

# Switching Mode Power Supply Always Power Ready



**COTEK**

Professional Power Solutions Design and Manufacturing



\* Constant current limit  
\* I2C, PMBUS, RS232 communication protocol



\* Built-in ORing FETs  
\* Support parallel operation via CANBUS



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# We aspire to enhance human life by simplifying complexity and enriching user experiences

COTEK is dedicated to listen to customer needs, and providing creative power conversion solutions accordingly. Our extensive worldwide distribution network ensures efficient and timely service locally. Furthermore, COTEK prioritize social and environmental responsibility and obtained ISO-14064-1 certification since 2023, marking the milestone for carbon reduction. Being a D&B ESG mark certified enterprise COTEK embraced ESG principles in our daily operations to make our society and environment better and greener.



## COTEK Profile

COTEK is committed to providing proactive service, innovative technology and total quality assurance since COTEK was established in 1986. With Corporate Offices in Taoyuan, Taiwan, COTEK is a technology-oriented company focusing on developing, designing and manufacturing products including:

- 1 DC / AC Pure Sine Wave Inverter
- 2 Inverter / Charger
- 3 Battery Charger
- 4 AC / DC Switching Mode Power Supply
- 5 Rack Inverter
- 6 Rectifier



**D&B Top 1000 Elite SME Award**  
D-U-N-S Number : 65-728-6662



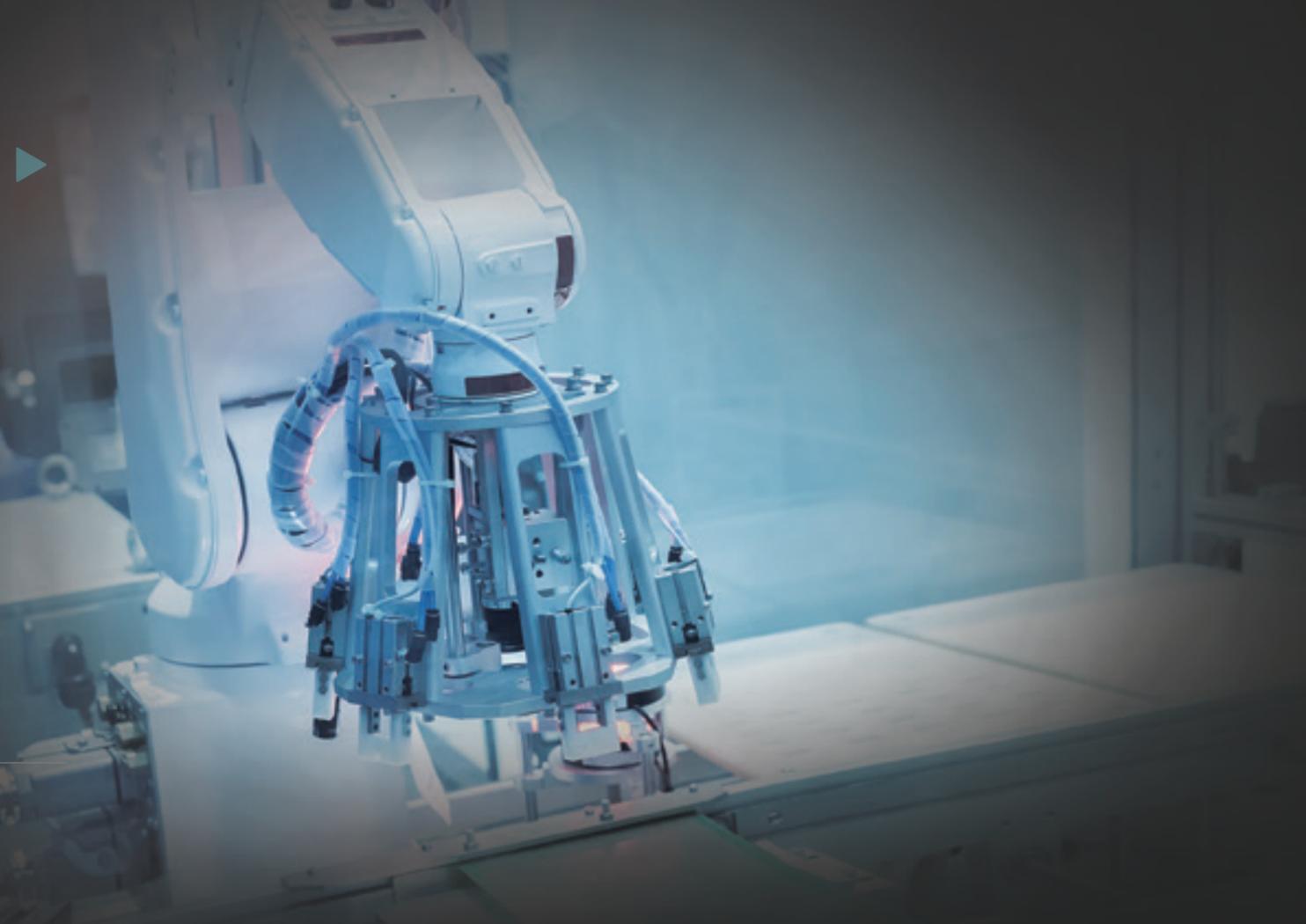
# Applications ▶

## Industrial

Process Control  
 Burn-in  
 Test & Measurement  
 Laser-Carving  
 Factory Automation  
 Digital Signage/Display  
 Industrial Robotics  
 Aerospace grounding power  
 Lighting

### Why Cotek:

- Universal Input
- Wide programmable range
- PCBA conformal coating as default

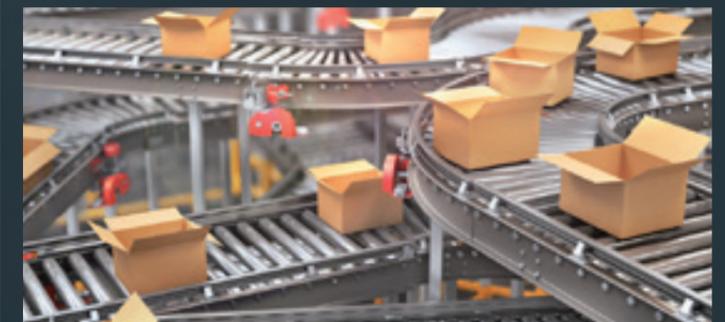


## Conveyor

Conveyor Systems (Sortation, Crossbelt Sorter, etc.)  
 AGV Systems  
 Palletising and Depalletising System

### Why Cotek:

- Wide programmable range
- Communication protocol available for PLC integration
