

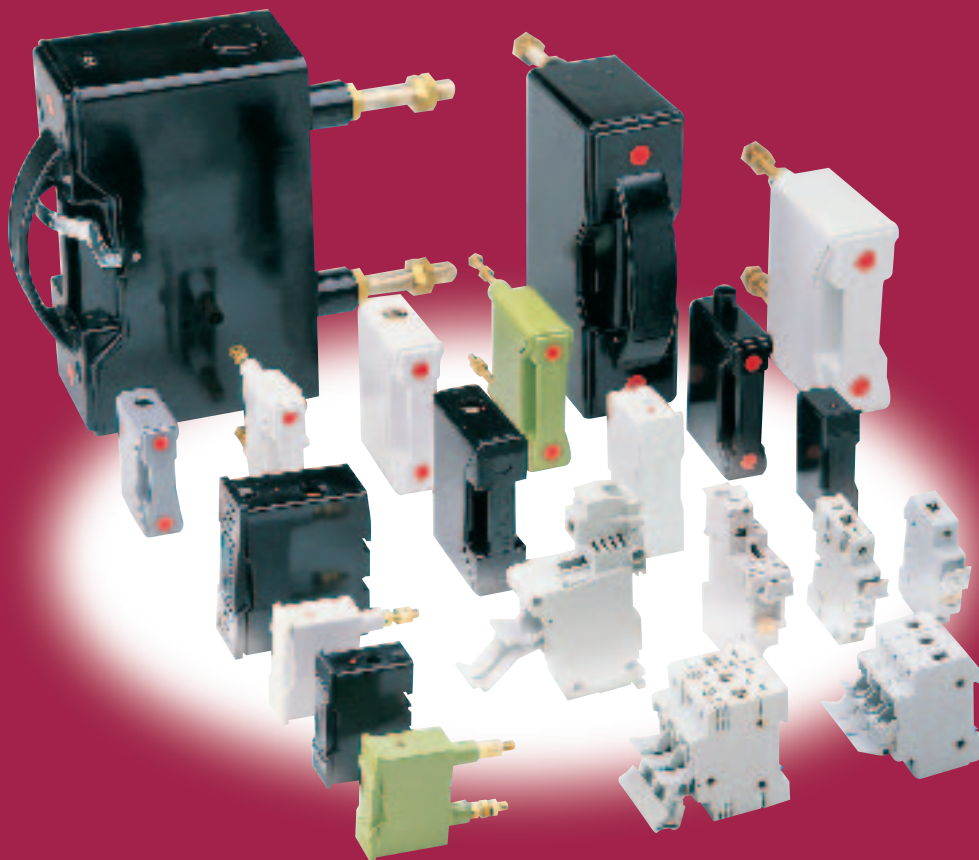


GE Power Controls

Fuse Holders

Low Voltage Industrial

RED SPOT / SAFECLIP / 'FM'



RED SPOT / SAFECLIP / 'FM'



Low Voltage Industrial Fuse Holders

Introduction

RED SPOT A

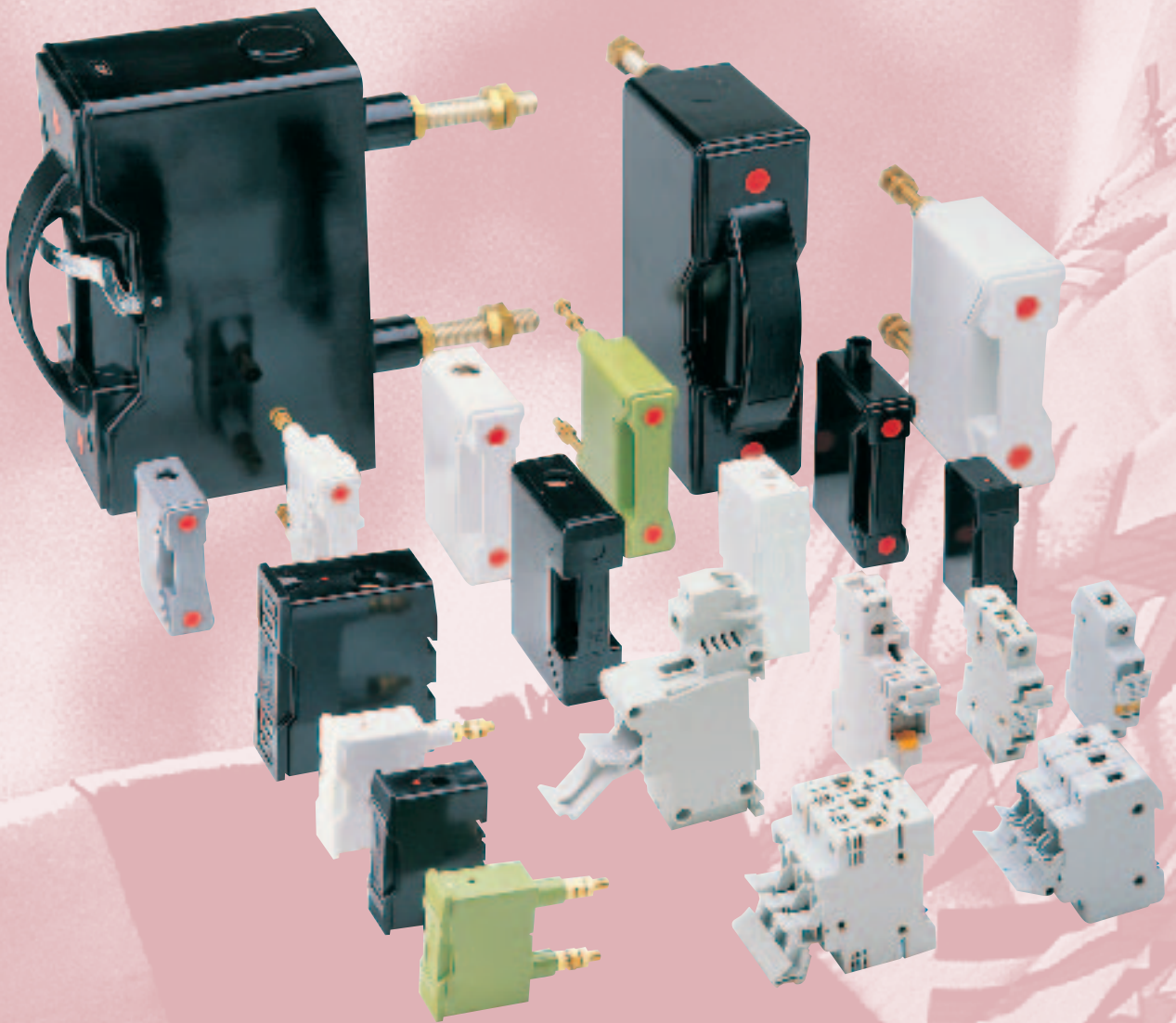
SAFECLIP B

'FM' Modular C

Installation and Maintenance Guide D



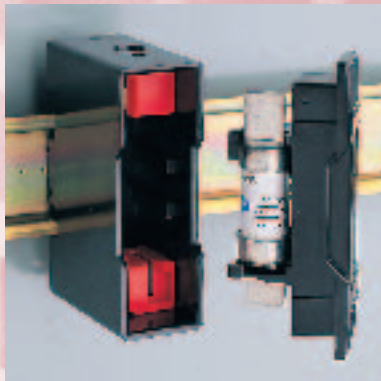
Low Voltage Industrial Fuse Holders



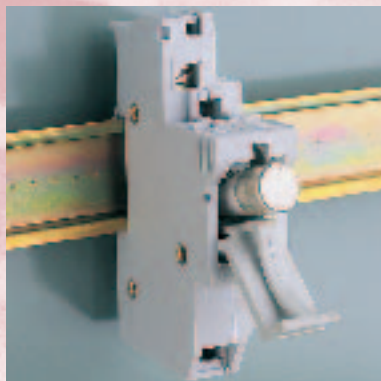
*“You’re in
safe hands”*



**RED
SPOT**



SAFECLIP



FM  Modular

For all applications



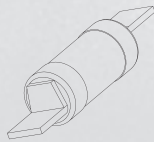
RED SPOT



Bolted tag Fuse Links



SAFECLIP



Offset blade tag Fuse Links



FM  Modular



Cylindrical Fuse Links



Commercial



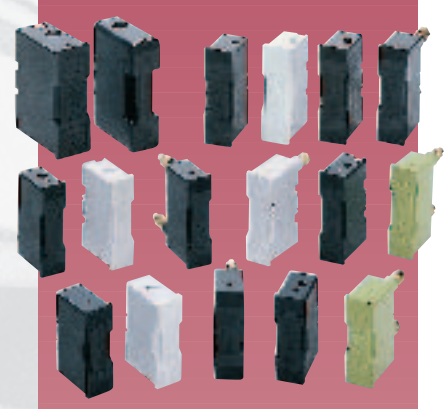
Utilities



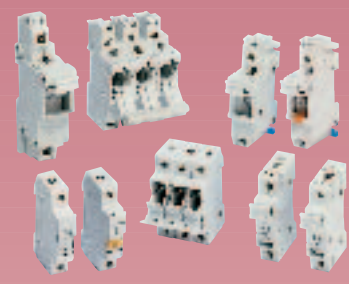
Low Voltage Industrial Fuse Holders



RED SPOT
660Vac
20 - 400A



SAFECLIP
up to 440Vac
20 - 125A

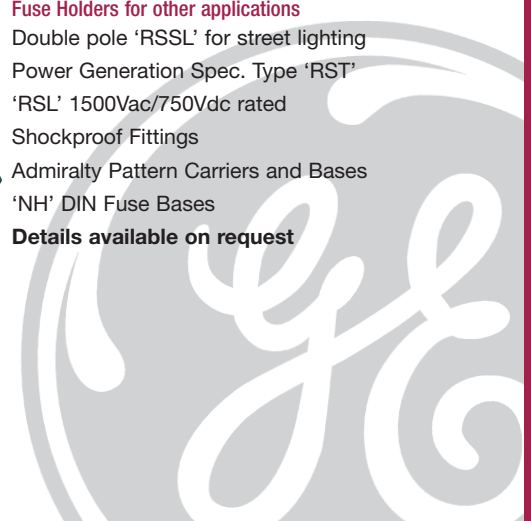


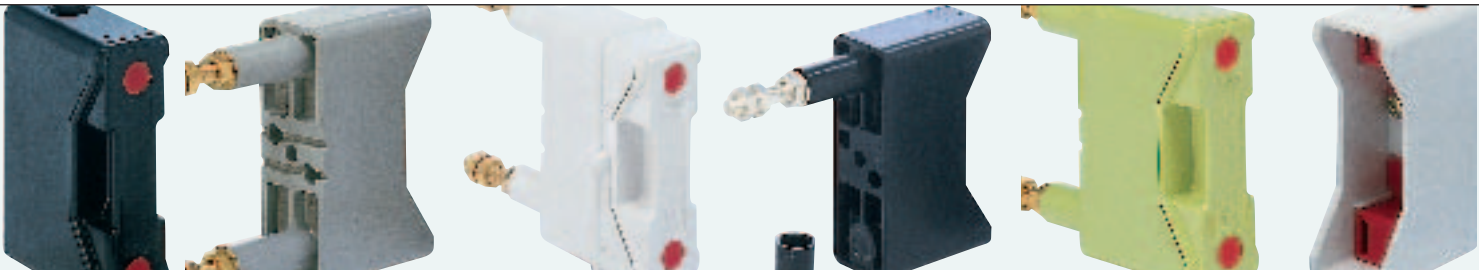
'FM' Modular
Up to 660Vac
32 - 125A



Fuse Holders for other applications
Double pole 'RSSL' for street lighting
Power Generation Spec. Type 'RST'
'RSL' 1500Vac/750Vdc rated
Shockproof Fittings
Admiralty Pattern Carriers and Bases
'NH' DIN Fuse Bases
Details available on request

Industrial







Introduction

RED SPOT A

- A. 2 Features and benefits
- A. 4 Product introduction
- A. 5 – 7 Fuse Holder product list
- A. 8 Accessories
- A. 9 Fuse Link selection chart
- A. 10 – 21 Outline dimensions

SAFECLIP B

'FM' Modular C

Installation and Maintenance Guide D

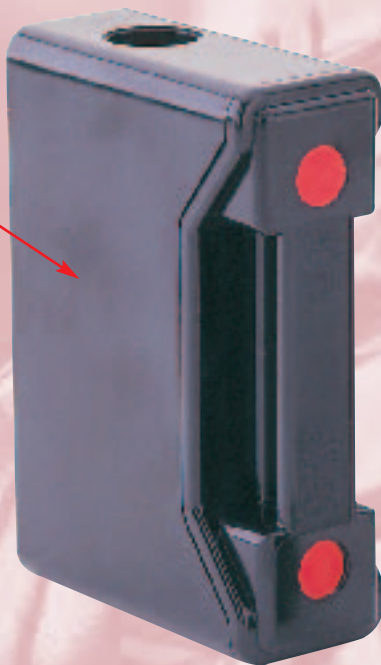


Safe and reliable

RED SPOT



Base and carrier mouldings manufactured from flame retardant, non-hydroscopic, phenolic material



Perfect alignment of contacts with single screw fixing

Steel stirrup gives mechanical guidance to fuse carrier

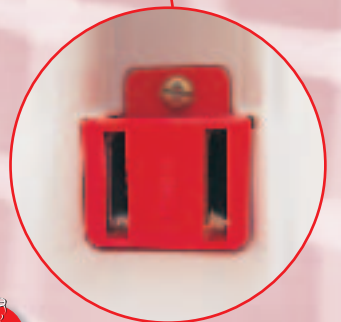
Non-twist cable clamping screw



A



Insulating sleeves give increased protection against inadvertent contact at the cable entry point



Red, flame retardant nylon 66 safety shrouds with strength and flexibility

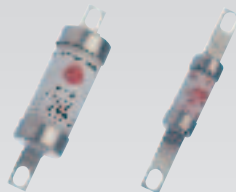
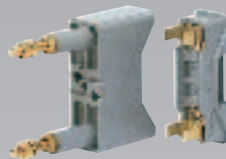


200 and 400 Amp Fuse Holders have silver plated contacts and terminal screw locking device



Large contact area with anti-vibration feature

Provides optimum performance, quality and reliability



A complete range

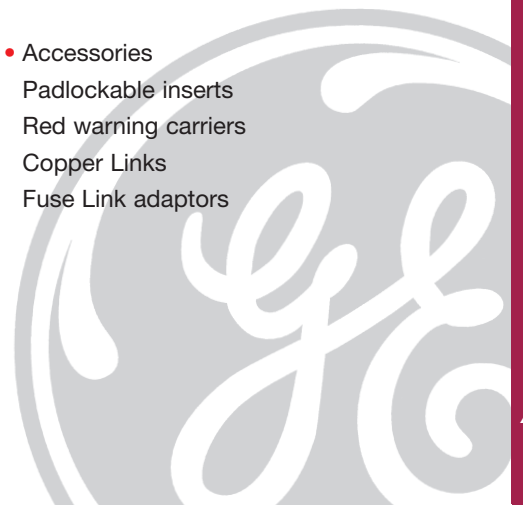
- Current ratings
20, 32, 63, 100, 200 and 400 Amp
- Connection variants

Front connected

Back stud connected

Front / Back stud connected

Back stud connected flush mounted
- Standard finish is black – other available colours include white, green and grey
- Time proven contact system – over 10 million in service
- The industry's acknowledged standard for over 25 years
- Complementary to the RED SPOT Standard and RED SPOT 400 Series HRC Fuse Links
- Accessories
Padlockable inserts
Red warning carriers
Copper Links
Fuse Link adaptors





Fuse Holders: RED SPOT

BS 88-1 and 2:1988
IEC 269-1 and 2



Total safety



Complete



High quality



Great design

Applications



Approvals

ASTA Certified



Application Notes

Protection of personnel

RED SPOT Fuse Holders are fully shrouded for personnel safety and complete compliance with the direct contact electric shock requirements of the IEE Wiring Regulations (BS 7671:1992).

Cable protection

Patented non-twist cable clamping screw of large diameter prevents damage occurring to cable cores during tightening. Front connected units comply with Powergen and National Power requirements for Category of Duty II, back connected configurations are approved for Categories of Duty I and II.

Protection against inadvertent contact

Insulated sleeves are fitted to front connected fuse bases to provide increased protection at the cable entry point.

Associated Fusegear Equipment

- RED SPOT Fusebanks
- RED SPOT Fuseboards

Associated Fuse Links

- RED SPOT Standard
- RED SPOT 400 Series
- Contact the sales office for catalogues

Technical Data

Current Rating	(A) 20-400
Voltage Rating ac	(V) 660*
Voltage Rating dc	(V) 460*
Breaking Capacity ac	(kA) 80
Breaking Capacity dc	(kA) 40
Max Operating Ambient Temperature	(°C) 40
Cable Connector Size	(mm ²) 10-240

* when fitted with RED SPOT Standard Fuse Links

Performance

ASTA type test certified to BS 88: Parts 1 and 2 suitable for use on applications up to 660Vac and 460Vdc.

Features

Fully shrouded for personal safety

Separate base contact insulating shrouds ensure that no 'live' metal is dangerously exposed when the fuse carrier is removed – this enables an out-going circuit to be cabled with complete safety to personnel and with continuity of supply to other circuits.



Protection against vibration

Anti-vibration features protect against the inadvertent release of the carrier due to vibration, the 400 Amp size is enhanced with an automatic safety catch which locks on insertion of the carrier.

Most comprehensive range

- 20, 32, 63, 100, 200 and 400 Amp ratings
- front, back stud and half front/back stud connection variants
- 20 Amp flush mounted (back connected) version
- standard black finish, available colours include white, green and grey.



High resistance material

RED SPOT Fuse Holders are manufactured from tough phenolic, flame retardant, non-hygroscopic mouldings.



Time proven contact system

Mouldings designed to ensure perfect alignment of the carrier contacts with the base terminal/contact block, steel stirrups provide mechanical guidance whilst inserting the carrier into the base.



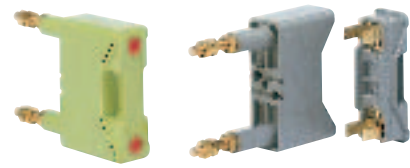
Provides optimum performance, quality and reliability.

