COOPER
Bussmann®

Consumer Aftermarket Product Catalog

Automotive and Hardware/Home Center Circuit Protection Products and Accessories

COOPER Bussmann

The Cooper Bussmann Circuit Protection Advantage

Market Coverage
Innovative Products
Profit-Building Packaging

The Driving Force In Circuit Protection

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 hardware/home center markets and automotive aftermarket. For additional products or technical information, contact your Cooper Bussmann sales representative or our customer satisfaction team at:

- (636) 527-1461
- (636) 527-1477
- Toll-free fax (877) 359-2675

Additional information about these products can be found in the Automotive and Hardware/Home Center Price Sheets.

Cooper Bussmann offers the industry's most complete line of fuses and circuit protection products. Count on Cooper Bussmann for:

Automotive Products

- Blade fuses
- Glass tube fuses
- Fusible links and limiters
- Circuit breakers
- Fuse holders and blocks
- Flashers
- Accessories
- Product displays and assortments

Hardware/Home Center Products

- Plug fuses
- Box cover units
- Cartridge fuses
- Appliance and electronic fuses
- Accessories
- Product assortments

These are the mass-market products that are always in high demand. Plus, we provide a wide range of niche products - for foreign cars, special applications and more.

A leading manufacturer of automotive fuses since 1917, the Cooper Bussmann product line includes all the industry's latest circuit protection products – such as mini- and maxi-style circuit breakers. We've introduced exciting accessories for today's fast growing applications: mobile phones, audio/video equipment and marine, among others.

Cooper Bussmann keeps you on the cutting edge of circuit protection products. We're working with many of today's leading manufacturers to develop innovative products to protect sophisticated equipment and electronics.

Of course, Cooper 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.

About This Catalog

- Only the most common numbers for each product are shown.
- Complete product offerings are contained in the price sheets.
- Full circuit protection product amp ranges are shown in the specification pages 4 to 6.
- For fuses not shown in this catalog, visit www.cooperbussmann.com.

New Automotive Circuit Protection Products

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Circuit Protection Specifications - Fuses

Type	Catalog Symbol	Class	Construction/Size	Volts	Amps	Interrupting Rating	Type	Typical Applications
Blade	ATM / ATM-_ID*	-	Miniature blade fuse	32Vdc	2-30A	1kA	Fast-Acting	Automotive circuits
*easyID™ illuminating version	ATM_LP	-	Low-profile ATM fuse	32Vdc	5-30A	1kA	Fast-Acting	Automotive circuits
	ATC / ATC-_ID*	-	Blade fuse	32Vdc	1-40A	1kA	Fast-Acting	Automotive circuits
	MAX / MAX-_ID*	-	Heavy-duty blade fuse	32Vdc	20-80A	1kA	Fast-Acting	Automotive circuits
Glass Tube	ABC	-	1/4" x 1 1/4" Ceramic	250Vac 250Vac 250Vac 250Vac 250Vac 125Vac	1/4-1A 1 1/2-3A 4-10A 12-15A 20A 25-30A	35A 100A 200A 750A 400A 1kA	Fast-Acting	Appliances and consumer electronics
	AGA	-	1/4" x 5/8"	125Vac 125Vac 32Vac	1-1 1/2A 2-5A 6-30A	10kA 200A 1kA	Fast-Acting	Automotive circuits
	AGC	-	1/4" x 1 1/4"	250Vac 250Vac 250Vac 32Vac 32Vac 32Vac	1/20-1A 1 1/4-3A 4-10A 12-30A 35A 40A	35A 100A 200A 1kA 70A 80A	Fast-Acting	Appliances and consumer electronics
	AGU AGU-(amp)GP	Midget	Glass tube ferrule 13/32" x 1 1/2"	250Vac 32Vac	1-3A 4-60A	10kA 10kA	Fast-Acting	Appliances and consumer electronics
	AGW	-	1/4" x 7/8"	32Vac	1-30A	-	Fast-Acting	Automotive circuits
	AGX	-	1/4" x 1"	250Vac 250Vac 125Vac 125Vac 32Vac	1/500-1/2A 3/4-2A 2 1/2-5A 6-7A 8-30A	35A 100A 10kA 1kA 1kA	Fast-Acting	Automotive circuits
	GBB	-	1/4" x 1 1/4" Ceramic	250Vac 125Vac	1-30A 1-15A	200A 10kA	Fast-Acting	Appliances and consumer electronics
	GBC	-	1/4" x 31/32"	32V	5-25A	-	Fast-Acting	German automobiles
	GDA	-	5 x 20mm Ceramic	250Vac	50mA-6.3A	1.5kA	Fast-Acting	Electronic Circuits
	GDB	-	5 x 20mm	250Vac	32mA-16A	35A	Fast-Acting	Electronic Circuits
	GDC	-	5 x 20mm	250Vac	32mA-6.3A	35A	Time-Delay	Electronic Circuits
	GMA	-	5 x 20mm	250Vac 250Vac 125Vac 125Vac 125Vac	32mA-1A 1.2-3A 3.15-6A 7-10A 15A	35A 100A 1kA 200A 150A	Fast-Acting	Appliances and consumer electronics
	GMC	-	5 x 20mm	250Vac 250Vac 125Vac 125Vac	63mA-1A 1.25-3.15A 3.5-6.3A 7-10A	35A 100A 10kA 200A	Time-Delay	Appliances and consumer electronics
	GMD	-	5 x 20mm	250Vac 250Vac	125mA-3A 4A	100A 200A	Time-Delay	Electronic Circuits
	MDA	-	1/4" x 1 1/4" Ceramic	250Vac 250Vac 250Vac 250Vac 125Vac	1/4-1A 1 1/2-2A 2 1/2-10A 12-15A 20-30A	35A 100A 200A 750A 1.5kA	Time-Delay	Appliances and consumer electronics
	MDL	-	1/4" x 1 1/4"	250Vac 250Vac 250Vac 32Vac	1/16-1A 1 1/4-3A 4-8A 9-30A	35A 100A 200A 1kA	Time-Delay	Appliances and consumer electronics
	MDQ	-	1/4" x 1 1/4"	250Vac 250Vac 250Vac 32Vac	1/16-1A 1 1/4-3A 4-7A 8-30A	35A 100A 200A 1kA	Time-Delay	Electronic Relay and Controls
	SFE	-	1/4" x various length	32V	4-30A	-	Fast-Acting	Size-Rejecting for automotive circuits

For product information and Data Sheets, visit www.cooperbussmann.com

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Circuit Protection Specifications - Fuses

Type	Catalog Symbol	Class	Construction/Size	Volts	Amps	Interrupting Rating	Type	Typical Applications
Heavy-Duty	AMG	-	Bolt-in fuse	32Vdc	100-300A	1kA		Automotive circuits, uses HMEG fuse block
	AMI	-	Bolt-in fuse	32Vdc	50-100A	2kA		Automotive circuits, uses HMID fuse block
	CBBF	-	Bolt-in	58Vdc	30-300A	2kA	-	Heavy-Duty and Marine
*easyID™ illuminating version	FMX, FMX_ID* Female Maxi	-	6mm blade on 5.5mm centers	32Vdc	20-60A	1kA	Time-Delay	Automotive circuits
	FMX_LP Low-Profile FMX Fuse	-	Low-profile, 6mm blade on 5.5mm centers	58Vdc	20-60A	1kA @ 32Vdc	Time-Delay	Automotive circuits
Current Limiters	ANN	-	Bolt-in fuse 2.44mm blade centers	125Vac/ 80Vdc	10 to 800A	2.5kA - ac 2.7kA - dc	Very Fast-Acting	Automotive circuits, fork lift trucks, marine, aviation
	ANL	-	Bolt-in fuse 2.44mm blade centers	32Vac/ 80Vdc	35 to 750A	6kA - ac 2.7kA - dc	Non Time-Delay	Automotive circuits, fork lift trucks, marine, aviation
Fusible Links	FLB	-	Bolt-mount	32Vdc	30-140A	10kA	-	Automotive circuits
	FLD	-	Bolt-mount	32Vdc	30-104A	10kA	-	
	FLF	-	Female terminals	32Vdc	20-60A	10kA	-	
	FLM	-	Male terminals	32Vdc	30-120A	10kA	-	
	FLN	-	Fem. terms. w/ lock tab	32Vdc	25-30A	10kA	-	
	FLS	-	Fem. mini terminals	32Vdc	30-40A	10kA	-	
Plug	TL	-	Edison Thread Base	125Vac	15-30A	10kA	Time-Delay	Panels, small motors and inductive loads
	T	-	Edison Thread Base	125Vac	$3/10$-30A	10kA	Heavy-Duty Time-Delay	Panels, small motors and inductive loads
	TC	CSA Type D	Edison Thread Base	125Vac	15-30A	-	Dual-Element Time-Delay	Canadian applications: Panels, small motors and inductive loads
	P	CSA Type P	Edison Thread Base	125Vac	15-30A	-	General Purpose	Canadian applications: Panels, small motors and inductive loads
	SL	-	Rejection Thread Base	125Vac	15-30A	10kA	Time-Delay	Panels, small motors and inductive loads
	S	-	Rejection Thread Base	125Vac	$1/4$-30A	10kA	Heavy-Duty Time-Delay	Panels, small motors and inductive loads
Cartridge	NON	K5 & H	Ferrule Style	250Vac	$1/8$-60A	50kA	General Purpose	Light duty circuits
			Blade Style	250Vac	65-600A	10kA		
	PON	CSA Type P	Ferrule Style	250Vac	1-60A	10kA	General Purpose	Canadian applications: Light duty circuits
			Blade Style	250Vac	70-600A	10kA		
	CDN	CSA Type D	Ferrule Style	250Vac	1-60A	10kA	Gen. Purpose Time-Delay	Canadian applications: Light duty circuits
			Blade Style	250Vac	70-600A	10kA		
	NOS	K5 & H	Ferrule Style	600Vac	1-60A	50kA	General Purpose	Light duty circuits
			Blade Style	600Vac	70-600A	10kA		
**easyID™ indicating version	FRN-R FRN-R_ID**	RK5	Ferrule Style	250Vac	$1/10$-60A	200kA	Time-Delay	Panelboards, motor control centers, machinery disconnects and combination starters
			Blade Style	250Vac	70-600A	200kA		
	FRS-R	RK5	Ferrule Style	600Vac	$1/10$-60A	200kA	Time-Delay	Panelboards, motor control centers, machinery disconnects and combination starters
			Blade Style	600Vac	65-600A	200kA		
	SC	G	$13/32″$ x $1 5/16″$ Ferrule	600Vac	1-6A	100kA	Fast-Acting	Fusible branch panelboards, HVAC
			$13/32″$ x $1 5/16″$ Ferrule	600Vac	7-15A	100kA	Time-Delay	
			$13/32″$ x $1 13/32″$ Ferrule	600Vac	20A	100kA		
			$13/32″$ x $1 5/8″$ Ferrule	480Vac	25-30A	100kA		
			$13/32″$ x $2 1/4″$ Ferrule	480Vac	35-60A	100kA		
	BAF	Midget	$13/32″$ x $1 1/2″$ Ferrule	250Vac	$2/10$-1A	35A	Fast-Acting	125 and 250Vac non-inductive load circuits
				250Vac	$1 1/2$-$2 1/2$A	100A		
				250Vac	3-9A	200A		
				250Vac	10-15A	750A		
				125Vac	20-30A	10kA		

Circuit Protection Specifications - Fuses

Type	Catalog Symbol	Class	Construction/Size	Volts	Amps	Interrupting Rating	Type	Typical Applications
Cartridge	FNM	Midget	$^{13}/_{32}$" x $1^{1}/_{2}$" Ferrule	250Vac 250Vac 250Vac 125Vac	$^{1}/_{10}$-1A $1^{1}/_{8}$-$3^{1}/_{2}$A 4-10A 12-30A	35A 100A 200A 10kA	Time-Delay	General purpose & lighting circuits
	FNQ	Midget	$^{13}/_{32}$" x $1^{1}/_{2}$" Ferrule	500Vac	$^{1}/_{10}$-30A	10kA	Time-Delay	480V Control transformer circuits, lighting circuits
	FNQ-R	CC	$^{13}/_{32}$" x $1^{1}/_{2}$" Ferrule	600Vac	$^{1}/_{4}$-30A	200kA	Time-Delay	Industrial and transformer control and specialized circuits
	KTK	Midget	$^{13}/_{32}$" x $1^{1}/_{2}$" Ferrule	600Vac	$^{1}/_{10}$-30A	100kA	Fast-Acting	Control and meter circuits
	KTK-R	CC	$^{13}/_{32}$" x $1^{1}/_{2}$" Ferrule	600Vac	$^{1}/_{10}$-30A	200kA	Fast-Acting	Industrial control circuits

Circuit Protection Specifications - Circuit Breakers

Size/Type/ Footprint	Catalog Symbol	SAE Type	Construction/Size	Volts	Amps	Interrupting Rating	Reset Type	Typical Applications
ATM	CB211	I	ATM Footprint	14Vdc	7.5-30A	150A	Automatic	Automotive/RV
	CB212	II	ATM Footprint	14Vdc	10-30A	150A	Modified	Automotive/RV
	MMB	I	ATM Footprint	12Vdc	15-20A	300A	Automatic	Automotive/RV
ATC	ACB	I	ATC Footprint		7.5-30A	150A	Automatic	Automotive/RV
	CB221	I	ATC Footprint	14Vdc	10-30A	150A	Automatic	Automotive/RV
	CB222	II	ATC Footprint	12Vdc	7.5-30A	150A	Modified	Automotive/RV
	CB223	III	ATC Footprint	28Vdc	5-30A	150A	Manual	Automotive/RV
	CB227	III	ATC Footprint	28Vdc	25A	2kA	Manual	Automotive/RV
	CCB-25	I	ATC Footprint	-	30A	-	Automatic	Automotive/RV
	CBB-30	II	ATC Footprint	24Vdc	20A	-	Modified	Automotive/RV
	FCB-20	II	ATC Footprint	14.5Vdc	6-30A	-	Modified	Automotive/RV
	UCB	I	ATC Footprint	12Vdc		-	Automatic	Automotive/RV
Maxi	CB1911	I	MAX Footprint	14Vdc	10-50A	150A*	Automatic	Automotive/RV/Marine
	CB1921	II	MAX Footprint	12Vdc	10-30A	150A	Modified	Automotive/RV/Marine
Glass Tube	CBF	II	$^{1}/_{4}$" x $1^{1}/_{4}$"	-	6-40A		Modified	Automotive/RV/Marine
Stud Mount	CB123-(amp)B	III	10-32 Studs 0.69"Ctrs	28Vdc	10-50A	1.5kA**	Manual	RV/Truck/Marine
	CB123-(amp)HB	III	10-32 Studs 0.69"Ctrs	28Vdc	10-50A	1.5kA**	Manual	RV/Truck/Marine
	CBC	I	10-32 Studs 0.69"Ctrs	14Vdc	8-50A	1.5kA	Automatic	RV/Truck/Marine
	CBC-(amp)B	I	10-32 Studs 0.69"Ctrs	14Vdc	8-50A	1.5kA	Automatic	RV/Truck/Marine
	CBC-(amp)BWP	I	10-32 Studs 0.69"Ctrs	12Vdc	20-30A	1.5kA	Automatic	RV/Truck/Marine
	CBC-(amp)HB	I	10-32 Studs 0.69"Ctrs	14Vdc	10-50A	1.5kA	Automatic	RV/Truck/Marine
	CBP-(amp)BA	I	10-32 Studs 0.69"Ctrs	14Vdc	10-50A	1.5kA	Automatic	RV/Truck/Marine
Panel Mount	CB174	III	$^{1}/_{4}$" QC Terminals	250Vac/32Vdc	8-30A	200A	Manual	Automotive/Truck
	CB174B	III	5-32 Screw Terminals.	250Vac/32Vdc	10-40A	200A	Manual	Automotive/Truck
Quick Connect	CBT-(amp)M	II	$^{1}/_{4}$" QC Terminals	-	10-30A	-	Modified	RV/Truck/Marine
	CBT-(amp)N	II	$^{1}/_{4}$" QC Terminals	-	10-30A	-	Modified	RV/Truck/Marine
	CBU-6	I	$^{1}/_{4}$" QC Terminals	-	6A	-	Automatic	RV/Truck/Marine
	CBU-30B	I	$^{1}/_{4}$" QC Terminals	-	30A	-	Automatic	RV/Truck/Marine
High Amp	CB181P	I	Weatherproof, Panel-Mt.	30Vdc	60-150A	3kA	Automatic	RV/Truck/Marine
	CB184F	III	Surface-Mt.$^{1}/_{4}$-35 Stud	48Vdc	25-150A	3kA	Manual	RV/Truck/Marine
	CB185	III	Surface-Mt.$^{1}/_{4}$-35 Stud	48Vdc	25-150A	3kA	Manual	RV/Truck/Marine
	CB185P	III	Panel-Mt.$^{1}/_{4}$-35 Stud	48Vdc	25-150A	3kA	Manual	RV/Truck/Marine
	CB187F	III	Surface-Mt. $^{5}/_{16}$-18 Stud	48Vdc	25-150A	5kA**	Manual	RV/Truck/Marine
	CB187P	III	Panel-Mt. $^{5}/_{16}$-18 Stud	48Vdc	25-150A	5kA**	Manual	RV/Truck/Marine
	CB251	I	Weatherproof, Panel-Mt.	32Vdc	10-50A	2.5kA	Automatic	RV/Truck/Marine
	CB254	III	Weatherproof, Panel-Mt.	32Vdc	10-50A	2.5kA	Manual	RV/Truck/Marine
	CB255	III	Weatherproof, Panel-Mt.	32Vdc	10-50A	2.5kA	Manual	RV/Truck/Marine
Plug Fuse	MB	-	Edison base plug thread	125Vac	15-20A	-	Manual	Residential fuse panels

* Changes with amp range. ** @ 12Vdc.