- Parallel connection to support the power requirement for long distance production line
- Remote sense compensation voltage <math><0.5V</math>
- Customized output voltage as default setting without having to update the safety approvals (cost saving)



## Charging

EBUS/EV Charging  
 Warehouse automation  
 Smart Retail (Robotic)



### Why Cotek:

- Constant current limit
- Wide programmable range
- Remote communication & setting
- Parallel Connection
- CT-211 (optional charger board) to set CC, CV and floating curve for charger applications

## Healthcare

Blood Analysis  
 Dental heating  
 Laboratory  
 Monitoring  
 Cytocentrifuge  
 Incubators



### Why Cotek:

- Universal Input
- Wide programmable range
- PMBUS communication
- Temperature info read out

# Product Index

## General / Industrial

Photo	Type	Output	Series	Main Features	DC Output	Power Rating (Wattages)						Page	
						500	650	800	1000	1500	3000		
	Enclosed	Single	AD	<ul style="list-style-type: none"> <li>Support Ethernet</li> <li>Programmable output voltage / current up to 105%</li> <li>Forced current sharing at parallel operation</li> <li>Constant current limit</li> <li>I<sup>2</sup>C, PMBus (Meet), UART and MODBUS communication protocol</li> <li>Aux output 5V/1A</li> <li>Built-in ORing FETs</li> <li>Support parallel operation via CAN Bus</li> <li>New generation GUI available at request</li> </ul>	LV	○		○		●		○	P.7
HV									●		○		
			AE	<ul style="list-style-type: none"> <li>Programmable output voltage / current (0~105%)</li> <li>Constant current limit</li> <li>Global control via RS-232</li> <li>Multiple remote settings via RS-232, I<sup>2</sup>C and RS485</li> <li>Auxiliary output 5V/0.5A or 9V/0.3A</li> <li>Remote ON/OFF</li> </ul>	LV			●		●		●	P.9
					AEK	<ul style="list-style-type: none"> <li>Force current sharing at parallel operation</li> <li>GUI available at request</li> </ul>	LV						
HV									●				
	AK	<ul style="list-style-type: none"> <li>Programmable output voltage (30~105%) &amp; current (40~105%)</li> <li>Remote ON/OFF</li> <li>Force current sharing at parallel operation</li> </ul>	LV			●		●				P.13	

