Bussmann®

Automotive Fuses and Fuse Accessories

COOPER Bussmann

The Buss Fuse Advantage

MARKET COVERAGE • INNOVATIVE PRODUCTS • PROFIT-BUILDING PACKAGING

Buss Fuse offers the industry's most complete line of fuses and circuit protection products for automotive aftermarket applications. Count on Bussmann for blade fuses, glass fuses, flashers, circuit breakers – the mass market products that are always in high demand. Plus, we provide a wide range of niche products – for foreign-maker cars, special applications and more.

A leading manufacturer of automotive fuses since 1917, Bussmann's aftermarket product line includes all the industry's latest circuit protection products – such as mini- and maxi-style circuit breakers. We've introduced an exciting range of accessories, too for today's fastest growing applications: cellular phones, enthusiast stereos and marine, among many others.

Bussmann keeps you on the cutting edge of automotive technology. We're working with many of today's leading vehicle manufacturers to develop innovative products – designed specifically to protect the sophisticated electronics at the heart of tomorrow's automobiles.

Of course, Bussmann offers more than product coverage and innovative design. We're the industry leader in profit-building merchandising programs – boosting your sales with attractive package assortments, high-impact displays and dynamic product merchandisers.

Bussmann®

The Driving Force
in Automotive Circuit Protection

Table of Contents

Cooper Bussmann is a worldwide company, leading the way in development of circuit protection technology. With more than 40,000 different fuse products, we offer the broadest market coverage in the industry. This catalog covers the automotive aftermarket. For additional products or technical information, contact your Buss sales representative or our customer satisfaction team at (636) 527-1461, (636) 527-1477 or by Fax, toll-free, (877) 359-2675. Additional information about these products can be found in the Automotive Price List.

The industry standard – used in most domestic and imported cars today. All Buss blade fuses meet or exceed OEM and SAE standards. Buss is a certified OEM supplier of ATC, ATM and MAX fuses to car manufacturers. All Buss blade fuses are made in the USA.

ATM® FUSES

Introduced in the early '90s, ATM fuses are quickly growing in popularity for late-model OEM applications. ATM fuses use the same universal color coding as ATC style. Buss ATM fuses feature an enclosed element offering protection against shocks and sparks, plus corrosion resistance for longer service life.

MAXI® FUSES

Maxi Fuses are used to protect circuits in the wiring harness – usually found under the hood, in a fuse panel or supplementary panel near the battery. Primarily used in domestic cars, MAX fuses also have some applications in imported models. OEM applications currently range up to 60 amps; however, some aftermarket accessories (such as high-end stereos) require protection up to 80 amps.

ATC® FUSES

ATC Blade fuses were introduced in the late '70s, and are still widely used by automotive OEMs. Buss ATC products use the industry's universal color coding to indicate amperage. Buss ATC fuses feature an enclosed element – offering protection against shocks and sparks, plus corrosion resistance for longer service life.

BLADE FUSE GUIDE

	ATC	ATM	MAX
Black	1		
Gray	2	2	25
Violet	3	3	
Pink	4	4	
Tan	5	5	70
Brown	7½	7½	35
Red	10	10	50
Blue	15	15	60
Yellow	20	20	20
Clear	25	25	80
Green	30	30	30
Blue-Green	35		
Orange	40		40

ATC, ATM and MAX fuses are rated at 32 volts.

Although still used in older-model cars, glass fuses are found primarily in automotive accessory applications today.

Bussmann's expansive line of glass fuses includes many types and sizes in addition to those listed in this catalog. Call Bussmann for more product details if you have requirements which are not covered here.

FUSE SELECTION CRITERIA

Glass fuses are widely used in electronic and electrical applications where proper fuse selection is critical to performance.

- For electronic/electrical applications, fuse must be rated at 125V or better.
- Voltage must match or exceed the fuse being replaced (125V for household current; 12V for auto; 24V for heavy duty).
- Amperage must match that of the old fuse.
- Glass fuses are available in fast-acting or time-delay versions.

In general, glass fuses are designated by physical size and type:

- All AGC fuses measure ¼″ × 1¼″.
- All AGW fuses measure ¼″ × ⅞″.
- SFE fuses are the exception to the rule: they change in length, as amperage ratings increase.

SFE 30 (1⁷⁄₁₆″)

SFE 20 (1¼″)

SFE 14 (1¹⁄₁₆″)

SFE 9 (1″)

SFE 7 ½ (⁷⁄₈″)

SFE 6 (³⁄₄″)

SFE 4 (⁵⁄₈″)

MDL ½-30 (1¼″)

GBF (²¹⁄₃₂″)

AGY (1⁷⁄₁₆″)

AGX 2-30 (1″)

AGW 1-30 (⁷⁄₈″)

AGU 1-60 (1½″)

AGC ⅛-50 (1¼″)

AGA ½-30 (⁵⁄₈″)

Diameter of glass fuses is ¼″ (AGU is ¹³⁄₃₂″ diameter). Length of fuse is shown in parenthesis.

GBC 5-25 (³¹⁄₃₂″)

GBC TYPE - 31/32" x 1/4"

AMP	CAT. NO.	COLOR CODE
5	GBC-5	Yellow
8	GBC-8	White
16	GBC-16	Red
25	GBC-25	Blue

As power requirements increase under the hood and in the passenger cabin, so does the need for high-performance circuit protection products.

Bussmann's line of wiring harness products include fuses rated up to 300 amps. These products – including Maxi style fuses and other devices – replace the fusible links used in older model cars.

Wiring harness circuit protection products are usually found under the hood, in a fuse panel or supplementary panel near the battery.

SFR
Lift truck fuseholder. Use with ANN and ANL fuses.

ANN & ANL Fuses
Often used to protect charging systems in battery-operated forklifts, golf carts and similar applications. These rugged, reliable fuses offer high amperage ratings in a compact size just ⅞″ × 3³⁄₁₆″. ANN fuses are rated at 125 volts, for applications up to 800 amps. ANL fuses are rated at 32 volts, up to 750 amps. Durable glass-laminated melamine body and riveted construction offer superior service life in heavy-duty applications. Clear window provides open-fuse indication.

HMID FUSEBLOCK
Use with AMI fuses from 40 to 80 amps. Multiple blocks can be linked together to form an assembly.

AMI FUSES
These high-amp fuses are used in power distribution protection for automotive systems on some late model cars. AMI fuses are available in ampere ratings: 50A, 80A and 100A.

FMX FUSES
Developed to meet the growing OEM demand for low-profile components, the FMX Female Maxi fuse offers high-ampere protection in a compact package. FMX fuses are available in ampere ratings from 20A to 60A.

AMG FUSES
Used for high current (100A – 300A) applications on selected late model vehicles. AMG fuses are available in ampere ratings from 100A to 300A. A fuseblock with splash-proof cover is also available.

HMEG FUSEHOLDER
Use with AMG fuses from 100 to 300 amps. Recommended wire size #2-8. HMEG fuseholders have full-access design for ease of wiring - wire can be routed to the studs from nearly any direction. HMEG is impact resistant and has durable plastic base and cover.
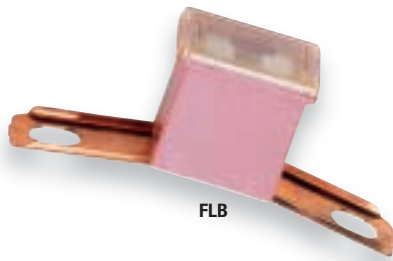
FL SERIES

Used primarily in Japanese designed car models to provide wiring harness protection.
Available in six styles:

- **FLB:** Bolts into fuse block, $^{13}/_{16}''$ bolt terminal, available for 30, 40, 50, 60, 70, 80, 100, 120 and 140 amps.
- **FLF:** Female terminations, available for 20, 30, 40, 50 and 60 amps.
- **FLM:** Male terminations, available for 30, 60, 80, 100 and 120 amps.
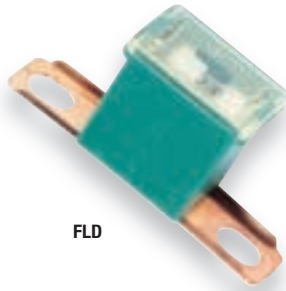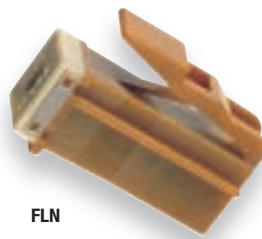- **FLD:** Bolts into fuse block, $^{9}/_{16}''$ bolt terminal, available for 30, 40, 50, 80 and 100 amps.
- **FLN:** Female terminations, locking tab, available for 25 and 30 amps.
- **FLS:** Female mini terminations. Available for 30 and 40 amps.

FLB

FLF

FLM

FLS

FLD

FLN

FUSIBLE LINKS

Color Code	FLB	FLD	FLF	FLM	FLN	FLS
Light Blue			20			
Pink	30	30	30	30		30
Green	40	40	40		30	40
Red	50	50	50			
Yellow	60		60	60		
Brown	70				25	
Black	80	80		80		
Blue	100	100		100		
Gray	120			120		
Maroon	140					

FMX FEMALE MAXI

Blue	20
Pink	30
Green	40
Red	50
Yellow	60

Add BP/ before part number when ordering carded product.
Current price sheet lists all BP/ parts that are available.

Buss offers the industry's largest selection of automotive circuit breakers including both OEM-style and fuse-replacement devices.

Circuit breakers are designed to offer a variety of performance characteristics including three types of reset. (NOTE: Always follow the OEM's recommendations when replacing circuit breakers. Replace only with the same type breaker in aftermarket applications.)

- **Type I – Automatic reset**
  Circuit breaker automatically resets after opening. If the fault still exists, the breaker will continue to cycle between ON and OFF positions until the overload is corrected. These devices are sometimes called "cycling breakers." Several Buss Type I breakers feature brass-colored bodies.

- **Type II – Modified reset**
  The circuit breaker will remain tripped (in the OFF position) as long as there's power to the circuit, due to an internal resistor. Type II breakers can be reset by turning off the circuit, or by turning off the ignition switch. These devices are sometimes called "non-cycling breakers." Several Buss Type II breakers feature silver-colored bodies.

- **Type III – Manual reset**
  The circuit breaker will remain tripped (in the OFF position) until an indicator button or lever is manually reset. Type III breakers are also available with a switch-able feature, which allows you to use an external button to disable the circuit.

Bussmann circuit breakers feature our patented Fail-Safe technology – offering an innovative element design which combines the resetable performance of circuit breakers with the short-circuit protection of a fuse.

- Resetable, to work like a normal "cycling" breaker, in low overload conditions.

- Under severe overload or short-circuit conditions, the breaker's element will open to prevent damage to the circuit.

CB174

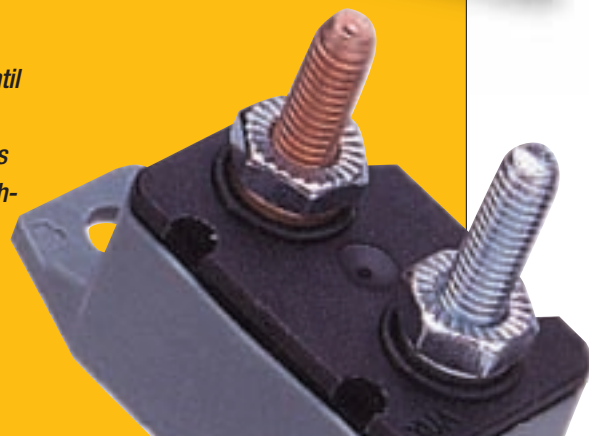**CB174B**

PANEL-MOUNTED BREAKERS

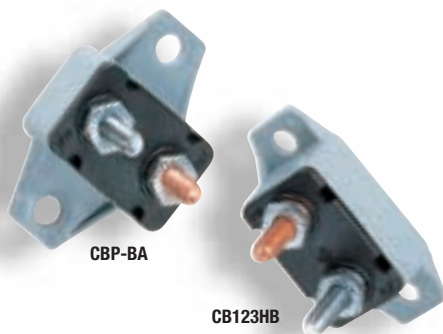Used in trucks, RVs, boats, buses, etc. offered with .25″ Q.C. or 90° bent terminals.

