

# Small Dimension Time-Delay MDA Fuses



## Features

- Compact dimensions 1/4" x 1-1/4", (6.3 mm x 32 mm)
- Ceramic tube construction with nickel-plated brass end caps
- Time-delay
- RoHS

## Applications

- Supplemental protection for electronic applications

## MDA Specifications

Voltage Rating: MDA - See table below

Ampere Rating: 0.5 - 20 Amps

Interrupting Rating: See table below

## Environmental Data

Shock: 0.5A: MIL-STD-202, Method 213, Test Condition I;

1A thru 20A: MIL-STD-202, Method 207, (HI shock)

Vibration: 0.5A: MIL-STD-202, Method 201;

0.5A thru 20A: MIL-STD-202, Method 204, Test condition C (except 5g, 500 HZ)

## Agency Approvals

- UL Listed product meets standard 248-14
- UL Listed Card: MDA 0.5-20A (Guide JDYX, File E19180)
- CSA Certification File 053787: MDA 0.5-15 (Class No. 1422-01)
- RoHS

MDA Small Dimension Time-Delay Fuses											
Part Number	AMP Rating	Rated Voltage		AC Interrupting Rating*		DC Interrupting Rating	Melting I <sup>2</sup> t**	Voltage Drop mv***	Pcs/Pkg	Package Weight (lb.)	Price
		AC Max	DC Max	250V	125V						
MDA-5	0.5	250V	—	35A	10000A	—	2.3	1.42	5	0.0425 lb	\$14.75
MDA1	1						11.1	1.03			\$14.75
MDA2	2						64.0	0.623			\$14.75
MDA3	3						40.9	0.182			\$10.25
MDA4	4			134.0			0.162	\$10.25			
MDA5	5			345.9			0.145	\$10.25			
MDA8	8			944.0			0.134	\$10.00			
MDA10	10			1491.3			n/a	\$10.00			
MDA12	12			113.8			0.114	\$10.00			
MDA15	15			206.2			0.107	\$10.00			
MDA20	20	125V	1500A	10000A	439.5	0.095	\$10.00				

\*Note: Interrupting ratings were measured at 70% - 80% power factor on AC, and at a time constant described in UL 198L.

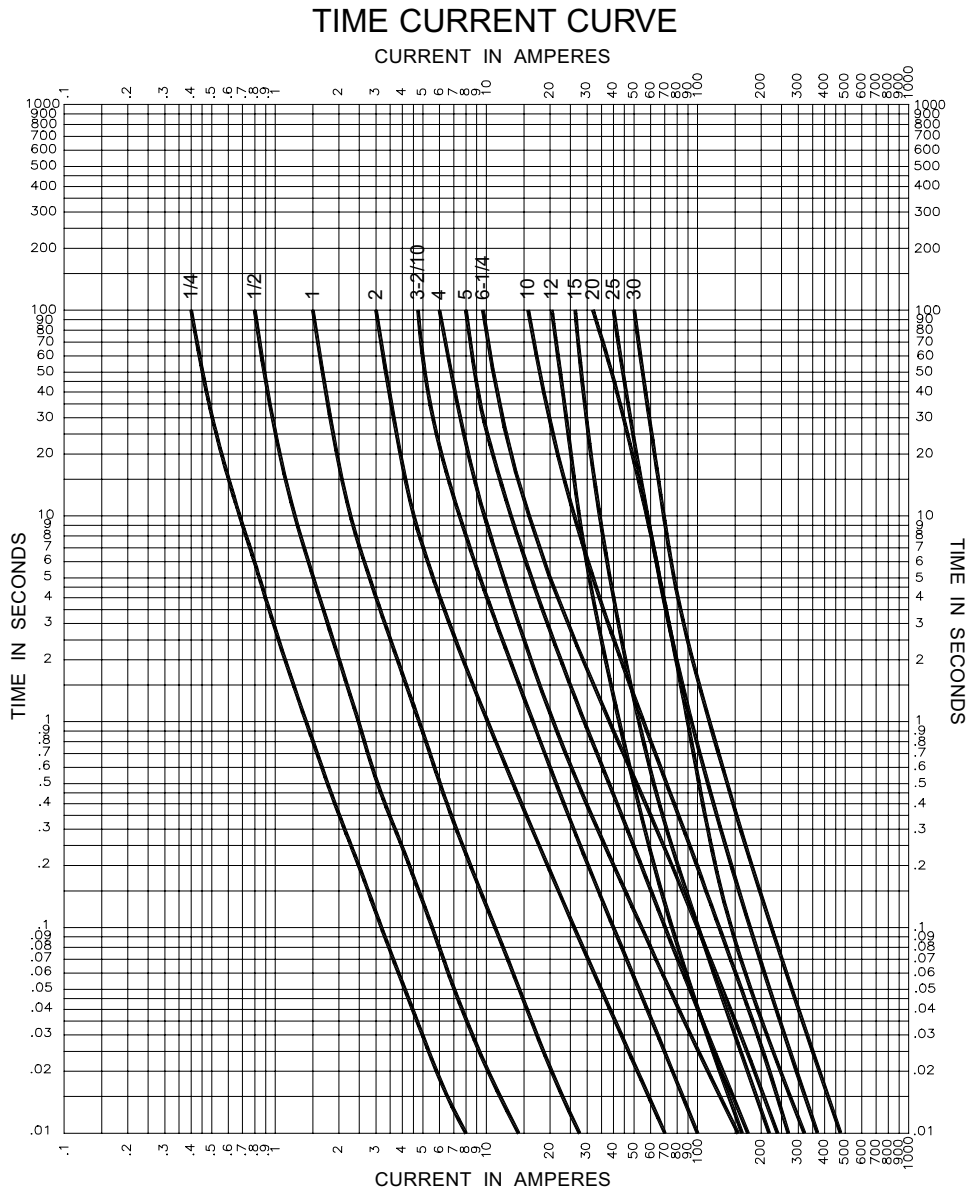
\*\* Typical Melting I<sup>2</sup>t (A<sup>2</sup>Sec) - measured at listed interrupting rating and rated voltage (at 70% to 80% power factor on AC)