Model Naming Rule : **AD-1500-XXX**

① Product Series

② Wattage

③ Output voltage

LV : 12 / 15 / 24 / 30 / 36 / 48 / 60 VDC  
 HV : 120 / 150 / 250 / 400 VDC

● = Standard Version (Available to order)

● = ORing Version (Available to order)

○ = Coming Soon

## Accessories

Photo	Model Name	Description	Applicable Series
	CT-201/204/ 251/551	RS-232/485 Interface card	<ul style="list-style-type: none"> <li>For AE, AEK Series</li> </ul>
	CT-211	Charger board	<ul style="list-style-type: none"> <li>For AE, AEK-3000-LV Series</li> </ul>

Photo	Model Name	Description	Applicable Series
	AD - COMM - C11 / A23 / A24 / D11	Communication Interface card	<ul style="list-style-type: none"> <li>For AD Series</li> </ul>

Note: For the Accessories detail spec., please contact Sales if required.

 Support Ethernet

# AD-Series

## 1.5KW 12~400VDC Programmable Digital Power Supply



### Features

- Universal AC input/Full range (90~264Vac)
- Programmable output voltage & current 0~105%
- Forced current sharing at parallel operation
- Constant current limit
- AUX POWER : +5.0V/1.0A auxiliary
- Built-in OR'ing FETs
- I<sup>2</sup>C, PMBus(meet), UART, and MODBUS communication protocols (Reference datasheet for detail interface version info.)
- Support parallel operation via CAN Bus
- Linear output voltage & current control by external signal/resistor
- Intelligent GUI to set and monitor parameter
- Power OK signal
- Remote on/off, Remote sense function
- Protection: OVP, OLP, OTP, UTP, AC/Power/Fan Failure

### Protection

Over Load	105% rated output power	Protection type: Constant current limit
Over Voltage	Programmable OVP, 120 ± 7% Vout.	Protection type: Latch-style (Recovery after reset AC power ON or inhibit)
Over Temperature	Detect on NTC, Protection type: Auto recovery after temperature goes down	

### Function

Auxiliary Power	+5.0V / 1.0A
Remote ON/OFF Control	By external switch / communication
Power OK Signal	Open drain signal low when PSU turns on, Max. sink current: 20mA, Max. drain voltage: 40V
Output Voltage Trim	Adjustment of output voltage is between 0% ~ 105% of rated output (C11 Version)
Output Current Trim	Adjustment of output current is between 0% ~ 105% of rated output (C11 Version)
Parallel	Current sharing via CANBUS (A23 & A24 Version)

### Environment

Working Temperature	-25 ~ +60°C (Refer to load de-rating curve)
Working Humidity	20 ~ 90% RH non-condensing
Storage Temp. & Humidity	-40°C ~ 85°C, 10 ~ 95% RH
Temperature Coefficient	± 0.02% / °C (0°C ~ 50°C)
Vibration	10 ~ 500Hz, 2G 10min. / 1cycle, period for 60min. each along X, Y, Z axes Compliance to IEC 68-2-6, IEC 68-2-64

### Safety & EMC

Safety Standards	UL 62368-1; EN 62368-1
Withstand Voltage	I/P-O/P: 3KVAC (4242VDC), I/P-FG: 1.5KVAC (2121VDC), O/P-FG: 0.5KVAC (707VDC)
Isolation Resistance	I/P-O/P, I/P-FG, O/P-FG: 100M Ohms / 500VDC
EMI Conduction & Radiation	EN 55032; EN 61204-3; EN 61000-6-3
Power Harmonic & Voltage	EN 61000-3-2; EN 61000-3-3
Fluctuation and Flicker	
EMS Immunity	EN55035: 2017 / A11: 2020 ; IEC 61000-4-2,3,4,5,6,8,11

### Other

Cooling	Load and temperature control fan
Product Dimension (WxHxD)	LV : 127.8 x 64 x 313.7 mm / 5.03 x 2.52 x 12.35 inch      HV : 127.8 x 64 x 296.3 mm / 5.03 x 2.52 x 11.67 inch
Packing	LV : 2.42kg; 6pcs / 17.2kg / 1.86CUFT      HV : 2.21kg; 6pcs / 16kg / 1.86 CUFT

