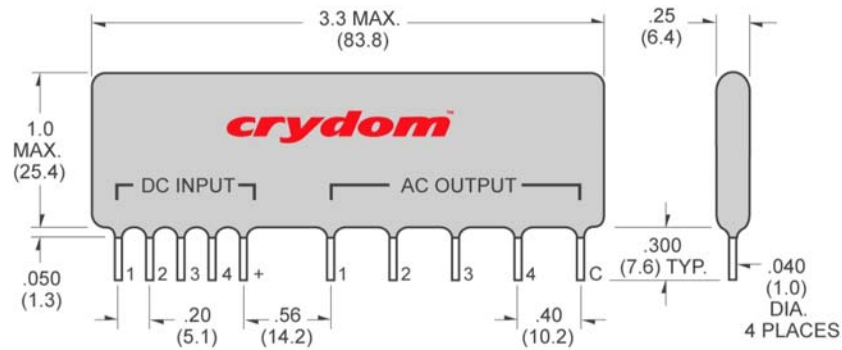
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	2500 Vrms
Minimum Insulation Resistance (@ 500 VDC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	10 pF
Ambient Operating Temperature Range	-30 to 80°C
Ambient Storage Temperature Range	-30 to 125°C
Weight (typical)	0.5 oz. (14.4g)
Encapsulation	Thermally Conductive Epoxy

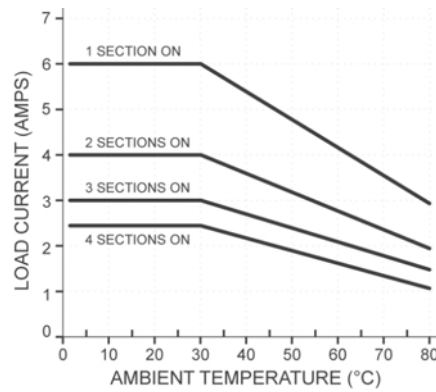
GENERAL NOTES

- 1) All parameters at 25°C unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443, 13.11.1
- 3) All specifications are per section unless otherwise noted

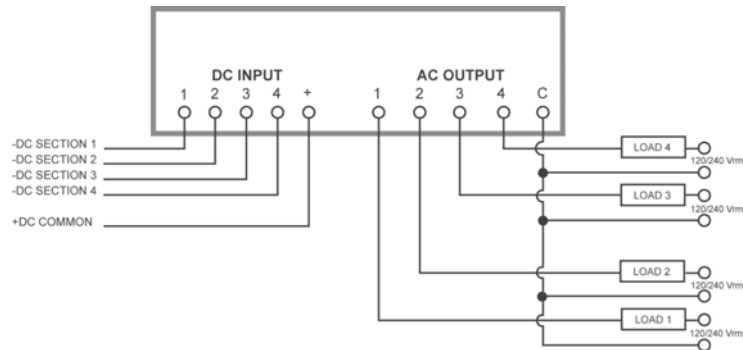
MECHANICAL SPECIFICATIONS



THERMAL DERATE INFORMATION



WIRING DIAGRAM



AGENCY APPROVALS

CE

⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenda tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.

⚠ WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

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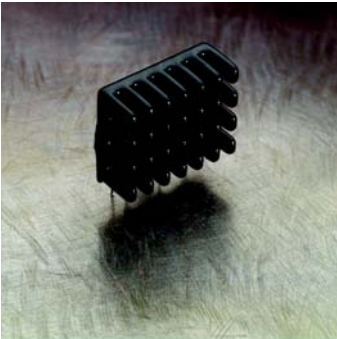
Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环保信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

SPF Series

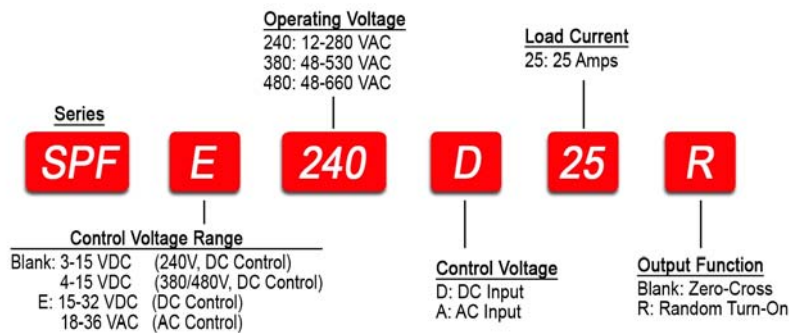


- SIP SSR
- Ratings to 25A (forced air) @ 480 VAC
- SCR output for heavy industrial loads
- AC or DC control
- Zero-crossing (resistive loads) or random-fire (inductive loads) output

PRODUCT SELECTION

Control Voltage	25A	25A	25A
	SPF240D25		
4-15 VDC		SPF380D25	SPFE480D25
15-32 VDC	SPFE240D25	SPFE380D25	SPFE480D25
18-36 VAC	SPFE240A25		
90-140 VAC	SPF240A25		

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description			
Operating Voltage (47-63Hz) [Vrms]	12-280	48-530	48-660
Transient Overvoltage [Vpk]	600	1200	1200
Maximum Off-State Leakage Current @ Rated Voltage [mArms]	0.1	0.1	0.1
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	500	500	500
Maximum Load Current [Arms](3)	Forced Air 25 Convection Air 10	Forced Air 25 Convection Air 10	Forced Air 25 Convection Air 10
Minimum Load Current [Arms]	0.06	0.06	0.06
Maximum Surge Current (16.6ms) [Apk]	250	250	250
Maximum On-State Voltage Drop @ Rated Current [Vpk]	1.6	1.6	1.6
Maximum I ² t for fusing (8.3 msec) [A ² sec]	260	260	260
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5

INPUT SPECIFICATIONS (1)

Description	SPF240D25	SPF380D/480D	SPFExxxD25	SPF240A25	SPFE240A25
Control Voltage Range	3-15 VDC	4-15 VDC	15-32 VDC	90-140 VAC	18-36 VAC
Maximum Turn On Voltage	3.0 VDC	4.0 VDC	15.0 VDC	90.0 Vrms	18.0 Vrms
Minimum Turn-Off Voltage	1.0 VDC	1.0 VDC	1.0 VDC	10.0 Vrms	2.0 Vrms
Typical Input Current @ Nominal Voltage	15 mAdc	15 mAdc	15 mAdc	10 mAdc	10 mAdc
Nominal Input Impedance	300 Ohm	240 Ohm	1500 Ohm	14.1 k Ohm	2.1 k Ohm
Maximum Turn-On Time [msec] (4)	1/2 Cycle	1/2 Cycle	1/2 Cycle	10	10
Maximum Turn-Off Time [msec]	1/2 Cycle	1/2 Cycle	1/2 Cycle	40	40

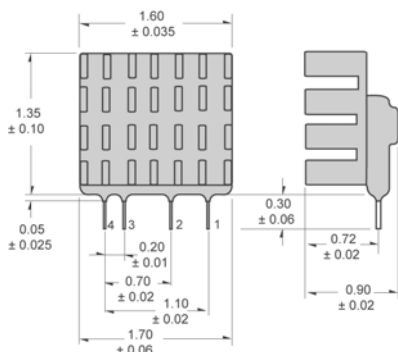
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 VDC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range	-30 to 80°C
Ambient Storage Temperature Range	-30 to 125°C
Weight (typical)	0.85 oz. (25g)
Encapsulation	Thermally Conductive Epoxy

GENERAL NOTES

- 1) All parameters at 25°C unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443,13.11.1
- 3) Heatsink temperature 85 °C Maximum.
- 4) Turn-On Time for Random Turn-On versions 0.1 msec (DC Control Models)

MECHANICAL SPECIFICATIONS



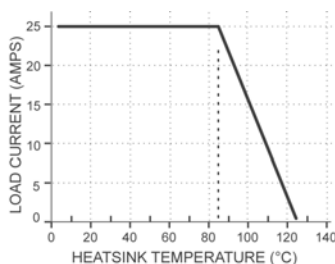
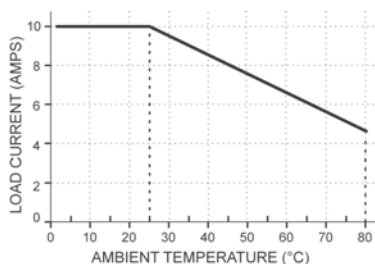
AC CONTROL
PIN 1: AC LOAD
PIN 2: AC LOAD
PIN 3: AC CONTROL
PIN 4: AC CONTROL

DC CONTROL
PIN 1: AC LOAD
PIN 2: AC LOAD
PIN 3: +DC CONTROL
PIN 4: -DC CONTROL

UL E116950
CE

Rev. 061608

THERMAL DERATE INFORMATION



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 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenda tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环保信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

DPA Series



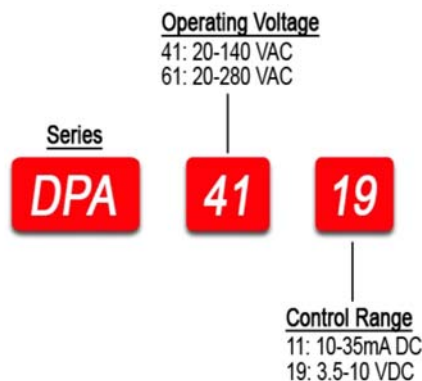
- 16 Pin DIP SSR
- Ratings to 1A @ 280 VAC
- SCR output
- Voltage or current-control input
- Zero-crossing (resistive loads) output

PRODUCT SELECTION

Control Voltage

3.5-10 VDC	DPA4119	DPA6119
10-35 mA	DPA4111	DPA6111

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description

Operating Voltage (47-63Hz) [Vrms]	20-140	20-280
Transient Overvoltage [Vpk]	400	600
Maximum Off-State Leakage Current @ Rated Voltage [mA]	0.01	0.01
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (3)	500	500
Maximum Load Current [Arms]	1.0	1.0
Minimum Load Current [Arms]	0.025	0.025
Maximum Surge Current (16.6ms) [Apk]	30	30
Maximum On-State Voltage Drop @ Rated Current [Vpk]	1.2	1.2
Minimum Power Factor (with Maximum Load)	0.5	0.5

INPUT SPECIFICATIONS (1)

Description

Control Voltage Range	-	3.5-10 VDC
Control Current Range	10-35 mA	-
Must Turn Off-State Current	1.0 mA	-
Must Turn Off-State Voltage	-	1.0 VDC
Typical Input Current @ 5 VDC	-	15 mAdc
Nominal Input Impedance	-	270 Ohm
Maximum Turn-On Time [msec]	1/2 Cycle	1/2 Cycle
Maximum Turn-Off Time [msec]	1/2 Cycle	1/2 Cycle

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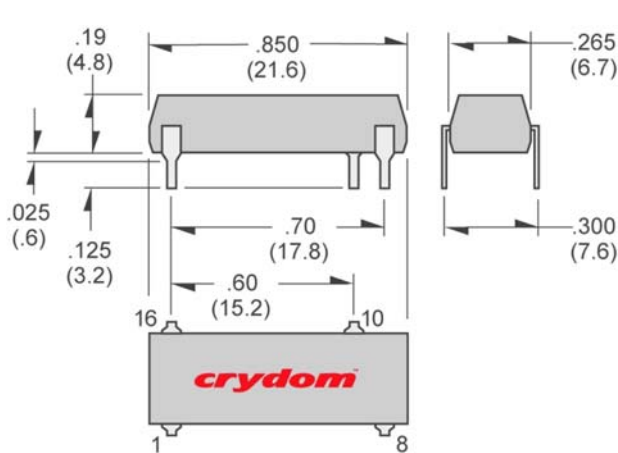
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)(2)	3750 Vrms
Minimum Insulation Resistance (@ 500 VDC)(2)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	2.0 pF
Ambient Operating Temperature Range	-30 to 80°C
Ambient Storage Temperature Range	-30 to 125°C
Weight (typical)	0.1 oz. (2.9g)
Encapsulation	Thermally Conductive Epoxy

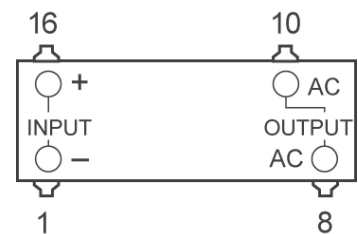
GENERAL NOTES

- 1) All parameters at 25°C unless otherwise specified.
- 2) Dielectric and insulation resistance are measured between input and output
- 3) Off-State dv/dt test method per EIA/NARM standard RS

MECHANICAL SPECIFICATIONS

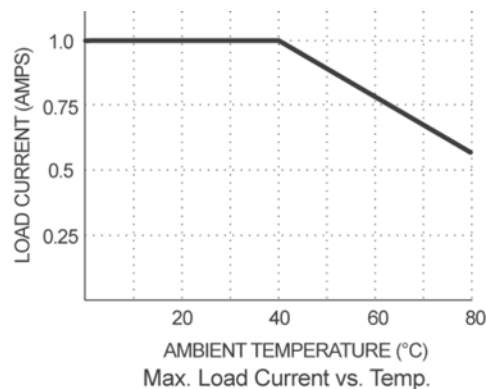


PIN 8: AC LOAD
 PIN 10: AC LOAD
 PIN 16: +DC CONTROL
 PIN 1: -DC CONTROL



All dimensions are in inches (millimeters)

THERMAL DERATE INFORMATION



AGENCY APPROVALS

UL E116950
 CSA LR81689
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 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.	GEFAHR EINES ELEKTRISCHEN SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环保信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

SDV / SDI Series

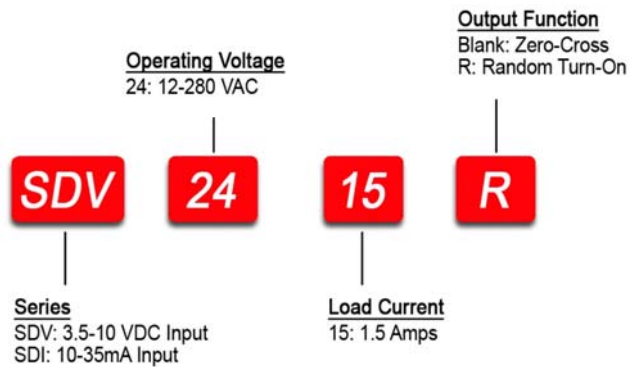


- 16 Pin DIP SSR
- Ratings to 1.5A @ 280 VAC
- SCR output
- Voltage or current-control input
- Zero-crossing (resistive loads) or random-fire (inductive loads) output

PRODUCT SELECTION

Control Voltage	1.5A	1.5A
3.5-10 VDC	SDV2415	SDV2415R
10-35mA	SDI2415	SDI2415R

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description	
Operating Voltage (47-63Hz) [Vrms]	12-280
Transient Overvoltage [Vpk]	600
Maximum Off-State Leakage Current @ Rated Voltage [mA _{rms}]	0.01
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (3)	500
Maximum Load Current [A _{rms}](3)	1.5
Minimum Load Current [A _{rms}]	0.025
Maximum Surge Current (16.6ms) [A _{pk}]	30
Maximum On-State Voltage Drop @ Rated Current [V _{pk}]	1.2
Minimum Power Factor (with Maximum Load)	0.5

INPUT SPECIFICATIONS (1)

Description		
Model	SDV	SDI
Control Voltage Range	-	3.5-10 VDC
Control Current Range	10-32 mA	-
Must Turn On Voltage	-	3.5 VDC
Must Turn On Current	10 mA	-
Must Turn Off Voltage	-	1.0 VDC
Must Turn Off Current	1.0 mA	-
Typical Input Current @ 5 VDC	-	15 mAdc
Nominal Input Impedance	-	270 Ohm
Maximum Turn-On Time [msec] (4)	1/2 Cycle	1/2 Cycle
Maximum Turn-Off Time [msec]	1/2 Cycle	1/2 Cycle

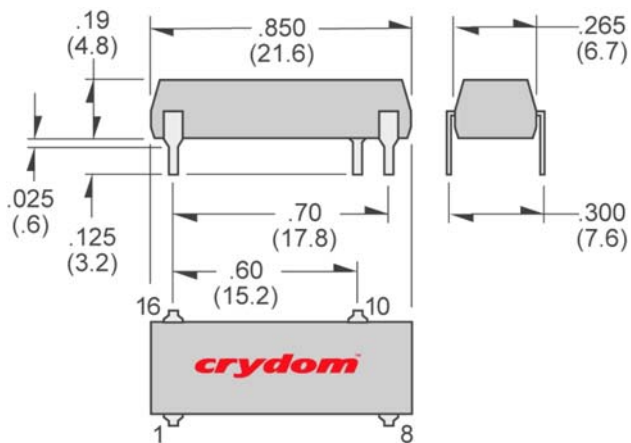
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)(2)	3750 Vrms
Minimum Insulation Resistance (@ 500 VDC)(2)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	2.0 pF
Ambient Operating Temperature Range	-30 to 80°C
Ambient Storage Temperature Range	-30 to 125°C
Weight (typical)	0.10 oz. (2.9g)
Encapsulation	Thermally Conductive Epoxy

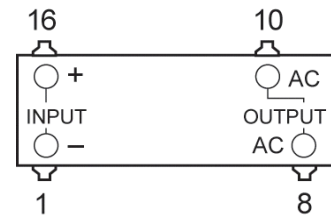
GENERAL NOTES

- 1) All parameters at 25¼°C unless otherwise specified.
- 2) Dielectric and insulation resistance are measured
- 3) Off-State dv/dt test method per EIA/NARM standard RS-443

MECHANICAL SPECIFICATIONS

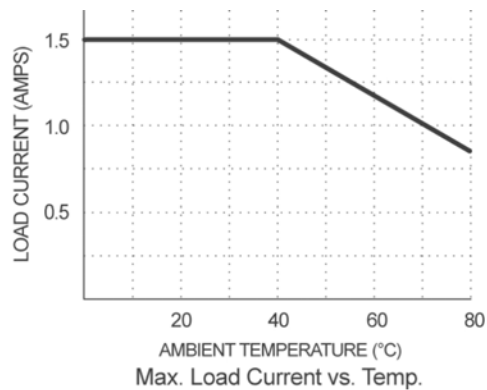


DC CONTROL
 PIN 8: AC LOAD
 PIN 10: AC LOAD
 PIN 16: +DC CONTROL
 PIN 1: -DC CONTROL



All dimensions are in inches (millimeters)

THERMAL DERATE INFORMATION



AGENCY APPROVALS

UL 116950
 CSA LR81689



 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
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	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环保信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

AO / ASO Series

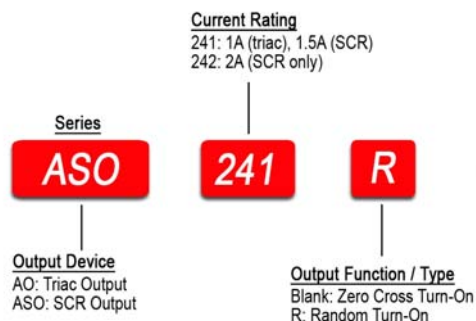


- Mini-SIP SSR
- Ratings to 2A @ 280 VAC
- SCR or Triac output
- DC control
- Zero-crossing (resistive loads) or random-fire (inductive loads) output

PRODUCT SELECTION

Control Voltage	1A	1.5A	2A
4-10 VDC	AO241	ASO241	ASO242

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description	1A	1.5A	2A
Operating Voltage (47-63Hz) [Vrms]	24-280	24-280	24-280
Transient Overvoltage [Vpk]	600	600	600
Maximum Off-State Leakage Current @ Rated Voltage [mArms]	0.1	0.1	0.1
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (3)	500	500	500
Maximum Load Current [Arms](3)	1.0	1.5	2.0
Minimum Load Current [Arms]	0.025	0.025	0.06
Maximum Surge Current (16.6ms) [Apk]	40	40	120
Maximum On-State Voltage Drop @ Rated Current [Vpk]	1.5	1.5	1.5
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5

INPUT SPECIFICATIONS (1)

Description	
Control Voltage Range	4-10 VDC
Must Turn On Voltage	4.0 VDC
Must Turn Off Voltage	1.0 VDC
Typical Input Current @ 5 VDC	15 mAdc
Nominal Input Impedance	300 Ohm
Maximum Turn-On Time [msec]	1/2 Cycle
Maximum Turn-Off Time [msec]	1/2 Cycle

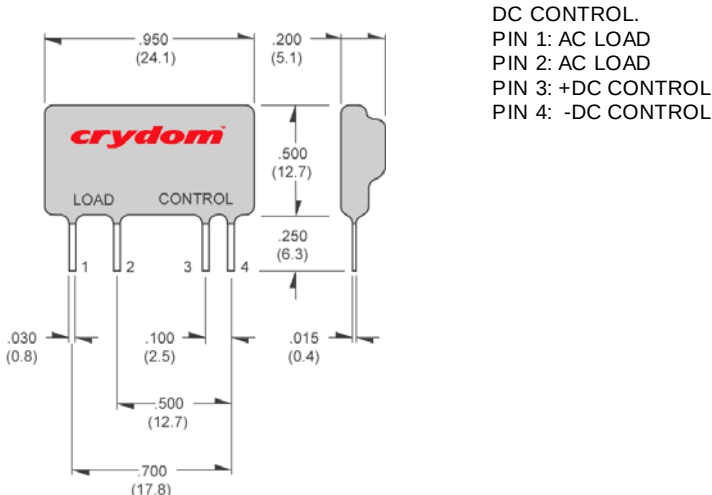
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)(2)	2500 Vrms
Minimum Insulation Resistance (@ 500 VDC)(2)	10^9 Ohm
Maximum Capacitance, Input/Output	8.0 pF
Ambient Operating Temperature Range	-30 to 80°C
Ambient Storage Temperature Range	-30 to 125°C
Weight (typical)	0.15 oz. (4.3g)
Encapsulation	Thermally Conductive Epoxy

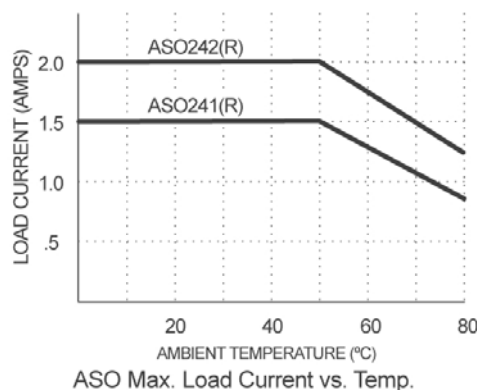
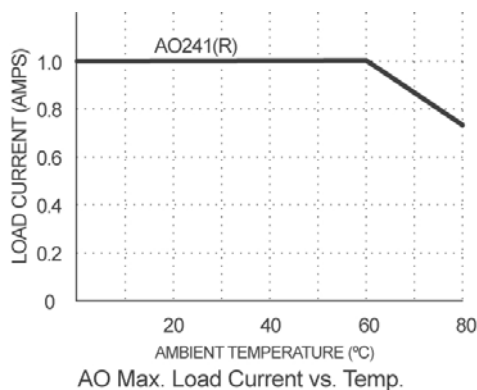
GENERAL NOTES

- 1) All parameters at 25°C unless otherwise specified.
- 2) Dielectric and insulation resistance are measured between input and output
- 3) Off-State dv/dt test method per EIA/NARM standard RS-443

MECHANICAL SPECIFICATIONS



THERMAL DERATE INFORMATION



AGENCY APPROVALS

UL E116950
CSA LR81689
CE

Rev. 061608

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 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

ASPF Series



- Mini-SIP SSR
- Ratings to 3A @ 280 V AC
- SCR output
- DC control
- Zero-crossing (resistive loads) or random-fire (inductive loads) output

PRODUCT SELECTION

Control Voltage	Zero Crossing	Random Fire
4-10 VDC	ASPF240D3	ASPF240D3R

OUTPUT SPECIFICATIONS (1)

Description		
Operating Voltage (47-63Hz) [Vrms]	24-280	24-280
Transient Overvoltage [Vpk]	600	600
Maximum Off-State Leakage Current @ Rated Voltage [mA _{rms}]	0.1	0.1
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (3)	500	500
Maximum Load Current [A _{rms}]	3.0	3.0
Minimum Load Current [A _{rms}]	0.1	0.1
Maximum Surge Current (16.6ms) [A _{pk}]	40	40
Maximum On-State Voltage Drop @ Rated Current [V _{pk}]	1.5	1.5
Minimum Power Factor (with Maximum Load)	0.5	0.5

INPUT SPECIFICATIONS (1)

Description	
Control Voltage Range	4-10 VDC
Must Turn On Voltage	4.0 VDC
Must Turn Off Voltage	1.0 VDC
Typical Input Current @ 5 VDC	15 mA _{dc}
Nominal Input Impedance	300 Ohm
Maximum Turn-On Time [msec] (4)	1/2 Cycle
Maximum Turn-Off Time [msec]	1/2 Cycle

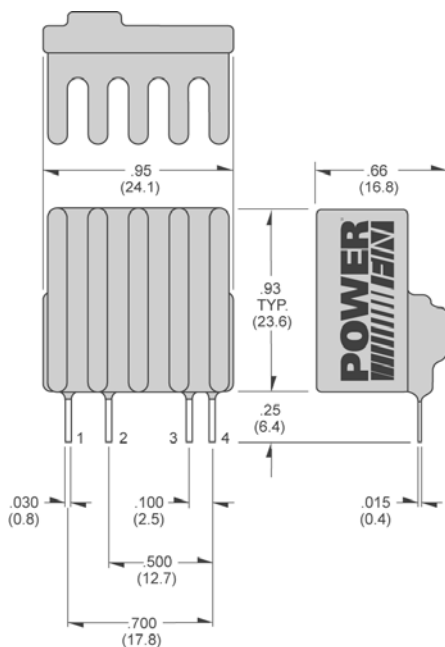
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)(2)	3750 Vrms
Minimum Insulation Resistance (@ 500 VDC)(2)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range	-30 to 80°C
Ambient Storage Temperature Range	-30 to 125°C
Weight (typical)	0.35 oz. (10g)
Encapsulation	Thermally Conductive Epoxy

GENERAL NOTES

- 1) All parameters at 25°C unless otherwise specified.
- 2) Dielectric and insulation resistance are measured between input and output
- 3) Off-State dv/dt test method per EIA/NARM standard RS-443.
- 4) Turn-On time for random turn-on versions is 0.01 msec (DC C

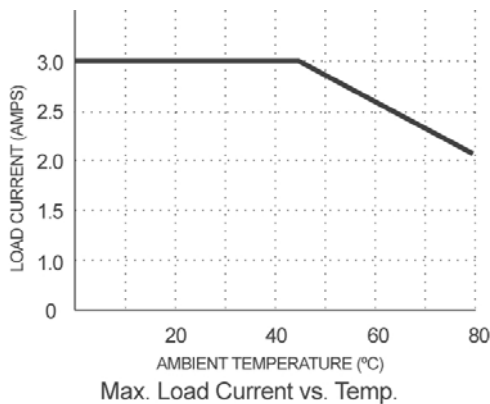
MECHANICAL SPECIFICATIONS



All dimensions are in inches (millimeters)

DC CONTROL.
PIN 1: AC LOAD
PIN 2: AC LOAD
PIN 3: +DC CONTROL
PIN 4: -DC CONTROL

THERMAL DERATE INFORMATION



AGENCY APPROVALS

UL E116950
CSA LR81689



Rev. 061608

 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenda tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

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Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

CR-A Series



- Mini-SIP SSR
- Ratings to 2A @ 280 VAC
- 15-72 V DC control
- Zero-crossing (resistive loads) output

PRODUCT SELECTION

Control Voltage

24 VDC	CR01A-2240
60 VDC	CR02A-2240

OUTPUT SPECIFICATIONS (1)

Description

Operating Voltage (47-63Hz) [Vrms]	12-280
Transient Overvoltage [Vpk]	600
Maximum Off-State Leakage @ Rated Voltage [mArms]	1.5
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (3)	500
Maximum Load Current [Arms]	2
Minimum Load Current [Arms]	0.025
Maximum Surge Current (20ms) [Apk]	40
Maximum On-State Voltage Drop @ Rated Current [Vpk]	1.6
Maximum I ² t for fusing (10ms)[A ² s]	8

INPUT SPECIFICATIONS (1)

Description

Control Voltage Range	15-30 VDC	35-72 VDC
Must Turn On Voltage	15 VDC	35 VDC
Must Turn Off Voltage	9 VDC	35 VDC
Typical Input Current @ Nominal Voltage	7 mAdc	3 mAdc
Nominal Input Impedance	3.2 K Ohm	21.3 K Ohm
Maximum Turn-On Time [msec]	1/2 Cycle	1/2 Cycle
Maximum Turn-Off Time [msec]	1/2 Cycle	1/2 Cycle

GENERAL SPECIFICATIONS

Description

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	2500 Vrms
Minimum Insulation Resistance (@ 500 VDC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	8.0 pF
Ambient Operating Temperature Range	-20 to 80°C
Ambient Storage Temperature Range	-40 to 100°C
Weight (typical)	0.15 oz. (4.3g)
Encapsulation	UL94V-0 Moulded epoxy

GENERAL NOTES

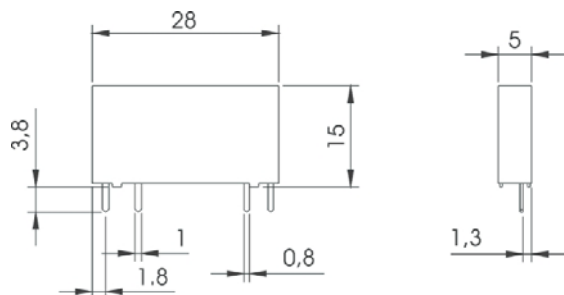
- 1) All parameters at 25°C unless otherwise specified.
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- 3) Off-State dv/dt test method per EIA/NARM standard RS-443

For Contact information visit our web site.