Package Options

Package Options

In addition to boxed product, Cooper Bussmann makes many of its products available in packaging that is designed for various retail environments and needs. These packaging options do not apply to every product. Check the Cooper Bussmann Price Sheet for availability. Below are explanations of the various packaging options you'll see listed in the product tables of this catalog.

Always consult the price sheet for minimum order quantities and increments.

For package and quantity specifications, visit www.cooperbussmann.com/RetailPackaging.

Blister Pack

Prefix Symbol: BP

This is for carded product that can be placed on a pegboard. It is ordered by adding a prefix to the basic product part number.

Example: To order a blister pack of GMA-1 fuse, specify BP/GMA-1.

Blister pack product is labeled in English with some product also containing Spanish labeling.

Tri-lingual

Prefix Symbol: CP

This packaging is primarily for Canadian retailers where package language requirements are for English, French and Spanish labeling.

This is for carded product that can be placed on a pegboard. It is ordered by adding a prefix to the basic product part number.

Example: To order a tri-lingual blister pack assortment of ATC fuse, specify CP/AK-6.

Value Pack

Prefix Symbol: VP

Value packs are resealable clamshell packages containing loose-packed fuses of a single amp rating. VP packs contain larger quantities of fuses than our standard blister packs, and are ideal for small shops and mobile technicians.

Example: To order a value pack of ATM-5 fuse, specify VP/ATM-5.

Polybag

Suffix Symbol: BC

Residential fuses packed one per bag with a barcode. Designed for use with tilt bins.

Example: To order a polybag ABC-15 fuse, specify ABC-15BC.

Reload

Suffix Symbol: RLD

Bulk fuses packed in a clear polybag with product label and bar code. Designed for reloading product into tilt-bins.

Example: To order a reload of ATM-5 fuse, specify ATM-5RLD.

Reclosable Tins/Traditional Packs

ATM, ATM_LP, ATC and MAX blade fuses and Glass tube fuses are standard packed in a reclosable tin.

Assortments

Designed to be mounted on a peg board, assortments are a handy way to offer customers a variety of ratings that will cover general applications, such as the automotive replacement fuse ratings to keep in the glove box.

easyID™ Illuminating Fuses and Fuse Holders

Special packaging to highlight this exciting new addition to the automotive blade fuse line. Coverage includes all popular ratings of ATM, ATC and MAX blade fuses and illuminating inline fuse holders for ATM and ATC fuses. See page 9 for details.

ATM, ATC® and Maxi® Blade Fuses

The industry standard - used in most domestic and imported cars today. All Cooper Bussmann blade fuses meet or exceed OEM and SAE standards. Cooper Bussmann is a certified OEM supplier of ATC®, ATM and Maxi® (MAX) fuses to car manufacturers.

Blade Fuse Color Codes (Amps)

Color	ATC	ATM	Low-Profile ATM	MAX
Black	1	-		
Gray	2	2		25
Violet	3	3		-
Pink	4	4		-
Tan	5	5	5	70
Brown	7$\frac{1}{2}$	7$\frac{1}{2}$	7$\frac{1}{2}$	35
Red	10	10	10	50
Blue	15	15	15	60
Yellow	20	20	20	20
Clear	25	25	25	80
Green	30	30	30	30
Blue-Green	35	-	-	-
Orange	40	-	-	40

ATM Blade Fuses
See page 9 for easyID™ illuminating versions

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. Cooper Bussmann ATM fuses feature an enclosed element offering protection against shocks and sparks, plus corrosion resistance for longer service life.

Part No. (Amps)	Tradnl. Pack	Reload*	Blister Pack**	Tri-Lingual Blister**	Value Pack***
ATM-2	X	X	X	X	
ATM-3	X	X	X	X	
ATM-4	X		X	X	
ATM-5	X	X	X	X	X
ATM-7$\frac{1}{2}$	X	X	X	X	
ATM-10	X	X	X	X	X
ATM-15	X	X	X	X	X
ATM-20	X	X	X	X	X
ATM-25	X	X	X	X	X
ATM-30	X	X	X	X	X

* 10 Fuses per package.
** 5 Fuses per package.
*** 25 Fuses per package.

Low-Profile ATM Blade Fuses

This is a low profile version of the ATM fuse using the same ratings and universal color-coding as ATM and ATC style fuses.

Part No. (Amps)	Blister Pack*
ATM-2LP	
ATM-3LP	
ATM-4LP	
ATM-5LP	BP/ATM-5LP-RP
ATM-7$\frac{1}{2}$LP	BP/ATM-7$\frac{1}{2}$LP-RP
ATM-10LP	BP/ATM-10LP-RP
ATM-15LP	BP/ATM-15LP-RP
ATM-20LP	BP/ATM-20LP-RP
ATM-25LP	BP/ATM-25LP-RP
ATM-30LP	BP/ATM-30LP-RP

*5 Fuses per package.

ATC® Blade Fuses
See page 9 for easyID™ illuminating versions

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

Part No. (Amps)	Tradnl. Pack	Reload*	Blister Pack**	Tri-Lingual Blister**	Value Pack*
ATC-1	X		X		
ATC-2	X		X	X	
ATC-3	X	X	X	X	
ATC-4	X	X	X	X	
ATC-5	X	X	X	X	X
ATC-7$\frac{1}{2}$	X	X	X	X	X
ATC-10	X	X	X	X	X
ATC-15	X	X	X	X	X
ATC-20	X	X	X	X	X
ATC-25	X	X	X	X	X
ATC-30	X	X	X	X	X
ATC-35	X				
ATC-40	X		X	X	X

* 25 Fuses per package.
** 5 Fuses per package.

Maxi® (MAX) Blade Fuses
See page 9 for easyID™ illuminating versions

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.

Part No. (Amps)	Tradnl. Pack	Blister Pack*	Tri-Lingual Blister*
MAX-20	X	X	X
MAX-25	X		
MAX-30	X	X	X
MAX-35	X		
MAX-40	X	X	X
MAX-50	X	X	X
MAX-60	X	X	X
MAX-70	X	X	
MAX-80	X	X	

* 1 Fuse per package.

For product information and Data Sheets, visit www.cooperbussmann.com

COOPER Bussmann

easyID™ Automotive Illuminating Blade Fuses and Fuse Holders

Finding Open Fuses Is Now Easy with the Cooper Bussmann® Family of easyID™ Blade Fuses and Holders

Now, a drop-in replacement is available for low-voltage applications up to 80 amps that can benefit from open fuse indication. The Cooper Bussmann line of easyID illuminating blade fuses and holders use Light Emitting Diode (LED) technology to show that a fuse has opened, making them easy to spot in fuse panels tucked up under dark dashboards.

The ATM, ATC® and Maxi® fuses use the same universal color-coding as traditional non-illuminating fuses. Illuminating fuse holders allow adding circuits with easyID, but use regular ATM and ATC blade fuses.

Tri-lingual packaging in English, Spanish and French.

easyID™ ATM Illuminating Blade Fuses

Following on the popularity and wide application of ATM fuses for late-model OEM vehicles, the easyID illuminating ATM fuse line is available in popular ATM amp ratings with packaging that's designed for easy retail selling.

BP/ATM-AID Fuse Assortment

Contains one each of 10, 15, 20, 25 and 30 amp easyID illuminating ATM fuses

ATM-ID-SK Service Kit

Contains six each of 5, 10, 15, 20, 25 and 30 amp easyID illuminating ATM fuses. Ideal for fleet maintenance departments.

2 Fuse Blister Pack*	10 Fuse Value Pack*	50 Fuse Bulk Pack
BP/ATM-3ID		
BP/ATM-5ID		
BP/ATM-7½ID		
BP/ATM-10ID	VP/ATM-10ID	BK/ATM-10ID
BP/ATM-15ID	VP/ATM-15ID	BK/ATM-15ID
BP/ATM-20ID	VP/ATM-20ID	BK/ATM-20ID
BP/ATM-25ID	VP/ATM-25ID	BK/ATM-25ID
BP/ATM-30ID	VP/ATM-30ID	BK/ATM-30ID

Fuse Assortment - BP/ATM-AID
Service Kit - ATM-ID-SK
* Tri-lingual packaging

easyID™ ATC Illuminating Blade Fuses

Introduced in the late '70s, ATC blade fuses are widely used by automotive OEMs. With a large installed base, the Cooper Bussmann® ATC easyID illuminating fuse line has great selling potential with popular ATC amp ratings in packaging that's designed for easy retail selling.

BP/ATC-AID Fuse Assortment

Contains one each of 10, 15, 20, 25 and 30 amp easyID illuminating ATC fuses

ATC-ID-SK Service Kit

Contains seven each of 5, 10, 15, 20, 25 and 30 amp easyID illuminating ATC fuses. Ideal for fleet maintenance departments.

2 Fuse Blister Pack*	10 Fuse Value Pack*	50 Fuse Bulk Pack
BP/ATC-3ID		
BP/ATC-5ID		
BP/ATC-7½ID		
BP/ATC-10ID	VP/ATC-10ID	BK/ATC-10ID
BP/ATC-15ID	VP/ATC-15ID	BK/ATC-15ID
BP/ATC-20ID	VP/ATC-20ID	BK/ATC-20ID
BP/ATC-25ID	VP/ATC-25ID	BK/ATC-25ID
BP/ATC-30ID	VP/ATC-30ID	BK/ATC-30ID
BP/ATC-35ID		
BP/ATC-40ID		BK/ATC-40ID

Fuse Assortment - BP/ATC-AID
Service Kit - ATC-ID-SK
* Tri-lingual packaging

easyID™ Maxi® (MAX) Illuminating Blade Fuses

Used for protecting circuits in wiring harnesses (usually found under the hood, in a fuse panel or supplementary panel near the battery) Maxi Fuses are finding increased popularity in domestic cars and some import models. Current OEM applications range up to 60 amps, but some aftermarket accessories (such as high-end stereos) require protection up to 80 amps. The Cooper Bussmann® easyID Maxi illuminating fuse line is a sure seller for the high amp circuit protection market.

1 Fuse Blister Pack*
BP/MAX-20ID
BP/MAX-30ID
BP/MAX-40ID
BP/MAX-50ID
BP/MAX-60ID
BP/MAX-70ID
BP/MAX-80ID
BP/MAX-100ID

* Tri-lingual packaging

easyID™ Illuminating Holders for Blade Fuses

Now customers have a way to get open fuse indication when adding circuits with easyID illuminating inline fuse holders for ATM and ATC blade fuses. Available as boxed product or in attractive blister packs to increase impulse sales.

Fuse Type	Boxed Part No.	Blister Pack*	Max Volts /Amps	Lead-wire	Description
ATM	ATM-FHID	BP/ATM-FHID	32V/20A	2x4"/#16	Inline fuse holder with protective cap and open fuse illuminating LED
ATC	ATC-FHID	BP/ATC-FHID	32V/20A	2x6"/#16	Inline fuse holder with protective cap and open fuse illuminating LED

ATM

ATC

LED Indicator
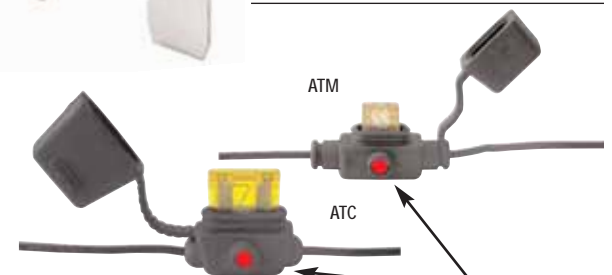
* Tri-lingual packaging

Specialty and High Amp Fuses & Fusible Links

Female Maxi Fuses

Developed to meet the growing OEM demand for smaller components, the FMX and low-profile FMX Female Maxi fuses offer high amp protection in compact packages. Both FMX and low-profile FMX fuses are available in amp ratings from 20 to 60A.

*easy*ID™ FMX Illuminating Female Maxi Fuses

Following on the popularity and wider application of FMX fuses for late-model OEM vehicles, the *easy*ID illuminating FMX fuse line with LED open fuse indication technology is available in popular amp ratings. Tri-lingual packaging provides easy retail selling.

Color Code	1 Fuse Tri-lingual Blister Pack (Amps)
Blue	BP/FMX-20ID
Pink	BP/FMX-30ID
Green	BP/FMX-40ID
Red	BP/FMX-50ID
Yellow	BP/FMX-60ID

*easy*ID™
Blown Fuse Indication

FMX Non-illuminating Female Maxi Fuses

Color Code	Part No. (Amps)	Blister Pack	Tri-Lingual Blister
Blue	FMX-20	X	X
Pink	FMX-30	X	X
Green	FMX-40	X	X
Red	FMX-50	X	X
Yellow	FMX-60	X	X

FMX_LP Low-Profile Female Maxi Fuses

Color Code	Part No. (Amps)	Blister Pack
Blue	FMX-20LP	BP/FMX-20LP-RP
White	FMX-25LP	
Pink	FMX-30LP	BP/FMX-30LP-RP
Green	FMX-40LP	BP/FMX-40LP-RP
Red	FMX-50LP	BP/FMX-50LP-RP
Yellow	FMX-60LP	BP/FMX-60LP-RP

FL Series Fusible Links

Used primarily in Japanese-designed vehicles for wiring harness protection.

FL Series Fusible Link Color Codes (Amps)

Color	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	-	-	-	-	-

FLB Bolt-Mount Fusible Links

Bolts into fuse block, ¹³/₁₆″ bolt terminal.

Part No. (Amps)	Blister Pack	Tri-Lingual Blister
FLB-30	X	
FLB-40	X	
FLB-50	X	
FLB-60	X	X
FLB-70	X	X
FLB-80	X	
FLB-100	X	
FLB-120	X	
FLB-140	X	

FLD Bolt-Mount Fusible Links

Bolts into fuse block, ⁹/₁₆″ bolt terminal.

No. (Amps)	Blister Pack
FLD-30	X
FLD-40	X
FLD-50	X
FLD-80	X
FLD-100	X
FLD-120	X
FLD-140	X

FLF Female Termination Fusible Links

Part No. (Amps)	Blister Pack	Tri-Lingual Blister
FLF-20	X	X
FLF-30	X	X
FLF-40	X	X
FLF-50	X	X
FLF-60	X	X

FLM Male Termination Fusible Links

Part No. (Amps)	Blister Pack	Tri-Lingual Blister
FLM-30	X	
FLM-60	X	X
FLM-80	X	X
FLM-100	X	X
FLM-120	X	

For product information and data sheets, visit www.cooperbussmann.com

Specialty and High Amp Fuses & Fusible Links

FLN Female Termination Fusible Links With Locking Tab

Part No. (Amps)	Blister Pack
FLN-25	
FLN-30	X

FLS Female Miniature Termination Fusible Links

Part No. (Amps)	Blister Pack
FLS-30	X
FLS-40	X

CBBF Battery Fuses

These fuses are suitable for main and auxiliary circuit protection (alternator outputs, starter motor inputs and accessories) in demanding environments or tight space constraints. Marine-rated under SAE J1117 for ignition protection. Mounting bar with nut and cover available - order Part No. CBBF-MBC.