RED SPOT – 20 Amp



Front connected

Part number	Code	Colour	Maximum cable size	Fuse Link accommodated
RS20H	402159	Black	10mm ²	NIT / GNIT
RS20HWH	402162	White	10mm ²	NIT / GNIT
RS20HGN	402160	Green	10mm ²	NIT / GNIT
RS20HGY	402161	Grey	10mm ²	NIT / GNIT



Back stud connected

RS20P/G	402165	Black	10mm ²	NIT / GNIT
RS20P/GWH	402168	White	10mm ²	NIT / GNIT
RS20P/GGN	402166	Green	10mm ²	NIT / GNIT
RS20P/GGY	402167	Grey	10mm ²	NIT / GNIT



Front / Back stud connected

Back stud connected flush mounted

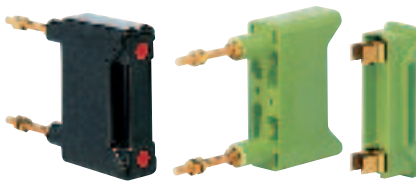
RS20PH/G	402169	Black	10mm ²	NIT / GNIT
RS20F	402155	Black	10mm ²	NIT / GNIT
RS20FWH	402158	White	10mm ²	NIT / GNIT
RS20FGN	402156	Green	10mm ²	NIT / GNIT
RS20FGY	402157	Grey	10mm ²	NIT / GNIT

RED SPOT – 32 Amp



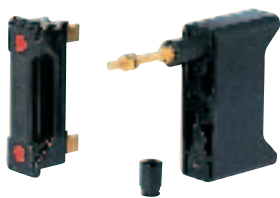
Front connected

Part number	Code	Colour	Maximum cable size	Fuse Link accommodated
RS32H	402173	Black	16mm ²	TIA / GTIA
RS32HWH	402175	White	16mm ²	TIA / GTIA
RS32HGN	402174	Green	16mm ²	TIA / GTIA



Back stud connected


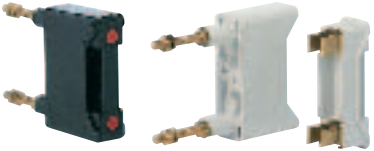

RS32P	402178	Black	16mm ²	TIA / GTIA
RS32PWH	402180	White	16mm ²	TIA / GTIA
RS32PGN	402179	Green	16mm ²	TIA / GTIA



Front / Back stud connected

RS32PH	402181	Black	16mm ²	TIA / GTIA
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RED SPOT – 63 Amp

	Part number	Code	Colour	Maximum cable size	Fuse Link accommodated
 <p>Front connected</p>	RS63H	402190	Black	50mm ²	TIS / GTIS
	RS63HWH	402191	White	50mm ²	TIS / GTIS
 <p>Back stud connected</p>	RS63P	402194	Black	50mm ²	TIS / GTIS
	RS63PWH	402195	White	50mm ²	TIS / GTIS
 <p>Front / Back stud connected</p>	RS63PH	402196	Black	50mm ²	TIS / GTIS
	RS63PHWH	402197	White	50mm ²	TIS / GTIS

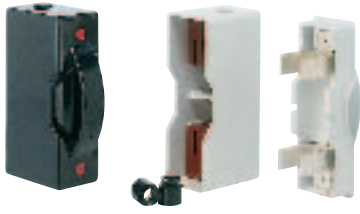
RED SPOT

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RED SPOT – 100 Amp

	Part number	Code	Colour	Maximum cable size	Fuse Link accommodation
 <p>Front connected</p>	RS100H	402139	Black	70mm ²	TCP / GTCP
	RS100HWH	402140	White	70mm ²	TCP / GTCP
 <p>Back stud connected</p>	RS100P	402143	Black	70mm ²	TCP / GTCP
	RS100PWH	402144	White	70mm ²	TCP / GTCP
 <p>Front / Back stud connected</p>	RS100PH	402145	Black	70mm ²	TCP / GTCP

RED SPOT – 200 Amp



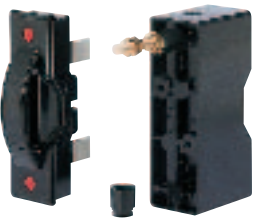
Front connected

Part number	Code	Colour	Maximum cable size	Fuse Link accommodation
RS200H	402148	Black	120mm ²	TF / GTF
RS200HWH	402149	White	120mm ²	TF / GTF



Back stud connected

Part number	Code	Colour	Maximum cable size	Fuse Link accommodation
RS200P	402151	Black	120mm ²	TF / GTF
RS200PWH	402152	White	120mm ²	TF / GTF



Front / Back stud connected

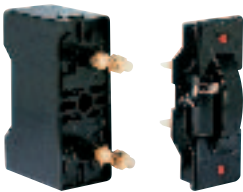
Part number	Code	Colour	Maximum cable size	Fuse Link accommodation
RS200PH	402153	Black	120mm ²	TF / GTF

RED SPOT – 400 Amp



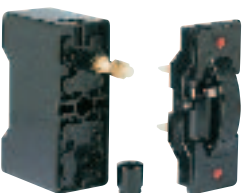
Front connected

Part number	Code	Colour	Maximum cable size	Fuse Link accommodation
RS400H	402184	Black	240mm ²	TM / GTM



Back stud connected

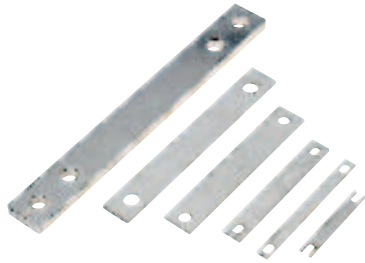
Part number	Code	Colour	Maximum cable size	Fuse Link accommodation
RS400P	402187	Black	240mm ²	TM / GTM



Front / Back stud connected

Part number	Code	Colour	Maximum cable size	Fuse Link accommodation
RS400PH	402188	Black	240mm ²	TM / GTM

Accessories – RED SPOT Copper Links



Part number	Code	Current rating	For use in
P110151-10	402129	20 Amp	RS20
P110152-10	402130	32 Amp	RS32
P110153-10	402131	63 Amp	RS63
P110154-10	402132	100 Amp	RS100
P110155-10	402133	200 Amp	RS200
P110156-10	402134	400 Amp	RS400

Accessories – RED SPOT Padlockable Inserts



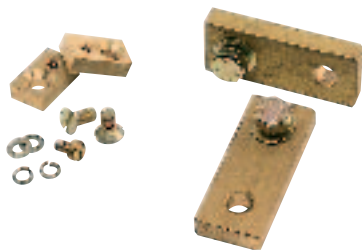
Part number	Code	For use in	Suitable padlocks (not supplied)
RS20LOCK	402164	RS20	YALE (P72)
RS32LOCK	402177	RS32	and SQUIRE
RS63LOCK	402193	RS63	(LP6, LN1 or No 20)
RS100LOCK	402142	RS100	

Accessories – RED SPOT Red Warning Carriers



Part number	Code	For use in
RS20RED	402170	RS20
RS32RED	402182	RS32
RS63RED	402198	RS63
RS100RED	402146	RS100

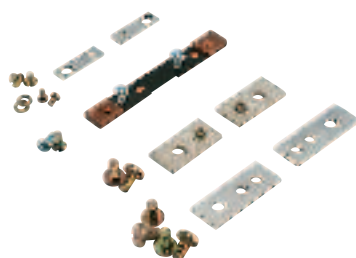
Accessories – RED SPOT Fuse Link Adaptor Kits



Part number	Code	For use with Fuse Link type	For use in
P5372/10	402135	TIA / GTIA / TIS / GTIS	RS100
TCA2	402222	TBC / TC / TF / GTF	RS400

Note : One adaptor kit required per Fuse Link

Accessories – RED SPOT Adaptor Kits for 'GS' Fuse Links



Part number	Code	For use with Fuse Link type	For use in
GRS32/A	402108	GSA 5 - 20	RS32
GRS63/A	402109	GSA 25 - 50	RS63
GRS100/B	402107	GSB 5 - 20	RS100
GRS100/A-B	402106	GSA 75	RS100
		GSB 25 - 50	
		GSGB 16 - 45	

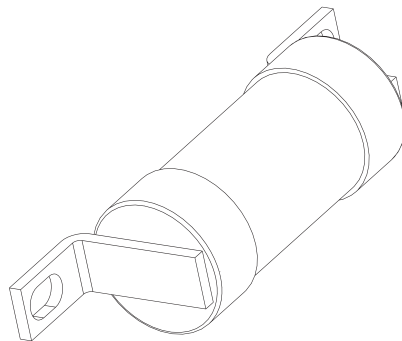
Note : One adaptor kit required per Fuse Link

Fuse Link Selection

HRC Fuse Links Accommodated – Selection Chart

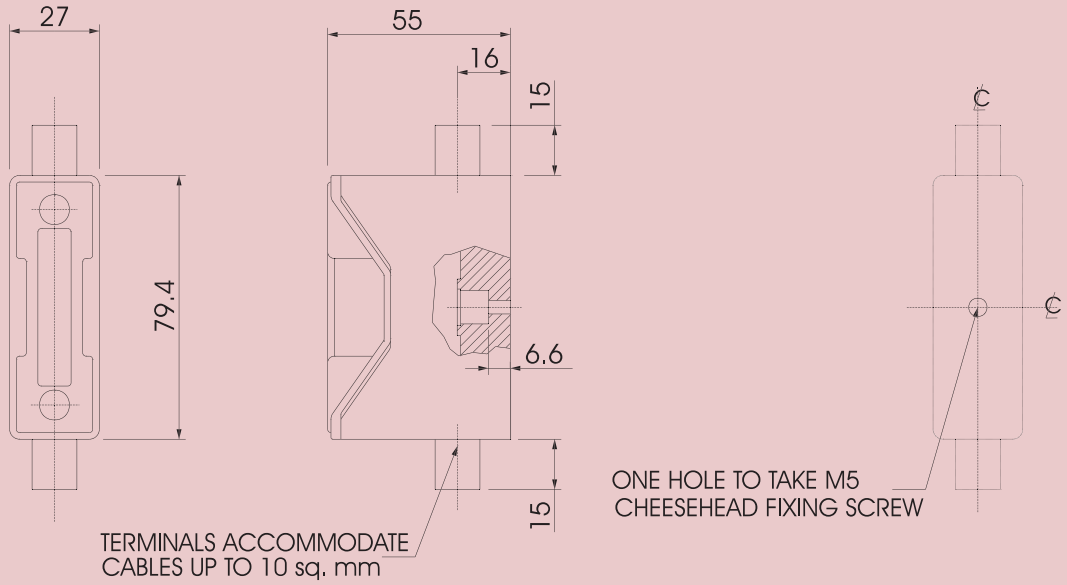
Fuse Holder Rating	RED SPOT Standard HRC Fuse Links rated up to 660 Volt ac	RED SPOT 400 Series HRC Fuse Links rated up to 440 Volt ac	Extended range of RED SPOT Standard for motor circuit protection		
Amp	Part number	Part number	Part number	Current rating Amp	Rating for Motor Starting Amp
20	NIT 2 – 20	GNIT 2 – 20	TIA32M25	20	25
			NIT20M32	20	32
32	TIA 2 – 32	GTIA 2 – 32	TIA32M35	32	35
			TIA32M40	32	40
			TIA32M50	32	50
			TIA32M63	32	63
63	TIS 35 – 63 TIA 2 – 32	GTIS 35 – 63 GTIA 2 – 32	TIS63M80	63	80
			TIS63M100	63	100
100	TCP 32 – 100 TIS 35 – 63 * TIA 2 – 32 *	GTCP 35 – 100 GTIS 35 – 63 * GTIA 2 – 32 *	TCP100M125	100	125
			TCP100M160	100	160
			TCP100M200	100	200
200	TF 125 – 200 TC 80 & 100 TBC 2 – 63	GTF 125 – 200	TF200M250	200	250
			TF200M315	200	315
400	TM 355 – 400 TKM 250 & 315 TF 125 – 200 • TC 80 & 100 • TBC 2 – 63 •	GTM 355 – 400 GTKM 250 & 315 GTF 125 – 200 •	TM400M450	400	450

- * adaptor kit required Part number P5372/10
- adaptor kit required Part number TCA2

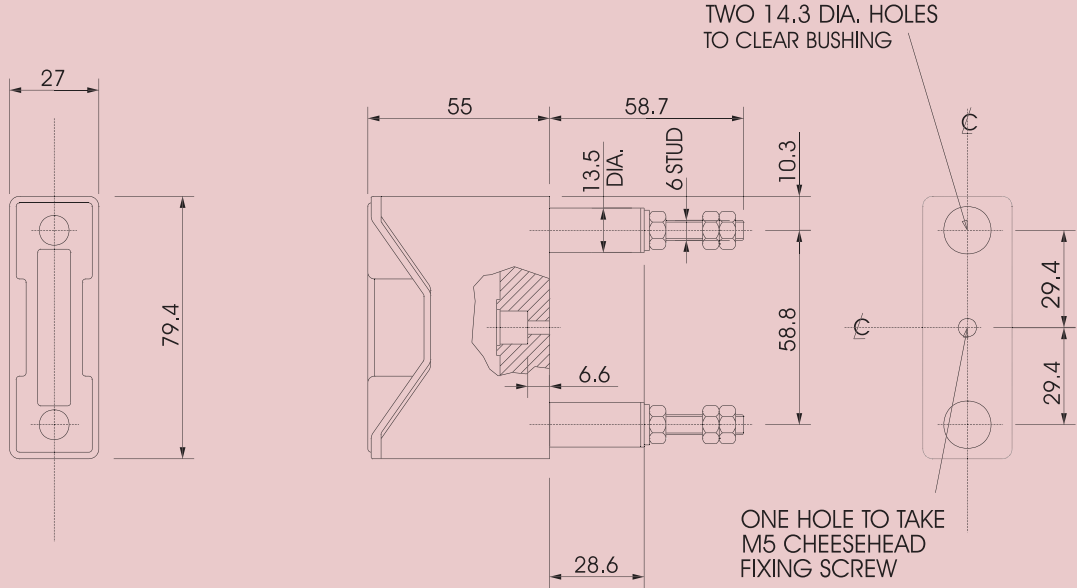


Outline Dimensions

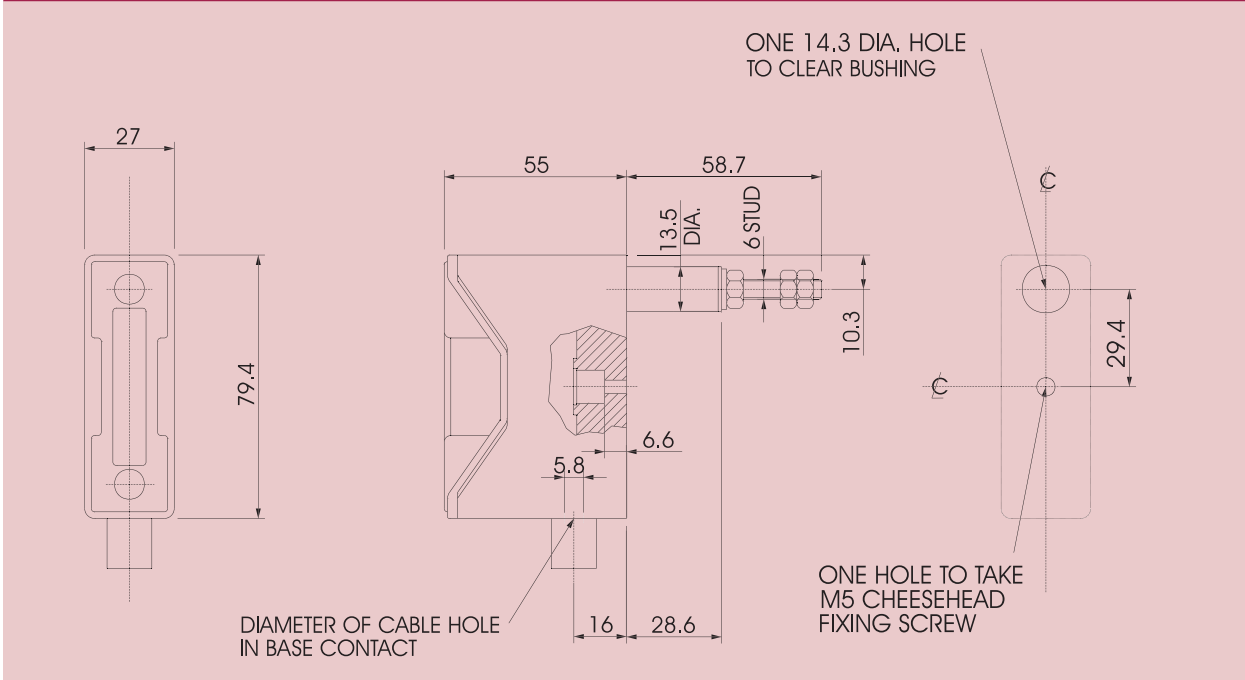
RED SPOT Fuse Holders – 20 Amp front connected



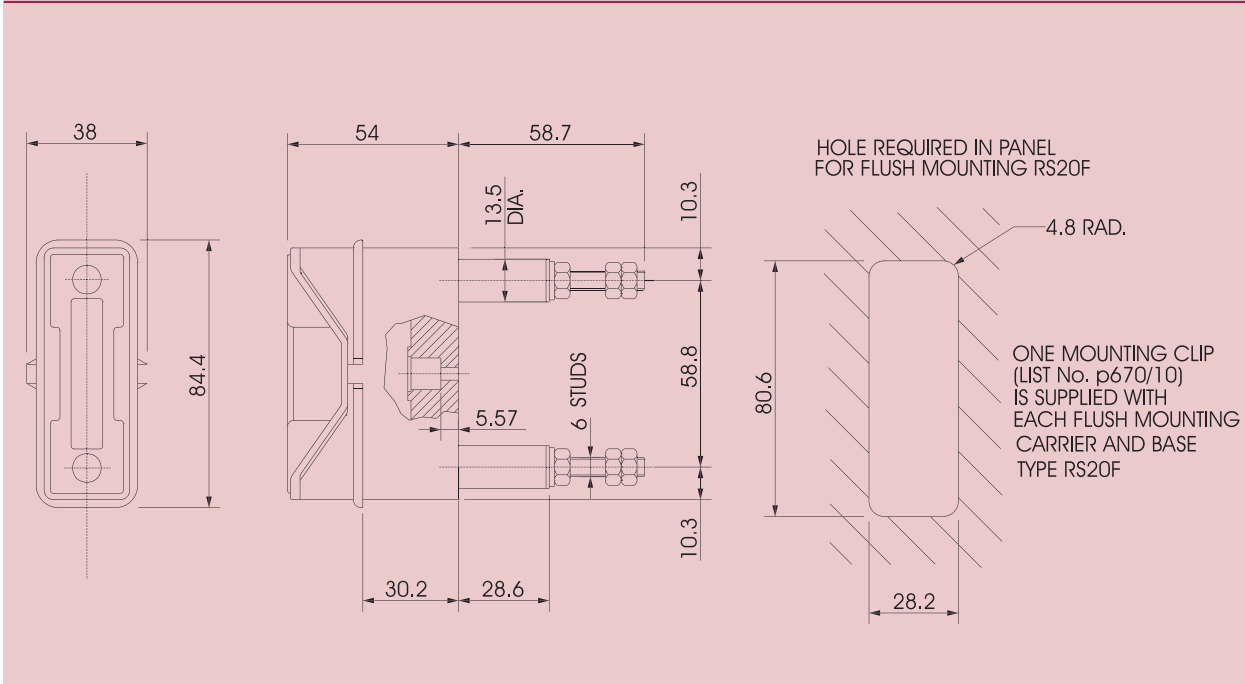
RED SPOT Fuse Holders – 20 Amp back stud connected