CBF

FUSE REPLACEMENT BREAKERS

CBF circuit breakers can be used to replace glass fuses in ¼″ × 1¼″ fuse blocks.

STUD-MOUNTED BREAKERS

Part	Description
CB123-B	Type III 24 volt plastic circuit breaker. Two 10-32 studs with bracket crosswise to breaker body. Amps available – 10, 15, 20, 30, 40 & 50.
CB123HB	Same Type III 24 volt breaker as CB123-B, with bracket lengthwise to breaker body. Amps available - 10, 15, 20, 30, 40 & 50.
CB124	Type I 24 volt plastic circuit breaker. Two 10-32 studs with bracket crosswise to breaker body. Amps available – 15, 20, 30 & 50
CBC	Heavy duty Type I 12 volt breaker. Two 10-32 threaded studs and brass-plated battery terminal. Amps available – 8, 10, 15, 20, 25, 30, 35, 40 & 50
CBC-B	Same Type I 12 volt breaker as CBC, with the addition of a small mounting bracket welded securely crosswise to breaker body. Amps available – 8, 10, 15, 20, 25, 30, 35, 40 & 50
CBC-BWP	A waterproof version of the CBC-B Type I 12 volt breaker featuring a waterproof sealant and insert-molded studs. Suitable for marine applications or trailer connects, etc. Amps available – 20, 25 & 30
CBC-HB	Same Type I 12 volt breaker as CBC, with the addition of a small mounting bracket welded securely lengthwise to breaker body. Amps available – 10, 15, 20, 25, 30, 40 & 50
CBD	Type I 12 volt circuit breaker. One 10-32 stud .56 (BAT), double .250 QC (AUX). Amps available – 10, 15, 20 & 30
CBD-B	Type I 12 volt circuit breaker. Same breaker as CBD with the addition of a mounting bracket welded securely crosswise to breaker body. Amps available –15, 20 & 30
CBP-B	Type I 12 volt plastic breaker. Two 10-32 studs with bracket lengthwise to breaker body. Amps available – 10, 15, 20, 25, 30, 35, 40 & 50
CBP-BA	Type I 12 volt plastic breaker. Two 10-32 studs with bracket crosswise to breaker body. Amps available – 10, 15, 20, 25, 30, 40 & 50
CBS	Standard duty Type II 12 volt breaker. Two 10-32 threaded studs. Amps available – 6, 10, 15, 20, 25, 30 & 40

FUSE REPLACEMENT BREAKERS

Part	Description
CBF	Type II 12 volt breaker. Amps available – 6, 10, 15, 20, 25, 30, 35 & 40

PANEL-MOUNTED BREAKERS

Part	Description
CB174	Type III 32 volt circuit breaker with ¼″ QC terminals. Amps available – 10, 15, 20, & 30
CB174B	Type III 32 volt breaker with #5-32 screws and 90° bent terminals. Amps available – 10, 15, 20 & 30.

QUICK CONNECT BREAKERS

Part	Description
CBT-M	Type II breaker with two ¼″ blades 1″ centers. Fits Mack breaker blocks. Amps available – 10, 15, 20, 25, & 30.
CBT-N	Type II breaker with two ¼″ blades 1.08″ centers. Fits Navistar breaker blocks. Amps available – 10, 15, 20, 25, & 30.
CBU	Type I 12 volt circuit breaker with two 1/4" QC terminals on .99" centers. Amps available – 6, 10, 15, 20 & 30
CBU-B	Same Type I 12 volt breaker as CBU, with the addition of a small mounting bracket welded securely crosswise to breaker body. Available in 30 amp.

Add BP/ before part number when ordering carded product.
Current price sheet lists all BP/ parts that are available.

CBS

CBC

CBP-BA

CB123HB

CBC-B

CBC-HB

STUD-MOUNTED BREAKERS

Used in many heavy-duty and truck applications. Use ring terminals to connect breaker into circuit.

CBS are standard duty and **CBC** are heavy duty type breakers.

Bussmann **CBC** and **CBD** stud type circuit breakers feature our patented Fail-Safe technology, and are available in styles: without bracket; with mounting bracket; waterproof, with mounting bracket and with combination blade and stud terminals. Complies with SAE standard J553.

CBD

CBD-B

CBT

Blade style circuit breakers offer interchangeability with commonly used blade style fuses, such as ATC, ATM and MAXI. Bussmann blade style circuit breakers are available in several reset modes that correspond to SAE categories: SAE Type I (automatic reset), SAE Type II (modified reset) and SAE Type III (manual reset). All Bussmann blade style circuit breakers utilize carefully designed and manufactured snap-acting thermal elements with precious metal electrical contacts.
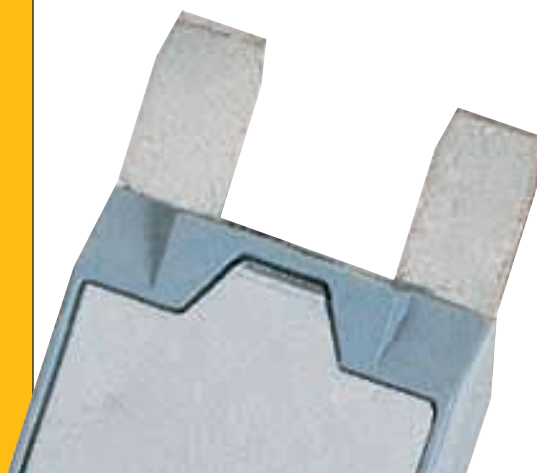
PLUG IN TYPE BLADE CIRCUIT BREAKERS
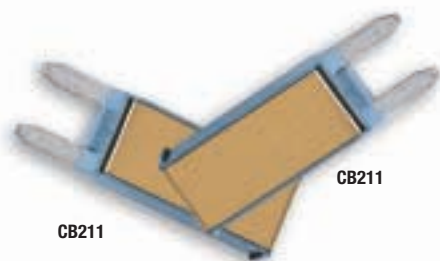
CB211

CB211

CB212-30

MINI BREAKERS

CB211 and **CB212** Bussmann Mini breakers match the blade footprint of ATM fuses. Ultra-thin, to fit in tight spaces – they're the smallest automotive circuit breakers on the market. Bussmann Mini breakers comply with SAE standard J553.

CB223-30

CB1911

MAXI BREAKERS

Identical in size to Maxi-style fuses. The only breakers on the market to match the Maxi's footprint and body dimensions. **CB1911** and **CB1921** can be used to replace Maxi fuses in any application.

ATC STYLE BREAKERS

CB221 and **CB222** breakers are designed to fit ATC style fuse panels. Buss ATC breakers are the thinnest available in the aftermarket. These devices comply with SAE standard J553.

Bussmann also offers three ATC-style breakers as replacement parts for specific OEM applications – **ACB-20, CCB-25,** and **FCB-20.**

CBB circuit breakers can be used to replace ATC fuses.

FCB-20

ACB-20

CCB-25

MMB

UCB-15

UCB-20

UCB-10

UCB breakers feature "snap-off" universal blades which can easily be sized to fit applications where fuseblock spacing is tight, or the fuse terminal is recessed.

Some UCB breakers feature color coded bodies, to match the universal color coding used for ATC fuses: UCB-6-Silver, UCB-8-Brown, UCB-10-Red; UCB-15-Blue; UCB-20-Gold; and UCB-30-Green.

MINI BREAKERS

CB211	Brass-colored Type I breaker with a mini fuse footprint 12 volt. Amps available – 10, 15, 20, 25 & 30
CB212	Silver-colored Type II breaker with a mini fuse footprint 12 volt. Amps available – 10, 15, 20, 25 & 30
MMB	Type I 12 volt wide mini footprint. Replaces OE part GM #12135171 (15 amp) and GM #12135072 (20 amp)

ATC STYLE BREAKERS

ACB-20	Replaces OE Part No. 12040816. Available in 20 amp Type I 12 volt.
CB221	Brass-colored Type I breaker with an ATC fuse footprint 12 volt. Amps available – 10, 15, 20, 25 & 30
CB222	Silver-colored Type II breaker with an ATC fuse footprint 12 volt. Amps available –10, 15, 20, 25 & 30
CB223	Silver-colored Type III Manual Resettable ATC style breaker. 12 volt. Amps available –10, 15, 20, 25 & 30
CCB-25	Replaces OE Part No. 4527053 12 volt. Available in 25 amp Type I
CBB-30	Type II circuit breakers can be used to replace ATC fuses 12 volt. Available in 30 amp
FCB-20	Replaces OE Part No. D9AB-14526-BA 12 volt. Available in 20 amp Type II
UCB	Universal Type I circuit breaker 12 volt. Amps available – 6, 8, 10, 15, 20, 25 & 30

MAXI BREAKERS

CB1911	Brass-colored Type I breaker with Maxi fuse footprint 12 volt. Amps available – 10, 15, 20, 25, 30, 40 & 50
CB1921	Silver-colored Type II breaker with Maxi fuse footprint 12 volt. Amps available – 10, 15, 20, 25 & 30

**Add BP/ before part number when ordering carded product.
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Buss offers a complete line of fuseholders – to install either blade or glass-style fuses.

Choose waterproof or splashproof versions for extra protection in special applications.

Three types of connectors are available to meet the needs of jobbers and do-it-yourselfers alike:

• Wire loop. To install, simply cut the wire, strip ends and attach each end to the circuit. Requires the use of additional connectors.

• Crimp-On. Strip wire and insert into fuseholder. Crimp the connections tightly, and you're done. No additional hardware needed.

• Self-stripping. Easy to install: simply locate fuseholder at a convenient spot along the wire. Snap fuseholder closed around wire to pierce insulation automatically.

• Quick Connect. Attach fully insulated female push-on terminal onto the $\frac{1}{4}$" Q.C. terminal.

When selecting a fuseholder, always match the device to the wire being fused. Using an undersized fuseholder will increase electrical resistance in the circuit and reduce performance. NOTE: Never install a fuse larger than specified for the holder.