\*\*\* Typical Voltage Drop - measured at 25°C ± 3°C ambient temperature at rated current.

**For mounting and wiring MDA fuses, see our DN-F6 Series fuse blocks in the Terminal Blocks and Wiring Solutions section.**

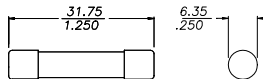
CROSS REFERENCE			
OLD EDISON	BUSSMANN	MERSEN GOULD	LITTELFUSE
BDA	MDA	None	326

# Small Dimension Time-Delay MDA Fuses



## Dimensions

(mm/inches)



MDA Electrical Characteristics		
Rated Current	% of Amp Rating	Opening Time
0.5 to 20 Amps	100	None
	135	60 minutes maximum
	200	120 seconds maximum



# Selection Guide

## Line Overview

The Edison family of fuses, fuse blocks and fuse holders is divided into two classes:

1. Current Limiting: Class CC, Class J, Class L, Class RK, Class T
2. General Purpose: Class M Midget and Small Dimension

The fuse selection guide below is a general summary of the specifications included for each fuse type. This selection guide does not include the many variables that can exist for specific situations such as local codes, unusual temperature, or other operating conditions. When selecting fuses, be sure to comply with any applicable PUBLIC SAFETY standards that apply to Overcurrent Protection Devices (OPD).

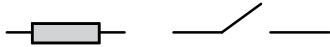
Edison Fuses Selection Guide and General Specifications														
Description	Current Limiting													
	Class J		Class RK5		Class RK1		Class T		Class L		Class CC			
Fuse Type	Fast-Acting	Time-Delay	Time-Delay				Extremely Fast-Acting		Fast-Acting	Fast-Acting	Time-Delay			
Part Number	JHL	JDL	ECNR	ECSR	LENRK	LESRK	TJN	TJS	LCU	HCLR	HCTR	EDCC		
Voltage Rating	600VAC 450VDC	600VAC 300VDC*	250VAC 125 VDC* (1-200A) 250VDC* (201-600A)	600VAC 300VDC*	250VAC 125VDC* (10-60A) 250VDC* (70-600A)	600VAC 300VDC*	300VAC 160 VDC (15-600A)	600VAC	600V	600VAC 300VDC (15-20A)	600VAC	600VAC 300VDC (0.5-2.25A) (20-30A)		
Amp Rating	1 - 600		1 - 600	3 - 600	10 - 600	5 - 600	1 - 600		601 - 1200	0.5 - 30	0.25 - 30	0.5 - 30		
Interrupting Rating	200,000 RMS Symmetrical Amps													
Current Limiting	Class J		Class RK5		Class RK1		Class T		Class L		Class CC			
Agency Approvals	UL Listed Class J Guide JDDZ File E162363 CSA Certified HRCI-J per C22.2, No. 248.8 File 700489 RoHS compliant		UL Listed Class J Guide JDDZ File E162363 CSA Certified HRCI-J per C22.2, No. 248.8 File 700489		UL Listed, Class RK, Guide JDDZ, File E162363 CSA Certified HRCI-R per C22.2, No. 248.12, File 700489 (LENRK CSA File 053787)				UL Listed, Class T, Guide JDDZ, File E162363 CSA Certified HRCI-T per C22.2, No. 248.12, File 53787, Class 1422-02 & 1422-82		UL Listed, Std. 248-10 CSA Certified, HRC-L C22.2 No. 248.10, Class 1422-02, File 53787		UL Listed to 248.4, Class CC, Guide JDDZ, File E162363, CSA certified HRCI-MISC per C22.2 No. 248.4, File 700489	
Dimensions	See product specification pages.									ferrule (in): 13/32, length (in): 1-1/2				

