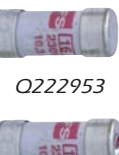
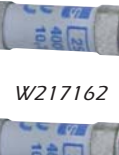




Special Purpose Fuses

European Fuses Residential Fuses gF/gG

Reference Numbers, Ratings – gF/gG (Optional Blown-Fuse Indicator)

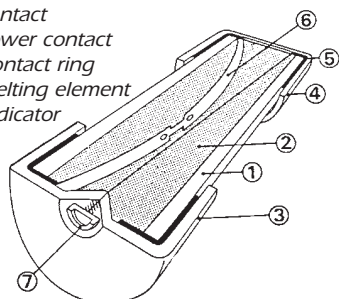
	Size (mm x mm)	Rated In Current (A)	Rated Voltage	Previous Ref.		Reference Number		Breaking capacity	Catalog Number	
				w/o Indicator	w/Indicator	w/o Indicator	w/Indicator		w/o Indicator	w/Indicator
 J218186 X213092	6 X 23	2 4 6* 10	250V	10013 10019 10023 10031	- - - -	N213590 Q214098 T214607 D215628	- - - -	6kA - 250V	FR623GF25V2 FR623GF25V4 FR623GF25V6 FR623GF25V10	
 V214608 B200745	8.5 X 23	2 4 6 10* 15	250V	10213 10219 10223 10231 10235	12213 12219 12223 12231 12235	K216140 H216644 V217161 J218186 K219222	N211543 V212055 M212577 X213092 Q213592	6kA - 250V	FR823GF25V2 FR823GF25V4 FR823GF25V6 FR823GF25V10 FR823GF25V16	FR823GF25V2I FR823GF25V4I FR823GF25V6I FR823GF25V10I FR823GF25V16I
 V214608 B200745	10.3 X 25.8	6 10 16*	250V	10423 10431 10435	12423 12431 12435	M219753 V222198 Q222953	S214100 W214609 D215122	6kA - 250V	FR1025GF25V6 FR1025GF25V10 FR1025GF25V16	FR1025GF25V6I FR1025GF25V10I FR1025GF25V16I
 Q222953 D215122	8.5 x 31.5	0.5 1 2 4 6 8 10 12 16 20* 25	380V	10609 10611 10613 10619 10623 10627 10631 10633 10635 10637 10639	12609 12611 12613 12619 12623 12627 12631 12633 12635 12637 12639	N201285 Y201800 V211020 M211542 T212054 L212576 W213091 P213591 R214099 V214608 E215629	K216646 X217163 B217673 L218188 Z218706 M219224 X222200 B200745 Q201287	20kA - 400V	FR831GF38V0.5 FR831GF38V1 FR831GF38V2 FR831GF38V4 FR831GF38V6 FR831GF38V8 FR831GF38V10 FR831GF38V12 FR831GF38V16 FR831GF38V20 FR831GF38V25	FR831GF38V2I FR831GF38V4I FR831GF38V6I FR831GF38V8I FR831GF38V10I FR831GF38V12I FR831GF38V16I FR831GF38V20I FR831GF38V25I
 W217162 P211544	10.3 x 31.5	16 20 25*	380V	10835 10837 10839	12835 12837 12839	L216141 J216645 W217162	A201802 X211022 P211544	20kA - 400V	FR1031GF38V16 FR1031GF38V20 FR1031GF38V25	FR1031GF38V16I FR1031GF38V20I FR1031GF38V25I
 P211544 Z201801	8.5 x 36	2 4 6 10 16 20 25 32	380V	11013 11019 11023 11031 11035 11037 11039 11043	13013 13019 13023 13031 13035 13037 13039 13043	A217672 K218187 Y213093 R213593 T214101 L219223 N219754 W222199 R222954 G215631 A200744	N212578 Y213093 R213593 T214101 X214610 E215123 G215631 N216143	20kA - 400V	FR836GF38V2 FR836GF38V4 FR836GF38V6 FR836GF38V10 FR836GF38V16 FR836GF38V20 FR836GF38V25 FR836GF38V32	FR836GF38V2I FR836GF38V4I FR836GF38V6I FR836GF38V10I FR836GF38V16I FR836GF38V20I FR836GF38V25I FR836GF38V32I
 Z201801 Y217164	10.3 x 38	25 32*	380V	11239 11243	13239 13243	P201286 Z201801	L216647 Y217164	20kA - 400V	FR1038GF38V25 FR1038GF38V32	FR1038GF38V25I FR1038GF38V32I

* Produits homologués

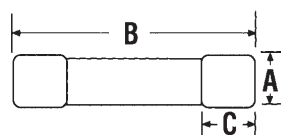
Packaging: 10 pieces

Dimensions

- 1 Ceramic body
- 2 Sand
- 3 Indicator contact
- 4 Lower contact
- 5 Contact ring
- 6 Melting element
- 7 Indicator



Fuze Size (mm x mm)	A	B	C
6.3 x 23	6.3	23	5
8.5 x 23	8.5	23	5
10.3 x 25.8	10.3	25.8	6.3
8.5 x 31.5	8.5	31.5	6.3
10.3 x 31.5	10.3	31.5	10
8.5 x 36	8.5	36	6.3
10.3 x 38	10.3	38	10



Blown-Fuse Indicator



Before

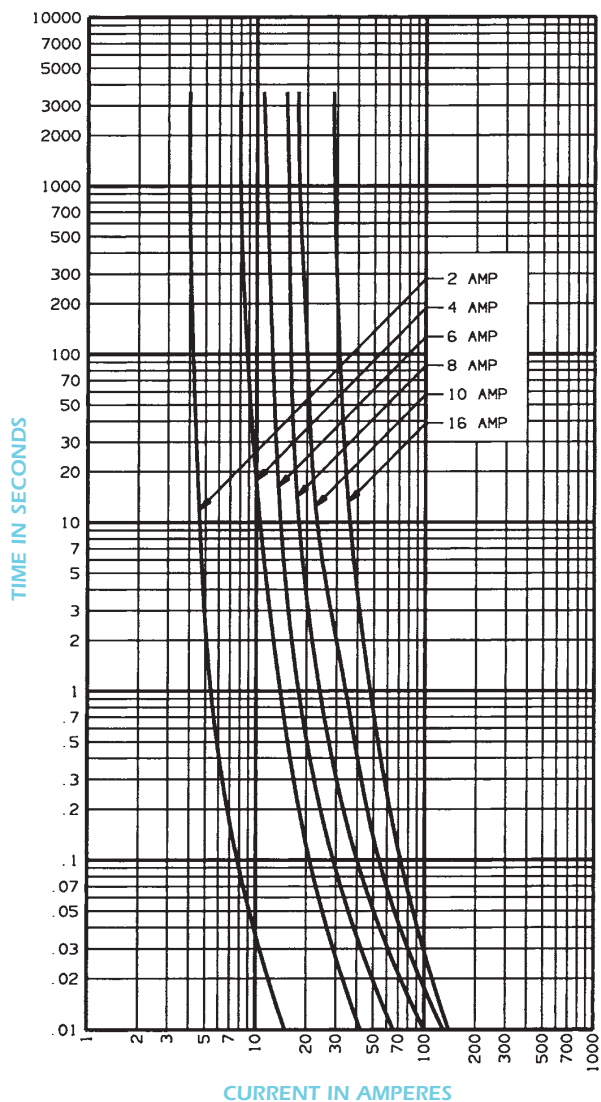


After

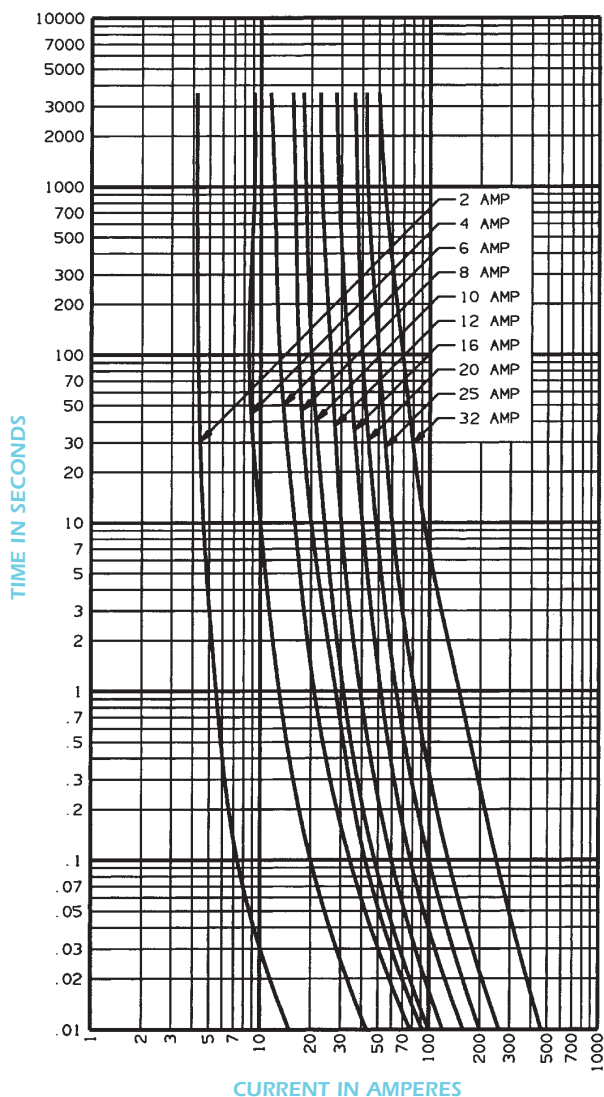


European Fuses Residential Fuses gF/gG

MELTING TIME - CURRENT DATA - 2-16 AMPERES, 250V

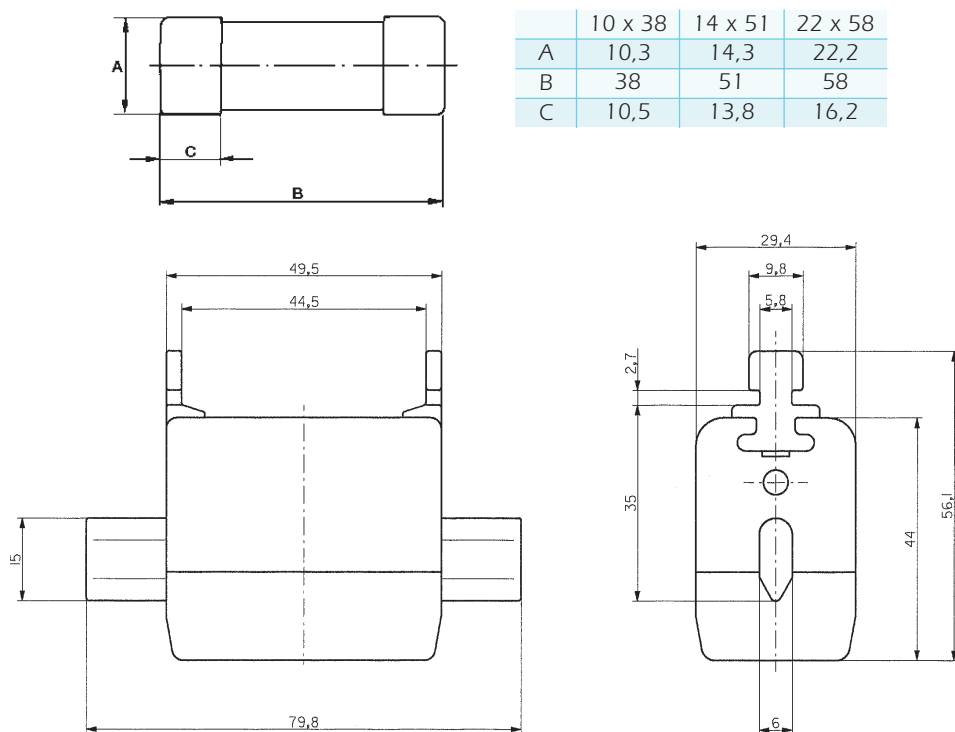


MELTING TIME - CURRENT DATA - 2-32 AMPERES, 380V





European Fuses Residential Fuses aD



Size	In (A)	Previous Ref	Ref. Number	Icc-Vn	Pack.	Cat. Number
------	--------	--------------	-------------	--------	-------	-------------

AD: In max: 90A; Vn max: 440V



K201305



Neutral

P223435

10 x 38	AD 15	16134	V216149	20KA-440V	10	10AD44V15
14 x 51	AD 15 AD 30	17134 17141	E222966 M200755	32KA-440V 32KA-440V	10	14AD44V15 14AD44V30
22 x 58	AD 15 AD 30 AD 45 AD 60	18134 18141 18149 18153	M222973 V200762 K201305 T201819	32KA-440V	10	22AD44V15 22AD44V30 22AD44V45 22AD44V60
00	AD 15 AD 30 AD 45 AD 60 AD 90	37134 37141 37149 37153 37161	- - J223430 P223435 X223442	32KA-440V	10	00AD44V45 00AD44V60 00AD44V90
10 x 38 14 x 51 22 x 58		19100	R211569 L228032 M228033		10	FRN1038 FRN1451 FRN2258
00			W216058		10	NH00NEUTRAL

Standards: EDF HN 62-S-83



Fusibles à couteaux taille 2 avec entraxes 115 et 160

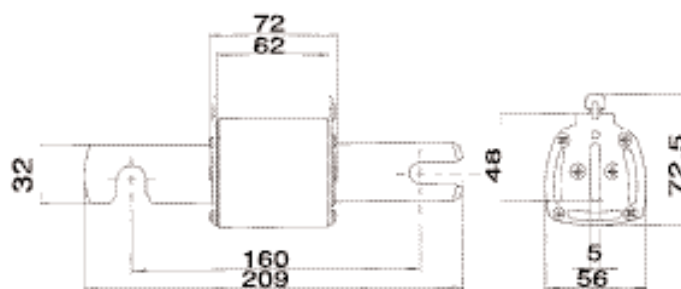
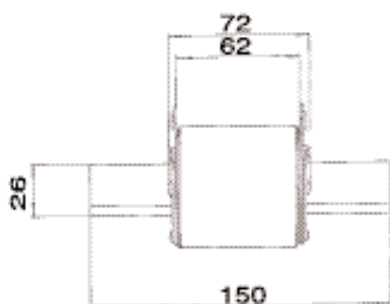
Tension (V)	Taille	Intensité (A)	Référence Entraxe 115	Référence Entraxe 160	Conditionnement
440	2	63	C 201850 C	D 217721 C	3
	2	80	Z 211070 C	N 218236 C	
	2	100	X 214150 C	B 218754 C	
	2	125	A 214659 C	Q 219273 C	
	2	160	E 215169 C	R 219803 C	
	2	200	H 215678 C	C 222481 C	
	2	250	N 216189 C	V 223003 C	
	2	315	L 216693 C	B 200791 C	
	2	400	T 225647 C	T 201336 C	
	2	Neutre	P 223780 E	Q 223781 E	5



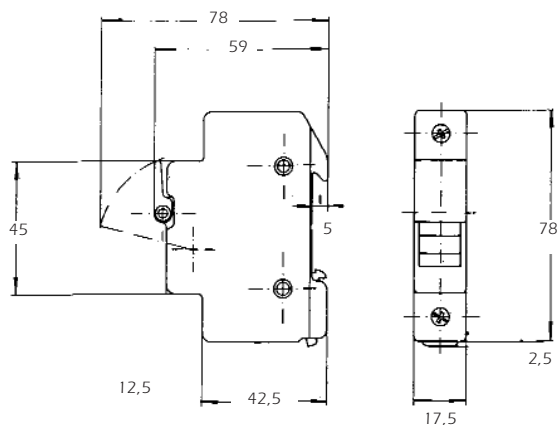
H215678C



V223003C



European Fuses Residential Fuses Disconnecter MSD Disconnecter



- Blown-fuse indicator (120/690V)
- Cable size:
 - Unipolar: 1 x 16 mm²
 - Unipolar + neutral: 1 x 10 mm²
- IP20



MSD: in maxi. 32A - Vn maxi. 400 V

Poles	Size	Previous Ref.		Reference Number		In-Vn	Catalog Number	
		Standard	+	Standard	+		Standard	+
1	8 x 23	13502	13504	C217674	A218707	10A-250V	MSD8231	MSD8231
	10 x 25	13602	13604	R201288	Y211023	16A-250V	MSD10251	MSD10251I
	8 x 31	13702	13704	V214102	F215124	20A-400V	MSD8311	MSD8311
	10 x 31	13802	13804	N218190	P219226	25A-400V	MSD10311	MSD10311
	10 x 38	13902	13904	S201289	Z211024	32A-400V	MSD10381	MSD10381
	N	14000		W214103			MSDN	
1+N (1 mod.)	8 x 23	13506	13508	N219225	T222956	10A-250V	MSD8231N	MSD8231NI
	10 x 25	13606	13608	Q211545	Z213094	16A-250V	MSD10251N	MSD10251NI
	8 x 31	13706	13708	H215632	Z217165	20A-400V	MSD8311N	MSD8311NI
	10 x 31	13806	13808	R219757	V222957	25A-400V	MSD10311N	MSD10311NI
	10 x 38	13906	13908	R211546	A213095	32A-400V	MSD10381N	MSD10381NI

Packaging: 12 pieces



P219226

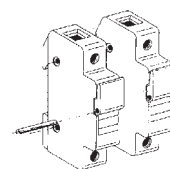


N219225

Assembly pin

N. Mod.	Previous Ref.	Reference Number	Catalog Number
2	14030	G215125	MSCMSDMAASS2
3	14031	Q216145	MSCMSDMAASS3
4	14032	A217166	MSCMSDMAASS4

Packaging: 10 pieces



J225707

Approvals: IEC 269-3-1, NFC 61.201
Approvals: NF/USE (MSD)

European Fuses DIN Forklift Fuses CNN DIN, CNL



Ferraz Shawmut is launching a brand-new range of fuses for protecting batteries. It had been developed for meeting very severe uses.

These fuses are packaged by 5 in carton box.