Part No. (Amps)			
CBBF-30	CBBF-75	CBBF-125	CBBF-225
CBBF-40	CBBF-80	CBBF-150	CBBF-250
CBBF-50	CBBF-90	CBBF-175	CBBF-300
CBBF-60	CBBF-100	CBBF-200	

Fusible Links and Fusible Link Wire

14Vdc BP/FL-14 and BP/FL-16 kits includes 9" length fusible link wire with printed label attached indicating wire gauge numbers; two different ring terminals and crimp connector.

Part No.	Description
BP/FL-14	9-inches of 14 gauge fusible link wire with $3/8''$ and $5/16''$ terminals and crimp connector.
BP/FL-16	9-inches of 16 gauge fusible link wire with $1/4''$ and $5/16''$ terminals and crimp connector.
BP/FLW-14	Six foot coil of 14 gauge fusible link wire.

ANN & ANL Current Limiters

Often used to protect charging systems in battery-operated forklifts, golf carts and similar applications. These rugged, reliable fuses offer high amp ratings in a compact size just $7/8''$ x $3^3/16''$.

Durable glass-laminated melamine body and riveted construction offer superior service life in heavy-duty applications. Clear window provides open-fuse indication.

ANN Very Fast-Acting Current Limiters

For applications up to 800 amps. Uses SFR fuse block - see page 20.

Part No. (Amps)	
ANN-10	ANN-225
ANN-35	ANN-250
ANN-40	ANN-275
ANN-50	ANN-300
ANN-60	ANN-325
ANN-80	ANN-350
ANN-90	ANN-400
ANN-100	ANN-500
ANN-125	ANN-600
ANN-150	ANN-700
ANN-175	ANN-800
ANN-200	

ANL Non Time-Delay Current Limiters

For applications up to 750 amps. Uses SFR fuse block - see page 20.

Part No. (Amps)	
ANL-35	ANL-225
ANL-40	ANL-250
ANL-50	ANL-275
ANL-60	ANL-300
ANL-80	ANL-325
ANL-100	ANL-350
ANL-125	ANL-400
ANL-130	ANL-500
ANL-150	ANL-600
ANL-175	ANL-675
ANL-200	ANL-750

AMG High Amp Stud-Mount Fuses

Part No. (Amps)	Blister Pack
AMG-100	
AMG-125	
AMG-150	
AMG-175	X
AMG-200	
AMG-225	
AMG-250	
AMG-300	

Used for high current applications on selected late model vehicles. AMG fuses are available in amp ratings from 100A to 300A. HMEG fuse block with splash-proof cover is also available - see page 20.

AMI High Amp Stud-Mount Fuses

Part No. (Amps)
AMI-40
AMI-50
AMI-80

These high amp fuses are used in power distribution protection for automotive systems on some late model cars. AMI fuses are available in amp ratings: 40, 50, and 80A. Uses HMID fuse holder - see page 20.

Automotive Circuit Breakers

Cooper Bussmann 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." Type I/Automatic Reset circuit breakers do not address, or correct, overcurrent or fault conditions. They only react by cycling OFF and ON. Any overcurrent or fault condition that causes any Type I circuit breaker to operate should be corrected as soon as possible. Continual vehicle operation under an overcurrent or fault condition (causing the Type I circuit breaker to cycle) is NOT recommended.

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 Cooper Bussmann 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 switchable feature, which allows you to use an external button to disable the circuit. Cooper 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.

Blade-Type Breakers

Cooper Bussmann blade-type 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 Cooper Bussmann blade-type circuit breakers utilize carefully designed and manufactured snap-acting thermal elements with precious metal electrical contacts.

See page 6 for circuit breaker specifications.

ATM Footprint Breakers

CB211 and CB212 Cooper Bussmann ATM footprint 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. Cooper Bussmann ATM footprint breakers comply with SAE standard J553.

CB211 Type I ATM Footprint Circuit Breaker

Part No. (Amps)	Blister Pack
CB211-7$\frac{1}{2}$	
CB211-10	X
CB211-15	X
CB211-20	X
CB211-25	X
CB211-30	X

CB212 Type II ATM Footprint Circuit Breaker

Part No. (Amps)
CB212-10
CB212-15
CB212-20
CB212-25
CB212-30

MMB Type I Wide ATM Footprint Circuit Breaker For GM Vehicles

Part No. (Amps)	OEM No.
MMB-15	12135171
MMB-20	12135072

Mini Devices

Transorb, resistor and diode vehicle-style electrical protection devices easily install in common ATM fuse holders. These circuit protection devices provide voltage and current limiting functionality to vehicle circuitry; and are designed for the on- and off-highway requirements of heavy trucks, RV, construction, agriculture, ATV and material handling equipment.

- **Transorb** - Protects against voltage spikes. Clamp rating: 27Vdc. Power rating: 1500W
- **Resistor** - Drops circuit voltage. Power rating: 5W. Resistance: 68Ω.
- **Diode** - Prevents reverse current flow. Amp rating: 6A.

Part No.	Description
CB22901-1.5	Transorb voltage spike protector
CB22902-68	Resistor voltage drop device
CB22903-6	Diode reverse current protector
CB22903-6V	Diode reverse current protector with wing key

COOPER Bussmann

Automotive Circuit Breakers

ATC Breakers

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

CB227 complies with SAE J553 and SAE J1171 for ignition protection.

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

ACB-20 Type I ATC Footprint Circuit Breaker for GM Vehicles

Part No. (Amps)	Blister Pack	OEM No.
ACB-20	X	12040816

CB221 Type I ATC Footprint Circuit Breakers

Part No. (Amps)
CB221-7$\frac{1}{2}$
CB221-10
CB221-15
CB221-20
CB221-25
CB221-30

CB222 Type II ATC Footprint Circuit Breakers

Part No. (Amps)
CB222-10
CB222-15
CB222-20
CB222-25
CB222-30

CB223 Type III ATC Footprint Circuit Breakers

Part No. (Amps)
CB223-7$\frac{1}{2}$
CB223-10
CB223-15
CB223-20
CB223-25
CB223-30

CB227 Type III ATC Footprint Low-Profile Circuit Breakers

Color Code	Part No. (Amps)
Tan	CB227-5
Moss Green	CB227-6
Brown	CB227-7$\frac{1}{2}$
Red	CB227-10
Blue	CB227-15
Yellow	CB227-20
White	CB227-25
Green	CB227-30

CBB-30 Type II ATC Footprint Circuit Breaker

Part No. (Amps)	Blister Pack
CBB-30	X

CCB-25 Type I ATC Footprint Circuit Breaker For Chrysler Vehicles

Part No. (Amps)	OEM No.
BP/CCB-25	4527053

FCB-20 Type II ATC Footprint Circuit Breaker for Ford Vehicles

Part No. (Amps)	OEM No.
BP/FCB-20	D9AB-14526-BA

UCB Type I ATC Footprint Circuit Breakers

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

Color Code	Part No. (Amps)	Blister Pack	Tri-Lingual Blister
Plain	UCB-6		
Brown	UCB-8		
Red	UCB-10	X	
Blue	UCB-15	X	X
Yellow	UCB-20	X	
Plain	UCB-25	X	
Green	UCB-30	X	X

Automotive Circuit Breakers

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 Type I MAX Footprint Circuit Breakers

Part No. (Amps)
CB1911-10
CB1911-15
CB1911-20
CB1911-25
CB1911-30
CB1911-35
CB1911-40
CB1911-50

CB1921 Type II MAX Footprint Circuit Breakers

Part No. (Amps)
CB1921-10
CB1921-15
CB1921-20
CB1921-25
CB1921-30

Glass Tube Breakers

CBF Type II Circuit Breakers For Use In Glass Tube Fuse Holders and Blocks

CBF circuit breakers can be used to replace glass fuses in 1/4" x 1 1/4" small dimension fuse blocks.

Part No. (Amps)	Blister Pack
CBF-6	
CBF-10	
CBF-15	
CBF-20	
CBF-25	
CBF-30	X
CBF-35	
CBF-40	

Heavy-Duty Breakers

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

Cooper Bussmann 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.

CB123-B Type III 10-32 Stud-Mount Circuit Breakers with Crosswise Bracket and Cover

Part No. (Amps)
CB123-10B
CB123-15B
CB123-20B
CB123-30B
CB123-40B
CB123-50B

CB123-HB Type III 10-32 Stud-Mount Circuit Breakers with Lengthwise Bracket and Cover

Part No. (Amps)
CB123-10HB
CB123-15HB
CB123-20HB
CB123-30HB
CB123-40HB
CB123-50HB

CBC Type I 10-32 Stud-Mount Circuit Breakers

Part No. (Amps)
CBC-8
CBC-10
CBC-15
CBC-20
CBC-25
CBC-30
CBC-35
CBC-40
CBC-50

CBC-B Type I 10-32 Stud-Mount Circuit Breakers with Crosswise Bracket

Part No. (Amps)	Blister Pack	Tri-Lingual Blister
CBC-8B		
CBC-10B		
CBC-15B		
CBC-20B	X	
CBC-25B	X	
CBC-30B	X	X
CBC-35B	X	
CBC-40B	X	
CBC-50B	X	

Automotive Circuit Breakers

CBC-BWP Type I 10-32 Stud-Mount Weatherproof Circuit Breakers

Part No. (Amps)
CBC-20BWP
CBC-30BWP

CBC-HB Type I 10-32 Stud-Mount Circuit Breakers with Lengthwise Bracket

Part No. (Amps)	Blister Pack
CBC-10HB	
CBC-15HB	
CBC-20HB	X
CBC-25HB	
CBC-30HB	X
CBC-40HB	X
CBC-50HB	X

CBP-BA Type I 10-32 Stud-Mount Circuit Breakers with Crosswise Bracket

Part No. (Amps)
CBP-20BA
CBP-25BA
CBP-30BA
CBP-40BA
CBP-50BA

Panel-Mount Breakers

Used in trucks, RVs, boats, buses, etc. offered with 1/4" quick-connect or 90° bent screw terminals.

CB174 Type III Circuit Breakers with $\frac{1}{4}$" Quick-Connect Terminals

Part No. (Amps)
CB174-8
CB174-10
CB174-15
CB174-20
CB174-25
CB174-30

CB174B Type III Circuit Breakers with 90° 5-32 Screw Terminals

Part No. (Amps)
CB174B-10
CB174B-15
CB174B-20
CB174B-25
CB174B-30
CB174B-40

Quick-Connect Breakers

Used in trucks, RVs, boats, buses, etc. offered with $\frac{1}{4}$" quick-connect or 90° bent screw terminals.

CBT-M Type II Circuit Breakers For Mack Trucks with $\frac{1}{4}$" Blades on 1" Centers

Part No. (Amps)
CBT-10M
CBT-15M
CBT-20M
CBT-25M
CBT-30M

CBT-N Type II Circuit Breakers For Navistar Trucks with $\frac{1}{4}$" Blades on 1.08" Centers

Part No. (Amps)
CBT-10N
CBT-15N
CBT-20N
CBT-25N
CBT-30N

CBU Type I Circuit Breakers with $\frac{1}{4}$" Quick-Connect Terminals on 0.99" Centers (30B with crosswise bracket)

Part No. (Amps)
CBU-6
CBU-30B

CBU-30B

CBU-6
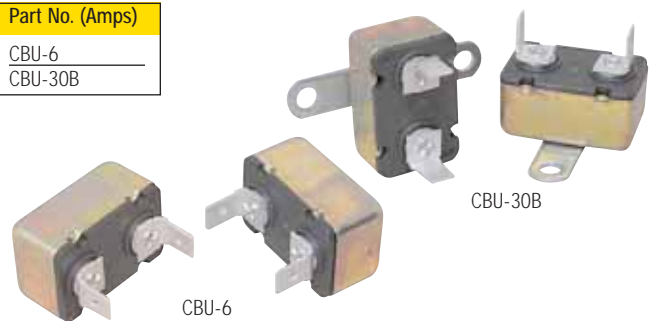
Automotive Circuit Breakers

High Amp Circuit Breakers

These high amp circuit breakers are typically used in auxiliary and accessory circuits for trucks, buses, RVs and marine applications. All high amp circuit breakers comply with the SAE J1117 standard for ignition protection and have applications in battery charger systems and DC audio systems. Offered in flush-mount or panel-mount (see chart for amps available).

CB181F Type I High Amp Waterproof Circuit Breakers with SEMS Nuts Installed

Part No. (Amps)	
CB181F-60	CB181F-110
CB181F-70	CB181F-120
CB181F-80	CB181F-135
CB181F-90	CB181F-150
CB181F-100	

CB184F Type III High Amp Waterproof Manual Reset Circuit Breakers with SEMS Nuts Installed

Part No. (Amps)	
CB184F-25	CB184F-80
CB184F-30	CB184F-90
CB184F-35	CB184F-100
CB184F-40	CB184F-110
CB184F-50	CB184F-120
CB184F-60	CB184F-135
CB184F-70	CB184F-150

CB185 Type III High Amp Switchable, Waterproof, Flush-Mount Manual Reset Circuit Breakers with SEMS Nuts Installed

Part No. (Amps)	Blister Pack
CB185-25	
CB185-30	
CB185-35	
CB185-40	
CB185-50	X
CB185-60	
CB185-70	X
CB185-80	X
CB185-90	
CB185-100	X
CB185-110	
CB185-120	X
CB185-135	X
CB185-150	X

CB185P Type III High Amp Switchable, Panel Mount Manual Reset Circuit Breakers with SEMS Nuts Installed

Part No. (Amps)	
CB185P-25	CB185P-80
CB185P-30	CB185P-90
CB185P-35	CB185P-100
CB185P-40	CB185P-110
CB185P-50	CB185P-120
CB185P-60	CB185P-135
CB185P-70	CB185P-150

Marine-Rated Circuit Breakers

Specifically designed to meet the needs of marine applications, the CB187F and CB187P offer 5kA interrupting ratings and ignition protection per ABYC E-11. Usable as an ON/OFF switch (capable of withstanding 3000 on/off cycles @48Vdc), they have corrosion resistant plating on $5/16$-18 copper terminals.

CB187F Type III Marine-Rated Surface-Mount Manual Reset Circuit Breaker with Switch Function and Nuts/Lock Washers Installed

Part No. (Amps)	
CB187F-25	CB187F-80
CB187F-30	CB187F-90
CB187F-35	CB187F-100
CB187F-40	CB187F-110
CB187F-50	CB187F-120
CB187F-60	CB187F-135
CB187F-70	CB187F-150

CB187P Type III Marine-Rated Panel-Mount Manual Reset Circuit Breaker with Switch Function and Nuts/Lock Washers Installed

Part No. (Amps)	
CB187P-25	CB187P-80
CB187P-30	CB187P-90
CB187P-35	CB187P-100
CB187P-40	CB187P-110
CB187P-50	CB187P-120
CB187P-60	CB187P-135
CB187P-70	CB187P-150

CB251 Type I Ignition Protected Weatherproof Panel-Mount Manual Reset Circuit Breaker with SEMS Nuts Installed, 32Vdc

Part No. (Amps)	
CB251-10	CB251-30
CB251-15	CB251-35
CB251-20	CB251-40
CB251-25	CB251-50

CB255 Type III Ignition Protected Weatherproof Panel-Mount Manual Reset Circuit Breaker with "Push-to-Trip" Option and SEMS Nuts Installed, 32Vdc

Part No. (Amps)	
CB255-10	CB255-30
CB255-15	CB255-35
CB255-20	CB255-40
CB255-25	CB255-50

COOPER Bussmann

Fuse Holders & Taps

Cooper Bussmann offers a complete line of fuse holders to install either blade-type or glass tube fuses. Choose water resistant and/or splash-proof versions for extra protection in special applications. Four types of connectors are available to meet the needs of technicians and do-it-yourselfers:

- **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 fuse holder. Crimp the connections tightly, and you're done. No additional hardware needed.

- **Self-Stripping.** Easy to install — simply locate fuse holder at a convenient spot along the wire. Snap fuse holder closed around wire to pierce insulation automatically.
- **Quick-Connect.** Attach fully insulated female push-on terminal onto the $1/4$" quick-connect terminals.

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

Blade-Type Fuse Holders

In-Line Fuse Holders for ATM Fuses

Part No.	Blister Pack	Tri-Lingual Blister	Maximum Volts/Amps	Leadwire	Description
HHL	X		32V/20A	2x4"/#16	Holder with cover
HHM	X	X	32V/30A	2x4"/#12	Holder with cover
HHU	X		32V/30A	2x4"/#12	Water-resistant holder
ATM-FHID*		X	32V/20A	2x4"/#16	Illuminating holder

* For use with regular ATM fuses. For details on the *easy*ID™ line of illuminating ATM blade fuses, see page 9.

