




UK CATALOGUE 2020











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Product Lead-times

Craig & Derricott will do our best to provide products listed in this catalogue ex-stock. However with the extensive range of variants, not all ranges can be stored in our warehouse at all times. Please contact your local Area Sales Manager for more details on expected product lead-times.

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Conditions of Use

The products listed in this publication should be installed by suitably qualified personnel in accordance with the requirements of all relevant legislation, regulations (including IEE Wiring Regulations) and the accepted industry practice. For further information, which may be required, about the use for which any specific product has been designed and tested, or about conditions of use, consultation with our technical department is advised.

In pursuance of our policy of continuing product improvement, the equipment described in this publication is subject to change without notification.



INTRODUCTION

ISO 9001:2015 British manufacturer Craig & Derricott have been designing, manufacturing and supplying low voltage electrical control and switchgear for over 70 years.

Today our customers extend around the world and operate in a wide variety of markets and sectors including Railway, Construction, Ventilation (Fire rated), Explosion proof, Medical, Military, Panel Building and Power & Distribution.

Simply visit our website to find the contact details for your local Area Sales Manager who will be pleased to offer advice.

www.craigandderricott.com

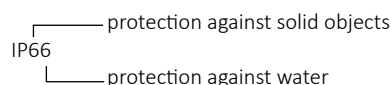


Technical Guidance for Product Selection

Ingress Protection

When choosing a control device, apart from the electrical performance, consideration must be given to the environmental conditions in which the device will be placed. The item may be subjected to dust or dirt or it may come in contact with varying degrees of moisture. Indoor conditions will vary considerably but items may well be placed outdoors where the full influence of rain, ice & snow will be present. Protecting items to varying degrees is detailed in BS EN 60529:1992.

Employing a two digit code the standard defines protection against solid objects and separately protection against water i.e.



The following extract defines the IP categories used within this document.

1st Digit	Protection against solid objects	
0	Not Protected	
2		Protected against solid objects greater than Ø12.5
4		Protected against solid objects greater than Ø1.0
5		Protected against dust allowing a degree of ingress that isn't harmful to the assembly.
6		No ingress of dust.

Please refer to BS EN 60529:1992 for full details.

2nd Digit	Protection against water	
0	Not Protected	
1		Protected against dripping water.
4		Protected against splashed water from any direction.
5		Protected against water jets from any direction.
6		Protected against strong water jets from any direction.

Product Guide

Comparing to European standards (BS EN 60947-3) :-

Definition	'Trade' Description	Technical Description
Disconnecter Sym.	Isolator	A ' Disconnecter ' is a mechanical switch which in the 'Open' position, complies with requirements specified for the isolating function. A ' Disconnecter ' or ' Isolator ' is an off-load device and marked 'Isolate elsewhere before opening' they have an AC20/DC20 utilisation category. A ' Switch ' is a mechanical switching device capable of making, carrying and breaking current under normal circuit conditions, which may include specified operating overload conditions. They also carry, for a specified time, currents under specified abnormal circuit conditions, such as those of short circuit (i.e. Utilisation category AC23A duty). A ' Switch-disconnector ' meets both of these criteria and with a Red/Yellow padlockable handle may also be called a ' Safety Isolator '.
Switch Sym.		
Switch-disconnector Sym.		
Changeover Switch-disconnector Sym.	Changeover Switch	A ' Changeover ' device is used to connect to one of two sources and in this isolation application will require a central 'Off' position. In all other respects it conforms to the 'Switch-disconnector' requirements.
Fuse Combination Unit Sym.	Switch- Disconnecter Fuse	A ' Switch-Disconnecter Fuse ' is a combination of a mechanical switching device with fuses in a composite assembly.

Corrosive Environment

When choosing an enclosure, care must be taken to select the most suitable material taking into account the location, level of pollution, temperature, UV levels, vibration and humidity.

Typical enclosure materials include Aluminium, powder coated Mild Steel or Stainless Steel. Enclosures that are sealed to IP65 are commonly mistaken as being suitable for all outside environments. A powder coated mild steel or Aluminium enclosure will degrade and corrode under certain environmental conditions.

Installing enclosures in an external environment may also result in condensation forming on the inside of the enclosure, resembling water ingress. This is caused by a difference in temperature between inner and outer surfaces of the enclosure and the most common solution is to fit an anti-condensation heater and breather gland within the enclosure.