BLADE STYLE

HHM-C

HHD-C

HHD

HHM-B

HHS

HHL   HHG   HHR

HHX

HHK

HHN

GLASS TUBE

HRJ

HMK

HFA

HRK

PANEL MOUNT

HTB-26I

HTB-38I

HTB-681

HTB-88I

HKP-HH

HHB

HFB
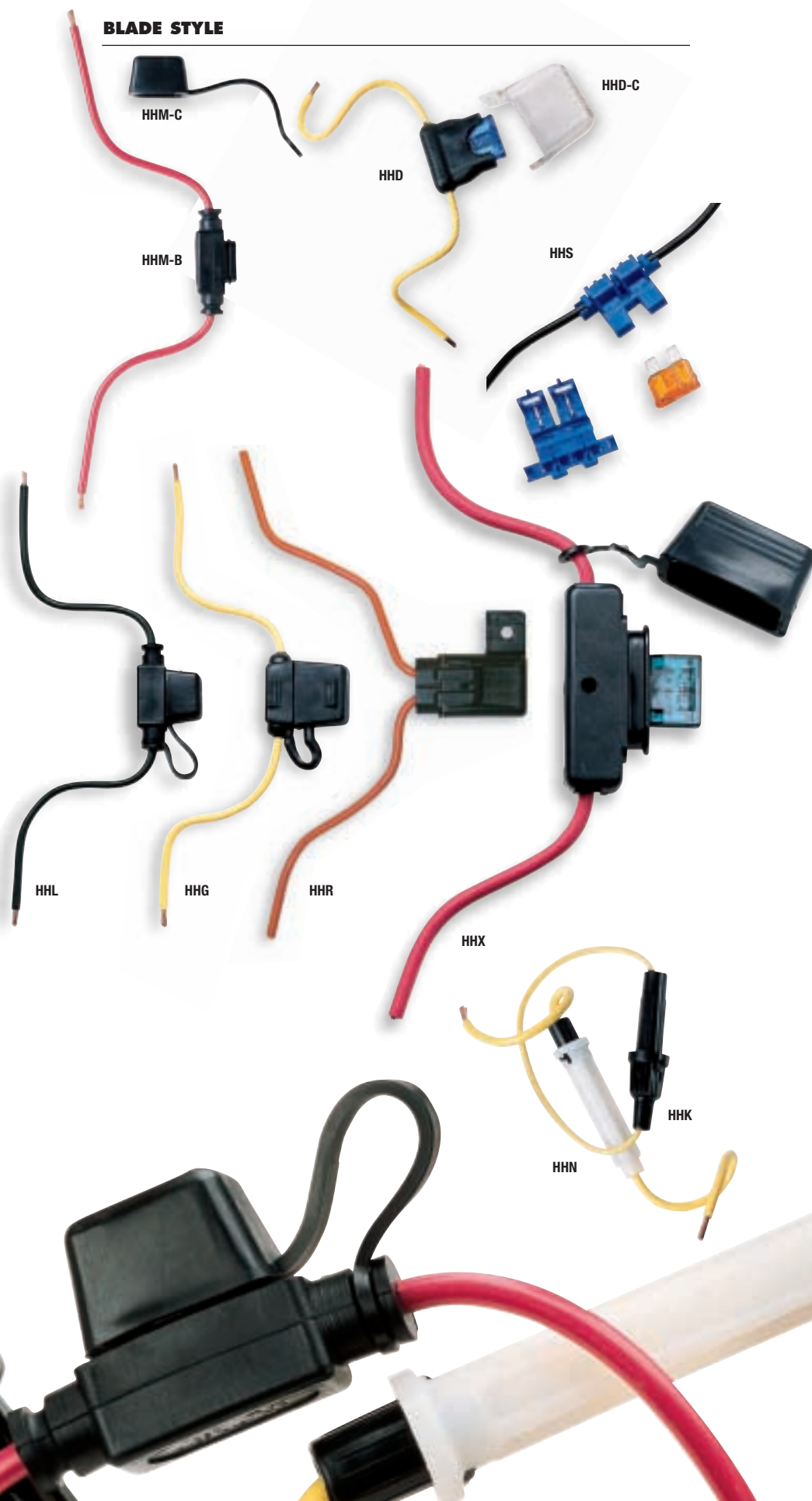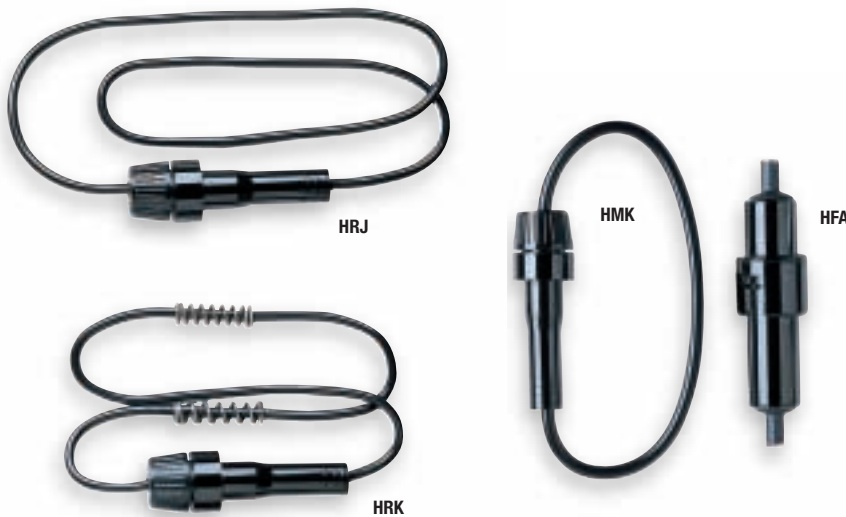
ATC FUSEHOLDERS	
HHC	Yellow fuseholder, 1-20 amps, #16 lead wire[1]
HHD	Black fuseholder, 1-30 amps, #12 lead wire[1]
HHD-C	Cover only – fits HHC or HHD
HHD-30	Same as HHD, with ATC-30 fuse[1]
HHF	Fuseholder with protective cap, 3-20 amps, #16 lead wire[1]
HHG	Heavy-duty fuseholder with protective cap, 3-30 amps, #12 lead wire[1]
HHR	ATC style waterproof fuseholder with locking cap and mounting hole, 12 gauge leads 5" long, 30 amp.

MAXI FUSEHOLDERS	
HHX	Fuseholder with cover, 20-60 amps, #6 lead wire[1]
HHX-B	Body only, 20-60 amps, #6 lead wire[1]
HHX-C	Cover only

MINI FUSEHOLDERS	
HHL	Fuseholder with cover, 2-20 amps, #16 lead wire[1]
HHL-B	Body only, 2-20 amps, #16 lead wire[1]
HHM	Fuseholder with cover, 2-30 amps, #12 lead wire[1]
HHM-B	Body only, 2-30 amps, #12 lead wire[1]
HHM-C	Cover only

GLASS TUBE FUSEHOLDERS	
Fuseholder Only – With Wire Loop Leads	
HMK	AGC fuses up to 30 amp maximum (and SFE 20), #12 lead wire[1]
HRK	Universal holder, with springs to adapt to different fuse lengths, 15A, #14 lead wire[1]
HHK	Universal nylon twist-lock fuseholder, for AGC, AGA, AGW, AGX & SFE fuses,20A, #14 lead wire[1]
Fuseholder With Fuses – Wire Loop Leads	
HMJ	SFE-20 fuse, 20A, 8" of #14 lead wire[1]
HRH	SFE-9 fuse, 20A,19" of #14 lead wire[1]
HRI	SFE-14 fuse, 20A,19" of #14 lead wire[1]
HRJ	SFE-20 fuse, 20A,19" of #14 lead wire[1]
HHN	Nylon heavy-duty fuseholder with AGC-30 fuse, 30A, #12 lead wire[1]
Fuseholder Only – Crimp Type Connectors	
HHB	Universal fuseholder in high visibility yellow. Accepts fuses to 30 amps #12 to #18 leads (not included)[1]
HHS	Self-stripping ATC fuseholder in royal blue. Accepts fuses to 20 amps #18 to #14 AWG copper wire only[1]
Waterproof Fuseholder – Crimp Type Connectors	
HFA	Accepts AGC, MDL fuses, 20A, #12 to #16 leads (not included)[2]
HFB	Accepts fuses to 30 amps #12 to #18 leads (not included)[1]

PANEL MOUNT FUSEHOLDER	
For ¼" × 1¼" fuses	
HTB-26I	Low-profile cover knob; rear hexnut mounting; ¼" Q.C. terminations, 20 amp[2]
HTB-38I	Low-profile cover knob with flathead screwdriver slot; rear hexnut mounting; right angle Q.C. terminations, 20 amp[2]
HTB-68I	Low-profile cover knob; front hexnut mounting; right angle Q.C. terminations, 20 amp[2]
HTB-88I	Low profile cover knob; through-hole snap-in mounting; right angle Q.C. terminations, 20 amp[2]
HKP	High profile cover knob; rear hexnut mounting; solder terminals, 30 amp[2]
HKP-HH	High profile cover knob; rear hexnut mounting; ¼" Q.C. terminals, 15 amp[2]

[1] 32 Volt   [2] 250 Volt

Add BP/ before part number when ordering carded product.
Current price sheet lists all BP/ parts that are available.

Designed for versatility, durability and ease-of-installation, Bussmann fuseblocks deliver the ideal solution for virtually any application. Bussmann fuseblocks are molded of high-performance thermoplastic, and feature high quality hardware in a choice of connector styles.

S-8202 – Fuseblocks with ¼″ quick-connect terminals 300 volt rating. Available in 1 through 12 position units. Break-away design lets you snap off or combine positions as needed to get the exact number required for your application. UL recognized, 20 Amp max.

S-8301 – Fuseblocks with screw connect terminals 300 volt rating. Available in 1 through 12 position units. Break-away design lets you snap off or combine positions as needed to get the exact number required for your application. UL recognized, 30 Amp max.
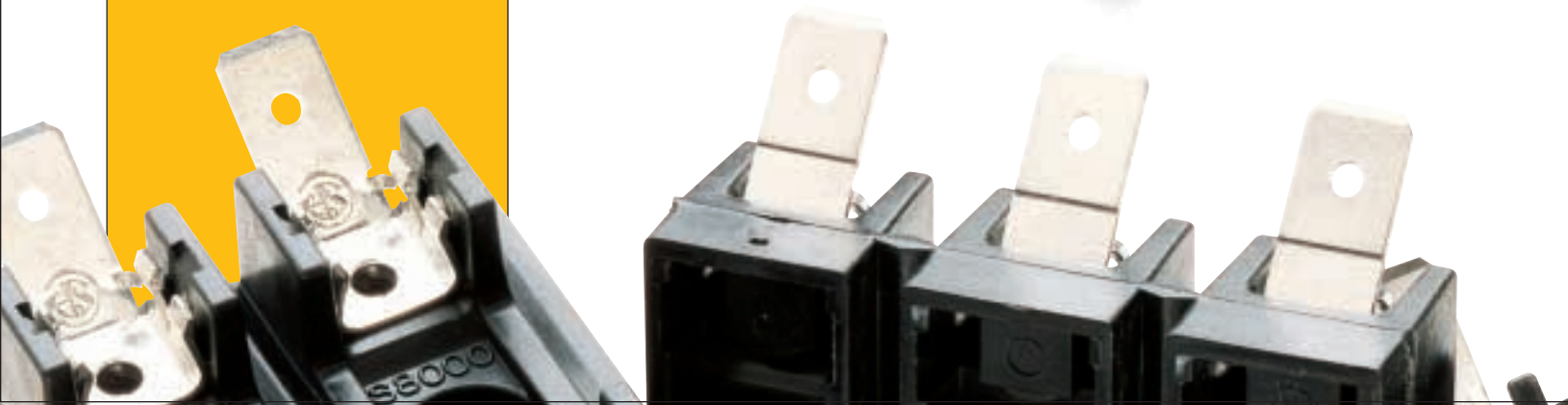
15600 – Fuse panels for blade-type fuses. A single, common power input makes it simple to wire for multiple circuits – each rated to 30 amps, up to 32 volts. Molded of high grade thermoplastic, for superior performance. Quick-connect terminals for easy installation. Recessed fuse contacts provide touch-safe protection.

BP/BAT-TAP – attaches directly to battery terminal, to create three additional circuits.