### Low Output Voltage (LV)

	AD-1500-12-xxx	AD-1500-15-xxx	AD-1500-24-xxx	AD-1500-30-xxx	AD-1500-36-xxx	AD-1500-48-xxx	AD-1500-60-xxx
<b>Output</b>							
DC Voltage	12V	15V	24V	30V	36V	48V	57V
Rated Current	125A	100A	62.5A	50A	41.7A	31.3A	26.32A
Current Range	0 ~ 125A	0 ~ 100A	0 ~ 62.5A	0 ~ 50A	0 ~ 41.7A	0 ~ 31.3A	0 ~ 26.32A
Rated Power*	1500W						
Ripple & Noise (Max.)	150mVp-p	150mVp-p	240mVp-p	300mVp-p	360mVp-p	480mVp-p	570mVp-p
Voltage Adj. Range	±5.0% Typical adjustment						
Voltage Tolerance	±2.0% (rate output voltage of single unit)						
Current Tolerance	±3.0% (rate output current of single unit)						
Line Regulation	±1.0%						
Load Regulation	±1.0%						
Setup, Rise Time	1300ms, 100ms at full load (230V ac)						
Hold Up Time (Typ.)	14ms / 230VAC at full load						
<b>Input</b>							
Voltage Range	90 ~ 264VAC, 127~370VDC (Refer to de-rating curve)						
Frequency Range	47 ~ 63Hz						
Power Factor (Typ.)	0.95 / 230VAC, 0.99 / 115VAC at full load						
Efficiency (Typ.)	89%	90%	92%	92%	92%	92%	93%
AC Current (Typ.)	18A / 115VAC, 9A / 230VAC						
Inrush Current (Typ.)	30A / 115VAC, 45A / 230VAC						
Leakage Current	< 3.5mA / 240VAC						

### High Output Voltage (HV)

	AD-1500-120-xxx	AD-1500-150-xxx	AD-1500-250-xxx	AD-1500-400-xxx
<b>Output</b>				
DC Voltage	120V	150V	250V	400V
Rated Current	12.5A	10.0A	6.0A	3.75A
Current Range	0 ~ 12.5A	0 ~ 10.0A	0 ~ 6.0A	0 ~ 3.75A
Rated Power*	1500W			
Ripple & Noise (Max.)	1200mVp-p	1500mVp-p	2500mVp-p	4000mVp-p
Voltage Adj. Range	±5.0% Typical adjustment			
Voltage Tolerance	±2.0% (rate output voltage of single unit)			
Current Tolerance	±3.0% (rate output current of single unit)			
Line Regulation	± 1.0%			
Load Regulation	± 1.0%			
Setup, Rise Time	1200ms, 100ms at full load (230V ac)			
Hold Up Time (Typ.)	14ms / 230VAC at full load			
<b>Input</b>				
Voltage Range	90 ~ 264VAC, 127~370VDC (Refer to de-rating curve)			
Frequency Range	47~63Hz			
Power Factor (Typ.)	0.95 / 230VAC, 0.99 / 115VAC at full load			
Efficiency (Typ.)	92%			
AC Current (Typ.)	18A / 115VAC, 9A / 230VAC			
Inrush Current (Typ.)	30A / 115VAC, 45A / 230VAC			
Leakage Current	< 3.5mA / 240VAC			

\*AD-1500-120-xxx, xxx can be **A23, A24, C11 or D11**

Communication protocol: A23: UART (RS-485), and Meet PMBus A24: MODBUS & Meet PMBUS C11: UART (RS-485) D1: Ethernet

\*Rated power could be de-rated when AC input is below 100VAC, please refer to datasheet



# AE-Series

800W~3KW Wide Programmable Range  
Single Output Power Supply



## Features

- Universal AC input / Full range
- Programmable output voltage & current (0%~105%)
- Forced current sharing at parallel operation
- Constant current limit
- Selectable +5V / 0.5A or +9V / 0.3A auxiliary output
- Global control via RS232 / RS485 protocol
- Remote setting multiple PSU via RS-232, RS-485 & I<sup>2</sup>C
- Power OK signal
- Remote ON / OFF, Remote sense function
- Protection: OVP, OLP, OTP, OCP and Fan Failure

### Protection

Over Load	105% rated output power, Protection type: Constant current limit
Over Voltage	Variable OVP Refer to VCI VS OVP curve.(OVP Tolerance 7%) Protection type : Latch-style (Recovery after reset AC power ON or inhibit)
Over Temperature	85 ±5°C detect on NTC, Protection type: Auto recovery after temperature goes down

### Environment

Working Temperature	AE-800 : -20 ~ +60°C      AE-1500 & AE-3000 : -25 ~ +60°C (Refer to load de-rating curve)
Working Humidity	20 ~ 90% RH non-condensing
Storage Temp. & Humidity	-40°C ~ 85°C, 10 ~ 95% RH
Temperature Coefficient	± 0.02% / °C (0°C ~ 50°C)
Vibration	10 ~ 500Hz, 2G 10min. / 1cycle, period for 60min. each along X, Y, Z axes Compliance to IEC60068-2-6; IEC60068-2-64