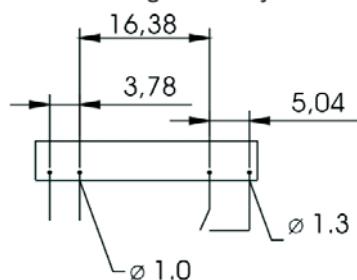
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MECHANICAL SPECIFICATIONS

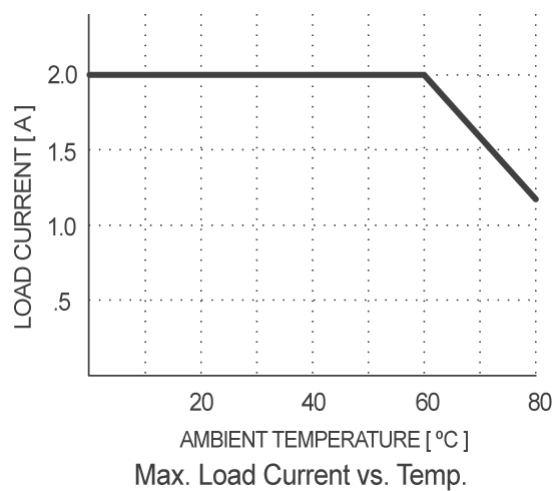


Mounting hole Layout



Note: Dimensions in mm

THERMAL DERATE INFORMATION



 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenda tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
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Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

CR-D Series



- Mini-SIP SSR
- Ratings to 3A @ 24 VDC or 100mA @ 48 VDC
- MOSFET or bi-polar transistor output
- DC control

PRODUCT SELECTION

Control Voltage	2 A	100 mA
24 VDC	CR01D-224	CR01D-0148
60 VDC	CR02D-224	CR02D-0148

OUTPUT SPECIFICATIONS (1)

Description		
Nominal Control Voltage	24	60
Operating Voltage (47-63Hz) [VDC]	0-24	0-48
Maximum Blocking voltage [VDC]	33	60
Maximum Load Current [A] @20°C	3A	100 mA
Minimum Load Current [mA]	0.05	0.05
Maximum On-State Voltage Drop @ Rated Current [VDC]	120m	1.0

INPUT SPECIFICATIONS (1)

Description		
Control Voltage Range	15-30 VDC	35-72 VDC
Must Turn On Voltage	15 VDC	35 VDC
Must Turn Off Voltage	10 VDC	20 VDC
Typical Input Current @ Nominal Voltage	7 mAdc	3 mAdc
Nominal Input Impedance	3.2 K Ohm	21.3 K Ohm

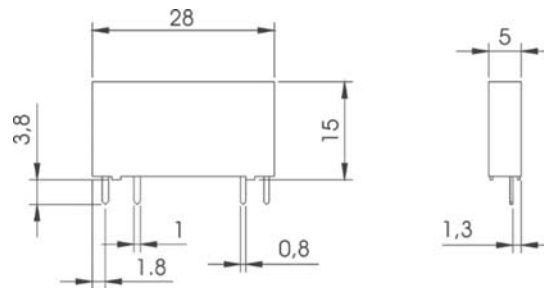
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	2500 Vrms
Minimum Insulation Resistance (@ 500 VDC) (2)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	8.0 pF
Ambient Operating Temperature Range	-20 to 80°C
Ambient Storage Temperature Range	-40 to 100°C
Weight (typical)	0.15 oz. (4.3g)
Encapsulation	UL94V-0 Moulded epoxy

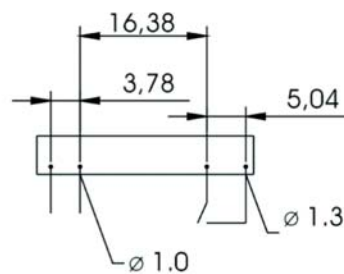
GENERAL NOTES

- 1) All parameters at 25°C unless otherwise specified.
- 2) Dielectric and insulation resistance are measured between input and output

MECHANICAL SPECIFICATIONS

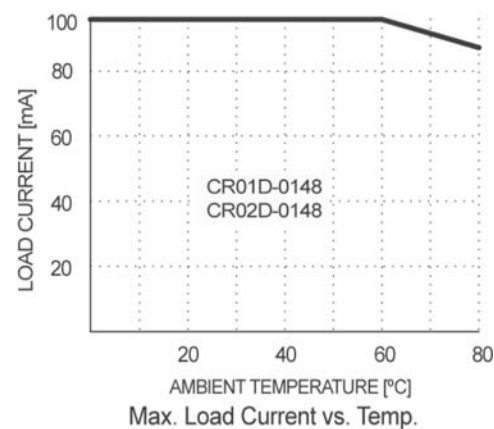
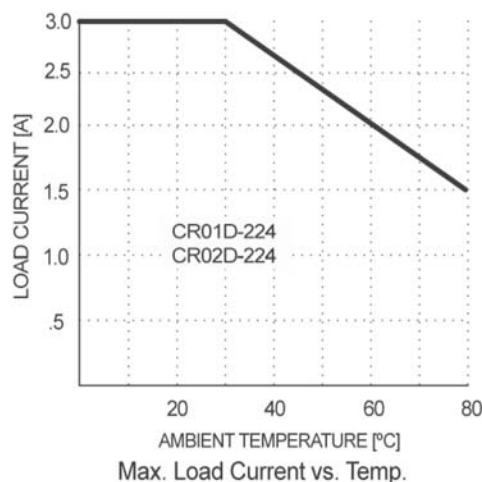


Mounting hole Layout



Note: Dimensions in [mm]

THERMAL DERATE INFORMATION



 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.	GEFAHR EINES ELEKTRISCHEN SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

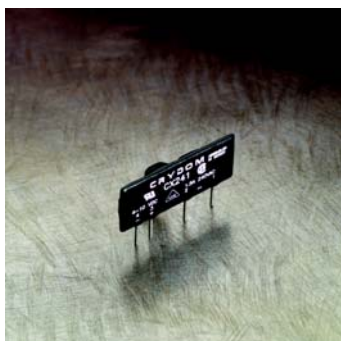
Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环保信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

CX241 Series



- Mini-SIP SSR
- Ratings to 1.5A @ 280 VAC
- SCR output
- DC control
- Zero-crossing (resistive loads) or random-fire (inductive loads) output

PRODUCT SELECTION

Control Voltage	Zero Crossing	Random Fire
4-10 VDC	CX241	CX241R

OUTPUT SPECIFICATIONS (1)

Description		
Operating Voltage (47-63Hz) [Vrms]	12-280	12-280
Transient Overvoltage [Vpk]	600	600
Maximum Off-State Leakage Current @ Rated Voltage [mArms]	0.1	0.1
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (3)	500	500
Maximum Load Current [Arms](3)	1.5	1.5
Minimum Load Current [Arms]	0.025	0.025
Maximum Surge Current (16.6ms) [Apk]	40	40
Maximum On-State Voltage Drop @ Rated Current [Vpk]	1.5	1.5
Minimum Power Factor (with Maximum Load)	0.5	0.5

INPUT SPECIFICATIONS (1)

Description	DC Control
Control Voltage Range	4-10 VDC
Must Turn On Voltage	4.0 VDC
Must Turn Off Voltage	1.0 VDC
Typical Input Current @ 5 VDC	15 mAdc
Nominal Input Impedance	300 Ohm
Maximum Turn-On Time [msec]	1/2 Cycle
Maximum Turn-Off Time [msec]	1/2 Cycle

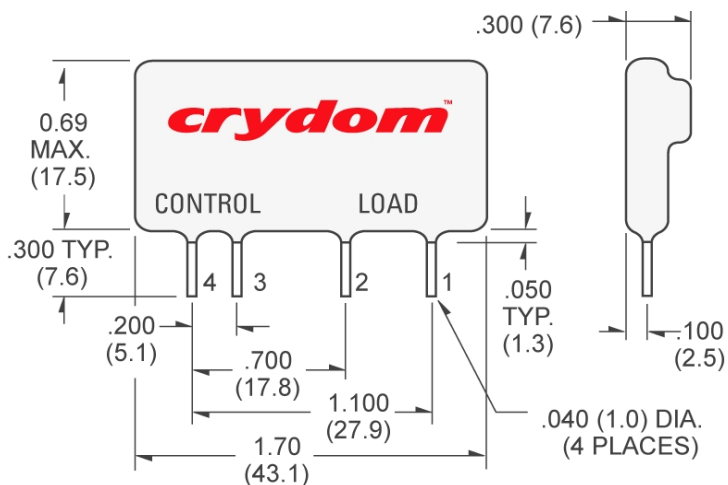
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)(2)	4000 Vrms
Minimum Insulation Resistance (@ 500 VDC) (2)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	8.0 pF
Ambient Operating Temperature Range	-30 to 80°C
Ambient Storage Temperature Range	-30 to 125°C
Weight (typical)	0.4 oz. (11 g)
Encapsulation	Thermally Conductive Epoxy

GENERAL NOTES

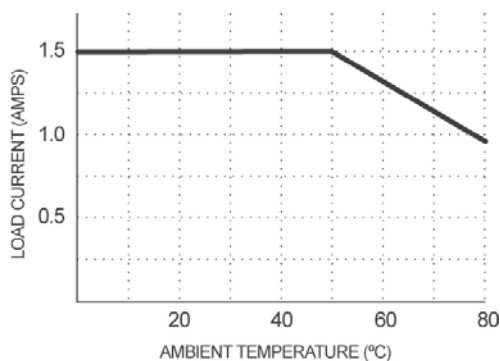
- 1) All parameters at 25°C unless otherwise specified.
- 2) Dielectric and insulation resistance are measured between input and output
- 3) Off-State dv/dt test method per EIA/NARM standard RS-443

MECHANICAL SPECIFICATIONS



DC CONTROL.
PIN 1: AC LOAD
PIN 2: AC LOAD
PIN 3: +DC CONTROL
PIN 4: -DC CONTROL

THERMAL DERATE INFORMATION



Max. Load Current vs. Temp.

AGENCY APPROVALS

UL E116950
CSA LR81689
VDE 5921 UG



Rev. 061608

 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenda tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

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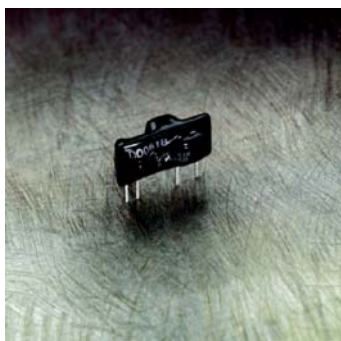
Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

DO / DMO Series

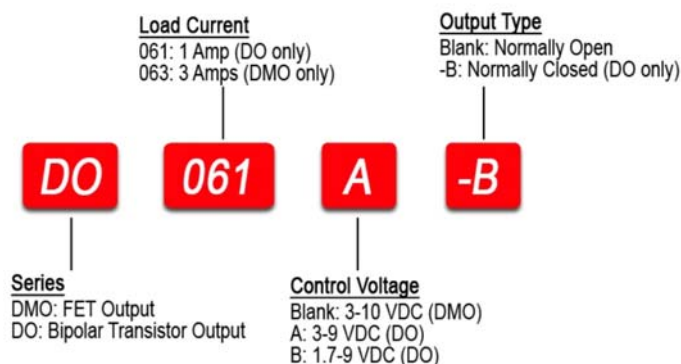


- Mini-SIP SSR
- Ratings to 2A @ 60 V DC
- MOSFET or bi-polar transistor output
- DC control
- Normally open or normally closed output

PRODUCT SELECTION

Control Voltage	1 A	3 A
3-9 VDC	DO061A (4), DO061A-B	
1.7-9 VDC	DO061B (4), DO061B -B	
3-10 VDC		DMO063 (4)

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (1)

Description	DO0	DMO
Operating Voltage Range (47-63Hz) [VDC]	3-60	0-60
Maximum Off-State Leakage Current @ Rated Voltage [mArms]	200	100
Maximum Load Current [Arms]	1.0	3.0
Minimum Load Current [Arms]	0.02	0
Maximum Surge Current [Adc]	5 (1sec)	12 (10ms)
Maximum On-State Voltage Drop @ Rated Current [Vpk]	1.5	0.4
Minimum Power Factor (with Maximum Load)	0.5	0.5

INPUT SPECIFICATIONS (1)

Description	DO061A	DO061B	DMO063
Control Voltage Range	3-9 VDC	1.7-9 VDC	3-10 VDC
Must Turn On Voltage	3.0 VDC	1.7 VDC	3.0 VDC
Must Turn Off Voltage	1.0 VDC	0.8 VDC	1.0 VDC
Typical Input Current @ 5 VDC	15 mAdc	15 mAdc	20 mAdc
Nominal Input Impedance	270 Ohm	270 Ohm	270 Ohm
Maximum Turn-On Time [msec]	50	50	50
Maximum Turn-Off Time [msec]	50	150	300

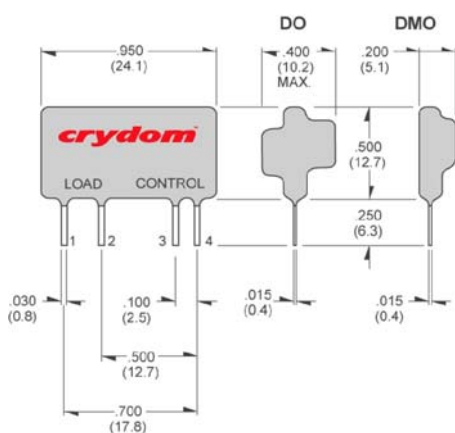
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)(3)	4000 Vrms
Minimum Insulation Resistance (@ 500 VDC)(3)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range	-30 to 80 °C
Ambient Storage Temperature Range	-30 to 125 °C
Weight (typical)	0.15 oz. (4.3g)
Encapsulation	Thermally Conductive Epoxy

GENERAL NOTES

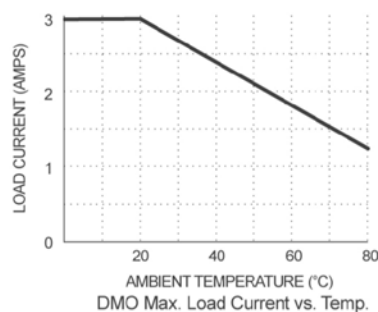
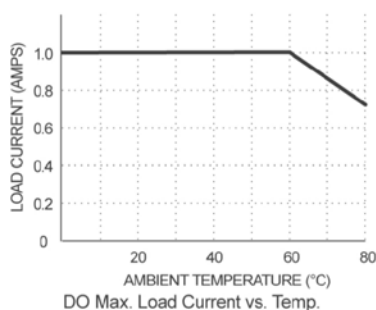
- 1) All parameters at 25°C unless otherwise specified.
- 2) Typical On-State Resistance= .13
- 3) Dielectric and insulation resistance are measured between input and output
- 4) Inductive loads should be diode suppressed

MECHANICAL SPECIFICATIONS



DC CONTROL
PIN 1: +DC LOAD
PIN 2: -DC LOAD
PIN 3: +DC CONTROL
PIN 4: -DC CONTROL

THERMAL DERATE INFORMATION



For Contact information visit our web site.

www.crydom.com

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Specifications subject to change without notice.

 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.	GEFAHR EINES ELEKTRISCHEN SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.

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Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环保信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

- Mini-SIP SSR
- Ratings to 2A @ 280 VAC
- Triac output
- DC control
- Zero-crossing (resistive loads) or random-fire (inductive loads) output
- Plastic encapsulated

Control Voltage	1.5A	2A
4-10 VDC	LC241	LC242

Series

LC1R

Operating Voltage
4-10 VDC Control

Load Current
1: 1.5 Amps
2: 2 Amps

Output Function
Blank: Zero-Cross
R: Random Turn-On

Description		
Operating Voltage (47-63Hz) [Vrms]	12-280	12-280
Transient Overvoltage [Vpk]	600	600
Maximum Off-State Leakage Current @ Rated Voltage [mArms]	0.1	0.1
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (3)	500	500
Maximum Load Current [Arms]	1.5	2.0
Minimum Load Current [Arms]	0.025	0.025
Maximum Surge Current (16.6ms) [Apk]	80	100
Maximum On-State Voltage Drop @ Rated Current [Vpk]	1.5	1.5
Minimum Power Factor (with Maximum Load)	0.5	0.5

Description	
Control Voltage Range	4-10 VDC
Must Turn On Voltage	4.0 VDC
Must Turn Off Voltage	1.0 VDC
Typycal Input Current @ 5 VDC	15 mAdc
Nominal Input Impedance	300 Ohm
Maximum Turn-On Time [msec] (4)	1/2 Cycle
Maximum Turn-Off Time [msec]	1/2 Cycle

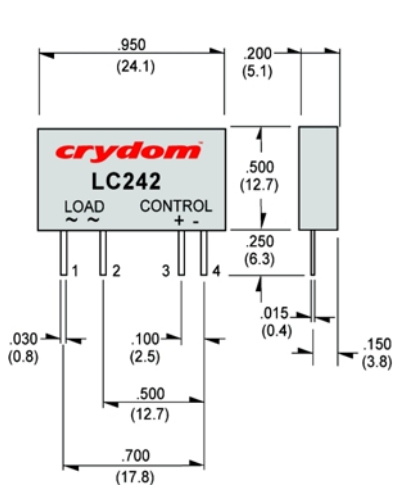
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)(2)	2500 Vrms
Minimum Insulation Resistance (@ 500 VDC)(2)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range	-40 to 80°C
Ambient Storage Temperature Range	-40 to 125°C
Weight (typical)	0.15 oz. (4.3g)
Encapsulation	UL94V-0Molded epoxy

GENERAL NOTES

- 1) All parameters at 25°C unless otherwise specified.
- 2) Dielectric and insulation resistance are measured between input and output.
- 3) Off-State dv/dt test method per EIA/NARM standard RS-443.
- 4) 0.1 msec for random turn-on version (R suffix).

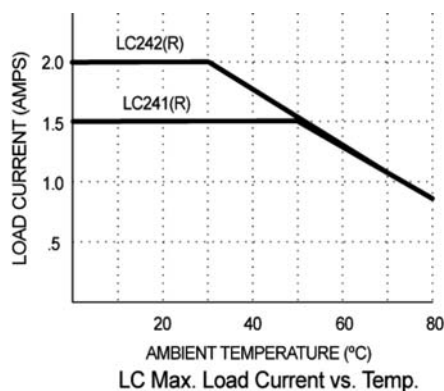
MECHANICAL SPECIFICATIONS



DC CONTROL
PIN 1: AC LOAD
PIN 2: AC LOAD
PIN 3: +DC CONTROL
PIN 4: -DC CONTROL

All dimensions are in inches (millimeters)

THERMAL DERATE INFORMATION



AGENCY APPROVALS

UL / cUL E116950



Rev. 061608

For Contact information visit our web site.

www.crydom.com

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Specifications subject to change without notice.

 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenda tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环保信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

MCX 241 Series



- Mini-SIP SSR
- Ratings to 1.5A @ 280 VAC
- SCR output • DC control
- Zero-crossing (resistive loads) or random-fire (inductive loads) output
- Plastic encapsulated

PRODUCT SELECTION

Control Voltage	Zero-crossing	Random Fire
4-10 VDC	MCX241	MCX241R

OUTPUT SPECIFICATIONS (1)

Description		
Operating Voltage (47-63Hz) [Vrms]	12-280	12-280
Transient Overvoltage [Vpk]	600	600
Maximum Off-State Leakage Current @ Rated Voltage [mArms]	0.1	0.1
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (3)	200	200
Maximum Load Current [Arms]	1.5	1.5
Minimum Load Current [Arms]	0.025	0.025
Maximum Surge Current (16.6ms) [Apk]	40	40
Maximum On-State Voltage Drop @ Rated Current [Vpk]	1.5	1.5
Minimum Power Factor (with Maximum Load)	0.5	0.5

INPUT SPECIFICATIONS (1)

Description		
Control Voltage Range	4-10 VDC	4-10 VDC
Must Turn On Voltage	4.0 VDC	4.0 VDC
Must Turn Off Voltage	1.0 VDC	1.0 VDC
Typical Input Current @ 5 VDC	15 mAdc	15 mAdc
Nominal Input Impedance	300 Ohm	300 Ohm
Maximum Turn-On Time [msec] (4)	1/2 Cycle	0.1
Maximum Turn-Off Time [msec]	1/2 Cycle	1/2 Cycle

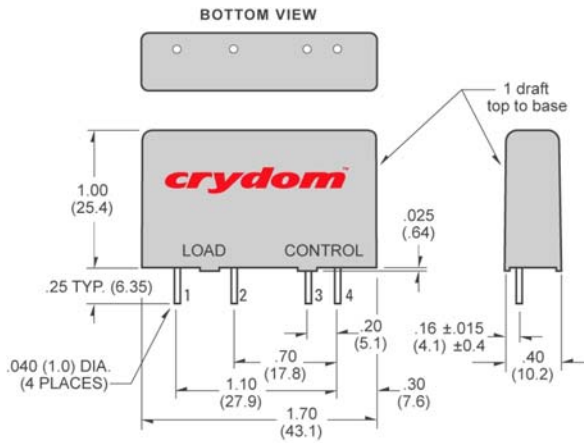
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)(2)	4000 Vrms
Minimum Insulation Resistance (@ 500 VDC)(2)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range	-40 to 80°C
Ambient Storage Temperature Range	-40 to 125°C
Weight (typical)	0.7 oz.(20g)
Encapsulation	Thermally Conductive Epoxy

GENERAL NOTES

- 1) All parameters at 25°C unless otherwise specified.
- 2) Dielectric and insulation resistance are measured between input and output
- 3) Off-State dv/dt test method per EIA/NARM standard RS-443
- 4) Turn on time or Random Turn on is 0.1 m sec

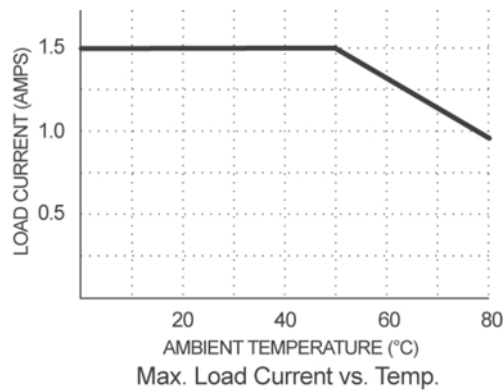
MECHANICAL SPECIFICATIONS



All dimensions are in inches (millimeters)

DC CONTROL.
PIN 1: +DC LOAD
PIN 2: -DC LOAD
PIN 3: +DC CONTROL
PIN 4: -DC CONTROL

THERMAL DERATE INFORMATION



AGENCY APPROVALS

UL E116950
CSA LR81689
VDE 5921 UG
CE

 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenda tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

SPA Series



- Mini-SIP SSR
- Ratings to 1A @ 280 VAC
- SCR output
- DC control
- Zero-crossing (resistive loads) output
- 10-35mA current-control input

PRODUCT SELECTION

Control Voltage	1A	1A
10-35 VDC	SPA4191	SPA6191

OUTPUT SPECIFICATIONS (1)

Description		
Operating Voltage (47-63Hz) [Vrms]	20-140	20-280
Transient Overvoltage [Vpk]	400	600
Maximum Off-State Leakage Current @ Rated Voltage [mArms]	0.01	0.01
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (3)	500	500
Maximum Load Current [Arms](3)	1.0	1.0
Minimum Load Current [Arms]	0.025	0.025
Maximum Surge Current (16.6ms) [Apk]	30	30
Maximum On-State Voltage Drop @ Rated Current [Vpk]	1.5	1.5
Minimum Power Factor (with Maximum Load)	0.5	0.5

INPUT SPECIFICATIONS (1)

Description	DC Control
Control Current Range	10-35 VDC
Must Turn On Current	10 mA
Must Turn Off Current	1 mA
Maximum Turn-On Time [msec]	1/2 cycle
Maximum Turn-Off Time [msec]	1/2 cycle

GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)(2)	2500 Vrms
Minimum Insulation Resistance (@ 500 VDC)(2)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	8.0 pF
Ambient Operating Temperature Range	-30 to 80°C
Ambient Storage Temperature Range	-30 to 125°C
Weight (typical)	0.15 oz. (4.3g)
Encapsulation	Thermally Conductive Epoxy

GENERAL NOTES

- 1) All parameters at 25°C unless otherwise specified.
- 2) Dielectric and insulation resistance are measured between input and output
- 3) Off-State dv/dt test method per EIA/NARM standard RS-443

DC CONTROL
PIN 1: AC LOAD
PIN 2: AC LOAD
PIN 3: +DC CONTROL
PIN 4: -DC CONTROL



 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.	GEFAHR EINES ELEKTRISCHEN SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.

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Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环保信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

- Eight Standard Circuits
- For AC or DC Variable Voltage Output Up To 15KW

Modules come in eight standard circuits and are designed to control AC or DC variable voltage output up to 15KW. The package comes with standard .250 quick-connect terminals. All models have 2500 Vrms isolation and are UL recognized (file no. E72445). Optional isolation barriers are available.

Manufactured in Crydom's ISO 9001 Certified facility for optimum product performance and reliability.