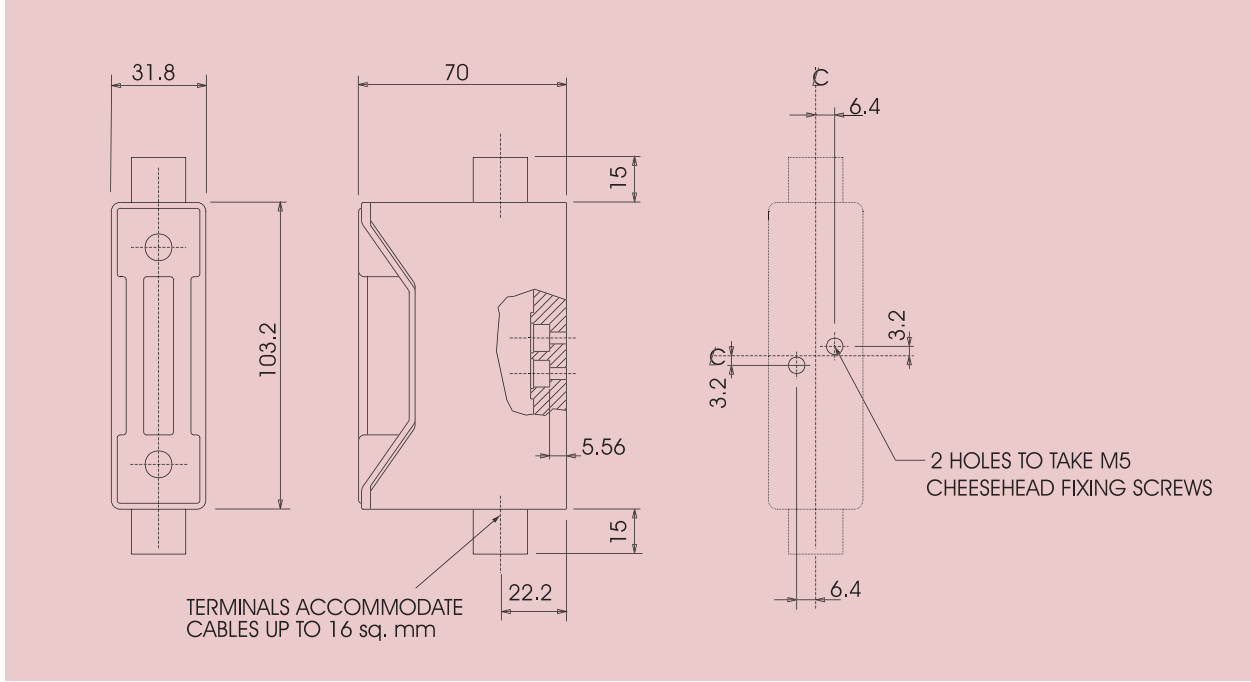
RED SPOT Fuse Holders – 20 Amp front / back stud connected



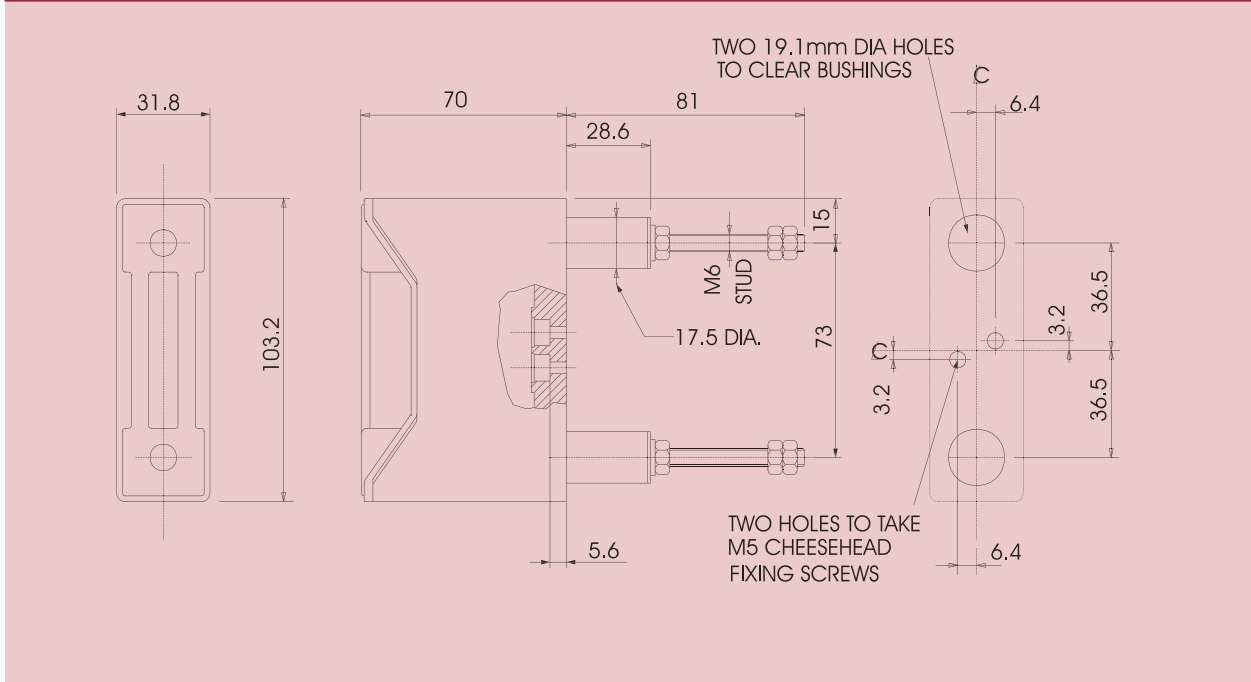
RED SPOT Fuse Holders – 20 Amp back stud connected / flush mounted



RED SPOT Fuse Holders – 32 Amp front connected

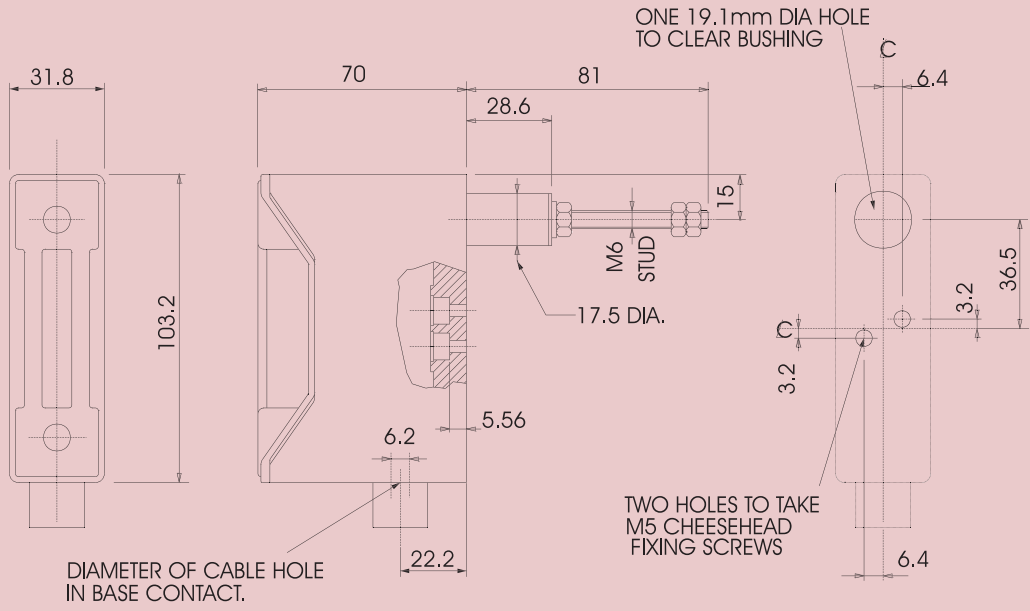


RED SPOT Fuse Holders – 32 Amp back stud connected

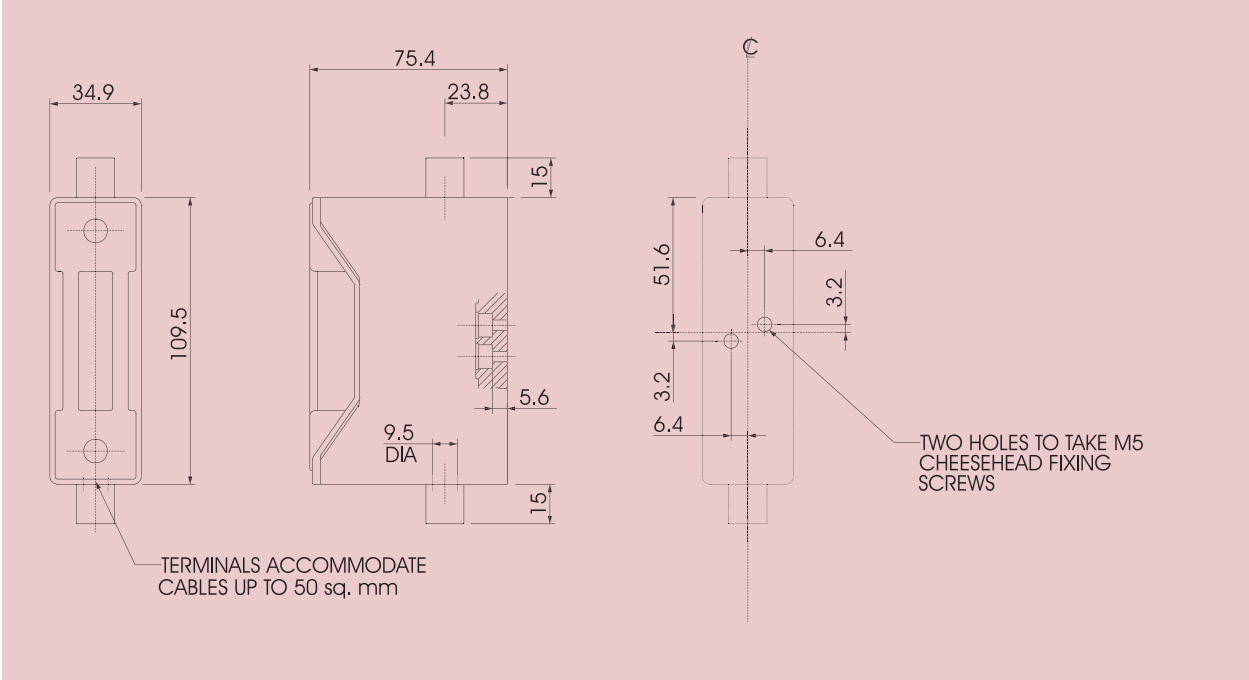


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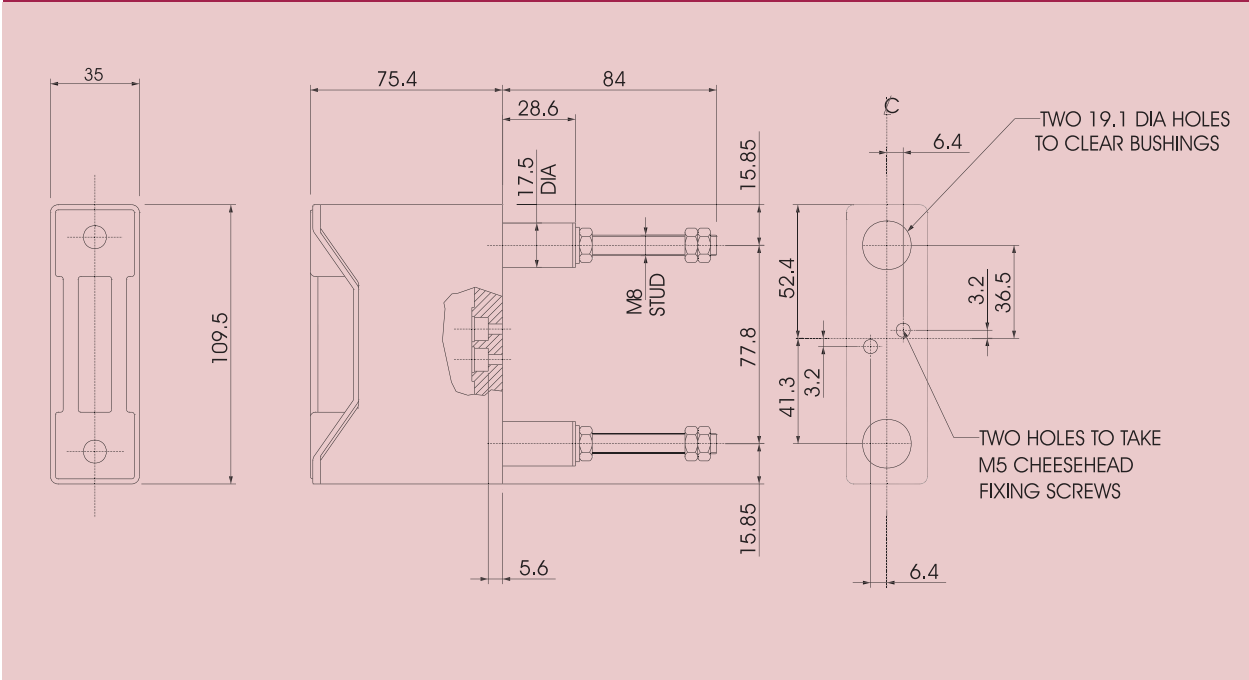
RED SPOT Fuse Holders – 32 Amp front / back stud connected