### Safety & EMC

Safety Standards	Certified EN 62368-1; UL62368-1
Withstand Voltage	I/P-O/P: 3KVAC (4242VDC), I/P-FG: 1.5KVAC (2121VDC), O/P-FG: 0.5KVAC (707VDC)
Isolation Resistance	I/P-O/P, I/P-FG, O/P-FG: 100M Ohms / 500VDC (25°C / 70% RH)
EMI Conduction & Radiation	Certified EN 55032; EN 61204-3; EN 610000-6-3
Power Harmonic & Voltage	Certified EN 61000-3-2; EN 61000-3-3
Fluctuation and Flicker	
EMS Immunity	Certified EN 55035: 2017 / A11: 2020; IEC 61000-4-2,3,4,5,6,8,11

### Other

Cooling	Load and temperature control fan	
Product Dimension (WxHxD)	AE-800 : 127x41x249 mm / 5.00x1.61x9.80 inch	AE-1500 : 127x64x280 mm / 5.00x2.52x11.02 inch
	AE-3000 : 127x127x325mm/5.00x5.00x12.80 inch	
Packing	AE-800 : Per Product 1.62kgs ; 9pcs / 17kg / 2.03CUFT	AE-1500 : Per Product 2.6kg; 6pcs / 16.6kg / 1.86CUFT
	AE-3000 : Per Product 5.25kgs ; 4pcs / 22kg / 1.86CUFT	

Output	AE-800-12	AE-800-15	AE-800-24	AE-800-30	AE-800-36	AE-800-48	AE-800-60
DC Voltage	12V	15V	24V	30V	36V	48V	60V
Rated Current	66.7A	53.4A	33.5A	26.7A	22.3A	16.7A	13.4A
Rated Power*	800W						
Ripple & Noise (Max.)	120mVp-p	150mVp-p	240mVp-p	300mVp-p	360mVp-p	480mVp-p	600mVp-p
Voltage Adj. Range	± 5.0% Typical adjustment by potentiometer. (VR1)						
Voltage Tolerance	±2.0% (rated output voltage of single unit)						
Current Tolerance	±3.0% (rated output current of single unit)						
Line & Load Regulation	± 1.0%						
Setup, Rise Time	800ms, 100ms at full load						
Hold Up Time (Typ.)	8ms / 230VAC at full load						

### Input

Voltage Range	90 ~ 264VAC, 127 ~ 370VDC (Refer to de-rating curve)						
Frequency Range	47~63Hz						
Power Factor (Typ.)	0.95 / 230VAC, 0.98 / 115VAC at full load						
Efficiency (Typ.)	89%	90%	92%	92%	92%	92%	93%
AC Current (Typ.)	9.3A / 115VAC, 3.5A / 230VAC						
Inrush Current (Typ.)	30A / 115VAC, 60A / 230VAC						
Leakage Current	< 3.5mA / 240VAC						

Output	AE-1500-12	AE-1500-15	AE-1500-24	AE-1500-30	AE-1500-36	AE-1500-48	AE-1500-60
DC Voltage	12V	15V	24V	30V	36V	48V	60V
Rated Current	125A	100A	62.5A	50A	41.7A	31.3A	25A
Rated Power*	1500W						
Ripple & Noise (Max.)	150mVp-p	150mVp-p	240mVp-p	300mVp-p	360mVp-p	480mVp-p	600mVp-p
Voltage Adj. Range	±5.0% Typical adjustment by potentiometer. (Via V-Adj from PSU front panel)						
Voltage Tolerance	±2.0% (rated output voltage of single unit)						
Current Tolerance	±3.0% (rated output current of single unit)						
Line & Load Regulation	± 1.0%						
Setup, Rise Time	800ms, 100ms at full load						
Hold Up Time (Typ.)	14ms / 230VAC at full load						

### Input

Voltage Range	90 ~ 264VAC, 127 ~ 370VDC (Refer to de-rating curve)						
Frequency Range	47~63Hz						
Power Factor (Typ.)	0.95 / 230VAC, 0.99 / 115VAC at full load						
Efficiency (Typ.)	89%	90%	91%	92%	92%	92%	93%
AC Current (Typ.)	18A / 115VAC, 9A / 230VAC						
Inrush Current (Typ.)	30A / 115VAC, 45A / 230VAC						
Leakage Current	< 3.5mA / 240VAC						