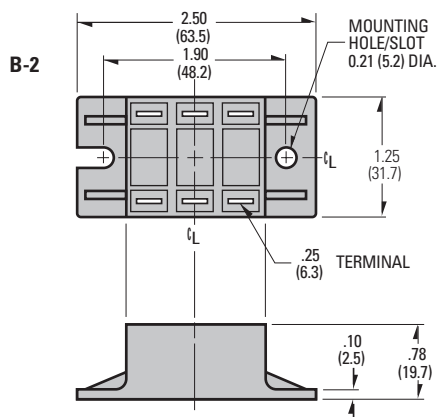
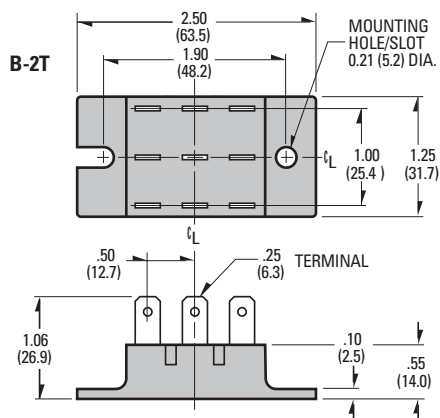
PART NUMBER IDENTIFICATION

Series Type	Current	Circuit Type	AC Line Voltage	Options	Case Style
B-Case style (Ceramic Base)	5 - 25 Amps 6 - 42.5 Amps	1 - 8 (see schematic diagrams)	1 - 120 Vac 2 - 240 Vac 3 - 280 Vac 4 - 480 Vac	F - Free Wheeling Diode (Circuits 1 & 2 Only) SE - External Suppressor (-2T Only, Circuits 1-6 Only)	-2T (Standard) -2 With Isolation Barriers

Example: B512FSE-2T

MECHANICAL DIMENSIONS

All dimensions are in inches (millimeters)



ELECTRICAL SPECIFICATIONS

SYMBOL	SPECIFICATION	MODEL NO.	B5	B6
I_D	Maximum DC Output Current ($T_c = 85^\circ\text{C}$)		25A	42.5A
V_F	Maximum Voltage Drop @ Amps Peak		1.65V @ 25A	1.6V @ 42.5A
T_J	Operating Junction Temperature Range		-40°C to +125°C	
di/dt	Critical Rate of Rise of On-State Current @ $T_J = 125^\circ\text{C}$		100A/μs	100A/μs
dv/dt	Critical Rate of Rise of Off-State Voltage [V/μs]		500V/μs	500V/μs
V_{RMS}	AC Line Input Voltage (Repetitive Peak Reverse Voltage)		120 (400 V _{RRM}) 240 (600 V _{RRM}) 280 (800 V _{RRM}) 480 (1200 V _{RRM})	
I_{TSM}	Maximum Non-Repetitive Surge Current (1/2 Cycle, 60Hz)		250A	600A
I^2T	Maximum I^2T for Fusing (t=8.3ms) [A ² sec]		260	1500
I_{GT}	Maximum Required Gate Current to Trigger @ 25°C		60mA	80mA
V_{GT}	Maximum Required Gate Voltage to Trigger @ 25°C		2.5V	3.0V
$P_{G(AV)}$	Average Gate Power		0.5W	0.5W
V_{GM}	Maximum Peak Gate Voltage (Reverse)		5.0V	5.0V
R_{qJC}	Maximum Thermal Resistance Junction to Ceramic Base per Chip		0.9°C/W	0.7°C/W
V_{ISOL}	Isolation Voltage		2500 V _{RMS}	2500 V _{RMS}

MECHANICAL SPECIFICATIONS

Weight: (typical)

1.5 oz. (42.5g)

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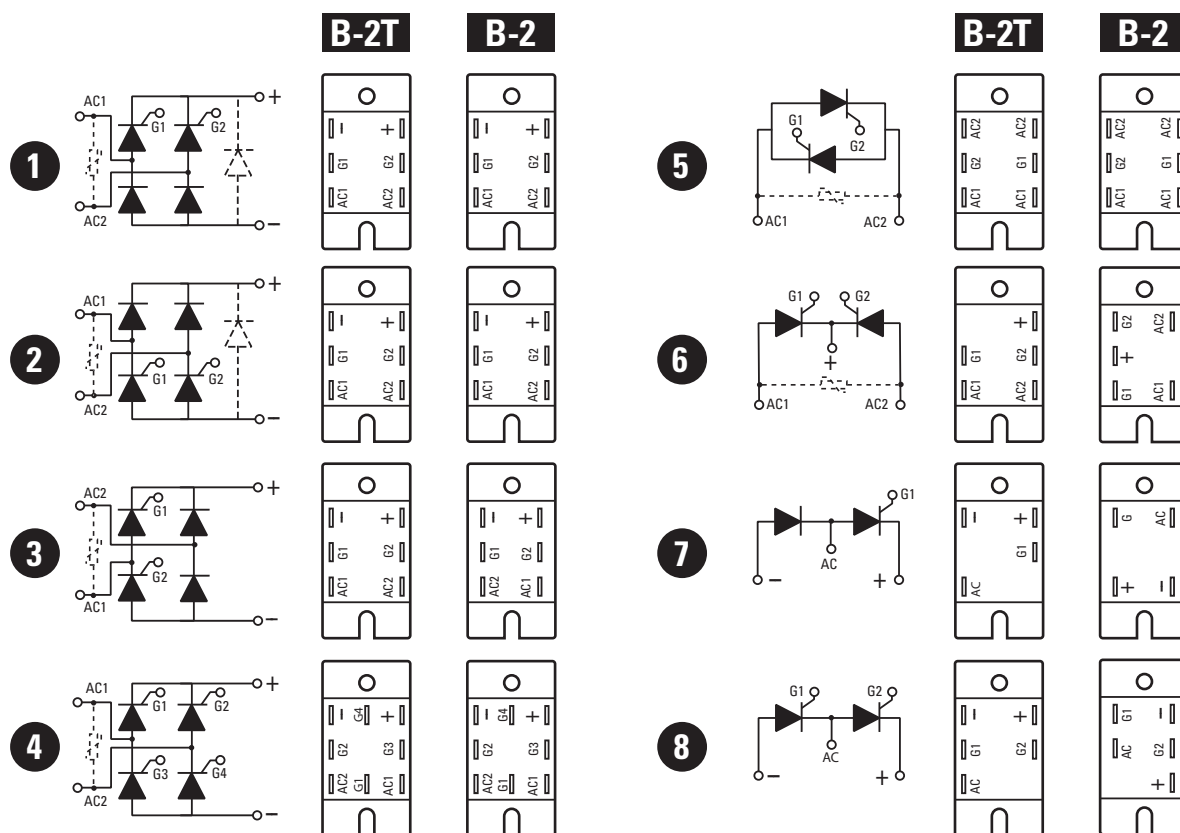
- Eight Standard Circuits
- For AC or DC Variable Voltage Output Up To 15KW

PART NUMBER IDENTIFICATION

Series Type	Current	Circuit Type	AC Line Voltage	Options	Case Style
B-Case style (Ceramic Base)	5 - 25 Amps 6 - 42.5 Amps	1 - 8 (see schematic diagrams)	1 - 120 Vac 2 - 240 Vac 3 - 280 Vac 4 - 480 Vac	F - Free Wheeling Diode (Circuits 1 & 2 Only) SE - External Suppressor (-2T Only, Circuits 1-6 Only)	-2T (Standard) -2 With Isolation Barriers

Example: **B512FSE-2T**

SERIES B-2T, B-2 CIRCUITS



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APPROVALS

UL E72445

SERIES B2T.
Rev. 121207
PAGE 2 OF 3

For recommended applications and more information contact:
USA: Sales Support (877) 502-5500 **Tech Support** (877) 702-7700 FAX (619) 710-8540
 Crydom Inc., 2320 Paseo de las Americas, Ste. 201, San Diego, CA 92154
Email: sales@crydom.com **WEB SITE:** http://www.crydom.com
UK: +44 (0)1202 606030 • **FAX** +44 (0)1202 606035 Crydom SSR Ltd., Arena Business Centre,
 Holyrood Close, Poole, Dorset BH17 7FJ, Email: intsales@crydom.com.
GERMANY: +49 (0)180 3000 506



**DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO**

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.	GEFAHR EINES ELEKTRISCHEN SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.
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**WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO**

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ANNEX – ENVIRONMENTAL INFORMATION:

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

附件 - 环保信息:

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O



- **Single and Three Phase Circuits**
- **Up to 1600 Volt Blocking Standard**

Single- and three-phase diode circuits come in a panel mount package that provides 2500 Vrms isolation from the terminals to the ceramic base. Available in ratings up to 1600 Volts, all models are UL recognized (file no. E72445).

Manufactured in Crydom's ISO 9001 Certified facility for optimum product performance and reliability.

PART NUMBER IDENTIFICATION

Series Type
B48

Circuit Type
1 - 5
(see schematic diagrams)

Voltage
B - 400 (120Vac)
C - 600 (240Vac)
E - 1000 (380Vac)

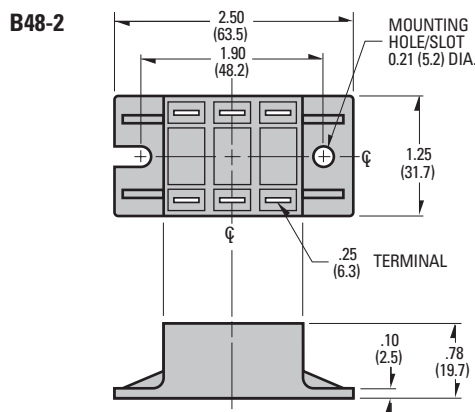
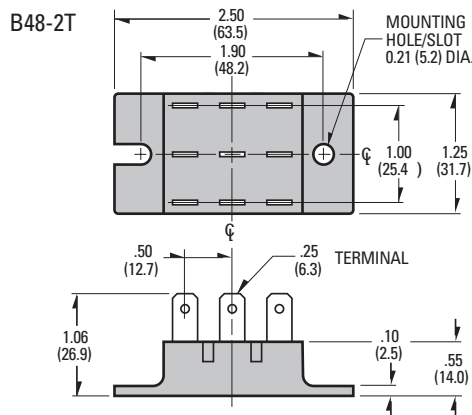
F - 1200 (480Vac)
G - 1400 (530Vac)
H - 1600 (600Vac)

Case Style
-2T (Standard)
-2 With Isolation Barriers

Example: **B483C-2T**

MECHANICAL DIMENSIONS

All dimensions are in inches (millimeters)



ELECTRICAL SPECIFICATIONS

SYMBOL	SPECIFICATION	RATINGS	
		SINGLE PHASE	THREE PHASE
I_D	Maximum DC Output Current ($T_c = 85^\circ\text{C}$)	35A	50A
V_F	Maximum Voltage Drop @ Amps Peak	1.25V @ 35A	1.35V @ 50A
T_J	Operating Junction Temperature Range	-40°C to +125°C	
V_{RRM}	Repetitive Peak Reverse Voltage (Ac Line)	400 (120 Vac)	
		600 (240 Vac)	
		1000 (380 Vac)	
		1200 (480 Vac)	
		1400 (530 Vac)	
		1600 (600 Vac)	
I_{TSM}	Maximum Non-Repetitive Surge Current ($1/2$ Cycle, 60Hz)	600A	600A
I^2T	Maximum I^2T for Fusing ($t=8.3\text{ms}$) [$A^2\text{sec}$]	1500	1500
R_{qJC}	Maximum Thermal Resistance Junction to Ceramic Base per Chip	0.9°C/W	0.9°C/W
V_{ISOL}	Isolation Voltage	2500 V _{RMS}	2500 V _{RMS}

MECHANICAL SPECIFICATIONS

Weight: (typical)

1.5 oz. (42.5g)

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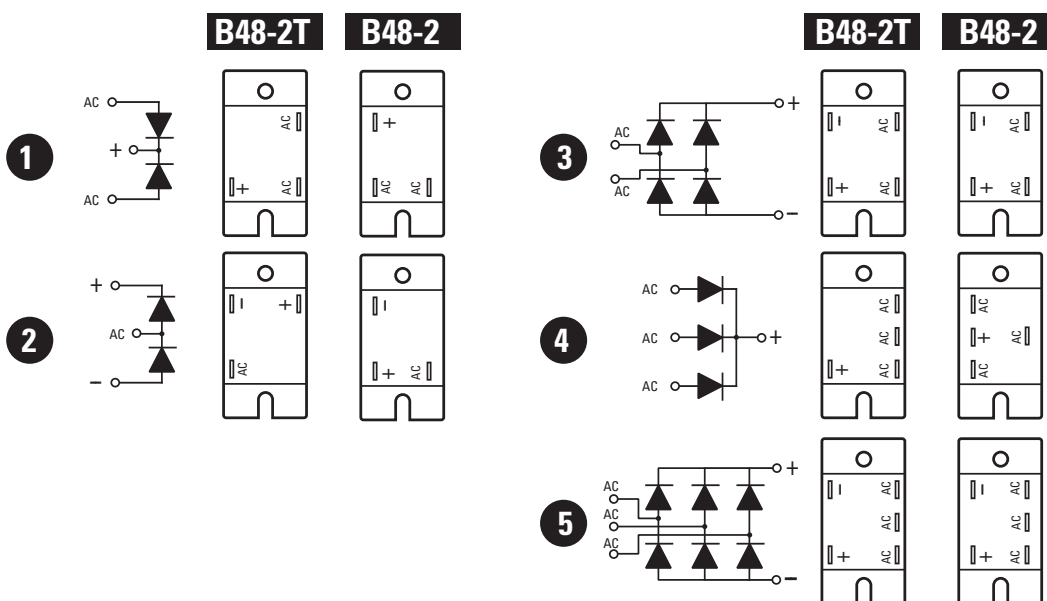
- Single and Three Phase Circuits
- Up to 1600 Volt Blocking Standard

PART NUMBER IDENTIFICATION

Series Type B48	Circuit Type 1 - 5 (see schematic diagrams)	Voltage B - 400 (120Vac) C - 600 (240Vac) E - 1000 (380Vac)	F - 1200 (480Vac) G - 1400 (530Vac) H - 1600 (600Vac)	Case Style -2T (Standard) -2 With Isolation Barriers
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Example: B483C-2T

SERIES B48 CIRCUITS



APPROVALS

UL E72445

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Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

附件 - 环保信息:

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O



- High Thermal Efficiency
- Complete Power Control Circuits in a Single Package

These circuits provide complete power control in a single package, utilizing high thermal efficiency to assure long life and reliable performance. Twelve standard models provide 2500 Vrms isolation from all terminals to ceramic base and are UL recognized (file no. E72445).

Manufactured in Crydom's ISO 9001 Certified facility for optimum product performance and reliability.

PART NUMBER IDENTIFICATION

Series Type	Current (Amps)	Circuit Type	Voltage	Options
EF - Case style	1Ø 3Ø AC SW.	(see schematic diagrams) Example: 01	B - 120 Vac C - 240 Vac E - 380 Vac F - 480 Vac G - 530 Vac	F - Free Wheeling Diode (Circuits 1, 2, 16, 19 Only)
Example: EFD02CF	D - 50 E - 75 F - 100 G - 125	70 100 135 170	55 85 110 140	

ELECTRICAL SPECIFICATIONS

SYMBOL	SPECIFICATION	CURRENT CODE	D	E	F	G
I_D	Maximum DC Output Current ($T_c = 85^\circ\text{C}$)		See Part Number Identification Above for Ratings of Single Phase, Three Phase and AC Switch Circuits			
V_F	Maximum Voltage Drop @ Amps Peak		1.7V @ 50A	1.85V @ 75A	1.4V @ 100A	1.55V @ 125A
T_J	Operating Junction Temperature Range		-40°C to +125°C			
di/dt	Critical Rate of Rise of On-State Current @ $T_J=125^\circ\text{C}$		100A/µs	100A/µs	100A/µs	100A/µs
dv/dt	Critical Rate of Rise of Off-State Voltage [V/µs]		500V/µs	500V/µs	500V/µs	500V/µs
V_{RRM}	Repetitive Peak Reverse Voltage (AC Line)		400 (120 Vac) 600 (240 Vac) 1000 (380 Vac) 1200 (480 Vac) 1400 (530 Vac)			
I_{TSM}	Maximum Non-Repetitive Surge Current ($1/2$ Cycle, 60Hz)		400A	600A	1500A	1950A
I^2T	Maximum I^2T for Fusing ($t=8.3\text{ms}$) [A^2sec]		670	1500	9340	15800
I_{GT}	Maximum Required Gate Current to Trigger @ 25°C		60mA	80mA	150mA	150mA
V_{GT}	Maximum Required Gate Voltage to Trigger @ 25°C		2.5V	3.0V	3.0V	3.0V
$P_{G(AV)}$	Average Gate Power		0.5W	0.5W	0.5W	0.5W
V_{GM}	Maximum Peak Gate Voltage (Reverse)		5.0V	5.0V	5.0V	5.0V
$R_{\theta JC}$	Maximum Thermal Resistance Junction to Ceramic Base per Chip		0.8°C/W	0.7°C/W	0.36°C/W	0.3°C/W
V_{ISOL}	Isolation Voltage		2500 V RMS	2500 V RMS	2500 V RMS	2500 V RMS

MECHANICAL SPECIFICATIONS

Weight: (typical)

7.0 oz. (198g)

APPROVALS

UL E72445

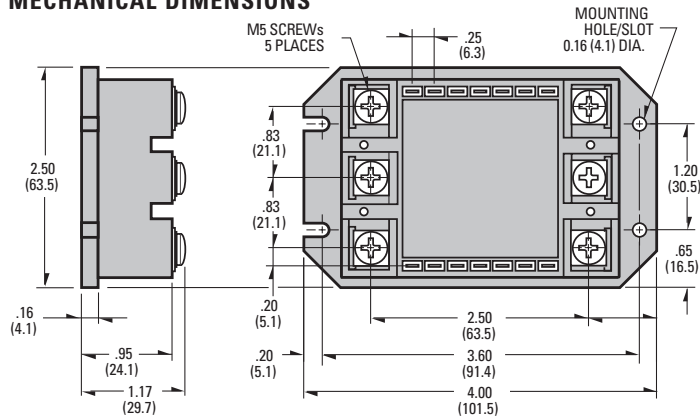
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- High Thermal Efficiency
 - Complete Power Control
- Circuits in a Single Package

PART NUMBER IDENTIFICATION

Series Type	Current (Amps)	Circuit Type	Voltage	Options
EF - Case style	10 30 AC SW.	(see schematic diagrams) Example: 01	B - 120 Vac C - 240 Vac E - 380 Vac F - 480 Vac G - 530 Vac	F - Free Wheeling Diode (Circuits 1, 2, 16, 19 Only)
Example: EFD02CF	D - 50 E - 75 F - 100 G - 125	55 85 110 140		

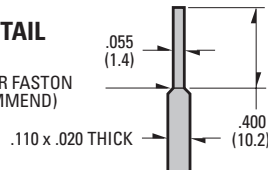
MECHANICAL DIMENSIONS



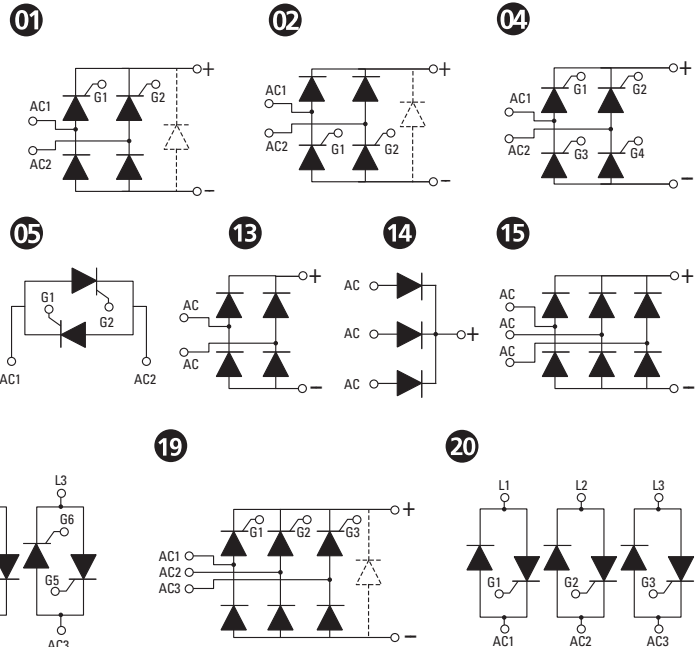
All dimensions are in inches (millimeters)

PIN DETAIL

CUT HERE FOR FASTON
(AMP TYPE 61060-1 RECOMMEND)

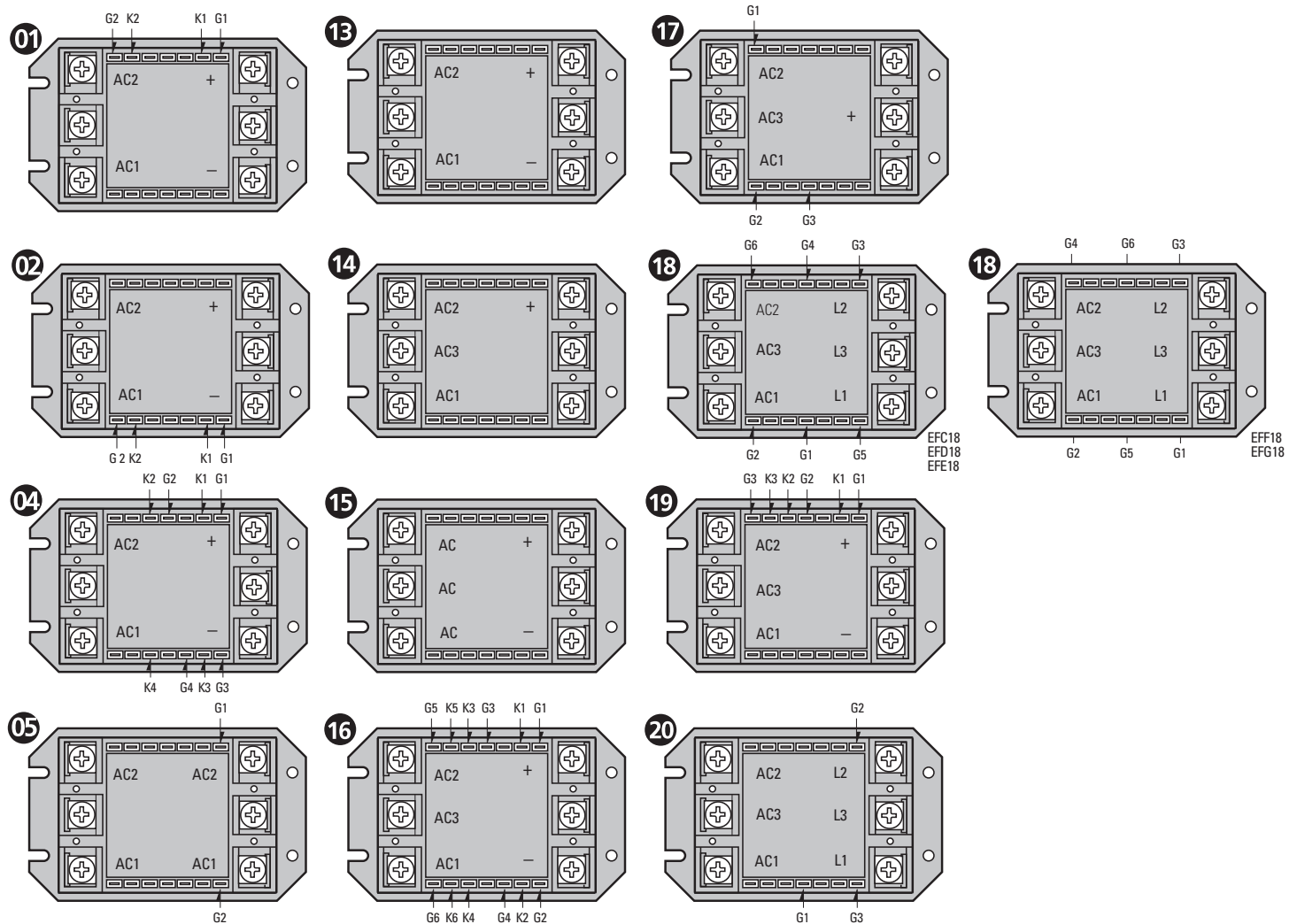


SERIES EF CIRCUITS



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TERMINAL ORIENTATION



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Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

附件 - 环保信息:

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O



- Industry Standard Package and Circuits
- Power Control Building Blocks

Modules come in an industry standard package, offering nine circuits that can be used singly or as power control building blocks. All models feature highly efficient thermal management for greatly extended cycle life and are UL recognized (file no. E72445). Manufactured in Crydom's ISO 9001 Certified facility for optimum product performance and reliability.

PART NUMBER IDENTIFICATION

Series Type
F18 -Case style

Current
27 - 25 Amps
42 - 40 Amps
57 - 55 Amps
92 - 90 Amps
107 - 105 Amps

Circuit Type
(see schematic diagrams)
Example: **SD**

Voltage
400 - 120 Vac
600 - 240 Vac
1000 - 380 Vac
1200 - 480 Vac
1400 - 530 Vac
1600 - 600 Vac

Example: F1892SD1200

ELECTRICAL SPECIFICATIONS ^①

SYMBOL	SPECIFICATION	27	42	57	92	107 ^②
I_D	Maximum DC Output Current ($T_c = 85^\circ\text{C}$) [A]	25	40	55	90	105
V_F	Maximum Voltage Drop	1.55V @ 75A _{pk}	1.4V @ 120A _{pk}	1.4V @ 165A _{pk}	1.4V @ 270A _{pk}	1.65V @ 300A _{pk}
T_J	Operating Junction Temperature Range	-40°C to +125°C				
di/dt	Critical Rate of Rise of On-State Current @ $T_J=125^\circ\text{C}$ [A/μs]	100	100	100	100	100
dv/dt	Critical Rate of Rise of Off-State Voltage [V/μs]	1000	1000	1000	1000	1000
V_{RRM}	Repetitive Peak Reverse Voltage (AC Line Nominal) [V _{pk}]	400 (120 Vac) 600 (240 Vac) 1000 (380 Vac) 1200 (480 Vac) 1400 (530 Vac) 1600 (600 Vac)				
I_{TSM}	Maximum Non-Repetitive Surge Current (1/2 Cycle, 60Hz) [A]	400	1000	1500	1950	2250
I^2T	Maximum I^2T for Fusing (t=8.3ms) [A ² sec]	670	4150	9350	15800	25000
I_{GT}	Maximum Required Gate Current to Trigger @ 25°C [mA]	150	150	150	150	150
V_{GT}	Maximum Required Gate Voltage to Trigger @ 25°C [V]	3.0	3.0	3.0	3.0	3.0
$P_{G(AV)}$	Average Gate Power [W]	0.5	0.5	0.5	0.5	0.5
V_{GM}	Maximum Peak Gate Voltage (Reverse) [V]	5.0	5.0	5.0	5.0	5.0
$R_{\theta JC}$	Maximum Thermal Resistance Junction to Ceramic Base per Chip [°C/W]	0.4	0.28	0.25	0.14	0.135
V_{ISOL}	Isolation Voltage [VRMS]	2500	2500	2500	2500	2500

MECHANICAL SPECIFICATION

Weight: (typical)

4.75 oz. (135g)

Torque Required

Terminal Stud Screw : 30 inch lb
Mounting Screw : 20 inch lb

GENERAL NOTES

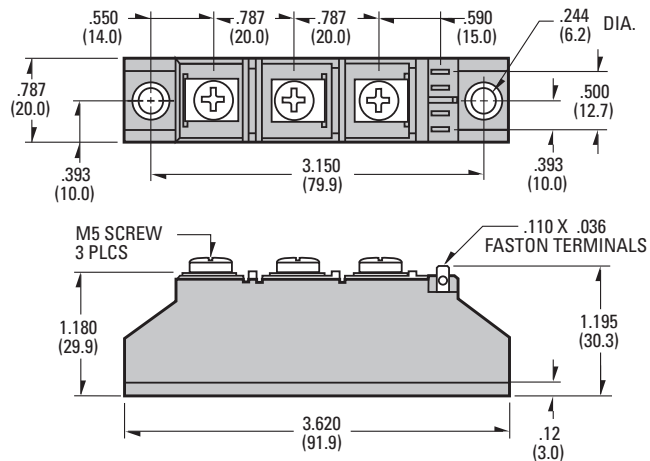
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- ① All parameters at 25°C unless otherwise specified.
② Available only in SD and SDK circuit configuration.

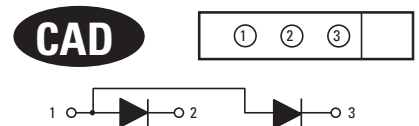
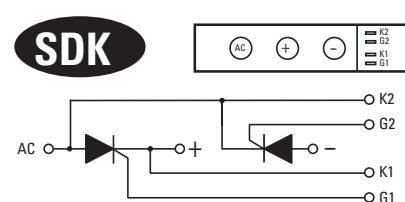
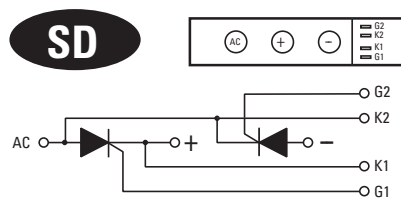
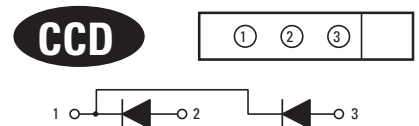
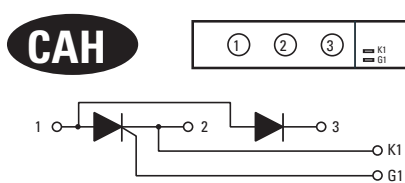
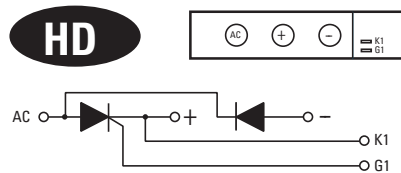
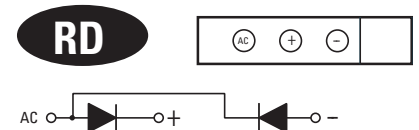
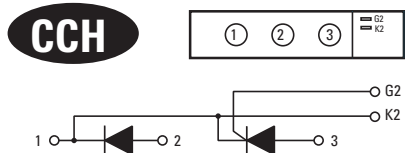
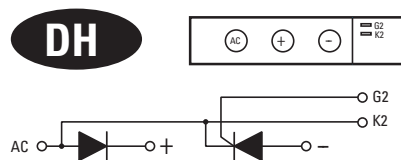
- Industry Standard Package and Circuits
- Power Control Building Blocks

MECHANICAL DIMENSIONS

All dimensions are in inches (millimeters)



SERIES F18 CIRCUITS



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**DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO**

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. • Disconnect all power before installing or working with this equipment. • Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. • Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. • Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION • Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil • Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.	GEFAHR EINES ELEKTRISCHEN SCHLAGES ODER EINER EXPLOSION. • Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen • Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. • Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura • Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO • Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento • Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.
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**WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO**

RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE • The product's side panels may be hot, allow time for product to cool before touching. • Follow proper mounting instructions including torque values. • Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER • Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. • Respecter les consignes de montage, et notamment les couples de serrage. • Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG • Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. • Beachten Sie die Montageanweisungen, • Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
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Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

附件 - 环保信息:

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O



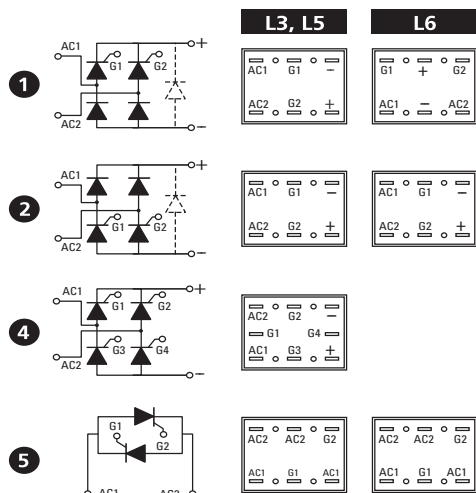
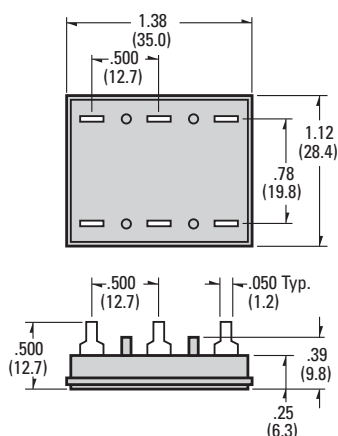
- Low Profile
- Designed for Printed Circuit Board Connections

Circuit Modules provide ratings up to 42.5 amps in a low profile package designed for printed circuit board connections. Available in three standard bridge circuits and an AC switch version, all models have 2500 Vrms isolation and are UL recognized (file no. E72445).