When the product is subject to chemical cleaning a stainless steel enclosure is recommended although the correct grade of stainless steel must be selected. If in doubt, please consult our technical department on sales@craigandderricott.com or +44(0)1543 375 541.

ENCLOSED SWITCHGEAR

Craig & Derricott has been at the forefront of switchgear design and manufacture for more than 70 years, and in that time the requirements of the installer & end user have always been paramount in the design concept. This attitude has culminated in the design of the 'i-switch' range where a wider choice of products has been offered to the customer, all of which are simple to install and provide the user with a product that is safe and effective in use.

The 'i-switch' range provides the user with a wide choice of products to safely disconnect an item of electrical equipment from the supply and are primarily designed to comply with the following minimum requirements:-

- Provide an effective clearance between the supply and the load appropriate to the voltage applied.
- Provide a means of locking in the 'Off' position. (Padlocking)
- Provide a true indication of the contact state.
- Provide a safe disconnection from the supply even under fault conditions.

All of Craig & Derricott's products meet, and often exceed, the above requirements making each one a product of choice in today's market.



Moulded Plastic Enclosed Switchgear

A range of moulded plastic enclosed isolation equipment with sealing up to IP66. All units have a padlockable handle which allow for the insertion of up to three padlocks in the 'Off' position thus preventing the isolator being switched to the 'On' position. The units have the ability to add a selection of auxiliary blocks providing additional contacts and a choice of Neutral assemblies. All units are interlocked in the ON position preventing the lid from being removed and when padlocked in the OFF position. Compliant to IEC / BS EN 60947-3.

'N' = switched neutral (Early make, late break)

'NL' = Unswitched neutral

'EB' = Early break auxiliary contacts

Add suffix '/10' to the Cat. No. for padlocking in the 'On' position e.g. SDP253/10



Switch-Disconnectors (O-I)									
Image	Rating	Interior Switch	Format	Cat. No.	Encl. Size	Encl. Material	IP Rating	Encl. Colour	Cable Entries
	20A	GX20	6P	SDP206	A	PA / ABS	IP66	Light Grey RAL 7035	2 x M20 knock-outs top & bottom
			6P+2EB Aux	SDP206EB					
	25A	CS25	2P	SDP252	A	PA / ABS	IP66	Light Grey RAL 7035	2 x M20 knock-outs top & bottom
			3P	SDP253					
			3P+NL	SDP253NL					
			3P+N	SDP253N					
			3P+2EB Aux	SDP253EB					
	32A	CS32	2P	SDP322	A	PA / ABS	IP66	Light Grey RAL 7035	2 x M20 knock-outs top & bottom
			3P	SDP323					
			3P+NL	SDP323NL					
			3P+N	SDP323N					
			3P+2EB Aux	SDP323EB					
	40A	CS40R	2P	SDP402	B	PC / ABS	IP65	Light Grey RAL 7035	2 x M20/25 knock-outs top & bottom. Back face - 2 x M20 knock-outs
			3P	SDP403					
			3P+NL	SDP403NL					
			3P+N	SDP403N					
			3P+2EB Aux	SDP403EB					
		GX40	6P	SDP406					
			6P+2EB Aux	SDP406EB					
	63A	CS63	2P	SDP632	B	PC / ABS	IP65	Light Grey RAL 7035	2 x M20/25 knock-outs top & bottom. Back face - 2 x M20 knock-outs
			3P	SDP633					
			3P+NL	SDP633NL					
			3P+N	SDP633N					
			3P+2EB Aux	SDP633EB					
	80A	CS80	2P	SDP802	C	PA / PC	IP65	Light Grey RAL 7035	Blank sides
			3P	SDP803					
			3P+NL	SDP803NL					
			3P+N	SDP803N					
			3P+2EB Aux	SDP803EB					
	100A	CS100	2P	SDP1002	D	PA / PC	IP65	Light Grey RAL 7035	Blank sides
			3P	SDP1003					
			3P+NL	SDP1003NL					
			3P+N	SDP1003N					
			3P+2EB Aux	SDP1003EB					
Changeover Switch-Disconnectors (I-O-II)									
	20A	GX20	2P	SCODP202	A	PC / ABS	IP66	Light Grey RAL 7035	2 x M20 knock-outs top & bottom
			3P	SCODP203					
			4P	SCODP204					
	40A	GX40	2P	SCODP402	B	PC / ABS	IP65	Light Grey RAL 7035	2 x M20/25 knock-outs top & bottom. Back face - 2 x M20 knock-outs
			3P	SCODP403					
			4P	SCODP404					