RED SPOT Fuse Holders – 63 Amp front connected

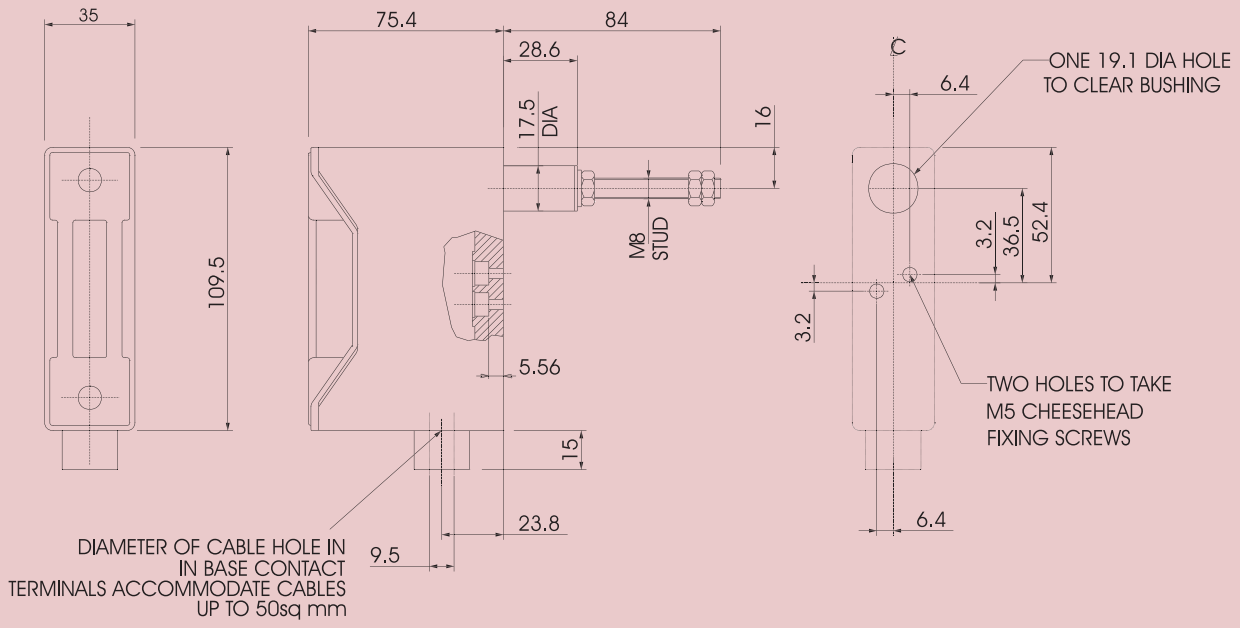


RED SPOT Fuse Holders – 63 Amp back stud connected

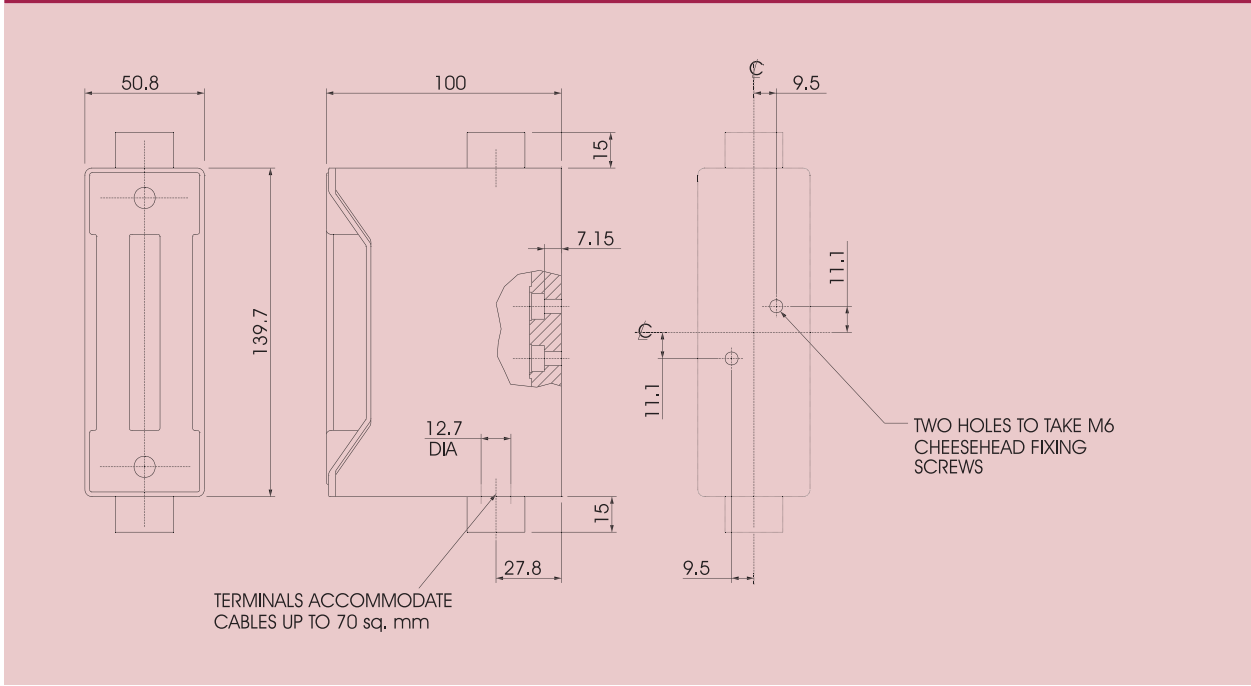


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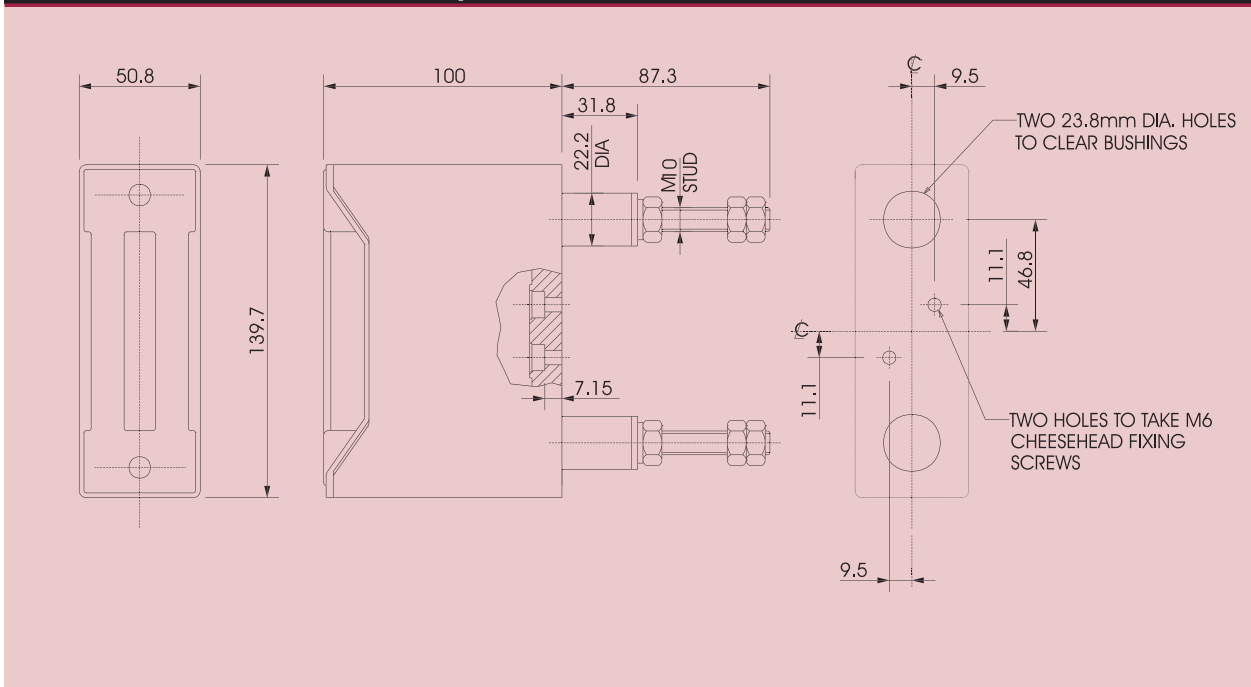
RED SPOT Fuse Holders – 63 Amp front / back stud connected



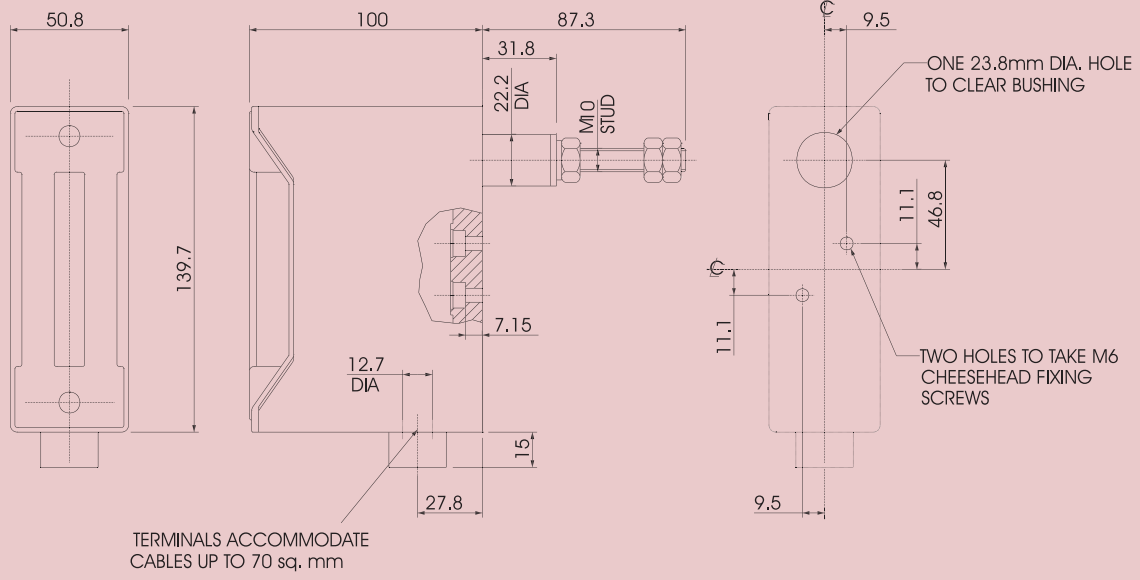
RED SPOT Fuse Holders – 100 Amp front connected



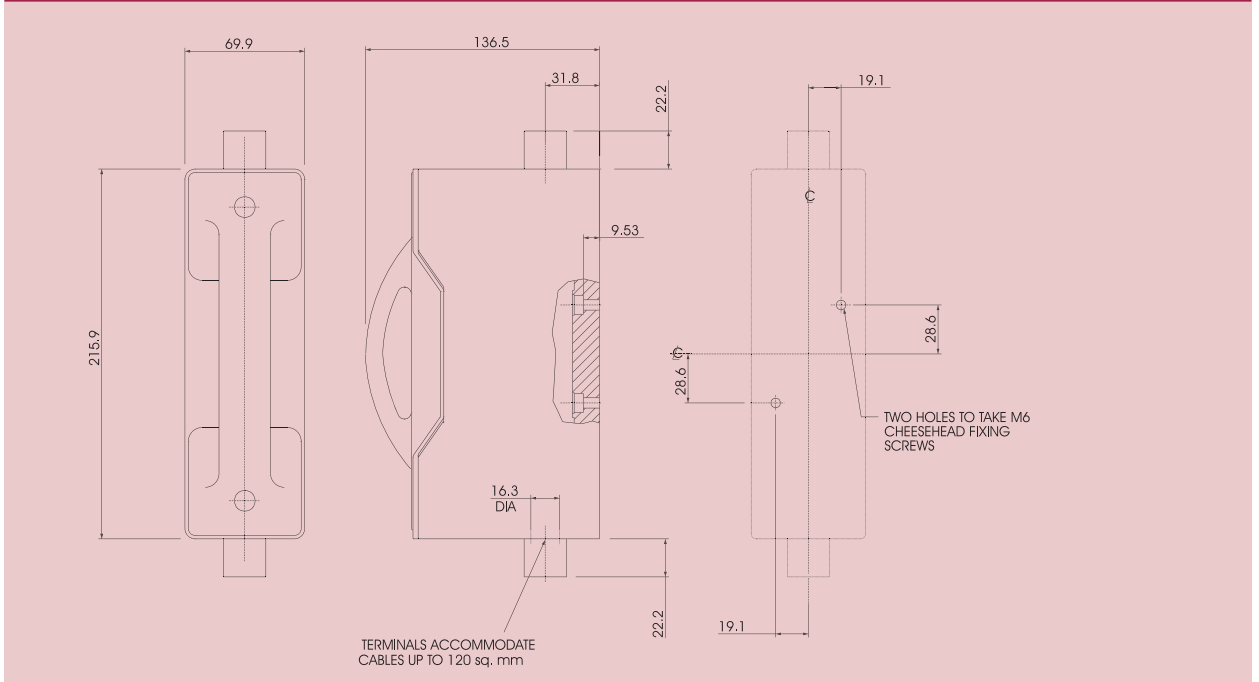
RED SPOT Fuse Holders – 100 Amp back stud connected



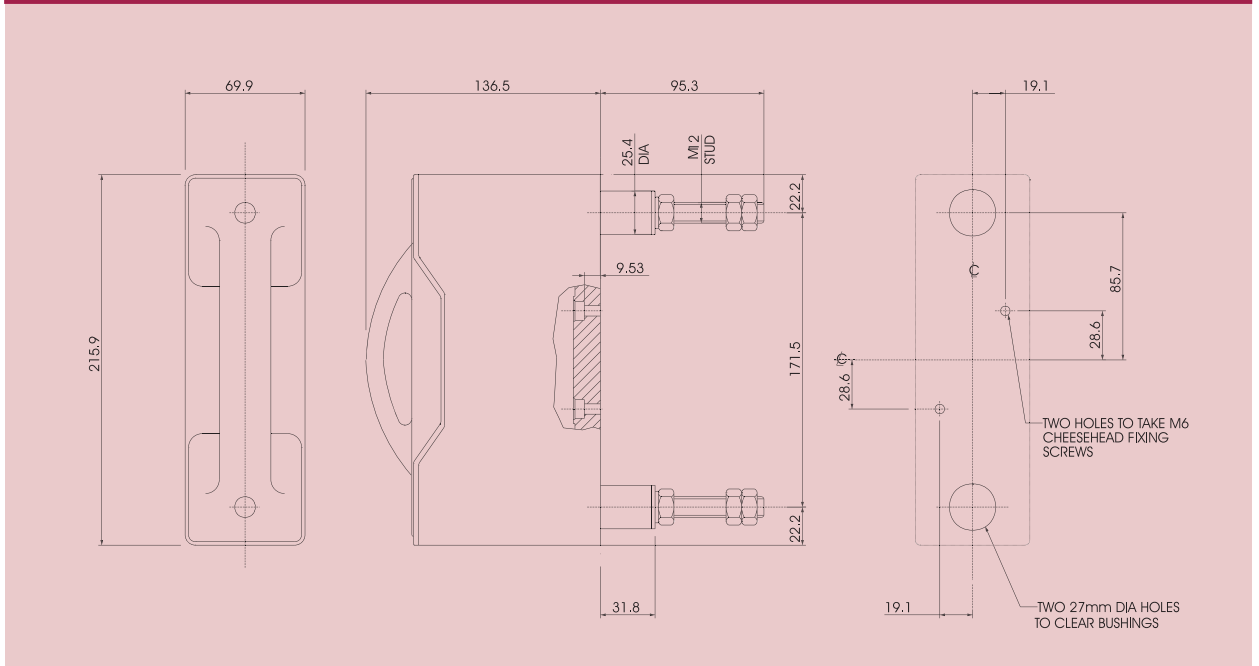
RED SPOT Fuse Holders – 100 Amp front / back stud connected



RED SPOT Fuse Holders – 200 Amp front connected



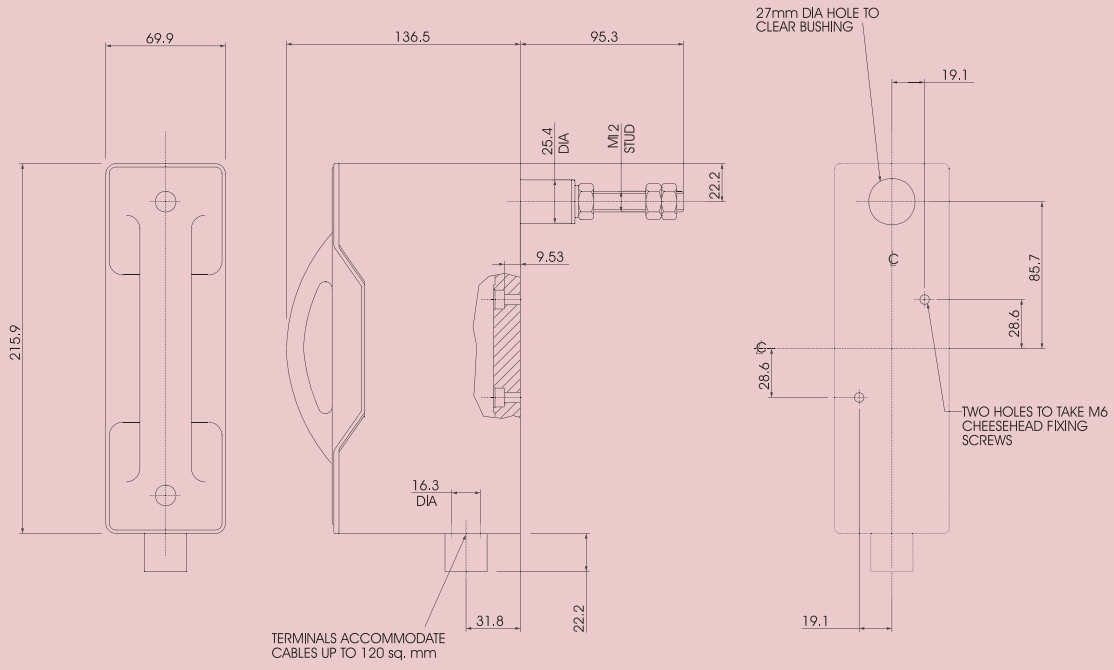
RED SPOT Fuse Holders – 200 Amp back stud connected



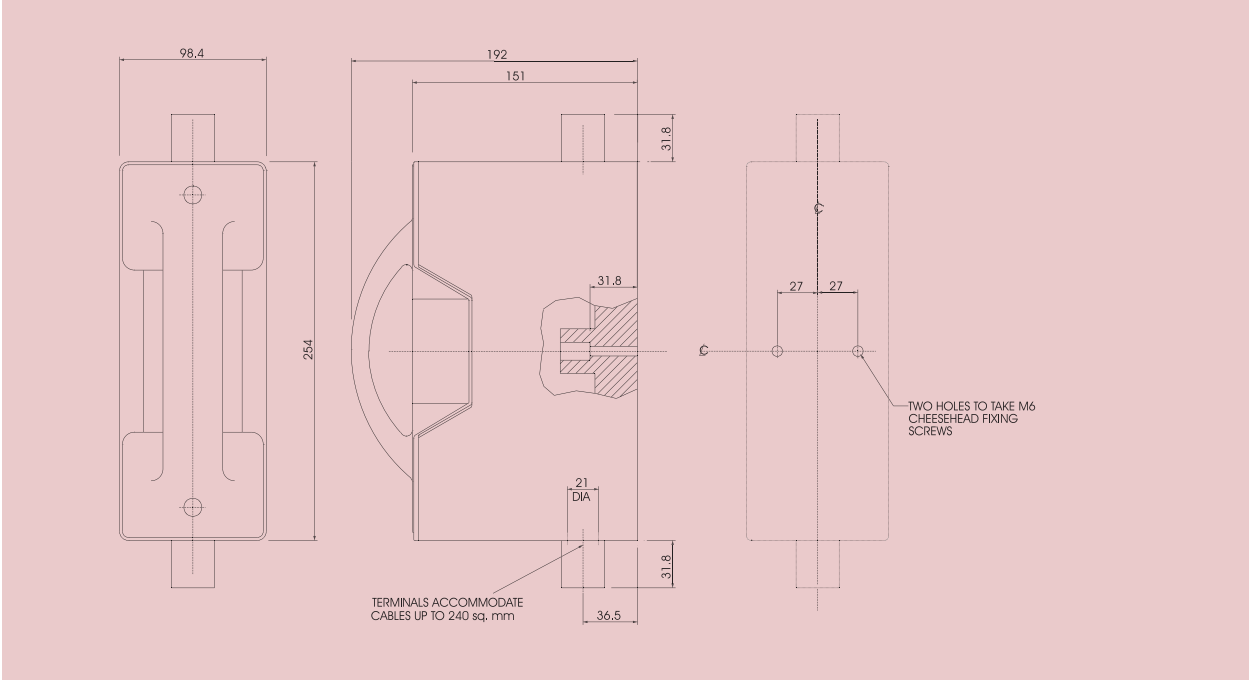
RED SPOT

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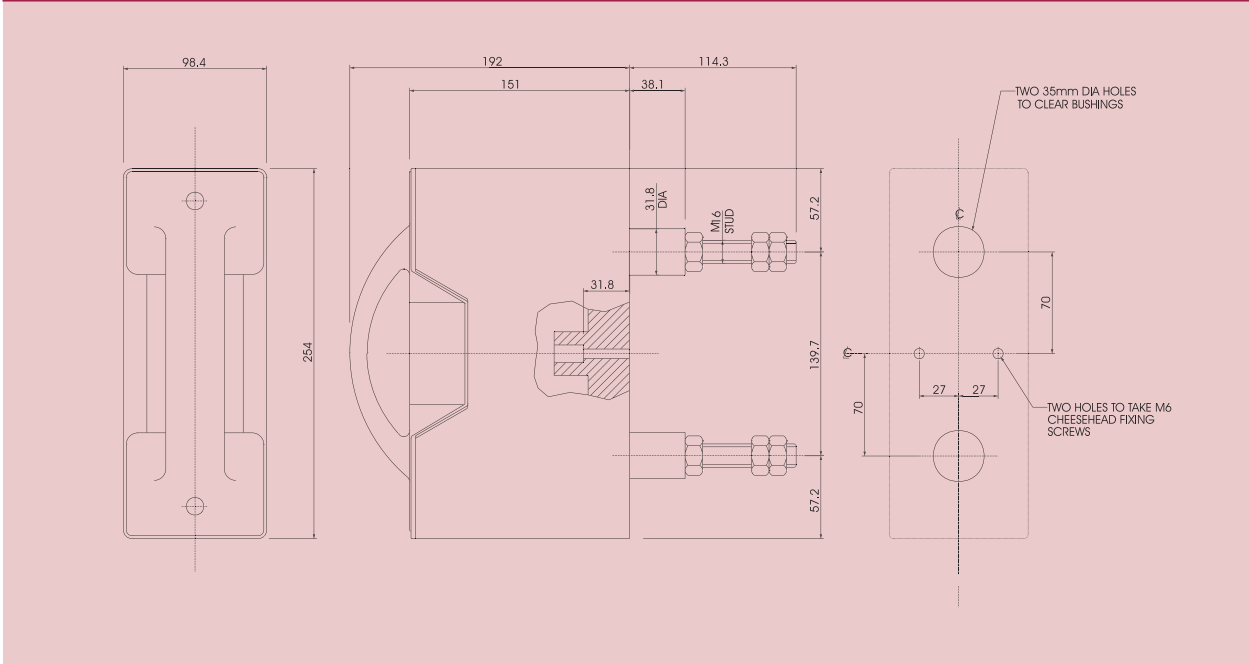
RED SPOT Fuse Holders – 200 Amp front / back stud connected