Manufactured in Crydom's ISO 9001 Certified facility for optimum product performance and reliability. Mounting clip available, order part number LMC-1.

MECHANICAL DIMENSIONS

All dimensions are in inches (millimeters)



PART NUMBER IDENTIFICATION

Series Type	Current	Circuit Type	AC Line Voltage	Options
L-Case style	3 - 15 Amps	1 - 5	1 - 120 Vac	F - Free
(Ceramic Base)	5 - 25 Amps	(see schematic diagrams)	2 - 240 Vac	Wheeling
	6 - 42.5 Amps*		3 - 280 Vac	Diode
			4 - 480 Vac	(Circuits 1,2 only)

Example: L512F

* 42.5 Amp Rating Not Available In Circuit 4

MODEL NO.		L3	L5	L6
ELECTRICAL SPECIFICATIONS				
RATINGS				
I_D	Maximum DC Output Current ($T_c = 85^\circ\text{C}$)	15A	25A	42.5A
V_F	Maximum Voltage Drop @ Amps Peak	2.2V @ 15A	1.65V @ 25A	1.6V @ 42.5A
T_J	Operating Junction Temperature Range	-40°C to $+125^\circ\text{C}$		
di/dt	Critical Rate of Rise of On-State Current @ $T_J = 125^\circ\text{C}$	100A/ μs		
dv/dt	Critical Rate of Rise of Off-State Voltage	500V/ μs	500V/ μs	500V/ μs
V_{RMS}	AC Line Input Voltage (Repetitive Peak Reverse Voltage)	120 (400 V RRM) 240 (600 V RRM) 280 (800 V RRM) 480 (1200 V RRM)		
I_{TSM}	Maximum Non-Repetitive Surge Current ($1/2$ Cycle, 60Hz)	225A	300A	600A
I^2T	Maximum I^2T for Fusing ($t = 8.3\text{ms}$) [$A^2\text{sec}$]	210	375	1500
I_{GT}	Maximum Required Gate Current to Trigger @ 25°C	100mA	100mA	100mA
V_{GT}	Maximum Required Gate Voltage to Trigger @ 25°C	2.5V	2.5V	3.0V
$P_{G(AV)}$	Average Gate Power	0.5W	0.5W	0.5W
V_{GM}	Maximum Peak Gate Voltage (Reverse)	5.0V	5.0V	5.0V
$R_{\theta JC}$	Maximum Thermal Resistance Junction to Ceramic Base per Chip	1.25°C/W	0.9°C/W	0.7°C/W
V_{ISOL}	Isolation Voltage	2500 V RMS	2500 V RMS	2500 V RMS

MECHANICAL SPECIFICATIONS

Weight: (typical)

.5 oz. (14.4 g)

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APPROVALS

UL E72445

**DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO**

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	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

附件 - 环保信息:

此附件所标示的包括电子信息产品污染图标的环境信息
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电子信息产品污染控制标识要求

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O



- High Surge Current Rectifier Circuits
- Up to 1600 Volt Blocking Standard

Single- and three-phase diode circuits incorporate highly efficient thermal management to provide high surge capability, extended life, and reliable performance. Available in five circuits, all models come in an industry standard package, provide 2500 Vrms from all terminals to the baseplate, and are UL recognized (file no. E72445).

Manufactured in Crydom's ISO 9002 Certified facility for optimum product performance and reliability.

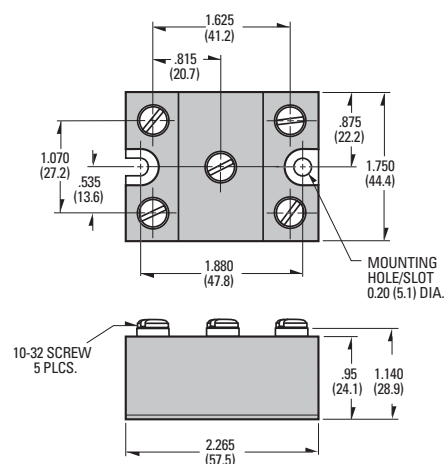
PART NUMBER IDENTIFICATION

Series Type	Current	Circuit Type	Voltage	
M50	60 - 60 Amps	(see schematic diagrams)	400 (120Vac)	1200 (480Vac)
	100 - 100 Amps	Example: TB	600 (240Vac)	1400 (530Vac)
			1000 (380Vac)	1600 (600Vac)

Example: M50100TB1200

MECHANICAL DIMENSIONS

All dimensions are in inches (millimeters)



ELECTRICAL SPECIFICATIONS

SYMBOL	SPECIFICATION	RATINGS	
		M5060	M50100
I_D	Maximum DC Output Current ($T_c = 85^\circ\text{C}$)	60A	100A
V_F	Maximum Voltage Drop @ Amps Peak	1.35V @ 60A	1.2V @ 100A
T_J	Operating Junction Temperature Range	-40°C to +125°C	
V_{RRM}	(Repetitive Peak Reverse Voltage (AC Line)	400 (120 Vac) 600 (240 Vac) 1000 (380 Vac) 1200 (480 Vac) 1400 (530 Vac) 1600 (600 Vac)	
I_{TSM}	Maximum Non-Repetitive Surge Current ($1/2$ Cycle, 60Hz)	800A	1500A
I^2T	Maximum I^2T for Fusing ($t=8.3\text{ms}$) [A^2sec]	2650	9350
$R_{\theta JC}$	Maximum Thermal Resistance Junction to Ceramic Base per Chip	0.45°C/W	0.3°C/W
V_{ISOL}	Isolation Voltage	2500 V RMS	2500 V RMS

MECHANICAL SPECIFICATIONS

Weight: (typical) 4.5 oz. (158g)

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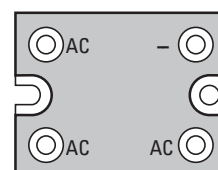
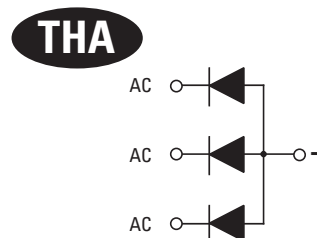
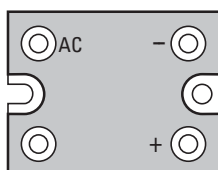
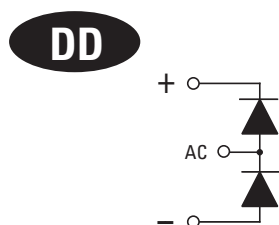
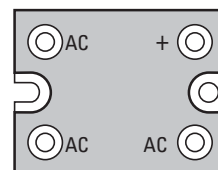
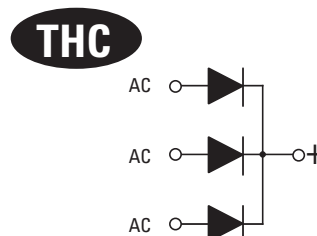
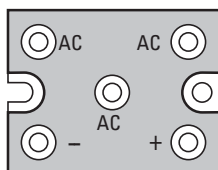
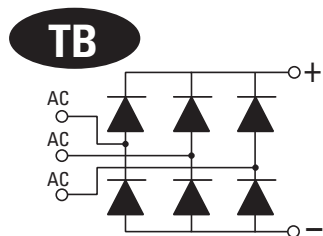
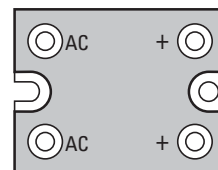
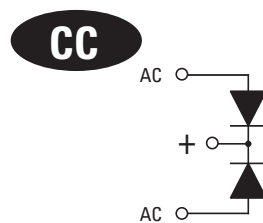
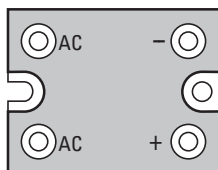
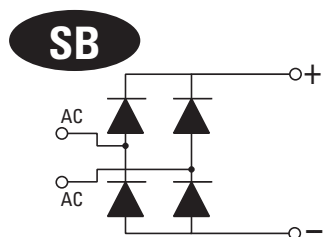
- High Surge Current Rectifier Circuits
- Up to 1600 Volt Blocking Standard

PART NUMBER IDENTIFICATION

Series Type	Current	Circuit Type	Voltage	
M50	60 - 60 Amps	(see schematic diagrams) Example: TB	400	(120Vac)
	100 - 100 Amps		600	(240Vac)
			1000	(380Vac)
			1200	(480Vac)
			1400	(530Vac)
			1600	(600Vac)

Example: M50100TB1200

M50 DIODE CIRCUITS



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**DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO**

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCHARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.	GEFAHR EINES ELEKTRISCHEN SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.
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**WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO**

RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfrie antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

• Over 40KW Output Capability

The M50 Series modules utilize highly efficient thermal management of provide high surge capability, long lifetime and reliable performance. Available in eight standard circuits, all models come in an industry standard package, provide 2500Vrms from all terminals to the baseplate and are UL recognized (file no. E72445).

Manufactured in Crydom's ISO 9002 Certified facility for optimum product performance and reliability.

PART NUMBER IDENTIFICATION

Series Type
M50 -Case style

Current
50 - 50 Amps
100 - 100 Amps

Circuit Type
1 - 8
(see schematic diagrams)

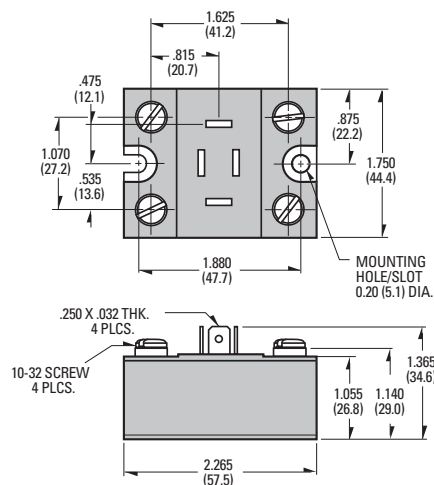
AC Line Voltage
1 - 120 Vac
2 - 240 Vac
3 - 280 Vac
4 - 380 Vac
5 - 480 Vac

Options
F - Free Wheeling Diode
(Circuits 1 & 2 Only)
V - External Suppressor
(Circuits 1, 2, 3, 4, 6 & 7 Only)

Example: M505012FV

MECHANICAL DIMENSIONS

All dimensions are in inches (millimeters)



ELECTRICAL SPECIFICATIONS

SYMBOL	SPECIFICATION	RATINGS	
		M5050	M50100
I_D	Maximum DC Output Current ($T_c = 85^\circ\text{C}$)	50A	100A
V_F	Maximum Voltage Drop @ Amps Peak	1.7V @ 50A	1.4V @ 100A
T_J	Operating Junction Temperature Range	-40°C to $+125^\circ\text{C}$	
di/dt	Critical Rate of Rise of On-State Current @ $T_J=125^\circ\text{C}$	100A/ μs	100A/ μs
dv/dt	Critical Rate of Rise of Off-State Voltage [V/ μs]	500V/ μs	500V/ μs
V_{RMS}	AC Line Input Voltage (Repetitive Peak Reverse Voltage)	120 (400 V) 240 (600 V) 280 (800 V) 380 (1000 V) 480 (1200 V)	RRM) RRM) RRM) RRM) RRM)
I_{TSM}	Maximum Non-Repetitive Surge Current ($1/2$ Cycle, 60Hz)	600A	1500A
I^2T	Maximum I^2T for Fusing ($t=8.3\text{ms}$) [$A^2\text{sec}$]	1500	9350
I_{GT}	Maximum Required Gate Current to Trigger @ 25°C	150mA	150mA
V_{GT}	Maximum Required Gate Voltage to Trigger @ 25°C	3.0V	3.0V
$P_{G(AV)}$	Average Gate Power	0.5W	0.5W
V_{GM}	Maximum Peak Gate Voltage (Reverse)	5.0V	5.0V
$R_{\theta JC}$	Maximum Thermal Resistance Junction to Ceramic Base per Chip	0.7 $^\circ\text{C/W}$	0.36 $^\circ\text{C/W}$
V_{ISOL}	Isolation Voltage	2500 V _{RMS}	2500 V _{RMS}

MECHANICAL SPECIFICATIONS

Weight: (typical)

4.9 oz. (140g)

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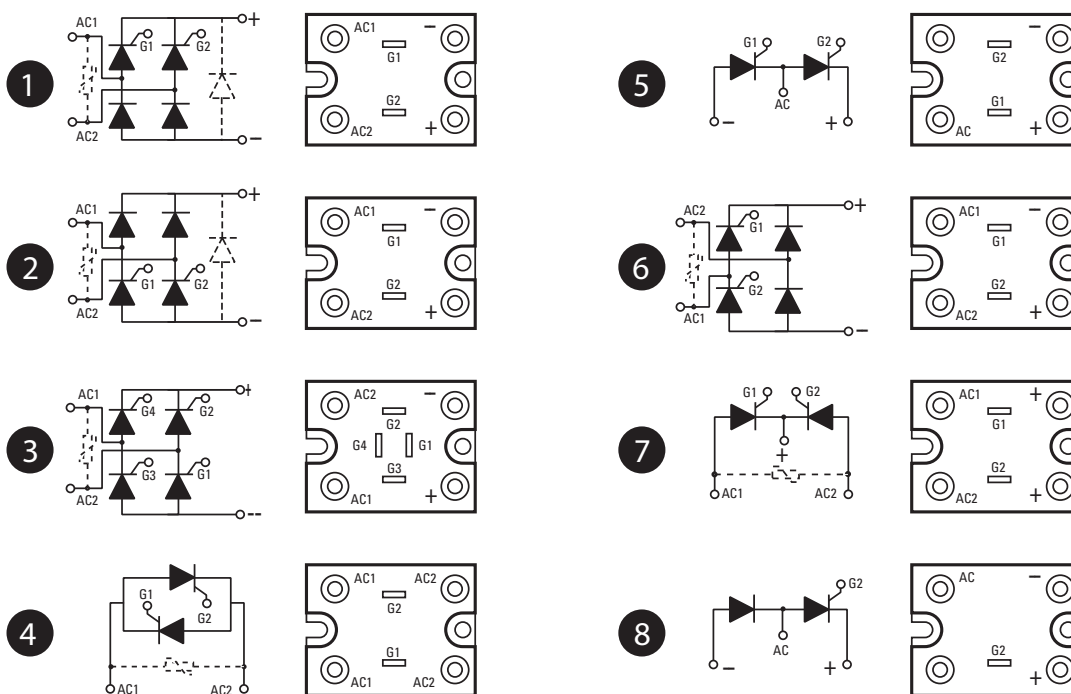
- Over 40KW Output Capability

PART NUMBER IDENTIFICATION

Series Type	Current	Circuit Type	AC Line Voltage	Options
M50 -Case style	50 - 50 Amps 100 - 100 Amps	1 - 8 (see schematic diagrams)	1 - 120 Vac 2 - 240 Vac 3 - 280 Vac 4 - 380 Vac 5 - 480 Vac	F - Free Wheeling Diode (Circuits 1 & 2 Only) V - External Suppressor (Circuits 1, 2, 3, 4, 6 & 7 Only)

Example: M505012FV

SERIES M50 CIRCUITS



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ANNEX – ENVIRONMENTAL INFORMATION:

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

附件 - 环保信息:

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O



MCBC Series

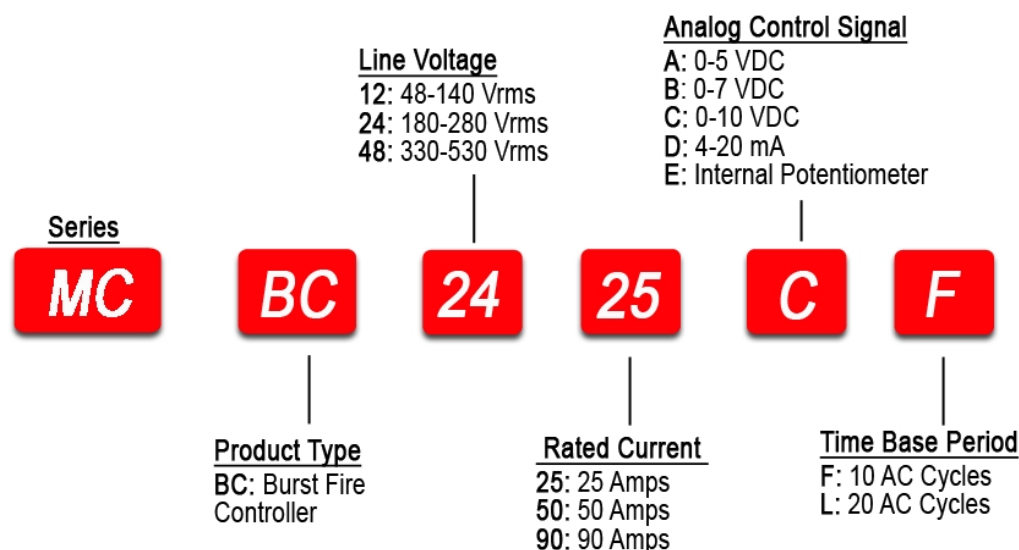


- Microprocessor based burst-fire controller / SSR
- Ratings from 25A to 90A @ 48-530 VAC
- Low-voltage, current, or potentiometer control
- Output status indicator
- Separate output enable / disable control
- Two time-base periods available

PRODUCT SELECTION

Line Voltage	25 A	50 A	90 A
40-140 VAC	MCBC1225	MCBC1250	MCBC1290
180-280 VAC	MCBC2425	MCBC2450	MCBC2490
300-530 VAC	MCBC4825	MCBC4850	MCBC4890

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (current)

Description	25 A	50 A	90 A
Maximum Load Current (3) [Arms]	25	50	90
Minimum Load Current [mArms]	150	150	150
Maximum Surge Current (16.6ms) [Apk]	250	625	1200
Maximum On-State Voltage Drop @ Rated Current [Vpk]	1.6	1.6	1.6
Thermal Resistance Junction to Case (Rjc) [°C/W]	1.02	0.63	0.28
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	260	1620	6000
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5

OUTPUT SPECIFICATIONS (voltage)

Description	120 VAC	240 VAC	480 VAC
Operating Voltage (47-63Hz) [Vrms]	48-140	180-280	300-530
Transient Overvoltage [Vpk]	400	600	1200
Maximum Off-State Leakage Current @ Rated Voltage [mArms]	5	7	12
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	200	200	200

INPUT SPECIFICATIONS (1)

Description	DC Control
Control Voltage Range (VDC)	8-32
Input Current Range [mA]	28-30
Nominal Input Impedance [Ohms]	30K
Control Must Operate Voltage "On" [VDC][P3]	5-32
Control Must Release Voltage "Off" [VDC][P3]	0-4
Control Input Current [mA][P3]	0-1.25
PLV Range Option A [VDC][P4] (2)	0-5
PLV Range Option B [VDC][P4] (2)	0-7
PLV Range Option C [VDC][P4] (2)	0-10
PLV Range Option D [VDC][P4] (2)	4-20
Nominal Input Impedance Option A,B,C[ohms][P4]	20K
Nominal Input Impedance Option D [ohms][P4]	220

OUTPUT STATUS FUNCTIONS

Conditions	LED
Initial Logic Supply On	Flash Once
Load Voltage Missing / Load Open (w/control disabled)	Flash Once Intermittently
Load Voltage Missing / Load Open (w/control enabled))	Flash Twice Intermittently
Analog Input < Threshold	Off
Analog Input < Threshold < max	Varying Brightness
Analog Input > max	On, Bright

GENERAL SPECIFICATIONS

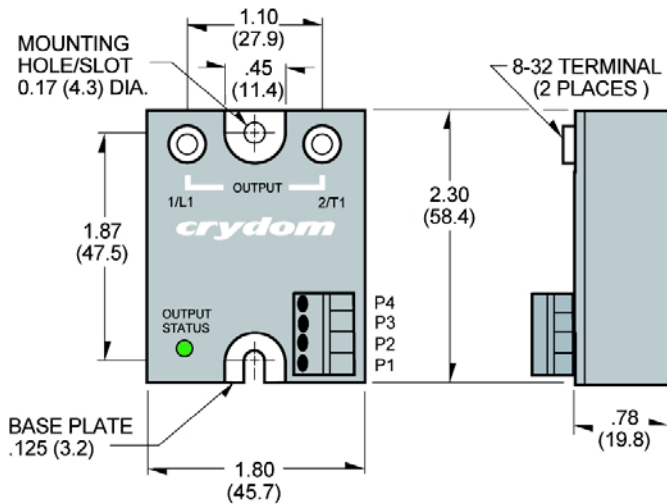
Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 V DC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	10 pF
Ambient Operating Temperature Range	-20 to 80°C
Ambient Storage Temperature Range	-40 to 125 °C
Weight (typical)	3.0 oz (86.5g)
Encapsulation	Thermally conductive Epoxy
Terminals-Power	Screws and Saddle Clamps Furnished, Unmounted
Terminals-Control	Barrier Strip Screw Terminals
Recommended Terminal Screw Torque Range:	8-32 Screws -20 in. lbs.(Screws dry without grase)

GENERAL NOTES

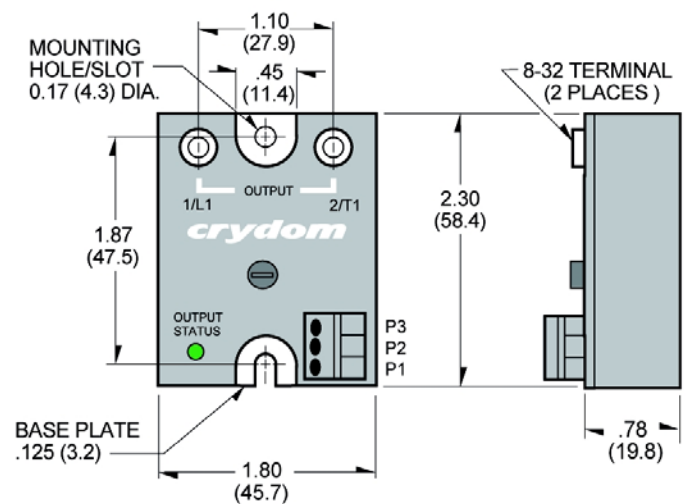
- 1) Voltages are reference to GND (Ground = 0 VDC) P2
- 2) PLVI voltage can go up to max. supply voltage without damage

MECHANICAL SPECIFICATIONS

Analog Input OPTIONS: A,B,C,D

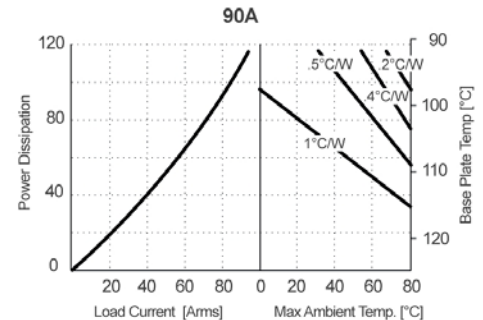
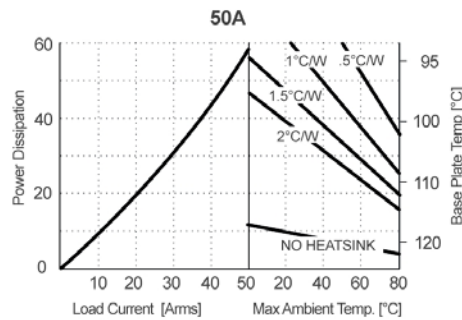
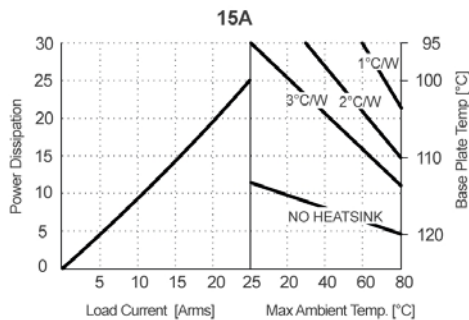


Analog Input Option: E (Internal Potentiometer)



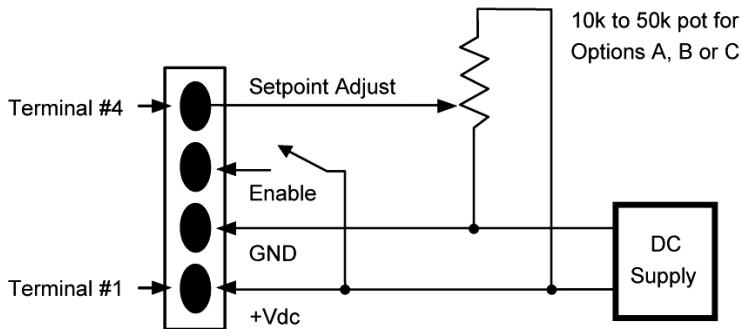
Dimensions are in inches (millimeters)

THERMAL DERATE INFORMATION

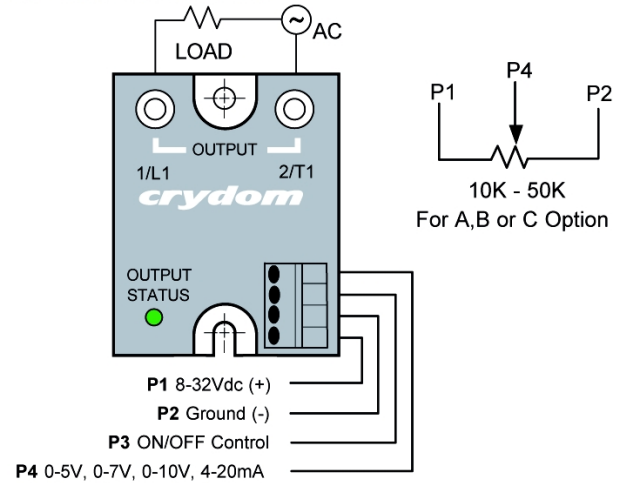


WIRING DIAGRAM

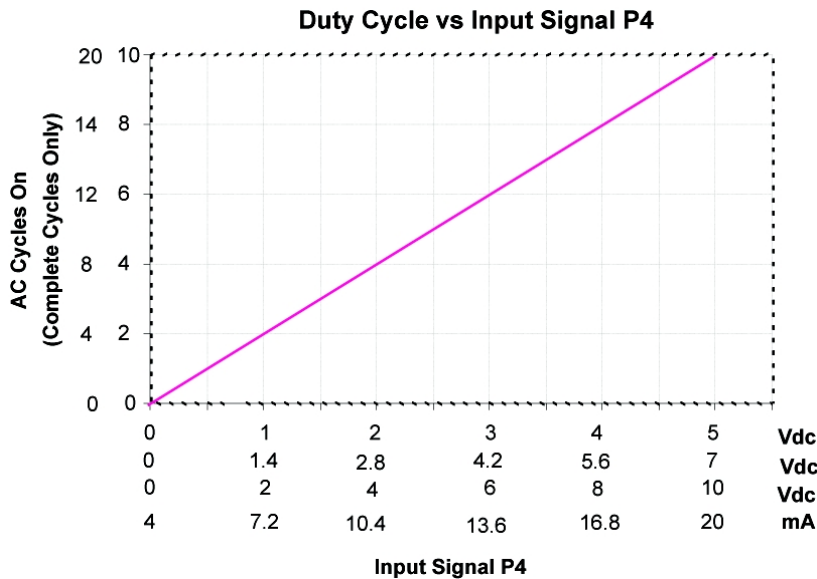
(for Options A, B or C using an external potentiometer)



Electrical Connections



OUTPUT VS ANALOG INPUT SIGNAL CURVES



AGENCY APPROVALS

UL E116949



Rev. 102308

⚠ WARNING / AVERTISSEMENT / WARNUNG / ADVERTENCIA / AVVERTENZA / AVISO

RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE

- The product's side panels may be hot, allow time for product to cool before touching.
- Follow proper mounting instructions including torque values.
- Do not allow liquids or foreign objects to enter this product.

Failure to follow this instruction can result in serious injury, or equipment damage.

RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER

- Les panneaux latéraux du produit peuvent être chauds. Laissez le produit refroidir avant de le toucher.
- Respecter les consignes de montage, et notamment les couples de serrage.
- Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit.

Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.

GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG

- Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren.
- Beachten Sie die Montageanweisungen.
- Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein.

Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.

RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD

- Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo.
- Respetar las instrucciones de montaje, y en particular los pares de apretado.
- No dejar que penetren líquidos o cuerpos extraños en el producto.

Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.

RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO

- I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo.
- Seguire le istruzioni di montaggio corrette.
- Non far entrare liquidi o oggetti estranei in questo apparecchio.

La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.

RISCO DE DANO MATERIAL E DE AQUECIMENTO

- Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar.
- Siga devidamente as instruções de montagem.
- Não permita a entrada de líquidos e de objectos estranhos no produto.

A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH.

- Disconnect all power before installing or working with this equipment.
- Verify all connections and replace all covers before turning on power.

Failure to follow these instructions will result in death or serious injury.