They can be fitted on FBT fuse bases as per DIN 43 560 fuse dimensions



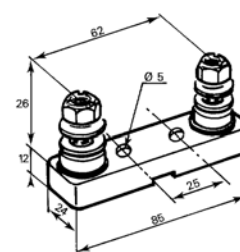
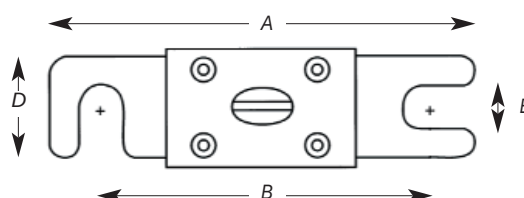
Voltage (V)	Current (A)	Reference Number	Catalog Number
80VAC/DC Breaking capacity = 2500A	35	T216332	CNL35 DIN
	40	L217360	CNL40 DIN
	50	A218385	CNL50 DIN
	60	E219424	CNL60 DIN
	80	Y219947	CNL80 DIN
	100	K201995	CNL100 DIN
	125	K211218	CNL125 DIN
	130	A211738	CNL130 DIN
	150	J212252	CNL150 DIN
	175	W212769	CNL175 DIN
	200	J213287	CNL200 DIN
	225	A213785	CNL225 DIN
	250	J214299	CNL250 DIN
	275	J214805	CNL275 DIN
	300	L215313	CNL300 DIN
	325	P215822	CNL325 DIN
	350	X216841	CNL350 DIN
	400	T217873	CNL400 DIN
	500	Q218905	CNL500 DIN
Fuse base		A092092	SFBT

Voltage (V)	Rating (A)	Reference Number	Catalog Number
130VAC/AC 75VDC Breaking capacity 2500A@75V DC	10	E228831	CNN10 DIN
	35	F228832	CNN35 DIN
	40	G228833	CNN40 DIN
	50	H228834	CNN50 DIN
	60	J228835	CNN60 DIN
	80	K228836	CNN80 DIN
	90	L228837	CNN90 DIN
	100	M228838	CNN100 DIN
	125	N228839	CNN125 DIN
	150	P228840	CNN150 DIN
	175	Q228841	CNN175 DIN
	180	N229874	CNN180 DIN
	200	R228842	CNN200 DIN
	225	S228843	CNN225 DIN
	250	T228844	CNN250 DIN
	275	V228845	CNN275 DIN
	300	W228846	CNN300 DIN
	325	X228874	CNN325 DIN
	350	Y228848	CNN350 DIN
130V AC 48V DC Breaking capacity 2500A @ 48V DC	400	Z228849	CNN400 DIN
	500	A228850	CNN500 DIN
	600	B228851	CNN600 DIN
	700	C228852	CNN700 DIN
	800	D228853	CNN800 DIN
Fuse base		A092092	SFBT

Dimensions

	A mm	B mm	C mm	D mm	E mm
CNLDIN	82	60	23 max	20	11
CNNDIN					

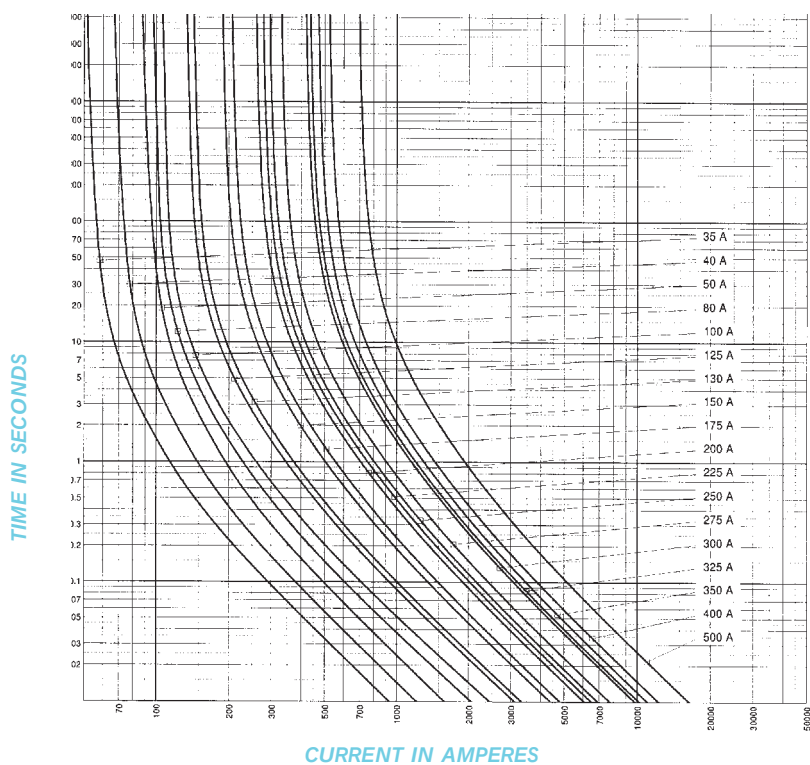
* Thickness: 11 mm max



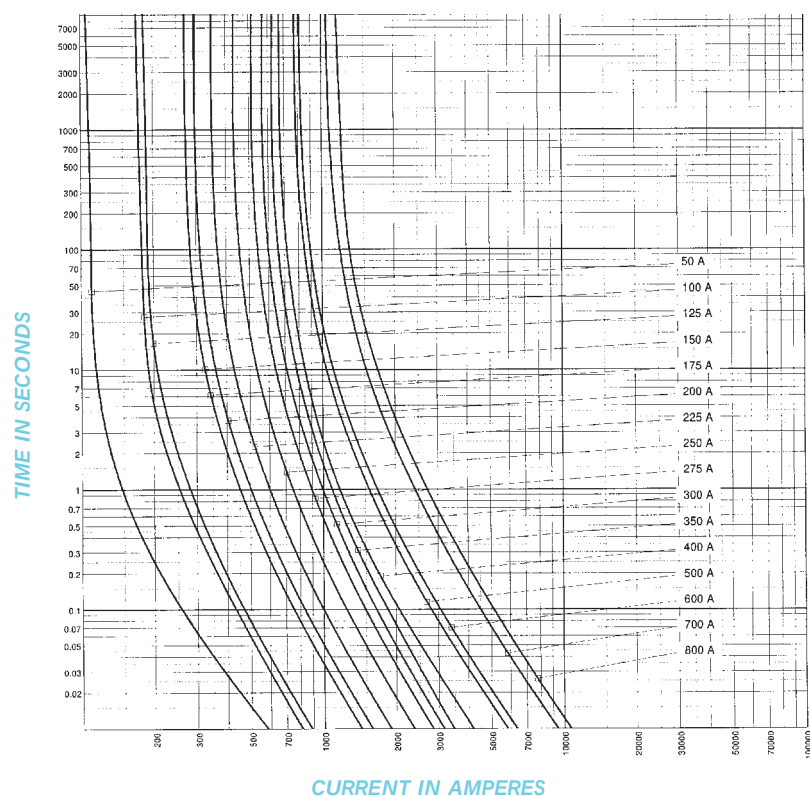
Special Purpose Fuses

European Fuses DIN Forklift Fuses CNN DIN, CNL

MELTING TIME - CURRENT DATA - CNL35-500



MELTING TIME - CURRENT DATA - CNN10-800



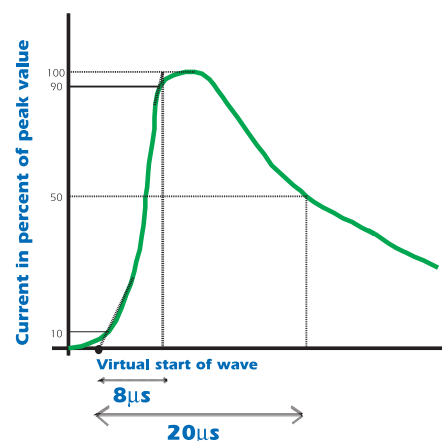
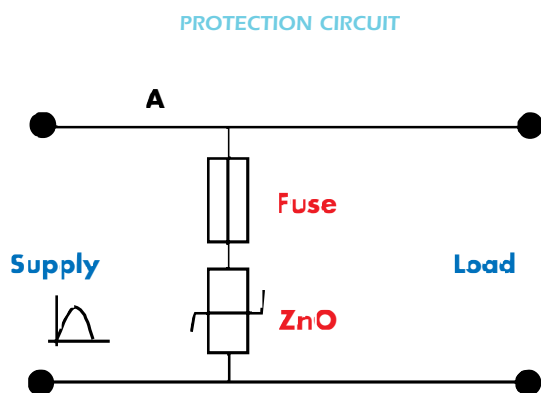


European Fuses Surge Suppression Fuses

PROTECTION AGAINST LOW VOLTAGE ARRESTER FAILURE

When an arrester fails (it can no longer contain overvoltage and thus short circuits), a fuse is needed to prevent its explosion. If the fuse is equipped with a trip-indicator, the user will be aware that the arrester must be replaced.

In order to match a wider market demand, Ferraz-SHAWMUT also offers the fuse alone plus its corresponding accessories, holder and microswitch which allows a remote signalling. The attached list provides a selection of "Isolating fuses" able to withstand once the max peak permissible current I_{max} . As a matter of principle the selected fuse automatically withstands 20 times the lower peak current I_2 (and 3 times the I_3 , former lower peak current in old standards).



DEFINITION OF THE STANDARD 8/20MS WAVE

Sometimes the fuse could also be located in A. In this case verify that the load current is compatible with the fuse current rating.



European Fuses Surge Suppression Fuses

Isolating fuse list

Imax (kA) one pulse	Designation	Reference Number	Voltage rating (V)	Current rating (A)	Breaking capacity	Catalog Number
1	250V FC 6,3A - 5x20	E 205 785	250	6.3	250V-6kA	MI5FC 25V 6,3
1	250V FC 6,3A - 5x20 AL	Z 205 044	250	6.3	250V-6kA	MI5FCP 25V 6,3
2.5	250V FC 10A - 5x20	T 205 683	250	10	250V-6kA	MI5FC 25V 10
2.5	250V FC 10A - 5x20 AL	B 205 046	250	10	250V-6kA	MI5FCP 25V 10
3	250V SA 20A - 6x32	J 084 418	250	20	250V-200kA	MI6SA 25V 20
4.5	Fus. cil. ind. GI 10x38 S/I 20A	D211028	500	20	500V-120kA	FR10GG 50V 20
4.5	6,921 Cp gRC 14x51 - 50A	N 220 950	690	50	690V-300kA	FR14GC 69V 50T
5	Fus. cil. ind. GI 10x38 S/I 25A	E 213099	500	25	500V-120kA	FR10GG 50V 25
5	621 Cp URC 14x51-63A	V 220 910	600	63	600V-100kA	FR14UC 60V 63T
6.5	Fus. cil. ind. GI 10x38 S/I 32A	A 214107	400	32	400V-120kA	FR10GG 40V 32
6.5	6,921 Cp gRC 22x58-80	X 220 820	690	80	690V-300kA	FR22GC 69V 80T
8-10	Fus. cil. ind. GI 14x51 S/I 32A	W 216656	500	32	500V-120kA	FR14GG 50V 32
8-10	Fus. Cp 14x51 GGP 32A	P 200757	500	32	500V-120kA	FR14GG 50V 32P
8-10	6,921 Cp gRC 22x58-100	C 220 917	690	100	690V-300kA	FR22GC 69V 100T
15	Fus. cil. ind. GI 14x51 S/I 40A	X 218198	500	40	500V-120kA	FR14GG 50V 40
15	Fus. Cp 14x51 GGP 40A	P 201815	500	40	500V-120kA	FR14GG 50V 40P
15	621 Cp URD 22x58-135	B 220 709	600	135	600V-300kA	FR22UD 60V 135T
20	Fus. cil. ind. GI 22x58 S/I 63A	Y 215646	690	63	690V-80kA	FR22GG 69V 63
20	Fus. Cp 22x58 GGP 63A	S 214629	500	63	500V-120kA	FR22GG 50V 63P
25	Fus. cil. ind. GI 22x58 S/I 80A	Q 217180	690	80	690V-80kA	FR22GG 69V 80
25	Fus. Cp 22x58 GGP 80A	F 216159	500	80	500V-120kA	FR22GG 50V 80P
35-40	Fus. cil. ind. GI 22x58 S/I 100A	E 218 205	500	100	500V-120kA	FR22GG 50V 100
35-40	Fus. Cp 22x58 GGP 100A	T 217183	500	100	500V-120kA	FR22GG 50V 100P
50-60	Fus. cil. ind. GI 22x58 S/I 125A	J 219773	400	125	400V-100kA	FR22GG 40V 125
50-60	Fus. Cp 22x58 GGP 125	H 218208	400	125	400V-120kA	FR22GG 40V 125P
65	gG 00 L 160	D 098 305	500	160	500V-100kA	NH00GG 50V 160-3
65	gG 1/160 P	G 095 594	500	160	500V-100kA	NH1GG 50V 160-4
65	Fus. GI NH1 C/P 160A	Z 222478	690	160	690V-80kA	NH1GG 69V 160P-2
75-100	gG 0 L/200	H 095 020	500	200	500V-100kA	NH0GG 50V 200-3
75-100	gG 1/200P	H 095 595	500	200	500V-100kA	NH1GG 50V 200-4
75-100	Fus. GI NH1 C/P 200A	R 223000	690	200	690V-80kA	NH1GG 69V 200P-2
75-100	6,9 URD 32 TTF 0900	Q 300 072	690	900	690V-200kA	PC32UD 69V 900TF
75-100	6,9 URD 32 D11A 0900	X 300 193	690	900	690V-200kA	PC32UD 69V 900 D 1A
120	gG 1 L/250	Z 095 035	500	250	500V-100kA	NH1GG 50V 250-3
120	gG 1/250 P	K 095 597	500	250	500V-100kA	NH1GG 50V 250-4
120	Fus. GI NH2 C/P 250A	T 214147	690	250	690V-80kA	NH2GG 69V 250P-2
120	6,9 URD 32 TTF 1000	S 300 074	690	1,000	690V-200kA	PC32UD 69V 1000 TF
120	6,9 URD 32 D11A 1000	Y 300 194	690	1,000	690V-200kA	PC32 UD 69V 10CD 1A

European Fuses Rotating Fuses C1G Range

Ferraz Shawmut rotating fuses are specially designed for withstanding very high mechanical accelerations, up to 6000g. They are perfectly suited to protecting rectifying diodes used in rotating exciters of power producing alternators. Ferraz Shawmut provides every type of mechanical connection required by worldwide manufacturers of rotating exciters.

Features / Benefits

- Glass fiber body for reinforced mechanical withstand and stable dimensions.
- Internal reinforcement by alumina spacer for withstanding very high accelerations.
- Fuse elements are selected to comply with different turbogenerator applications (DSS - WSS - MSS).



Voltage	Ratings
300 V	200 to 550 A
400 V	1000 A
500 V	400 A
600 V	250 A to 950 A
700 V	400 A to 950 A
750 V	610 A to 800 A
800 V	500 A to 1200 A
850 V	500 A to 1340 A
1000 V	15 A to 400 A

Ask us for further details

European Fuses CV4 Flat Fuses 250V to 7.2kVDC - 3.6kV to 10kVAC

Ferraz Shawmut FLAT FUSE range

High technology Ultra Fast fuses for protection of:

- Voltage commutated inverters (UPS and drives)
(from 250 Vdc to 7200 Vdc)
- Medium Voltage drives or softstarters
(from 3.6 kVac to 10 kVac)

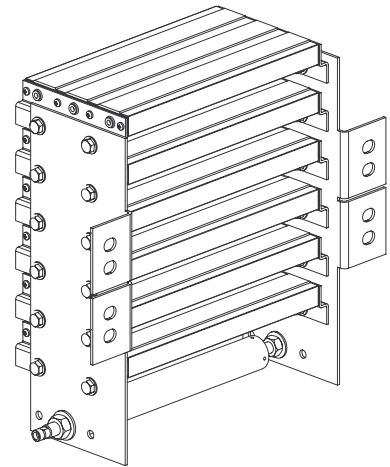
Flat fuse bodies offer you:

- A wide range of rated voltages: these flat body fuse links are available in various body sizes providing protection for high power semiconductors such as diodes, thyristors, GTOs, IGBTs, built into various devices. Thanks to their long flat bodies, nominal voltage can reach 10 kVac (CV4 technology size "2 x 15 x 27").

This is a very good solution for Medium Voltage drive or softstarter protection.

Flat fuses have been designed to provide protection solutions for difficult applications (these flat fuses give low I^2t responses and have extremely high breaking capacities).

- Easy assembly of several bodies connected in parallel to reach a sufficient rating.
for example:
325A (one body "2x15x27" 5kV CV4) / 1800A (6 bodies "2x15x27" 5kV CV4 in parallel)
250A (one body "2x15x27" 7.2KV CV4) / 1190A (5 bodies "2x15x27" 7.2KV CV4 in parallel)
- Significant improvement of the current carrying capability of the fuse thanks to the possibility of forced air cooling.
- Low circuit inductance: (from 10 to 50 nH depending on shape and mounting)



Electrical benefits

In nominal conditions, Flat Fuses add a minimum inductance (necessary in a fast switching converter: they can be used in Voltage commutated inverters).

In case of a fault, the Flat Fuses are able to ensure total protection of a GTO or rupturing case protection of an IGBT (Flat Fuses avoid IGBT case explosion and keep the busbar safe). Also, they are able to ensure quick disconnection of a damaged module in an inverter.

Mechanical benefits

They are easy to install on a busbar and maintenance is also easy.

This is only an outline of the Ferraz Shawmut Flat Fuse's possibilities.

Technical Support helps you make the best choice both technically and economically speaking.

For more information on Flat Fuse range, please contact Ferraz Shawmut Technical Support.

American Fuses Cable Protectors CP & CPH



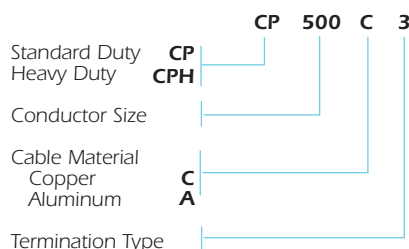
Ferraz Shawmut CP Cable Protectors are special purpose limiters which are crimped or bolted to cables to clear and isolate faults quickly, increasing the reliability of service entrance and distribution runs. They are current limiting with a 200,000A interrupting rating, yet will carry low cable overloads which are handled by standard protective devices. Cable Protectors are rated in terms of cable size and material (Al or Cu). Heavier duty CPH Cable Protectors are available on special order. Heat shrinkable (HS) tubing can be specified for field installation. Refer to the Application Information Section for more information.