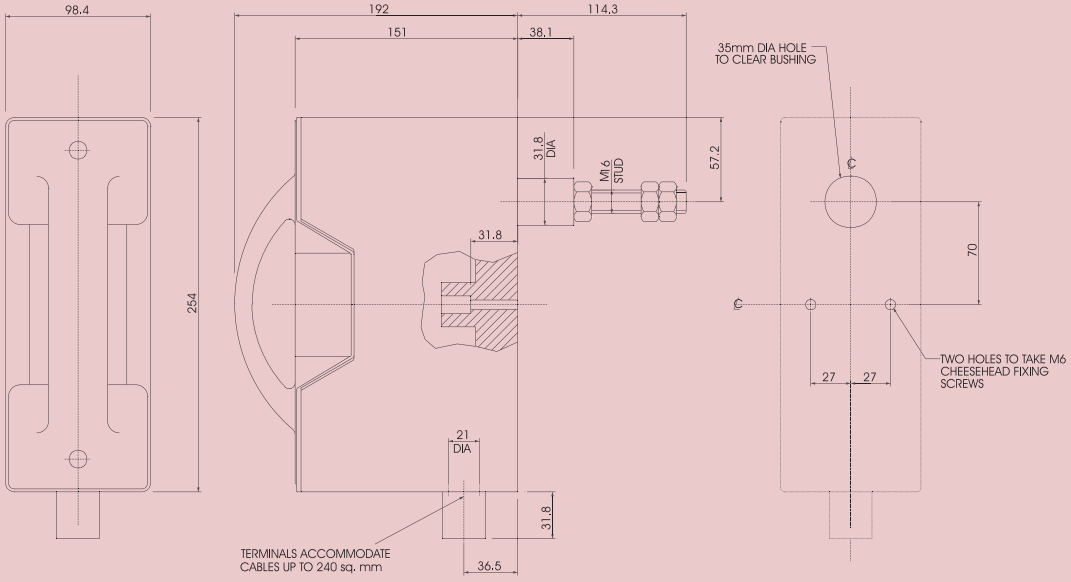
RED SPOT Fuse Holders – 400 Amp front connected

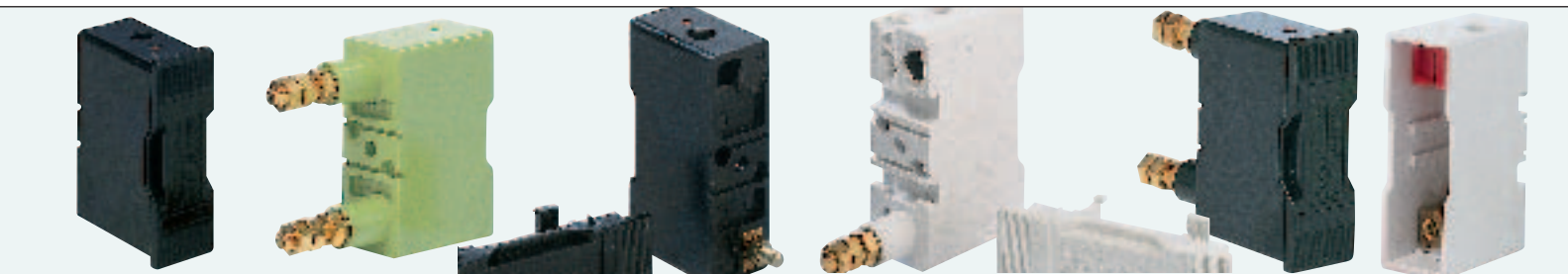


RED SPOT Fuse Holders – 400 Amp back stud connected



RED SPOT Fuse Holders – 400 Amp front / back stud connected





Introduction

RED SPOT A

SAFECLIP B

- B. 2 Features and benefits
- B. 4 Product introduction
- B. 5 - 6 Fuse Holder product list
- B. 7 Accessories
- B. 8 Fuse Link selection chart
- B. 9 - 13 Outline dimensions

'FM' Modular C

Installation and Maintenance Guide D





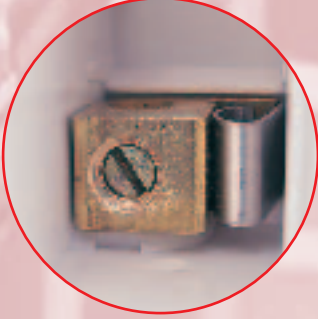
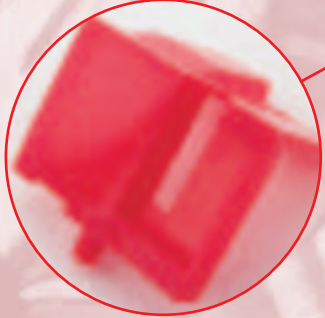
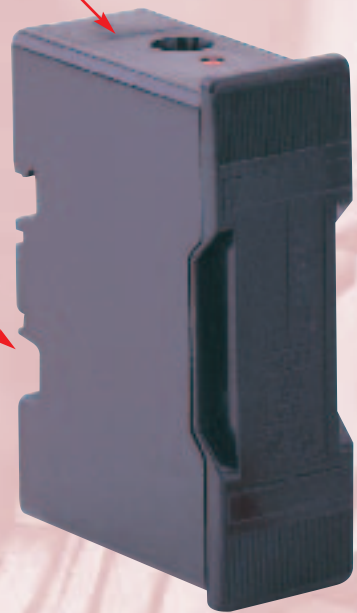
Base and carrier mouldings manufactured from tough, flame retardant material



Red, flame retardant nylon 66 safety shrouds with strength and flexibility



Integral DIN-rail mounting feature on 32, 63 and 125 Amp



Unique 'clip-action' terminal shrouds

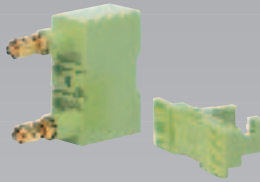
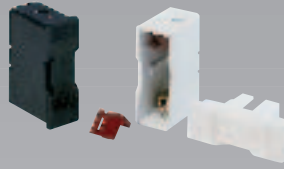
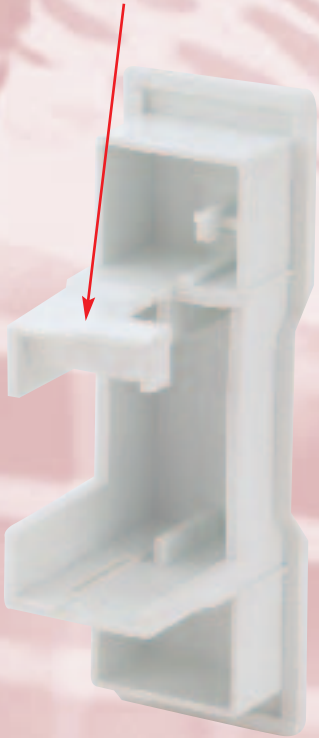


Self-cleaning, self-aligning base contacts with stainless steel contact reinforcing stirrups



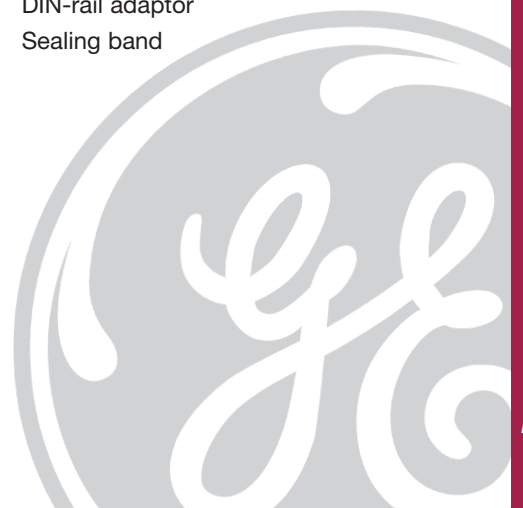


Accommodates the
'clip-in' blade tag
SAFECLIP HRC Fuse Link

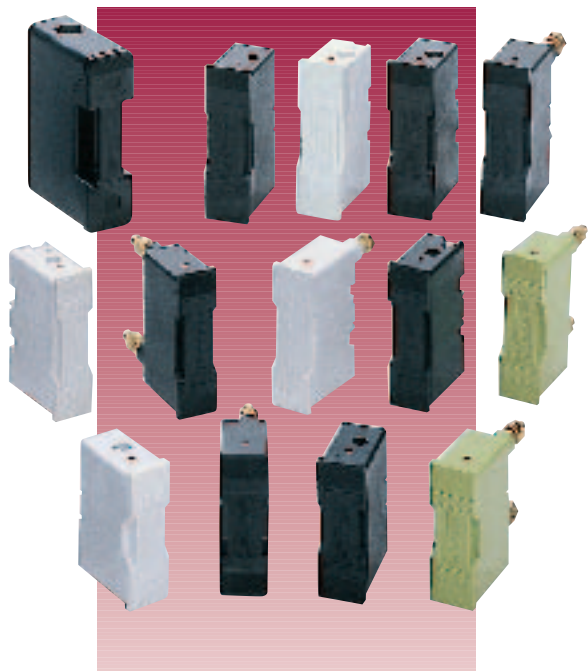


A complete range

- Current ratings
20, 32, 63, 100, and 125 Amp
- Connection variants
 - Front connected
 - Back stud connected
 - Busbar Front connected
 - Front / Back stud connected
- Standard finish is black – other available colours include white and green
- Designed for use in conjunction with the SAFECLIP range of Fuse Links
- Accessories
 - Copper Links
 - Padlockable inserts
 - Adaptor carrier
 - DIN-rail adaptor
 - Sealing band



*Provides economies in size
and installation time*



Fuse Holders: SAFECLIP

BS 88-1 and 6:1988
IEC 269-1

-  **Total safety**
-  **Complete**
-  **Important time-saving features**
-  **High quality**
-  **Great design**

Applications



Approvals

ASTA Certified 

Application Notes

Protection of personnel

SAFECLIP Fuse Holders are fully shrouded for personnel safety and complete compliance with the direct contact electric shock requirements of the IEE Wiring Regulations (BS 7671:1992).

Associated Fusegear Equipment

- SAFECLIP Fusebanks
- SAFECLIP Fuseboards

Associated Fuse Links

- SAFECLIP
- Contact the sales office for catalogues

Technical Data

Current Rating	(A) 20-125
Voltage Rating ac	(V) up to 550
Breaking Capacity ac	(kA) 80
Max Operating Ambient Temperature	(°C) 40
Cable Connector Size	(mm ²) 16-70

Performance

ASTA type test certified to BS 88: Parts 1 and 6 suitable for use on applications up to 550Vac.

Features

Fully shrouded for personal safety

Separate base contact insulating shrouds ensure that no 'live' metal is dangerously exposed when the fuse carrier is removed – this enables an out-going circuit to be cabled with complete safety to personnel and with continuity of supply to other circuits.



Most comprehensive range

- 20, 32, 63, 100 and 125 Amp ratings
- front, back stud and half front/back stud connection variants
- also available busbar/front connection in 20, 32 and 63 Amp
- standard black finish, available colours include white, green and grey.



Ease of installation

- unique clip-action terminal shrouds
- integral DIN-rail mounting feature on 32, 63 and 125 Amp
- accommodates the clip-in SAFECLIP HRC Fuse Link
- provides economies in cost, size and installation time.



High resistance material

Strength and long life assured in fuse carriers moulded from tough, flame retardant material.

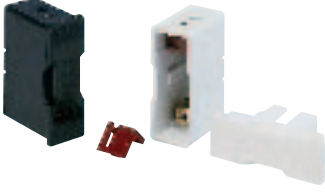
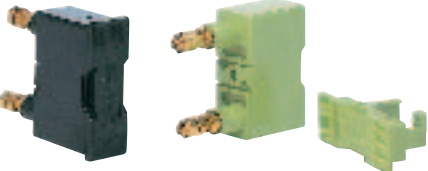
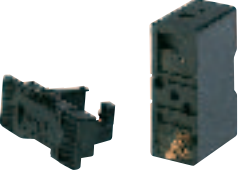


Time proven contact system


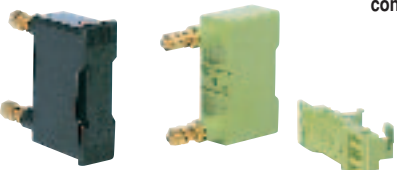
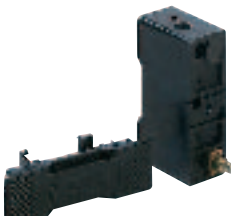
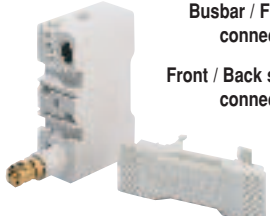
Lower contact resistance and watts loss achieved by self-cleaning, self-aligning base contacts with stainless steel contact reinforcing stirrups.



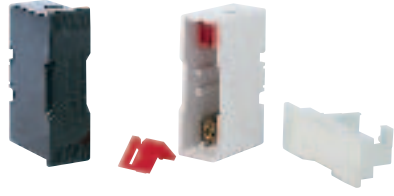
SAFECLIP – 20 Amp

	Part number	Code	Colour	Maximum cable size	Fuse Link accommodated
 <p>Front connected</p>	SC20H	402246	Black	16mm ²	SS
	SC20HWH	402249	White	16mm ²	SS
	SC20HGN	402248	Green	16mm ²	SS
 <p>Back stud connected</p>	SC20P	402250	Black	16mm ²	SS
	SC20PWH	402252	White	16mm ²	SS
	SC20PGN	402251	Green	16mm ²	SS
 <p>Busbar / Front connected</p>	SC20BH	402245	Black	16mm ²	SS

SAFECLIP – 32 Amp

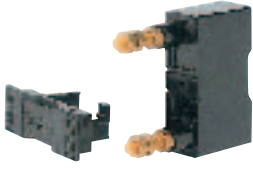
	Part number	Code	Colour	Maximum cable size	Fuse Link accommodated
 <p>Front connected</p>	SC32H-D	402254	Black	16mm ²	NS
	SC32H-DWH	402256	White	16mm ²	NS
	SC32H-DGN	402255	Green	16mm ²	NS
 <p>Back stud connected</p>	SC32P	402258	Black	16mm ²	NS
	SC32PWH	402260	White	16mm ²	NS
	SC32PGN	402259	Green	16mm ²	NS
 <p>Busbar / Front connected</p>	SC32BH	402253	Black	16mm ²	NS
 <p>Front / Back stud connected</p>	SC32PH-D	402261	Black	16mm ²	NS
	SC32PH-DWH	402262	White	16mm ²	NS

SAFECLIP – 63 Amp



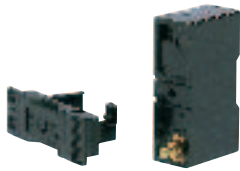
Front connected

Part number	Code	Colour	Maximum cable size	Fuse Link accommodated
SC63H-D	402265	Black	25mm ²	ES
SC63H-DWH	402266	White	25mm ²	ES



Back stud connected

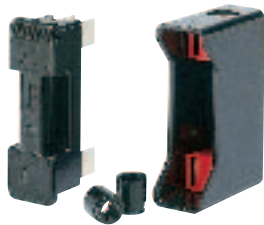
Part number	Code	Colour	Maximum cable size	Fuse Link accommodated
SC63P	402268	Black	25mm ²	ES



Busbar / Front connected

Part number	Code	Colour	Maximum cable size	Fuse Link accommodated
SC63BH	402263	Black	25mm ²	ES

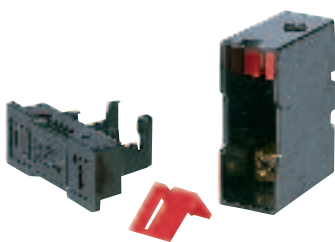
SAFECLIP – 100 Amp



Front connected

Part number	Code	Colour	Maximum cable size	Fuse Link accommodated
SC100H	402243	Black	50mm ²	OS

SAFECLIP – 125 Amp



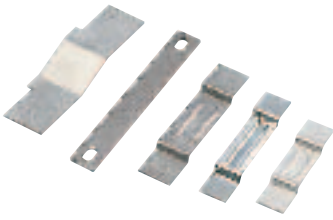
Front connected

Part number	Code	Colour	Maximum cable size	Fuse Link accommodated
SC125H-D	402244	Black	70mm ²	XS

SAFECLIP

B

Accessories – SAFECLIP Copper Links



Part number	Code	Current rating	For use in
SSC-LINK	402271	20 Amp	SC20
NSC-LINK	402241	32 Amp	SC32
ESC-LINK	402240	63 Amp	SC63
OSC-LINK	402242	100 Amp	SC100
XSC-LINK	402272	125 Amp	SC125

Accessories – SAFECLIP Padlockable Inserts



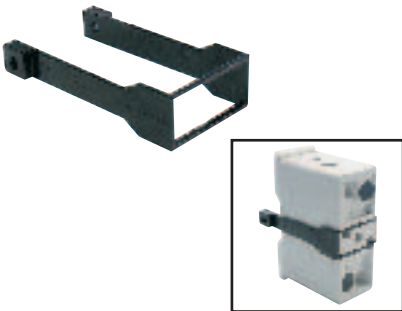
Part number	Code	For use in	Suitable padlocks (not supplied)
SC32LOCK	402257	SC32	YALE (P72) and SQUIRE (LP6, LN1 or No 20)
SC63LOCK	402267	SC63	

Accessories – SAFECLIP Adaptor Carrier



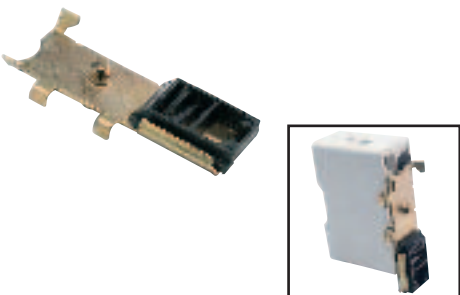
Part number	Code	For use with Fuse Link type	For use in
SCA63CAR	402269	NS	SC63

Accessories – SAFECLIP Sealing Band



Part number	Code	For use with
SCSB20/32	402270	SC20 and SC32

Accessories – SAFECLIP DIN-rail Adaptor



Part number	Code	For use with
DIN-20/32	402238	SC20 and RS20

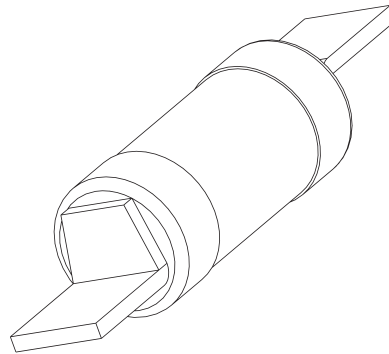
Note : SC32H-D, SC63H-D and SC125H-D have an integral DIN-rail feature as standard.