\* Self-certified DC ratings

Edison Fuses Selection Guide and General Specifications															
Description	General Purpose – Midget				General Purpose – Small Dimension Electronic										
	Fast-Acting		Time-Delay		Fast-Acting Ceramic	Fast-Acting Glass		Medium Time-Delay Glass	Time-Delay Ceramic	Time-Delay Glass	Fast-Acting Glass	Time-Delay Glass			
Part Number	MCL	MOL	MEQ	MEN	ABC	AGC	GMA	GMC	MDA	MDL	S500	S506			
Voltage Rating	600 VAC	250 VAC	500 VAC	250 VAC	250 VAC (0.5 to 30A) 125VDC: (0.5 to 30A)	250VAC: (0.1 to 10A) 32VAC: (15 to 30A)	250VAC (0.063 - 3A) 125VAC (4 - 15A)	250VAC (0.5 - 3A) 125VAC (4 - 10A)	250VAC 125VDC (20A)	250VAC: (0.0625 to 8A) 32VAC: (10 to 20A)	250VAC	250VAC			
Amp Rating	0.5 to 50	0.5 to 30	0.25 to 30	0.5 to 30	0.5 to 30	0.10 to 30	0.063 to 15	0.5 to 10	0.5 to 20	0.0625 to 20	0.032 to 10	0.25 to 6.3			
Interrupting Rating	100,000 RMS Amps	10,000 RMS Amps				See specifications table on product pages									
Current Limiting	N/A				N/A										
Agency Approvals	UL Listed to 248.14, File E162443 CSA Cert. C22.2 Part 59.2, LR 700489				UL Listed standard 248-14 UL Listed Guide and File nos. (ABC 0.25-20 A): (AGC 1/100-10 A) JDYX and E19180 UL Recognition Guide and File nos. (ABC 20-30A):(AGC 11-30) JDYX2 and E19180 CSA Certification Record No: 053787 C 000 and Class No: 1422 01 and 1422 30			Designed to UL/CSA 248-14 UL Listed, Guide JDYX, File E19180 63mA-6A UL Recognition, Guide JDYX2, File E19180, 7A-15A CSA Certified, File 053787, C, 000, 63mA-6A Class 1422-01			UL Listed standard 248-14 UL Listed Card: MDA 2/10-20A, , MDL 1/16-8A (Guide JDYX, File E19180 UL Recognized Card: MDA 25-30A MDL 9-30A (Guide JDYX2, File E19180) CSA Certification Card: MDA 2/10-15A (Class No. 1422-01)			UL Recognized Guide JDYX2, File E19180 Semko Approval VDE Approval BSI Approval IMQ Approval RoHS compliant	
Dimensions	ferrule (in): 13/32 length (in): 1-1/2				1/4" x 1-1/4", (6.3mm x 32mm)			0.197" x 0.788" (5mm x 20mm)		1/4" x 1-1/4", (6.3mm x 32mm)		0.197" x 0.788" (5mm x 20mm)			

# DINnectors® Fuse Terminal Blocks

Fuse blocks are available for 1/4", 5mm, Class CC and mid-gate size fuses, either with or without a blown fuse LED. LED fuse blocks are polarity sensitive and are 35mm DIN-rail mountable. The hinge side is positive.