HHU

HHL

HHM

ATM-FHID
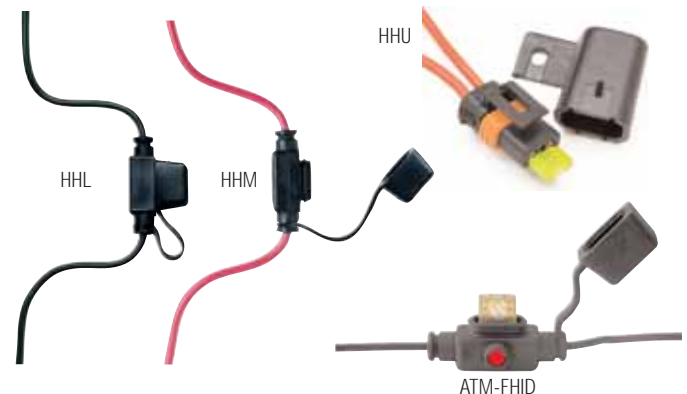
In-Line Fuse Holders for ATC Fuses

Part No.	Blister Pack	Tri-Lingual Blister	Maximum Volts/Amps	Leadwire	Description
HHC	X	X	32V/20A	2x4"/#16	Yellow water-resistant holder
HHD	X	X	32V/30A	2x4"/#12	Heavy-duty fuse holder
HHD-30	X		32V/30A	2x4"/#12	Holder with ATC-30A fuse
HHF	X		32V/20A	2x4"/#16	Holder with protective cover
HHG	X	X	32V/30A	2x4"/#12	Heavy-duty holder with cover
HHR	X		32V/30A	2x5"/#12	Heavy-duty water-resistant holder
HHS	X		32V/20A	#18 to #14	Self-stripping fuse holder
ATC-FHID*		X	32V/20A	2x6"/#16	Illuminating holder

* For use with regular ATC fuses. For details on the *easy*ID™ line of illuminating ATC blade fuses, see page 9.

HHC HHD HHF

HHR

HHG

HHS

ATC-FHID
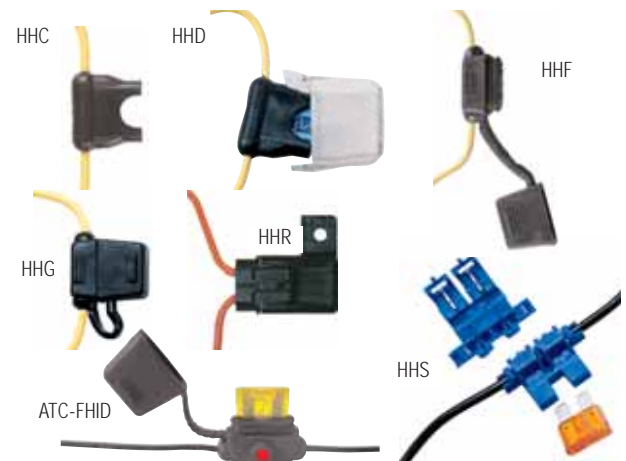
In-Line Fuse Holders for Maxi Fuses

Part No.	Volts/Amps	Leadwire	Description
HHX	32V/20-60A	2x5"/#6	Fuse holder with cover

HHX

Fuse Holders & Taps

Fuse Taps For ATM and ATC Fuses

Tap into an existing circuit to power a mobile phone, stereo components, etc. with Cooper Bussmann fuse tap accessories.

Part No.	Description
BP/ATM-TAP	5-Count: Taps into existing ATM fuse for additional non-fused circuit, includes crimp-on connector that attaches easily to the power lead for electronic gear.
BP/ATC-TAP	5-Count: Taps into existing ATC fuse by fitting over the leg for additional non-fused circuit, includes crimp-on connector.
BP/HHH	Converts ATM fuse circuit into two fusible circuits. Inserts into ATM fuse block, added circuit 10A max.
BP/HHA	Converts an ATC fuse circuit into two fusible circuits. Inserts into ATC fuse block, added circuit 10A max.

BP/ATM-TAP

BP/ATC-TAP

BP/HHH

BP/HHA

Glass Tube In-Line Holders For $\frac{1}{4}$" Diameter Fuses
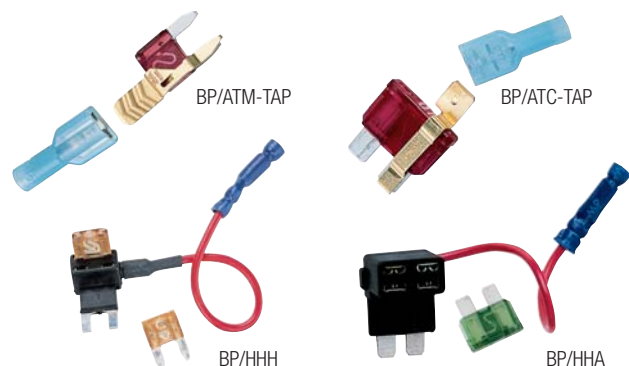
Part No.	Blister Pack	Tri-Lingual	Fuse/Size	Ratings Volts/Amps	Leads/ Terminals	Description Feature
HFA			$\frac{1}{4}$" x 1$\frac{1}{4}$"	250V/20A	Crimp #12 to 16 wire	Water-resistant-black body
HFB	X	X	$\frac{1}{4}$" x 1$\frac{1}{4}$"	32V/30A	Crimp #12 to 18 wire	Water-resistant-yellow body
HHB	X	X	$\frac{1}{4}$" x $\frac{7}{8}$" to 1$\frac{1}{4}$"	32V/30A	Crimp #12 to 16 wire	Universal-yellow body
HHK	X	X	$\frac{1}{4}$" x $\frac{5}{8}$" to 1$\frac{1}{4}$" & SFE-20	32V/20A	#14 leadwire/yellow	Universal nylon, twist lock, no fuse-black body
HHN	X		$\frac{1}{4}$" x 1$\frac{1}{4}$"	32V/30A	#12 leadwire/yellow	Nylon heavy-duty w/ AGC-30 fuse-white body
HMJ	X	X	For SFE-20 (included)	32V/20A	8" of #14 leadwire/bk	With fuse and wire loop leads-black body
HMK	X	X	$\frac{1}{4}$" x 1$\frac{1}{4}$" & SFE-20	32V/30A	#12 leadwire/bk	No fuse, wire loop leads-black body
HRH			For SFE-9 (included)	32V/9A	19" of #14 leadwire	With fuse and wire loop leads-black body
HRI			For SFE-14 (included)	32V/14A	19" of #14 leadwire/bk	With fuse and wire loop leads-gray body
HRJ			For SFE-20 (included)	32V/20A	19" of #14 leadwire/bk	With fuse and wire loop leads-black body
HRK	X	X	$\frac{1}{4}$" dia. x $\frac{7}{8}$" to 1$\frac{1}{4}$"	32V/15A	#14 leadwire/bk	Universal with wire loop leads and springs for different fuse lengths-black body

HFB

HFA   HHB

HHK   HHN   HMJ   HMK   HRI   HRJ   HRK
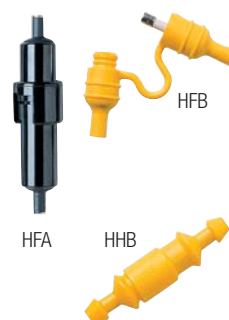
Panel-Mount Holders For $\frac{1}{4}$" x 1$\frac{1}{4}$" Fuses

Part No.	Blister Pack	Max. Panel Thickness	Knob Type	Description/Mounting	Terminals	Ratings Volts/Amps
HKP	X	0.3"	Knob	High-profile cover knob, rear hexnut	Solder terminals	250V/30A
HKP-HH	X	0.3"	Knob	High-profile cover knob, rear hexnut	$\frac{1}{4}$" quick-connect terminals	250V/15A
HTB-26I		0.3"	Knob	Low-profile cover knob, rear hexnut	In-line $\frac{1}{4}$" quick-connect terminals	250V/20A
HTB-38I		0.3"	Screwdriver/slotted	Low-profile cover knob, rear hexnut	Right angle $\frac{1}{4}$" quick-connect terminals	250V/20A
HTB-68I		0.3"	Knob	Low-profile cover knob, front hexnut	Right angle $\frac{1}{4}$" quick-connect terminals	250V/20A
HTB-88I		0.125"	Knob	Low-profile cover knob, through-hole snap	Right angle $\frac{1}{4}$" quick-connect terminals	250V/20A

HKP   HKP-HH   HTB-26I   HTB-38I   HTB-68I   HTB-88I

COOPER Bussmann

## Fuse Panels, Blocks, Junction Blocks & Terminal Strips

Designed for versatility, durability and ease-of-installation, Cooper Bussmann fuse panels and blocks deliver the ideal solution for many applications. Cooper Bussmann fuse panels and blocks are molded of high-performance thermoplastic, and feature high quality hardware in a choice of connector styles.

Fuse Panels For Blade Fuses

RTMF Fuse Panel - ATM Footprint

The Rear Terminal 20 Position ATM Fuse Panel provides efficient power distribution in a rugged compact package.

The RTMF offers a weather tight enclosure (IP66/67) for ATM blade fuses and circuit breakers when cover, cable seals, and cavity plugs are installed.*
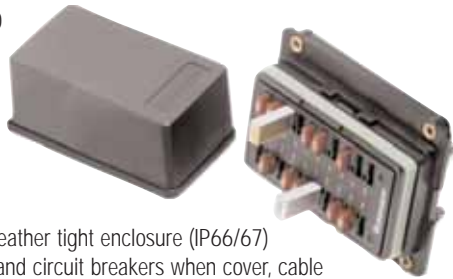
Shown with deep cover.
Fuses and circuit breakers sold separately.

Part No.	Description
RTMF	20 position fuse block
RTMF-SC	20 position fuse block with shallow cover
RTMF-DC	20 position fuse block with deep cover

*Electrical terminals, cable seals and cavity plugs are either Delphi Packard Metri-Pack® 280 Series terminals (sealed/tangless) or AMP® terminals. They accept #12-22 AWG wire sizes. Delphi Packard 280 Series cavity plugs are installed where wires are not used. Seals and cavity plugs not sold by Cooper Bussmann.

15600 Fuse Panels - ATC Footprint

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 finger-safe protection.

Fuses and circuit breakers sold separately.

Fuse Positions	Short Base Part No.	Blister Pack	Tri-Lingual Blister	Long Base Part No.
4	15600-04-20			15600-04-21
6	15600-06-20	X*	X*	15600-06-21
8	15600-08-20			15600-08-21
10	15600-10-20			15600-10-21
12	15600-12-20			15600-12-21
14	15600-14-20			15600-14-21
16	15600-16-20			15600-16-21
18	15600-18-20			15600-18-21
20	15600-20-20			15600-20-21

*Not available for long base panels.

Power Distribution Relay Module & Fuse Block

The sealed Power Relay Module (CBPRM) and Power Fuse Module (CBPFM) are compact power distribution modules for high current applications having extreme moisture and high vibration.

The 24 volt CBPRM contains a 35A relay and two FMX fuse positions (one protects the relay and the other a single-circuit in-line fuse)

The CBPFM has two FMX fuse positions for separate circuits.

Both the CBPRM and CBPFM feature rugged M8 power input studs, and an IP66 removable, weather-tight cover to protect the fuse positions.

FMX fuses sold separately.

Electrical terminations not supplied by Cooper Bussmann.

Part No.	Description
CBPFM	Power Fuse Module
CBPRM	Power Relay Module

S-8202 Series 300 Volt, 20 Amp Glass Tube Fuse Blocks

Part No. (Poles)	Blister Pack	Tri-Lingual Blister
S-8202-1	X	
S-8202-2	X	X
S-8202-3		
S-8202-4	X	
S-8202-5		
S-8202-7		
S-8202-8		
S-8202-9		
S-8202-10		
S-8202-12		

S-8202 – Fuse blocks with $1/4''$ 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 maximum.

S-8301 Series 300 Volt, 30 Amp Glass Tube Fuse Blocks

Part No. (Poles)	Blister Pack
S-8301-1	X
S-8301-2	
S-8301-3	
S-8301-4	
S-8301-5	
S-8301-6	
S-8301-7	
S-8301-8	
S-8301-9	
S-8301-10	
S-8301-11	
S-8301-12	

S-8301 – Fuse blocks 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.

Fuse Panels, Blocks, Junction Blocks & Terminal Strips

HMEG Fuse Holder

Use with AMG fuses from 100 to 300 amps. Recommended wire size #2-8. HMEG fuse holders have full-access design for ease of wiring. HMEG is impact resistant and has durable plastic base and cover.

HMID Fuse Block

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

SFR Fuse Block

Lift truck fuse holder. Use with ANN and ANL fuses.

Part No.	Description
HMEG	Stud Fuse Holder with Cover for use with AMG high amp fuses.
HMID	Stud Fuse Holder with Cover for use with AMI high amp fuses, linkable to form an assembly.
SFR	Open Stud Fuse Block for ANN and ANL current limiters

Junction Blocks

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

JB3816-2 Non-feed through stud-type junction block ³/₈-16 thread/stud size, 250* amps max.
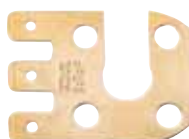*Voltage rating dependent upon installation

BP/C1938

BP/JB3816-2

Poles	Part No.	Type	Stud Thread
1	BP/C1938	Stud Junction Feed Through	³/₈-16
1	BP/JB3816-2	Stud Junction Block	³/₈-16

Battery Power Tap

BP/BAT-TAP - Attaches directly to battery terminal to create three additional circuits.

BP/BAT-TAP

Part No.	Description
BP/BAT-TAP	Attaches to side battery terminal to create three, non-fused ¼" quick-connect circuits.

Terminal Strips and Blocks

BP/C5237 Designed for trucks, RVs and wiring accessories - Cooper Bussmann stud-type junction blocks, BP/C5237-3BC, BP/C5237-6BC and BP/C5237-8BC available in 3, 6 and 8 terminal configurations. Rated for applications to 30A, 300V (UL)/ 600V (CSA).

TB200 and TB300 terminal blocks are nickel-plated brass with black thermoplastic construction.

Poles	Part No.	Type	Stud/ Screw	Volts/ Amps
3	BP/C5237-3BC	Stud Junction Block	10-32	300V/30A
6	BP/C5237-6BC	Stud Junction Block	10-32	300V/30A
8	BP/C5237-8BC	Stud Junction Block	10-32	300V/30A
4	TB200-04B	Double Row Barrier Block	6-32	300V/20A
6	TB200-06B	Double Row Barrier Block	6-32	300V/20A
8	TB200-08B	Double Row Barrier Block	6-32	300V/20A
10	TB200-10B	Double Row Barrier Block	6-32	300V/20A
15	TB200-15B	Double Row Barrier Block	6-32	300V/20A
4	TB300-04B	Double Row Barrier Block	8-32	600V/30A
6	TB300-06B	Double Row Barrier Block	8-32	600V/30A
8	TB300-08B	Double Row Barrier Block	8-32	600V/30A
10	TB300-10B	Double Row Barrier Block	8-32	600V/30A
12	TB300-12B	Double Row Barrier Block	8-32	600V/30A
20	TB300-20B	Double Row Barrier Block	8-32	600V/30A

TB200_B

TB300_B

BP/C5237

Switches & Indicating Lights

Toggle and Rocker Switches

Cooper Bussmann offers a complete line of switches and indicating lights, both for replacement applications and special aftermarket installations. The

Cooper Bussmann switch line includes toggle switches, rocker switches, and duck bill toggle switches - all in a variety of styles, colors and finishes.