Reference Numbers

Description			Copper		Aluminium	
Type	Termination	Cable size*	Catalog Number	Reference Number	Catalog Number	Reference Number
1	Cable to cable	2	CP2C1	E217814	-	-
		1/0	CP1/0C1	B200883	-	-
		2/0	CP2/0C1	A201940	-	-
		4/0	CP4/0C1	Y214243	CP4/0A1	N212716
		250kcmil	CP250C1	X213230	CP250A1	R211684
		350kcmil	CP350C1	W223096	CP350A1	C218847
		500kcmil	CP500C1	D200885	CP500A1	D218848
		750kcmil	CP750C1	M216280	CP750A1	A212198
3	Cable to offset bus	2	CP2C3	Q218330	-	-
		1/0	CP1/0C3	N201423	-	-
		2/0	CP2/0C3	Y211161	-	-
		4/0	CP4/0C3	E215261	CP4/0A3	Y213231
		250kcmil	CP250C3	X214242	CP250A3	X212195
		350kcmil	CP350C3	P201424	CP350A3	R219366
		400kcmil	CP400C3	R218331	-	-
		500kcmil	CP500C3	T211686	CP500A3	S219367
5	Straight bus to offset bus	750kcmil	CP750C3	D217307	CP750A3	A214245
		4/0	CP4/0C5	K216278	CP4/0C5	K216278
		250kcmil	CP250C5	Z214750	CP250C5	Z214750
		350kcmil	CP350C5	Z211162	CP350C5	Z211162
		500kcmil	CP500C5	Z214244	CP500C5	Z214244
		750kcmil	CP750C5	T218333	CP750C5	T218333
		4/0	CP4/0C6	B217305	CP4/0A6	P213729
		250kcmil	CP250C6	E215767	CP250A6	M212715
6	Mole to cable	350kcmil	CP350C6	S211685	CP350A6	E222575
		500kcmil	CP500C6	F215262	CP500A6	F222576
		750kcmil	CP750C6	F218850	CP750A6	G215769
		4/0	CP4/0C8	F217815	CP4/0C8	F217815
		250kcmil	CP250C8	K216784	CP250C8	K216784
		350kcmil	CP350C8	Y212196	CP350C8	Y212196
		500kcmil	CP500C8	L216279	CP500C8	L216279
		750kcmil	CP750C8	V219369	CP750C8	V219369

* kcmil = MCM

Catalog Numbering System



Approvals

- Ferraz Shawmut Certified

Features/Benefits

- Fiberglass bodies for dimensional stability in harsh environments
- Catalog number stamped into terminal for permanent identification
- Crimp terminals for aluminum cable include oxide inhibitor
- Molded rubber boots or heat shrinkable tubing available for insulation and protection

Ratings

- Sizes: #2 to 750kcmil copper
4/0 to 750kcmil aluminium
600VAC, 200kA I.R.

Special Purpose Fuses

American Fuses Cable Protectors CP & CPH

Type C1 - Dimensions

Catalog Number	Reference Number	Cable* size	Dimensions-Inches (mm)					
			A	B	D	E	J	N
CP2C1	E217814	#2	7.12 (180)	1.44 (37)	.42 (11)	1.75 (44)	3.62 (92)	.31 (7.9)
CP1/0C1	B200883	1/0	7.12 (180)	1.44 (37)	.52 (13)	1.75 (44)	3.62 (92)	.39 (9.9)
CP2/0C1	A201940	2/0	7.12 (180)	1.44 (37)	.56 (14)	1.75 (44)	3.62 (92)	.44 (11)
CP4/0C1	Y214243	4/0	7.12 (180)	1.44 (37)	.68 (17)	1.75 (44)	3.62 (92)	.55 (14)
CP250C1	X213230	250kcmil	7.38 (188)	1.44 (37)	.75 (19)	1.88 (48)	3.62 (92)	.62 (16)
CP350C1	W223096	350kcmil	7.62 (194)	1.62 (41)	.88 (22)	2.00 (51)	3.62 (92)	.71 (18)
CP500C1	D200885	500kcmil	9.38 (238)	1.88 (48)	1.05 (27)	2.88 (73)	3.62 (92)	.85 (22)
CP750C1	M216280	750kcmil	9.51 (242)	2.50 (64)	1.32 (34)	2.88 (73)	3.75 (95)	1.06 (27)

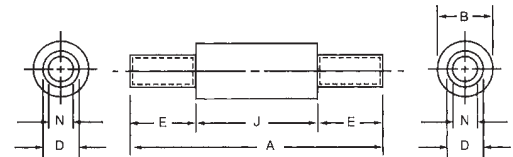
TYPE 1 - Cable to cable

TYPE 3 - Cable to offset bus

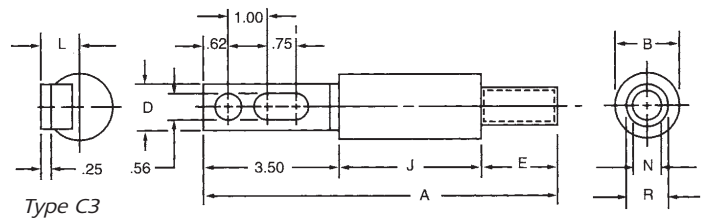
TYPE 5 - Bus to offset bus

TYPE 6 - Mole to cable

TYPE 8 - Mole to offset bus



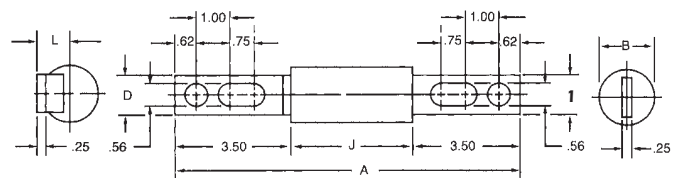
Type C1



Type C3

Type C3 - Dimensions

Catalog Number	Reference Number	Cable* size	Dimensions-Inches (mm)							
			A	B	D	E	J	L	N	R
CP2C3	Q218330	#2	8.87 (225)	1.44 (37)	1.12 (28)	1.75 (44)	3.62 (92)	.96 (24)	.31 (7.9)	.42 (11)
CP1/0C3	N201423	1/0	8.87 (225)	1.44 (37)	1.12 (28)	1.75 (44)	3.62 (92)	.96 (24)	.39 (9.9)	.52 (13)
CP2/0C3	Y211161	2/0	8.87 (225)	1.44 (37)	1.12 (28)	1.75 (44)	3.62 (92)	.96 (24)	.44 (11)	.56 (14)
CP4/0C3	E215261	4/0	8.87 (225)	1.44 (37)	1.12 (28)	1.75 (44)	3.62 (92)	.96 (24)	.55 (14)	.68 (17)
CP250C3	X214242	250kcmil	9.00 (229)	1.44 (37)	1.12 (28)	1.88 (48)	3.62 (92)	.96 (24)	.62 (16)	.75 (19)
CP350C3	P201424	350kcmil	9.12 (232)	1.62 (41)	1.12 (28)	2.00 (51)	3.62 (92)	.96 (24)	.71 (18)	.88 (22)
CP400C3	R218331	400kcmil	9.12 (232)	1.62 (41)	1.12 (28)	2.00 (51)	3.62 (92)	.96 (24)	.75 (19)	.88 (22)
CP500C3	T211686	500kcmil	10.00 (254)	1.88 (48)	1.62 (41)	2.88 (73)	3.62 (92)	1.19 (30)	.85 (22)	1.05 (27)
CP750C3	D217307	750kcmil	10.13 (257)	2.50 (64)	2.00 (51)	2.88 (73)	3.75 (95)	1.31 (33)	1.06 (27)	1.32 (34)



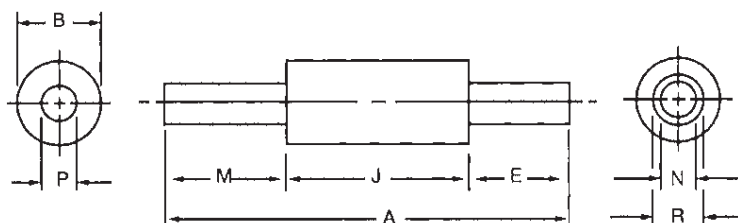
Type C5

Type C5 - Dimensions

Catalog Number	Reference Number	Cable* size	Dimensions-Inches (mm)					
			A	B	D	J	L	M
CP4/0C5	K216278	4/0	10.37 (263)	1.44 (37)	1.12 (28)	3.62 (92)	.96 (24)	1.12 (28)
CP250C5	Z214750	250kcmil	10.37 (263)	1.44 (37)	1.12 (28)	3.62 (92)	.96 (24)	1.12 (28)
CP350C5	Z211162	350kcmil	10.37 (263)	1.62 (41)	1.12 (28)	3.62 (92)	.96 (24)	1.12 (28)
CP500C5	Z214244	500kcmil	10.37 (263)	1.88 (48)	1.62 (41)	3.62 (92)	1.19 (30)	1.50 (38)
CP750C5	T218333	750kcmil	10.50 (267)	2.50 (64)	2.00 (51)	3.75 (95)	1.31 (33)	2.00 (51)

* kcmil = MCM

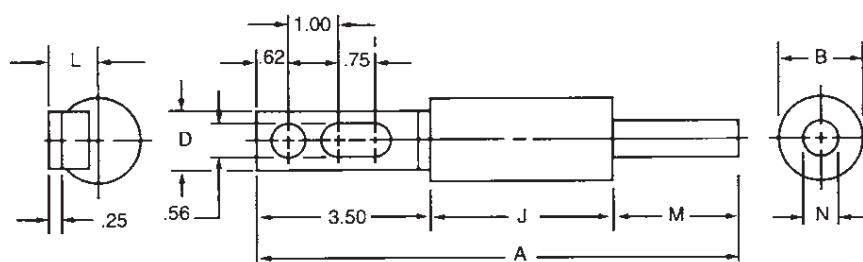
American Fuses Cable Protectors CP & CPH



Type C6

Type C6 - Dimensions

Catalog Number	Reference Number	Cable* size	Dimensions-Inches (mm)							
			A	B	E	J	M	N	P	R
CP4/0C6	B217305	4/0	7.87 (200)	1.44 (37)	1.75 (44)	3.62 (92)	2.50 (64)	.55 (14)	.52 (13)	.68 (17)
CP250C6	E215767	250kcmil	8.00 (203)	1.44 (37)	1.88 (48)	3.62 (92)	2.50 (64)	.62 (16)	.58 (14)	.75 (19)
CP350C6	S211685	350kcmil	8.12 (206)	1.62 (41)	2.00 (51)	3.62 (92)	2.50 (64)	.71 (18)	.68 (17)	.88 (22)
CP500C6	F215262	500kcmil	9.38 (238)	1.88 (48)	2.88 (73)	3.62 (92)	2.88 (73)	.85 (22)	.81 (21)	1.05 (27)
CP750C6	F218850	750kcmil	9.51 (427)	2.50 (64)	2.88 (73)	3.75 (95)	2.88 (73)	1.06 (27)	1.00 (25)	1.32 (34)



Type C8

Type C8 - Dimensions

Catalog Number	Reference Number	size	Cable* Dimensions-Inches (mm)						
			A	B	D	J	L	M	N
CP4/0C8	F217815	4/0	9.62 (244)	1.44 (37)	1.12 (28)	3.62 (92)	.96 (24)	2.50 (64)	.52 (13)
CP250C8	K216784	250kcmil	9.62 (244)	1.44 (37)	1.12 (28)	3.62 (92)	.96 (24)	2.50 (64)	.58 (14)
CP350C8	Y212196	350kcmil	9.62 (244)	1.62 (41)	1.12 (28)	3.62 (92)	.96 (24)	2.50 (64)	.68 (17)
CP500C8	L216279	500kcmil	10.00 (254)	1.88 (48)	1.62 (41)	3.62 (92)	1.19 (30)	2.88 (73)	.81 (21)
CP750C8	V219369	750kcmil	10.13 (257)	2.50 (64)	2.00 (51)	3.75 (95)	1.31 (33)	2.88 (73)	1.00 (25)

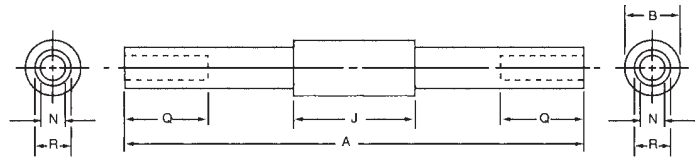
* kcmil = MCM

Special Purpose Fuses

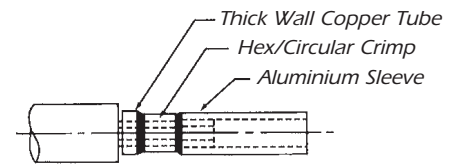
American Fuses Cable Protectors CP & CPH

Type A1 - Dimensions

Catalog Number	Reference Number	Cable* size	Dimensions-Inches (mm)					
			A	B	J	N	Q	R
CP4/0A1	N212716	4/0	13.88 (353)	1.44 (37)	3.62 (92)	.55 (14)	2.50 (64)	.85 (22)
CP250A1	R211684	250kcmil	13.88 (353)	1.44 (37)	3.62 (92)	.59 (15)	2.50 (64)	.94 (24)
CP350A1	C218847	350kcmil	13.88 (353)	1.62 (41)	3.62 (92)	.71 (18)	2.50 (64)	1.13 (29)
CP500A1	D218848	500kcmil	15.38 (391)	1.88 (48)	3.62 (92)	.85 (22)	2.88 (73)	1.33 (34)
CP750A1	A212198	750kcmil	15.50 (394)	2.50 (64)	3.75 (95)	1.06 (27)	2.88 (73)	1.62 (41)



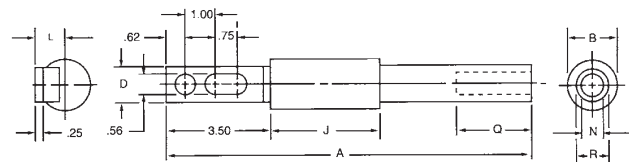
Type A1



Typical Terminal Assembly Details

Type A3 - Dimensions

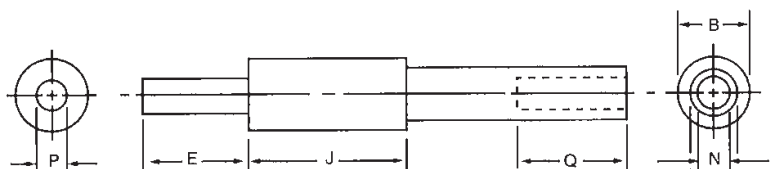
Catalog Number	Reference Number	Cable* size	Dimensions-Inches (mm)							
			A	B	D	J	L	N	Q	R
CP4/0A3	Y213231	4/0	12.25 (311)	1.44 (37)	1.12 (28)	3.62 (92)	.96 (24)	.55 (14)	2.50 (64)	.85 (22)
CP250A3	X212195	250kcmil	12.25 (311)	1.44 (37)	1.12 (28)	3.62 (92)	.96 (24)	.59 (15)	2.50 (64)	.94 (24)
CP350A3	R219366	350kcmil	12.25 (311)	1.62 (41)	1.12 (28)	3.62 (92)	.96 (24)	.71 (18)	2.50 (64)	1.13 (29)
CP500A3	S219367	500kcmil	13.00 (330)	1.88 (48)	1.62 (41)	3.62 (92)	1.19 (30)	.85 (22)	2.88 (73)	1.33 (34)
CP750A3	A214245	750kcmil	13.12 (333)	2.50 (64)	2.00 (51)	3.75 (95)	1.31 (33)	1.06 (27)	2.88 (73)	1.62 (41)



Type A3

Type A6 - Dimensions

Catalog Number	Reference Number	Cable* size	Dimensions-Inches (mm)							
			A	B	E	J	N	P	Q	R
CP4/0A6	P213729	4/0	11.25 (286)	1.44 (37)	2.50 (64)	3.62 (92)	.55 (14)	.52 (13)	2.50 (64)	.85 (22)
CP250A6	M212715	250kcmil	11.25 (286)	1.44 (37)	2.50 (64)	3.62 (92)	.59 (15)	.58 (14)	2.50 (64)	.94 (24)
CP350A6	E222575	350kcmil	11.25 (286)	1.62 (41)	2.50 (64)	3.62 (92)	.71 (18)	.68 (17)	2.50 (64)	1.13 (29)
CP500A6	F222576	500kcmil	12.38 (314)	1.88 (48)	2.88 (73)	3.62 (92)	.85 (22)	.81 (21)	2.88 (73)	1.33 (34)
CP750A6	G215769	750kcmil	12.50 (318)	2.50 (64)	2.88 (73)	3.75 (95)	1.06 (27)	1.00 (25)	2.88 (73)	1.59 (41)



Type A6

* kcmil = MCM

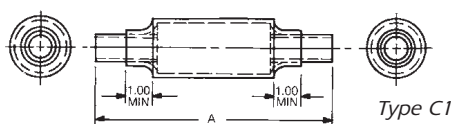
Note: Inside surface of sleeve ends is coated with oxide inhibitor and capped.