Fuse Link Selection

HRC Fuse Links Accommodated – Selection Chart

Fuse Holder Rating Amp	SAFECLIP HRC Fuse Links rated up to 440 Volt ac Part number	Extended range of SAFECLIP for motor circuit protection		
		Part number	Current rating Amp	Rating for Motor Starting Amp
20	SS 2 – 20			
32	NS 2 – 32	NS32M40	32	40
63	ES 40 – 63 NS 2 – 32 *	ES63M80	63	80
100	OS 80 & 100	OS100M125	100	125
	TIS 35 – 63	OS100M160	100	160
	TIA 2 – 32			
125	XS 2 – 125			

* adaptor carrier required Part number SCA63CAR

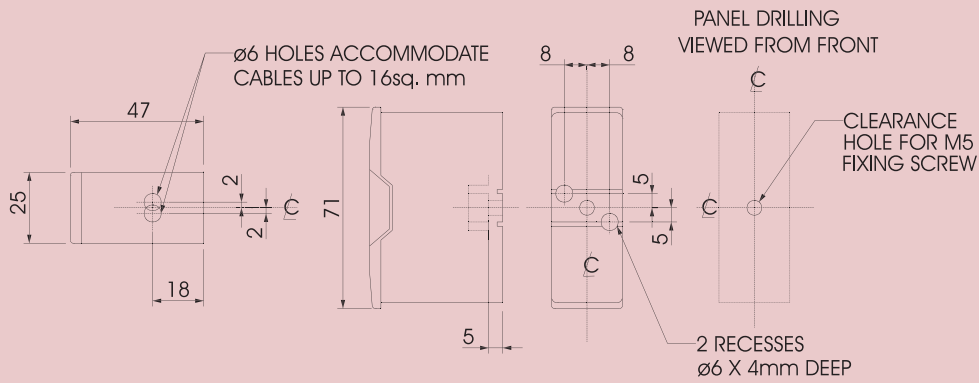


SAFECLIP

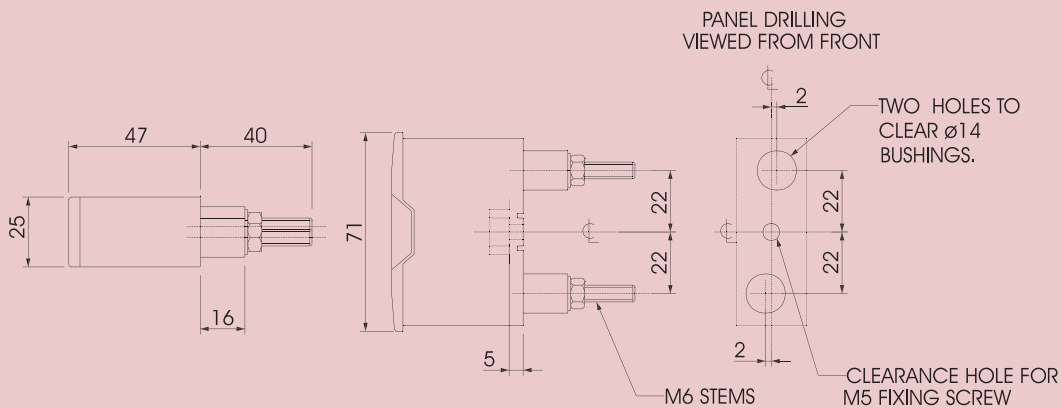
B

Outline Dimensions

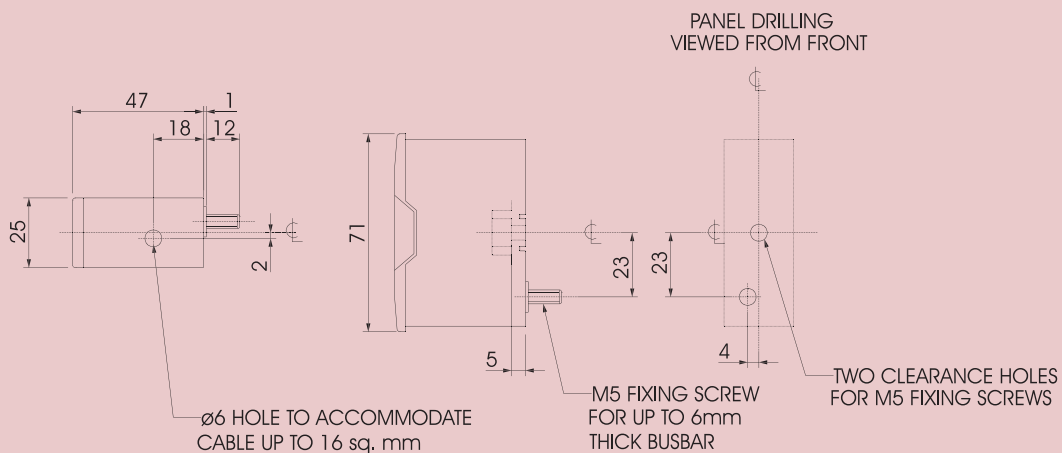
SAFECLIP Fuse Holders – 20 Amp front connected



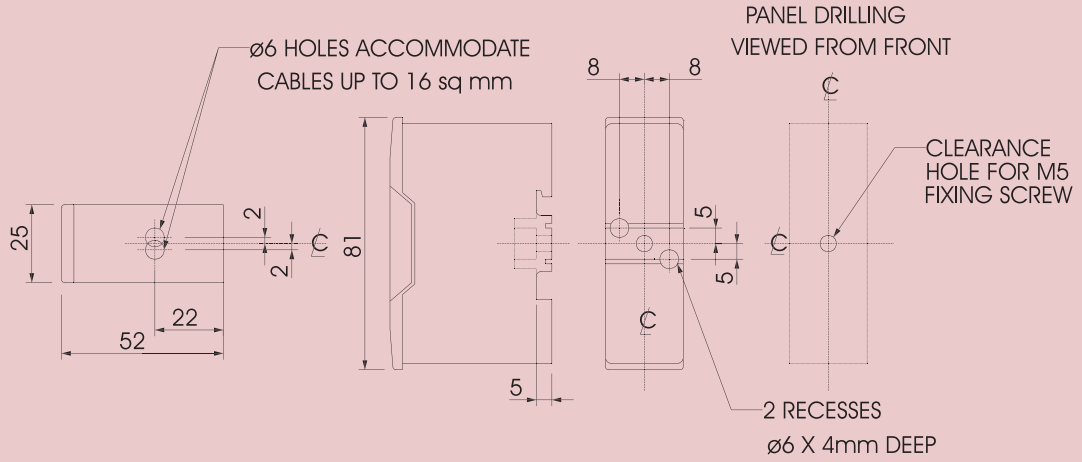
SAFECLIP Fuse Holders – 20 Amp back stud connected



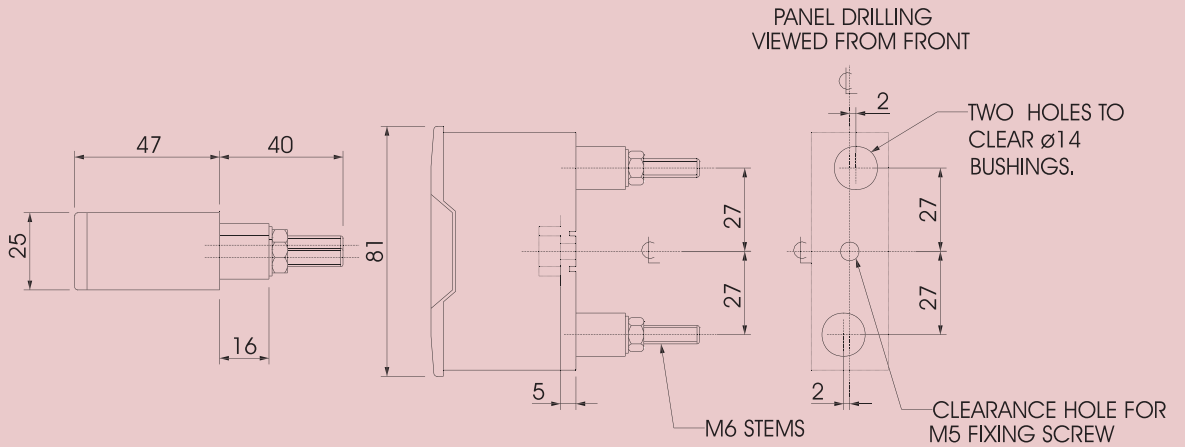
SAFECLIP Fuse Holders – 20 Amp busbar / front connected



SAFECLIP Fuse Holders – 32 Amp front connected



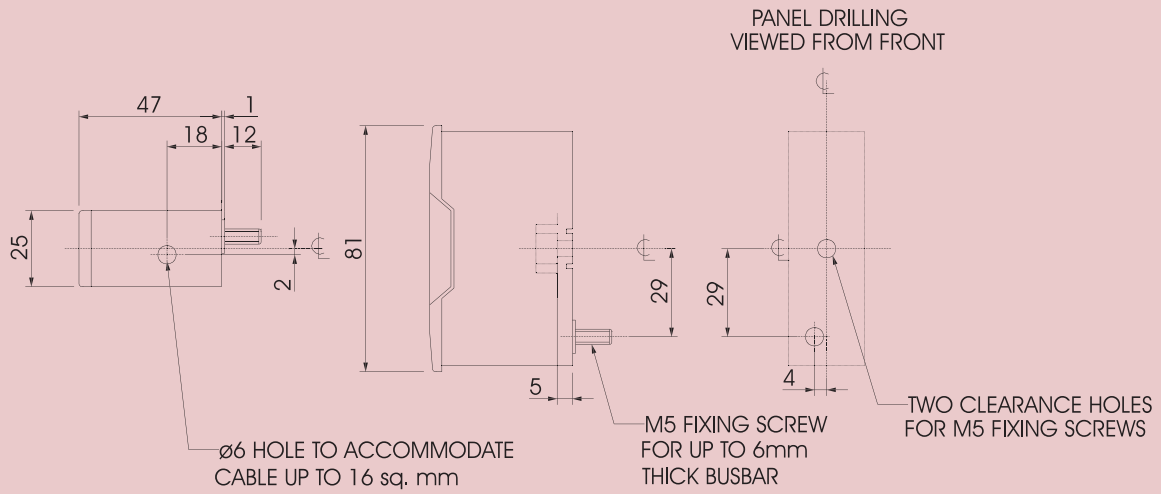
SAFECLIP Fuse Holders – 32 Amp back stud connected



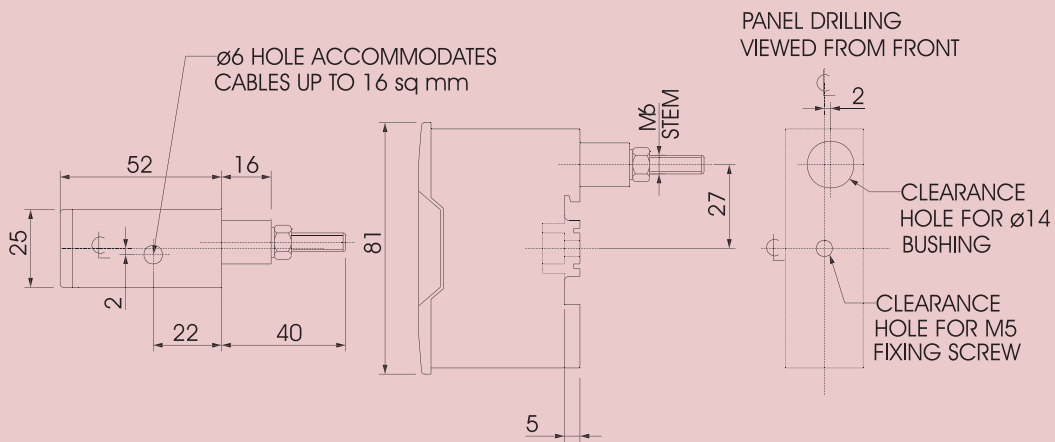
SAFECLIP

B

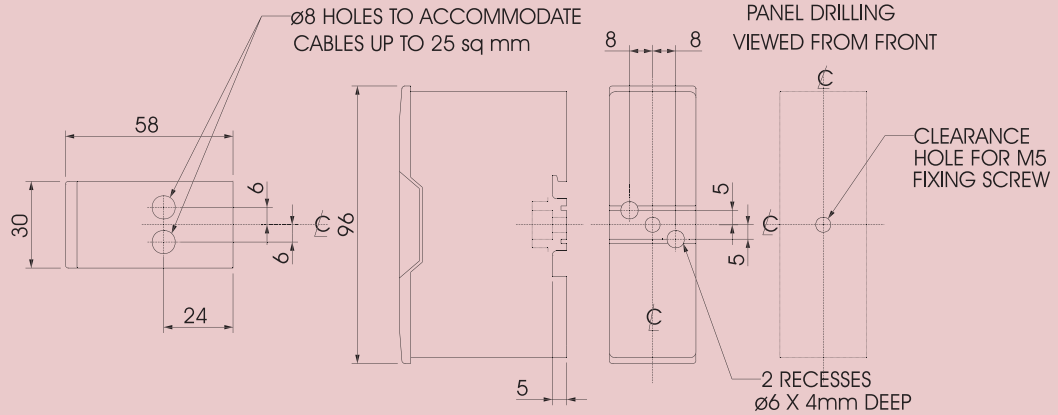
SAFECLIP Fuse Holders – 32 Amp busbar / front connected



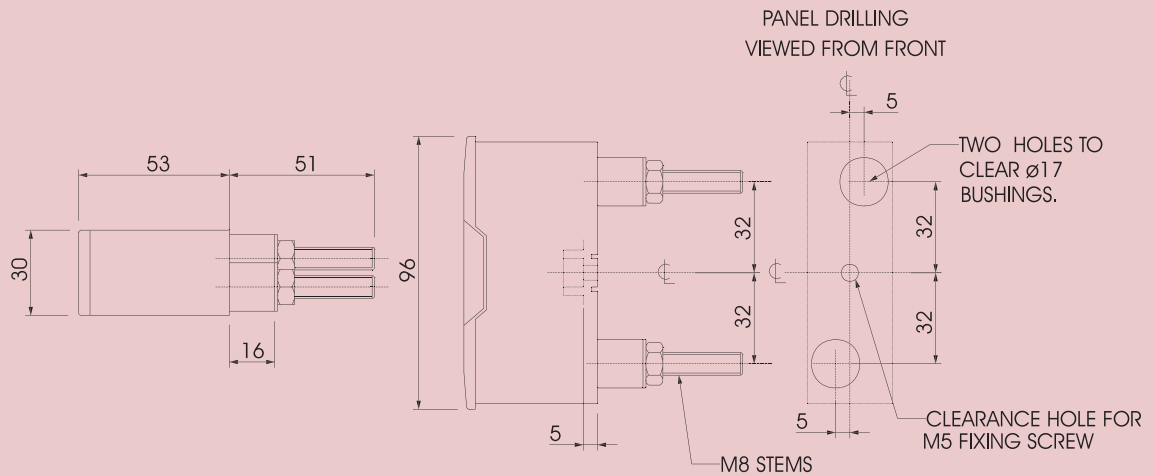
SAFECLIP Fuse Holders – 32 Amp front / back stud connected



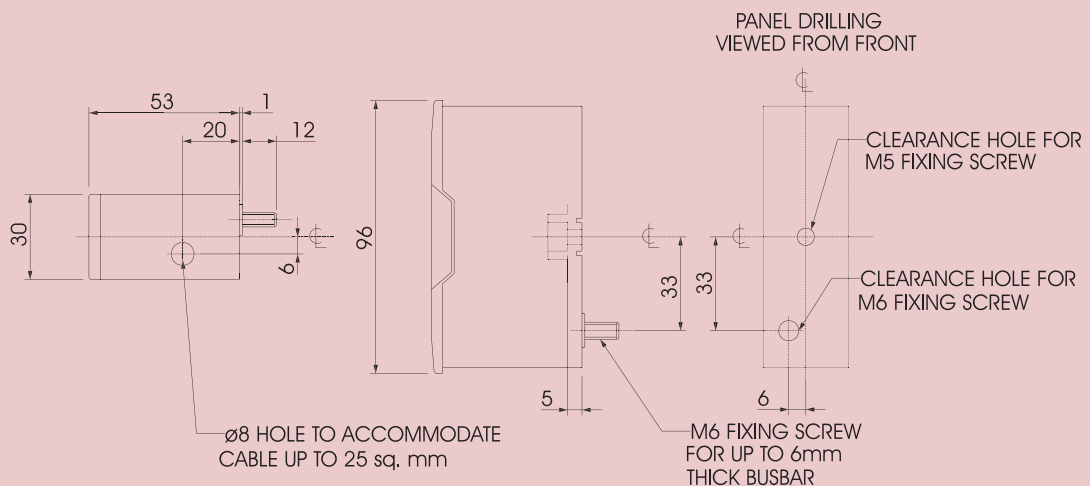
SAFECLIP Fuse Holders – 63 Amp front connected



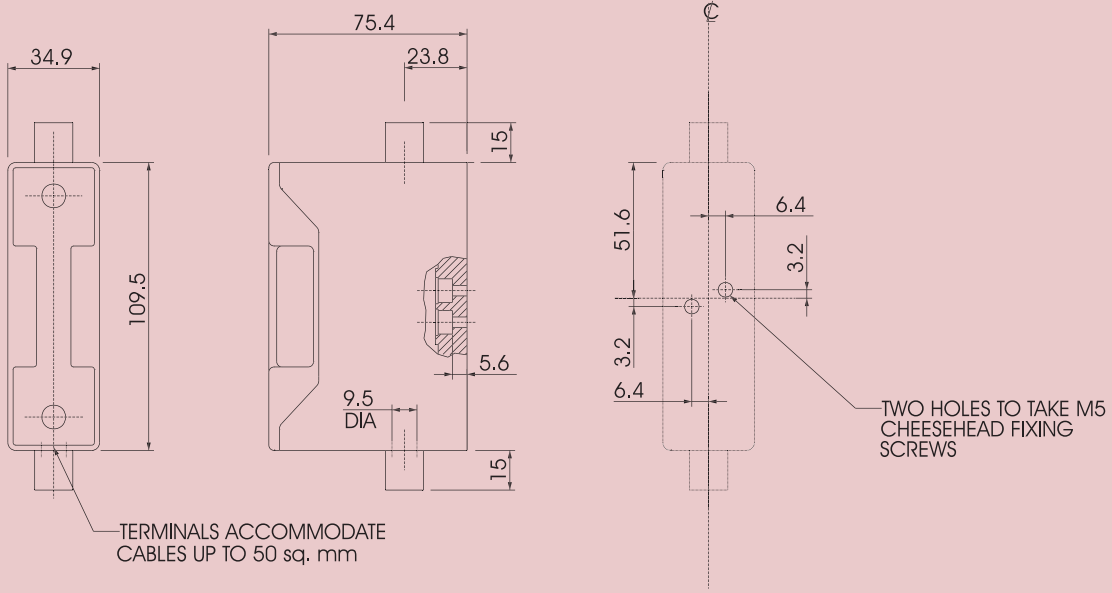
SAFECLIP Fuse Holders – 63 Amp back stud connected