Toggle Switches

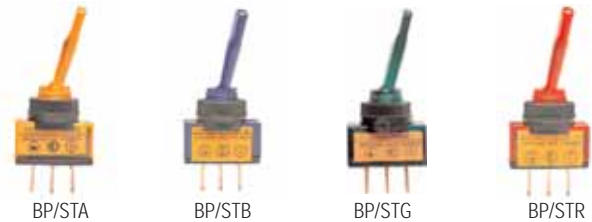| Color	Part No.	Tri-Lingual Blister	Function	Rating	Feature
Black	BP/SDN	X	ON/OFF	12V/20A	-
Black	BP/STF	X	ON/OFF	12V/20A	-
Chrome	BP/STT	X	ON/OFF	12V/20A	Red LED

BP/SDN   BP/STF   BP/STT

Illuminated Toggle Switches

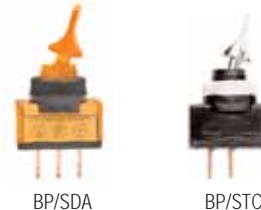| Color	Part No.	Tri-Lingual Blister	Function	Ratings
Amber	BP/STA	X	ON/OFF	12V/20A
Blue	BP/STB	X	ON/OFF	12V/20A
Green	BP/STG	X	ON/OFF	12V/20A
Red	BP/STR	X	ON/OFF	12V/20A

BP/STA   BP/STB   BP/STG   BP/STR

Duckbill Toggle Switches

Color	Part No.	Tri-Lingual Blister	Function	Rating	Feature
Amber	BP/SDA	X	ON/OFF	12V/20A	Illuminated
Chrome	BP/STC		ON/OFF	12V/20A	-

BP/SDA   BP/STC

Metal Housing Toggle Switches

Color	Part No.	Function	Rating
Chrome	BP/STE	ON/OFF	12V/15A
Chrome	BP/STJ	ON/OFF	12V/25A
Chrome	BP/STK	ON/OFF/ON	12V/15A

BP/STE   BP/STJ   BP/STK

Rocker Switches

Color	Part No.	Tri-Lingual Blister	Function	Rating	Feature
Amber	BP/SRA	X	ON/OFF	12V/16A	Illuminated
Blue	BP/SRB	X	ON/OFF	12V/16A	Illuminated
Green	BP/SRG	X	ON/OFF	12V/16A	Illuminated
Black	BP/SRN		ON/OFF	12V/16A	-
Red	BP/SRR	X	ON/OFF	12V/16A	Illuminated

BP/SRA   BP/SRB   BP/SRG   BP/SRN   BP/SRR

Indicating Lights

Color	Part No.	Tri-Lingual Blister	Volts	Terminals
Amber	BP/LA	X	12V	$1/4$" Quick-Connect
Blue	BP/LB	X	12V	$1/4$" Quick-Connect
Green	BP/LG	X	12V	$1/4$" Quick-Connect
Red	BP/LR	X	12V	$1/4$" Quick-Connect

BP/LA   BP/LB   BP/LG   BP/LR

Automotive Flashers

Cooper Bussmann offers a complete line of flashers for a wide variety of applications. All Cooper 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 amps, 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.

Thermal Flashers
- 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.

Thermal and Electronic 12 and 24 Vdc Flashers

Part No.	Blister Pack	Tri-Lingual Blister	Type	Terminals	Volts	Amps	Number of Bulbs
NO.535			Thermal	3	6	5.2	2-6
NO.550	X	X	Thermal	3	12	12.8	2-6
NO.552	X		Thermal	2	12	12.8	2-6
NO.575	X		Thermal	2	12	12.8	1-8
NO.577	X		Thermal - *Extra Loud*	2	12	4	2-6
NO.243			Heavy-duty electronic	2	12	25	12
NO.244			Heavy-duty electronic	3	12	25	12
NO.246			Heavy-duty electronic	3	12	25	*
NO.726	X		Heavy-duty electronic	4	12	12.6	2-4
NO.727	X		Heavy-duty electronic	5	12	12.6	2-4
NO.756	X		Heavy-duty electronic	3	12	12.6	2-6
NO.757	X		Heavy-duty electronic	3	12	12.6	2-6
NO.758	X		Heavy-duty electronic	3	12	12.6	2-6
NO.759	X		Heavy-duty electronic	3	12	12.6	3-6
NO.760	X		Heavy-duty electronic	3	12	12.6	2-6
NO.761	X		Heavy-duty electronic	3	12	12.6	2-6
NO.762	X		Heavy-duty electronic	4	12	12.6	3-6
NO.763			Heavy-duty electronic	2	12	12	16
NO.764			Heavy-duty electronic	2	12	12	20
NO.850			Heavy-duty electronic	3	12	25	10HZ/5TS
NO.852			Heavy-duty electronic	2	12	35	16HZ/8TS
NO.232	X	X	Super-duty electronic	2	12	20	1-10
NO.233	X		Super-duty electronic	3	12	20	1-10
NO.234			Super-duty electronic	3	24	20	1-10

* Alternating

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.

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.

Troubleshooting Guide

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.

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)

COOPER Bussmann

Automotive Flashers

Thermal

NO.535 NO.550 NO.552 NO.575 NO.577
Extra Loud

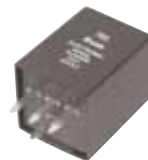## Heavy-Duty Electronic

NO.243 NO.244 NO.246 NO.726 NO.727 NO.756, 757, 758, 759, 760

NO.761 NO.762 NO.763 & 764 NO.850 NO.852

Super-Duty Electronic

NO.232 NO.233 NO.234

Battery Disconnect Switches, Surge Protectors & Computer Memory

Battery Disconnect Switch

BP/BMS-1 Top post anti-theft battery master switch kit. Complete with HHM fuse holder and ATM-20 fuse, ring terminals and stainless steel bolt and wing nut.

BP/BMS-2 Side post anti-theft battery master switch kit for GM vehicles. Complete with HHM fuse holder and ATM-20 fuse and ring terminals.

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 50Vac/dc maximum, 400A continuous. It can withstand cranking or surge currents up to 2000A for a maximum of 5 seconds.

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

Battery Disconnect Switches and Surge Protector

Part No.	Description
BP/BMS-1	Top post anti-theft master switch with HHM fuse holder and ATM-20 fuse and ring terminals
BP/BMS-2	Side post anti-theft master switch with HHM fuse holder and ATM-20 fuse and ring terminals
15968-1	Heavy-duty disconnect; 50Vac/dc, 400A maximum
BP/SP-1	Jumper cable 12Vdc surge protector kit for cables up to 3 gauge

Computer Memory Protectors for 12Vdc Vehicles

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.

Part No.	Description
BP/MEM-3	Prevents memory loss when battery is disconnected, clips attach to 12V battery.

BP/MEM-3

BP/BMS-1

BP/BMS-2

15968-1

BP/SP-1

For product information and data sheets, visit www.cooperbussmann.com

Retail Packaging & Assortments

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

Retail Automotive Fuse Assortments

Fuse assortments provide customers a handy selection of fuses and fuse ratings for general replacement applications.

AK-6* - ATC Assortment: 5, 10, 15, 20, 25 & 30A

BP/AGA-AH - AGA Assortment: 10, 15, (2)20 & (2)30A.

BP/AGA-AL - AGA Assortment: 1, 2, 3, (2)5 & 7$\frac{1}{2}$A

BP/AGC-L - AGC Assortment: 1, (2)2, & (3)3A.

BP/AGW-A - AGW Assortment: 7$\frac{1}{2}$, (2)15, (2)20 & 30A.

BP/AGX-A - AGX Assortment: (2)20, (2)25 & (2)30A

BP/SFE-AH - SFE Assortment: (2)14, (2)20 & 30A.

BP/SFE-AL - SFE Assortment: 4, 6, (2)7$\frac{1}{2}$ & (2)9A.

CB-5* - Car Phone & Mobile Entertainment Assortment: AGC-1$\frac{1}{2}$, (2)2, 2$\frac{1}{2}$ & 3A

KE-5 - British Car Assortment: AGC-7$\frac{1}{2}$, 15, 20, 25 & 30A.

KG-5* - German/European Car Assortment: GBC-5, (2)8, 16 & 25A.

KJ-5* - Japanese Car Assortment: AGC-5, 10, 15, 20 & 30A.

KJA-6* - ATC Japanese Car Assortment: 5, 7$\frac{1}{2}$, 10, 15, 20 & 30A.

KM-6LP - ATM Low-Profile Assortment: 7$\frac{1}{2}$LP, 10LP, 15LP, 20LP, 25LP, & 30LP

KM-8* - ATM Assortment: 2, 5, 7$\frac{1}{2}$, 10, 15, 20, 25 & 30A.

MKA-5 - ATC Motorcycle Assortment: 5, 7$\frac{1}{2}$, 10, 15 & 20A.

MKG-6 - Motorcycle Assortment: AGX-5, (2)8, 10, 15 & 20A.

UK-6* - American Car Assortment: AGC-5, 15 & 30; SFE-9, 14 & 20A.

* Also available in tri-lingual packaging. Add "CP/" prefix to part number.

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

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

Retail Packaging & Assortments

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

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

Retail Automotive Fuse Emergency Kits

Fuse emergency kits provide customers a handy selection of fuses and fuse ratings along with a fuse puller for general replacement applications.

AT-7* - ATC Kit: 5, 10, 15, 20, 25 & 30A and FP-A3 Fuse Puller.

DIA-1 - ATC Diagnostic Kit: 5, 10, 15, 20, 25 & 30A and FT-3 Fuse Tester/Puller.

DIA-2 - ATM Diagnostic Kit: 2, 5, 7$\frac{1}{2}$, 10, 15, 20, 25 & 30A and FT-3 Fuse Tester/Puller.

EK-7* - American Car Kit: AGC-5, 15 & 30; SFE-9, 14 & 20A and FP-A3 Fuse Puller.

KG-7* - German/European Car Kit: GBC-5, (2)8, 16 & 25A and FP-A3 Fuse Puller.

KJ-7* - Japanese Car Kit: AGC-5, 10, 15, 20 & 30A and FP-A3 Fuse Puller.

KJA-7* - ATC Japanese Car Kit: 5, 7$\frac{1}{2}$, 10, 15, 20 & 30A and FP-A3 Fuse Puller.

KM-9* - ATM Kit: 2, 5, 7$\frac{1}{2}$, 10, 15, 20, 25 & 30A and FP-A3 Fuse Puller.

MKA-6 - ATC Motorcycle Kit: 5, 7$\frac{1}{2}$, 10, 15 & 20A and FP-A3 Fuse Puller.

MKG-7 - Motorcycle Kit: AGX-5, (2) 8, 10, 15 & 20A and FP-A3 Fuse Puller.

* Also available in tri-lingual packaging. Add "CP/" prefix to part number.

For product information and data sheets, visit www.cooperbussmann.com

Retail Packaging & Assortments

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

Cooper Bussmann Bonus Packs are great for small shops, do-it-yourself mechanics - or for stocking commercial/ service vehicles.

Retail Automotive Fuse Bonus Packs

Fuse bonus packs provide customers a large quantity and selection of fuses and ratings along with a fuse tester/puller for general replacement applications.

AGC-EK - AGC Kit: (60 pieces/10 each) 5, 10, 15, 20, 25 & 30A and FT-3 Fuse Tester/Puller.

ATM-FMX-EK - ATM and FMX Emergency Kit: 5 each of ATM-10, 15, 20, 25 & 30A, and 1 each of FMX-20, 30, 40, & 50A and FT-3 Fuse Tester/Puller.

NO.24 - Emergency Fuse Safety Kit: one each of ATM-10, 15, 20, 25, 30, ATM-10LP, 15LP, 20LP, 25LP, 30LP, ATC-3, 5, 7½, 10, 15, 20, 25, 30, 40, MAX-30, 40, FMX-30, 40 and FT-3 Fuse Tester/Puller.

NO.43* - ATM Kit: 7 each of 5, 10, 15, 20, 25 & 30A and FT-3 Fuse Tester/Puller. Fuses are loose-packed for easy access in reclosable heavy-duty clamshell package.

NO.44* - ATC Kit: 7 each of 5, 10, 15, 20, 25 & 30A and FT-3 Fuse Tester/Puller. Fuses are loose-packed for easy access in reclosable heavy-duty clamshell package.

NO.53 - ATC and Maxi Fuse Kit: (45 pieces) ATC-10, 15, 20, & 30A; MAX-30, 40 & 50A and FT-3 Fuse Tester/Puller.

NO.64 - ATM and Maxi Fuse Kit: (64 pieces) ATM-2, 3, 4, 5, 7½, 10, 15, 20 & 30A; MAX 30, 40 & 50A and FT-3 Fuse Tester/Puller

NO.80 - ATC Bulk Assortment: (80 pieces/10 each) 3, 5, 7½, 10, 15, 20, 25 & 30A. Fuses are loose-packed for easy access. Reclosable, heavy-duty clamshell package stores easily in tool boxes.

* Also available in tri-lingual packaging. Add "CP/" prefix to part number.

Marine Displays & Retail Assortments

Marine Displays and Assortments

NO.108BK

Circuit protection emergency 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. Contains:

Fuses: Five each of ABC-10, AGC-1$\frac{1}{2}$, GMA-2A, MDA-8, ten of AGC-3, 7$\frac{1}{2}$, 15, 25, fifteen of AGC-20, 30.

Circuit Breakers: Three each of CBF-30.

NO.M200

Contains the most popular fast-acting and time-delay marine fuses. Comes complete with free rack and inventory/reorder feature.

40 Tins (200 fuses). Contains one tin each of ABC-15, AGA-20, AGC-$\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, 1$\frac{1}{2}$, 2$\frac{1}{2}$, 3, 4, 5, 7$\frac{1}{2}$, ATC-10, 15, 20, 25, 30, GMA-1, 2, 3, MDA-8, SFE-7$\frac{1}{2}$, 9, two tins each of AGC-1, 2, 10, 15, 20, 25, 30, SFE-14, 20.

Marine Fuse Kits & Accessories

BPA-5: Marine accessory and bilge pump fuse assortment:

• AGC-5, 10, 15, 20 & 30A.

BP/MDL: $\frac{1}{2}$ to 30A time-delay fuses for marine motor protection. Two MDL fuses per card.

MA-5: Marine accessory assortment:

• AGC-$\frac{1}{2}$, 1, 1$\frac{1}{2}$, 2 & 3A

MK-6: Marine fuse assortment containing:

• SFE-9, 14 & 20A
• AGC-10, 15 & 30A

See Page 11 for CBBF Marine Rated Battery Fuses

COOPER Bussmann

Retail Packaging & Assortments

Retail Automotive Plan-O-Gram

Color-Coded packaging for fast, easy product selection.
Fits standard four-foot wide gondola.

Visual Categorization

• New, color-coded Cooper Bussmann retail packaging
• Fast and easy product identification
• Provides increased shop-ability and faster merchandising

Merchandising Ease

• Retail set is simple and straightforward
• Color-coding encourages return of product to correct peg
• Reduces need for assistance by store personnel

Consumer Friendly

• Fuse Center is easily located
• Point-of-sale identifies fuse types
• Package color indicators zero-in on category

Contact Cooper Bussmann for the most recent Plan-O-Gram product SKUs

Part No.	Description
4FTAUTOPRODUCT *Product Only*	118 SKU Auto Prepak. Includes one of each part number. Order 4FTAUTOSIGNAGE separately for header and aisle violators (see below).
4FTAUTOSIGNAGE *Display Only*	Includes header, two aisle violators, 118 barcoded reorder tabs and schematic diagram for easy in-store setup.

For display as shown, order both product (4FTAUTOPRODUCT) and display (4FTAUTOSIGNAGE) separately.

4FTAUTOSIGNAGE

Header

Bar-Coded Reorder Tabs

Aisle Violators

Installer Tilt-Bin Assortments

AFC-90

AFC-225

NO.225

NO.227

NO.235

NO.236

TEFC

All seven units stacked together provide a complete fuse selection for the automotive repair technician. Bins interlock and can be wall-mounted.

Turn any pegboard or shelf into a profit-building professional fuse center with interlocking tilt-bin sets from Cooper Bussmann. Bin rows are stocked with assortments of the fastest-selling fuses, holders and accessories. Transparent, tilt-out bins make selection a snap, and let 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.

Fuses:

AFC-90: Two bin sets containing five each of MAX-20, 30, 40, 50 & 60A and FMX-20, 3 & 40A fuses, FLB-70, FLF-20, 30, 40 & 60A and FLM-60, 80 & 100A and FLS-30 & 40A fusible links.

AFC-225: 25 Each glass tube fuses. AGC-5, 10, 15, 20, 25 & 30A and SFE-14, 20,& 30A.

NO.225: 25 Each ATC blade fuses: 3, 4, 5, 7$\frac{1}{2}$, 10, 15, 20, 25 & 30A.

NO.227: Ten each ATM blade fuses: 2, 3, 5, 7$\frac{1}{2}$, 10, 15, 20, 25 & 30A.

Circuit Breakers

NO.235: Five each of CBB-30, CBF-20, & 30A, UCB-10, 15, 20, 25 & 30A and two CBC-30B.

Fuse Holders:

NO.236: Five each of HHB, HHD, HHG, HHM, HHN, HMK.

Flashers:

TEFC: Three each of NO.232 and NO.233, five each of NO.550 and NO.575, and ten each of NO.552.