Type 5 - Use Copper Cable Protectors Type C5

Type 8 - Use Copper Cable Protectors Type C8

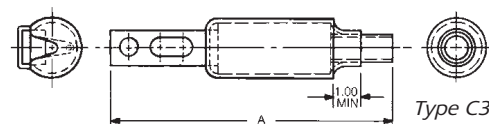
American Fuses Cable Protectors CP & CPH

Copper Cable Protectors with Heat Shrinkable Tubing*



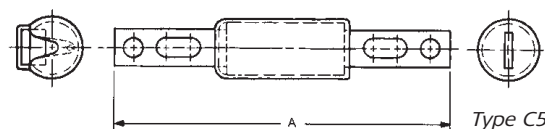
Type C1, Copper Cable - Dimensions

Cable size	A		Cable protector with heat shrinkable tubing	
	Inches	mm	Cat. Number	Ref. Number
4/0	7.12	(180)	CP4/0C1-HS	A214751
250kcmil	7.38	(188)	CP250C1-HS	N213728
350kcmil	7.62	(194)	CP350C1-HS	C200884
500kcmil	9.38	(238)	CP500C1-HS	C201942
750kcmil	9.51	(242)	CP750C1-HS	N216787



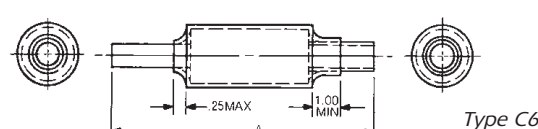
Type C3, Copper Cable - Dimensions

Cable size	A		Cable protector with heat shrinkable tubing	
	Inches	mm	Cat. Number	Ref. Number
4/0	8.87	(225)	CP4/0C3-HS	Z230367
250kcmil	9.00	(229)	CP250C3-HS	L230355
350kcmil	9.12	(232)	CP350C3-HS	B201941
500kcmil	10.00	(254)	CP500C3-HS	P212717
750kcmil	10.13	(257)	CP750C3-HS	H217817



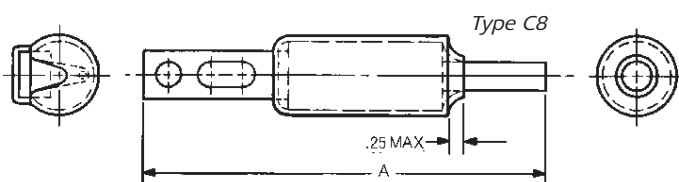
Type C5, Copper Cable - Dimensions

Cable size	A		Cable protector with heat shrinkable tubing	
	Inches	mm	Cat. Number	Ref. Number
4/0	10.37	(263)	CP4/0C5-HS	A230368
250kcmil	10.37	(263)	CP250C5-HS	D215260
350kcmil	10.37	(263)	CP350C5-HS	R230360
500kcmil	10.37	(263)	CP500C5-HS	B214752
750kcmil	10.50	(267)	CP750C5-HS	Q230382



Type C6, Copper Cable - Dimensions

Cable size	A		Cable protector with heat shrinkable tubing	
	Inches	mm	Cat. Number	Ref. Number
4/0	7.87	(200)	CP4/0C6-HS	B230369
250kcmil	8.00	(203)	CP250C6-HS	M230356
350kcmil	8.12	(206)	CP350C6-HS	S230361
500kcmil	9.38	(238)	CP500C6-HS	L230378
750kcmil	9.51	(242)	CP750C6-HS	R230383



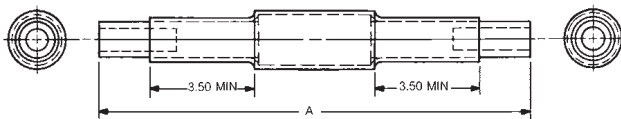
Type C8, Copper Cable - Dimensions

Cable size	A		Cable protector with heat shrinkable tubing	
	Inches	mm	Cat. Number	Ref. Number
4/0	9.62	(244)	CP4/0C8-HS	C230370
250kcmil	9.62	(244)	CP250C8-HS	A217304
350kcmil	9.62	(244)	CP350C8-HS	V230363
500kcmil	10.00	(254)	CP500C8-HS	M216786
750kcmil	10.13	(257)	CP750C8-HS	S230384

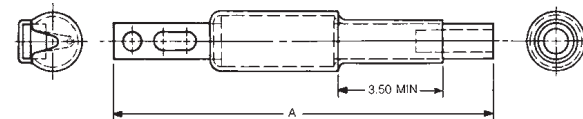
* Transparent heat shrinkable tubing is supplied separately with -HS Catalog No. Maximum curing conditions: 5 seconds at 450°F.

American Fuses Cable Protectors CP & CPH

Aluminum Cable Protectors with Heat Shrinkable Tubing*



Type A1



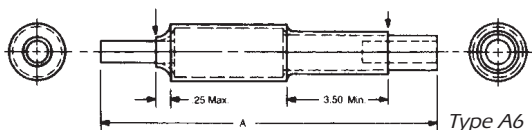
Type A3

Type A1, Copper Cable - Dimensions

Cable size	A		Cable protector with heat shrinkable tubing	
	Inches	mm	Cat. Number	Ref. Number
4/0	13.88	(353)	CP4/0A1-HS	W230364
250kcmil	13.88	(353)	CP250A1-HS	G230351
350kcmil	13.88	(353)	CP350A1-HS	N230357
500kcmil	15.38	(391)	CP500A1-HS	F230373
750kcmil	15.50	(394)	CP750A1-HS	Q212718

Type A3, Copper Cable - Dimensions

Cable size	A		Cable protector with heat shrinkable tubing	
	Inches	mm	Cat. Number	Ref. Number
4/0	12.25	(311)	CP4/0A3-HS	X230365
250kcmil	12.25	(311)	CP250A3-HS	H230352
350kcmil	12.25	(311)	CP350A3-HS	N219892
500kcmil	13.00	(330)	CP500A3-HS	G230374
750kcmil	13.12	(333)	CP750A3-HS	N230380



Type A6

Type A6, Copper Cable - Dimensions

Cable size	A		Cable protector with heat shrinkable tubing	
	Inches	mm	Cat. Number	Ref. Number
4/0	11.25	(286)	CP4/0A6-HS	Y230366
250kcmil	11.25	(286)	CP250A6-HS	J230353
350kcmil	11.25	(286)	CP350A6-HS	P230358
500kcmil	12.38	(314)	CP500A6-HS	H230375
750kcmil	12.50	(318)	CP750A6-HS	P230381

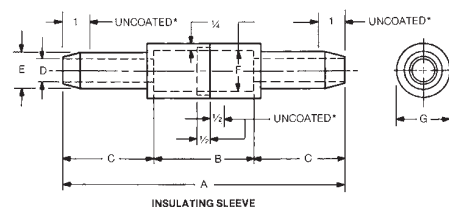
Type 5 - Use Copper Cable Protectors Type C5
Type 8 - Use Copper Cable Protectors Type C8

* Transparent heat shrinkable tubing is supplied separately with -HS Catalog Numbers. Maximum curing conditions: 5 seconds at 450°F.

Molded Rubber Insulating Sleeves**

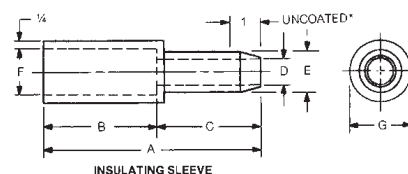
For Type C1 Copper Cable Protectors - Dimensions

Catalog Number	Reference Number	Cable* size	Dimensions-Inches (mm)						
			A	B	C	D	E	F	G
4/0CCR	D213236	4/0	10.44 (265)	3.69 (94)	3.38 (86)	.83 (21)	1.33 (33)	1.50 (38)	2.00 (51)
500CCR	E214755	500kcmil	14.19 (360)	3.69 (94)	5.25 (133)	1.31 (33)	1.81 (46)	1.94 (49)	2.44 (62)



For Type C3 Copper Cable Protectors - Dimensions

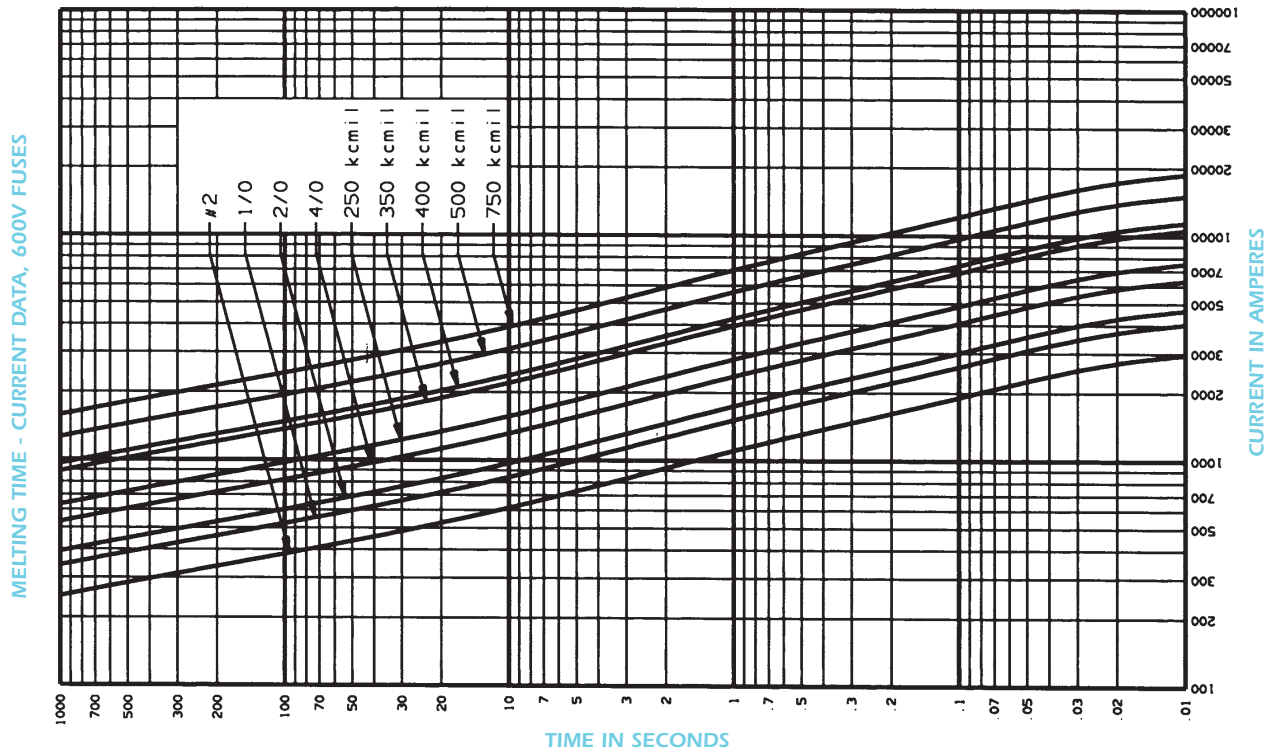
Catalog Number	Reference Number	Cable* size	Dimensions-Inches (mm)						
			A	B	C	D	E	F	G
4/0CBR	D212201	4/0	7.06 (179)	3.69 (94)	3.38 (86)	.83 (21)	1.33 (33)	1.50 (38)	2.00 (51)
500CBR	V213734	500kcmil	8.94 (227)	3.69 (94)	5.25 (133)	1.31 (33)	1.81 (46)	1.94 (49)	2.44 (62)



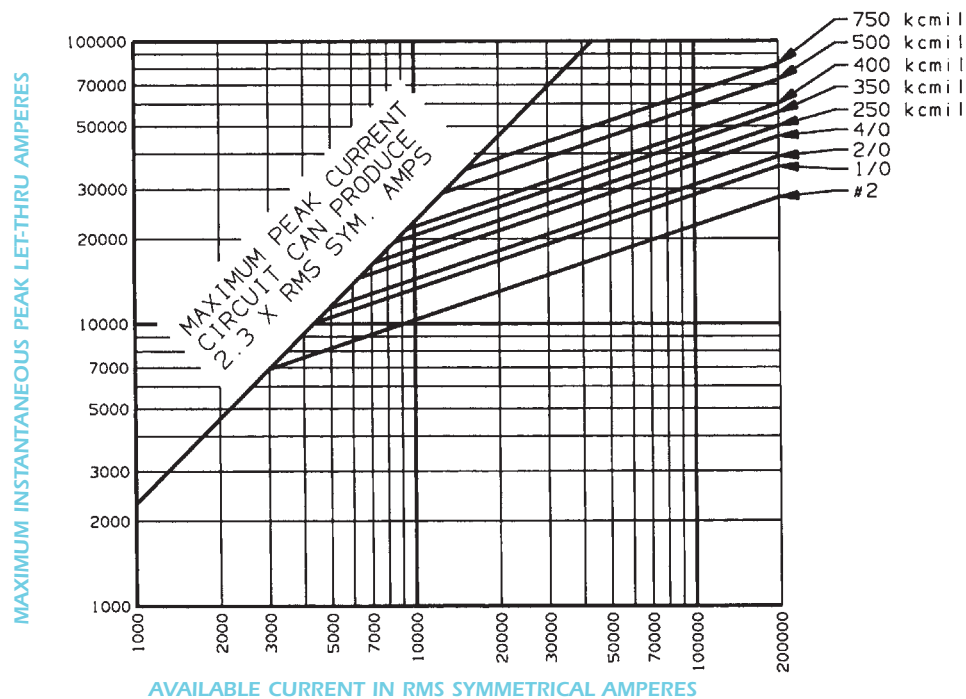
** Molded rubber insulating sleeves are ordered by their own catalog numbers, and not as suffixes to the cable protector catalog numbers. Neoprene coated except as noted.

American Fuses Cable Protectors CP & CPH

Copper & Aluminum Cable Protectors - #2-750kcmil



Peak Let-Thru Current Data Copper & Aluminum Cable Protectors - #2-750kcmil - 600V



American Fuses Cable Protectors CP & CPH

Recommended Tooling For Installing CP Cable Protectors on Copper & Aluminum Cables

Circular Crimp – Copper Cable

Cable** Size	Burndy Hypress & Die Set				
	Y34A	Y35	Y39	Y46*	Y48B
4/0	A28R	U28RT	U28RT	U28RT	C28R
250kcmil	A29R	U29RT	U29RT	U29RT	C29R
350kcmil	A31R	U31RT	U31RT	U31RT	C31R
500kcmil	A34R	U34RT	U34RT	U34RT	C34R
750kcmil	-	-	U39RT	U39RT	C39R

Circular Crimp – Aluminum Cable

4/0	-	U28ART	U28ART	U28ART	C28AR
250kcmil	-	U29ART	U29ART	U29ART	C29AR
350kcmil	-	U31ART	U31ART	U31ART	C31AR
500kcmil	-	U34ART	U34ART	U34ART	C34AR
750kcmil	-	-	U39ART	U39ART	C39AR

Hex/Circular Crimp – Copper Cable

Cable** Size	T & B Installing Tools				
	TBMB Tool	13642 Head		TBM 15 Head	
	Die	Die		Die	
	Cat. Number	Cat. Number	Code Number	Cat. Number	Code Number
4/0	13463	11740	54	15511	54H
250kcmil	13463	11771	62	15510	62
350kcmil	13466	11743	71H	15514	71H
500kcmil	13468	11746	87H	15506	87H
750kcmil	-	11749	106H	15515	106H

Hex/Circular Crimp – Aluminum Cable

4/0	13465	11742	66H	15534	66
250kcmil	13466	11743	71H	15514	71H
350kcmil	13468	11746	87H	15506	87H
500kcmil	-	11749	106H	15515	106H
750kcmil	-	-	-	15603	125H

Hex/Circular Crimp – Copper Cable

Cable** Size	Homac Tools UT 15 Head Die	
	Cat. Number	Code. Number
4/0	15511	54H
250kcmil	15510	62
350kcmil	15514	71H
500kcmil	15587	87H
750 kcmil	15500	106H

Note: Crimping tools suitable for standard splicing sleeves are also suitable for CP cable protectors for copper and aluminum cables because Ferraz Shawmut uses standard commercial dimensions on both inside and outside diameters.

Hex/Circular Crimp – Aluminum Cable

4/0	15534	66
250kcmil	15514	71H
350kcmil	15506	87H
500kcmil	15515	106H
750 kcmil	15603	125H

* with adapter P-U-ADP

** kcmil = MCM

12/04

SP21

American Fuses Welder Protectors A4BX

WELDER PROTECTORS

Ferraz Shawmut Welder Protectors are special purpose limiters used to provide isolation of faulted welding equipment and protection for the cable drop supplying the welder. Welder Protectors have a high thermal capacity and are less affected by high ambient temperatures and extended weld times than similar size Class J or K fuses*. Welder Protectors should only be applied for isolation of short circuited welding circuits. Overload protection must be provided for by other means.

* Contact us for Class L sizes and rating

Standard Fuse Ampere Ratings, Reference Numbers

Catalog Number			Reference Number	
Ampere Rating	Class K Dimension	Class J Dimension	Class K Dimension	Class J Dimension
100	A4BX100-150	-	J218876	-
125	A4BX125-150	-	D212224	-
150	A4BX150-150	-	S212743	-
200	A4BX200-150	A4BX200-150J	H217334	M217844
225	A4BX225-150	-	G211192	-
300	A4BX300-150	A4BX300-150J	J215288	K215795
400	A4BX400-150	A4BX400-150J	N217845	Y218360
500	A4BX500-150	-	M222605	-
600	A4BX600-150	-	F201968	-

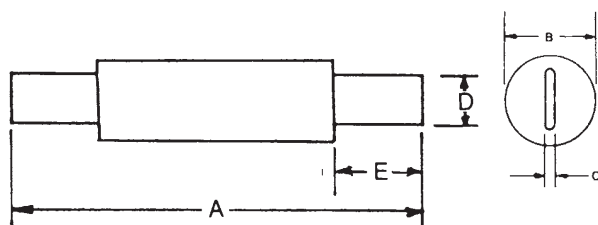


Ratings

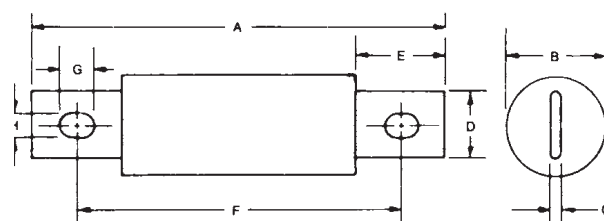
- 600VAC, 200kA I.R.