Output	AE-3000-12	AE-3000-15	AE-3000-24	AE-3000-30	AE-3000-36	AE-3000-48	AE-3000-60
DC Voltage	12V	15V	24V	30V	36V	48V	60V
Rated Current	250A	200A	125A	100A	83.5A	62.5A	50A
Rated Power*	3000W						
Ripple & Noise (Max.)	150mVp-p	150mVp-p	240mVp-p	300mVp-p	360mVp-p	480mVp-p	600mVp-p
Voltage Adj. Range	± 5.0% Typical adjustment by potentiometer. (VR1)						
Voltage Tolerance	± 2.0%						
Current Tolerance	±3.0% (rated output current of single unit)						
Line & Load Regulation	± 1.0%						
Setup, Rise Time	2000ms, 100ms at full load						
Hold Up Time (Typ.)	14ms / 230VAC at full load						

### Input

Voltage Range	90 ~ 264VAC, 127 ~ 370VDC (Refer to de-rating curve)						
Frequency Range	47~63Hz						
Power Factor (Typ.)	0.95 / 230VAC, 0.98 / 115VAC at full load						
Efficiency (Typ.)	89%	90%	91%	91%	92%	92%	93%
AC Current (Typ.)	36A / 115VAC (3000W), 18A / 230VAC (3000W)						
Inrush Current (Typ.)	60A / 115VAC, 90A / 230VAC						
Leakage Current	< 3.5mA / 240VAC						



# AEK-Series

3KW 12~400VDC Wide Programmable Range Single Output Power Supply



AEK-3000 HV



AEK-3000 LV

## Features

- Universal AC input / Full range
- Programmable output voltage & current (0%~105%)
- High power density 16.3W / inch<sup>3</sup>
- Forced current sharing at parallel operation
- Constant current limit
- Selectable +5V / 0.5A or +9V / 0.3A auxiliary output
- Remote setting multiple PSU via RS-232, RS-485 & I<sup>2</sup>C
- Built-in Oring Diode
- Power OK signal
- Remote ON / OFF, remote sense function
- Protection: OVP, OLP, OTP, OCP and Fan Failure
- Global control via RS232 / RS485 protocol
- Built-in isolation IC for communication
- Built-in I<sup>2</sup>C and RS485 communication interface

### AEK-3000

Protection	
Over Load	105% rated output power. Protection type: Constant current limit
Over Voltage	Variable OVP, 120±7% Vout. Refer to VCI v.s. OVP curve in the datasheet Protection type: Latch-style (Recovery after reset AC power ON or inhibit)
Over Temperature	85 ± 5°C detect on NTC, Protection type: Auto recovery after temperature goes down
Environment	
Working Temperature	-20 ~ +60°C (Refer to load de-rating curve)
Working Humidity	20 ~ 90% RH non-condensing
Storage Temp. & Humidity	-40°C ~ 85°C, 10 ~ 95% RH
Temperature Coefficient	± 0.02% / °C (0°C ~ 50°C)
Vibration	10 ~ 500Hz, 2G 10min. / 1cycle, period for 60min. each along X, Y, Z axes Compliance to IEC 60068-2-6, IEC 60068-2-64
Safety & EMC	
Safety Standards	Certified UL 62368-1; EN 62368-1
Withstand Voltage	I/P-O/P: 3KVAC (4242VDC), I/P-FG: 1.5KVAC (2121VDC), O/P-FG: 0.5KVAC (707VDC)
Isolation Resistance	I/P-O/P, I/P-FG, O/P-FG: 100M Ohms / 500VDC (25°C / 70% RH)
EMI Conduction & Radiation	Certified EN 55032; EN 61204-3; EN 610000-6-3
Power Harmonic & Voltage	Certified EN 61000-3-2; EN 61000-3-3
Fluctuation and Flicker	
EMS Immunity	Certified EN 55035: 2017 / A11: 2020; IEC 61000-4-2,3,4,5,6,8,11
Other	
Cooling	Load and temperature control fan
Product Dimension (WxHxD)	LV & HV : 170x64x280 mm / 6.69x2.52x11.02 inch
Packing	LV : 3.9kg; 6pcs / 25.9kg / 2.48CUF HV : 3.3kg; 6pcs / 22.7kg / 2.48CUFT