Installer Assortments

Traditional Automotive Displays and Assortments

NO.200 Glass Tube and Blade Fuses

40 Tins (172 fuses). The most popular display stand offers a variety of glass tube and blade fuses for every service need. Comes with inventory/reorder feature. Contains one tin each of AGC-1, 2, 3, 5, 7$\frac{1}{2}$, 10, 15, 20, 25, 30, ATC-3, 4, 5, 7$\frac{1}{2}$, 10, 15, 25, 30, ATM-2, 3, 4, 5, 7$\frac{1}{2}$, 10, 15, 20, 25, 30, GBC-8, MAX-20, 30, 50, SFE-14, 20 and two tins each of ATC-20 and MAX-40, 60.

NO.500 Glass Tube and Blade Fuses

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. Contains one tin each of AGA-5, 20, AGC-1, 2, 4, 7$\frac{1}{2}$, AGW-15, 20, AGX-20, 30, ATC-3, 4, 7$\frac{1}{2}$, ATM-2, 3, 4, 5, 7$\frac{1}{2}$, 10, 15, 20, 25, 30, GBC-8, 16, 25, MAX-20, 30, 40, 50, 60, SFE-4, 6, 7$\frac{1}{2}$, 9, 14, 20, 30, two of AGC-3, 5, 10, 15, 25, ATC-5, four of ATC-25, five of ATC-10, six of AGC-20, SFE-20, seven of AGC-30, ATC-15, 30, and eight of ATC-20.

NO.90 ATC Fuses

10 Tins (90 fuses). Selection of ATC blade fuses. Fuses tins are packed in plastic box with inventory strip on inside lid. Contains one tin each of 3, 4, 5, 7$\frac{1}{2}$, two of 10, 15, 30, three of 25 and five of 20.

NO.45 Fusible Link Kit

The top 16 assorted fusible links for wiring harness protection. Comes with selection guide on inside lid. Contains one each of FLB-40, 60, 70, FLD-80, FLF-20, 30, 40, 50, 60, FLM-80, 100, FLS-30, 40, FMX-20, 30, 40.

NO.60LP Low-Profile ATM Fuses

Assortment contains 60 fuses: ten each of ATM-7$\frac{1}{2}$LP, 10LP, 15LP, 20LP, 25LP & 30LP.

NO.95BK ATC & ATM Bulk Display

Selection of 95 ATC and ATM blade fuses. Fuses are loosely packed in 12-cavity, shatter-resistant plastic box. Contains five tins each of ATC-5, 15, 25, ATM-5, 10, 15, 25, 30, ten of ATM-20, fifteen of ATC-10, 20, 30.

NO.100BK ATC Bulk Display

Selection of 160 ATC blade fuses. Fuses are loosely packed in 12-cavity, shatter-resistant plastic box. Contains five tins each of 1, 2, 3, 4, 7$\frac{1}{2}$, 15, 25, 40, fifteen of 5, 10, 20, 30.

Display Cards for In-Line Fuse Holders

Easy hassle-free way to set up a fuse shop in any retail outlet (convenience stores, service stations, auto supply).

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

Blade-Type:

HHD-12: 12 HHD ATC blade-type fuse holders (fuses not included)

Installer Assortments

NO.290 - PRO PAK Professional Technician's Assortment

Contains the circuit protection products every service technician needs. The compact case organizes 290 of the most common circuit protection products to restore power fast. Comes with a free, high-power white LED spotlight.

FREE Tech Spotlight

- High-powered White LED Mounted on Insulated Flexible Cord
- Locking on/off switch
- Batteries included: 3 AG13 button cell
- High-grade polished aluminum housing with metal clip and magnetic base that clings to metal surfaces

NO.290 - PRO PAK Professional Technician's Assortment Contents

- Fuse Assortments: AGA-AL (1, 2, 3, 5 & 7$\frac{1}{2}$A), AGA-AH (10, 15, 20 & 30A), AGW-A (5, 7$\frac{1}{2}$, 15, 20 & 30A) and AGX-A (5, 8, 20, 25 & 30A)
- AGC glass fuses. One tin each containing five fuses: AGC-1, 2, 3, 4, 5, 7$\frac{1}{2}$, 10, 15, 20, 25 & 30A.
- SFE size-rejecting $\frac{1}{4}$" glass fuses. One tin each containing five fuses: SFE-4, 7$\frac{1}{2}$, 9, 14, 20 & 30A.
- GBC German vehicle fuses. One tin each containing five fuses: GBC-8, 16 & 25A.
- ATM blade fuses. One tin of each rating containing five fuses: ATM-5, 7$\frac{1}{2}$, 10, 15, 20, 25 & 30A.
- Low-profile ATM blade fuses. One tin each containing five fuses: ATM-7$\frac{1}{2}$LP, 10LP, 15LP, 20LP, 25LP & 30LP.
- ATC blade fuses. One tin each containing five fuses: ATC-3, 4, 5, 7$\frac{1}{2}$, 10, 15, 20, 25, 30, 35 & 40A.
- Maxi blade fuses. MAX-20, (2)30, (2)40, 50, 60, 70 & 80A.
- FLB bolt-mount fusible links. One each: FLB-40, 50, 60, 70 & 80A.
- FLD bolt-mount fusible link. One FLD-80A.
- FLF female termination fusible links. One each: FLF-20, 30, 40, 50 & 60A.
- FLM male termination fusible links. One each: FLM-60, 80 & 100A.
- FLS female miniature termination fusible links. One each: FLS-30 & 40A.
- FMX female Maxi fusible links. One each: FMX-20, 30, 40, 50 & 60A.
- FMX_LP low-profile female Maxi fuses. One each: FMX-20LP, 25LP, 30LP, 40LP, 50LP & 60LP.
- HHD 30A ATC fuse holder
- HHM 30A ATM fuse holder
- HHN glass tube fuse holder with AGC-30A fuse
- HMK heavy-duty glass tube fuse holder
- CBB-30 Type II 30A ATC blade-type circuit breaker
- CBC-30HB Type I stud-mount 30A circuit breaker with lengthwise bracket
- UCB-20 Universal 20A ATC blade-type circuit breaker
- UCB-30 Universal 30A ATC blade-type circuit breaker
- FT-3 fuse puller/tester, FP-A3 3-way fuse puller

NO.105 Late Model Automotive Fuse Assortment

Selection of low-profile and regular fuses. Fuses are loosely packed in 12-cavity, shatter-resistant plastic box. Contains:
10 each ATM-7$\frac{1}{2}$LP, 10LP, 25LP & 30LP;
15 each ATM-15LP & 20LP;
3 each FMX-20, 30 & 40;
2 each FMX-50 & 60;
3 each FMX-20LP, 30LP & 40LP;
2 each FMX-50LP & 60LP;
2 each MAX-30 & 40;
1 each MAX-20, 50, 60 & 80

NO.160BK ATC Bulk Assortment

Selection of 160 ATC blade fuses. Fuses are loosely packed in 12-cavity, shatter-resistant plastic box. Contains ten fuses each of 3, 4, 7$\frac{1}{2}$, 40, fifteen of 5, 10, 15, 25, thirty of 20, 30.

SCA

A 485-piece assortment, including glass tube and blade fuses, in-line fuse holders, flashers, fusible links, circuit breakers, fuse puller and fuse tester. Contains the following:

Fuses: Two each of MAX-20, 30, 40, 50, 60, ten of ATC-3, 5, 7$\frac{1}{2}$, fifteen of AGC-5, 10, 15, 25, 30, ATM-3, 5, 7$\frac{1}{2}$, 10, 15, 20, 25, 30, SFE-14, twenty five of ATC-10, 15, 25, 30, SFE-20, fifty of ATC-20.

Circuit Breakers: One each of CBB-30, CBC-_B 20, 30, two of UCB-6, 10, 15, 20, 25, 30.

Fusible Links: Two each of FLF-30, 60, FLM-120.

Fuse Holders: Two each of HHG, HHK, HHM, HHN.

Flashers: Two each of NO.232, NO.552

Fuse Pullers/Testers: One each of FP-A3, FT-2.

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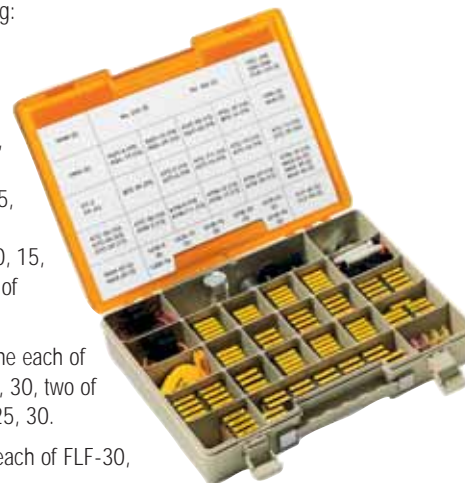
Retail Packaging & Assortments

Retail Hardware Fuse Assortments

Popular fuse assortments and kits to meet the needs of residential circuit protection.

BP/ABC-A – Microwave Oven Fuse Assortment, ABC-10, (2)15 & (2)20A

BP/FNM-AH – High Amp FNM Cartridge Fuse Assortment: FNM-15 & 20A

BP/FNM-AL – Low Amp FNM Cartridge Fuse Assortment: FNM-5 & 10A

BP/FRN-AH – High Amp FRN-R Class RK5 Fuse Assortment: FRN-R-35 & 50A

BP/FRN-AL – Low Amp FRN-R Class RK5 Fuse Assortment: FRN-R-15 & 25A

BP/GMA-AH – High Amp GMA Electronic Glass Tube Fuse Assortment: two each GMA-3, 5 & 6A

BP/GMA-AL – Low Amp GMA Electronic Glass Tube Fuse Assortment: two each GMA-500MA, 1 & 2A

BP/NON-AL – Low Amp NON Cartridge Fuse Assortment: NON-15 & 25A

BP/SA-A – Fustat Rejection Base Plug Fuse Adapter Assortment: SA-15 & 20A

BP/SC-A – SC Class G Fuse Assortment: SC-15 & 20A

HEF-1 - Mobile Phone, Electronic Equipment and Stereos Assortment: (2)AGC-1, (1)2 & (2)3A.

HEF-2 - Personal Computers and Peripherals Assortment: MDL-$\frac{1}{2}$, 1 & 2A; GDC-1 & 2A.

HEF-2

Retail Hardware Fuse Emergency Kits

NON-EK - NON Cartridge Fuse Kit: 20, (2)30, 40 & (2)60A and FT-2 Fuse Tester.

SL-EK - SL Rejection Base Plug Fuse Kit: (3)15, (2)20 & 30A and FT-3 Fuse Tester.

TL-EK - TL Edison Base Plug Fuse Kit: 15, (2)20 & (3)30A and FT-3 Fuse Tester.

Retail Hardware Holiday Light Fuses

Useful year-round, these fuses come in handy for keeping the lights on and the festivities going strong.

20-Card Christmas Light Counter Displays with Two Clip Strips

BP/GMA-5XM - GMA 5 x 20mm fast-acting 5 amp fuses. Five fuses per card.

BP/MAS-3X5 - MAS 3 x 5mm fast-acting 3 amp fuses. Five fuses per card.

BP/AGX-7X5 - AGX $\frac{1}{4}$" x 1$\frac{1}{4}$" fast-acting 7 amp fuses. Five fuses per card.

BP/XMAS-6F Assortment* - GLH-7, AGX-7, (2)GMA-5 & MAS-3A Fuses. Total five fuses per card.

*Product mix is new from previous version.

BP/GMA-5XM

Year-Round Holiday Light Fuse Set Packaging

Five cards per shelf pack. Yellow Cooper Bussmann packaging.

BP/MAS-3A - MAS 3 x 5mm fast-acting 3 amp fuses. Five fuses per card.

BP/GMA-5A - GMA 5 x 20mm fast-acting 5 amp fuses. Two fuses per card.

BP/MAS-3X5

BP/GMA-5A

20-Card Counter Display with Clip Strips

Glass & Ceramic Tube Fuses

Automotive

Used in older-model cars, glass tube fuses today are found primarily in automotive accessory applications. The expansive Cooper Bussmann line of glass fuses includes many types and sizes in addition to those listed in this catalog. Call Cooper Bussmann for more product details if you have requirements which are not covered here.

Appliances and Consumer Electronics

Glass and ceramic tube uses are often used to protect appliances and consumer electronics. As electronic equipment becomes smaller, the circuits and components become more delicate and easily damaged. Fuses are the preferred method of protection due to their accuracy, small size and reliability. Fuses are available in a wide variety of amp ratings to provide precise protection. Generally, two sizes of user-replaceable fuses are found: the $\frac{1}{4}$" x $1\frac{1}{4}$" and 5 x 20mm. Each is available in a variety of volt and amp ratings.

Fuse Types

There are two basic types of fuses available for appliances and consumer electronics: fast-acting or time-delay. Any replacement fuse must match the one it's replacing. In general, fast-acting fuses are a single strand of wire or strip of metal. Time-delay fuses usually have a coiled wire, a thick element wrapped in wire, or a spring. Most electronic fuses will have the voltage and amp rating stamped on the end cap. The type of fuse can generally be visually identified. Also, owner's manuals will have the correct replacement fuse generically identified. For example: "Use a 2 amp, time-delay, 250 volt fuse."

Glass and ceramic tube fuses vary by diameter and length:
- AGU fuses: $\frac{13}{32}$" x $1\frac{1}{2}$"
- ABC, AGC, GBB, MDA, MDL and MDQ fuses: $\frac{1}{4}$" x $1\frac{1}{4}$"
- AGX fuses: $\frac{1}{4}$" x 1"
- GBC fuses: $\frac{1}{4}$" x $\frac{31}{32}$"
- AGW fuses: $\frac{1}{4}$" x $\frac{7}{8}$"
- AGA fuses: $\frac{1}{4}$" x $\frac{5}{8}$"
- SFE fuses are $\frac{1}{4}$" diameter and change in length as amp ratings increase
- GDA, GDB, GDC, GMA, GMC and GMD fuses: 5 x 20mm

Fuse Selection Criteria

- 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).
- Fuse must match required fuse characteristic – either fast-acting or time-delay.
- Amp rating must match that of the original fuse.

A Note on Voltage Rating

All fuses have a voltage rating. To maintain safety, this voltage rating should not be exceeded in application, although it is acceptable to use a higher rated fuse in a lower voltage application. For example: A fuse rated for 125 volts is appropriate in household (110V) or automotive (12V), while a fuse rated for 32 volts is appropriate for automotive (12V), but not for household (125V). Always replace a fuse with one of the same or higher voltage rating.

See page 4 for technical specifications.

Fast-Acting $\frac{1}{4}$" Diameter Fuses

AGA - $\frac{1}{4}$" x $\frac{5}{8}$" Fast-Acting Glass Tube Fuses

Part No. (Amps)*
AGA-$\frac{1}{4}$
AGA-1
AGA-1$\frac{1}{2}$
AGA-2
AGA-2$\frac{1}{2}$
AGA-3
AGA-5
AGA-6
AGA-15

*See Price Sheet for all available ratings.

AGW - $\frac{1}{4}$" x $\frac{7}{8}$" Fast-Acting Glass Tube Fuses

Part No. (Amps)*	Blister Pack	Tri-Lingual Blister
AGW-1		
AGW-2$\frac{1}{2}$		
AGW-3		
AGW-4		
AGW-5		
AGW-6		
AGW-7$\frac{1}{2}$		
AGW-10		
AGW-15	X	X
AGW-20	X	X
AGW-30		

*See Price Sheet for all available ratings.

AGX - $\frac{1}{4}$" x 1" Fast-Acting Glass Tube Fuses

Part No. (Amps)*	Blister Pack	Poly-bag	Tri-Lingual Blister
AGX-1			
AGX-2			
AGX-2$\frac{1}{2}$			
AGX-3			
AGX-5			
AGX-7		X	
AGX-10			
AGX-15			
AGX-20	X		X
AGX-30			

*See Price Sheet for all available ratings.

COOPER Bussmann

Glass & Ceramic Tube Fuses

ABC - ¼″ x 1¼″ Fast-Acting Ceramic Tube Fuses

Part No. Amps	Poly Bag	Blister Pack	Tri-Lingual Blister
ABC-¼			
ABC-½			
ABC-1			
ABC-2			
ABC-2½			
ABC-3			
ABC-4			
ABC-5			
ABC-6			
ABC-7			
ABC-8			
ABC-10	X	X	X
ABC-12			
ABC-15	X	X	X
ABC-20	X		
ABC-25			
ABC-30			

*See Price Sheet for all available ratings.