FUSE PANEL GUIDE

FUSE POSITIONS	CATALOG NUMBERS	
	Short Base	Long Base
6	15600-06-20	15600-06-21
8	15600-08-20	15600-08-21
10	15600-10-20	15600-10-21
12	15600-12-20	15600-12-21

FUSEBLOCK GUIDE

¼" QUICK CONNECT TERMINALS

No. of Poles	Catalog No.	No. of Poles	Catalog No.
1	S-8202-1	7	S-8202-7
2	S-8202-2	8	S-8202-8
3	S-8202-3	9	S-8202-9
4	S-8202-4	10	S-8202-10
5	S-8202-5	12	S-8202-12

SCREW TYPE TERMINALS

| No. of Poles	Catalog No.	No. of Poles	Catalog No.
1	S-8301-1	7	S-8301-7
2	S-8301-2	8	S-8301-8
3	S-8301-3	9	S-8301-9
4	S-8301-4	10	S-8301-10
5	S-8301-5	12	S-8301-12
6	S-8301-6		

**Add BP/ before part number when ordering carded product.
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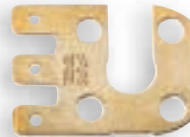The **FT-3** combination fuse tester and fuse puller is designed for easy one-handed use. It tests glass and blade fuses in or out of the fuseblock. This continuity tester is for fuses in circuits up to 24V maximum. Light glows when fuse is good.

Remove automotive fuses quickly and easily with the **FP-A3** fuse puller. The innovative tool design lets you remove or install both blade-type and glass fuses.

Bussmann offers a complete line of flashers for a wide variety of applications. All Bussmann flashers meet SAE standards and other applicable state and federal guidelines.

To select the proper replacement flasher, match these three specifications:

- *Specific vs. Variable load. Specific load flashers are designed to flash only a certain number of lamps. Variable load flashers can handle a range of amperages, such as is required with a trailer in tow.*
- *Lamp capacity. Designates the total number of lamps in the circuit for the left or right directional signal.*
- *Number of terminals. Select either a two or three blade flasher, to match the socket in the panel.*

TROUBLESHOOTING GUIDE

SYMPTOM	SOLUTION
Signal lamps light, but don't flash.	• Check and/or replace flasher.
Signal lamps do not operate on either side of vehicle.	• Check and/or replace fuse.
Both signal lamps are out on one side of vehicle.	• Check for bad lamps. • Check grounding and wiring from turn signal lever.
One signal lamp is out on one side of vehicle.	• Check and/or replace lamp.
Signal lamp flashes too rapidly on one side of vehicle.	• Check and/or replace lamps. • Check whether the proper lamp is installed. (A heavy-duty lamp in a standard circuit will flash too rapidly.)
Signal lamp flashes too slowly on one side of vehicle.	• Check whether the proper lamp is installed. (A standard lamp in a heavy-duty circuit will flash too slowly.)

Flashers and lamps are the source of most problems with directional signals. But many other conditions can cause malfunctions, too: loose or corroded connections; inadequate grounding of the turn signal switch; worn turn signal lever, etc.

NO.552

THERMAL FLASHERS

Thermal design uses heat build-up to flash circuit on and off.

- Features an audible click, alerting driver that a directional signal is engaged.
- Generally used in older model year vehicles.
- Operates correctly under variable load – flashing the designated vehicle lamps only; or additional lamps when a trailer is in tow.
- Does not indicate lamp outage.

NO.550

NO.575
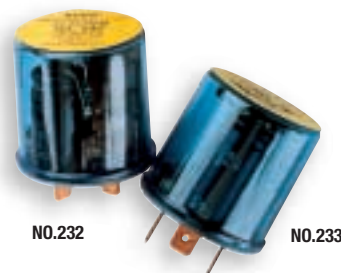
NO.232   NO.233

SUPER HEAVY-DUTY ELECTRONIC FLASHERS

- Provides variable load functionality in heavy-duty applications.
- Replacement flasher for domestic cars, light trucks and vans.
- Electronic design provides superior service life.

HEAVY-DUTY ELECTRONIC FLASHERS

- These flashers rely on electronic circuitry – not heat – to operate. Excellent performance in extreme climates.
- Original equipment on many late-model cars and light trucks – both domestic and imported.
- Direct plug-in replacement. No adapter required.
- Flashes at twice the normal speed to indicate lamp outage, and features an audible click when engaged.
- Electronic design provides superior service life.

NO.760

NO.243

NO.246

NO.244

NO.764

NO.852
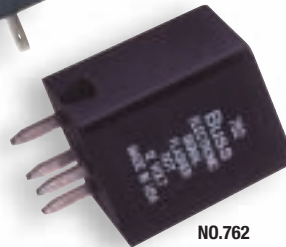
NO.762

THERMAL

Catalog No.	Volts	No. of Terminals	Amps (Max.)	No. of Bulbs
NO.550	12	3	12.8	2-6
NO.552	12	2	12.8	2-6
NO.575	12	2	12.8	1-8

HEAVY-DUTY ELECTRONIC

Catalog No.	Volts	No. of Terminals	Amps (Max.)	No. of Bulbs
NO.243	12	2	25	12
NO.244	12	3	25	12
NO.246	12	3	25	*
NO.756	12	3	12.6	2-6
NO.757	12	3	12.6	2-6
NO.758	12	3	12.6	2-6
NO.759	12	3	12.6	3-6
NO.760	12	3	12.6	2-6
NO.761	12	3	12.6	2-6
NO.762	12	4	12.6	3-6
NO.763	12	2	12	16
NO.764	12	2	12	20
NO.850	12	3	25	10 HZ 5 TS
NO.852	12	2	35	16 HZ 8 TS

SUPER HEAVY-DUTY ELECTRONIC

Catalog No.	Volts	No. of Terminals	Amps (Max.)	No. of Bulbs
NO.232	12	2	20	1-10
NO.233	12	3	20	1-10
NO.234	24	3	20	1-10

*Alternating

Add BP/ before part number when ordering carded product.
Current price sheet lists all BP/ parts that are available.

Make your selling space work harder – with America's best-known name in fuses.

Buss carded fuses are thin – providing almost twice the pack-out on pegboard displays as any other brand.

Easy to planogram, too: all fuse packs come on the same size card (2¾″ × 4¾″). Most popular fuseholders also use the same size card (2¾″ × 5¾″).

Easy to order, just add "BP/" in front of the catalog number.

Buss Fuses ATC-30

Buss Fuses ATM-10 Mini-Fuse

Buss Fuses AGU-10

Buss Fuses MAX-30

5 Fuses ATC-30

2 Fuses AGU-10

BP/AGU-10

BP/ATM-10

BP/MAX-30

CARDED FUSES

Catalog No.	Amp Sizes Available
BP/AGA	2, 3, 5, 7½, 10, 15, 20, 30
BP/AGC	½, ¾, 1, 1½, 2, 2½, 3, 4, 5, 6, 7½,10, 15, 20, 25, 30, 35
BP/AGU	10, 15, 20, 25, 30, 35, 40, 50, 60
BP/AGW	7½, 15, 20, 30
BP/AGX	20, 25, 30
BP/ATC	1, 2, 3, 4, 5, 7½, 10, 15, 20, 25, 30, 40
BP/ATM	2, 3, 4, 5, 7½, 10, 15, 20, 25, 30
BP/GBC	5, 8, 15, 16, 25
BP/MAX	20, 30, 40, 50, 60, 70, 80
BP/SFE	4, 6, 7½, 9, 14, 20, 30

CONVENIENCE ASSORTMENTS

Catalog No.	Qty.	Contents
BP/AGA-AH	AGA – 10, 15, 20(2), 30(2)	
BP/AGA-AL	AGA – 1, 2, 3, 5(2), 7½	
BP/AGW-A	AGW – 7½, 15(2), 20(2), 30	
BP/AGX-A	AGX – 20(2), 25(2), 30(2)	
BP/SFE-AH	SFE – 14(2), 20(2), 30	
BP/SFE-AL	SFE – 4, 6 7½(2), 9(2)	

Bold, high-impact package graphics stand out on the shelf: Bussmann's signature colors – bright yellow and black – catch the eye and generate impulse sales.

The new "blisterless" card is environmentally-friendly. It's the fuse category's only 100% biodegradable package.

Minimize handling costs – self-service selection instructions are printed on every card.

Build impulse sales with fuse kits. A great way to remind consumers to keep spare fuses on hand.

Use kits to merchandise multiple locations in your store – to generate new sales and profits from unused selling space.

Buss Fuses

Emergency Blade Type Fuse Kit
With FP-A3 Fusepuller

6 Fuse Assortment

8 Fuse Assortment

Buss Fuses

Emergency Mini Fuse Kit
With FP-A3 Fusepuller

Buss Fuses

Emergency Fuse Kit
With FP-A3 Fusepuller
American Cars

6 Fuse Assortment

ATM Automotive Diagnostic Kit
Catalog No. DIA-2

Buss Fuses

Buss

FUSE KITS AND ASSORTMENTS

Emergency Fuse Kits with Fuse Puller

Catalog No.	Contents
AT-7	Blade Type ATC-5, 10, 15, 20, 25, & 30
DIA-1	ATC Diagnostic Kit ATC-5, 10, 15, 20, 25, 30 & FT-3 combination fuse tester/puller
DIA-2	ATM Diagnostic Kit ATM-2, 5, 7½, 10, 15, 20, 25, 30 & FT-3 combination fuse tester/puller
EK-7	American Car AGC-5, 15 & 30; SFE-9, 14, & 20
KB-7	British Car AGC-7½, 15, 20, 25, & 30
KG-7	German Type GBC-5, 8(2), 16, & 25
KJ-7	Japanese Car Glass AGC-5, 10, 15, 20, & 30
KJA-7	Japanese Car Blade ATC-5, 7½, 10, 15, 20, & 30
KM-9	Blade Type ATM-2, 5, 7½, 10, 15, 20, 25, & 30
MKA-6	Motorcycle Blade ATC-5, 7½, 10, 15, & 20
MKG-7	Motorcycle Glass AGX-5, 8(2), 10, 15, & 20

Fuse Assortments

Catalog No.	Contents
AK-6	Blade Type ATC-5, 10, 15, 20, 25, & 30
CB-5	Car Phone & Mobile Entertainment AGC-1½, 2(2), 2½, & 3
EF-5	Electric Fence AGC-1
HEF-1	Cellular Phones, Electronic Equipment and Stereos AGC-1(2), AGC-2, AGC-3(2)
HEF-2	Personal Computers and Peripherals MDL-½, 1, 2; GDC-1, 2
KE-5	British Car AGC-7½, 15, 20, 25, & 30
KG-5	German Type GBC-5, 8(2), 16, & 25
KJ-5	Japanese Car Glass AGC-5, 10, 15, 20, & 30
KJA-6	Japanese Car Blade ATC-5, 7½, 10, 15, 20, & 30
KM-8	Blade Type ATM-2, 5, 7½, 10, 15, 20, 25, & 30
MKA-5	Motorcycle Blade ATC-5, 7½, 10, 15, & 20
MKG-6	Motorcycle Glass AGX-5, 8(2), 10, 15, & 20
UK-6	American Car AGC-5, 15 & 30, SFE-9, 14, & 20

Increase the "total ring" on your fuse assortment sales – with Bussmann large-count fuse packages.

Bussmann Retail Assortments are great for small shops, do-it-yourself mechanics – or for stocking commercial/service vehicles.

NO.43

BUSS BONUS PACKS

- Contains 42 blade type fuses -- seven each of the six most popular fuses from 5 to 30 amps.
- Fuses are loose-packed for easy access in reclosable heavy-duty clamshell package.
- Also included: FT-3 combination fuse tester/fuse puller.