Approvals

- Ferraz Shawmut Certified



CLASS K



CLASS J

A4BX () - 150; Class K Dimensions

Ampere Rating	Inches							
	A	B	C	D	E	F	G	H
100	7-7/8	1	1/8	23/32	2-5/8	-	-	-
125-200	9-5/8	1-1/2	3/16	1-1/8	3-7/16	-	-	-
225-400	11-5/8	2	1/4	1-5/8	4-7/16	-	-	-
500-600	13-3/8	2-1/2	1/4	2	5-5/16	-	-	-

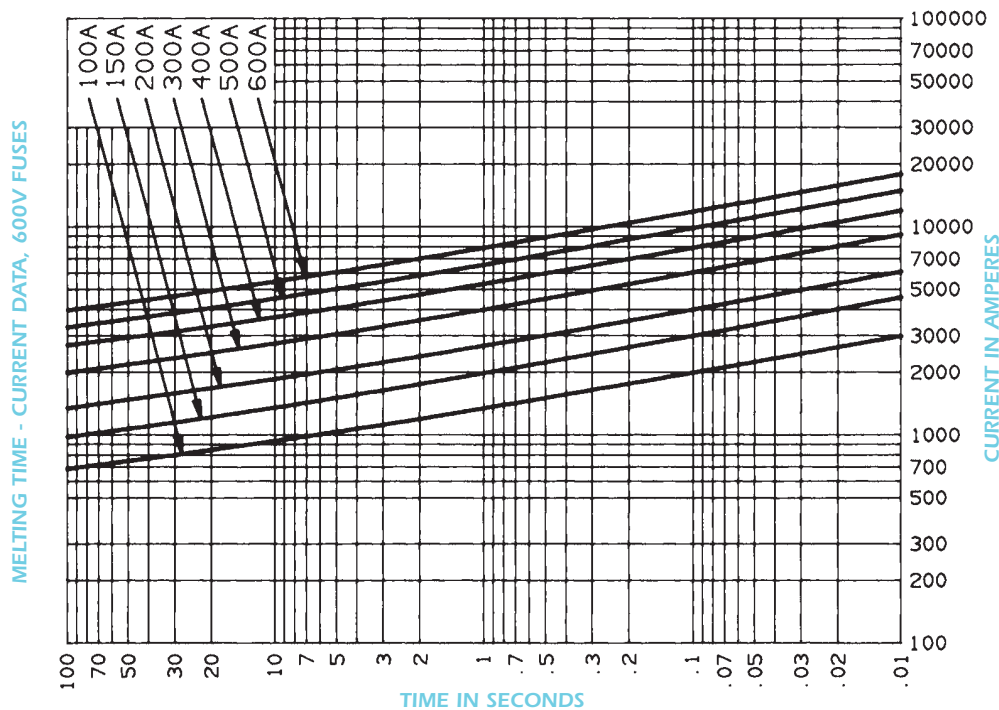
A4BX () - 150J; Class J Dimensions

125-200	5-3/4	1-1/2	3/16	1-1/8	1-1/2	4-3/8	3/8	9/32
225-400	7-1/8	2	1/4	1-5/8	2-3/16	5-1/4	17/32	13/32

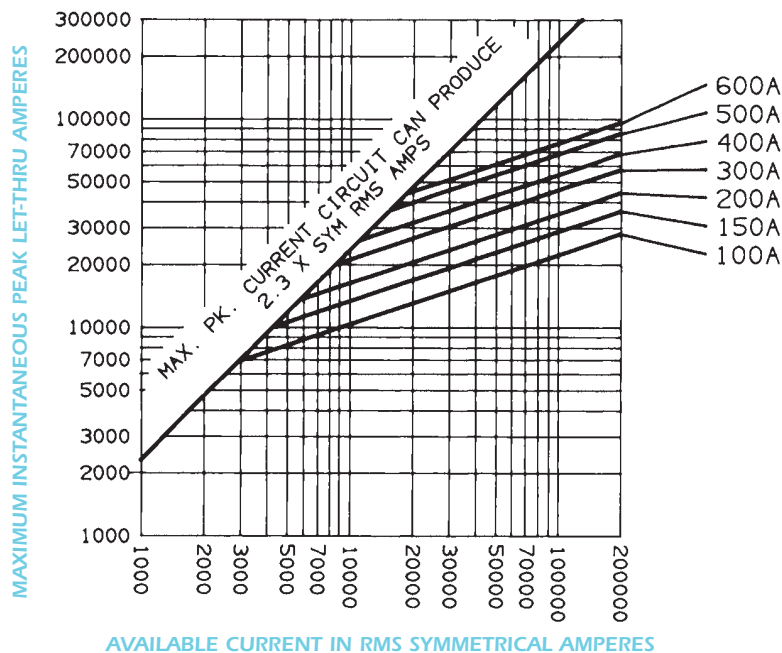
Special Purpose Fuses

American Fuses Welder Protectors A4BX

A4BX100 to 600 Types 150, 150J



Peak Let-Thru Current Data – A4BX100 to 600, 600 Volts AC



American Fuses Form 600 A2Y, A6Y

FORM 600 FUSES

Ferraz Shawmut Form 600 fuses were the original current-limiting fuses, pre-dating all the standards. Their 500V DC rating (through 600A) is a useful feature for special applications. Form 600 fuses provide a high degree of current limitation in AC and DC applications. Types 1 and 3 are dimensionally interchangeable with Class H and K fuses. Types 4 and 5 have unique rejection dimensions and are not interchangeable.

Ratings

- AC: A2Y 1-600A
250VAC, 200kA I.R.
A6Y 10-8A
500VAC, 200kA I.R.
A6Y 10-1200A
600VAC, 200kA I.R.
- DC: A2Y 1-600A
500VDC, 100kA I.R.
A6Y 1-8A
500VDC, 100kA I.R.
A6Y 10-600A
500VDC, 100kA I.R.

Approvals

- AC: Guide No. JFHR2 (1-600A)
- DC Tested to UL198L Parameters (1-600A)
- UL Recognized Component File E60314

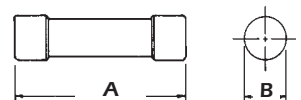


A2Y –Standard Fuse Ampere Ratings, Reference Numbers

Ampere Rating	Cat. Number	Ref. Number	Ampere Rating	Cat. Number	Ref. Number	Ampere Rating	Cat. Number	Ref. Number	Ampere Rating	Cat. Number	Ref. Number	Ampere Rating	Cat. Number	Ref. Number
1	A2Y1-1	W222613	30	A2Y30-1	N213268	80	A2Y80-4	F218367	175	A2Y175-4	B212751	400	A2Y400-4	B219927
2	A2Y2-1	P201976	35	A2Y35-1	E213766	90	A2Y90-3	H219404	200	A2Y200-3	L213266	450	A2Y450-3	V222612
3	A2Y3-1	P212234	40	A2Y40-1	N214280	90	A2Y90-4	C219928	200	A2Y200-4	D213765	450	A2Y450-4	J223131
5	A2Y5-1	R215295	45	A2Y45-1	N214786	100	A2Y100-3	S218884	250	A2Y250-3	Q215294	500	A2Y500-3	R200920
6	A2Y6-1	Y216313	50	A2Y50-1	T215803	100	A2Y100-4	F219402	250	A2Y250-4	S215802	500	A2Y500-4	E201461
8	A2Y8-1	G218368	60	A2Y60-1	B216822	125	A2Y125-3	Q200919	300	A2Y300-3	A216821	500	A2Y500-5	N201975
10	A2Y10-1	K223132	70	A2Y70-3	C212752	125	A2Y125-4	D201460	300	A2Y300-4	R217342	600	A2Y600-3	P211199
15	A2Y15-1	F201462	70	A2Y70-4	M213267	150	A2Y150-3	M201974	350	A2Y350-3	W217852	600	A2Y600-4	F211720
20	A2Y20-1	Q211200	70	A2Y70-5	M214279	150	A2Y150-4	N211198	350	A2Y350-4	T218885	600	A2Y600-5	N212233
25	A2Y25-1	G211721	80	A2Y80-3	X217853	175	A2Y175-3	M212232	400	A2Y400-3	G219403			

A6Y –Standard Fuse Ampere Ratings, Reference Numbers

Ampere Rating	Cat. Number	Ref. Number	Ampere Rating	Cat. Number	Ref. Number	Ampere Rating	Cat. Number	Ref. Number	Ampere Rating	Cat. Number	Ref. Number
1	A6Y1-1	H216828	70	A6Y70-4	J212758	200	A6Y200-4	N223135	450	A6Y450-4	X215300
2	A6Y2-1	Z200927	80	A6Y80-3	L213772	200	A6Y200-5	W200924	450	A6Y450-5	Z215808
3	A6Y3-1	W214793	80	A6Y80-4	V214286	225	A6Y225-3	V211204	500	A6Y500-3	X217347
5	A6Y5-1	R219412	90	A6Y90-3	A215809	225	A6Y225-4	T212238	500	A6Y500-4	M218373
6	A6Y6-1	A200928	90	A6Y90-3	A215809	225	A6Y225-5	G212756	500	A6Y500-5	B218892
8	A6Y8-1	Q211729	100	A6Y100-4	Z222616	250	A6Y250-3	S213272	600	A6Y600-3	Q223137
10	A6Y10-1	N218374	100	A6Y100-3	F219931	250	A6Y250-4	S214284	600	A6Y600-4	L201467
15	A6Y15-1	K219935	125	A6Y125-4	F212755	250	A6Y250-5	S214790	600	A6Y600-5	W201982
20	A6Y20-1	Y211207	125	A6Y125-3	S212237	300	A6Y300-3	Y215807	650	A6Y650-4	X211206
25	A6Y25-1	W213275	125	A6Y125-5	R213271	300	A6Y300-4	F216826	650	A6Y650-4	X211206
30	A6Y30-1	F216320	150	A6Y150-3	R214283	300	A6Y300-5	W217346	800	A6Y800-4	V214792
35	A6Y35-1	F217861	150	A6Y150-4	R214789	350	A6Y350-3	A218891	800	A6Y800-5	Y215301
40	A6Y40-1	P218375	150	A6Y150-5	V215298	350	A6Y350-4	H219933	1000	A6Y1000-4	M223134
45	A6Y45-1	D218894	175	A6Y175-3	B217857	400	A6Y400-3	W211205	1000	A6Y1000-5	V200923
50	A6Y50-1	S223139	175	A6Y175-4	K218371	400	A6Y400-4	V212239	1200	A6Y1200-4	T211203
60	A6Y60-1	Z211208	175	A6Y175-5	Z218890	400	A6Y400-5	H212757	1200	A6Y1200-5	K211724
70	A6Y70-3	W212240	200	A6Y200-3	A222617	450	A6Y450-3	T214791			



Type 1, 1-60 Amperes Class K

Dimensions

Ampere Rating	Inches	
	A	B
A2Y - 1-60A		
1-30	2	9/16
35-60	3	13/16
A6Y - 1-60A		
1-30	5	13/16
35-60	5-1/2	1-1/16

Special Purpose Fuses

American Fuses Form 600 A2Y, A6Y

Type 3, 70-600 Amperes, Class K - Dimensions

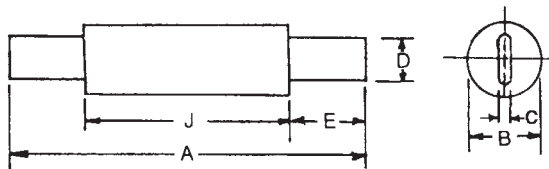
Ampere Rating	Inches					
	A	B	C	D	E	J

250 VAC/500 VDC - A2Y (Amp) - 3

70-100	5-7/8	1	1/8	23/32	1-5/8	2-21/32
125-200	7-1/8	1-1/2	3/16	1-1/8	2-3/16	2-25/32
225-400	8-5/8	2	1/4	1-5/8	2-15/16	2-25/32
450-600	10-3/8	2-1/2	1/4	2	3-13/16	2-25/32

600 VAC/500 VDC - A6Y (Amp) - 3

70-100	7-7/8	1	1/8	23/32	2-5/8	2-21/32
110-200	9-5/8	1-1/2	3/16	1-1/8	3-7/16	2-25/32
225-400	11-5/8	2	1/4	1-5/8	4-7/16	2-25/32
450-600	13-3/8	2-1/2	1/4	2	5-5/16	2-25/32



Type 3 70-600A

Type 4, 70-600 Amperes - Dimensions

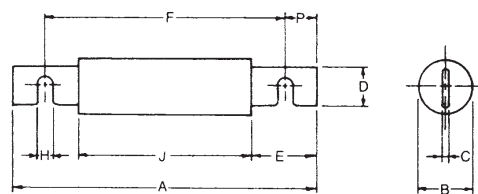
Ampere Rating	Inches							
	A	B	C	D	E	F	H	J

250 VAC/500 VDC - A2Y (Amp) - 4

70-100	5-7/8	1	1/8	23/32	1-5/8	4-7/8	13/64	2-21/32
125-200	7-1/8	1-1/2	3/16	1-1/8	2-3/16	5-3/4	17/64	2-25/32
225-400	8-5/8	2	1/4	1-5/8	2-15/16	6-3/4	21/64	2-25/32
450-600	10-3/8	2-1/2	1/4	2	3-13/16	8-1/8	25/64	2-25/32

600 VAC/500 VDC - A6Y (Amp) - 4

70-100	7-7/8	1	1/8	23/32	2-5/8	6-7/8	13/64	2-21/32
125-200	9-5/8	1-1/2	3/16	1-1/8	3-7/16	8-1/4	17/64	2-25/32
225-400	11-5/8	2	1/4	1-5/8	4-7/16	9-3/4	21/64	2-25/32
450-600	13-3/8	2-1/2	1/4	2	5-5/16	11-1/8	25/64	2-25/32



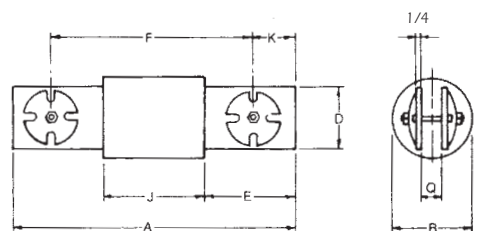
Type 4 70-600A

Type 4, 650-1200 Amperes - Dimensions

Ampere Rating	Inches							
	A	B	D	E	F	J	K	Q

600 VAC only - A6Y (Amp) - 4

650-1200	10-1/2	3	2	3-3/8	7-7/8	3-3/4	1-5/16	5/8
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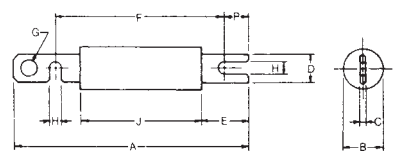
Type 4 650-1200A

Type 5, 125-600 Amperes/Hinge Disconnect type - Dimensions

Ampere Rating	Inches									
	A	B	C	D	E	F	G	H	J	P

600 VAC/500 VDC - A6Y (Amp) - 5

125-200	10-3/4	1-1/2	3/16	1-1/8	3-7/16	8-1/4	3/4	17/64	2-25/32	11/16
225-400	13-1/4	2	1/4	1-5/8	4-7/16	9-3/4	7/8	21/64	2-25/32	15/16
450-600	15-3/16	2-1/2	1/4	2	5-5/16	11-1/8	1	25/64	2-25/32	1



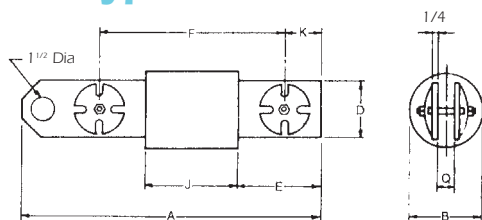
Type 5 125-600A

Type 5, 650-1200 Amperes/Hinge Disconnect Type - Dimensions

Ampere Rating	Inches							
	A	B	D	E	F	J	K	Q

600 VAC only - A6Y (Amp) - 5

650-1200	12-1/8	3	2	3-3/8	7-7/8	3-3/4	1-5/16	5/8
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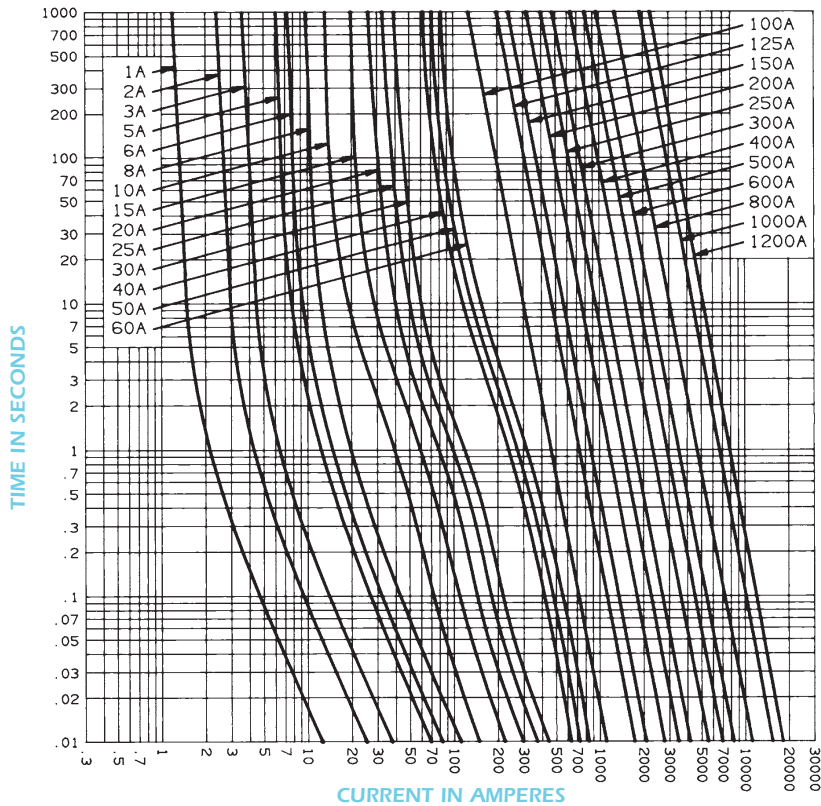


Type 5 650-1200A

American Fuses Form 600 A2Y, A6Y

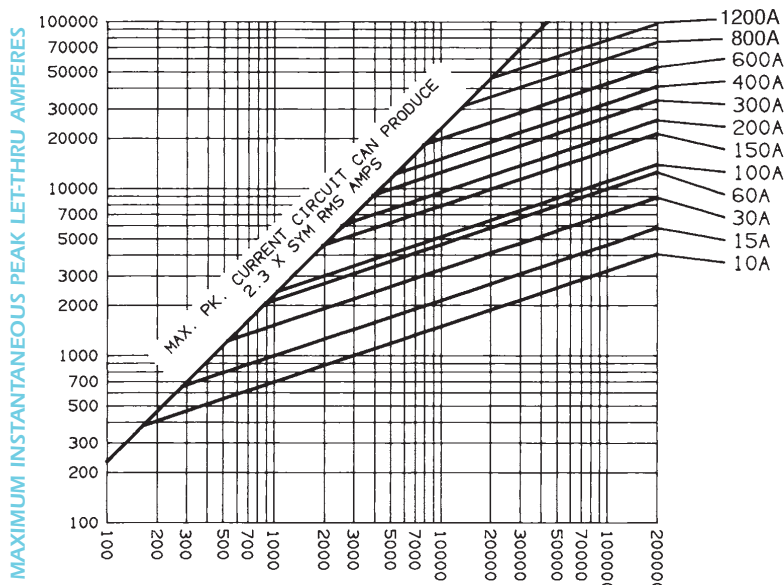
1-600 Amperes, 250 or 600 Volts - Types 1, 3 or 5
800-1200 Amperes, 600 Volts - Types 4 or 5

MELTING TIME - CURRENT DATA



10-600 Amperes, 250 or 600 Volts
800-1200 Amperes, 600 Volts only

PEAK LET-THRU CURRENT DATA



AVAILABLE CURRENT IN RMS SYMMETRICAL AMPERES

DC Capability

Cat No. Prefix	Ampere Rating	DC Voltage Rating*
A2Y	1-600	500
A6Y	1-600	500

*Consult factory for specifics regarding circuit time constants and DC interrupting rating.