AGC - ¼″ x 1¼″ Fast-Acting Glass Tube Fuses

Part No. (Amps)*	Poly Bag	Blister Pack	Tri-Lingual Blister
AGC-⅛			
AGC-³/₁₀			
AGC-¼			
AGC-⅜			
AGC-½	X	X	X
AGC-¾			
AGC-1	X	X	X
AGC-1¼			
AGC-1½	X	X	X
AGC-2	X	X	X
AGC-2½	X	X	
AGC-3	X	X	X
AGC-3²/₁₀			
AGC-3½			
AGC-4	X	X	X
AGC-5	X	X	X
AGC-6	X	X	
AGC-6¼			
AGC-7		X	
AGC-7½	X	X	X
AGC-8	X		
AGC-10	X	X	X
AGC-12			
AGC-15	X	X	X
AGC-20	X	X	X
AGC-25	X	X	X
AGC-30	X	X	X
AGC-35	X	X	X
AGC-50			

*See Price Sheet for all available ratings.

GBB - ¼″ x 1¼″ Very Fast-Acting Ceramic Tube Fuses

Polybag Part No. (Amps)*
GBB-10BC

*See Price Sheet for all available ratings.

GBC - ¼″ x ³¹/₃₂″ Fast-Acting German Automotive Fuses

Color Code	Part No. (Amps)*	Blister Pack	Tri-Lingual Blister
Yellow	GBC-5		
White	GBC-8	X	X
Red	GBC-16	X	X
Blue	GBC-25	X	X

*See Price Sheet for all available ratings.

SFE Fast-Acting, ¼″ Diameter Size-Rejecting Automotive Glass Tube Fuses

Fuse Length	Part No. (Amps)*	Blister Pack	Tri-Lingual Blister
⅝″	SFE-4	X	X
¾″	SFE-6	X	X
⅞″	SFE-7½	X	X
⅞″	SFE-9	X	X
1¹/₁₆″	SFE-14	X	X
1¼″	SFE-20	X	X
1⁷/₁₆″	SFE-30	X	X

*See Price Sheet for all available ratings.

AGU - ¹³/₃₂″ x 1½″ Fast-Acting Glass Tube Midget Fuses

Available with gold-plated end caps for high-end stereo and AV markets.

Part No. (Amps)*	Blister Pack
Nickel-Plated	
AGU-10	
AGU-15	
AGU-20	
AGU-25	
AGU-30	X
AGU-40	X
AGU-50	X
AGU-60	X
Gold-Plated	
AGU-10GP	X
AGU-15GP	X
AGU-20GP	X
AGU-25GP	X
AGU-30GP	X
AGU-35GP	X
AGU-40GP	X
AGU-50GP	X
AGU-60GP	X

*See Price Sheet for all available ratings.

Glass & Ceramic Tube Fuses

Time-Delay $\frac{1}{4}$″ Diameter Fuses

MDA - $\frac{1}{4}$″ x $1\frac{1}{4}$″ Time-Delay Ceramic Tube Fuses

Part No. (Amps)*	Blister Pack
MDA-1	
MDA-1$\frac{1}{2}$	
MDA-2	
MDA-2$\frac{1}{2}$	
MDA-3	
MDA-4	
MDA-5	
MDA-6	
MDA-7	
MDA-8	X
MDA-10	
MDA-12	
MDA-15	
MDA-20	
MDA-25	
MDA-30	

*See Price Sheet for all available ratings.

MDL - $\frac{1}{4}$″ x $1\frac{1}{4}$″ Time-Delay Glass Tube Fuses

Part No. (Amps)*	Poly Bag	Blister Pack	Tri-Lingual Blister
MDL-$\frac{1}{16}$			
MDL-$\frac{1}{8}$			
MDL-$\frac{1}{4}$			
MDL-$\frac{3}{8}$			
MDL-$\frac{1}{2}$	X	X	
MDL-$\frac{3}{4}$			
MDL-1	X	X	X
MDL-1$\frac{1}{4}$			
MDL-1$\frac{1}{2}$	X	X	
MDL-2	X	X	X
MDL-2$\frac{1}{2}$			
MDL-3	X	X	
MDL-3$\frac{2}{10}$			
MDL-3$\frac{1}{2}$			
MDL-4	X	X	
MDL-5	X	X	X
MDL-6	X	X	
MDL-6$\frac{1}{4}$			
MDL-7	X	X	
MDL-7$\frac{1}{2}$			
MDL-8	X	X	
MDL-10	X	X	
MDL-12			
MDL-15	X	X	
MDL-20	X		
MDL-25			
MDL-30			
MDL-40			

*See Price Sheet for all available ratings.

MDQ - $\frac{1}{4}$″ x $1\frac{1}{4}$″ Dual-Element, Time-Delay Glass Tube Fuses

Part No. (Amps)*
MDQ-2

*See Price Sheet for all available ratings.

Glass & Ceramic Tube Fuses

Fast-Acting 5 x 20mm Fuses

GDA - IEC 5 X 20mm High-Break Fast-Acting Ceramic Tube Fuses

Part No. (Amps)*
GDA-500mA
GDA-630mA
GDA-1A
GDA-1.25A
GDA-1.6A
GDA-2A
GDA-2.5A
GDA-3.15A
GDA-4A
GDA-5A
GDA-6.3A

*See Price Sheet for all available ratings.

GDB - IEC 5 X 20mm Fast-Acting Glass Tube Fuses

Part No. (Amps)*
GDB-160mA
GDB-2A
GDB-4A
GDB-6.3A
GDB-8A
GDB-10A

*See Price Sheet for all available ratings.

GMA - UL 5 X 20mm Fast-Acting Glass Tube Fuses

Part No. (Amps)*	Poly Bag	Tri-lingual Blister
GMA-63mA		
GMA-100mA		
GMA-125mA		
GMA-200mA		
GMA-250mA	X	
GMA-300mA		
GMA-315mA		
GMA-500mA	X	X
GMA-600mA		
GMA-750mA	X	
GMA-800mA		
GMA-1A	X	X
GMA-1.25A		
GMA-1.5A		
GMA-1.6A		
GMA-2A	X	X
GMA-2.5A		
GMA-3A	X	X
GMA-3.15A	X	
GMA-3.5A		
GMA-4A		
GMA-5A	X	X
GMA-6A	X	X
GMA-7A	X	
GMA-8A		

*See Price Sheet for all available ratings.

Time-Delay 5 x 20mm Fuses

GDC - IEC 5 X 20mm Time-Delay Glass Tube Fuses

Part No. (Amps)*	Poly Bag	Blister Pack
GDC-500mA		
GDC-1A		
GDC-1.6A		
GDC-2A		
GDC-2.5A		
GDC-3.15A		
GDC-4A		
GDC-5A	X	X
GDC-6.3A		

*See Price Sheet for all available ratings.

GMC - UL 5 x 20mm Medium Time-Delay Glass Tube Fuses

Part No. (Amps)*	Poly Bag
GMC-500mA	
GMC-630mA	
GMC-1A	
GMC-1.5A	
GMC-1.6A	
GMC-2A	
GMC-3A	
GMC-3.5A	
GMC-4A	
GMC-5A	
GMC-6A	
GMC-7A	X

*See Price Sheet for all available ratings.

GMD - UL 5 x 20mm Medium Time-Delay Glass Tube Fuses

Part No.(Amps)*
GMD-1A

*See Price Sheet for all available ratings.

Cartridge Fuses

Cartridge fuses are used to protect motors and branch circuits where higher amps or volt ratings are required. They are available in a wide variety of sizes, amp and volt ratings up to 600Vac and 600 amps. Cartridge fuses are used extensively in commercial, industrial and agricultural applications as well as residential fuse panels, air conditioning, pumps, appliances and other equipment.

Cartridge fuses are available in two types. General Purpose fuses have no time-delay and protect fuse panels, appliances and branch circuits. Heavy-Duty fuses have a time-delay feature, allowing momentary motor startups.

Both are available in 250Vac and 600Vac versions with catalog symbol and amp rating stamped on the knife blade or end cap.

General Purpose NON & NOS

Used in lighting circuits, main panel protection and other circuits that don't contain large electric motors or inductive loads. One to 60 amp fuses UL Listed Class K5 (IR: 50kA). 70 to 600A fuses UL Class H (IR: 10kA).

NON 250Vac General Purpose Non-Current Limiting Class K5 & H Fuses

Part No. (Amps*)	Blister Pack
NON-2	
NON-3	
NON-5	
NON-6	
NON-10	
NON-15	X
NON-20	X
NON-25	X
NON-30	X
NON-35	X
NON-40	X
NON-45	X
NON-50	X
NON-60	X
NON-70	X
NON-80	
NON-90	
NON-100	X
NON-125	
NON-150	
NON-200	
NON-250	
NON-300	
NON-400	

0-30A

35-60A

70A & Over

*See Price Sheet for all available ratings.

NOS 600Vac General Purpose Non-Current Limiting Class K5 & H Fuses

Part No. (Amps*)
NOS-6
NOS-10
NOS-15
NOS-20
NOS-25
NOS-30
NOS-35
NOS-40
NOS-50
NOS-60
NOS-100
NOS-200

Up to 60A

70A & Over

*See Price Sheet for all available ratings.

FRN-R and FRS-R Heavy-Duty Time-Delay Fuses
Now FRN-R Fuses Available with *easy*ID™ Blown Fuse Indication!

Used in motor protection. When sized correctly, they help protect motors from burnout caused by overloads or single-phasing. The time-delay feature allows the initial startup current surge for typical motors to pass, but opens prior to motor burnout when longer, dangerous overloads are present. The FRN-R *easy*ID™ option helps locate the blown fuse faster. In addition, the dual-element design opens in as little as 0.004 second if the fuse experiences short-circuit conditions. All fuses UL Listed Class R (IR: 200kA). Groove in end cap or notch in knife blade permit the fuse to be used in Class H, Class K or Class R fuse blocks.

FRN-R 250Vac Dual-Element, Time-Delay Class RK5 Fuses

Part No. (Amps*)	Blister Pack	*easy*ID™ Blister Pack
FRN-R-1		
FRN-R-2		
FRN-R-3		
FRN-R-4		
FRN-R-5		
FRN-R-6		
FRN-R-6$\frac{1}{4}$		
FRN-R-7		
FRN-R-8		
FRN-R-10	X	
FRN-R-12		
FRN-R-15	X	X
FRN-R-17$\frac{1}{2}$		
FRN-R-20	X	X
FRN-R-25	X	
FRN-R-30	X	X
FRN-R-35	X	
FRN-R-40	X	X
FRN-R-45	X	
FRN-R-50	X	X
FRN-R-60	X	X
FRN-R-70		
FRN-R-75		
FRN-R-80		
FRN-R-90		
FRN-R-100	X	
FRN-R-150		
FRN-R-200		

*See Price Sheet for all available ratings.

*easy*ID™
Blown Fuse Indication

Fuse is Blown

Good

Up to 60A

70A & Over

COOPER Bussmann

Cartridge Fuses

FRS-R 600Vac Dual-Element, Time-Delay Class RK5 Fuses

Part No. (Amps*)
FRS-R-2
FRS-R-3
FRS-R-3 1/2
FRS-R-4
FRS-R-5
FRS-R-6
FRS-R-6 1/4
FRS-R-7
FRS-R-8
FRS-R-10
FRS-R-12
FRS-R-15
FRS-R-17 1/2
FRS-R-20
FRS-R-25
FRS-R-30
FRS-R-35
FRS-R-40
FRS-R-45
FRS-R-50
FRS-R-60
FRS-R-70
FRS-R-80
FRS-R-90
FRS-R-100
FRS-R-125
FRS-R-150
FRS-R-175
FRS-R-200

*See Price Sheet for all available ratings.

Up to 60A

65A & Over

CDN Type D and PON Type P CSA Certified Standard Code Fuses

Economical fuses for a variety of applications where available short-circuit current is relatively low.

CDN 250Vac CSA Type D Time-Delay Fuses

Part No. (Amps*)	Blister Pack
CDN10	
CDN12	
CDN15	X
CDN20	X
CDN25	X
CDN30	X
CDN35	X
CDN40	X
CDN45	X
CDN50	X
CDN60	X
CDN100	
CDN110	
CDN175	
CDN200	

*See Price Sheet for all available ratings.

PON 250Vac Type P One-Time Fuses

Part No. (Amps*)	Blister Pack
PON15	X
PON20	X
PON25	X
PON30	X
PON35	X
PON40	X
PON45	X
PON50	X
PON60	X

*See Price Sheet for all available ratings.

Page 38 & 39 Cartridge Fuse Dimensions - in (mm)

Ferrule Styles

Amp	250V		600V	
Range	A	B	A	B
1/10-30	2 (50.8)	0.56 (14.3)	5.0 (127.0)	0.81 (20.6)
35-60	3 (76.2)	0.81 (20.6)	5.5 (139.7)	1.06 (27.0)

Blade Styles

Amp	250V		600V	
Range	A	B	A	B
70-100	5.88 (149.2)	1.06 (26.9)	7.88 (200.0)	1.34 (34.0)
110-200	7.13 (181.0)	1.56 (39.6)	9.63 (244.5)	1.84 (46.7)
225-400	8.63 (219.1)	2.06 (52.3)	11.63 (295.3)	2.59 (65.8)
450-600	10.38 (263.5)	2.59 (65.8)	13.38 (339.7)	3.13 (79.5)
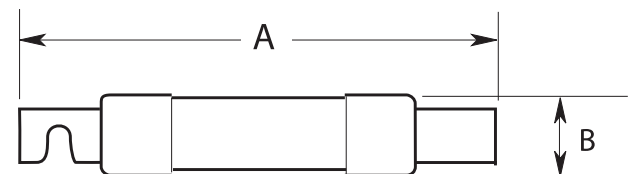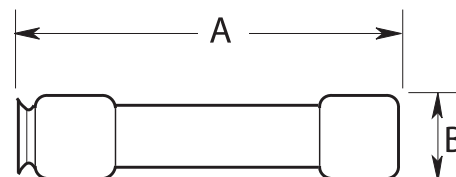
Cartridge Fuses

Midget Fuses

Midget fuses are $^{13}/_{32}$" x $1^{1}/_{2}$" cartridge fuses available in a wide variety of volt and amp ratings to provide supplemental protection to industrial, commercial, agricultural, heating, ventilating and air conditioning equipment. Due to their small size, midget fuses are often used to protect internal components such as control circuit wiring, motor control transformers or small motors. The National Electrical Code® now requires more protection of internal components. This will lead to increased replacement demand for these fuses.

Class CC

The rejection versions of Midget fuses are Class CC and are suitable for both branch circuit and supplemental protection.

BAF 250Vac Fast-Acting $^{13}/_{32}$" x $1^{1}/_{2}$" Midget Fuses

Part No. (Amps)*
BAF-1
BAF-3
BAF-5
BAF-6
BAF-10
BAF-15
BAF-20
BAF-25
BAF-30

*See Price Sheet for all available ratings.

KTK 600Vac Fast-Acting $^{13}/_{32}$" x $1^{1}/_{2}$" Midget Fuses

Part No. (Amps)*	Blister Pack	Poly Bag
KTK-1	X	
KTK-2	X	
KTK-3		X
KTK-4		
KTK-5	X	X
KTK-6		
KTK-10	X	X
KTK-15	X	X
KTK-20	X	X
KTK-25		
KTK-30		X

*See Price Sheet for all available ratings.

KTK-R 600Vac Fast-Acting $^{13}/_{32}$" x $1^{1}/_{2}$" Class CC Branch Circuit Fuses

Part No. (Amps)*	Poly Bag
KTK-R-$^{1}/_{2}$	
KTK-R-1	X
KTK-R-2	X
KTK-R-3	X
KTK-R-4	
KTK-R-5	X
KTK-R-6	X
KTK-R-8	
KTK-R-10	X
KTK-R-12	
KTK-R-15	X
KTK-R-20	X
KTK-R-25	
KTK-R-30	X

*See Price Sheet for all available ratings.

Cartridge Fuses

FNM 250Vac Time-Delay $^{13}/_{32}$" x $1^{1}/_{2}$" Midget Fuses

Part No. (Amps)*	Blister Pack	Poly Bag
FNM-$^{1}/_{2}$		
FNM-$^{6}/_{10}$		
FNM-1		X
FNM-2		X
FNM-2$^{1}/_{2}$		
FNM-3		X
FNM-3$^{2}/_{10}$		
FNM-3$^{1}/_{2}$		
FNM-4		
FNM-5	X	X
FNM-6		
FNM-6$^{1}/_{4}$		
FNM-7		
FNM-8		
FNM-9		
FNM-10	X	
FNM-12	X	
FNM-15	X	
FNM-20	X	
FNM-25		
FNM-30	X	

*See Price Sheet for all available ratings.