RIESGO DE DESCARGA ELECTRICA O EXPLOSION.

- Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo.
- Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo.

El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.

RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION

- Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil
- Vérifier tous connections, et remettre tous couverts en place avant de mettre sous

De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.

GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION.

- Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen
- Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen.

Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.

RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE.

- Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura
- Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione

L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie

RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO

- Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento
- Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento

O não cumprimento destas instruções pode levar a morte ou lesões sérias.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

MCS Series

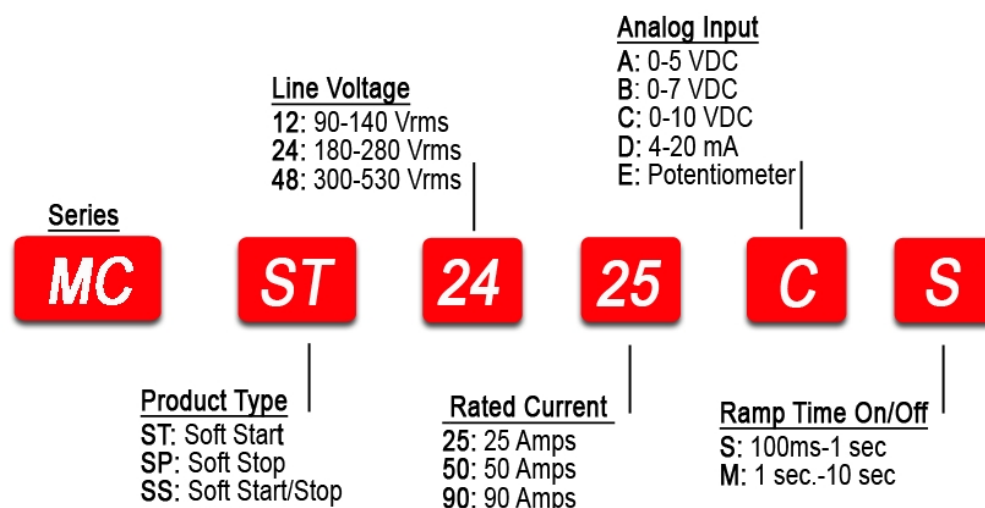


- Microprocessor based soft-start / soft-stop controller
- Ratings from 25A to 90A @ 48-530 VAC
- Low-voltage, current, or potentiometer control
- Output status indicator
- Adjustable ramp rates

PRODUCT SELECTION

Line Voltage	25 A	50 A	90 A
120 Vrms	MCST1225	MCST1250	MCST1290
240 Vrms	MCST2425	MCST2450	MCST2490
480 Vrms	MCST4825	MCST4850	MCST4890

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (voltage)

Description	120 VAC	240 VAC	480 VAC
Operating Voltage (47-63Hz) [Vrms]	48-140	180-280	300-530
Transient Overvoltage [Vpk]	400	600	1200
Maximum Off-State Leakage Current @ Rated Voltage [mA _{rms}]	5	7	12
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec]	200	200	200

OUTPUT SPECIFICATIONS (current)

Description	25 A	50 A	90 A
Maximum Load Current [A _{rms}]	25	50	90
Minimum Load Current [mA _{rms}]	150	150	150
Maximum Surge Current (16.6ms) [A _{pk}]	250	625	1200
Maximum On-State Voltage Drop @ Rated Current [V _{pk}]	1.6	1.6	1.6
Thermal Resistance Junction to Case (R _{jc}) [°C/W]	1.02	0.63	0.28
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	260	1620	6000

INPUT SPECIFICATIONS (1)

Description	DC Control
Control Voltage Range (VDC)	8-32
Input Current Range [mA]	28-30
Nominal Input Impedance [Ohms]	30K
Control Must Operate Voltage "On" [VDC][P3]	5-32
Control Must Release Voltage "Off" [VDC][P3]	0-4
Input Current [mA][P3]	0-2.6
Analog Range Option A [VDC][P4]	0.5-5
Analog Range Option B [VDC][P4]	1.25-7
Analog Range Option C [VDC][P4]	2-10
Analog Range Option D [VDC][P4]	4-20
Nominal Input Impedance Option A,B,C[ohms][P4]	20K
Nominal Input Impedance Option D [ohms][P4]	220

GENERAL SPECIFICATIONS

Description	Parameters
Minimum Power Factor (with Maximum Load)	0.5
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 V DC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	10 pF
Ambient Operating Temperature Range	-20 to 80°C
Ambient Storage Temperature Range	-40 to 125 °C
Weight (typical)	3.0 oz (86.5g)
Encapsulation	Thermally conductive Epoxy
Terminals-Power	Screws and Saddle Clamps Furnished, Unmounted
Terminals-Control	Barrier Strip Screw Terminals
Recommended Terminal Screw Torque Range:	8-32 Screws -20 in. lbs.(Screws dry without grase) Input Connections via Screw Type Barrier Strip

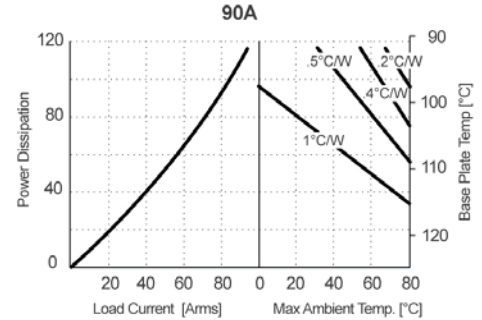
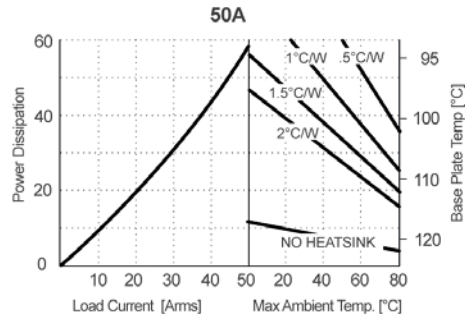
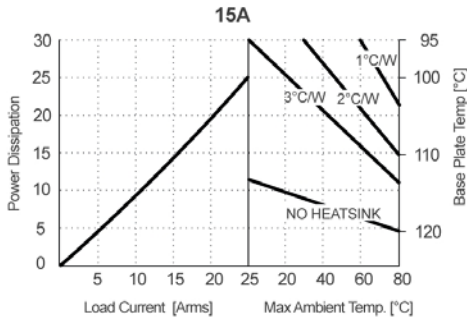
GENERAL NOTES

1) Voltages are reference to GND (Ground = 0 VDC) P2

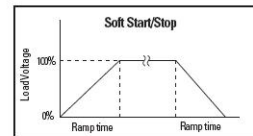
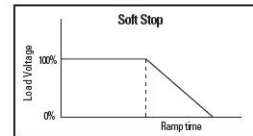
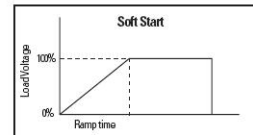
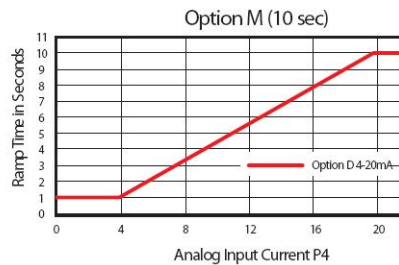
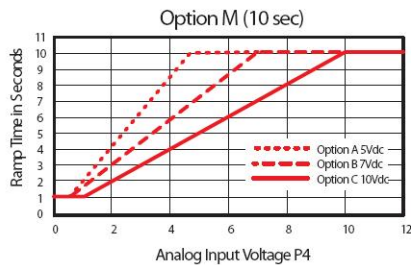
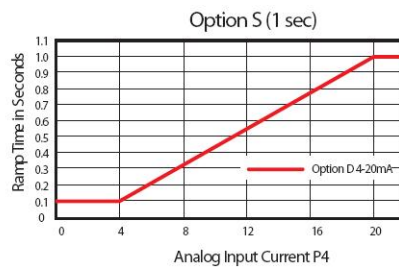
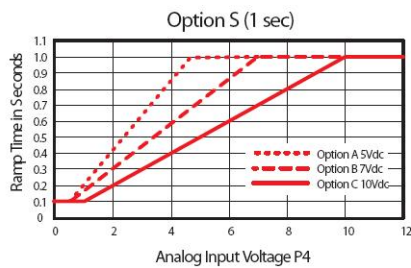
OUTPUT STATUS FUNCTIONS

Conditions	LED Status
Initial Logic Supply On	Flash Once
Load Voltage Missing / Load Open (w/control P3 disabled)	Flash Once Intermittently
Load Voltage Missing / Load Open (w/control P3 enabled))	Off
Ramp Time (Soft Start upon P3 Enabled)	Off to Bright
Ramp Time (Soft Start upon P3 Disabled)	Bright to Off
Output ON (Normally Steady Operation)	On

THERMAL DERATE INFORMATION



RAMP TIME IN SECONDS



AGENCY APPROVALS

UL E116949



Rev. 102408



WARNING / AVERTISSEMENT / WARNUNG / ADVERTENCIA / AVVERTENZA / AVISO

RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE

- The product's side panels may be hot, allow time for product to cool before touching.
- Follow proper mounting instructions including torque values.
- Do not allow liquids or foreign objects to enter this product.

Failure to follow this instruction can result in serious injury, or equipment damage.

RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER

- Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher.
- Respecter les consignes de montage, et notamment les couples de serrage.
- Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit.

Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.

GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG

- Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren.
- Beachten Sie die Montageanweisungen.
- Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein.

Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.

RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD

- Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo.
- Respetar las instrucciones de montaje, y en particular los pares de apretado.
- No dejar que penetren líquidos o cuerpos extraños en el producto.

Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.

RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO

- I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo.
- Seguire le istruzioni di montaggio corrette.
- Non far entrare liquidi o oggetti estranei in questo apparecchio.

La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.

RISCO DE DANO MATERIAL E DE AQUECIMENTO

- Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar.
- Siga devidamente as instruções de montagem.
- Não permita a entrada de líquidos e de objectos estranhos no produto.

A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.



DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH.

- Disconnect all power before installing or working with this equipment.
- Verify all connections and replace all covers before turning on power.

Failure to follow these instructions will result in death or serious injury.

RIESGO DE DESCARGA ELECTRICA O EXPLOSION.

- Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo.
- Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo.

El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.

RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION

- Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil
- Vérifier tous connections, et remettre tous couverts en place avant de mettre sous

De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.

GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION.

- Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen
- Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen.

Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.

RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE.

- Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura
- Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione

L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie

RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO

- Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento
- Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento

O não cumprimento destas instruções pode levar a morte ou lesões sérias.

CONTACTS

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

PCV Series



- Proportional controller
- Ratings from 15A to 90A @ 240 VAC
- 2-7 V DC or 2-10 V DC analog input range

PRODUCT SELECTION

Description	15 A	25 A	50 A	75 A	90 A
2-7 VDC Control	7PCV2415	7PCV2425			
2-10 VDC Control	10PCV2415	10PCV2425	10PCV2450	10PCV2475	10PCV2490

OUTPUT SPECIFICATIONS (1)

Description					
Operating Voltage (47-63Hz) [Vrms]	100-240	100-240	100-240	100-240	100-240
Transient Overvoltage [Vpk]	600	600	600	600	600
Maximum Off-State Leakage Current @ Rated Voltage [mA _{rms}]	10	10	10	10	10
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	200	200	200	200	200
Maximum Load Current (3) [A _{rms}]	15	25	50	75	90
Minimum Load Current [A _{rms}]	0.15	0.15	0.15	0.15	0.15
Maximum Surge Current (16.6ms) [A _{pk}]	150	250	625	1000	1200
Maximum On-State Voltage Drop @ Rated Current [V _{pk}]	1.6	1.6	1.6	1.6	1.6
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	94	260	1620	4150	6000
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5	0.5	0.5

INPUT SPECIFICATIONS (1)

Description		
Control Voltage Range	2-7 VDC	2-10 VDC
Typical Input Current @ 5 VDC	4 mA	4 mA

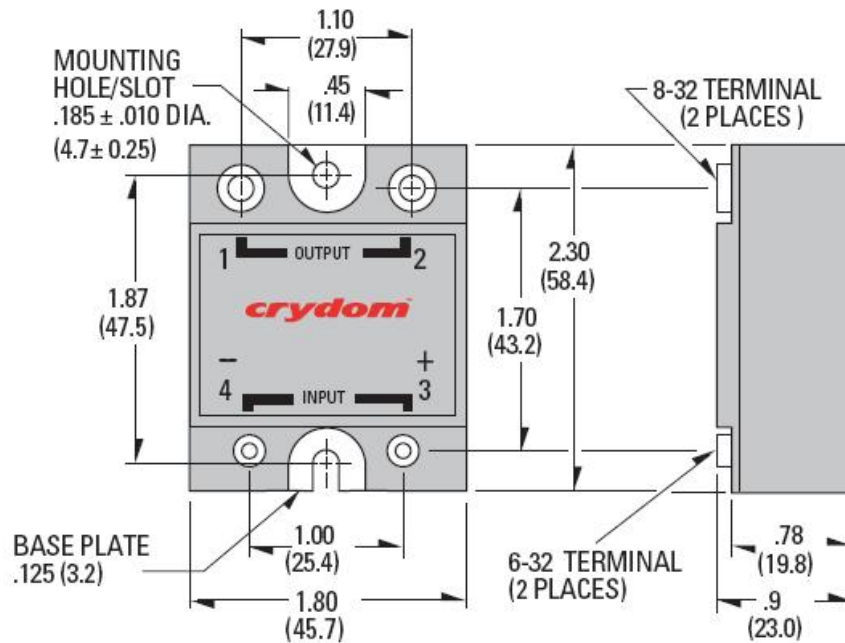
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Signal to Load (50/60Hz)	2500 Vrms
Dielectric Strength, Signal to Base	2500 Vrms
Ambient Operating Temperature Range	-30 to 80 °C
Ambient Storage Temperature Range	-40 to 125 °C
Weight (typical)	3.5 oz. (100g)
Encapsulation	Thermally Conductive Epoxy
Terminals	Screws and Saddle clamps Furnished, Unmounted

GENERAL NOTES

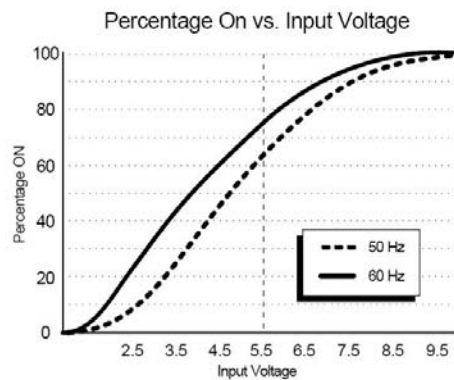
1) All parameters at 25°C unless otherwise specified.

MECHANICAL SPECIFICATIONS

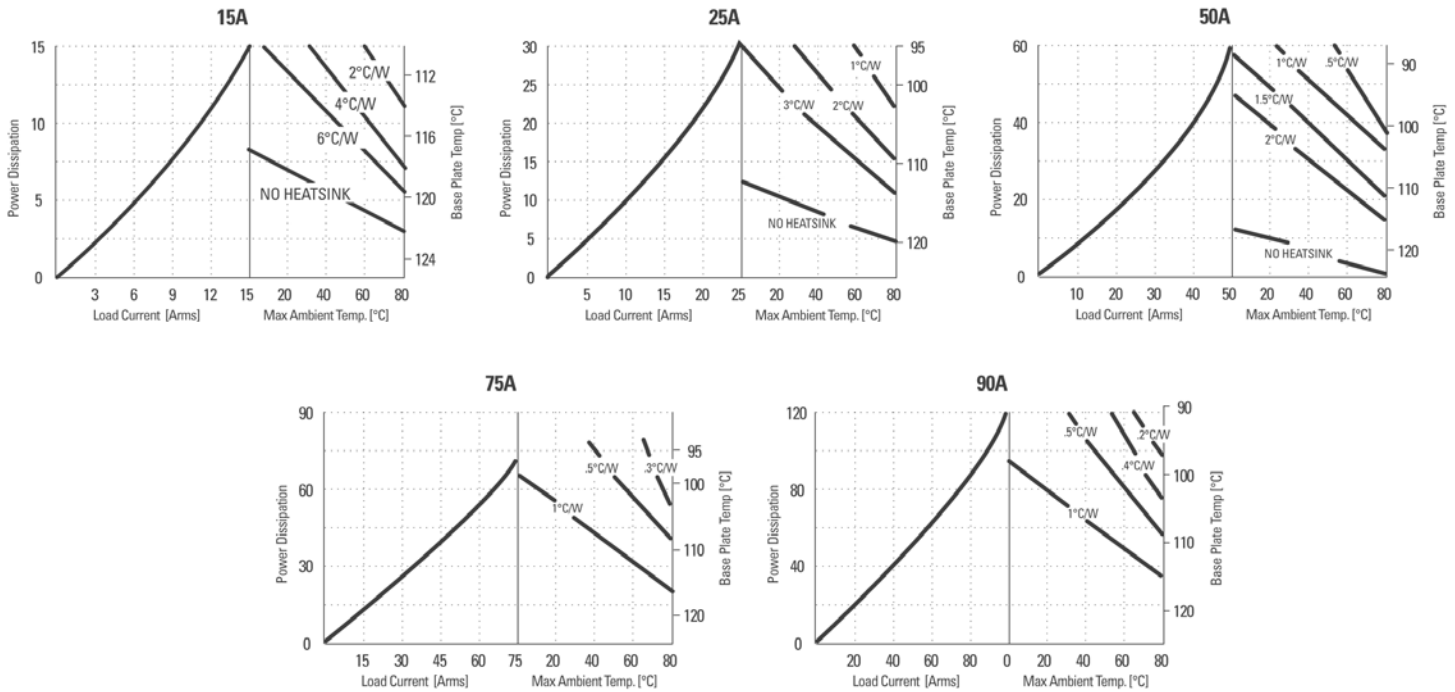


All dimensions are in inches (millimeters)

WIRING DIAGRAM



THERMAL DERATE INFORMATION



TYPICAL APPLICATIONS

- Industrial temperature controllers
- Light dimming
- Vibratory feeders
- Resistive heating elements
- Rectified DC motors
- Conveyor speed control

UNSUITABLE APPLICATIONS

The PCV is not suitable for some load applications including, but not limited to the following:

- AC motor control
- Three Phase motors
- Transformers requiring pure sine wave input
- Zero crossing applications

Please contact Crydom's application Engineering department for additional Information and specific application questions.

AGENCY APPROVALS



Rev. 121108



WARNING / AVERTISSEMENT / WARNUNG / ADVERTENCIA / AVVERTENZA / AVISO

RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE

- The product's side panels may be hot, allow time for product to cool before touching.
- Follow proper mounting instructions including torque values.
- Do not allow liquids or foreign objects to enter this product.

Failure to follow this instruction can result in serious injury, or equipment damage.

RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER

- Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher.
- Respecter les consignes de montage, et notamment les couples de serrage.
- Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit.

Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.

GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG

- Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren.
- Beachten Sie die Montageanweisungen.
- Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein.

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RIESGO DE DAÑOS MATERIALES Y DE SOBRECIENTAMIENTO DE LA UNIDAD

- Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo.
- Respetar las instrucciones de montaje, y en particular los pares de apretado.
- No dejar que penetren líquidos o cuerpos extraños en el producto.

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RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO

- I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo.
- Seguire le istruzioni di montaggio corrette.
- Non far entrare liquidi o oggetti estranei in questo apparecchio.

La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.

RISCO DE DANO MATERIAL E DE AQUECIMENTO

- Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar.
- Siga devidamente as instruções de montagem.
- Não permita a entrada de líquidos e de objectos estranhos no produto.

A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.



WARNING / AVERTISSEMENT / WARNUNG / ADVERTENCIA / AVVERTENZA / AVISO

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RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO

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- Seguire le istruzioni di montaggio corrette.
- Non far entrare liquidi o oggetti estranei in questo apparecchio.

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RISCO DE DANO MATERIAL E DE AQUECIMENTO

- Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar.
- Siga devidamente as instruções de montagem.
- Não permita a entrada de líquidos e de objectos estranhos no produto.

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Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

SST Series



- Soft-start modules
- 120/240 V AC models
- 3.5-10 V DC control range
- Used with Series 1 random-fire solid-state relays

PRODUCT SELECTION

Description	10 A	25 A	50 A	75 A	90 A
120 Vrms Line Voltage	10SST120	25SST120	40SST120		
240 Vrms Line Voltage	10SST240	25SST240	50SST240	75SST240	90SST240

OUTPUT SPECIFICATIONS (voltage) (1)

Description	120 VAC	240 VAC
Operating Voltage (47-63Hz) [Vrms]	90-140	180-280
Transient Overvoltage [Vpk]	400	600
Maximum Off-State Leakage Current @ Rated Voltage [mA _{rms}]	10	10
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	500	500

OUTPUT SPECIFICATIONS (current) (1)

Description	10 A	25 A	50 A	75 A	90 A
Maximum Load Current (3) [A _{rms}]	10	25	50	75	90
Minimum Load Current (3) [A _{rms}]	0.04	0.04	0.04	0.04	0.04
Maximum Surge Current (16.6ms) [A _{pk}]	120	250	625	1000	1200
Maximum On-State Voltage Drop @ Rated Current [V _{pk}]	1.6	1.6	1.6	1.6	1.6
Thermal Resistance Junction to Case (R _{jc}) [°C/W]	1.48	1.02	0.63	0.31	0.28
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	60	260	1620	4150	6000
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5	0.5	0.5

CONTROL MODULE INPUT SPECIFICATIONS (1)

Description	DC Control
Control Voltage Range	3.5-10 VDC
Maximum Off-State Voltage	1.0 VDC
Typical Input Current	1.6 mA @ 5 VDC
Nominal Turn-On Delay time @ 60Hz	150 msec
Nominal Swell (Ramp) Time @ 60Hz	180 msec
Maximum Reset Time	0.1 msec
Maximum Turn-Off Time [msec]	1/2 Cycle

CONTROL MODULE OUTPUT SPECIFICATIONS (1)

Description	DC Control
Maximum Off-State Operating Voltage	36 VDC
Maximum Load Current	3 mADC
Maximum Turn-On Voltage@ 3mA	0.5 VDC
Maximum Off-State Leakage@ 10 VDC	1.0 μADC

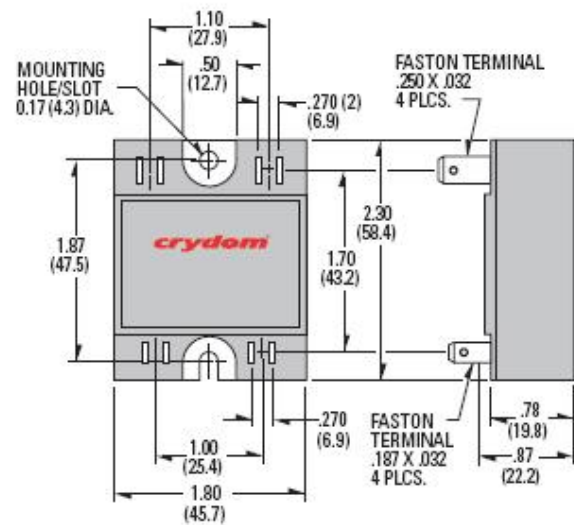
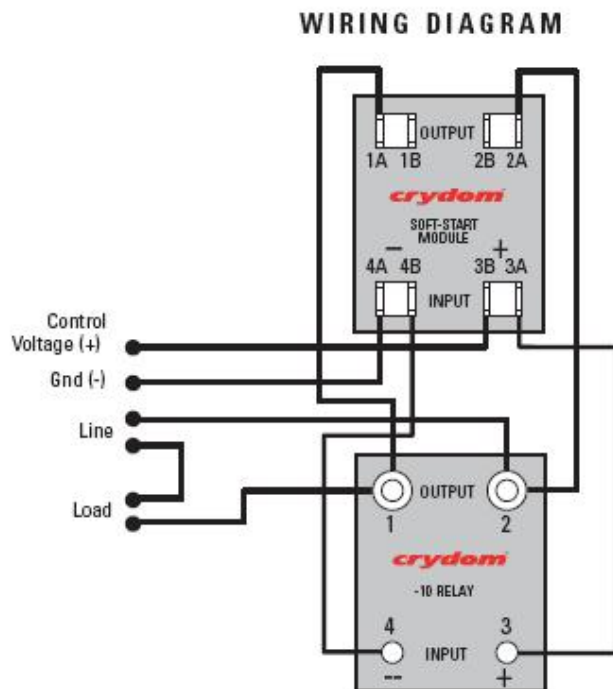
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, signal to load	4000 Vrms
Dielectric Strength, signal to Base	4000 Vrms
Ambient Operating Temperature Range	-30 to 80 °C
Ambient Storage Temperature Range	-40 to 125 °C
Weight (typical)	3.0 oz. (43g)
Encapsulation	Thermally Conductive Epoxy

GENERAL NOTES

- 1) All parameters at 25°C unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- 3) Heat sinking required (Relay Only).

WIRING DIAGRAM

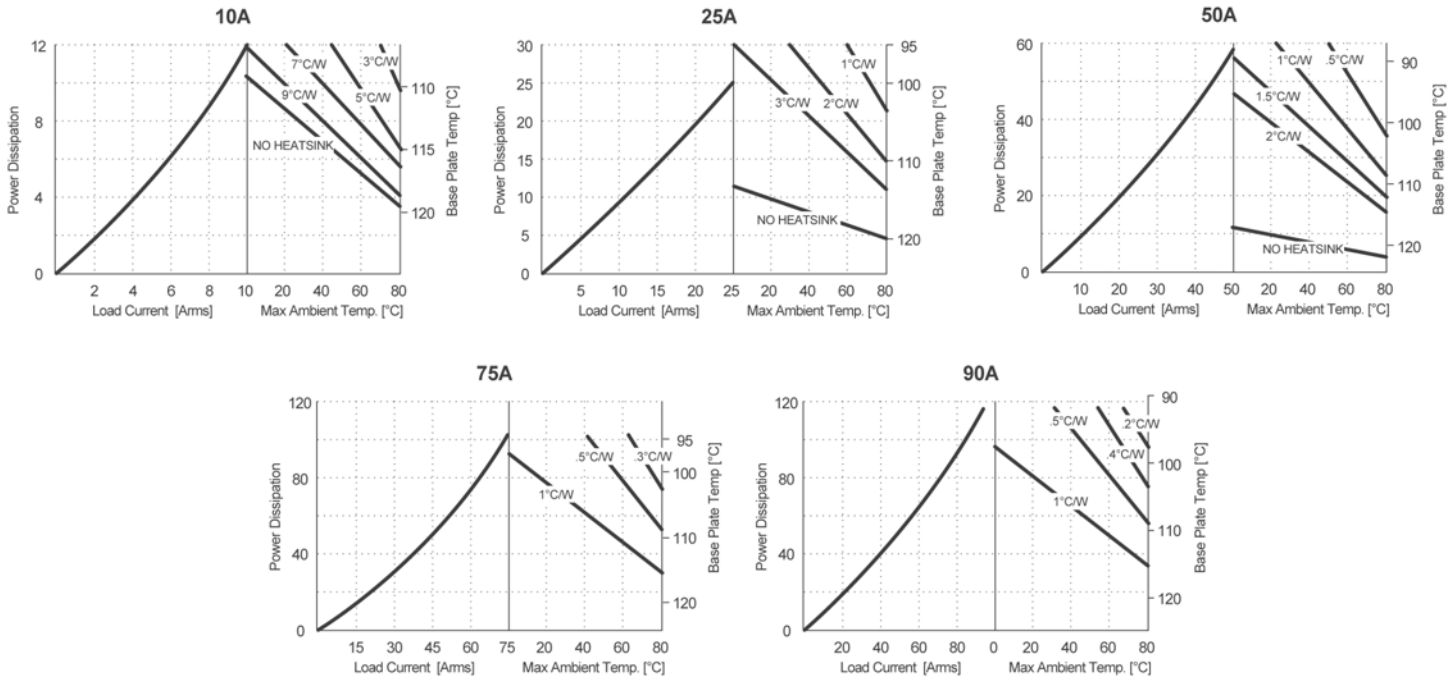


All dimensions are in inches (millimeters)

NOTES

1. Following pins may be interchanged: 1A & 1B, 2A & 2B, 3A & 3B.
2. Pin 4A & 4B may not be interchanged
3. The line and load may be interchanged.