## Low Output Voltage (LV)

	AEK-3000-12	AEK-3000-15	AEK-3000-24	AEK-3000-30	AEK-3000-36	AEK-3000-48	AEK-3000-60
Output							
DC Voltage	12V	15V	24V	30V	36V	48V	60V
Rated Current	200A	160A	125A	100A	83.5A	62.5A	50A
Current Range	0 ~ 200A	0 ~ 160A	0 ~ 125A	0 ~ 100A	0 ~ 83.5A	0 ~ 62.5A	0 ~ 50A
Rated Power*	2400W	2400W	3000W	3000W	3006W	3000W	3000W
Ripple & Noise (Max.)	150mVp-p	150mVp-p	240mVp-p	300mVp-p	360mVp-p	480mVp-p	600mVp-p
Voltage Adj. Range	±5.0% Typical adjustment by potentiometer. (Via V-Adj from PSU front panel)						
Voltage Tolerance	±2.0% (rated output voltage of single unit)						
Current Tolerance	±3.0% (rated output current of single unit)						
Line Regulation	±1.0%						
Load Regulation	±1.0%						
Setup, Rise Time	800ms, 100ms at full load						
Hold Up Time (Typ.)	14ms / 230VAC at full load						
Input							
Voltage Range	90 ~ 264VAC, 127 ~ 370VDC (Refer to de-rating curve)						
Frequency Range	47~63Hz						
Power Factor (Typ.)	0.95 / 230VAC, 0.98 / 115VAC at full load						
Efficiency (Typ.)	88%	89%	91%	91%	92%	92%	93%
AC Current (Typ.)	19.7A / 115VAC (2000W), 16.5A / 230VAC (3000W)						
Inrush Current (Typ.)	33A / 115VAC, 65A / 230VAC						
Leakage Current	< 3.5mA (240VAC)						

## High Output Voltage (HV)

	AEK-3000-150	AEK-3000-200	AEK-3000-250	AEK-3000-300	AEK-3000-400
Output					
DC Voltage	150V	200V	250V	300V	400V
Rated Current	20A	15A	12A	10A	7.5A
Current Range	0 ~ 20A	0 ~ 15A	0 ~ 12A	0 ~ 10A	0 ~ 7.5A
Rated Power*	3000W	3000W	3000W	3000W	3000W
Ripple & Noise (Max.)	1500mVp-p	2000mVp-p	2500mVp-p	3000mVp-p	4000mVp-p
Voltage Adj. Range	±5.0% Typical adjustment by potentiometer. (Via V-Adj from PSU front panel)				
Voltage Tolerance	±2.0% (rated output voltage of single unit)				
Current Tolerance	±3.0% (rated output current of single unit)				
Line Regulation	±1.0%				
Load Regulation	± 1.0%				
Setup, Rise Time	1100ms, 350ms at full load				
Hold Up Time (Typ.)	14ms / 230VAC at full load				
Input					
Voltage Range	90 ~ 264VAC, 127 ~ 370VDC (Refer to de-rating curve)				
Frequency Range	47~63Hz				
Power Factor (Typ.)	0.95 / 230VAC, 0.98 / 115VAC at full load				
Efficiency(Typ.) STD/ORing	93% / 91%				
AC Current (Typ.)	19.7A / 115VAC (2000W), 14.5A / 230VAC (3000W)				
Inrush Current (Typ.)	33A / 115VAC, 65A / 230VAC				
Leakage Current	< 3.5mA (240VAC)				



# AK-Series

## 650W & 1KW Programmable Single Output Power Supply



### Features

- Universal AC input / Full range
- Programmable output voltage (30%~105%)
- Programmable output current (40%~105%)
- +5V / 0.5A auxiliary output
- 1U profile, high power density 11.1W / in<sup>3</sup> (AK-1000)
- Forced current sharing at parallel operation
- Power OK signal
- Remote ON / OFF, remote sense function
- Protection: OVP, OLP, OTP, OCP, Fan failure

### Protection

Over Load	105~125% rated output power	Protection type: Total power limit, latch-style (recovery after reset AC power ON or inhibit)
Over Voltage	Variable OVP, 125 ± 10% Vout.	Protection type: Latch-style (Recovery after reset AC power ON or inhibit)
Over Temperature	By detecting primary and secondary heat sink	Protection type: Shutdown O/P voltage (Recovers automatically after temperature goes down)

### Function

Auxiliary Power	5V / 0.5A (±3%)
Remote ON/OFF Control	External switch or NPN transistor to turn ON / OFF
Power OK Signal	Open drain signal low when PSU turns ON, Max. sink current: 20mA; Max. drain voltage: 40V
Output Voltage Trim	Adjustment of output voltage is between 30~105% of rated output
Output Current Trim	Adjustment of output current is between 40~105% of rated output
Parallel	Yes, please refer to datasheet