FNQ 500Vac Time-Delay $^{13}/_{32}$" x $1^{1}/_{2}$" Midget Fuses

Part No. (Amps)*	Poly Bag
FNQ-$^{1}/_{2}$	
FNQ-1	
FNQ-1$^{1}/_{2}$	
FNQ-2	
FNQ-2$^{1}/_{2}$	
FNQ-3	
FNQ-4	
FNQ-5	
FNQ-6	
FNQ-7	
FNQ-8	
FNQ-10	X
FNQ-12	
FNQ-15	X
FNQ-20	X
FNQ-25	
FNQ-30	

*See Price Sheet for all available ratings.

FNQ-R 600Vac Time-Delay $^{13}/_{32}$" x $1^{1}/_{2}$" Class CC Branch Circuit Fuses

Part No. (Amps)*	Poly Bag
FNQ-R-$^{1}/_{2}$	
FNQ-R-1	
FNQ-R-2	
FNQ-R-3	
FNQ-R-4	X
FNQ-R-5	X
FNQ-R-6	
FNQ-R-6$^{1}/_{4}$	
FNQ-R-7$^{1}/_{2}$	
FNQ-R-8	
FNQ-R-10	
FNQ-R-12	
FNQ-R-15	
FNQ-R-20	
FNQ-R-30	

*See Price Sheet for all available ratings.

Specialty Class G SC Rejection Fuses

600Vac Fast-Acting ($^{1}/_{2}$-6A)

600Vac Time-Delay (7-20A)

480Vac Time-Delay (25-60A)

These highly compact branch circuit fuses are used in residential, mobile home and industrial applications. They have a minimum 300 volt rating and are available up to 60A. All SC fuses are $^{13}/_{32}$" in diameter with varying lengths to provide a rejection feature that prevents over fusing (installing a 30 amp fuse in a 20A circuit). One half to 6A SC fuses are fast-acting, while 7 to 60A SC fuses are time-delay to permit temporary overloads to pass without nuisance openings.

Fuse Length	Part No. (Amps)*	Blister Pack	Poly Bag
1.31"	SC-2		
1.31"	SC-3		
1.31"	SC-5		
1.31"	SC-6		
1.31"	SC-8		
1.31"	SC-10		
1.31"	SC-15	X	X
1.41"	SC-20	X	X
1.62"	SC-25	X	X
1.62"	SC-30	X	X
2.25"	SC-40		
2.25"	SC-60		

*See Price Sheet for all available ratings.

Plug Fuses, Adapters & Circuit Breakers

Plug Fuses

These fuses thread into fuse receptacles. Two types of threaded fuses are available: Edison Base (brass threads) and Rejection Base (porcelain threads). The two are not interchangeable. Two categories of plug fuses are available. The medium-duty fuses (TL or SL) have a time-delay feature for use on motor circuits. The heavy-duty fuses (T or S) are industrial strength products featuring the exclusive Cooper Bussmann dual-element construction. This spring loaded design provides superior short-circuit and overload protection. The T or S fuses have more time-delay than the medium-duty fuses in order to better protect motors and critical residential circuits. Plug fuses are rated for a maximum of 125Vac. TL and SL four pack (PK4) versions priced per box.

Plug fuses are often used in residential and industrial branch circuit and motor protection. Fuses are used to protect furnace blower motors, pumps, power tools, garage door openers, etc. Motor protection fuses are usually used in conjunction with branch circuit protection. The fuse is often located in a box cover unit. Plug fuses provide a compact and inexpensive method to prevent damage to electrical motors. They help reduce downtime and lower maintenance costs by opening the circuit when a dangerous overload is present. When used for residential branch circuit protection, fuses are typically located in the main fuse panel.

Edison Base Plug Fuses

The base is the same as a light bulb base. All sizes fit the same fuse receptacle.

Type T 125Vac Dual-Element, Time-Delay, Edison Base Plug Fuses

Heavy-Duty Type T fuses for critical circuit protection. Used for air conditioners, furnace blower motors, swimming pool pumps, deep freezers or any circuit where motors frequently turn on and off. Use for all commercial applications. The Type T plug fuse is an industrial strength product. It provides superior protection, yet will not open under repeated motor startups. Available in a wide amp range to permit exact sizing for motor protection.

Part No. (Amps)*	Blister Pack	Poly Bag
T-1^1/$_4$		
T-1^6/$_{10}$		
T-3^2/$_{10}$	X	
T-4		
T-5		
T-6^1/$_4$	X	X
T-8	X	X
T-10	X	X
T-12	X	X
T-15	X	X
T-20	X	X
T-25	X	X
T-30	X	X

*See Price Sheet for all available ratings.

Type TL 125Vac Time-Delay Edison Base Plug Fuses

Medium-Duty Type TL fuses for residential motor circuits in kitchens, workshops, garages, utility rooms or any circuit with motors, relays or solenoids.

Part No. (Amps)	Four Pack	Blister Pack
TL-15	X	X
TL-20	X	X
TL-25	X	X
TL-30	X	X

MB 125Vac Edison Base Circuit Breakers

For replacing Edison base plug fuses in residential fuse panels.

Part No. (Amps)	Poly Bag
BP/MB-15	X
BP/MB-20	X

Plug Fuses, Adapters & Circuit Breakers

CSA Edison Base Plug Fuses

The base is the same as a light bulb base.
All sizes fit the same fuse receptacle.

TC 125Vac Dual-Element Time-Delay
Type D CSA Edison Base Plug Fuses

TC fuses for residential motor circuits in kitchens, workshops, garages, utility rooms or any circuit with motors, relays or solenoids.

Part No. (Amps)	Four Pack	Blister Pack
TC-15	X	X
TC-20	X	X
TC-25	X	X
TC-30	X	X

P 125Vac Dual-Element One-Time
Type P CSA Edison Base Plug Fuses

P fuses for non-inductive loads such as lighting and heating circuits.

Part No. (Amps)*	Four Pack	Blister Pack
P-15	X	X
P-20	X	X
P-25	X	X
P-30	X	X

Rejection Base Plug Fuses

The rejection base threads prevent a larger amp fuse from being used. A 30 amp fuse cannot be installed in a 20 amp receptacle because of the different sized threads. Available in medium- and heavy-duty.

Part No. (Amps)*	Blister Pack	Poly Bag
S-1$\frac{1}{4}$	X	X
S-1$\frac{6}{10}$	X	X
S-2		
S-2$\frac{1}{2}$		
S-3$\frac{2}{10}$	X	X
S-3$\frac{1}{2}$		
S-4		
S-5		X
S-6$\frac{1}{4}$	X	X
S-7		
S-8	X	X
S-10	X	X
S-12	X	X
S-15	X	X
S-20	X	X
S-25	X	X
S-30	X	X

*See Price Sheet for all available ratings.

Type S 125Vac Dual-Element, Time-Delay, Rejection Base Plug Fuses

Heavy-Duty Type S fuses for critical circuit protection. Used for air conditioners, furnace blower motors, swimming pool pumps, deep freezers or any circuit where motors frequently turn on and off. Used for all commercial applications, the Type S rejection base plug fuse is an industrial strength product. It provides superior protection, yet will not open under repeated motor startups. Available in a wide amp range to permit exact sizing for motor protection.

SL 125Vac Time-Delay, Rejection Base Plug Fuses

SL fuses for residential motor circuits in kitchens, workshops, garages, utility rooms or any circuit with motors, relays or solenoids.

Part No. (Amps)	Four Pack	Blister Pack
SL-15	X	X
SL-20	X	X
SL-25	X	X
SL-30	X	X

SA Fustat Fuse Adapters for Using Type S and SL Rejection Plug Fuses In Edison Base Fuse Sockets

The size-rejection SA inserts convert an Edison Base receptacle to accept the Rejection Base S and SL fuses. Once installed, the SA adapter can not easily be removed and limits the amp rating of the fuse that can be installed. SA adapters are available in a wide variety of sizes to protect motors and branch circuits. Use the chart to select the correct SA adapter. Ideal for retrofitting Edison Base fuse panels in rental property to prevent over-fusing and bring existing panels up to compliance with the NEC®.

Amp Range	Part No.*	Blister Pack	Poly Bag
1 or less	SA-1		
1.25 or less	SA-1$\frac{1}{4}$		
1.6 or less	SA-1$\frac{6}{10}$		X
3.5 to 6.25	SA-6$\frac{1}{4}$		X
7 to 15	SA-15	X	X
20	SA-20	X	X
20 to 30	SA-30	X	X

*See Price Sheet for all available ratings.

Box Cover Units

For Supplemental Circuit and Small Motor Protection

Box cover units provide an efficient and economical method to protect motors from damage due to overloads. In most cases, the branch circuit protection in the main panel is not sufficient to protect small motors. For example: a motor rated for 6 $\frac{1}{4}$ amps will likely burn up before a 30 amp breaker will trip. The box cover unit permits a supplemental fuse to be installed. The fuse can be sized close to the motor load so that it opens when the motor draws current in excess of its amp rating, thus protecting the motor from damage.

Box cover units are available in a variety of sizes that fit standard electrical boxes. In addition to a fuse holder, many accessories make these units more convenient. When a switch is used (SS Series) it turns the fused power to the load on and off. The receptacle (SR Series) allows motors to be plugged into the fused circuit. All box cover units are UL Listed for a maximum 15 amp fuse at 125Vac (except as noted).

SSU

SRU

Part No.*	Blister Pack	Reload	Poly Bag	Maximum Hp / Volts / Amps	Box Type	Description
SOU	X			$\frac{3}{4}$Hp / 125Vac / 15A	2 $\frac{1}{4}$" Handy	Fuse Holder Only
SRU	X		X	$\frac{1}{2}$Hp / 125Vac / 15A	2 $\frac{1}{4}$" Handy	Fuse Holder Plus Receptacle
SSN				$\frac{1}{2}$Hp / 125Vac / 15A	Single Gang	Weatherproof Fuse Holder and Switch
SSU	X		X	$\frac{1}{2}$Hp / 125Vac / 15A	2 $\frac{1}{4}$" Handy	Fuse Holder Plus Switch
SSY	X	X		$\frac{1}{2}$Hp / 125Vac / 15A	4" Square	Fuse Holder Plus Switch
STY**				$\frac{1}{2}$Hp / 125Vac / 15A	4" Square	Twin Fuses Plus Double Pole Switch

 * See Price Sheet for all available versions.
** Double pole switch opens both sides of the circuit. Can be used for two separate motors with common switch or a single motor ($\frac{3}{4}$Hp, 250Vac max.)

SSN Weatherproof Model
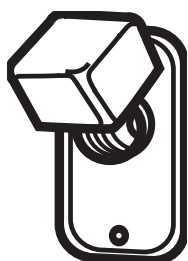
SOU

SRU
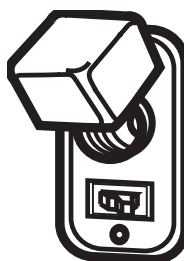
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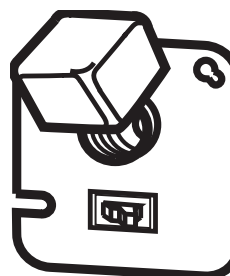
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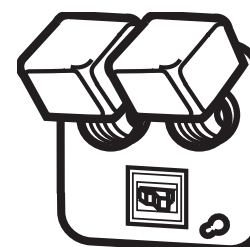
STY

Accessories

Automotive Blade And Glass Tube Fuse Pullers and Testers

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.

The FT-3 and FT-4 combination fuse tester and fuse puller is designed for easy one-handed testing of glass and blade fuses. Light glows when fuse is good.

Cartridge Fuse Pullers

Cooper Bussmann® fuse pullers are heavy-duty tools for safely removing fuses from their blocks. Can be used with all cartridge fuses.

FP-A3

FT-2

FT-3 & FT-4

FT-4 appears the same as the FT-3, only with a switch for its LED flashlight function.

Part No.	Blister Pack	Tri-Lingual Blister	Description
Automotive Fuses			
FP-A3	X	X	Fuse puller only
FT-2*	X		Fuse tester
FT-3	X		Fuse puller and tester
FT-4		X	Fuse puller and tester with built-in LED flashlight
Cartridge Fuses			
FP-2	X	-	Puller - 1 to 60A ($^{13}/_{32}$″ to $^{13}/_{16}$″ Dia.)
FP-3	X	-	Puller - 70 to 200A (1″ to $1^{1}/_{4}$″ Dia.)
FP-4		-	Puller - 225 to 600A ($1^{3}/_{4}$″ to $2^{1}/_{2}$″ Dia.)
FP-6			Puller - 0 to 60A T-Tron fuses

*Only available in blister pack.

FP-2

FP-3

FP-4

FP-6
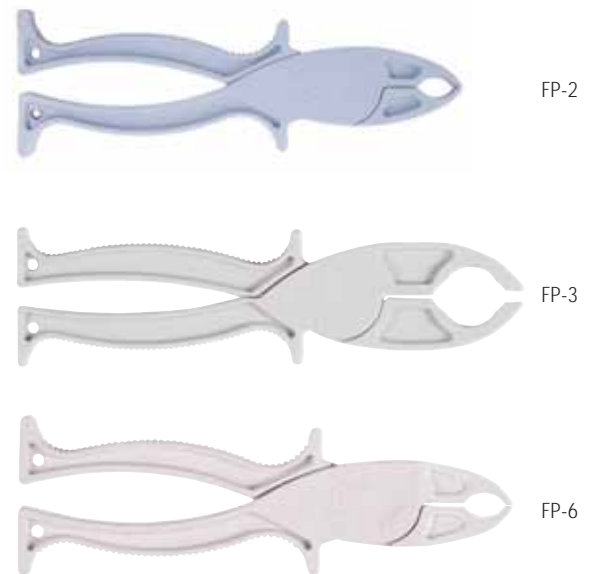
Fuse Reducers

Fuse reducers allow a smaller size fuse to be installed in a fuse block intended for a larger fuse. For example: a 30 amp fuse is two inches long and will not fit into a 60 amp fuse block (which is three inches between clips). A NO.263 reducer installed on the fuse permits it to be installed in a 60 amp fuse block. Reducers are particularly useful when equipment is being converted. Proper protection can be maintained without the expense of replacing the fuse block. Catalog numbers with the "-R" suffix (NO.263-R fit rejection (Class R) fuse blocks. Consult factory for 600 volt and Class J reducers.

NON & FRN-R 250 Volt Fuse Reducers

Part No.*	Poly Bag	Fuse Block Size (Amps)	Fuse Size (Amps)
NON 250Vac Class H Reducers			
NO.263	X	60	30
FRN-R 250Vac Class R Reducers			
NO.263-R		60	30
NO.216-R		100	60
NO.2621-R		200	100

*See Price Sheet for all available reducers.

NON Fuse Reducers

FRN-R Fuse Reducers

Fuseology - Fuse Troubleshooting

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 amp 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

Important: Before replacing any fuse or circuit breaker, always turn off power, and determine and remedy the cause of the fuse or circuit breaker opening.
- Always replace an open fuse with one of the same type having the correct voltage and amp rating for the application or called for by the equipment manufacturer.
- Always replace a non-working circuit breaker with one of the same type having the correct voltage and amp rating for the application or called for by the equipment manufacturer. If replacing a fuse with a circuit breaker, consult your owner's manual for recommendations.

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

Automotive: 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 amp rating, and (in the case of blade fuses) a color coding.

Home: For circuits carrying 120/240 volts, please refer troubleshooting and servicing to a qualified electrician.

Part Number Index

Customer Assistance

Customer Satisfaction Team
Available to answer questions regarding Cooper Bussmann products & services Monday-Friday, 8:00 a.m. – 4:30 p.m. Central Time. Contact:

- Phone: 636-527-1461 or 636-527-1477
- Toll-free fax: 877-359-2675
- E-mail: bussretail@cooperindustries.com

Emergency and After-Hours Orders
Next flight out or will call shipment for time-critical needs. Customers pay only standard product price, rush freight charges, & modest emergency service fee. Place these orders through the Customer Satisfaction Team during regular business hours. For after-hours, contact:

- After hours 314-995-1342

Application Engineering
Technical assistance is available to all customers. Staffed by degreed electrical engineers, this application support is available Monday-Friday, 8:00 a.m. – 5:00 p.m. Central Time. Contact:

- Phone: 636-527-1270
- Fax: 636-527-1607
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