Recommended Fuse Blocks With Box Connectors
For Form 600 Types 1 & 3 Fuses

Ampere Rating	250V		600V	
	1 Pole	3 pole	1 Pole	3 pole
Catalog Number				
1-30	20306	20308	60306	60308
31-60	20606	20608	60606	60608
61-100	21036	21038	61036	61038
101-200	22001	22003	62001	62003
201-400	24001	24003	64001	64003
401-600	2631	2633	6631	6633
Reference Number				
1-30	Z212381	F215446	V211871	X213920
31-60	N211865	C214431	X211873	Z213922
61-100	S201105	Q211867	K201627	S211363
101-200	Y213415	E214433	M212393	H213424
201-400	T219046	-	H218530	T219575
401-600	F214434	K215450	Z216475	W217507

A variety of pole configurations and termination provisions is available. Refer to Fuse Blocks and Fuse Holders section for details.

Special Purpose Fuses

American Fuses Plug Fuses

PLUG FUSES: G/GP/TD/GW /GTL/GT/GSL

Ferraz Shawmut Plug Fuses are for industrial and residential applications. Standard non-time delay fuses are for receptacle and lighting circuits. Standard time delay fuses are for motor loads. For Canadian requirements, a type "P" fuse is used for non-motor loads and type "D" fuses are used for electric heating and cycling loads circuits. Both fuses have low melting-point temperature elements. Low-Temp time delay plug fuses have thermal sensitivity are also for cycling loads and motor circuits. Type "S" plug fuses are time delay and tamper-resistant.

Ratings

- 125V AC, 10kA I.R.
- 3 to 30 Amperes
- Choice of Edison Base, Types "P", "D", or "S"

Approvals

- UL Listed
Guide JEFV, File E76208
- CSA Certified
Class 142301, File 15525



Plug Fuses – Standard Fuse Ampere Ratings, Reference Numbers

Ampere Rating	Non-Time Delay UL	Non-Time Delay CSA	Time Delay UL	"P" Type Non Time-Delay CSA	Low-Temp Time-Delay UL	"D" Type Time-Delay CSA	Type S rejection* Time-Delay UL
Catalog Number							
3	GW3	G3	-	-	-	-	-
6	GW6	G6	-	-	-	-	-
10	GW10	G10	-	-	-	-	-
15	GW15	-	GTL15	GP15	GT15	TD15	GSL15
20	GW20	-	GTL20	GP20	GT20	TD20	GSL20
25	GW25	-	GTL25	GP25	GT25	TD25	GSL25
30	GW30	-	GTL30	GP30	GT30	TD30	GSL30
Reference Number							
3	G214389	V218472	-	-	-	-	-
6	K215404	N218995	-	-	-	-	-
10	K212345	N217960	-	-	-	-	-
15	V212860	-	K219521	-	K217451	P201056	C213373
20	D213374	-	N222721	Y223236	T217965	R211822	F214388
25	X213874	-	T201060	F211306	A218477	T213871	J215403
30	G214895	-	B203804	T212859	S218999	H215908	Q216421

* Must be used with an SAG adaptor to fit an Edison base fuse holder

FR15, FR20 Rejection Rings
FRW Rejection tool

Type S Plug Fuses adaptors

Cat. Number/Rating	ref Number	Fuse range - amps
SAG3-2/10	Z216935	1-8/10 - 3-2/10
SAG6-1/4	P230427	3-1/2 - 6-1/4
SAG6-3/10	V217966	2-1/2 - 6-1/4
SAG15	M215912	7 - 15
SAG20	R216422	20
SAG30	L217452	25 - 30

Type S adaptors screw into the Edison base and allow Type S fuses to be installed. Type S adaptors prevent the wrong ampere size fuse from being used.





American Fuses In line Fuse SLR - SMF - SHR



Ferraz Shawmut SLR and SMF in-line fuses are used to protect fluorescent lighting fixtures and ballasts. The SLR is a fast-acting fuse. SMF is a time-delay fuse. Both used to protect individual 300V fixtures. Ferraz Shawmut SHR fuse holder has an integral clip for panel mounting to meet this requirement. The holder fits into a standard 7/8" knock-out or keyhole punch that provides anti-rotation. The SHR is available in a single or double wire version. The single wire version (SHR-1) allows insertion of #18 AWG ballast leads directly into the holder.

SLR FUSES

Ratings

- 300VAC, 100A I.R.
- 125VAC, 10kA I.R.
- 1/2 to 15A

Approvals

- UL Listed
File No. E10480
CSA Certified

Highlights:

- Fast Acting
- Integral fuse & insulating cap

SMF FUSES

Ratings

- 300VAC, 100A I.R.
- 125VAC, 10kA I.R.
- 3/10 to 10A

Approvals

- UL Listed
File No. E10480
CSA Certified

Highlights:

- Time-Delay
- Integral fuse & insulating cap
- Designed specifically to handle ballast inrush currents

SHR FUSE HOLDERS

Ratings

- 300VAC: 15A
- Withstand Rating: 10kA I.R.
- Dielectric Strength: 2,000 V

Approvals

- UL Recognized Component
Guide IZLT2, UL File
No. E52283



Highlights:

- Superior wire retention
- Thermoplastic Insulator - 150° C RTI
- Single and two wire versions
- Two load plug-in ports available
- Integral mounting clip - 0.062" thick panel
- Integral wire retention clip to hold #18 wire
- Tin plated, insulated #18 solid copper wire leads, 6" length

American Fuses In line Fuse SLR - SMF - SHR

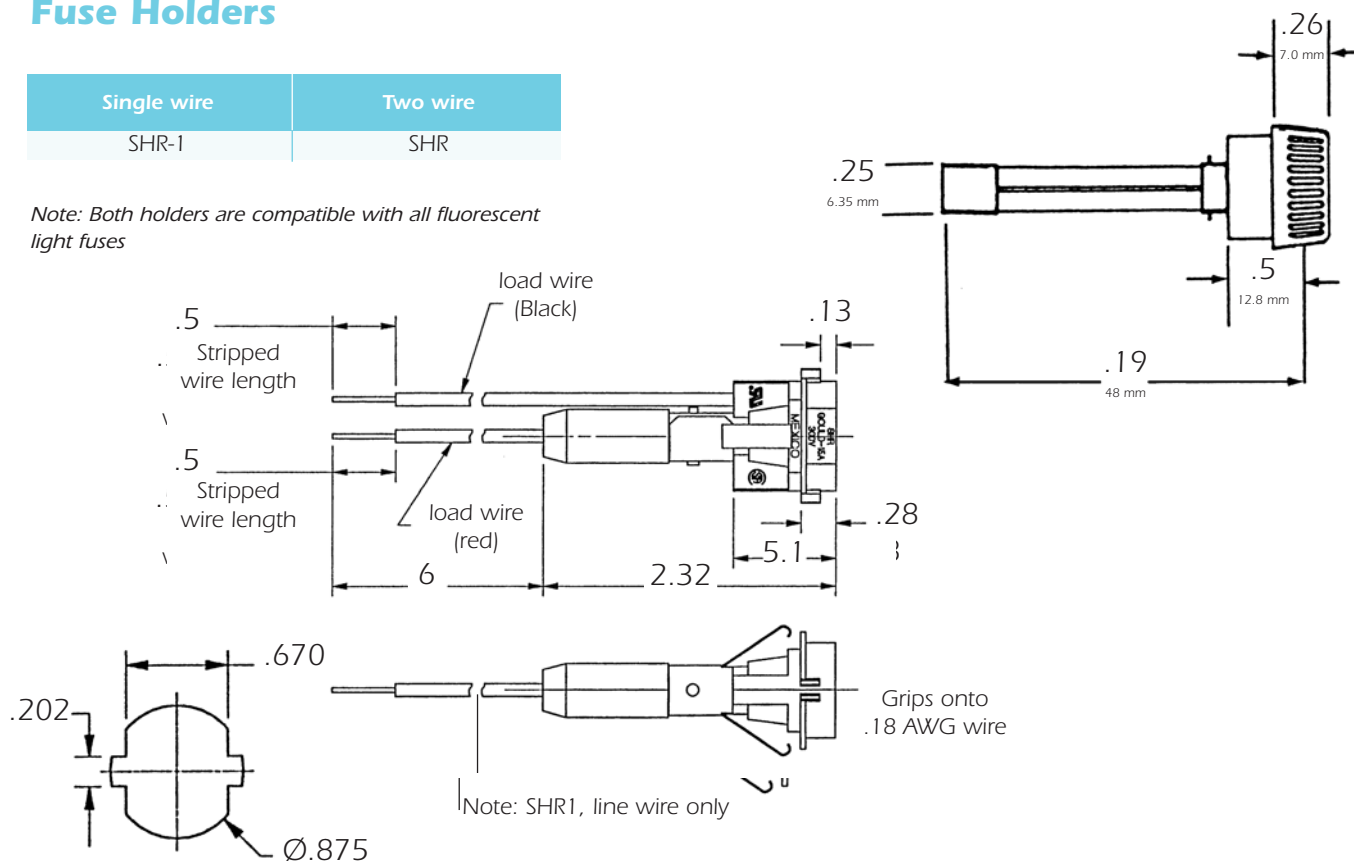
Ampere Ratings, Reference Numbers

Ampere Rating	Catalog Number		Reference Number	
300mA	SLR1/2	SMF3/10	M215521	R211937
500mA		SMF1/2		E215008
600mA		SMF6/10		R216537
800mA	SLR1	SMF8/10	Q211936	Y201685
1A		SMF1		P205702
1-1/4A		SMF1-1/4		
1-1/2A	SLR1-1/2		C212453	
1-6/10A	SLR1-6/10	SMF1-6/10	T213986	P211429
2A	SLR2	SMF2	Q217571	D212454
2-1/2A	SLR2-1/2	SMF2-1/2	X218083	M212968
2-8/10A	SLR3	SMF2-8/10	A218592	W213482
3A		SMF3		V213987
3-2/10A		SMF3-2/10		D214501
4A	SLR4	SMF4	T219115	
5A	SLR5	SMF5	P219640	
6A	SLR6		A222088	
6 1/4A	SLR7	SMF6 1/4	N222836	
7A		SMF7		
8A		SMF8		
9A	SLR9		T201175	
10A	SLR10	SMF10	V216034	
12A	SLR12		Q216536	
15A	SLR15		F217056	

Fuse Holders

Single wire	Two wire
SHR-1	SHR

Note: Both holders are compatible with all fluorescent light fuses



American Fuses Surge Suppression Fuses VSP

Ferraz Shawmut surge suppression fuses are specially designed to address the protection of TVSS systems. Surge suppression fuses have been specially designed to withstand 8x20 mSec surge pulses without opening, allowing the TVSS system to react to the surge. All surge suppression fuses have a 8x20 mSec surge rating, not a continuous current rating. Under AC short circuit conditions these surge suppression fuses are very current limiting.

Features/Benefits

- VSP fuses rated 600 VAC, 200kA I.R.
- Surge Ratings of 5-100kA 8x20 μ sec capacity
- Designed to help meet UL1449 Second Edition Requirements
- Various Mounting Configurations: ferrules, blade, bolt-in, pc board mount

Ratings

- 5-100 kA 8x20 μ Sec Weveform 600 VAC, 200 kA I.R.

Approvals

- UL Recognized Component
- File E60314, Vol.3 Special Purpose MOV Protector

Applications:

- Protection of TVSS Devices
- Coordination with other protection devices



Catalog Number	Reference Number	Voltage Rating (AC)	8x20 μ sec Surge Rating	Melting I ² t (A ² S)	Clearing I ² t (A ² S)	I _{peak} @ 100KA (60 Hz (A)
VSP5-2,R,-H,-S	G219886	600V	5,000	341	936	3,652
VSP10-2,R,-H,-S	X217807	600V	10,000	1,541	3,744	5,794
VSP15-2,R,-H,-S	L227572	600V	15,000	3,072	8,424	7,591
VSP20-2,R,-H,-S	W218841	600V	20,000	4,992	14,400	9,194
VSP30-2	X230457	600V	30,000	12,507	33,696	12,044
VSP40-2	J211677	600V	40,000	19,543	59,904	14,588
VSP50-2	W232250	600V	50,000	32,020	93,600	16,925
VSP60-2	F212709	600V	60,000	42,808	134,784	19,110
VSP70-2	G213722	600V	70,000	61,152	183,456	21,176
VSP80-2	S214744	600V	80,000	79,872	239,616	23,146
VSP90-2	X232251	600V	90,000	99,000	303,264	25,034
VSP100-2	F201416	480V	100,000	121,500	374,400	26,854
VSP100-XL	L230447	600V	100,000	121,500	374,400	26,854

Recommended Fuse Blocks for VSP Fuses

VSP(5-20)-2 Catalog Number

Number of poles	Box	Screw	Pressure plate
Adder	30310	30320	30350
1	30311	30321	30351
2	30312	30322	30352
3	30313	30323	30353

VSP(5-20)-2 Reference Number

Number of poles	Box	Screw	Pressure plate
Adder	N211888	S218033	F214457
1	A212405	Y218544	G214964
2	E214456	K222787	L216486
3	F214963	B201642	Z217004

VSP(30-100)-2 Catalog Number

Number of poles	Box	Screw	Pressure plate
Adder	60305J	60315J	60325J
1	60306J	60316J	60326J
2	60307J	60317J	60327J
3	60308J	60318J	60328J

VSP(30-100)-2 Reference Number

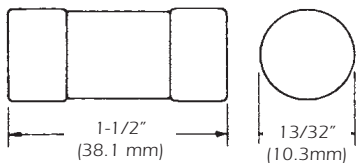
Number of poles	Box	Screw	Pressure plate
Adder	K204893	N218029	Y212403
1	J211884	P219065	T213434
2	S213433	Y222040	B214453
3	A214452	V223302	F215469

American Fuses Surge Suppression Fuses VSP

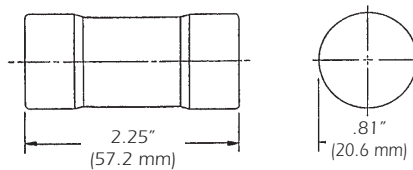
Dimensions

VSP (5-20)-2,R,H,S

-2

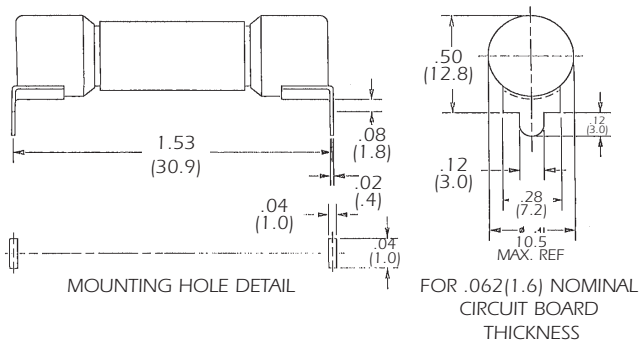


VSP (30-100)-2

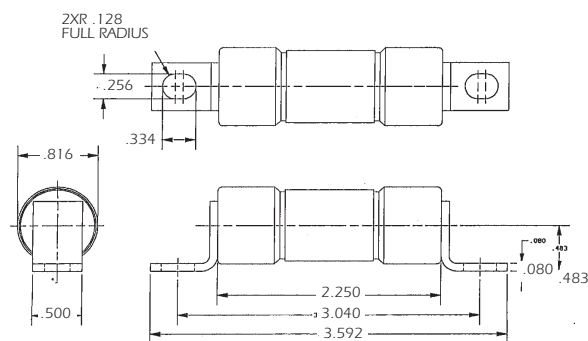


PC BOARD MOUNTING

-R

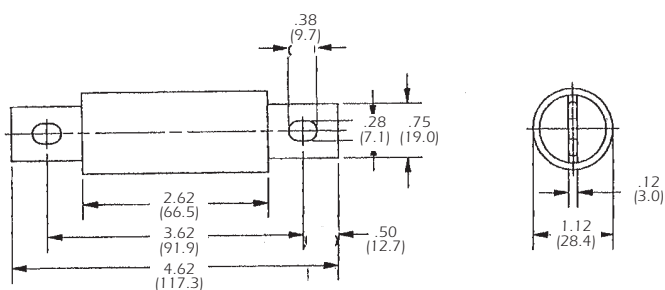
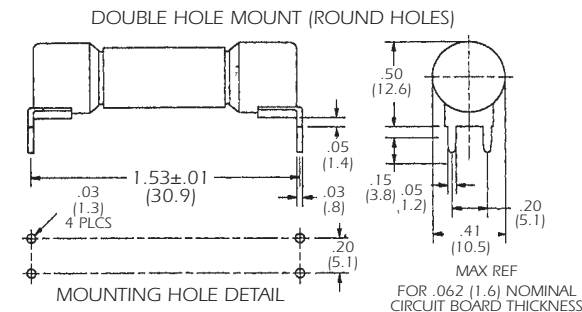


VSP30-100



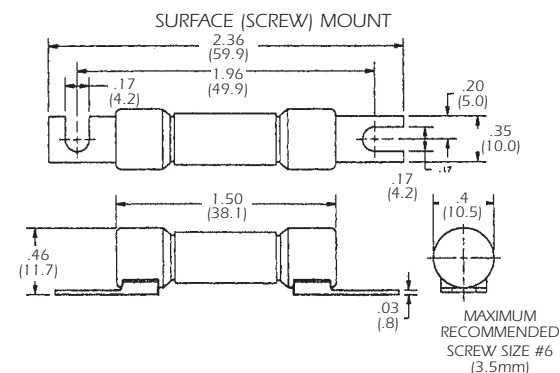
VSP100-XL

-H

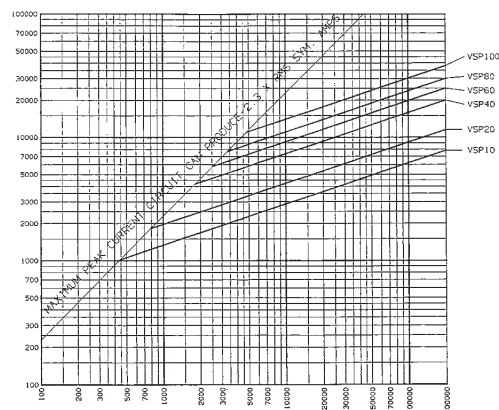


Peak Let-Thru Current data

-S



MAXIMUM INSTANTANEOUS PEAK LET-THRU AMPERES



AVAILABLE CURRENT IN RMS
SYMMETRICAL AMPERES

American Fuses Surge Suppression Fuses TPMOV



Ratings

- 150V to 550VAC/100KA I.R.
- 40ka 8/20 μ s Withstand

Approvals

- UL 1449 2nd Edition Recognized

Features/Benefits

- High Energy Capacity
- Consistent footprint with 25–40mm MOV's
- Built-In Visual/Remote Indication
- Fail-Safe Operation