**DN-F6 Series:  
EURO S 10H/35**



**DN-F6L Series:  
EURO S 10H/35**



**DN-F10 Series:  
EURO S 4LH/35**



**DN-F10L Series:  
EURO S 4LH/35**

## Ordering Information

	Part Number	Pcs/Pkg	Price	Part Number	Pcs/Pkg	Price	Part Number	Pcs/Pkg	Price	Part Number	Pcs/Pkg	Price
<b>Gray Terminal Block</b>	<b>DN-F6</b>	25	\$93.00	-			<b>DN-F10</b>	50	\$149.00	-		
	<b>DN-F6MN</b>	7	\$20.00	-			<b>DN-F10MN</b>	10	\$22.75	-		
<b>12-24 VAC/DC*</b>	-			<b>DN-F6L24</b>	10	\$54.00	-			<b>DN-F10L24</b>	10	\$53.00
<b>110 VAC/DC*</b>	-			<b>DN-F6L110</b>	10	\$54.00	-			<b>DN-F10L110</b>	10	\$53.00
<b>220 VAC/DC*</b>	-			<b>DN-F6L220</b>	10	\$54.00	-			<b>DN-F10L220</b>	10	\$53.00

## Technical Specifications

<b>Stripping Length</b>	12mm [0.47 in]			12mm [0.47 in]			10mm [0.39 in]			10mm [0.39 in]		
<b>Tightening Torque</b>	2.0 N-m [17.7 lb-in]			2.0 N-m [17.7 lb-in]			0.6 N-m [5.3 lb-in]			0.6 N-m [5.3 lb-in]		
<b>Density</b>	100/m [30 pcs/ft]			100/m [30 pcs/ft]			100/m [30 pcs/ft]			100/m [30 pcs/ft]		
<b>UL Approval**</b>	600V	30A	20-6 AWG	600V	30A	20-6 AWG	300V	15A	24-10 AWG	300V	15A	24-10 AWG
<b>CSA Approval</b>	600V	30A	18-6 AWG	600V	30A	18-6 AWG	300V	8A	18-12 AWG	300V	8A	18-12 AWG
<b>VDE Approval</b>	750V	8A	-	750V	8A	-	500V	8A	4mm <sup>2</sup>	500V	8A	4mm <sup>2</sup>
<b>Fuse Size (not supplied)</b>	1 1/4" X 1/4"			1 1/4" X 1/4"			5x20mm-5x25mm			5x20mm-5x25mm		
<b>Indicator Type</b>	Non-indicating			LED blown fuse indicator			Non-indicating			LED blown fuse indicator		
<b>Operating Temperature</b>	Ambient air temperature: -20°C to 85°C [-4°F to 185°F] / Relative humidity: 50% max at 40°C [104°F]; 90% max at 20°C [68°F]											
<b>SCCR Rating</b>	10kA per Table SB4.1, 2009, UL 508A, Maximum short circuit current rating for unmarked components											
<b>CE Conformity</b>	CE (EN 60947-1 / 60947-7-3)											
<b>Agency File #</b>	UL E179129 / LR84816											

Note: To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page.