THERMAL DERATE INFORMATION



AGENCY APPROVALS

UL E116949



Rev. 102408

⚠ WARNING / AVERTISSEMENT / WARNUNG / ADVERTENCIA / AVVERTENZA / AVISO

RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laissez le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen. - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉCTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.
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ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

CPV Series



- Phase control modules
- 120/240 VAC models
- 0-5 V DC phase control
- Used with Series 1 random-fire solid-state relays

PRODUCT SELECTION

Description	10 A	25 A	50 A	75 A	90 A
120 VAC	10CPV120	25CPV120	50CPV120	75CPV120	90CPV120
240 VAC	10CPV240	25CPV240	50CPV240	75CPV240	90CPV240

OUTPUT SPECIFICATIONS (voltage) (1)

Description	120 VAC	240 VAC
Operating Voltage (47-63Hz) [Vrms]	90-140 VAC	180-280 VAC
Transient Overvoltage [Vpk]	400	600
Maximum Off-State Leakage Current @ Rated Voltage [mA _{rms}]	10	10
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	500	500

OUTPUT SPECIFICATIONS (current) (1)

Description	10 A	25 A	50 A	75 A	90 A
Maximum Load Current (3) [A _{rms}]	10	25	75	50	90
Minimum Load Current [A _{rms}]	0.04	0.04	0.04	0.04	0.04
Maximum Surge Current (16.6ms) [A _{pk}]	120	250	625	1000	1200
Maximum On-State Voltage Drop @ Rated Current [V _{pk}]	1.6	1.6	1.6	1.6	1.6
Thermal Resistance Junction to Case (R _{jc}) [°C/W]	1.48	1.02	0.31	0.63	0.28
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	60	260	4150	1620	6000
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5	0.5	0.5

CONTROL MODULE INPUT SPECIFICATIONS (1)

Description	DC Control
Control Voltage Range	0-5 VDC
Minimum Turn-Off Voltage	1.0 VDC
Typical Supply Current	1.6 mA @ 5 VDC
Nominal Control Input Impedance	1500 Ohm
Maximum Turn-On Time [msec]	0.02
Maximum Turn-Off Time [msec]	1/2 Cycle

CONTROL MODULE OUTPUT SPECIFICATIONS (Terminal 4B - Input to Relay) (1)

Description	DC Control
Maximum Off-State Operating Voltage	36 VDC
Maximum Load Current (Sink)	3.0 mA
Maximum On-State Voltage @ 3 mA	0.5 VDC
Max. Off State Leakage @ 10 VDC	1.0 μADC

GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, signal to load	4000 Vrms
Dielectric Strength, signal to Base	4000 Vrms
Ambient Operating Temperature Range	-30 to 80°C
Ambient Storage Temperature Range	-40 to 125°C
Weight (typical)	3.0 oz. (43g)
Encapsulation	Thermally Conductive Epoxy

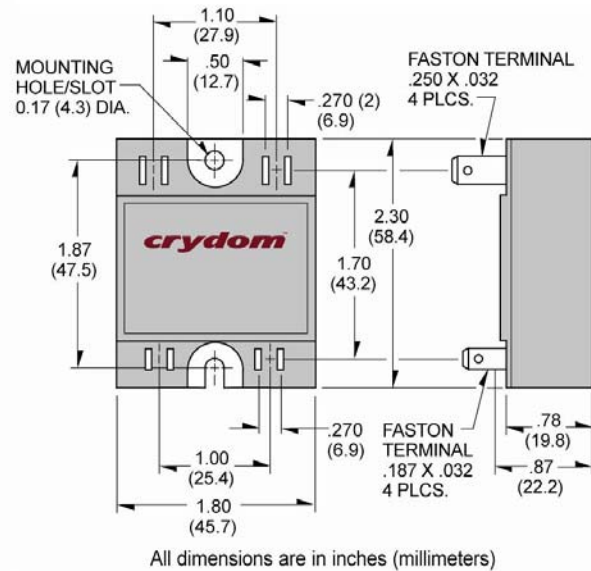
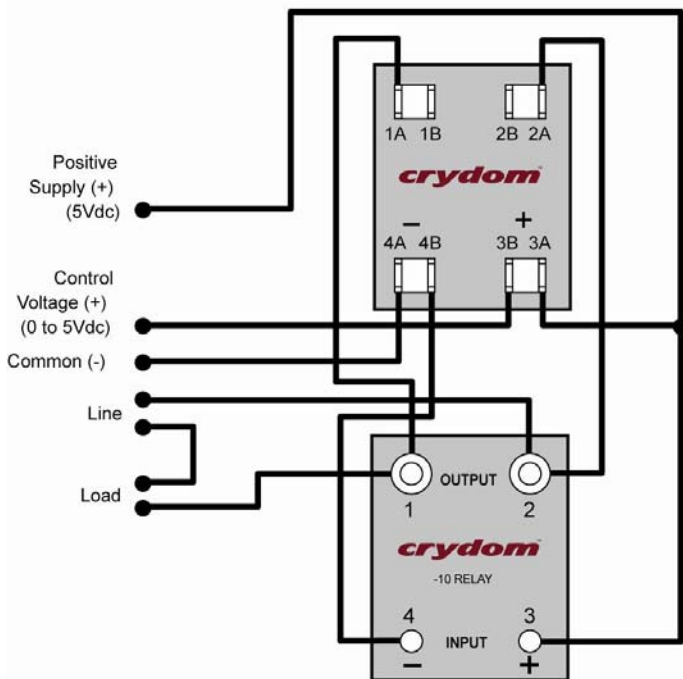
GENERAL NOTES

- 1) All parameters at 25°C unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- 3) Heat sinking required (relay only), see derating curves.

AVAILABLE OPTIONS

- CPV120 Control Module Only (120 Vac Line)
CPV240 Control Module Only (240 Vac Line)

WIRING DIAGRAM



AGENCY APPROVAL



Rev. 102208

⚠ WARNING / AVERTISSEMENT / WARNUNG / ADVERTENCIA / AVVERTENZA / AVISO

RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen. - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

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ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

LPCV Series



- Linear proportional controller
- Ratings from 15A to 110A @ 240 VAC
- 0-5 V DC, 0-10 V DC, or 4-20mA input

PRODUCT SELECTION

Description	15 A	25 A	40 A	75 A	110 A
0-5 VDC Control	5LPCV2415	5LPCV2425	5LPCV2440	5LPCV2475	5LPCV24110
0-10 VDC Control	10LPCV2415	10LPCV2425	10LPCV2440	10LPCV2475	10LPCV24110
4-20 VDC Control	20LPCV2415	20LPCV2425	20LPCV2440	20LPCV2475	20LPCV24110

OUTPUT SPECIFICATIONS (voltage) (1)

Description	240 VAC
Operating Voltage (60Hz) [Vrms]	20-300
Transient Overvoltage [Vpk]	600
Maximum Off-State Leakage Current @ Rated Voltage [mA]	10
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec]	200

OUTPUT SPECIFICATIONS (current) (1)

Description	15 A	25 A	40 A	75 A	110 A
Maximum Load Current [A]	15	25	40	75	110
Minimum Load Current [A]	0.10	0.10	0.10	0.15	0.20
Maximum Surge Current (16.6ms) [A]	150	250	625	1000	1500
Maximum On-State Voltage Drop @ Rated Current [V]	1.6	1.6	1.6	1.6	1.6
Thermal Resistance Junction to Case [Rjc] [°C/W]	1.48	1.02	0.63	0.31	0.28
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	94	260	1620	4150	9340
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5	0.5	0.5

INPUT SPECIFICATIONS (1)

Description	5LPCV	10LPCV	20LPCV
Control Voltage Range	0-5 VDC	0-10 VDC	4-20 mA
Control Range Limits (Min/Msx)	-0.5/10 VDC	-1.0/20 VDC	-0.5/25 mA
Turn-On Threshold	0.25 VDC	0.5 VDC	4.5 VDC
Nominal Input Impedance	12.7K Ohm	25 K Ohm	460 Ohm

POWER SUPPLY SPECIFICATION (4)

Description	PS120	PS240
Input Voltage 50/60Hz	120 VAC	240 VAC
Output Voltage 50/60Hz	20 VAC/100mA	20 VAC/100mA
Ambient Operating Temperature Range	-30 to 80°C	-30 to 80°C
Ambient Storage Temperature Range	-40 to 125°C	-40 to 125°C
Terminals	6-32 Screws, .25" Fastons	
Screw Torque Requirement	6-32 Screws -10 in lbs.	
Weight (typical)	8.6 oz. (245g)	

GENERAL SPECIFICATIONS

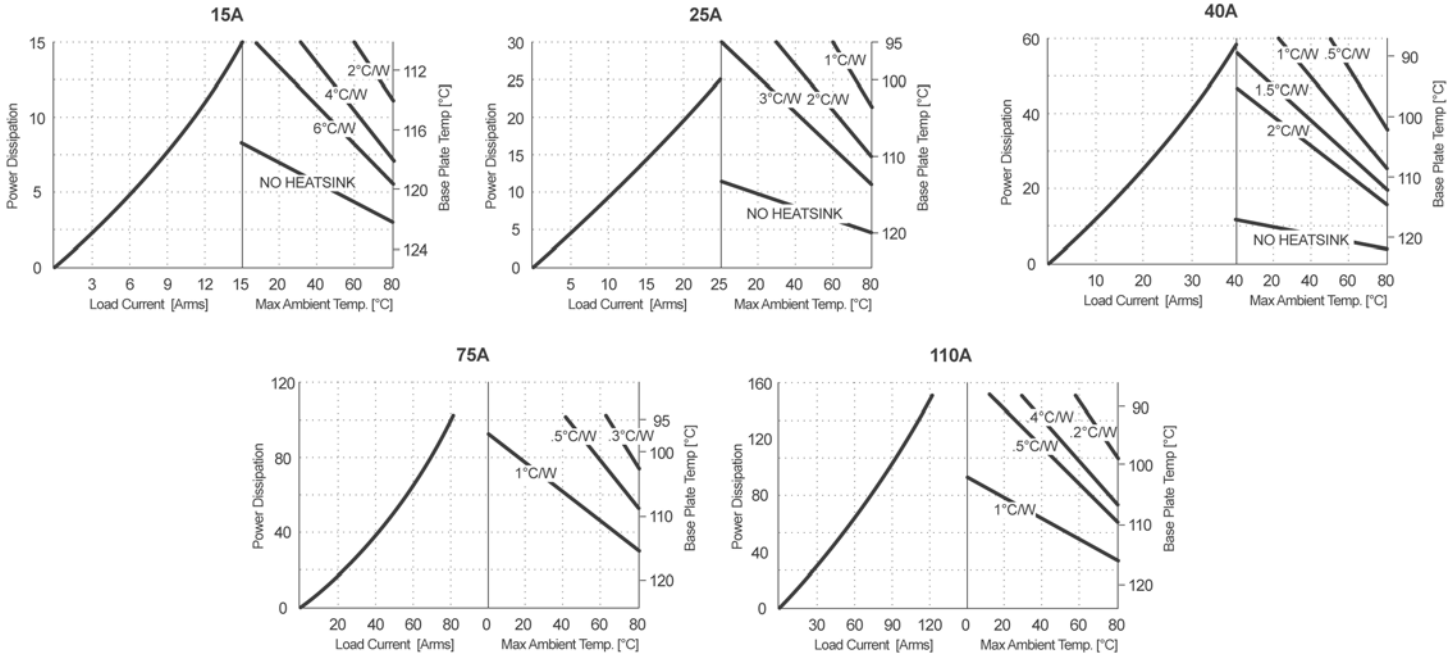
Description

Dielectric Strength, signal to load	2500 Vrms
Dielectric Strength, signal to Base	2500 Vrms
Ambient Operating Temperature Range	-30 to 80°C
Ambient Storage Temperature Range	-40 to 125°C
Weight (typical)	6.0 oz. (175g)
Encapsulation	Thermally Conductive Epoxy
Terminals	8-32 Screws, .25" Fastons
Screw Torque Requirement	8-32 and 10-32 Screws - 20in. lbs.

GENERAL NOTES

- 1) All parameters at 25°C unless otherwise specified.
- 2) Linear taper potentiometer 1-10K Ohm, ½ watt.
- 3) 50Hz models available.
- 4) 20 VAC must be in phase with load

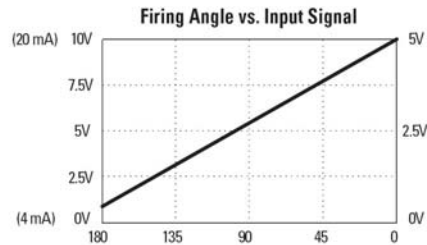
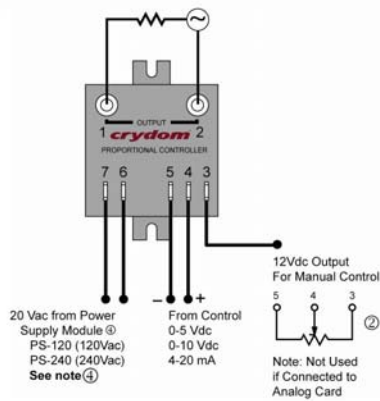
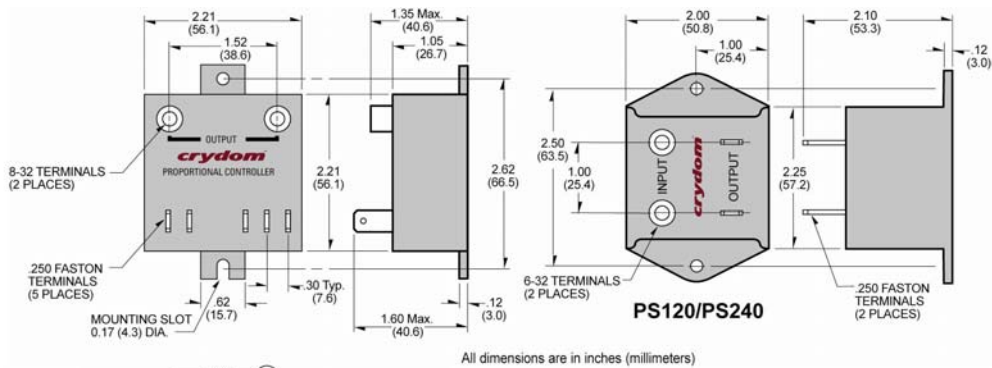
THERMAL DERATE INFORMATION



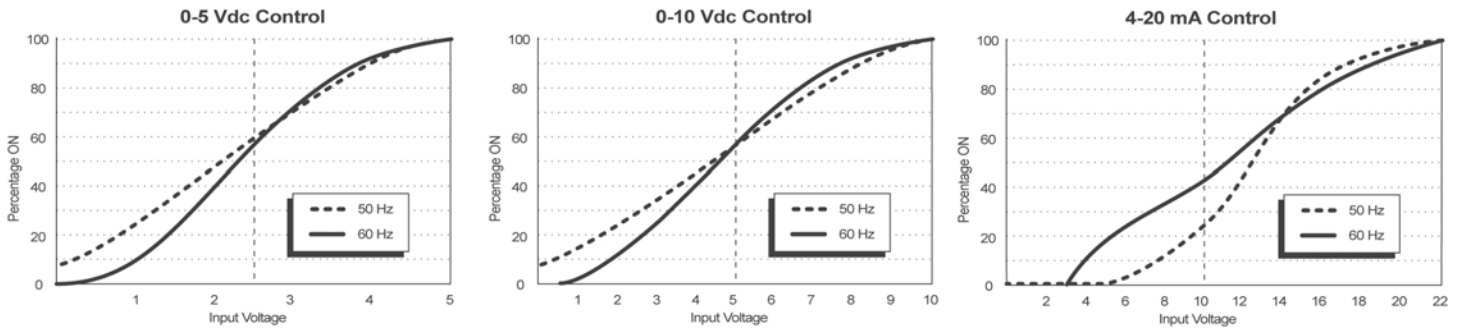
TYPICAL APPLICATIONS

- Infrared and quartz heaters
- Resistive heating elements
- Rectified DC motors
- Industrial temperature controllers
- Thermal forming equipment
- Conveyor speed control
- Printing applications

WIRING DIAGRAM



PERCENT VS INPUT VOLTAGE



AGENCY APPROVALS



Rev. 011209



WARNING / AVERTISSEMENT / WARNUNG / ADVERTENCIA / AVVERTENZA / AVISO

RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE

- The product's side panels may be hot, allow time for product to cool before touching.
- Follow proper mounting instructions including torque values.
- Do not allow liquids or foreign objects to enter this product.

Failure to follow this instruction can result in serious injury, or equipment damage.

RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER

- Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher.
- Respecter les consignes de montage, et notamment les couples de serrage.
- Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit.

Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.

GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG

- Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren.
- Beachten Sie die Montageanweisungen.
- Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein.

Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.

RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD

- Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo.
- Respetar las instrucciones de montaje, y en particular los pares de apretado.
- No dejar que penetren líquidos o cuerpos extraños en el producto.

Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.

RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO

- I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo.
- Seguire le istruzioni di montaggio corrette.
- Non far entrare liquidi o oggetti estranei in questo apparecchio.

La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.

RISCO DE DANO MATERIAL E DE AQUECIMENTO

- Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar.
- Siga devidamente as instruções de montagem.
- Não permita a entrada de líquidos e de objectos estranhos no produto.

A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.



DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH.

- Disconnect all power before installing or working with this equipment.
- Verify all connections and replace all covers before turning on power.

Failure to follow these instructions will result in death or serious injury.

RIESGO DE DESCARGA ELECTRICA O EXPLOSION.

- Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo.
- Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo.

El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.

RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION

- Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil
- Vérifier tous connections, et remettre tous couverts en place avant de mettre sous

De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.

GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION.

- Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen
- Vor der Inbetriebnahme alle Anschlüsse überprüfen und alle Gehäuseteile montieren.

Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.

RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE.

- Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura
- Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione

L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie

RISCO DE DESCARGA ELÉCTRICA OU EXPLOÇÃO

- Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento
- Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento

O não cumprimento destas instruções pode levar a morte ou lesões sérias.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

MCTC Series

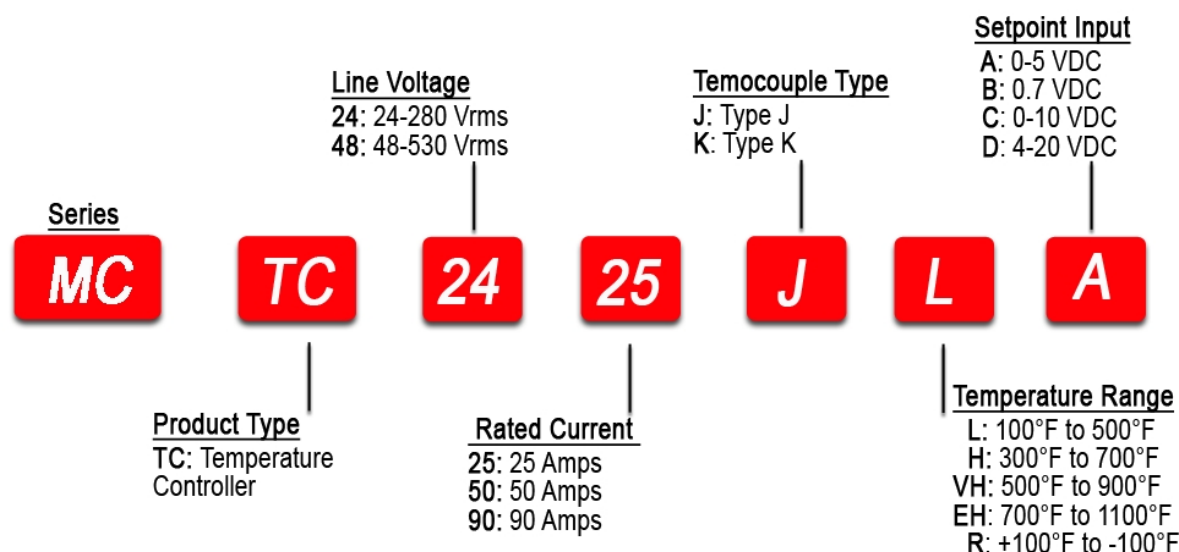


- Microprocessor based temperature controller / SSR
- Ratings from 25A to 90A @ 48-530 VAC
- Direct J or K thermocouple input
- Voltage or current controlled setpoint
- Separate output enable / disable control
- Open thermocouple protection
- LED status indicators

PRODUCT SELECTION

Description	25 A	50 A	90 A
280 VAC	MCTC2425	MCTC2450	MCTC2490
480 VAC	MCTC4825	MCTC4850	MCTC4890

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (voltage)

Description	240 VAC	480 VAC
Operating Voltage (47-63Hz) [Vrms]	24-280	48-530
Transient Overvoltage [Vpk]	600	1200
Maximum Off-State Leakage Current @ Rated Voltage [mArms]	7	12
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec]	200	200

OUTPUT SPECIFICATIONS (current)

Description	25 A	50 A	90 A
Maximum Load Current [Arms]	25	50	90
Minimum Load Current [mArms]	150	150	150
Maximum Surge Current (16.6ms) [Apk]	250	625	1200
Maximum On-State Voltage Drop @ Rated Current [Vpk]	1.6	1.6	1.6
Thermal Resistance Junction to Case (Rjc) [°C/W]	1.02	0.63	0.28
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	260	1620	6000
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5

INPUT SPECIFICATIONS (1)

Description	DC Control
Control Voltage Range (VDC)	8-32
Input Current Range [mA]	28-30
Nominal Input Impedance [Ohms]	30K
Control Must Operate Voltage "On"[VDC][P3]	5-32
Control Must Release Voltage "Off" [VDC][P3]	0-4
Control Input Current [mA][P3]	0-1.25
PLVI Range Option A [VDC][P4] (2)	0.8-5
PLVI Range Option B [VDC][P4] (2)	1-7
PLVI Range Option C [VDC][P4] (2)	2-10
PLVI Range Option D [VDC][P4] (2)	4-20
Nominal Input Impedance Option A,B,C[ohms][P4]	20K
Nominal Input Impedance Option D [ohms][P4]	220

GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 V DC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	10 pF
Ambient Operating Temperature Range	-20 to 80°C
Ambient Storage Temperature Range	-40 to 125 °C
Weight (typical)	3.0 oz (86.5g)
Encapsulation	Thermally conductive Epoxy
Terminals-Power	Screws and Saddle Clamps Furnished, Unmounted
Terminals-Control	Barrier Strip Screw Terminals
Recommended Terminal Screw Torque Range:	8-32 Screws -20 in. lbs.(Screws dry without grase)

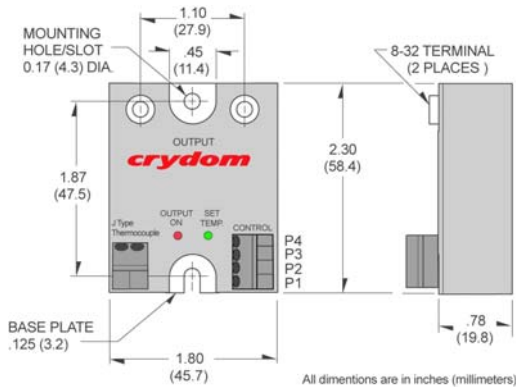
OUTPUT STATUS FUNCTIONS

Description	GREEN LED (setpoint)	RED LED (output)
Initial Logic Supply On	Flash Once	Flash Once
Operating (to 85 % of set point)	Off	On
Approaching Setpoint	Off	Variable Flashing
At Setpoint (± 5%)	On	Slow Flashing
Over Setpoint (>5%) (3)	Flashing	Off
Short-Cycle Timing ("R" suffix only)	Flash 2x Intermittently	Off
Open Thermocouple	Flash 3x Intermittently	Off

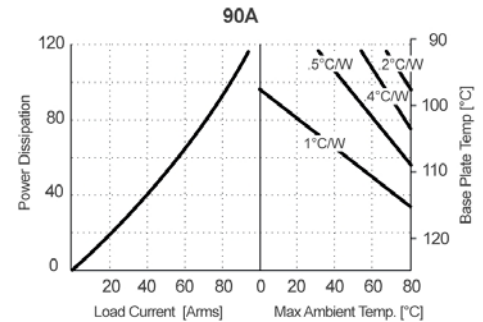
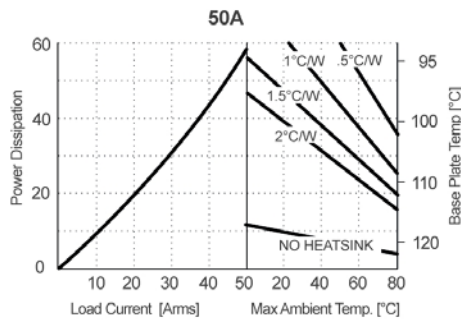
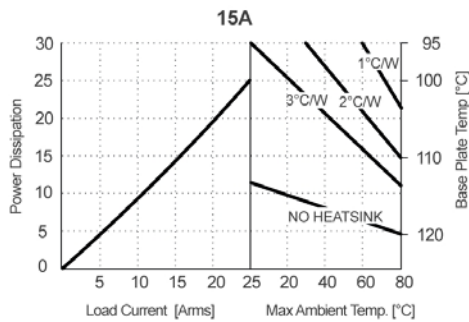
GENERAL NOTES

- 1) Voltages are reference to GND (Ground = 0 VDC) P2
- 2) PLVI voltage can go up to max. supply voltage without damage.
- 3) Below Setpoint for "R" suffix

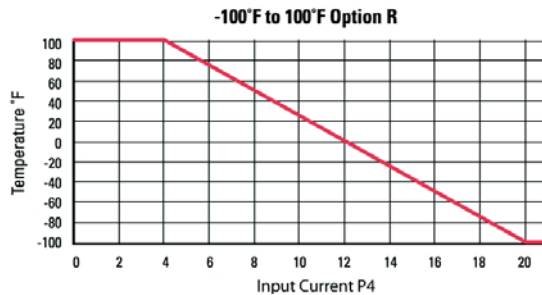
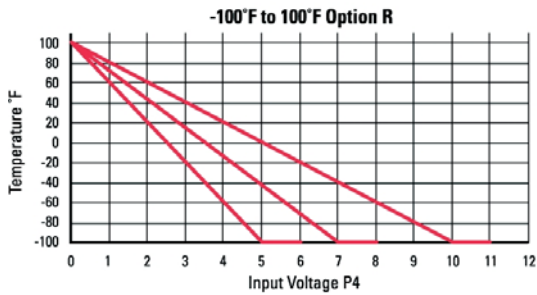
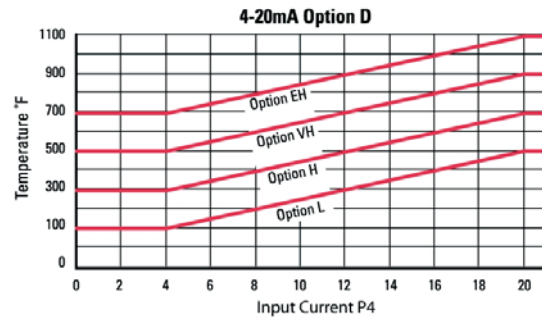
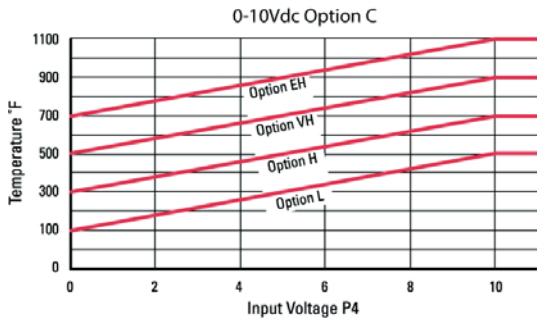
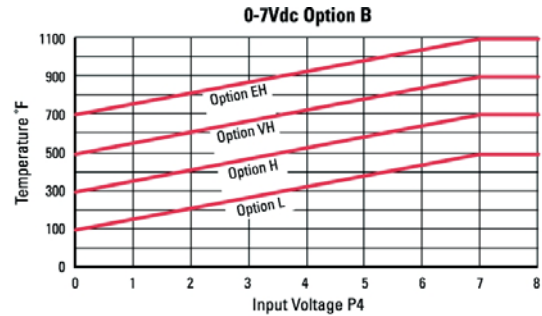
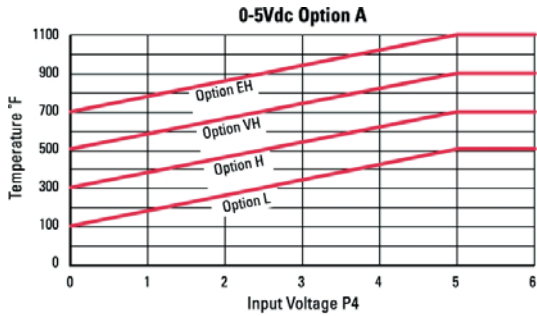
MECHANICAL SPECIFICATIONS



THERMAL DERATE INFORMATION



TEMPERATURE VS SETPOINT INPUT P4



AGENCY APPROVALS

UL E116949



Rev. 103108



WARNING / AVERTISSEMENT / WARNUNG / ADVERTENCIA / AVVERTENZA / AVISO

RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE

- The product's side panels may be hot, allow time for product to cool before touching.
- Follow proper mounting instructions including torque values.
- Do not allow liquids or foreign objects to enter this product.

Failure to follow this instruction can result in serious injury, or equipment damage.

RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER

- Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher.
- Respecter les consignes de montage, et notamment les couples de serrage.
- Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit.

Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.

GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG

- Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren.
- Beachten Sie die Montageanweisungen.
- Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein.

Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.

RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD

- Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo.
- Respetar las instrucciones de montaje, y en particular los pares de apretado.
- No dejar que penetren líquidos o cuerpos extraños en el producto.

Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.

RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO

- I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo.
- Seguire le istruzioni di montaggio corrette.
- Non far entrare liquidi o oggetti estranei in questo apparecchio.

La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.

RISCO DE DANO MATERIAL E DE AQUECIMENTO

- Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar.
- Siga devidamente as instruções de montagem.
- Não permita a entrada de líquidos e de objectos estranhos no produto.