NO.43 Contents: 7 each ATM-5, 10, 15, 20, 25 & 30

NO.44 Contents: 7 each ATC-5, 10, 15, 20, 25 & 30

NO.80 BUSS SUPER VALUE PACK (not shown)

- Contains 80 ATC blade type fuses – ten each of the eight most popular fuses, from 3 to 30 amps.
- Fuses are loose-packed for easy access – and extra value. Reclosable, heavy-duty clamshell package stores easily in tool boxes.

NO.44

BUSS VALUE PACKS

- Each pack contains loose-packed fuses of a single amperage (quantities listed in chart).
- Value Packs available for all the most popular amperages.
- Easy to display pegboard-mountable.
- Resealable Package – great for mobile technicians or small-shop customers.

AK-12

KM-12

DISPLAY CONTENTS

AK-12		VP/AGA	
Catalog No.	Fuses	Catalog No.	Fuses
ATC-5	2	VP/AGA-3	25
ATC-10	2	VP/AGA-5	25
ATC-15	2	VP/AGA-6	25
ATC-20	2	VP/AGA-7$\frac{1}{2}$	25
ATC-25	2		
ATC-30	2	VP/AGC	
1/64 Scale		Catalog No.	Fuses
Car	1	VP/AGC-1	25

KM-12		VP/AGC-2	25
		VP/AGC-3	25
Catalog No.	Fuses	VP/AGC-5	25
ATM-5	2	VP/AGC-6	25
ATM-10	2	VP/AGC-7$\frac{1}{2}$	25
ATM-15	2	VP/AGC-10	25
ATM-20	2	VP/AGC-15	25
ATM-25	2	VP/AGC-20	25
ATM-30	2	VP/AGC-25	25
1/64 Scale		VP/AGC-30	25
Truck	1	VP/AGC-35	25

NO.43		VP/ATC	
Catalog No.	Fuses	Catalog No.	Fuses
ATM-5	7	VP/ATC-3	25
ATM-10	7	VP/ATC-4	25
ATM-15	7	VP/ATC-5	25
ATM-20	7	VP/ATC-7$\frac{1}{2}$	25
ATM-25	7	VP/ATC-10	25
ATM-30	7	VP/ATC-15	25
FT-3	1	VP/ATC-20	25

NO.44		VP/ATC-25	25
		VP/ATC-30	25
Catalog No.	Fuses	VP/ATC-40	25
ATC-5	7		
ATC-10	7	VP/ATM	
ATC-15	7	Catalog No.	Fuses
ATC-20	7	VP/ATM-2	25
ATC-25	7	VP/ATM-3	25
ATC-30	7	VP/ATM-4	25
FT-3	1	VP/ATM-5	25
		VP/ATM-7$\frac{1}{2}$	25
NO.80		VP/ATM-10	25
		VP/ATM-15	25
Catalog No.	Fuses	VP/ATM-20	25
ATC-3	10	VP/ATM-25	25
ATC-5	10	VP/ATM-30	25
ATC-7$\frac{1}{2}$	10		
ATC-10	10	VP/GBC	
ATC-15	10	Catalog No.	Fuses
ATC-20	10	VP/GBC-5	25
ATC-25	10	VP/GBC-8	25
ATC-30	10	VP/GBC-16	25
		VP/GBC-25	25

VP/MAX	
Catalog No.	Fuses
VP/MAX-20	5
VP/MAX-30	5
VP/MAX-40	5
VP/MAX-50	5
VP/MAX-60	5

VP/SFE	
Catalog No.	Fuses
VP/SFE-14	25
VP/SFE-20	25
VP/SFE-30	25

Put unused counter space to work...or turn empty shelf space into a profit generator with an attractive, eye-catching Automotive Fuse Display from Bussmann. These displays feature bright header graphics. Automotive Fuse Displays are available in three styles, each complete with a best-selling fuse assortment.

AFR-100

AFR-100 designed for use on pegboard or slotted in H-type pallet racks.

Buss Fuse Center Automotive

AFR-150

AFR-150 freestanding or wall mountable display complete with header card.

DISPLAY CONTENTS

POG-25		AFR-100	
Catalog No.	Cards	Catalog No.	Cards
AK-6	5	UK-6	10
UK-6	5	AK-6	10
KG-5	5	KM-8	10
KJ-5	5	BP/AGC-20	10
KM-8	5	BP/AGC-30	10
BP/AGC-3	5	BP/ATC-10	10
BP/AGC-10	5	BP/ATC-15	10
BP/AGC-15	5	BP/ATC-20	10
BP/AGC-20	5	BP/ATC-25	10
BP/AGC-25	5	BP/ATC-30	10
BP/AGC-30	5		
BP/ATC-3	5	**AFR-150**	
BP/ATC-4	5		
BP/ATC-5	5	Catalog No.	Cards
BP/ATC-7½	5	AK-6	10
BP/ATC-10	5	UK-6	10
BP/ATC-15	5	KJ-5	10
BP/ATC-20	5	KM-8	10
BP/ATC-25	5	BP/AGC-10	10
BP/ATC-30	5	BP/AGC-15	10
BP/FP-A3	5	BP/AGC-20	10
BP/HHD	5	BP/AGC-25	10
BP/HHM	5	BP/AGC-30	10
BP/HMK	5	BP/ATC-10	10
BP/SFE-20	5	BP/ATC-15	10
Selection Guide	1	BP/ATC-20	10
		BP/ATC-25	10
		BP/ATC-30	10
		BP/FP-A3	10

POG-25

Build your fuse profits with high-impact planogram merchandiser. Bold, dynamic graphics will get your fuse inventory noticed – and drive impulse sales.

Planogram provided free with merchandiser to help you create the most profitable fuse inventory for your store.

Turn any pegboard or shelf into a profit-building professional fuse center—with interlocking tilt-bin sets from Bussmann. Bin rows are stocked with assortments of the fastest-selling fuses, holders and accessories. Transparent, tilt-out bins make selection a snap, and lets you check inventory at a glance. Order the complete Fuse Center unit – or any combination of bin rows.

Reload part numbers are available for AFC-225, NO.225 and NO.227. The reloads are packed in a polybag labeled with the part number and UPC code.

Bins can be stacked in any combination so you can modify your display to fit your customer's needs.

AFC-225

NO.225

NO.227

AFC-90

NO.235

TEFC

NO.236

Reload packages are a convenient method to refill tilt bins.

All seven units stacked together provide a complete fuse selection for the automotive repair technician. Bins interlock and can be wall mountable. Order header card separately – Catalog No. 1A9965.

BIN DISPLAYS

AFC-90	2 bin sets containing an assortment of MAX-20, 30, 40, 50, 60; FLB-30, 40, 60, 80, 100; FLF-20, 30, 40, 60; FLM-30, 60, 80, 100
AFC-225	25 each glass type fuses, (AGC-5, 10, 15, 20, 25 & 30; SFE-14, 20 & 30)
NO. 225	25 each ATC blade type fuses 3, 4, 5, 7½, 10, 15, 20, 25 & 30
NO. 227	10 each ATM blade type fuses 2, 3, 5, 7½, 10, 15, 20, 25 & 30
NO. 235	5 each CBB-30, CBF-20, CBF-30, UCB-10, UCB-15, UCB-20, UCB-25, UCB-30 2 each CBC-30B
NO. 236	5 each HHB, HHD, HHG, HHM, HHN, HMK
TEFC	3 each NO.232 and NO.233; 5 each NO.550 and NO.575; 10 each NO.552

25 COUNT RELOAD PACKAGES

ATC-*(AMP)* RLD	3 to 30 amps
AGC-*(AMP)* RLD	5 to 30 amps
SFE-*(AMP)* RLD	14, 20 and 30 amps

10 COUNT RELOAD PACKAGES

ATM-*(AMP)* RLD	2 to 30 amps

To refill AFC-90, order standard pack MAX fuse and FL catalog numbers.

To refill NO.235, NO.236 and TEFC, order standard carton quantities.

Make the most of your selling space with compact, eye-catching Fuse Assortment displays.

Sturdy, serviceable displays make it easy to merchandise an assortment of automotive fuses.

Display rack slots are labeled – to make reordering easy.

Stocked with fast-moving fuse part numbers – to produce attractive inventory turns.

The sturdy one piece (no assembly required) rack comes free with all Buss display stands.

NO.150 ATM FUSES
20 Tins (100 fuses)
ATM starter display assortment includes all amps and plenty of room for expansion. Comes complete with inventory/reorder feature.

NO.245 MAX FUSES
12 Tins (12 fuses)
Max wiring harness starter display with slots available for growth. Comes complete with inventory/reorder feature.

NO.500 GLASS TUBE AND BLADE-TYPE ASSORTMENT
100 Tins (480 fuses)
A complete and well-balanced stock. Meets every service need for American and foreign cars and trucks, new and old. Comes complete with inventory/reorder feature.

DISPLAY CONTENTS

NO.104				NO.245			
	TINS		TINS		TINS		TINS
ATC-3	1	ATC-15	2	MAX-20	1	MAX-50	2
ATC-4	1	ATC-20	6	MAX-30	2	MAX-60	2
ATC-5	1	ATC-25	3	MAX-40	5		
ATC-7½	1	ATC-30	3				
ATC-10	2						

NO.500			
	TINS		TINS
AGA-5	1	ATC-30	7
AGA-20	1	ATM-2	1
AGC-1	1	ATM-3	1
AGC-2	1	ATM-4	1
AGC-3	2	ATM-5	1
AGC-4	1	ATM-7½	1
AGC-5	2	ATM-10	1
AGC-7½	1	ATM-15	1
AGC-10	2	ATM-20	1
AGC-15	2	ATM-25	1
AGC-20	6	ATM-30	1
AGC-25	2	GBC-8	1
AGC-30	7	GBC-16	1
AGC-35	1	GBC-25	1
AGW-15	1	MAX-20	1
AGW-20	1	MAX-30	1
AGX-20	1	MAX-40	1
AGX-30	1	MAX-50	1
ATC-3	1	MAX-60	1
ATC-4	1	SFE-4	1
ATC-5	2	SFE-6	1
ATC-7½	1	SFE-7½	1
ATC-10	5	SFE-9	1
ATC-15	7	SFE-14	1
ATC-20	8	SFE-20	6
ATC-25	4	SFE-30	1

NO.150			
	TINS		TINS
ATM-2	1	ATM-10	5
ATM-3	1	ATM-15	3
ATM-4	1	ATM-20	3
ATM-5	1	ATM-25	2
ATM-7½	2	ATM-30	1

NO.200			
	TINS		TINS
AGC-1	1	ATM-2	1
AGC-2	1	ATM-3	1
AGC-3	1	ATM-4	1
AGC-5	1	ATM-5	1
AGC-7½	1	ATM-7½	1
AGC-10	1	ATM-10	1
AGC-15	1	ATM-15	1
AGC-20	1	ATM-20	1
AGC-25	1	ATM-25	1
AGC-30	1	ATM-30	1
ATC-3	1	GBC-8	1
ATC-4	1	MAX-20	1
ATC-5	1	MAX-30	1
ATC-7½	1	MAX-40	2
ATC-10	1	MAX-50	1
ATC-15	1	MAX-60	2
ATC-20	2	SFE-14	1
ATC-25	1	SFE-20	1
ATC-30	1		

NO.204			
	TINS		TINS
ATC-3	3	ATC-15	2
ATC-4	2	ATC-20	12
ATC-5	2	ATC-25	8
ATC-7½	2	ATC-30	3
ATC-10	6		

Empty Displays (rack with inventory strips) are available. Order: EMPTY-NO.200 EMPTY-NO.500

NO.104 ATC FUSES
20 Tins (100 fuses)
ATC starter display has assortment of most popular amps and offers room for growth and expansion. Comes complete with inventory/reorder feature.