## Accessories

<b>End Covers</b>		Included				Included				Included				Included			
<b>35mm DIN Rail</b>	<b>7.5 mm high</b>	<b>DN-R35S1</b>	10	\$28.00	<b>DN-R35S1</b>	10	\$28.00	<b>DN-R35S1</b>	10	\$28.00	<b>DN-R35S1</b>	10	\$28.00	<b>DN-R35S1</b>	10	\$28.00	
		<b>DN-R35S1-2</b>	2	\$9.00	<b>DN-R35S1-2</b>	2	\$9.00	<b>DN-R35S1-2</b>	2	\$9.00	<b>DN-R35S1-2</b>	2	\$9.00	<b>DN-R35S1-2</b>	2	\$9.00	
	<b>15mm high</b>	<b>DN-R35HS1</b>	10	\$49.50	<b>DN-R35HS1</b>	10	\$49.50	<b>DN-R35HS1</b>	10	\$49.50	<b>DN-R35HS1</b>	10	\$49.50	<b>DN-R35HS1</b>	10	\$49.50	
		<b>DN-R35HS1-2</b>	2	\$12.00	<b>DN-R35HS1-2</b>	2	\$12.00	<b>DN-R35HS1-2</b>	2	\$12.00	<b>DN-R35HS1-2</b>	2	\$12.00	<b>DN-R35HS1-2</b>	2	\$12.00	
<b>End Brackets</b>	<b>DN-EB35</b>	50	\$39.50	<b>DN-EB35</b>	50	\$39.50	<b>DN-EB35</b>	50	\$39.50	<b>DN-EB35</b>	50	\$39.50	<b>DN-EB35</b>	50	\$39.50		
	<b>DN-EB35MN</b>	20	\$18.00	<b>DN-EB35MN</b>	20	\$18.00	<b>DN-EB35MN</b>	20	\$18.00	<b>DN-EB35MN</b>	20	\$18.00	<b>DN-EB35MN</b>	20	\$18.00		
	<b>DN-EB35-A</b>	50	\$28.50	<b>DN-EB35-A</b>	50	\$28.50	<b>DN-EB35-A</b>	50	\$28.50	<b>DN-EB35-A</b>	50	\$28.50	<b>DN-EB35-A</b>	50	\$28.50		
	<b>DN-EB35-A-10</b>	10	\$7.50	<b>DN-EB35-A-10</b>	10	\$7.50	<b>DN-EB35-A-10</b>	10	\$7.50	<b>DN-EB35-A-10</b>	10	\$7.50	<b>DN-EB35-A-10</b>	10	\$7.50		
	<b>DN-QEB35</b>	50	\$25.50	<b>DN-QEB35</b>	50	\$25.50	<b>DN-QEB35</b>	50	\$25.50	<b>DN-QEB35</b>	50	\$25.50	<b>DN-QEB35</b>	50	\$25.50		
	<b>DN-QEB35-10</b>	10	\$7.50	<b>DN-QEB35-10</b>	10	\$7.50	<b>DN-QEB35-10</b>	10	\$7.50	<b>DN-QEB35-10</b>	10	\$7.50	<b>DN-QEB35-10</b>	10	\$7.50		
<b>Angled Support Bracket</b>	<b>DN-ASB1</b>	50	\$49.50	<b>DN-ASB1</b>	50	\$49.50	<b>DN-ASB1</b>	50	\$49.50	<b>DN-ASB1</b>	50	\$49.50	<b>DN-ASB1</b>	50	\$49.50		
<b>Marking Tags</b>	<b>DN-L*** or DN-LT****</b>	500/100	various	<b>DN-L*** or DN-LT****</b>	500/100	various	<b>DN-L*** or DN-LT****</b>	500/100	various	<b>DN-L*** or DN-LT****</b>	500/100	various	<b>DN-L*** or DN-LT****</b>	500/100	various		

\*Working voltage

\*\*For copper wire only

\*\*\*On lever arm

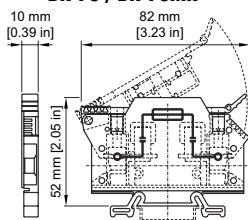
\*\*\*\*On terminal body

Note: DN-F6 series fuse holders will accommodate the following AutomationDirect fuses: ABC, AGC, MDA and MDL Series.

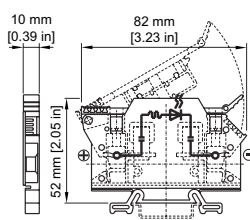
DN-F10 series fuse holders will accommodate the following AutomationDirect fuses: GMA, GMC, S500, and S506 Series.

For more information on accessories, see the DINnectors Accessories section of this chapter.