### Environment

Working Temperature	-25 ~ +60°C (Refer to load de-rating curve)
Working Humidity	20 ~ 90% RH non-condensing
Storage Temp. & Humidity	-40°C ~ 85°C, 10 ~ 95% RH
Temperature Coefficient	± 0.02% / °C (0°C ~ 50°C)
Vibration	10 ~ 500Hz, 5G 10min. / 1cycle, period for 60min. each along X, Y, Z axes Compliance to IEC 68-2-6; IEC 68-2-64

### Safety & EMC

Safety Standards	Certified EN 62368-1; UL 62368-1
Withstand Voltage	I/P-O/P: 3KVAC (4242VDC), I/P-FG: 1.5KVAC (2121VDC), O/P-FG: 0.5KVAC (707VDC)
Isolation Resistance	I/P-O/P, I/P-FG, O/P-FG: 100M Ohms / 500VDC (25°C / 70% RH)
EMI Conduction & Radiation	Certified EN 55032; EN 61204-3; EN 610000-6-3
Power Harmonic & Voltage	Certified EN 61000-3-2; EN 61000-3-3
Fluctuation and Flicker	
EMS Immunity	Certified EN 55035: 2017 / A11: 2020; IEC 61000-4-2,3,4,5,6,8,11

### Other

Cooling	Load and temperature control fan	
Product Dimension (WxHxD)	AK-650 : 127x41x249 mm / 5.00x1.61x9.80 inch (WxHxD)	AK-1000 : 127x41x283 mm / 5.00x1.61x11.14 inch (WxHxD)
Packing	AK-650 : Product 1.68kgs ; Per Carton 9pcs / 16.1kgs / 1.86CUFT	AK-1000 : Product 2.1kgs ; Per Carton 9pcs / 19.9kgs / 1.86CUFT

	AK-650-12	AK-650-15	AK-650-24	AK-650-27	AK-650-48
<b>Output</b>					
DC Voltage	12V	15V	24V	27V	48V
Rated Current	50A	40A	27A	24A	13.6A
Current Range	0 ~ 50A	0 ~ 40A	0 ~ 27A	0 ~ 24A	0 ~ 13.6A
Rated Power*	600W	600W	650W	650W	650W
Ripple & Noise (Max.)	150mVp-p	< 1% (mVp-p), according to the rated output voltage			
Voltage Adj. Range	± 5.0% Typical adjustment by potentiometer. (VR1)				
Voltage Tolerance	± 1.0%				
Line Regulation	± 0.5%				
Load Regulation	± 0.5%				
Setup, Rise Time	800ms, 60ms at full load				
Hold Up Time (Typ.)	16ms / 230VAC at full load				
<b>Input</b>					
Voltage Range	90 ~ 264VAC, 127 ~ 370VDC (Refer to load de-rating curve)				
Frequency Range	47~63Hz				
Power Factor (Typ.)	0.98 / 230VAC, 0.99 / 115VAC at full load				
Efficiency (Typ.)	88%	88%	90%	90%	91%
AC Current (Typ.)	7.5A / 115VAC, 3.5A / 230VAC				
Inrush Current (Typ.)	27A / 115VAC, 54A / 230VAC				
Leakage Current	< 1.0mA / 240VAC				

	AK-1000-24	AK-1000-27	AK-1000-48
<b>Output</b>			
DC Voltage	24V	27V	48V
Rated Current	40A	37A	21A
Current Range	0 ~ 40A	0 ~ 37A	0 ~ 21A
Rated Power*	960W	1000W	1000W
Ripple & Noise (Max.)	< 1% (mVp-p), according to the rated output voltage		
Voltage Adj. Range	± 5.0% Typical adjustment by potentiometer. (VR1)		
Voltage Tolerance	± 1.0%		
Line Regulation	± 0.5%		
Load Regulation	± 0.5%		
Setup, Rise Time	800ms, 60ms at full load		
Hold Up Time (Typ.)	16ms / 230VAC at full load		
<b>Input</b>			
Voltage Range	90 ~ 264VAC, 127 ~ 370VDC (Refer to load de-rating curve)		
Frequency Range	47~63Hz		
Power Factor (Typ.)	0.98 / 230VAC, 0.99 / 115VAC at full load		
Efficiency (Typ.)	89%	89%	90%
AC Current (Typ.)	12A / 115VAC, 5A / 230VAC		
Inrush Current (Typ.)	27A / 115VAC, 54A / 230VAC		
Leakage Current	< 1.0mA / 240VAC		