NO.200 GLASS TUBE AND BLADE-TYPE FUSES
40 Tins (172 fuses)
The most popular display stand offers a variety of glass and blade fuses for every service need. Inventory/reorder feature.

NO.204 ATC FUSES
40 Tins (200 fuses)
Complete assortment of fuses. Comes complete with inventory/reorder feature.

Bussmann Box Fuse Assortments provide the perfect inventory solution for service vans, auto repair shops, oil & lube shops and more.

Durable, plastic boxes are great for tool boxes, or under-the-counter storage.

Choose from a variety of boxed fuse assortments, each packed with fast-moving fuse part numbers – so you'll always have the replacement fuse you need.
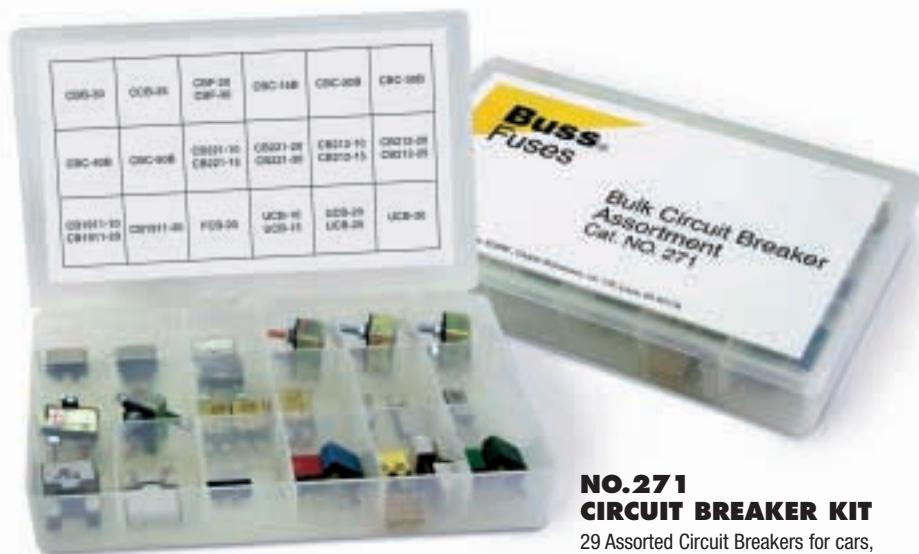
NO. 271
CIRCUIT BREAKER KIT
29 Assorted Circuit Breakers for cars, light trucks and heavy-duty vehicles. Packaged in 18 cavity shatter-resistant plastic box with selection guide on inside lid.

NO. 45
FUSIBLE LINK KIT
16 Assorted Fusible Links for wiring harness protection. Comes in clear plastic display box with selection guide on inside lid.

NO. 160BK
ATC BULK DISPLAY
Selection of 160 ATC blade fuses. Fuses are loosely packed in a 12 cavity, shatter-resistant plastic box.

NO. 95BK ATC & ATM BULK DISPLAY
Selection of 95 ATC and ATM blade fuses. Fuses are packed loosely in a 12 cavity, shatter-resistant plastic box.

NO. 100BK
ATC BULK DISPLAY
Selection of 100 ATC blade fuses. Fuses are loosely packed in a 12 cavity, shatter-resistant plastic box.

NO.271HD
HEAVY DUTY
CIRCUIT BREAKER KIT

28 Assorted Circuit Breaker Kit used by heavy duty repair technicians. Packaged in sturdy plastic case with hinged lid, handle and selection guide on inside lid.

NO.101

20 Tins (100 fuses)
Selection of AGC and SFE. Fuse tins are packed in plastic box with inventory strip on inside lid.

NO.70

18 Tins (66 fuses)
Selection of ATM and MAX fuses. Fuse tins are packed in plastic box with inventory strip on inside lid.

NO.90
ATC FUSES

18 Tins (90 fuses)
Selection of ATC blade fuses. Fuse tins are packed in plastic box with inventory strip on inside lid.

NO.201
GLASS TUBE AND
BLADE-TYPE FUSES

40 Tins (172 fuses)
Selection of most popular glass tube and blade type fuses. Tins are packed in clear plastic service kit.

NO.228, NO.229,
NO.230, N0.231
BULK FUSE ASSORTMENTS

A space-efficient alternative for slower moving fuses. Ideal to supplement tilt bins in service centers or blister cards in retail environments.

DISPLAY CONTENTS

NO.45

FUSES		FUSES	
FLB-40	1	FLF-60	1
FLB-60	1	FLM-80	1
FLB-70	1	FLM-100	1
FLD-80	1	FLS-30	1
FLF-20	1	FLS-40	1
FLF-30	1	FMX-20	1
FLF-40	1	FMX-30	1
FLF-50	1	FMX-40	1

NO.70

TINS		TINS	
ATM-2	1	ATM-25	1
ATM-3	1	ATM-30	2
ATM-4	1	MAX-20	1
ATM-5	1	MAX-30	2
ATM-7½	1	MAX-40	1
ATM-10	1	MAX-50	1
ATM-15	1	MAX-60	1
ATM-20	2		

NO.90

TINS		TINS	
ATC-3	1	ATC-15	2
ATC-4	1	ATC-20	5
ATC-5	1	ATC-25	3
ATC-7½	1	ATC-30	2
ATC-10	2		

NO.95BK

FUSES		FUSES	
ATC-5	5	ATM-5	5
ATC-10	15	ATM-10	5
ATC-15	5	ATM-15	5
ATC-20	15	ATM-20	10
ATC-25	5	ATM-25	5
ATC-30	15	ATM-30	5

NO.100

TINS		TINS	
AGC-2	1	ATC-5	1
AGC-3	1	ATC-10	1
AGC-5	1	ATC-15	1
AGC-10	1	ATC-20	1
AGC-15	1	ATC-25	1
AGC-20	1	ATC-30	1
AGC-25	1	GBC-8	1
AGC-30	1		
AGW-15	1	SFE-14	1
AGW-20	1	SFE-20	1
		SFE-30	1

NO.100BK

FUSES		FUSES	
ATC-1	5	ATC-10	15
ATC-2	5	ATC-15	5
ATC-3	5	ATC-20	15
ATC-4	5	ATC-25	5
ATC-5	15	ATC-30	15
ATC-7½	5	ATC-40	5

NO.101

TINS		TINS	
AGC-3	1	SFE-4	1
AGC-10	1	SFE-9	1
AGC-15	2	SFE-14	2
AGC-20	2	SFE-20	4
AGC-25	2	SFE-30	1
AGC-30	3		

NO.228

FUSES		FUSES	
ATC-3	15	ATM-10	10
ATC-4	15	ATM-15	10
ATC-7½	15	ATM-20	10
ATC-10	15	ATM-25	15
ATC-15	15	ATM-30	15
ATC-20	15	MAX-20	1
ATC-25	15	MAX-30	1
ATC-30	15	MAX-40	1
ATM-3	10	MAX-50	1
ATM-5	10	MAX-60	1
ATM-7½	10		

NO.229

FUSES		FUSES	
AGC-1	25	AGC-25	25
AGC-2	25	AGC-30	25
AGC-3	25	AGW-15	15
AGC-4	25	AGW-20	15
AGC-5	25		
AGC-7½	25	GBC-8	15
AGC-10	25	GBC-16	15
AGC-15	25	SFE-14	15
AGC-20	25	SFE-20	15
		SFE-30	15

NO.230

FUSES		FUSES	
AGA-3	10	ATM-2	10
AGA-20	10	ATM-3	10
AGC-6	10	ATM-4	10
AGC-8	10	GBC-25	10
AGC-35	10	SFE-4	10
AGC-40	10	SFE-6	10
AGW-30	10	SFE-7½	10
AGX-2	10	SFE-9	10
AGX-20	10		
AGX-30	10		

NO.231

FUSES		FUSES	
AGC-1	10	AGX-2	10
AGC-2	10	AGX-20	10
AGC-3	10	AGX-30	10
AGC-4	10	GBC-8	10
AGC-7½	10	GBC-16	10
AGW-15	10	GBC-25	10
AGW-20	10	SFE-4	10
AGW-30	10	SFE-6	10
AGX-2	10	SFE-7½	10
AGX-20	10	SFE-9	10
AGX-30	10		

NO.271

FUSES		FUSES	
CB1911-10	1	CBC-20B	1
CB1911-20	1	CBC-30B	1
CB1911-30	1	CBC-40B	1
CB212-10	1	CBC-50B	1
CB212-15	1	CBF-20	1
CB212-20	1	CBF-30	1
CB212-25	1	CCB-25	1
CB221-10	1	FCB-20	1
CB221-15	1	UCB-10	1
CB221-20	1	UCB-15	1
CB221-30	1	UCB-20	2
CBB-30	1	UCB-25	2
CBC-15B	1	UCB-30	2

NO.271HD

FUSES		FUSES	
CB185-100	1	CB223-30	1
CB211-20	1	CB1911-10	1
CB211-30	1	CB1911-15	1
CB212-10	1	CB1911-20	1
CB212-15	1	CB1911-30	1
CB212-20	1	CB1921-10	1
CB212-25	1	CB1921-15	1
CB212-30	1	CB1921-20	1
CB221-20	1	CB1921-25	1
CB221-30	1	CBC-10HB	1
CB222-10	1	CBC-15HB	1
CB222-15	1	CBC-20HB	1
CB223-10	1	CBC-30HB	1
CB223-20	1	CBC-40HB	1