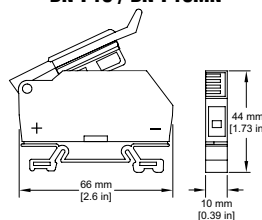
**DN-F6 / DN-F6MN**



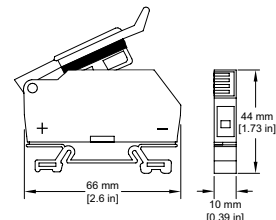
**DN-F6L**



**DN-F10 / DN-F10MN**



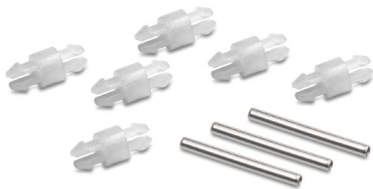
**DN-F10L**



# Accessories



**FP2**



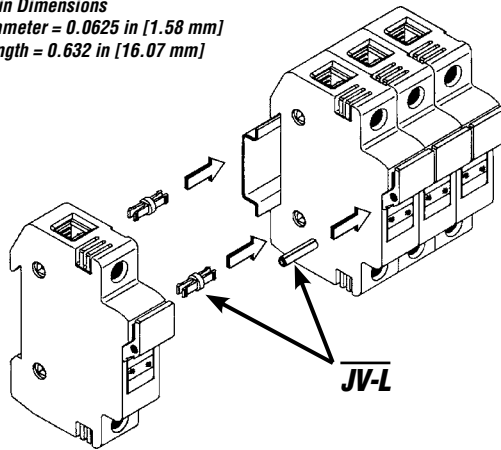
**JV-L**

Accessories			
Part Number	Description	Pcs/Pkg	Price
<b>FP-2</b>	Fuse puller for fuse dia. 13/32" - 13/16". Fuse type: 0-60A, 250V; 0-30A, 600V	1	\$16.75
<b>JV-L *</b> <b>(Not Field Installable)</b>	Multi-pole connection kit to connect new design multiple Class CC and Midget Class fuse holders together. Kit consists of 6 connectors and 3 handle pins to connect up to 4 fuse holders.		\$7.00

*Note: Will not work with retired design fuse holders shipped before November 1, 2009.*

*\*Roll pin punch or installation tool is required to install handle pins (Tool not sold by Automationdirect.com).*

**Handle Pin Dimensions**  
 Diameter = 0.0625 in [1.58 mm]  
 Length = 0.632 in [16.07 mm]



# Cross Reference Guide



CROSS REFERENCE GUIDE By manufacturers type reference or series number. Ampere ratings must be added for ordering purposes.								
FUSE TYPE		VOLT	EDISON	BRUSH/ DORMAN	BUSSMANN	MERSEN/ GOULD	GEC/CEFCO	LITTELFUSE
<b>UL CLASS CURRENT LIMITING FUSES (CSA CLASS)</b>								
CC (HRCl-CC)	Time-Delay	600	EDCC	–	LP-CC	ATDR	–	CCMR
	Time-Delay	600	HCTR	–	FNQ-R	ATQR	–	KLDR
	Fast-Acting	600	HCLR	HCLR	KTK-R	ATMR	CTK-R	KLKR
RK1	Time-Delay Dual Element	250	LENRK	–	LPN-RK-SP	A2DR	–	LLNRK
		600	LESRK	–	LPS-RK-SP	A6DR	–	LLSRK
RK5	Time-Delay Dual Element	250	ECNR	–	FRN-R	TR	–	FLNR
		600	ECSR	–	FRS-R	TRS	–	FLSR
J	Time-Delay Dual Element	600	JDL	–	LPJ	AJT	–	JTD
	High-Speed AC Drive	600	JHL	–	DFJ	HSJ	–	–
T	Extremely Fast-Acting	300	TJN	–	JJN	A3T	–	JLLN
		600	TJS	–	JJS	A6T	–	JLLS
<b>UL CLASS GENERAL PURPOSE FUSES</b>								
Midget	Fast-Acting	600	MCL	MCL	KTK	ATM	CTK	KLK
		250	MOL	MOL	BAF/BAN	OTM	–	BLF
	Time-Delay	500	MEQ	MEQ	FNQ	ATQ	–	FLQ
		250	MEN	MEN	FNM	TRM	–	FLM
1/4" x 1-1/4" Ceramic	Fast-Acting	250/125	ABC	ABC	ABC	GAB	–	314
1/4" x 1-1/4" Glass		250/32	AGC	AGC	AGC	GGC	–	312
1/4" x 1-1/4" Ceramic	Time-Delay	250	MDA	MDA	MDA	–	–	326
1/4" x 1-1/4" Glass		250/32	MDL	MDL	MDL	GDL	–	313
5x20 mm Glass	Fast-Acting	250/125	GMA	GMA	GMA	GGM	–	235
	Medium Time-Delay	250/125	GMC	GMC	GMC	GSC	–	–
5x20 mm Glass	Fast-Acting	250	S500	BDB	GDB	GSB	–	217
	Time-Delay	250	S506	BDC	GDC	GDG	–	218
<b>Fuse Puller</b>								
Fuse Puller FP-2		–	old - 38072 new - FP-2	–	FP-2	–	–	–