Die-Cast Aluminium Enclosed Switchgear

A range of die-cast aluminium enclosed isolation equipment with sealing up to IP66 available in Light Grey (RAL 7035) or Traffic Red (RAL3020) powder coated finish. These units can be placed in environments where resistance to impacts, moisture and dust/dirt are a concern. All units have a padlockable handle which allows for the insertion of up to three padlocks in the 'Off' position thus preventing the isolator being switched to the 'On' position. All units are interlocked in the ON position preventing the lid from being removed and when padlocked in the OFF position. The option to add a selection of auxiliary blocks providing additional contacts and a choice of Neutral assemblies increases the flexibility of the product range. Compliant to IEC / BS EN 60947-3.

Enclosures finished Red (RAL 3020) are available to order, please contact our Sales team for details. Replace 'G' in the Cat. No. to 'R' e.g. SDDR253N

'N' = switched neutral (Early make, late break) | 'NL' = Unswitched neutral | 'EB' = Early break auxiliary contacts
'X' = Bottom cable entries only. For top and bottom cable entries, replace 'X' with 'Y' in the Cat. No. E.g. SDDG402Y

Add suffix '/10' to the Cat. No. for padlocking in the 'On' position e.g. SDDG253/10



Switch-Disconnectors (O-I)										
Image	Rating	Interior Switch	Format	Cat. No.	Encl. Size	Encl. Material	IP Rating	Encl. Colour	Cable Entries	
	20A	GX20	6P	SDDG206	A	Die cast aluminium alloy	IP66	Light Grey RAL 7035	2xM20 on bottom face	
			6P+2EB Aux	SDDG206EB						
	25A	CS25	2P	SDDG252	A	Die cast aluminium alloy	IP66	Light Grey RAL 7035	2xM20 on bottom face	
			3P	SDDG253						
			3P+NL	SDDG253NL						
			3P+N	SDDG253N						
			3P+2EB Aux	SDDG253EB						
	32A	CS32	2P	SDDG322	A	Die cast aluminium alloy	IP66	Light Grey RAL 7035	2xM20 on bottom face	
			3P	SDDG323						
			3P+NL	SDDG323NL						
			3P+N	SDDG323N						
			3P+2EB Aux	SDDG323EB						
		40A	CS40R	2P	SDDG402X	A	Die cast aluminium alloy	IP66	Light Grey RAL 7035	2xM25 on bottom face
				3P	SDDG403X					
				3P+NL	SDDG403NLX					
3P+N				SDDG403NX						
3P+2EB Aux				SDDG403EBX						
GX40			2P	SDDG402	B	Die cast aluminium alloy	IP65	Light Grey RAL 7035	2xM25 + 1xM20 on bottom face	
			3P	SDDG403						
			3P+NL	SDDG403NL						
			3P+N	SDDG403N						
			3P+2EB Aux	SDDG403EB						
	63A	CS63	2P	SDDG632	B	Die cast aluminium alloy	IP65	Light Grey RAL 7035	2xM25 + 1xM20 on bottom face	
			3P	SDDG633						
			3P+NL	SDDG633NL						
			3P+N	SDDG633N						
			3P+2EB Aux	SDDG633EB						
			6P	SDDG636						
	80A	CS80	3P	SDDG803	B	Die cast aluminium alloy	IP65	Light Grey RAL 7035	2xM32 + 1xM20 on bottom face	
			3P+NL	SDDG803NL						
			3P+N	SDDG803N						
Changeover Switch-Disconnectors (I-O-II)										
	20A	GX20	2P	SCODDG202	A	Die cast aluminium alloy	IP66	Light Grey RAL 7035	2xM20 on bottom face	
			3P	SCODDG203						
			4P	SCODDG204						
	40A	GX40	2P	SCODDG402	B	Die cast aluminium alloy	IP65	Light Grey RAL 7035	2xM25 + 1xM20 on bottom face	
			3P	SCODDG403						
			4P	SCODDG404						