NO.160BK

FUSES		FUSES	
ATC-3	10	ATC-15	15
ATC-4	10	ATC-20	30
ATC-5	15	ATC-25	15
ATC-7½	10	ATC-30	30
ATC-10	15	ATC-40	10

NO.201

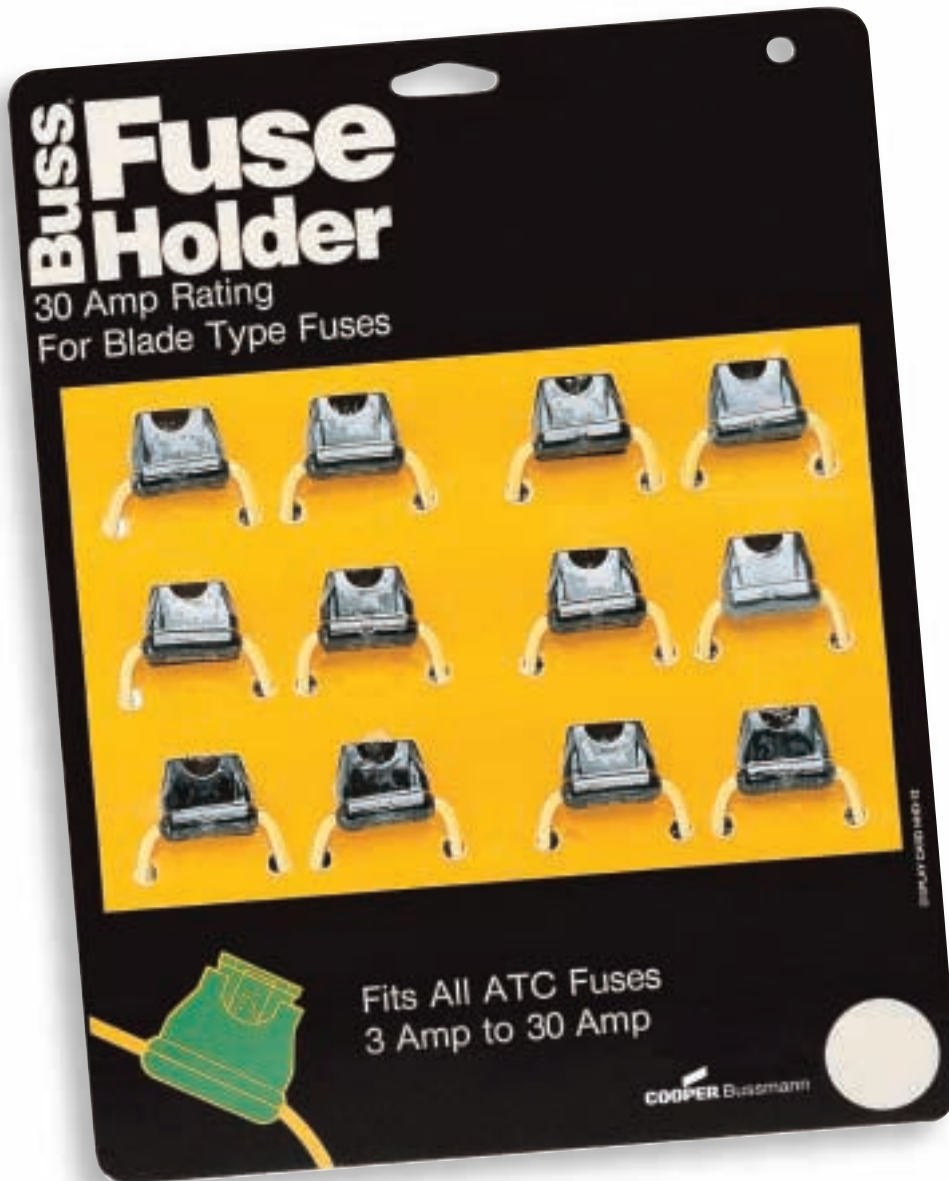| TINS		TINS	
AGC-1	1	ATM-2	1
AGC-2	1	ATM-3	1
AGC-3	1	ATM-4	1
AGC-5	1	ATM-5	1
AGC-7½	1	ATM-7½	1
AGC-10	1	ATM-10	1
AGC-15	1	ATM-15	1
AGC-20	1	ATM-20	1
AGC-25	1	ATM-25	1
AGC-30	1	ATM-30	1
ATC-3	1	GBC-8	1
ATC-4	1		
ATC-5	1	MAX-20	1
ATC-7½	1	MAX-30	1
ATC-10	1	MAX-40	2
ATC-15	1	MAX-50	1
ATC-20	2	MAX-60	2
ATC-25	1	SFE-14	1
ATC-30	1	SFE-20	1

Empty Box Assortment (with inventory strips) is available. Order: EMPTY-NO.201.

A Buss Service Center Assortment is the perfect companion for every auto mechanic's tool chest. It's designed with the professional's needs in mind: hundreds of fuses in various types and ratings, plus handy accessories like fuseholders, a fuse puller and a fuse tester. Sturdy, lockable hinged box comes complete with an inventory label, to simplify selection and reordering.

SCA – a 485-piece assortment, including glass and blade fuses, in-line fuseholders, flashers, fusible links, circuit breakers, fuse puller and fuse tester.

SCA-HD – a 417-piece heavy duty assortment, including glass and blade fuses, in-line fuseholders, flashers and circuit breakers.

SCA CONTENTS

Catalog No.	Qty.	Catalog No.	Qty.
AGC-5	15	FLF-30	2
AGC-10	15	FLF-60	2
AGC-15	15	FLM-120	2
AGC-20	25	FP-A3	1
AGC-25	15	FT-2	1
AGC-30	15	HHG	2
ATC-3	10	HHK	2
ATC-5	10	HHM	2
ATC-7½	10	HHN	2
ATC-10	25	MAX-20	2
ATC-15	25	MAX-30	2
ATC-20	50	MAX-40	2
ATC-25	25	MAX-50	2
ATC-30	25	MAX-60	2
ATM-3	15	NO.232	2
ATM-5	15	NO.552	2
ATM-7½	15	SFE-14	15
ATM-10	15	SFE-20	25
ATM-15	15	UCB-6	2
ATM-20	15	UCB-10	2
ATM-25	15	UCB-15	2
ATM-30	15	UCB-20	2
CBB-30	1	UCB-25	2
CBC-20B	1	UCB-30	2
CBC-30B	1		

SCA-HD CONTENTS

Catalog No.	Qty.	Catalog No.	Qty.
CBC-10B	2	ATC-25	25
CBC-15B	2	ATC-30	25
CBC-20B	2	AGU-15	10
AGA-15	15	HHG	3
AGA-20	15	HHN	3
AGA-30	15	HRK	2
AGC-1	15	MAX-20	2
AGC-1½	15	MAX-30	2
AGC-4	15	MAX-40	2
AGC-10	15	MAX-50	2
AGC-15	15	MAX-60	2
AGC-20	25	NO.232	2
AGC-25	15	NO.233	2
AGC-30	15	NO.550	2
AGC-35	15	NO.552	4
AGX-30	15	UCB-10	2
ATC-5	10	UCB-15	2
ATC-10	25	UCB-20	2
ATC-15	25	UCB-30	2
ATC-20	30		

DISPLAY CARD CONTENTS

Cat No.	Card Includes
HHD-12	12 Type HHD Holders (Fuses not included)
NO.12	6 HRJ Holders with SFE-20 fuses 4 HRI Holders with SFE-14 fuses 2 HRH Holders with SFE-9 fuses
NO.14	12 Type HMJ Holders (Fuses not included)
NO.16	12 Type HRK Holders (Fuses not included)
NO.18	12 Type HMK Holders (Fuses not included)
NO.26	12 Type HHC Holders (Fuses not included)

HHD-12

DISPLAY CARD CONTENTS

The easy, hassle-free way to set up a fuse shop in any retail outlet – convenience stores, service stations, automotive supply.

Top-selling fuse assortments and accessories are merchandised on sturdy display cards – to turn any pegboard into extra fuse profits.

No matter what the job, Bussmann has a product to make it easier to handle. We offer the industry's broadest range of circuit protection devices and accessories, including the components you need for those unusual applications – trucks, RVs, buses and older model cars.

BP/MEM-2 Antizap® auto computer surge protector. Protect vehicle's electronics from transient voltage spikes or surges with this on-board surge protector. As voltage spikes pass through the unit, they are "clipped" immediately to a level that is safe for the vehicle's electronics, thereby preventing any possible damage. It fits all 12V cars, boats, trucks and RVs.

BP/MEM-3 Automotive computer memory unit prevents memory loss on digital clocks, radios, telephones and trip computers when battery is disconnected. Attach to 12V battery.

BP/C5237 Designed for trucks, RVs and wiring accessories — Bussmann stud type junction blocks, **BP/C5237-3BC, BP/C5237-6BC** and **BP/C5237-8BC** are available in 3, 6 and 8 terminal configurations. Rated for applications to 30A, 600V.

BP/MEM-1 Prevents memory loss on clocks, radios, phones and computers when battery is disconnected. Attach to 9V battery (not included), and insert into lighter socket.

BP/SP-1 Surge protector jumper cable upgrade kit for automotive and marine applications. Can be used for cables up to 3 gauge.

BP/BMS-1 Top post anti-theft battery master switch kit. Complete with HHM fuseholder and ATM-20 fuse, ring terminals and stainless steel bolt and wing nut. **BP/BMS-2** Side post for GM vehicles. Complete with HHM fuseholder and ATM-20 fuse and ring terminals.

JB3816-2 Non-feed through stud type junction block #³⁄₈-16 thread/stud size, 250 amps max.

C1938 Feed-through stud type junction block #³⁄₈-16 thread/stud size, 250 amps max.

HIGH-AMP BREAKERS

CB181F	Type I flush mount breaker with sems nut installed. Amps available – 60, 70, 80 90, 100, 110, 120, 135 & 150
CB181P	Type I panel mount breaker with sems nut installed. Amps available – 60, 70, 80, 90, 100, 110, 135 & 150
CB184F	Type III manual resettable flush mount breaker with sems nut installed. Amps available – 60, 70, 80, 90, 100, 110, 120, 135 & 150
CB184P	Type III manual resettable panel mount breaker with sems nut installed. Amps available – 60, 70, 80, 90, 100, 110, 120, 135 & 150
CB185	Type III switchable manual reset breaker flush mount with sems nut installed. Amps available – 50, 60, 70, 80, 90, 100, 110, 120, 135 & 150
CB185P	Type III switchable manual reset breaker panel mount with sems nut installed. Amps available – 25, 40, 50, 60, 70, 80, 90, 100, 110, 120, 135 & 150

Add BP/ before part number when ordering carded product.
Current price sheet lists all BP/ parts that are available.

HIGH-AMP CIRCUIT BREAKERS

These high-amp, Type III circuit breakers are typically used in auxiliary and accessory circuits for trucks, buses, RVs and marine applications.

High-amp circuit breakers also have applications in battery charger systems and DC audio systems. Offered in flush mount or panel mount (see chart for amps available).

CB181 is Type I and same size except without reset lever.

CB181F

CB185P

CB185

BATTERY DISCONNECT SWITCH

15968-1 Heavy-duty switch is designed to open the circuit between the battery and the electrical load of a battery powered system – typically in large truck applications.

The switch is rated at 50 VAC or VDC max, 400A continuous. It can withstand cranking or surge currents up to 2000A for a maximum of 5 seconds.

Wiring harness circuit protection products are usually found under the hood, in a fuse panel or supplementary panel near the battery.

Tap into an existing circuit to power a cellular phone, stereo components, etc. with the new Buss Tapper accessories. **BP/ATC-TAP** fits over the leg of any ATC blade fuse. **BP/ATM-TAP** fits ATM fuse applications. Crimp-on connector attaches easily to the power lead for electronic gear. Tappers sold in 5-count blister card packages. The **BP/ATC-TAPX2** contains two tappers per blister card.

BP/ATC-TAP

BP/ATM-TAP
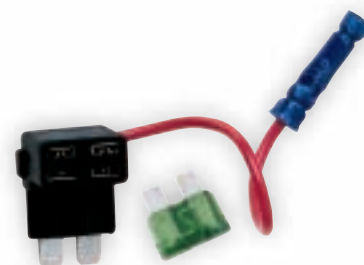
BP/HHA converts an ATC fuse circuit into two fusible circuits. It plugs into the fuseblock, and accepts two fuses to provide protection for the existing circuit and the add-on circuit (10 amp maximum).

UNIVERSAL FUSIBLE LINK KITS

Kit includes 9" length fusible link wire with printed label attached indicating wire gauge numbers, two different ring terminals and crimp connector.

BP/FL-14 contains 14 gauge fusible link wire, one each 3/8" and 5/16" ring terminals and crimp connector.

BP/FL-16 contains 16 gauge fusible link wire, one each 1/4" and 5/16" ring terminals and crimp connector.

BP/FLW-14 contains six foot coil of 14 gauge fusible link wire.

BP/HHH – converts ATM fuse circuit into two fusible circuits. Works like the HHA (10 amp maximum circuit).

The highly-specialized **BP/HL** fusible link is used exclusively for wiring harness protection in Honda Civics.

NO.M200

Most popular marine fuses both fast acting and time delay. Comes complete with inventory/reorder feature. 40 tins 200 fuses

Rack comes free!

NO.108BK

Circuit protection emergency repair kit.

Provides for replacement of fuses and circuit breakers for almost any marine electrical circuit. Sturdy compact reclosable box. A must for commercial marine applications or boating enthusiasts.

MARINE SIDEKICK DISPLAY

Sturdy, self-standing display merchandises a full range fuse center for boating enthusiasts.