A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.



DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH.

- Disconnect all power before installing or working with this equipment.
- Verify all connections and replace all covers before turning on power.

Failure to follow these instructions will result in death or serious injury.

RIESGO DE DESCARGA ELECTRICA O EXPLOSION.

- Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo.
- Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo.

El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.

RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION

- Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil
- Vérifier tous connections, et remettre tous couverts en place avant de mettre sous

De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.

GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION.

- Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen
- Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen.

Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.

RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE.

- Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura
- Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione

L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie

RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO

- Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento
- Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento

O não cumprimento destas instruções pode levar a morte ou lesões sérias.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

MCPC Series

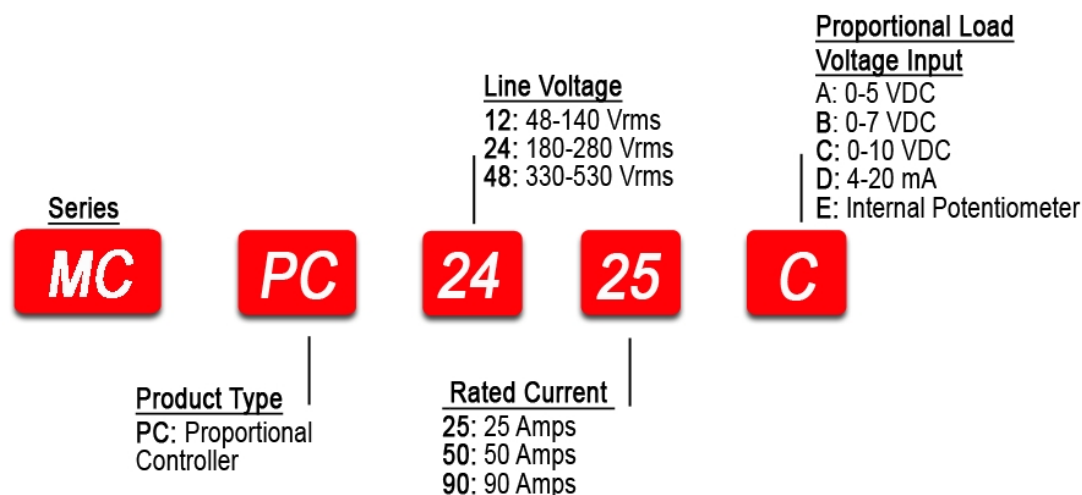


- Microprocessor based burst-fire controller / SSR
- Ratings from 25A to 90A @ 48-530 VAC
- Low-voltage, current, or potentiometer control
- Output status indicator
- Separate output enable / disable control
- Two time-base periods available

PRODUCT SELECTION

Description	25 A	50 A	90 A
40-140 VAC	MCPC1225	MCPC1250	MCPC1290
180-280 VAC	MCPC2425	MCPC2450	MCPC2490
330-530 VAC	MCPC4825	MCPC4850	MCPC4890

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (voltage)

Description	120 VAC	240 VAC	480 VAC
Operating Voltage (47-63Hz) [Vrms]	48-140	180-280	300-530
Transient Overvoltage [Vpk]	400	600	1200
Maximum Off-State Leakage Current @ Rated Voltage [mA _{rms}]	5	7	12
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	200	200	200
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5

OUTPUT SPECIFICATIONS (current)

Description	25A	50A	90A
Maximum Load Current (3) [A _{rms}]	25	50	90
Minimum Load Current [mA _{rms}]	150	150	150
Maximum Surge Current (16.6ms) [A _{pk}]	250	625	1200
Maximum On-State Voltage Drop @ Rated Current [V _{pk}]	1.6	1.6	1.6
Thermal Resistance Junction to Case [R _{jc}] [°C/W]	1.02	0.63	0.28
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	260	1620	6000

INPUT SPECIFICATIONS (1)

Description	DC Control
Control Voltage Range (VDC)	8-32
Input Current Range [mA]	28-30
Nominal Input Impedance [Ohms]	30K
Control Must Operate Voltage "On"[VDC][P3]	5-32
Control Must Release Voltage "Off" [VDC][P3]	0-4
Control Input Current [mA][P3]	0-1.25
PLVI Range Option A [VDC][P4] (2)	0.8-5
PLVI Range Option B [VDC][P4] (2)	1-7
PLVI Range Option C [VDC][P4] (2)	2-10
PLVI Range Option D [VDC][P4] (2)	4-20
Nominal Input Impedance Option A,B,C[ohms][P4]	20K
Nominal Input Impedance Option D [ohms][P4]	220

OUTPUT STATUS FUNCTIONS

Conditions	LED
Initial Logic Supply On	Flash Once
Load Voltage Missing / Load Open (w/control disabled)	Flash Once Intermittently
Load Voltage Missing / Load Open (w/control enabled))	Flash Twice Intermittently
Analog Input < Threshold	Off
Analog Input < Threshold < max	Varying Brightness
Analog Input > max	On, Bright

GENERAL SPECIFICATIONS

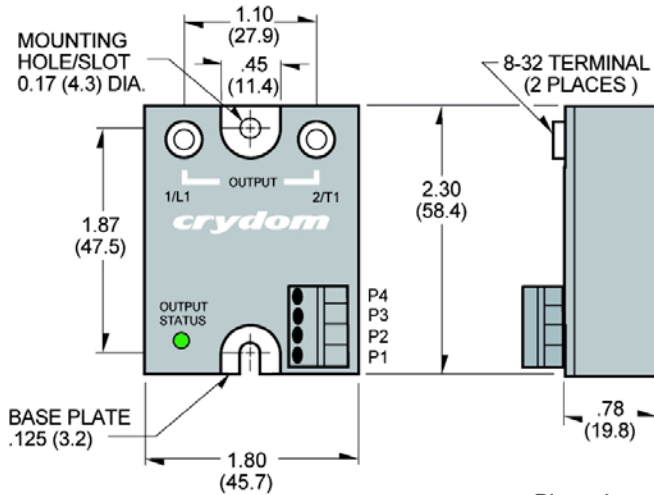
Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 V DC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	10 pF
Ambient Operating Temperature Range	-20 to 80°C
Ambient Storage Temperature Range	-40 to 125 °C
Weight (typical)	3.0 oz (86.5g)
Encapsulation	Thermally conductive Epoxy
Terminals-Power	Screws and Saddle Clamps Furnished, Unmounted
Terminals-Control	Barrier Strip Screw Terminals
Recommended Terminal Screw Torque Range:	8-32 Screws -20 in. lbs.(Screws dry without grase)

GENERAL NOTES

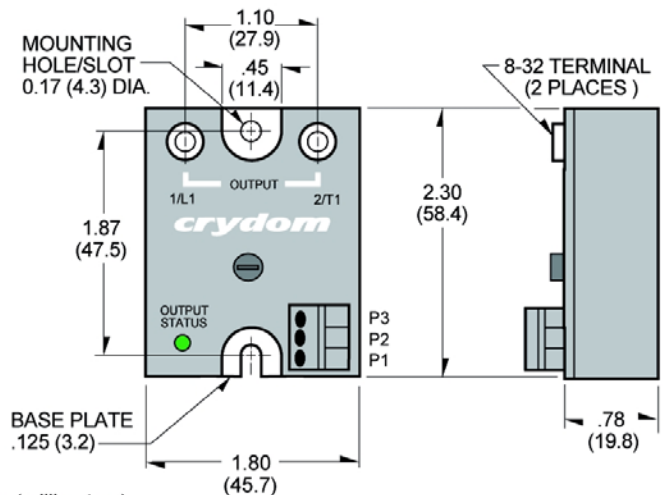
- 1) Voltages are reference to GND (Ground = 0 VDC) P2
- 2) PLVI voltage can go up to max. supply voltage without damage

MECHANICAL SPECIFICATIONS

Analog Input OPTIONS: A,B,C,D

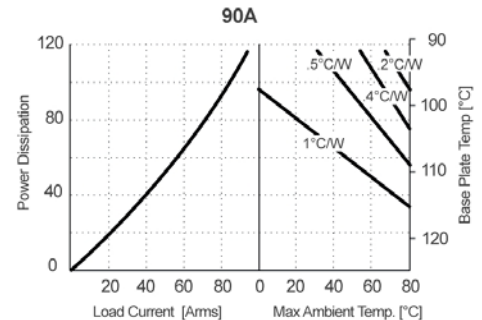
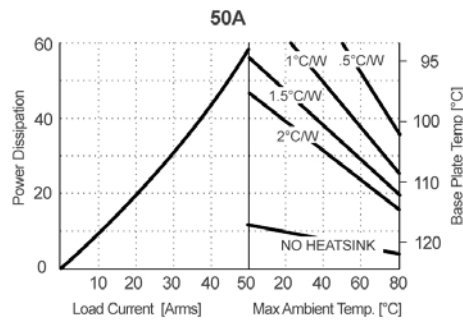
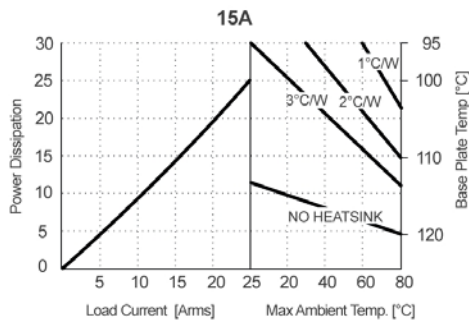


Analog Input Option: E (Internal Potentiometer)



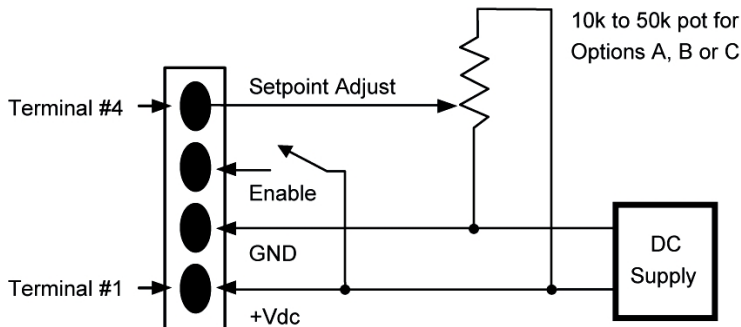
Dimensions are in inches (millimeters)

THERMAL DERATE INFORMATION

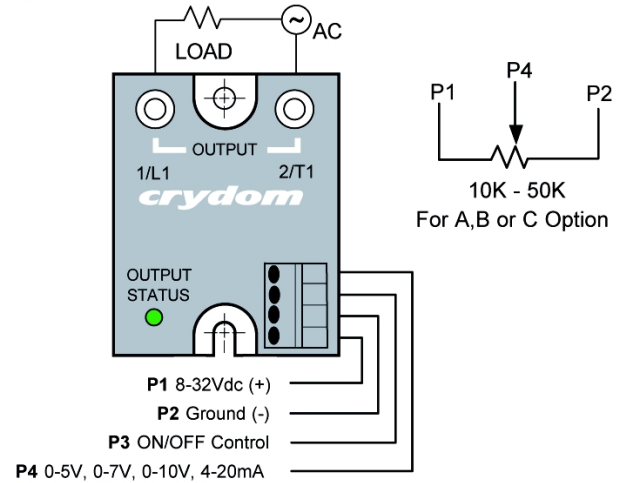


WIRING DIAGRAM

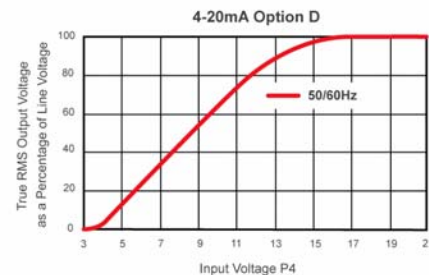
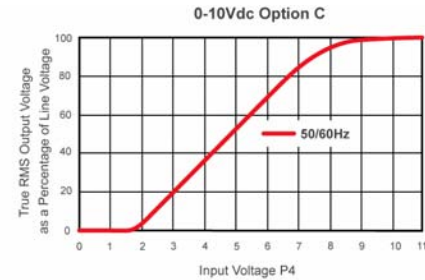
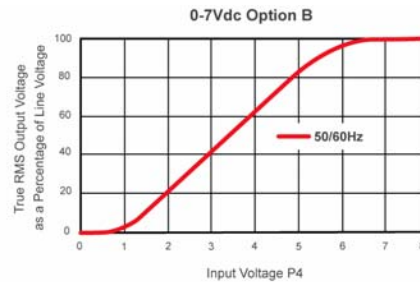
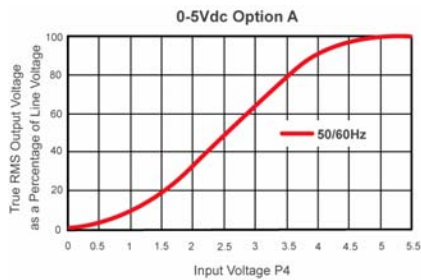
(for Options A, B or C using an external potentiometer)



Electrical Connections



OUTPUT VS ANALOG INPUT SIGNAL CURVES



AGENCY APPROVALS

UL E116949



Rev. 102208

For Contact information visit our web site.

www.crydom.com

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Specifications subject to change without notice.



WARNING / AVERTISSEMENT / WARNUNG / ADVERTENCIA / AVVERTENZA / AVISO

RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laissez le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen. - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.



DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.
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ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

RPC Series



- Proportional controller
- Ratings from 15A to 40A @ 480 VAC
- 500k or 1M Ohm potentiometer control

PRODUCT SELECTION

Description	15 A	25 A	40 A
120 VAC	RPC1215	RPC1225	RPC1240
240 VAC	RPC2415	RPC2425	RPC2440
480 VAC	RPC4815	RPC4825	RPC4840

OUTPUT SPECIFICATIONS (voltage) (1)

Description	120 VAC	240 VAC	480 VAC
Operating Voltage (47-63Hz) [Vrms]	90-130	200-240	400-480
Transient Overvoltage [Vpk]	400	600	1200
Maximum Off-State Leakage Current @ Rated Voltage [mA _{rms}]	10	7	3
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	5000	500	500
Snubber (Internal)	yes	yes	no

OUTPUT SPECIFICATIONS (current) (1)

Description	15 A	25 A	40 A
Maximum Load Current [Arms] (3)	15	25	40
Minimum Load Current [mA _{rms}]	70	80	90
Maximum Surge Current (16.6ms) [A _{pk}]	150	250	625
Maximum On-State Voltage Drop @ Rated Current [V _{pk}]	1.6	1.6	1.6
Thermal Resistance Junction to Case [R _{jc}] [°C/W]	1.48	1.02	0.63
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	94	260	1620

INPUT SPECIFICATIONS (1)

Description	120 VAC	240 VAC	480 VAC
Variable Resistor Size (4)	150K (1W)	1M (1/2W)	1M (1/2W)

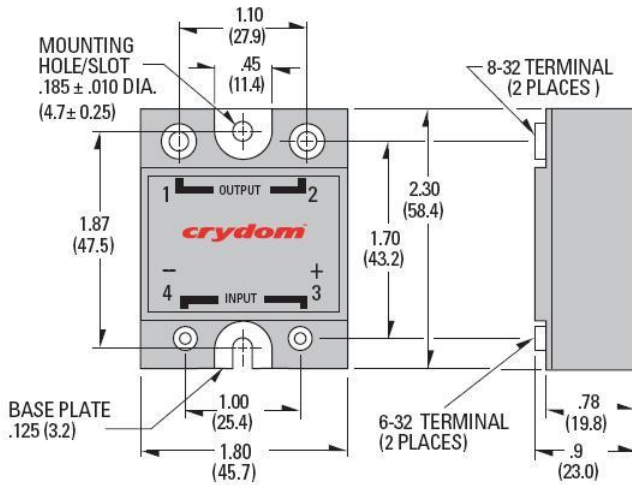
GENERAL SPECIFICATIONS

Description	
Minimum Power Factor (with Maximum Load)	0.6
Dielectric Strength, Input/Output/Base (50/60Hz)	2500 Vrms
Ambient Operating Temperature Range	-30 to 80 °C
Ambient Storage Temperature Range	-40 to 125 °C
Weight (typical)	3.2 oz (90g)
Encapsulation	Thermally conductive Epoxy
Terminals	Screws and saddle Clamps Furnished, Unmounted
Recommended Terminal Screw Torque Range:	6-32 Screws -10 in lbs. 8-32 and 10-32 Screws -20 in. lbs. (Screws dry without grease)

GENERAL NOTES

- 1) All parameters at 25°C unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443
- 3) Heat sinking required, see derating curves.
- 4) Potentiometer should be line voltage rated.

MECHANICAL SPECIFICATIONS



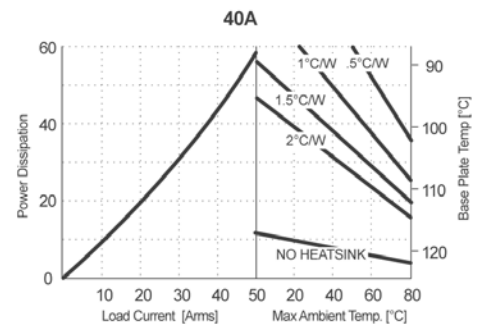
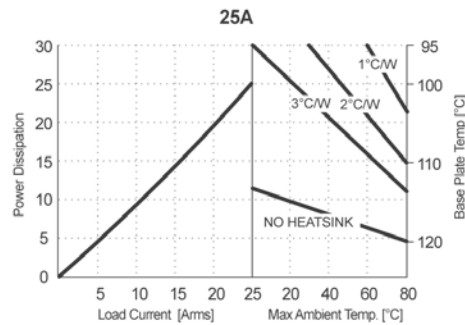
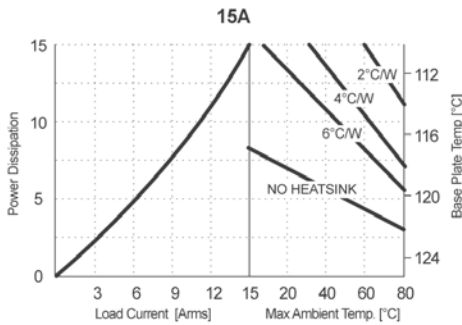
All dimensions are in inches (millimeters)

WIRING DIAGRAM

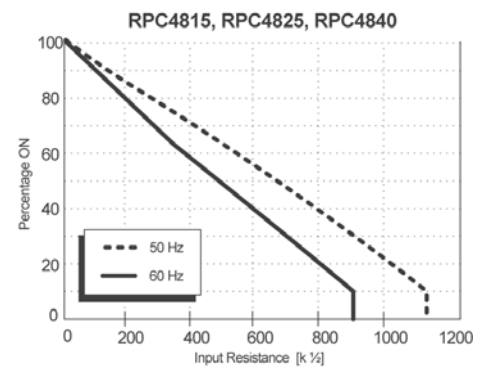
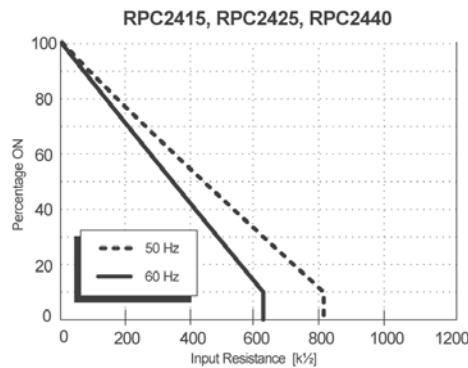
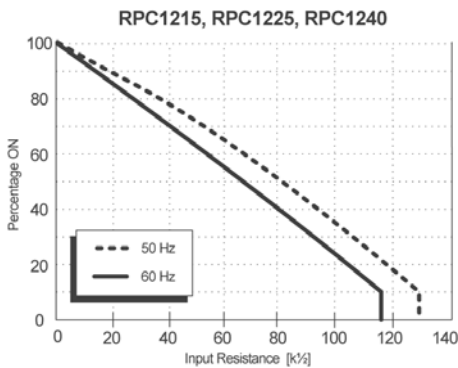


All terminals are at Line Voltage Potential.

THERMAL DERATE INFORMATION



PERCENTAGE ON VS INPUT RESISTANCE



AGENCY APPROVALS



For Contact information visit our web site.

www.crydom.com

Rev. 102408

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WARNING / AVERTISSEMENT / WARNUNG / ADVERTENCIA / AVVERTENZA / AVISO

RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE

- The product's side panels may be hot, allow time for product to cool before touching.
- Follow proper mounting instructions including torque values.
- Do not allow liquids or foreign objects to enter this product.

Failure to follow this instruction can result in serious injury, or equipment damage.

RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER

- Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher.
- Respecter les consignes de montage, et notamment les couples de serrage.
- Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit.

Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.

GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG

- Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren.
- Beachten Sie die Montageanweisungen.
- Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein.

Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.

RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD

- Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo.
- Respetar las instrucciones de montaje, y en particular los pares de apretado.
- No dejar que penetren líquidos o cuerpos extraños en el producto.

Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.

RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO

- I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo.
- Seguire le istruzioni di montaggio corrette.
- Non far entrare liquidi o oggetti estranei in questo apparecchio.

La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.

RISCO DE DANO MATERIAL E DE AQUECIMENTO

- Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar.
- Siga devidamente as instruções de montagem.
- Não permita a entrada de líquidos e de objectos estranhos no produto.

A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.



DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH.

- Disconnect all power before installing or working with this equipment.
- Verify all connections and replace all covers before turning on power.

Failure to follow these instructions will result in death or serious injury.

RIESGO DE DESCARGA ELECTRICA O EXPLOSION.

- Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo.
- Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo.

El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.

RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION

- Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil
- Vérifier tous connections, et remettre tous couverts en place avant de mettre sous

De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.

GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION.

- Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen
- Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen.

Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.

RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE.

- Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura
- Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione

L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie

RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO

- Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento
- Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento

O não cumprimento destas instruções pode levar a morte ou lesões sérias.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

DSD / DLD Series



- Time-delay solid-state relays
- Ratings from 10A to 50A @ 240 VAC
- External time adjustment
- DC control
- Zero-crossing (resistive loads) output
- Ideal for compressor applications

PRODUCT SELECTION

Description	10 A	25 A	50 A
3.5-15 VDC Control	DSD2410	DSD2425	DSD2450
3.5-15 VDC Control	DLD2410	DLD2425	DLD2450

OUTPUT SPECIFICATIONS (voltage) (1)

Description	
Operating Voltage (47-63Hz) [Vrms]	48-280
Transient Overvoltage [Vpk]	600
Maximum Off-State Leakage Current @ Rated Voltage [mArms]	10
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2)	500

OUTPUT SPECIFICATIONS (current) (1)

Description	10 A	25 A	50 A
Maximum Load Current (3) [Arms]	10	25	50
Minimum Load Current (3) [Arms]	0.04	0.04	0.04
Maximum Surge Current (16.6ms) [Apk]	120	250	625
Maximum On-State Voltage Drop @ Rated Current [Vpk]	1.6	1.6	1.6
Thermal Resistance Junction to Case (Rjc) [°C/W]	1.48	1.02	0.63
Maximum I ² t for Fusing (8.3 msec) [A ² sec]	60	260	1620
Minimum Power Factor (with Maximum Load)	0.5	0.5	0.5

INPUT SPECIFICATIONS (1)

Description	DC Control
Control Voltage Range	3.5-15 VDC
Maximum Turn-On Voltage	3.5 VDC
Maximum Turn-Off Voltage	1.0 VDC
Typical Input Current	3.4 mA @ 5 Vdc, 11.4 mA @ 15 Vdc
Nominal Input Impedance	1500 Ohm
Maximum Turn-On Time [msec] (4)	Adjustable, See Table
Maximum Turn-Off Time [msec]	1/2 Cycle
Maximum Reset Time [μsec] (5)	100

TYPICAL TURN-ON DELAY

Resistor	Time DSD	Time DLD
0 (Short)	.10 sec	1.6 sec
10K	.19 sec	3.1 sec
100K	.94 sec	15 sec
470K	4.0 sec	64 sec
1.0M (4)	8.3 sec	133 sec

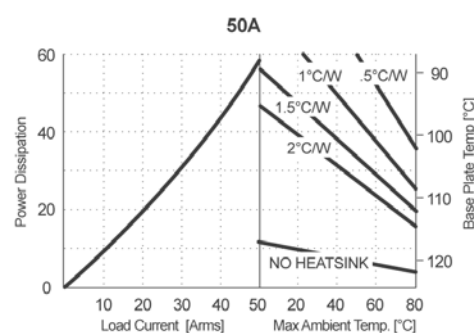
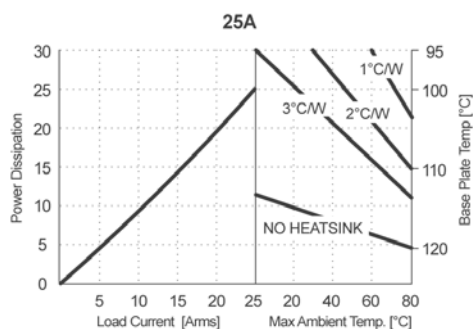
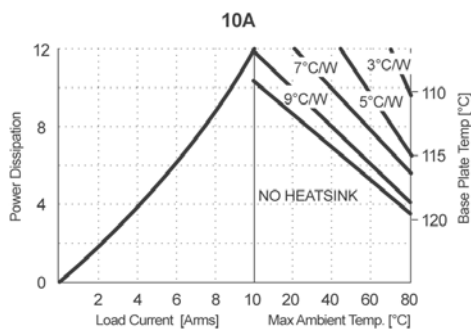
GENERAL SPECIFICATIONS

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	4000 Vrms
Minimum Insulation Resistance (@ 500 V DC)	10^{10} Ohm
Ambient Operating Temperature Range	-30 to 80°C
Ambient Storage Temperature Range	-40 to 125°C
Weight (typical)	3.0 oz. (43g)
Encapsulation	Themally Conductive Epoxy
Terminals	Screws and saddle Clamps Furnished, Unmounted

GENERAL NOTES

- 1) All parameters at 25°C unless otherwise specified.
- 2) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- 3) Heat sinking required, see derating curves.
- 4) Timing Resistor may be as high as 10M Ohm with performance dependent on resistor quality
- 5) Before and after time-out.

THERMAL DERATE INFORMATION



AGENCY APPROVALS

UL E116949



Rev. 102708



WARNING / AVERTISSEMENT / WARNUNG / ADVERTENCIA / AVVERTENZA / AVISO

RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE

- The product's side panels may be hot, allow time for product to cool before touching.
- Follow proper mounting instructions including torque values.
- Do not allow liquids or foreign objects to enter this product.

Failure to follow this instruction can result in serious injury, or equipment damage.

RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER

- Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher.
- Respecter les consignes de montage, et notamment les couples de serrage.
- Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit.

Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.

GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG

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- Beachten Sie die Montageanweisungen.
- Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein.

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RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD

- Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo.
- Respetar las instrucciones de montaje, y en particular los pares de apretado.
- No dejar que penetren líquidos o cuerpos extraños en el producto.

Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.

RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO

- I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo.
- Seguire le istruzioni di montaggio corrette.
- Non far entrare liquidi o oggetti estranei in questo apparecchio.

La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.

RISCO DE DANO MATERIAL E DE AQUECIMENTO

- Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar.
- Siga devidamente as instruções de montagem.
- Não permita a entrada de líquidos e de objectos estranhos no produto.

A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.



DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH.

- Disconnect all power before installing or working with this equipment.
- Verify all connections and replace all covers before turning on power.

Failure to follow these instructions will result in death or serious injury.

RIESGO DE DESCARGA ELECTRICA O EXPLOSION.

- Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo.
- Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo.

El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.

RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION

- Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil
- Vérifier tous connections, et remettre tous couverts en place avant de mettre sous

De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.

GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION.

- Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen
- Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen.

Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.

RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE.

- Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura
- Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione

L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie

RISCO DE DESCARGA ELÉCTRICA OU EXPLOÇÃO

- Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento
- Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento

O não cumprimento destas instruções pode levar a morte ou lesões sérias.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

1RHP Series



- Combined SSR and EMR advantages
- Lifetime > 5 million operations full load
- No heat sink required
- Input status LED indicator
- Quiet Operation
- 17.5 mm DIN rail mount
- UL/cUL Listed, CE & RoHS Compliant
- US Patent No. 6,347,024 B1

PRODUCT SELECTION

Control Voltage		
4-32 VDC	1RHP2520D32	
90-250 VAC		1RHP2520A

OUTPUT SPECIFICATIONS (1)

Description	
Operating Voltage (47-63Hz) [Vrms]	90-250
Maximum Load Current [Arms] (Resistive Load Only)	20
Minimum Current [mArms]	100
Maximum Off-State Leakage Current [mArms]	5

INPUT SPECIFICATIONS (1)

Description	DC	AC
Control Voltage Range	4-32 VDC	90-250 VAC
Maximum Input Current [mA]	30	4.85
Minimum Input Current	2.3	1.65
Drop out Voltage	1 VDC	46 VAC

GENERAL SPECIFICATIONS (1)

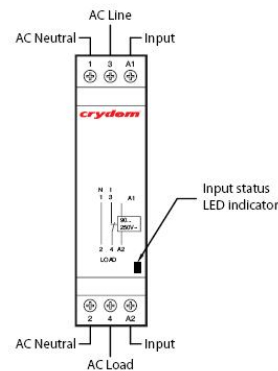
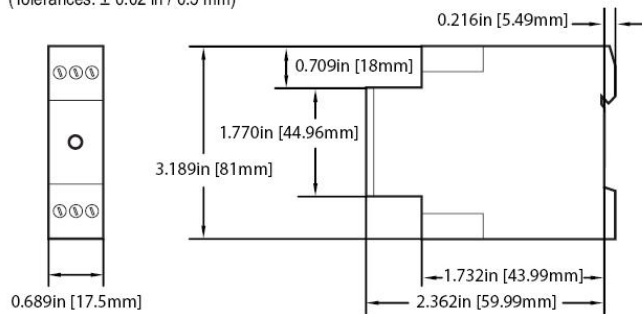
Description	Parameters
Contacts	N.O.
Ambient Operating Temperature Range	-5 to 70°C
Ambient Storage Temperature Range	-40 to 85°C
Maximum Turn-On Time 50/60 Hz [msec]	20 / 16.6
Maximum Turn-Off Time 50/60 Hz [msec]	40 / 32
Maximum Number of Operations	20/min
Lifetime Number of Operations	>5 Million
Torque	8.85 in lb (1 Nm) max
Acoustic noise ON position	<35 db @ 3.2 ft (1m)
Acoustic noise switching	<50 db @ 1.6 ft (0.5m) max
Weight (typical)	70 gr
Terminal capacity	2x AWG 14 (1.5mm ²) with ferrule: 2 x AWG 12 (2.5mm ²) without ferrule

GENERAL NOTES

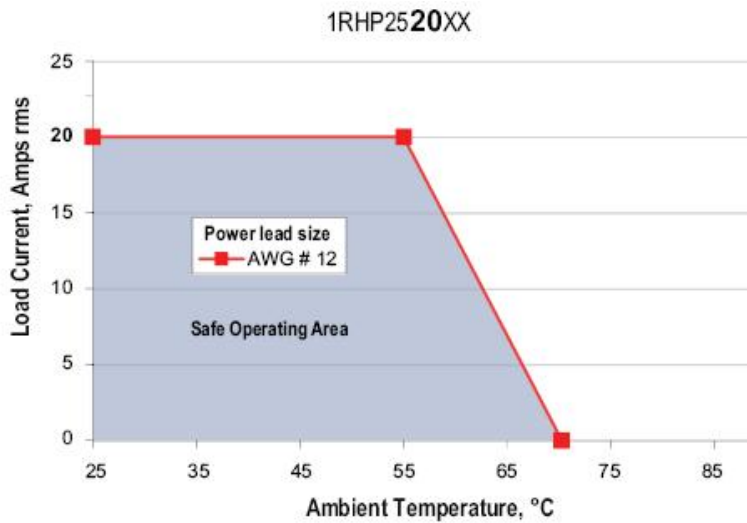
1) Specifications @ 25°C unless otherwise noted.

MECHANICAL SPECIFICATIONS

(Tolerances: ± 0.02 in / 0.5 mm)



THERMAL DERATE INFORMATION



AGENCY APPROVALS

IEC 60947-4-3 (Industrial environment)
IEC 60669-2-1 (Household environment)
IEC 60601-1-1 (Medical environment)
IEC 60947-7-1 (Connections in industrial environment)
IEC 60998-2-1 (Connections in household environment)



Rev. 1210808

 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses.	GEFAHR EINES ELEKTRISCHEN SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor der Inbetriebnahme alle Anschlüsse überprüfen und alle Gehäuseteile montieren. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenda tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar à morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

3RHP Series AC Control



- 40 and 50A output
- Voltage ratings to 600 VAC
- Lifetime 2 million operations at full load
- LED input status indicator
- Wire, lug or quick connect termination
- Industry Standard DP contactor mounting

PRODUCT SELECTION

Control Voltage	40A 280 VAC	50A 280 VAC	40A 600 VAC	50A 600 VAC
20-26 VAC	3RHP2840E	3RHP2850E	3RHP6040E	3RHP6050E
100-130 VAC	3RHP2840F	3RHP2850F	3RHP6040F	3RHP6050F
208-240 VAC	3RHP2840G	3RHP2850G	3RHP6040G	3RHP6050G

OUTPUT SPECIFICATIONS (voltage)

Description	280 VAC	600 VAC
Operating Voltage (47-63Hz) [Vrms]	24-280	48-600
Maximum Off-State Leakage Current per channel	0.05 mA @ 240 VAC	0.06 mA @ 480 VAC

OUTPUT SPECIFICATIONS (current)

Description	40A	50A
Maximum Load Current per phase @ 40°C [Arms] (1)	40A Resistive / 30A Inductive	50A Resistive / 40A Inductive
Power terminals	1/4" Quick Connect and 10x32 binder head screws	1/4" Quick Connect and box lugs
Wire Size	8-14 AWG	6-14 AWG

INPUT SPECIFICATIONS

Description	SUFIX E	SUFIX F	SUFIX G
Coil Voltage [50/60 Hz]	20-26 VAC	100-130 VAC	208-240 VAC
Min. Turn-On Voltage	20 VAC	100 VAC	208 VAC
Min. Turn-Off Voltage	12 VAC	24 VAC	48 VAC
Coil Power Consumption, inrush.	56 VA @ 220 VAC	56 VA @ 220 VAC	56 VA @ 220 VAC
Coil Power Consumption, sealed.	6.6 VA @ 220 VAC	6.6 VA @ 220 VAC	6.6 VA @ 220 VAC

GENERAL SPECIFICATIONS

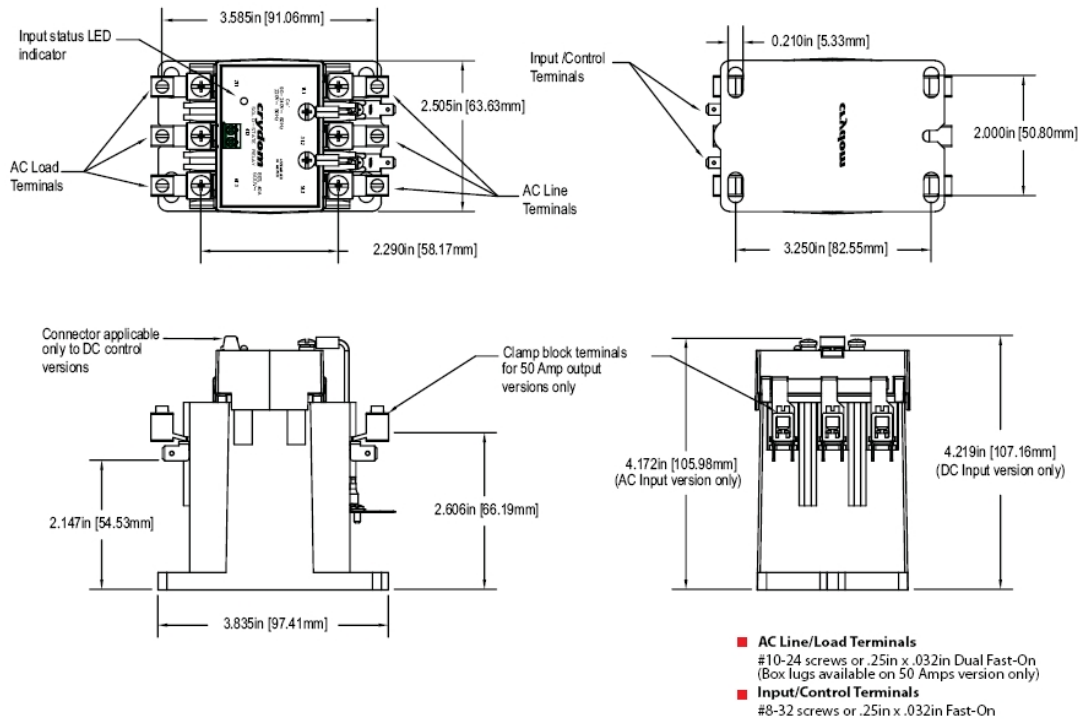
Description	Parameters
Dielectric Strength, Input to Output	4000 Vrms
Dielectric Strength, Input/Output to ground	2500 Vrms
Contacts (2)	Three Normally Open
Ambient Operating Temperature Range (3)	-20 to 65 °C
Ambient Storage Temperature Range	-40 to 100 °C
Max. Turn-On Time 50/60 Hz	20 ms / 16.6 ms
Max. Turn-Off Time 50/60Hz	40 ms / 32 ms
Maximum Number of Operations	30 per Minute
Lifetime Number of Operations @ Rated Current (4)	> 2 Million
Weight (typical)	1.19 lbs (540 g)
Screw Torque (input/output) 40A	10 in lb (1.13 Nm) / 18 in lb (2.1 Nm)
Screw Torque (input/output) 50A	10 in lb (1.13 Nm) / 25 in lb (2.9 Nm)

GENERAL NOTES

- (1) See Derating curves for additional operating conditions.
- (2) The RHP includes a Solid State Relay, therefore electrical isolation is not provided.
- (3) The RHP includes over temperature protection for the solid state relay.
- (4) 40°C ambient temperature, 30 operations/min, maximum voltage control.

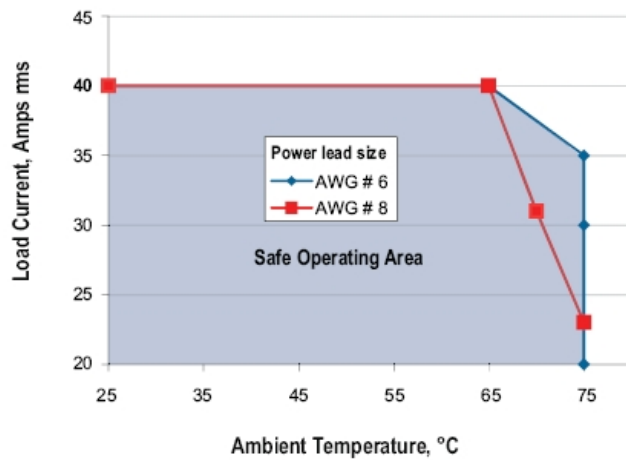
MECHANICAL SPECIFICATIONS

(Tolerances: ± 0.02 in / 0.5 mm)

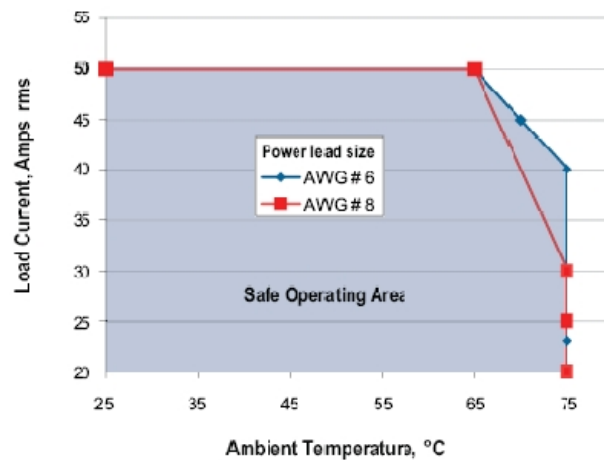


THERMAL DERATE INFORMATION

3RHPXX40XX



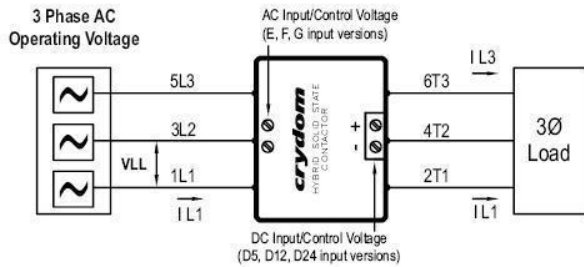
3RHPXX50XX



TYPICAL ELECTRICAL CONNECTIONS

Typical Electrical Connection for 3 Phase Applications[Ⓢ]

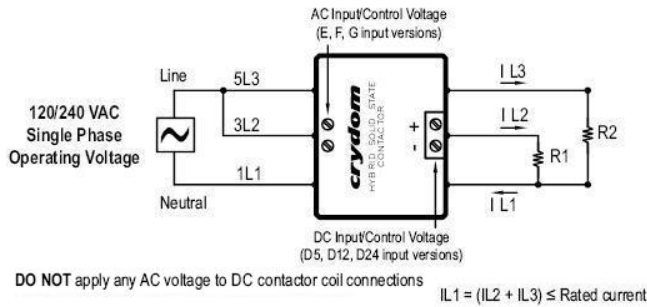
(For output voltage options 24, 28, 60)



DO NOT apply any AC voltage to DC contactor coil connections

Optional Electrical Connections for Single Phase Applications[Ⓢ]

(For output voltage options 12, 24, 28, 60)



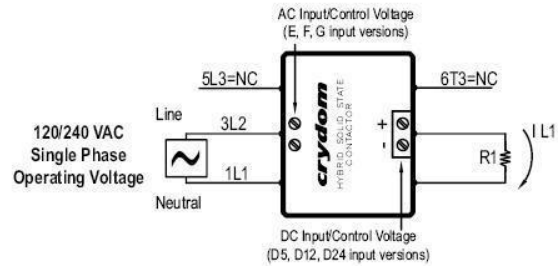
DO NOT apply any AC voltage to DC contactor coil connections

$$IL1 = (IL2 + IL3) \leq \text{Rated current}$$

- Ⓢ Match VLL to voltage suffixes 28 & 60 for options E, F & G and 12 & 24 for options DX.
- Ⓢ The single phase supply voltage must be wired to terminal 1L1 and 3L2 for proper single phase operation.
- Ⓢ In applications switching two single phase loads (R1 and R2) where the combined load current exceeds the contactor's rating (40 or 50 Amps) the return/neutral lead must not be wired through the contactor (see above drawing).

Optional Electrical Connections for Single Phase Applications[Ⓢ]

(For output voltage options 12, 24, 28, 60)

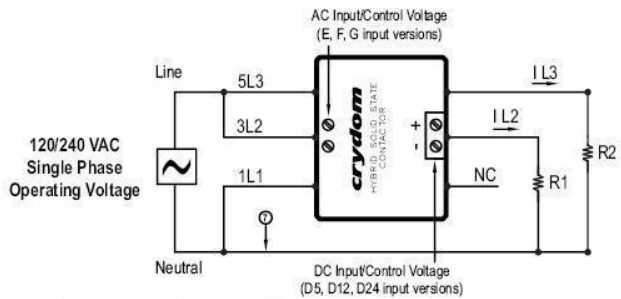


DO NOT apply any AC voltage to DC contactor coil connections

$$IL1 \leq \text{Rated current}$$

Optional Electrical Connections for Single Phase Applications[Ⓢ]

(For output voltage options 12, 24, 28, 60)



DO NOT apply any AC voltage to DC contactor coil connections

$$IL2 \leq \text{Rated current}$$

$$IL3 \leq \text{Rated current}$$

$$IL2 + IL3 > \text{Rated current}$$

AGENCY APPROVALS

UL/cUL



Rev. 01.1409

ACCESSORIES



DIN rail bracket

Part Number DMB3

Description DIN Rail mounting adaptor kit



Auxiliary contact

HAC1

Includes one normally open & one normally closed contact, each rated @ 5 Amps rms, 600 VAC, 50/60 Hz 2.5 in Quick Connect



Mounted auxiliary contact



Mounted DIN rail bracket

 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor der Inbetriebnahme alle Anschlüsse überprüfen und alle Gehäuseteile montieren. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

3RHP Series DC Control



- 40 and 50A output
- Voltage ratings to 240 VAC
- Lifetime 2 million operations at full load
- LED input status indicator
- Wire, lug or quick connect termination
- Industry Standard DP contactor mounting

PRODUCT SELECTION

Control Voltage	40A 120 VAC	50A 120 VAC	40A 240 VAC	50A 240 VAC
4.5-5.5 VDC	3RHP1240D5	3RHP1250D5	3RHP2440D5	3RHP2450D5
10-15 VDC	3RHP1240D12	3RHP1250D12	3RHP2440D12	3RHP2450D12
22-27 VDC	3RHP1240D24	3RHP1250D24	3RHP2440D24	3RHP2450D24

OUTPUT SPECIFICATIONS (voltage)

Description	120 VAC	240 VAC
Operating Voltage (47-63Hz) [Vrms]	100-120	208-240
Maximum Off-State Leakage Current per channel	0.05 mA @ 120 VAC	0.06 mA @ 240 VAC

OUTPUT SPECIFICATIONS (current)

Description	40A	50A
Maximum Load Current per phase @ 40°C [Arms] (1)	40A Resistive / 30A Inductive	50A Resistive / 40A Inductive
Power terminals	1/4" Quick Connect and 10x32 binder head screws	1/4" Quick Connect and box lugs
Wire Size	8-14 AWG	6-14 AWG

INPUT SPECIFICATIONS

Description	SUFIX D5	SUFIX D12	SUFIX D24
Coil Voltage	4.5-5.5 VDC	10-15 VDC	22-27 VDC
Max. Reverse Voltage	-5.5 VDC	-15.5 VDC	-27.5 VDC
Input Current	12mA @ 5 VDC	12mA @ 12 VDC	12mA @ 24 VDC
Min. Turn-On Voltage	4.5 VDC	9.5 VDC	9.5 VDC
Min. Turn-Off Voltage	1 VDC	2 VDC	2 VDC

GENERAL SPECIFICATIONS

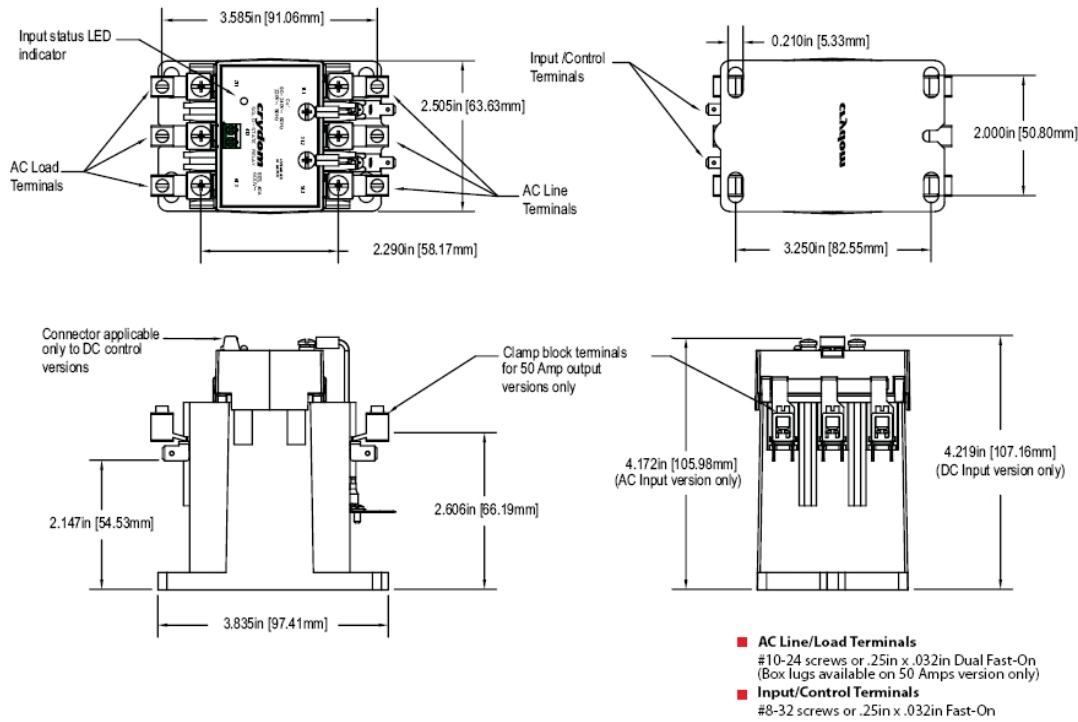
Description	Parameters
Dielectric Strength, Input to Output	4000 Vrms
Dielectric Strength, Input/Output to ground	2500 Vrms
Contacts (2)	Three Normally Open
Ambient Operating Temperature Range (3)	-20 to 75 °C
Ambient Storage Temperature Range	-40 to 100 °C
Max. Turn-On Time 50/60 Hz	20 ms / 16.6 ms
Max. Turn-Off Time 50/60Hz	40 ms / 32 ms
Maximum Number of Operations	30 per Minute
Lifetime Number of Operations @ Rated Current (4)	> 2 Million
Weight (typical)	1.19 lbs (540 g)
Screw Torque (input/output) 40A	5.31 in lb (0.6 Nm) / 18 in lb (2.1 Nm)
Screw Torque (input/output) 50A	5.31 in lb (0.6 Nm) / 25 in lb (2.9 Nm)

GENERAL NOTES

- (1) See Derating curves for additional operating conditions.
- (2) The RHP includes a Solid State Relay, therefore electrical isolation is not provided.
- (3) The RHP includes over temperature protection for the solid state relay.
- (4) 40°C ambient temperature, 30 operations/min, maximum voltage control.

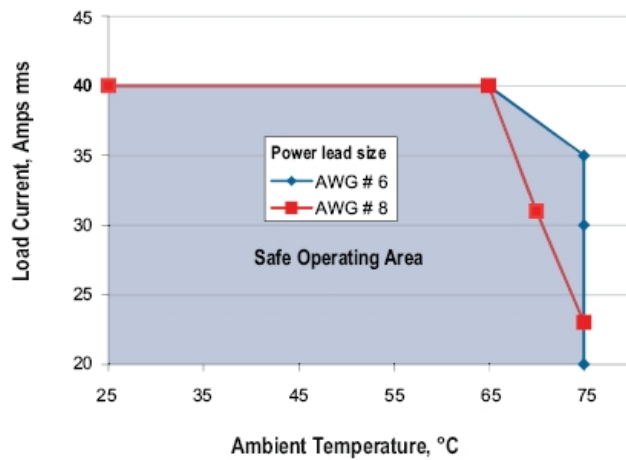
MECHANICAL SPECIFICATIONS

(Tolerances: ± 0.02 in / 0.5 mm)

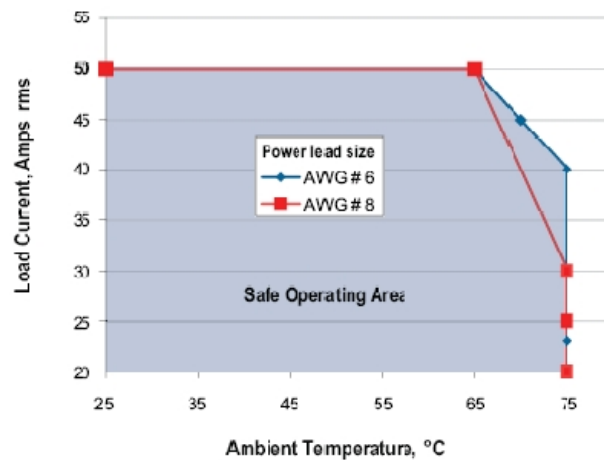


THERMAL DERATE INFORMATION

3RHPXX40XX



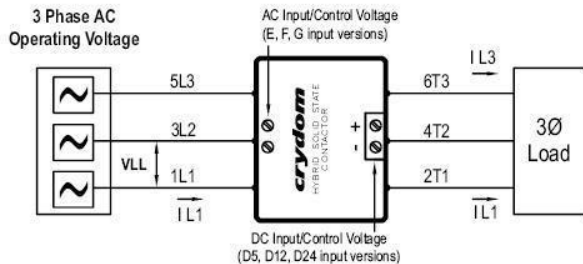
3RHPXX50XX



TYPICAL ELECTRICAL CONNECTIONS

Typical Electrical Connection for 3 Phase Applications[Ⓢ]

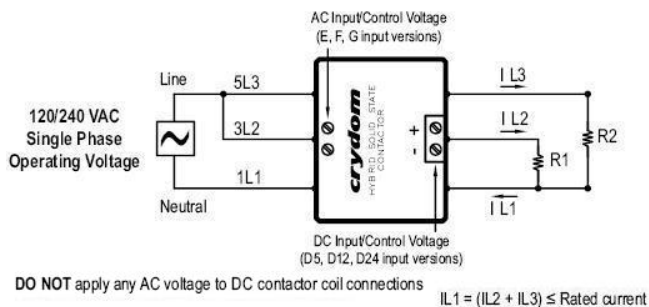
(For output voltage options 24, 28, 60)



DO NOT apply any AC voltage to DC contactor coil connections

Optional Electrical Connections for Single Phase Applications[Ⓢ]

(For output voltage options 12, 24, 28, 60)



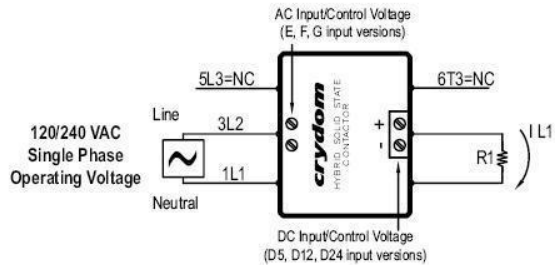
DO NOT apply any AC voltage to DC contactor coil connections

$$IL1 = (IL2 + IL3) \leq \text{Rated current}$$

- Ⓢ Match VLL to voltage suffixes 28 & 60 for options E, F & G and 12 & 24 for options DX.
- Ⓢ The single phase supply voltage must be wired to terminal 1L1 and 3L2 for proper single phase operation.
- Ⓢ In applications switching two single phase loads (R1 and R2) where the combined load current exceeds the contactor's rating (40 or 50 Amps) the return/neutral lead must not be wired through the contactor (see above drawing).

Optional Electrical Connections for Single Phase Applications[Ⓢ]

(For output voltage options 12, 24, 28, 60)

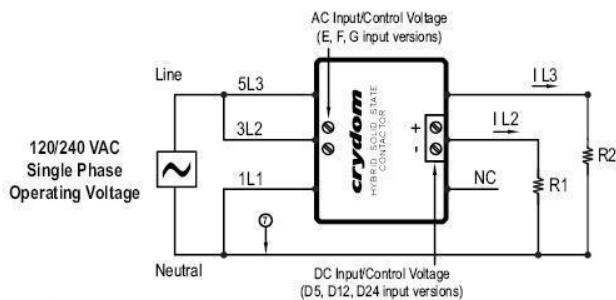


DO NOT apply any AC voltage to DC contactor coil connections

$$IL1 \leq \text{Rated current}$$

Optional Electrical Connections for Single Phase Applications[Ⓢ]

(For output voltage options 12, 24, 28, 60)



DO NOT apply any AC voltage to DC contactor coil connections

$$IL2 \leq \text{Rated current}$$

$$IL3 \leq \text{Rated current}$$

$$IL2 + IL3 > \text{Rated current}$$

AGENCY APPROVALS

UL/cUL



Rev. 011409

ACCESSORIES



DIN rail bracket

Part Number DMB3

Description DIN Rail mounting adaptor kit



Auxiliary contact

HAC1

Includes one normally open & one normally closed contact, each rated @ 5 Amps rms, 600 VAC, 50/60 Hz 2.5 in Quick Connect



Mounted auxiliary contact



Mounted DIN rail bracket

 DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / PERIGO					
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH. - Disconnect all power before installing or working with this equipment. - Verify all connections and replace all covers before turning on power. Failure to follow these instructions will result in death or serious injury.	RIESGO DE DESCARGA ELECTRICA O EXPLOSION. - Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. - Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.	RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION - Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil - Vérifier tous connections, et remettre tous couverts en place avant de mettre sous De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.	GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION. - Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen - Vor der Inbetriebnahme alle Anschlüsse überprüfen und alle Gehäuseteile montieren. Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.	RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE. - Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura - Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie	RISCO DE DESCARGA ELÉTRICA OU EXPLOÇÃO - Desconectar o equipamento de toda a energia antes de instalar ou trabalhar com este equipamento - Verificar todas as conexões e recolocar todas as tampas antes de religar o equipamento O não cumprimento destas instruções pode levar a morte ou lesões sérias.

 WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / AVISO		
RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE - The product's side panels may be hot, allow time for product to cool before touching. - Follow proper mounting instructions including torque values. - Do not allow liquids or foreign objects to enter this product. Failure to follow this instruction can result in serious injury, or equipment damage.	RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER - Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. - Respecter les consignes de montage, et notamment les couples de serrage. - Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.	GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG - Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. - Beachten Sie die Montageanweisungen, - Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD - Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. - Respetar las instrucciones de montaje, y en particular los pares de apretado. - No dejar que penetren líquidos o cuerpos extraños en el producto. Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.	RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO - I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. - Seguire le istruzioni di montaggio corrette. - Non far entrare liquidi o oggetti estranei in questo apparecchio. La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.	RISCO DE DANO MATERIAL E DE AQUECIMENTO - Os painéis laterais do produto podem estar quentes; dê tempo ao produto para arrefecer antes de lhe tocar. - Siga devidamente as instruções de montagem. - Não permita a entrada de líquidos e de objectos estranhos no produto. A não observância destas precauções pode provocar a morte, ferimentos graves ou danos materiais.

ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

此附件所标示的包括电子信息产品污染图标的环境信息
符合中华人民共和国电子行业标准 **SJ/T11364 - 2006**,
电子信息产品污染控制标识要求



部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O