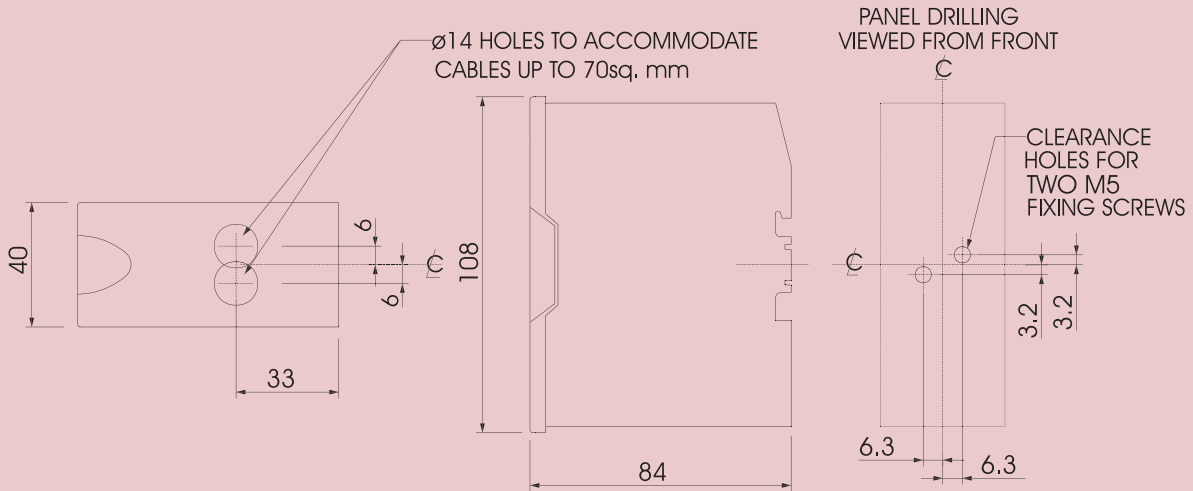
SAFECLIP Fuse Holders – 63 Amp busbar / front connected



SAFECLIP Fuse Holders – 100 Amp front connected



SAFECLIP Fuse Holders – 125 Amp front connected





Introduction

RED SPOT A

SAFECLIP B

'FM' Modular C

- C. 2 Features and benefits
- C. 4 Product introduction
- C. 5 Fuse Holder product list
- C. 6 Accessories
- C. 7 Industrial Cylindrical Fuse Links
- C. 8 - 9 Outline dimensions

Installation and Maintenance D

Compact and easy to install

'FM' Modular



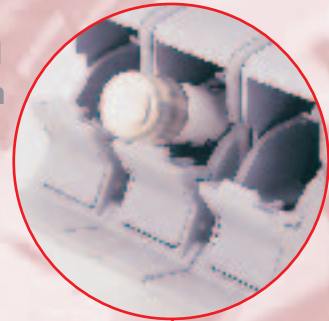
Constructed from high temperature resistant polyamide material



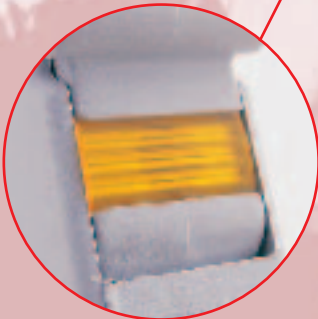
Degree of protection to IP20



Operating handles for off load circuit disconnection and electrical isolation



C



Version available with integral fuse blown indicator



Fuse Links easily installed and replaced without the use of tools

A complete range

- Current ratings
32, 50 and 125 Amp

- Variants

Single pole

Single pole with indicator

Triple pole

- Available in 3 standard frame sizes plus a compact 32 Amp version

- Accommodates cylindrical Fuse Links - 10 x 38, 14 x 51 and 22 x 51

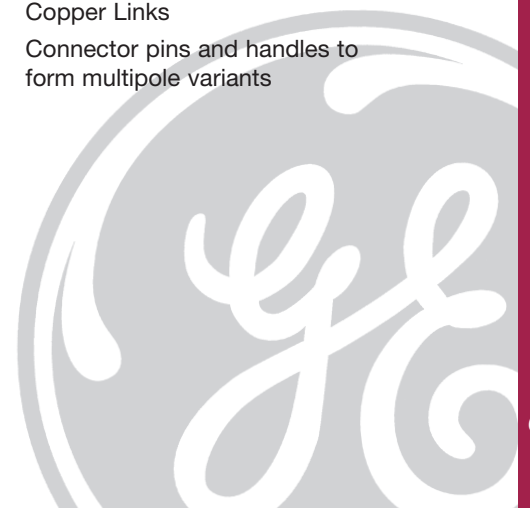
- Accessories
Copper Links
Connector pins and handles to form multipole variants



**Symmetrical DIN-rail
or screw mount**



Cost effective solution





Fuse Holders: 'FM' Modular

BS 88-2:1988
IEC 269-2



Total safety



Complete



Important time-saving features



High quality

Applications



Approvals

Bureau Veritas
Lloyd's Register

Standards

VDE 0636 IEC 947 IEC 269

Associated Fuse Links

- Industrial Cylindrical – page C.7.

Technical Data

Current Rating	(A) 32-125
Voltage Rating ac	(V) 660
Breaking Capacity ac	(kA) up to 120
Max Operating Ambient Temperature	(°C) 40
Cable Connector Size	(mm ²) 16-35

Performance

'FM' Modular Fuse Holders are VDE certified to IEC269-2.

Features

Personnel safety

- Degree of protection to IP20
- Parts under voltage are inaccessible
- Version available with integral fuse blown indicators
- Operating handles for off load circuit disconnection and electrical isolation.



Comprehensive range

- 32, 50 and 125 Amp standard ratings
- Compact 32 Amp version
- Available in both single pole and triple pole configurations
- Connection kits are available to form multipole variants.



Ease of installation

- Symmetrical DIN-rail or screw mount
- Easy to replace/install Fuse Links without the need for a tool
- Provides economies in cost, size and installation time.

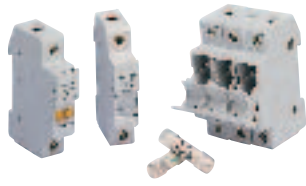


High resistance material

- Constructed from high temperature resistant polyamide material
- Silver plated contacts.



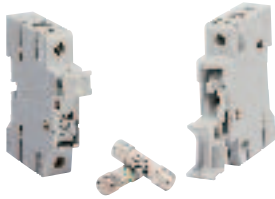
Modular Fuse Holders - 32 Amp Compact



Single pole
Single pole with indicator
Triple pole

Part number	Code	Maximum cable size	Fuse Link size
FMC101	402283	16mm ²	10 x 38
FMC101S	402284	16mm ²	10 x 38
FMC103	402285	16mm ²	10 x 38

Modular Fuse Holders - 32 Amp



Single pole
Single pole with indicator

Part number	Code	Maximum cable size	Fuse Link size
FM101	402276	16mm ²	10 x 38
FM101S	402277	16mm ²	10 x 38

Modular Fuse Holders - 50 Amp



Single pole
Single pole with indicator
Triple pole

Part number	Code	Maximum cable size	Fuse Link size
FM141	402278	25mm ²	14 x 51
FM141S	402279	25mm ²	14 x 51
FM143	402280	25mm ²	14 x 51

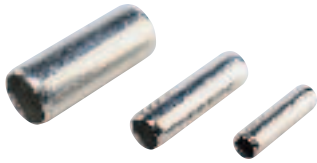
Modular Fuse Holders - 125 Amp



Single pole

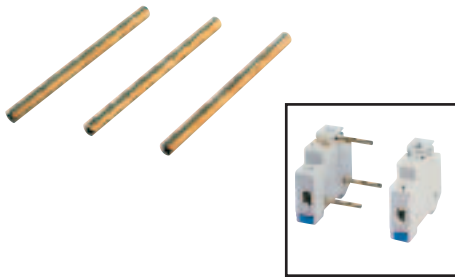
Part number	Code	Maximum cable size	Fuse Link size
FM221	402281	35mm ²	22 x 58

Accessories – Modular Copper Links



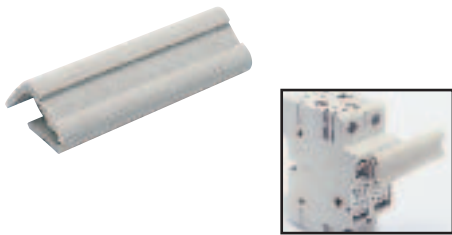
Part number	Code	Current rating	For use in
10ML	402273	32 Amp	FMC10 and FM10
14ML	402274	50 Amp	FM14
22ML	402275	125 Amp	FM22

Accessories – Modular Connector Pins



Part number	Code	For use with
FMP3	402286	FMC101 and FMC101S

Accessories – Modular Profil Handle Connector



Part number	Code	For use with
PROFIL	401611	FM101 and FM101S

'FM' Modular

C

Industrial Cylindrical Fuse Links



Body size
10 x 38
General
purpose
Class gL/gG

Part number	Code	Current Rating Amp	Maximum voltage rating ac
10G005	401533	0.5	500
10G01	401534	1	500
10G02	401535	2	500
10G04	401536	4	500
10G06	401537	6	500
10G08	401538	8	500
10G10	401539	10	500
10G12	401540	12	500
10G16	401541	16	500
10G20	401542	20	500
10G25	401543	25	500
10G32	401544	32	400

Body size
10 x 38
Motor rated
Class aM

10M005	401545	0.5	500
10M01	401546	1	500
10M02	401547	2	500
10M04	401548	4	500
10M06	401549	6	500
10M08	401550	8	500
10M10	401551	10	500
10M12	401552	12	500
10M16	401553	16	500
10M20	401554	20	500
10M25	401555	25	400



Body size
14 x 51
General
purpose
Class gL/gG

14G02	401556	2	660
14G04	401557	4	660
14G06	401558	6	660
14G08	401559	8	660
14G10	401560	10	660
14G12	401561	12	660
14G16	401562	16	660
14G20	401563	20	660
14G25	401564	25	660
14G32	401565	32	500
14G40	401566	40	500
14G50	401567	50	400

Body size
14 x 51
Motor rated
Class aM

14M02	401568	2	660
14M04	401569	4	660
14M06	401570	6	660
14M08	401571	8	660
14M10	401572	10	660
14M12	401573	12	660
14M16	401574	16	660
14M20	401575	20	660
14M25	401576	25	660
14M32	401577	32	500
14M40	401578	40	500
14M50	401580	50	400



Body size
22 x 58
General
purpose
Class gL/gG

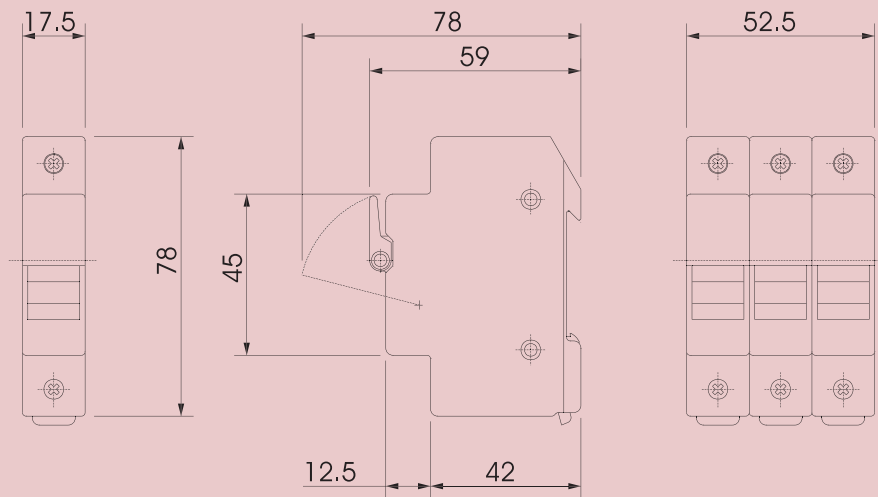
22G04	401581	4	660
22G06	401582	6	660
22G08	401583	8	660
22G10	401584	10	660
22G12	401586	12	660
22G16	401588	16	660
22G20	401589	20	660
22G25	401590	25	660
22G32	401591	32	660
22G40	401592	40	660
22G50	401593	50	660
22G63	401594	63	660
22G80	401595	80	660
22G100	401585	100	500
22G125	401587	125	400

Body size
22 x 58
Motor rated
Class aM

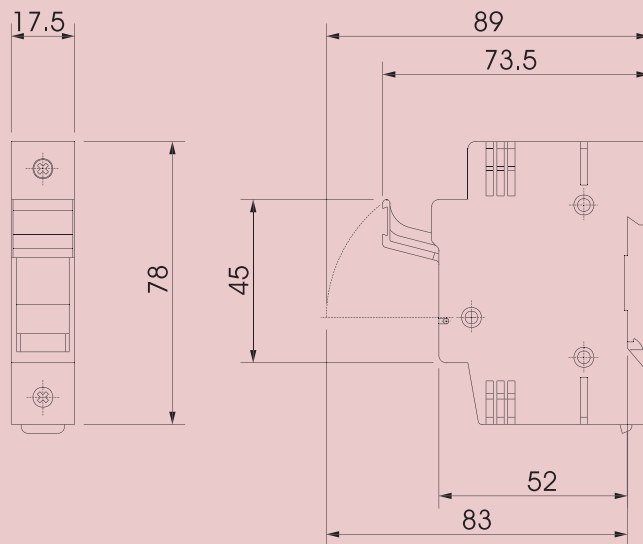
22M04	401596	4	660
22M06	401597	6	660
22M08	401598	8	660
22M10	401599	10	660
22M12	401601	12	660
22M16	401603	16	660
22M20	401604	20	660
22M25	401605	25	660
22M32	401606	32	660
22M40	401607	40	660
22M50	401608	50	660
22M63	401609	63	660
22M80	401610	80	660
22M100	401600	100	500
22M125	401602	125	400

Outline Dimensions

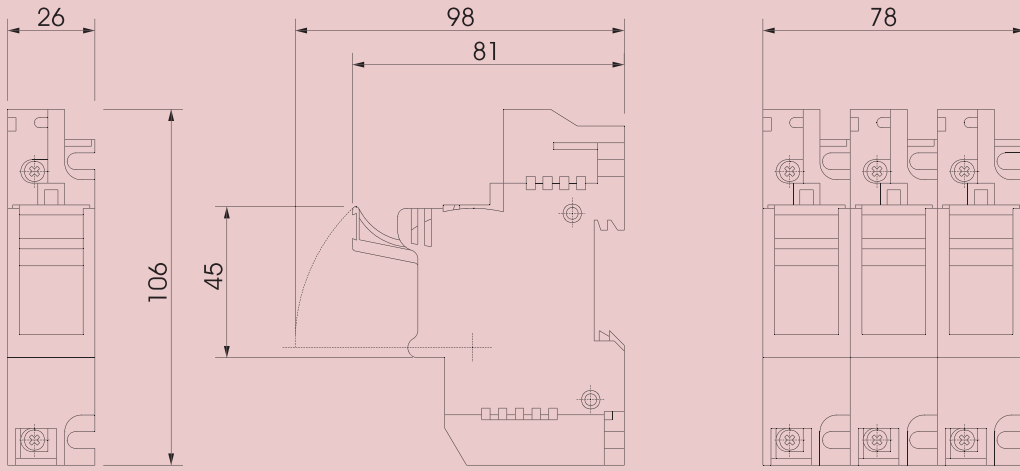
Modular Fuse Holders – 32 Amp Compact Single Pole and Triple Pole



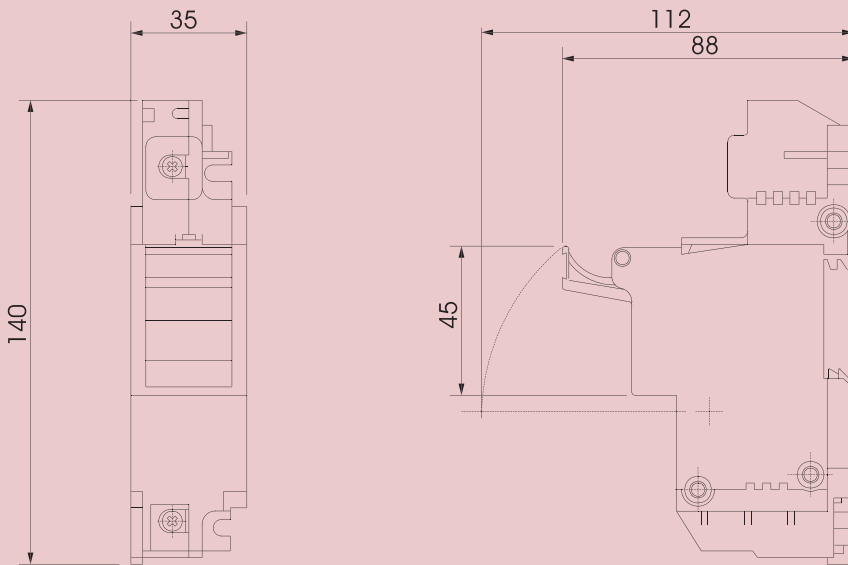
Modular Fuse Holders – 32 Amp Single Pole

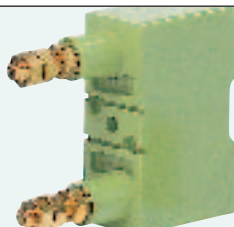


Modular Fuse Holders – 50 Amp Single Pole and Triple Pole



Modular Fuse Holders – 125 Amp Single Pole





Introduction

RED SPOT A

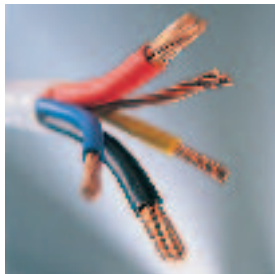
SAFECLIP B

'FM' Modular C

Installation and Maintenance Guide D

- D. 2 - 3 RED SPOT
- D. 4 - 5 SAFECLIP
- D. 6 - 7 'FM' Modular





Installation

Method of cabling

Front connected fuse holders

- Remove Red nylon insulating shroud to release cable sleeve.
- Remove cable sleeve.
- Fit cable sleeve over cable.
- Fit conductor into fuse base terminal and tighten cable clamping screw to secure.
- Replace Red nylon shroud taking care it holds the cable sleeve in position by locating the shroud in the groove provided by the sleeves.