Display includes marine fuse kits, fuse pullers, fuseholders—plus fuse protection for electronic instruments, radar and marine sanitary devices.

Display is provided with clips—attaching easily to gondola end-cap, slatwall or pegboard.

MARINE FUSE KITS & ACCESSORIES

BPA-5	Bilge pump and accessory kit. AGC-5, 10, 15, 20, & 30
BP/MDA-8	Replacement fuse for marine TDX system
BP/MDL	½ to 30 – Time-delay fuses for marine motor protection. Two time-delay fuses per card
MA-5	Marine kit, containing five AGC glass fuses, ½, 1, 1½, 2, & 3
MK-6	Marine kit, containing six glass fuses; SFE-9, 14, 20; AGC-10, 15, & 30

NO.108BK

Catalog No.	Qty.	Catalog No.	Qty.
ABC-10	5	AGC-20	15
AGC-1½	5	AGC-25	10
AGC-3	10	AGC-30	15
AGC-7½	10	CBF-30	3
AGC-10	15	GMA-2A	5
AGC-15	10	MDA-8	5

NO.M200

Catalog No.	Qty.	Catalog No.	Qty.
ABC-15	5	AGC-25	10
AGA-20	5	AGC-30	10
AGC-¼	5	ATC-10	5
AGC-½	5	ATC-15	5
AGC-¾	5	ATC-20	5
AGC-1	10	ATC-25	5
AGC-1½	5	ATC-30	5
AGC-2	10	GMA-1	5
AGC-2½	5	GMA-2	5
AGC-3	5	GMA-3	5
AGC-4	5	MDA-8	5
AGC-5	5	SFE-7½	5
AGC-7½	5	SFE-9	5
AGC-10	10	SFE-14	10
AGC-15	10	SFE-20	10
AGC-20	10		

SK/MAR97

Catalog No.	Qty.	Catalog No.	Qty.
MA-5	5	BP/HFB	5
BPA-5	5	BP/HHG	5
BP/MDA-8	5	BP/HKP-HH	5
AT-7	5	BP/HMK	5
CB-5	5	MK-6	10
BP/ABC-15	5		

TERMINAL BLOCKS

TB200-B	20A, 300V; #12 – 22 AWG CU, #6-32 philslot nickel plated brass screws – poles available — 4, 6, 8, 10, & 15
BP/TB200-B	Blister packed poles available – 4, 6, 8 & 10
TB300-B	30A, 600V; #10 – 22 AWG CU, #8-32 philslot nickel plated brass screws — poles available — 4, 6, 8, 10, 12 & 20

JUMPERS

OJ3/J	Slip-on over barrier, 20A, 300V
OJ6/J	Closed over barrier, 30A, 600V
OJ7/J	Closed over barrier, 20A, 300V
OJ11/J	Slip-on over barrier, 30A, 600V

TB200-B

TB300-B

TB200-B Marine double row terminal block with nickel-plated brass screws, 20A, 300V.

TB300-B same as TB200-B, 30A, 600V.

Buss offers a complete line of switches and indicating lights, both for replacement applications and special aftermarket installations. The Buss switch line includes toggle switches, rocker switches, and duck bill toggle switches — all in a variety of styles, colors and finishes. A complete line of modular mounting panels is available, too — to give the job a finished, professional look.
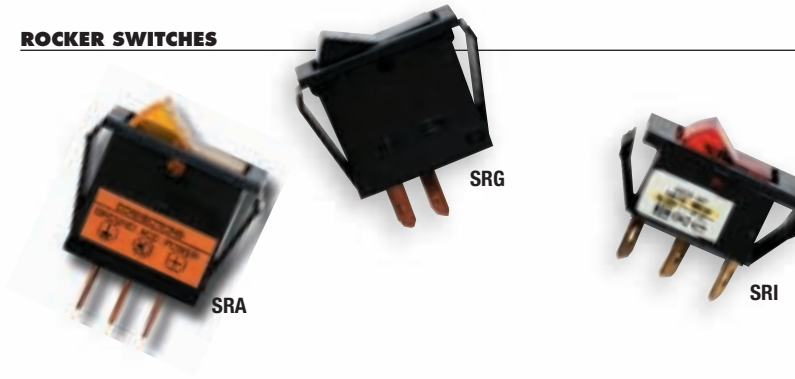
METAL HOUSING TOGGLE SWITCHES

STE

STJ

STS

STK

MOMENTARY TOGGLE SWITCH

STP

INDICATING LIGHT

LR

TOGGLE SWITCHES

STT

STF

STO

STG

SDN

SDC

ROCKER SWITCHES

SRA

SRG

SRI

DUCK BILL TOGGLE SWITCHES

STC

SDB

STN

MOUNTING PANELS

MPR-2

TOGGLE SWITCHES	
BP/STA	ON-OFF Amber Illuminated Lever, 20A, 12V
BP/STR	ON-OFF Red Illuminated Lever, 20A, 12V
BP/STB	ON-OFF Blue Illuminated Lever, 20A, 12V
BP/STG	ON-OFF Green Illuminated Lever, 20A, 12V
BP/STF	ON-OFF-ON 20A, 12V
BP/STO	ON-OFF 20A, 12V
BP/STT	ON-OFF Chrome Lever Red LED, 20A, 12V
BP/SDN	ON-OFF 20A, 12V
BP/SDC	ON-OFF Chrome Lever, 20A, 12V

ROCKER SWITCHES	
BP/SRR	ON-OFF Red Illuminated Lever, 16A, 12V
BP/SRB	ON-OFF Blue Illuminated Lever, 16A, 12V
BP/SRA	ON-OFF Amber Illuminated Lever, 16A, 12V
BP/SRG	ON-OFF Green Illuminated Lever, 16A, 12V
BP/SRI	ON-OFF Red Indicator Lever, 16A, 12V
BP/SRN	ON-OFF 16A, 12V

DUCK BILL TOGGLE SWITCHES	
BP/SDA	ON-OFF Amber Illuminated Lever, 20A, 12V
BP/SDB	ON-OFF Blue Illuminated Lever, 20A, 12V
BP/SDG	ON-OFF Green Illuminated Lever, 20A, 12V
BP/SDR	ON-OFF Red Illuminated Lever, 20A, 12V
BP/STC	ON-OFF Chrome Lever, 20A, 12V
BP/STN	ON-OFF 20A, 12V

MOMENTARY TOGGLE SWITCHES	
BP/STP	FLASH-OFF, 20A, 12V

METAL HOUSING TOGGLE SWITCHES	
BP/STK	ON-OFF-ON Screw Terminals, 15A, 12V
BP/STE	ON-OFF Screw Terminals, 15A, 12V
BP/STJ	ON-OFF Screw Terminals, 25A, 12V
BP/STS	ON-OFF 25A, 12V

MODULAR PANELS	
BP/PS	Rectangular Slot with Clips for more Panels

MOUNTING PANELS FOR ROCKER SWITCHES	
BP/MPR-1	Rectangular Hole for Mounting (1) Switch
BP/MPR-2	Rectangular Hole for Mounting (2) Switches

MOUNTING PANELS FOR TOGGLE SWITCHES	
BP/MPT-1	½″ Round Hole for Mounting (1) Switch
BP/MPT-2	½″ Round Hole for Mounting (2) Switches

INDICATING LIGHTS	
BP/LA	Amber ¼″ QC Terminals, 12V
BP/LB	Blue ¼″ QC Terminals, 12V
BP/LG	Green ¼″ QC Terminals, 12V
BP/LR	Red ¼″ QC Terminals, 12V

Overcurrent devices provide two main purposes in an electrical circuit:

1. To protect components, equipment and associated wiring from costly damage.
2. To isolate sub-systems from the main system once a current fault has occurred.

Fuses and circuit breakers are commonly selected as the preferred overcurrent devices.

FUSES

Fuses are current sensitive devices and selected to be the weakest link in the circuit. Circuit protection is provided when the fuse link melts and safely interrupts the overcurrent demand. The key criteria to judge the performance of a fuse is the time versus current characteristic curve. This curve can be used to match the fuse with the anticipated overcurrent load expected in the application.

THERMAL CIRCUIT BREAKERS

The basic components of a thermal circuit breaker are the composite alloy reed, two precious metal contacts and the interconnecting terminals. When an overcurrent occurs, heat is generated as the current flows through the reed causing the reed to deflect and snap open. This separates the contacts and safely interrupts the current flow. Two important parameters used to judge the performance of thermal circuit breakers are the time versus current characteristic curve, similar to the fuse, along with the speed at which the contacts snap open. The relative speed at which the contacts separate is a measure of the cycle life under electrical loading demands. Cooper Bussmann carefully designs its snap acting reed element to ensure long cycle performance for its products.

TYPES OF OVERCURRENT

Short Circuit: Short circuit is a current condition that greatly exceeds the rating of the device. It is caused when a malfunction or accident creates a break in the normal path allowing electricity to flow directly to ground. This shorter current path bypasses the resistance offered by the circuit components connected in the normal current path. In this situation, there is virtually no resistance to impede the current and the current will build to a level where the heat generated can cause insulation and/or equipment breakdown.

Overload: An overload is an overcurrent that is within the normal current path. Overloads occur when the current exceeds the value for which the equipment or associated wiring is rated. This typically occurs when too many devices are connected to the circuit or when a device connected to the circuit malfunctions. Sustained overloads may slowly cause overheating of the wiring and the components. The circuit protection device must open before these types of overloads cause damage.

SELECTING OVERCURRENT PROTECTION

During normal conditions, an overcurrent protection device must carry the current without nuisance openings. However, when an overload or short circuit occurs, the device must interrupt the overcurrent and withstand the voltage across the device after arcing. To properly select an overcurrent device, the following items must be carefully considered:

Voltage Rating: Represents the maximum system voltage present in the circuit in which the overcurrent device is installed. The system voltage should not exceed this value for proper operation of the device during an overcurrent event.

Current Rating: This is the amperage value marked on the circuit protection device. The circuit protection device is designed to handle this value under steady operating conditions and at ambient temperatures near 25°C. The current rating of the fuse should not exceed the rating of the device.

Characteristics of equipment to be protected/In-rush characteristics: During the operation of protected equipment, system current can significantly vary. This is particularly evident when motor or other inductive loads in the circuit cause large current surges during start-up or shutdown. A time-delay fuse should be used in applications where in-rush currents are possible.

TROUBLESHOOTING TECHNIQUE

Because fuses contain no moving parts, they do not generally fail due to wear-and-tear. When a fuse opens, it's important that you determine what caused the overcurrent situation in the first place. Otherwise, the replacement fuse is likely to open, too — and the circuit still will not function as intended.

Fuses are installed in one or more fuse blocks — which can be located in various locations in the vehicle, depending on its make and model. Typically, fuse panels can be found in the passenger compartment, below the steering wheel; in the engine compartment; or in some cases, in the trunk. See the vehicle owner's manual for the precise location of the fuse block(s).

On most vehicles, each clip in the fuse block will be labeled, to help you identify which circuit the fuse protects (wipers, radio, dome light, etc.). The fuse itself is labeled with an amperage rating, and (in the case of blade fuses) a color coding.

Important: Always replace an open fuse with a new fuse of the same amperage rating and fuse style/dimension. Otherwise, the fuse may not be able to perform its protective function in the circuit. If you are unsure what amperage rating is required for the circuit, check the vehicle owner's manual or the label on the fuse block.

Buss Fuse Promotional Programs

Buss Fuse is the industry leader in innovative and exciting promotions to build your sales. Some of our most recent promotional programs are shown on this page. Contact your Buss Fuse representative for our current promotion. Don't miss the opportunity to build your profit with Buss Fuse promotional programs.