Application:

- Transient Voltage Surge Suppressors
- AC/DC Distribution Systems
- High Voltage Power Supplies
- Telecommunications Equipment
- Motor Control Systems
- Computer Related Products
- PLC Applications
- Power Transfer Switches

Thermally protected mov

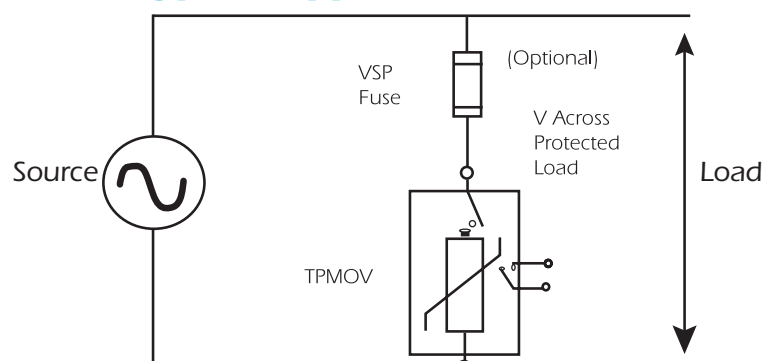
The Ferraz Shawmut Thermally Protected MOV has been developed to assist in eliminating the failure characteristics of Metal-Oxide-Varistors. The TPMOV is a fail-safe device. It is composed of a voltage clamping device and a disconnecting apparatus that monitors the status of the metal-oxide disk. In the event that the disk is approaching breakdown it is effectively disconnected from system power. The TPMOV is rated for 40ka of 8/20 μ s surge current. The TPMOV ratings are available from 150V to 550V. The TPMOV has been designed with two built in isolated indicating features. The first is a visual indicator. When the unit has disconnected from system power, two isolated pins will be noticed atop the TPMOV enclosure. The second feature is a remote indicator composed of a N/O micro-switch. In the event that the TPMOV has disconnected system power the switch will change status. These features lower costly engineering time that would be required for traditional MOV products.

Layout

The TPMOV footings are similar* to that of equivalent voltage ratings of traditional 25 to 40mm MOV's. The TPMOV can be utilized on existing systems that utilize traditional MOV's without costly board redesigns.

**refer to dimensional drawings on next page.*

Typical Application



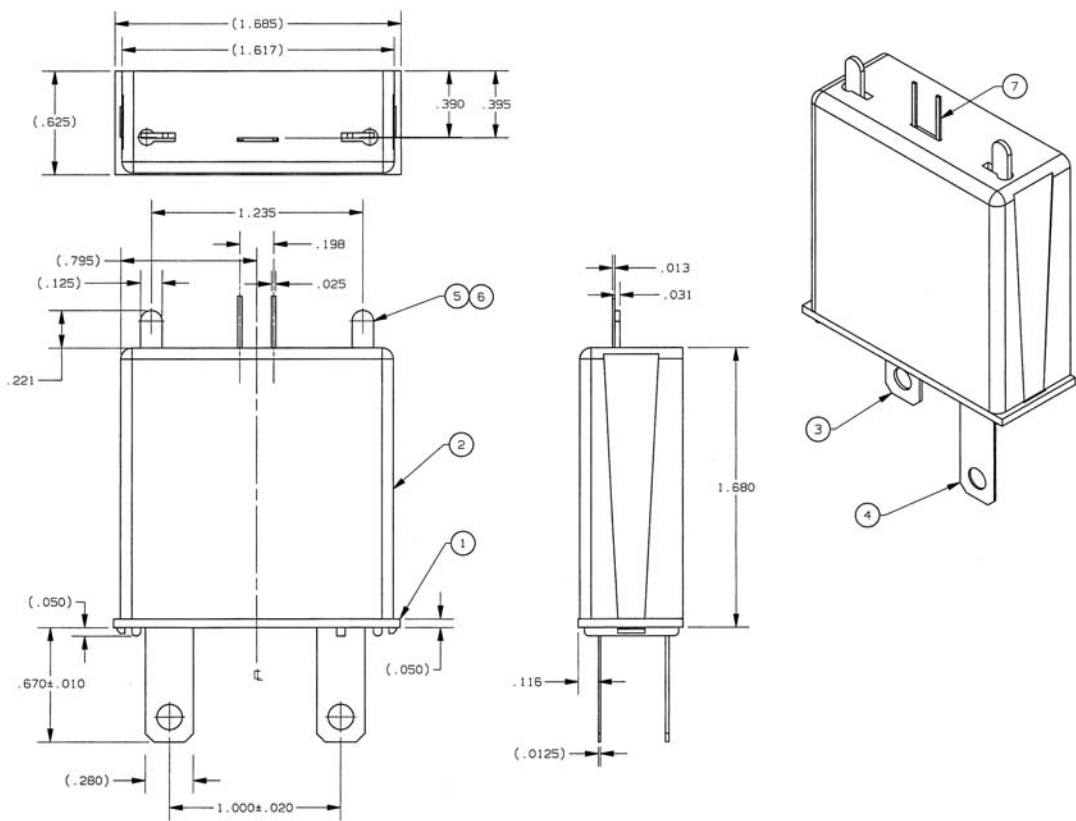
American Fuses

Surge Suppresion Fuses

TPMOV



Dimensions



Reference Number	catalog Number	safety standards Recognition	maximum rating		peak current 1 pulse 8/20us	TPMOV voltage @ 1mA	
			AC	DC		Vmin	Vmax
X230595	150TPMOV	UL1449	150V	200V	40,000A	212V	259V
-	250TPMOV	UL1449	250V	330V	40,000A	354V	432V
Z230597	270TPMOV	UL1449	270V	360V	40,000A	382V	466V
A230598	320TPMOV	UL1449	320V	420V	40,000A	453V	553V
B230599	420TPMOV	UL1449	420V	550V	40,000A	594V	725V
C230600	510TPMOV	UL1449	510V	675V	40,000A	722V	881V
D230601	550TPMOV	UL1449	550V	700V	40,000A	778V	950V

American Fuses Forklift Fuses ACK, ACL, ALS



FORKLIFT TRUCK FUSES

Ferraz Shawmut forklift truck and battery isolator fuses are specially designed for the heavy duty loads associated with DC battery powered equipment such as forklift trucks, hand trucks, motorized work platforms, and other DC battery operated systems. Rugged construction and stud mounted bolt-in design assure long life in adverse conditions for these fuses. This expanded line of Forklift Truck Fuses can fulfill virtually all of your heavy duty circuit protection needs up to 125V AC or DC. The round body ACK, ACL and ALS fuses combine higher voltage ratings and more ampere ratings with higher breaking capacity. The flat CNL and CNN style fuses have a lower voltage rating but are also AC and DC, more space saving and have visual "see-thru" indication to show when they have operated.

Features/Benefits

- All fuses are AC and DC rated
- Expanded Ampere Ratings
- Time Delay and General Purpose types
- Link is visible through window (CNL/CNN)

Highlights:

- AC/DC Ratings
- Embossed Catalog Nos.
- Stud Mounted
- Time Delay - ACK
- General Purpose - ACL, ALS

Applications:

- Forklift Trucks
- Battery Hand Trucks
- Motorized Work Platforms
- Battery Systems

Approvals



- UL Recognized Components (All Products)
File E60314

Ratings

- ACK: 1-400 Amperes
125VAC, 10kA I.R.
125VDC, 10kA I.R.
- ACL: 30-120 Amperes
125VAC, 10kA I.R.
125VDC, 10kA I.R.
- ALS: 100-500 Amperes
125VAC, 10kA I.R.
125VDC, 10kA I.R.
- CNL*
- CNN*

*see section "European DIN forklift fuses"

Forklift Truck Fuse - Cross Reference

Part Number	Competitor name	Gould
ACK	Bussmann	ACK
ACL	Bussmann	ACL
ALS	Bussmann	ALS
ANL	Bussmann	CNL
ANN	Bussmann	CNN
AOK	Edison	ALS
CCK	Littelfuse	ACK
CCL	Littelfuse	ACL
ECK	Edison	ACK
ECL	Edison	ACL
ENLE	Edison	CNL
ENNE	Edison	CNN

Forklift Truck Fuse - Fuse Blocks

Fuse	Fuse Block
ACK(70-100)	P243C
ACL(70-120)	P243E

American Fuses

Forklift Fuses

ACK, ACL, ALS

ACK Fuse

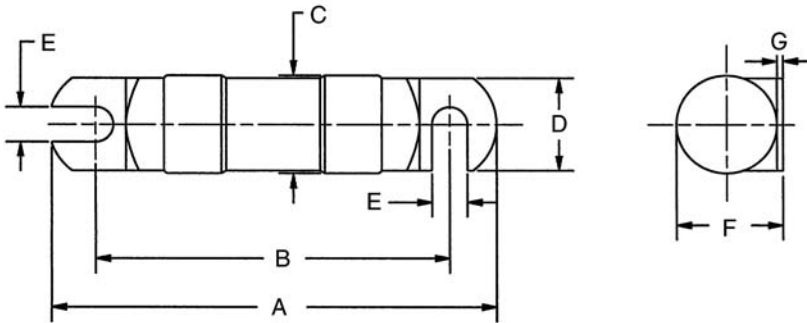
Ampere Rating	Cat. Number	Ref. Number	Ampere Rating	Cat. Number	Ref. Number	Ampere Rating	Cat. Number	Ref. Number	Ampere Rating	Cat. Number	Ref. Number
1A	ACK1	B219421	20A	ACK20	T212767	70A	ACK70	P222630	160A	ACK160	H211216
2A	ACK2	G212250	25A	ACK25	G214297	80A	ACK80	Z201479	175A	ACK175	Y211736
3A	ACK3	J215311	30A	ACK30	M215820	90A	ACK90	J201994	200A	ACK200	G213285
5A	ACK5	Y218383	35A	ACK35	V216839	100A	ACK100	N222629	225A	ACK225	Y213783
6A	ACK6	C219422	40A	ACK40	J217358	120A	ACK120	C223148	250A	ACK250	G214803
10A	ACK10	V219944	50A	ACK50	N218903	140A	ACK140	J200936	300A	ACK300	R216330
15A	ACK15	Y201478	60A	ACK60	W219945	150A	ACK150	H201993	400A	ACK400	R217871

ACL Fuse

Ampere Rating	Cat. Number	Ref. Number	Ampere Rating	Cat. Number	Ref. Number
30A	ACL30	H212251	70A	ACL70	H214804
35A	ACL35	V212768	80A	ACL80	N215821
40A	ACL40	H213286	90A	ACL90	S216331
50A	ACL50	Z213784	100A	ACL100	J211217
60A	ACL60	H214298	120A	ACL120	Z211737

ALS Fuse

Ampere Rating	Cat. Number	Ref. Number	Ampere Rating	Cat. Number	Ref. Number
100A	ALS100	W216840	300A	ALS300	X219946
150A	ALS150	K217359	350A	ALS350	Q222631
175A	ALS175	S217872	400A	ALS400	E223150
200A	ALS200	Z218384	450A	ALS450	K200937
225A	ALS225	P218904	500A	ALS500	A201480
250A	ALS250	D219423	-	-	-



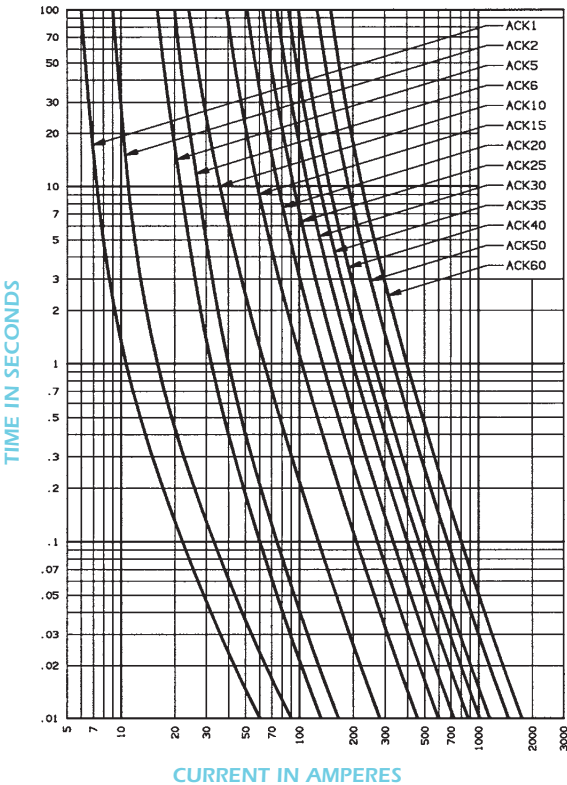
Dimensions

Catalog Number	Outline Figure	A	B	C	D	E	F	G
		In. (mm)	In. (mm)	In. (mm)	In. (mm)	In. (mm)	In. (mm)	In. (mm)
ACK 1-30	1	3.07 (77.9)	2.5 (63.5)	.56 (14.3)	.5 (12.7)	.28 (7.1)	.593 (15)	.03 (.8)
ACK 35-60	1	3.74 (95)	3 (76.2)	.81 (20.6)	.75 (19.1)	.34 (8.7)	.86 (21.8)	.047 (1.2)
ACK 70-100	1	4.46 (113.4)	3.5 (88.9)	1.06 (26.9)	1 (25.4)	.38 (9.5)	1.12 (28.5)	.06 (1.6)
ACK 120-200	1	4.72 (119.8)	3.75 (95.4)	1.06 (26.9)	1 (25.4)	.38 (9.5)	1.12 (28.5)	.06 (1.6)
ACK 225-400	1	4.71 (119.7)	3.75 (95.4)	1.06 (26.9)	1 (25.4)	.38 (9.5)	1.12 (28.5)	.06 (1.6)
ACL 30-60	1	3.07 (77.9)	2.5 (63.5)	.56 (14.3)	.5 (12.7)	.28 (7.1)	.593 (15)	.03 (.8)
ACL 70-120	1	3.49 (88.6)	2.75 (69.9)	.81 (20.6)	.75 (19.1)	.34 (8.7)	.86 (21.8)	.047 (1.2)
ALS 100-500	1	4.71 (119.7)	3.75 (95.4)	1.06 (26.9)	1 (25.4)	.38 (9.5)	1.12 (28.5)	.06 (1.6)

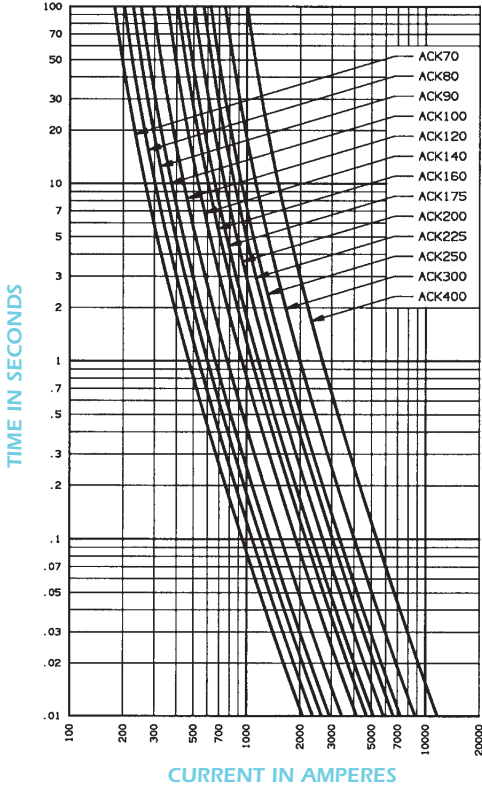


American Fuses Forklift Fuses ACK, ACL, ALS

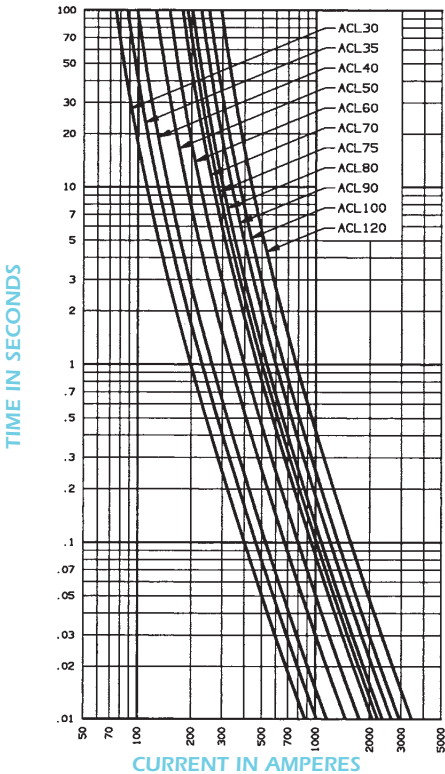
MELTING TIME – CURRENT DATA – ACK1–60



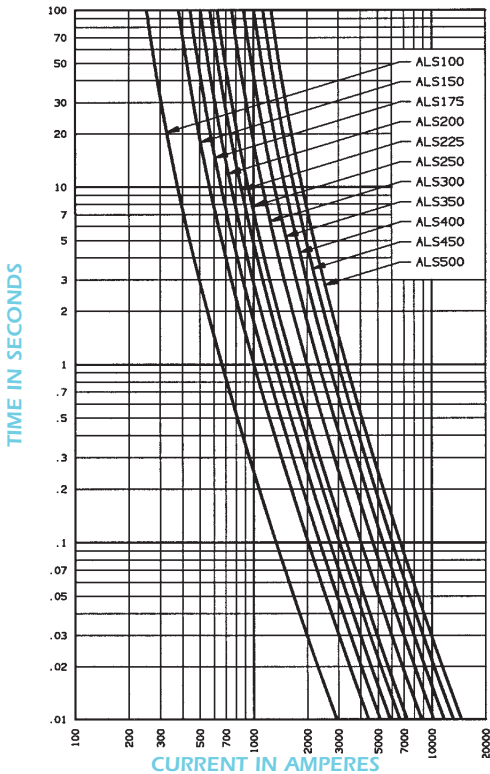
MELTING TIME – CURRENT DATA – ACK70–400



MELTING TIME – CURRENT DATA – ACL30–120



MELTING TIME – CURRENT DATA – ALS100–500







American Fuses Telecom Fuses 70 series

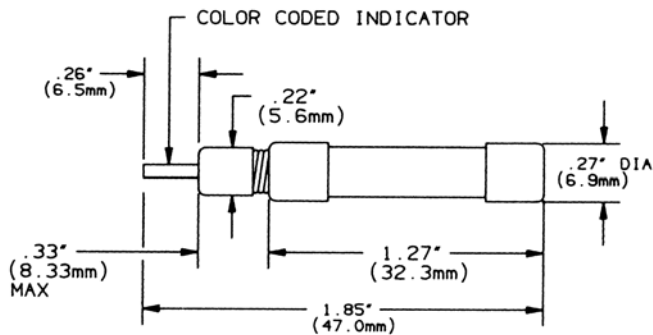


70 SERIES

- Color Coded tip
- Rated 125V AC, 300V DC
- UL Recognized 125 VAC, 1000A I.R.; 300V DC, 1000A I.R. Guide JDYX2, File E39265
- Continuous rated current is 80% of 10 minute rating (shown in table).
100% rating 10 minutes minimum

70 series alarm indicating telecommunications fuses

Ferraz Shawmut 70 Series Alarm Indicating fuses are used in telecommunications equipment. Each ampere rating has a specific color-coded tip for easy visual identification.