Cable selection and termination

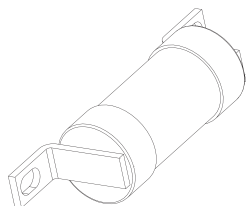
- Ensure cable sizes are correctly chosen in line with the IEE Wiring Regulations (BS 7671), making due allowance for :
 - i. Grouping of cables (correction factor Cg).
 - ii. Ambient temperature / internal enclosure temperature (correction factor Ca).
- Ensure that maximum cable core temperature is restricted to 70°C or less.
- Ensure adequate cable length is provided for interconnections between fuse holders or other components. This will prevent possible heat input to the fuse holder which could result in overheating.
- If using multi-stranded cables / Tri-rated cables the bared strands should be crimped in thin wall copper ferrules in order to consolidate the strands. The following points should be taken into account:
 - i. The inside diameter of the ferrules should match that of bared cable ends.
 - ii. The ferrule lengths should be the same length as the cable entry tunnel in the fuse base terminals.
 - iii. The termination screw should compress the wall of the ferrules, providing further consolidation of the cable strands within the ferrule.
- When used in banks, ensure that the diversity factors recommended in BS5486 Part 11, Factory Built Assemblies, are applied. If the number of fuse holders banked together exceeds 12 a 0.6 diversity factor may be used.
- For applications when there is insufficient or no diversity applied, adequate compensation should be made by a combination of some, or all, of the following:
 - i. Utilise higher standard current rated fuse links, or motor rated fuse links.
 - ii. Increase the cable size.
 - iii. Ensure that fuse holders in the bank are separated by at least 5mm.
 - iv. Ensure that there is adequate spacing between fuse banks if they are stacked vertically. Typically, depending on rating, this would be 30-50mm.
 - v. Incorporate natural or forced ventilation.

These measures should ensure that the heat is adequately exported from the fuses.

- Sharp bends in cables, especially near termination points, should be avoided in order to prevent damage to cable cores or insulation and to ensure that no mechanical strain, is put on the contact block in the fuse base.
- The minimum torque values detailed in the attached table should be applied to cable terminal and fuse link fixing screws.

Important note

These products should be installed, commissioned and maintained by, or under the supervision of, a competent person, in accordance with current Electricity at Work Regulations, IEE Regulations for the Electrical Equipment of buildings, Statutory requirements and any other specific instructions issued by GE Power Controls Ltd. These notes assume throughout that the product is isolated from the supply during installation or maintenance. It is essential that this is done before commencement of any work. Any covers, or other safety measures which are removed during installation or maintenance must be replaced on completion.



Fuse Link selection

- Select a rating of fuse link which is at least equal to the normal full load current of the circuit, including any allowances needed for harmonic currents, as in the case p.f. correction circuits.
- Ensure that the fuse link rating can withstand any over currents which may apply to the circuit, such as transformer in-rush currents, motor starting surges and repetitive cycle loads.
- When full cable protection is required, ensure that the fuse link rating is compatible with the selected cable, i.e. less than or equal to cable rating.

Recommended minimum torque values

Rating	Fuse Link fixing screw		Cable terminal screw		Back connected stud	
	Size	Torque	Size	Torque	Size	Torque
RS20	4BA (Ø35mm)	1.2Nm	1/4" BSF grub screw	2.0Nm	M6	3.0Nm
	Pan head	(11 lb.in)	(Slotted)	(18 lb.in)		(27 lb.in)
RS32	2BA (Ø45mm)	2.0Nm	1/4" BSF grub screw	2.0Nm	M6	3.0Nm
	Pan head	(18 lb.in)	(Slotted)	(18 lb.in)		(27 lb.in)
RS63	2BA (Ø45mm)	2.0Nm	3/8" BSF grub screw	3.5Nm	M8	6.0Nm
	Pan head	(18 lb.in)	(Slotted)	(31 lb.in)		(53 lb.in)
RS100	M6	2.5Nm	1/2" BSF grub screw	4.0Nm	M10	10.0Nm
	Pan head	(22 lb.in)	(Slotted)	(35 lb.in)		(89 lb.in)
RS200	M6	2.5Nm	5/8" BSF hex head	25.0Nm	M12	14.0Nm
	Pan head	(22 lb.in)	(18mm A/F)	(18.5 lb.ft)		(10 lb.ft)
RS400	M8	6.0Nm	5/8" BSF hex head	25.0Nm	M16	25.0Nm
	Hex head	(53 lb.in)	(18mm A/F)	(18.5 lb.ft)		(18.5 lb.ft)
Note:	Conversion from Nm to lb.in. 1Nm = 8.85075 lb.in.					

Maintenance

Guidelines

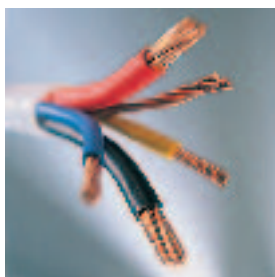
To ensure satisfactory operation of these fuse holders throughout their service life, it is recommended that the following procedure be carried out at regular intervals (at least once a year) as part of a planned maintenance schedule. Where the environment or service duty is severe there may be a need for inspection at shorter intervals.

Procedure

- Isolate the supply.
- Withdraw the fuse carriers and inspect fuse tags and carrier contacts for any signs of damage.
- Check all cable terminal screws and fuse link fixing screws to ensure that the correct torque has been applied.
- Wipe clean and remove any oxidation from the carrier contacts.
- Apply a small amount of a proprietary electrical contact lubricating grease after ensuring that all contact areas are clean.
- Re-fit the fuse carriers and re-connect the supply.

Important Note

The use to which these products are put and their service environment are outside our control. Therefore, particular care should be taken to follow these guidelines during installation or maintenance. No responsibility can be accepted by GE Power Controls Ltd if these guidelines are not followed.



Installation

Method of cabling

Front connected fuse holders

- Remove Red insulating terminal shrouds and loosen the exposed cable clamping screws.
- Fit bared conductor end into fuse base terminal, and tighten cable clamping screw to secure.
- Replace clip action Red insulating terminal shroud.

Cable selection and termination

- Ensure cable sizes are correctly chosen in line with the IEE Wiring Regulations (BS 7671), making due allowance for :
 - i. Grouping of cables (correction factor C_g).
 - ii. Ambient temperature / internal enclosure temperature (correction factor C_a).
- Ensure that maximum cable core temperature is restricted to 70°C or less.
- Ensure adequate cable length is provided for interconnections between fuse holders or other components. This will prevent possible heat input to the fuse holder which could result in overheating.
- If flexible cables are used, their relatively fine strands must be given increased protection by the use of thin wall copper ferrules crimped over the conductor ends. The following should be taken into account:
 - i. The inside diameter of the ferrule should match that of the bared cable ends.
 - ii. The ferrule lengths should be the same length as the cable entry tunnel in the fuse base terminals.
 - iii. The termination screw should compress the wall of the ferrules providing further consolidation of the cable strands within the ferrule.
- When used in banks, ensure that the diversity factors recommended in BS5486 Part 11, Factory Built Assemblies, are applied. If the number of fuse holders banked together exceeds 12 a 0.6 diversity factor may be used.
- For applications when there is insufficient or no diversity applied, adequate compensation should be made by a combination of some, or all, of the following:
 - i. Utilise higher standard current rated fuse links, or motor rated fuse links.
 - ii. Increase the cable size.
 - iii. Ensure that fuse holders in the bank are separated by at least 5mm.
 - iv. Ensure that there is adequate spacing between fuse banks if they are stacked vertically. Typically, depending on rating, this would be 30-50mm.
 - v. Incorporate natural or forced ventilation.

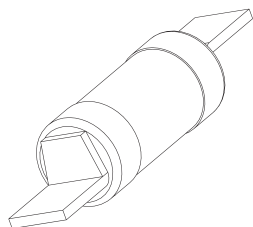
These measures should ensure that the heat is adequately exported from the fuses.

- Sharp bends in cables, especially near termination points, should be avoided in order to prevent damage to cable cores or insulation and to ensure that no mechanical strain, is put on the contact block in the fuse base.
- The minimum torque values detailed in the attached table should be applied to cable terminal and fuse link fixing screws.

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Fuse Link selection



- Select a rating of fuse link which is at least equal to the normal full load current of the circuit, including any allowances needed for harmonic currents, as in the case p.f. correction circuits.
- Ensure that the fuse link rating can withstand any over currents which may apply to the circuit, such as transformer in-rush currents, motor starting surges and repetitive cycle loads.
- When full cable protection is required, ensure that the fuse link rating is compatible with the selected cable, i.e. less than or equal to cable rating.

Recommended minimum torque values

Rating	Fuse Link fixing screw		Cable terminal screw		Back connected stud	
	Size	Torque	Size	Torque	Size	Torque
SC20	N/A	N/A	M6 grub screw (Slotted)	2.0Nm (18 lb.in)	M6	3.0Nm (27 lb.in)
SC32	N/A	N/A	M6 grub screw (Slotted)	2.0Nm (18 lb.in)	M6	3.0Nm (27 lb.in)
SC63	N/A	N/A	M8 grub screw (Slotted)	3.0Nm (27 lb.in)	M8	6.0Nm (53 lb.in)
SC100	M6 Pan head	2.5Nm (22 lb.in)	3/8" grub screw (Slotted)	3.5Nm (31 lb.in)	N/A	N/A
SC125	N/A	N/A	M12 grub screw (Slotted)	4.0Nm (35 lb.in)	N/A	N/A
Note: Conversion from Nm to lb.in. 1Nm = 8.85075 lb.in.						

Maintenance

Guidelines

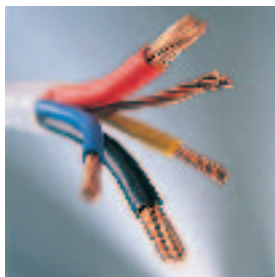
To ensure satisfactory operation of these fuse holders throughout their service life, it is recommended that the following procedure be carried out at regular intervals (at least once a year) as part of a planned maintenance schedule. Where the environment or service duty is severe there may be a need for inspection at shorter intervals.

Procedure

- Isolate the supply.
- Withdraw the fuse carriers and inspect fuse tags and carrier contacts (SC100) for any signs of damage.
- Check all cable terminal screws and fuse link fixing screws (SC100) to ensure that the correct torque has been applied.
- Wipe clean and remove any oxidation from the fuse link blades or carrier contacts (SC100).
- Apply a small amount of a proprietary electrical contact lubricating grease after ensuring that all contact areas are clean.
- Re-fit the fuse carriers and re-connect the supply.

Important Note

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Installation

Method of cabling

- Loosen base terminal screw.
- Fit conductor into fuse base terminal and tighten cable clamping screw to secure.
- Ensure that the correct torque has been applied to the cable clamping screw.

Cable selection and termination

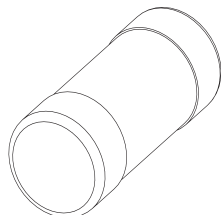
- Ensure cable sizes are correctly chosen in line with the IEE Wiring Regulations (BS 7671), making due allowance for :
 - i. Grouping of cables (correction factor C_g).
 - ii. Ambient temperature / internal enclosure temperature (correction factor C_a).
- Ensure that maximum cable core temperature is restricted to 70°C or less.
- Ensure adequate cable length is provided for interconnections between fuse holders or other components. This will prevent possible heat input to the fuse holder which could result in overheating.
- If flexible cables are used, their relatively fine strands must be given increased protection by the use of thin wall copper ferrules crimped over the conductor ends. The following should be taken into account:
 - i. The inside diameter of the ferrules should match that of the bared cable ends.
 - ii. The ferrule lengths should be the same length as the cable entry tunnel in the fuse base terminals.
 - iii. Tightening the terminal screw will clamp the crimped ferrule against the serrated plates within the box type terminal.
- For applications when there is insufficient or no diversity applied, adequate compensation should be made by a combination of some, or all, of the following:
 - i. Utilise higher standard current rated fuse links, or motor rated fuse links.
 - ii. Increase the cable size.
 - iii. Ensure that fuse holders in the bank are separated by at least 5mm.
 - iv. Ensure that there is adequate spacing between fuse banks if they are stacked vertically. Typically, depending on rating, this would be 30-50mm.
 - v. Incorporate natural or forced ventilation.

These measures should ensure that the heat is adequately exported from the fuses.
- Sharp bends in cables, especially near termination points, should be avoided in order to prevent damage to cable cores or insulation and to ensure that no mechanical strain, is put on the contact block in the fuse base.
- The minimum torque values detailed in the attached table should be applied to cable terminal screws.

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Fuse Link selection



- Select a rating of fuse link which is at least equal to the normal full load current of the circuit, including any allowances needed for harmonic currents, as in the case p.f. correction circuits.
- Ensure that the fuse link rating can withstand any over currents which may apply to the circuit, such as transformer in-rush currents, motor starting surges and repetitive cycle loads.
- When full cable protection is required, ensure that the fuse link rating is compatible with the selected cable, i.e. less than or equal to cable rating.

Recommended minimum torque values

Rating	Cable terminal screw	
	Size	Torque
FMC10	M5 screw (Slotted)	2.0Nm (18 lb.in)
FM10	M5 screw (Slotted)	2.0Nm (18 lb.in)
FM14	M5 screw (Slotted)	3.5Nm (31 lb.in)
FM22	M6 screw (Slotted)	4.5Nm (40 lb.in)
Note: Conversion from Nm to lb.in. 1Nm = 8.85075 lb.in.		

Maintenance

Guidelines

To ensure satisfactory operation of these fuse holders throughout their service life, it is recommended that the following procedure be carried out at regular intervals (at least once a year) as part of a planned maintenance schedule. Where the environment or service duty is severe there may be a need for inspection at shorter intervals.

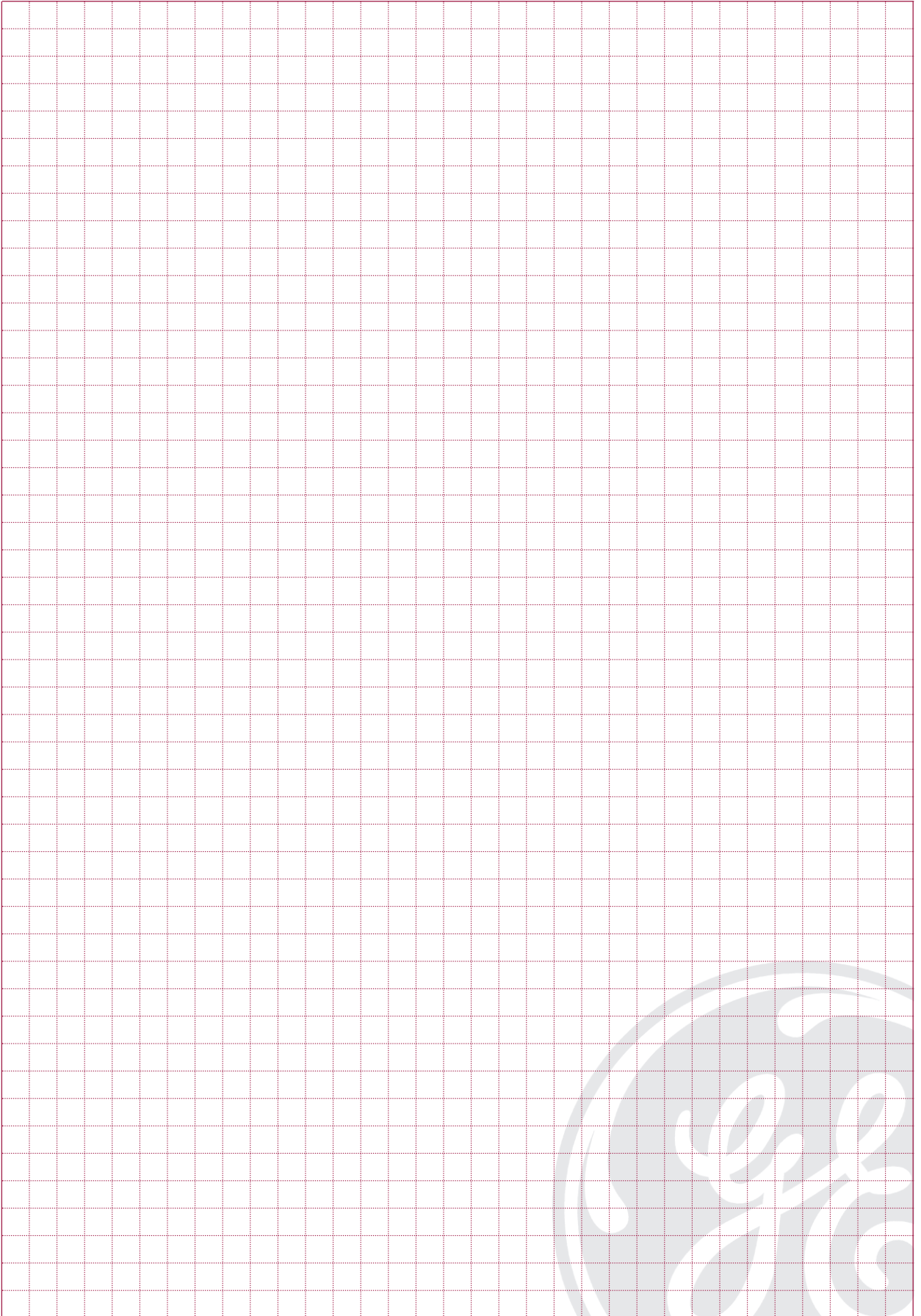
Procedure

- Isolate the supply.
- Withdraw the fuse handle and inspect the fuse link end caps for any signs of damage.
- Check all cable terminal screws to ensure that the correct torque has been applied.
- Wipe clean and remove any oxidation from the fuse link end caps.
- Apply a small amount of proprietary electrical contact lubricating grease after ensuring that all contact areas are clean.
- Re-engage the fuse actuator and re-connect the supply.

Important Note

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Notes





We bring good things to life.

GE Power Controls in Europe

GE Power Controls is the European arm of GE Industrial Systems, one of the ten core businesses of the General Electric Company (USA), known internationally for its positive approach to its customers, its people and the world we all live in.

GE Power Controls is a top class European supplier of low-voltage products including wiring devices, residential and industrial electrical distribution components, general purpose control products, enclosures and switchboards. Most of the global demand for the company's products comes from OEMs, wholesalers, installers and panel-board builders worldwide.

So, these are the facts, now the story behind them. GE Power Controls' name is synonymous with technical expertise, quality of products and services, and the broadness of its range. But this is not enough, in a constantly changing and competitive environment we have to offer all this and more. Over the next few years our product range will be dramatically expanded and renewed .

The goal we have set for quality ensures no less than constant progress, as part of GE's company-wide Six Sigma product and service excellence initiative. This applies not only to our products and services but also to our business conduct, where only the highest standards are good enough. We believe that our most important asset is the trust our customers put in us. We earn it by our continuing quest for improvement on every front and our strong commitment to integrity and reliability.

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