Reference Numbers, Ampere Ratings, Certifications

10 minute Ampere Rating	Catalog Number	Reference Number	Color Code
100mA	70P	G201555	Gray-White
150mA	70R	R203404	Red-White
180mA	70E	Z217947	Yellow
200mA	70X	D211810	Black
250mA	70F	E218458	Violet
250mA	70K	T222703	Violet-White
350mA	70S	T211295	Gray
500mA	70G	X218980	Red
750mA	70H	P219502	Brown
1.33A	70A	R215893	White
2A	70B	W216403	Orange
3A	70C	D216916	Blue
3.5A	70J	L221960	Black-White
5A	70D	R217434	Green-Black
8A	70M	J223223	Tan-White
10A	70N	A201043	Yellow-Purple

American Fuses Telecom Fuses GMS

GMS/GMSC/GMSD

- Safety Covers
- Color Coded
- Lubricated
- Ryton Body Material
- Rated 125V AC, 125V DC
- UL Recognized 125 V AC, 300A I.R.; 125V DC, 300A I.R. Guide JDYX2, File E39265
- Carry 100% load - 10 minutes, min.
clear 150% load - 5 minutes, max.



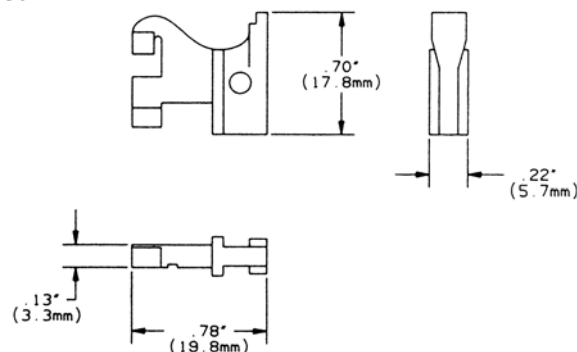
GMS series alarm indicating telecommunications fuses

Ferraz Shawmut GMS Series Alarm Indicating fuses are used in telecommunications equipment or other applications. A color coded flag indicates a circuit problem which caused the fuse to blow. Nineteen ampere ratings/colors fill every replacement need.

GMS: Alarm indicating telecommunications fuse

GMSC: Safety cover for GMS fuse (not shown)

GMSD: Dummy fuse to protect unused circuits



Reference Numbers, Ampere Ratings, Certifications

Ampere Rating	Catalog Number	Reference Number	Volts	Color Code
180mA	GMS 18/100	Z215509	125	Yellow
200mA	GMS2/10	S217044	125	Black-Red
250mA	GMS1/4	S212444	125	Violet
500mA	GMS1/2	E211926	125	Red
650mA	GMS65/100	F211927	125	Black
750mA	GMS3/4	N218581	125	Brown
1A	GMS1	L201674	125	Gray
1.33A	GMS1-1/3	C211418	125	White
1.5A	GMS1-1/2	V205477	125	White-Yellow
2A	GMS2	G216022	125	Orange
2.5A	GMS2-1/2	C216524	125	White-Orange
3A	GMS3	C217559	125	Blue
3.5A	GMS3-1/2	J218071	125	White-Blue
4A	GMS4	B219628	125	White-Brown
5A	GMS5	R222080	125	Green
7.5A	GMS7-1/2	T212445	125	Black-White
10A	GMS10	C212959	125	Red-White
12A	GMS12	G213975	125	Yellow-Green
15A	GMS15	S214491	125	Red-Blue

American Fuses Telecom Fuses TGL - TGN - TGS



Ferraz Shawmut telecommunications fuses are specially designed for the protection of telecommunications equipment which includes telephone switching equipment, rectifiers, distribution switching panels, battery back-up modules, power supplies and switching sub-stations.

The telecom fuses are available from 1 to 800 amperes rated at 170VDC with an interrupting rating of 100,000 amps to fulfill your circuit protection needs. The telecom fuses have high current limiting capabilities to provide a better degree of circuit protection to traditional telecommunications equipment. These fuses consist of a blue and white label for easy identification of their DC voltage capability.

Features/Benefits

- All fuses rated 170VDC, 100kA I.R.
- Extremely current limiting
- Blue & white labels for easy identification
- Various mounting configurations

Highlights

- DC Rated
- Highly Current Limiting
- Fast Acting
- Rejection Style

Applications

- Distribution Switching Panels
- Battery Back-up Systems
- Power Supplies
- Switching Substations
- Telephone Switching Rectifiers

Ratings

- TGL: 70-800 A
170VDC,
100kA I.R.
- TGN: 1-600 A
170VDC,
100kA I.R.
- TGS: 1-70 A
170VDC,
100kA I.R.

Approvals

- UL Recognized Components
File #E60314

Telecom fuse Cross Reference

Competitor Part Number	Ferraz Part Number
TPL	TGL
TPN	TGN
TPS	TGS

Recommended Fuse Holder Catalog Number

Fuse	Ampere	1 Pole	3 Pole
TGL	70-250	P243D	
	300-800	P243G	
TGN	0-30	20306R	20308R
	31-60	20606R	20608R
	61-100	21036R	21038R
	101-200	22001R	22003R
	201-400	24001R	24003R
	401-600	2631R	2633R
TGS	0-70A	30656T	30658T

Recommended Fuse Holder Reference Number

Fuse	Ampere	1 Pole	3 Pole
TGL	70-250	C219560	
	300-800	H222762	
TGN	0-30	T213411	K215956
	31-60	B213383	E214939
	61-100	D201621	M212899
	101-200	R213915	G214941
	201-400	J219566	D222022
	401-600	H214942	P215960
TGS	0-70A	X219049	G222 025

American Fuses

Telecom Fuses

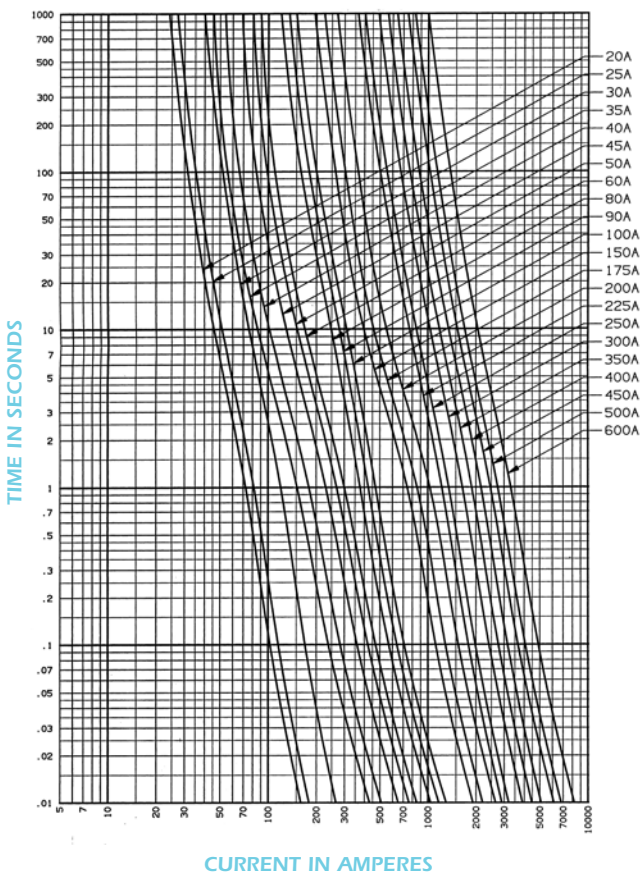
TGL - TGN - TGS

TGN

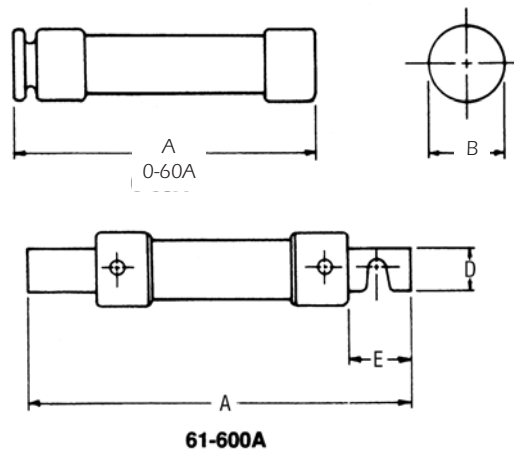
Catalog Numbers, Standard Ampere Rating

Catalog Number	Reference Number	Ampere rating	Catalog Number	Reference Number	Ampere rating	Catalog Number	Reference Number	Ampere rating
TGN1	F216849	1A	TGN40	M213796	40A	TGN175	J219957	175A
TGN3	X211229	3A	TGN45	S214813	45A	TGN200	P223159	200A
TGN5	Z215831	5A	TGN50	D216341	50A	TGN225	W200947	225A
TGN6	X217370	6A	TGN60	F217884	60A	TGN250	Q202161	250A
TGN10	W217369	10A	TGN70	C218916	70A	TGN300	W212263	300A
TGN15	B218915	15A	TGN80	R219435	80A	TGN350	V213297	350A
TGN20	B222641	20A	TGN90	K219958	90A	TGN400	V214309	400A
TGN25	M201491	25A	TGN100	E217883	100A	TGN450	W215322	450A
TGN30	M211749	30A	TGN110	L218395	110A	TGN500	G216850	500A
TGN35	G212779	35A	TGN150	Q219434	150A	TGN600	M218396	600A

Melting Time - Current Data



Dimensions



170 VDC TGN Fuses

Ampere Rating	A		B		C		D		E	
	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm
0-30	2	51	9/16	14						
31-60	3	76	13/16	21						
61-100	5-7/8	149	1-1/16	27	1/8	3	3/4	19	1	25
101-200	7-1/8	181	1-9/16	40	3/16	5	3/4	19	1-3/8	35
201-400	8-5/8	219	2-1/16	53	1/4	6	1-5/8	41	1-7/8	48
401-600	10-3/8	264	2-9/16	66	1/4	6	2	51	2-1/4	57

Catalog Numbers, Standard Ampere Rating

Catalog Number	Reference Number	Ampere rating	Catalog Number	Reference Number	Ampere rating
TGL-BA	A218914	70A	TGL-BL	L211748	250A
TGL-BB	P219433	80A	TGL-CN	V212262	300A
TGL-BC	H219956	90A	TGL-CO	T213296	350A
TGL-BD	A222640	100A	TGL-CR	L213795	400A
TGL-BE	N223158	125A	TGL-CU	T214308	450A
TGL-BF	V200946	150A	TGL-CV	R214812	500A
TGL-BG	L201490	175A	TGL-CZ	V215321	600A
TGL-BH	T202118	200A	TGL-CZH	Y215830	800A
TGL-BK	W211228	225A			

Dimensions

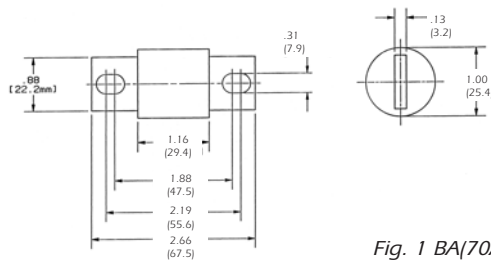


Fig. 1 BA(70A) - BL(250A)

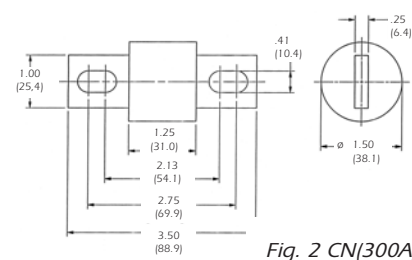
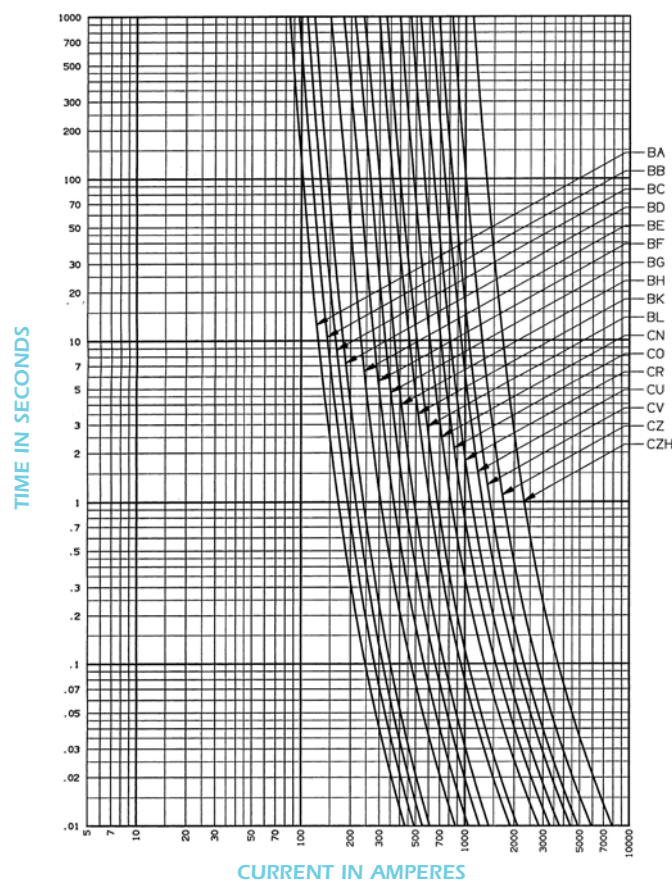


Fig. 2 CN(300A) - CZH(800A)

Melting Time - Current Data

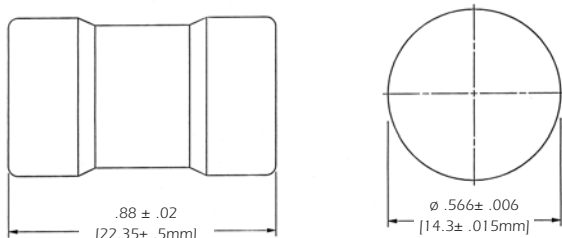


American Fuses Telecom Fuses TGL - TGN - TGS

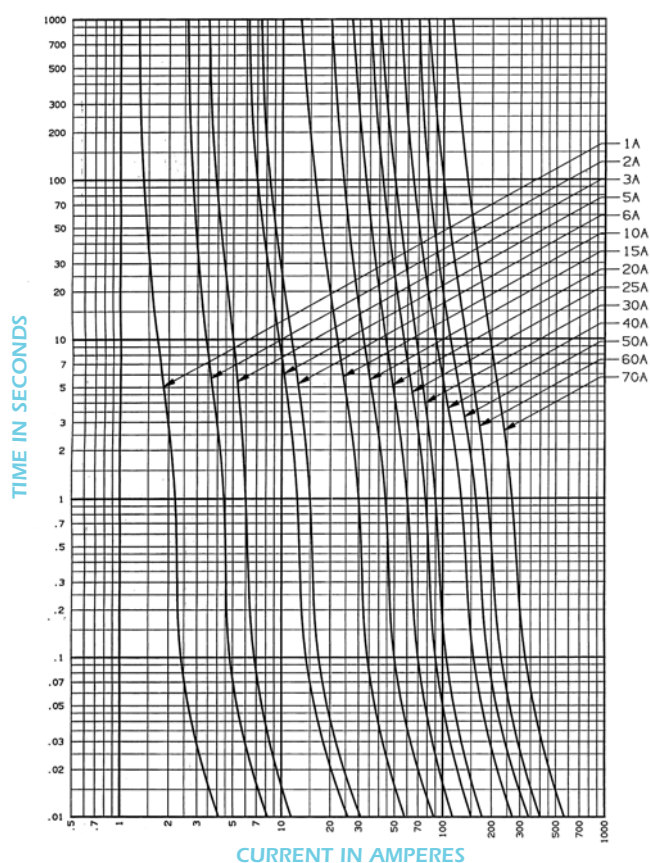
TGS Catalog Numbers, Standard Ampere Rating

Catalog Number	Reference Number	Ampere rating	Catalog Number	Reference Number	Ampere rating
TGS1	C222642	1A	TGS20	D202173	20A
TGS2	N201492	2A	TGS25	Y211230	25A
TGS3	N211750	3A	TGS30	X212264	30A
TGS5	W213298	5A	TGS40	H212780	40A
TGS6	W214310	6A	TGS50	N213797	50A
TGS10	Q223160	10A	TGS60	T214814	60A
TGS15	X200948	15A	TGS70	X215323	70A

Dimensions



Melting Time - Current Data



Peak Let - Thru Current Data