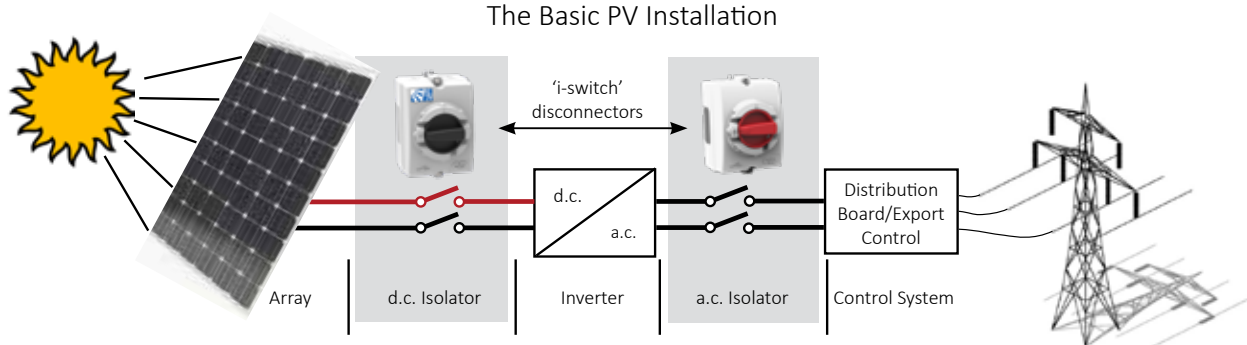
Photovoltaic (PV) Enclosed Switchgear

Solar power is an environmentally friendly method of producing electricity and is achieved using Photovoltaic (PV) cells that capture sunlight and convert it to electricity. By combining cells into an array, different voltages and current combinations can be achieved.

Once installed an array will continue to generate voltage and current and it is therefore essential to isolate the array in the event of a fault or for maintenance purposes. To enable this Craig & Derricott have developed a range of DC switch-disconnectors to manage this specific application.

*1 Designed to isolate twin arrays

The Basic PV Installation



Switch-Disconnectors (O-I)

Image	Rating	Format	Cat. No.	Internal Switch	Encl. Size	Encl. Material	IP Rating	Encl. Colour
	16A	DC 2P	EPV162	SPV162	E	ABS	IP66	Light Grey RAL 7035
		DC 4P	PVP164	SPV164	B		IP65	
		Twin Array DC 2x 2P	PVP1622*1	SPV1622*1				
	25A	DC 2P	EPV252	SPV252	E	ABS	IP66	Light Grey RAL 7035
		DC 3P	EPV253	SPV253	B		IP65	
		DC 4P	PVP254	SPV254				
		Twin Array DC 2x 2P	PVP2522*1	SPV2522*1				
	32A	DC 2P	EPV322	SPV322	E	ABS	IP66	Light Grey RAL 7035
		DC 3P	EPV323	SPV323	B		IP65	
		DC 4P	PVP324	SPV324				
		Twin Array DC 2x 2P	PVP3222*1	SPV322*1				
	40A	DC 2P	EPV402	SPV402	E	ABS	IP66	Light Grey RAL 7035
		DC 3P	EPV403	SPV403	B		IP65	
		DC 4P	PVP404	SPV404				
		Twin Array DC 2x 2P	PVP4022*1	SPV4022*1				

Switch-Disconnectors (O-I)

Image	Rating	Format	Internal Switch Cat. No.	Max. enclosure depth with SSH18 shaft	H1	H2
	16A	DC 2P	SPV162	248	50.5	28
		DC 4P	SPV164	270	72.5	50
		Twin Array DC 2x 2P	SPV1622*1	270	72.5	50
	25A	DC 2P	SPV252	248	50.5	28
		DC 3P	SPV253	259	61.5	39
		DC 4P	SPV254	270	72.5	50
		Twin Array DC 2x 2P	SPV2522*1	270	72.5	50
	32A	DC 2P	SPV322	248	50.5	28
		DC 3P	SPV323	259	61.5	39
		DC 4P	SPV324	270	72.5	50
		Twin Array DC 2x 2P	SPV322*1	270	72.5	50
	40A	DC 2P	SPV402	248	50.5	28
		DC 3P	SPV403	259	61.5	39
		DC 4P	SPV404	270	72.5	50
		Twin Array DC 2x 2P	SPV4022*1	270	72.5	50

Stainless Steel Enclosed Switchgear

A range of isolation equipment housed in Grade 304 stainless steel enclosures sealed to IP66. All units have a padlockable handle which allow for the insertion of up to three padlocks in the 'Off' position thus preventing the isolator being switched to the 'On' position. All units are interlocked in the ON position preventing the lid from being removed.

As a standard feature the units have the ability to add a selection of auxiliary blocks providing additional contacts and a choice of Neutral assemblies. External mounting feet in stainless steel are offered as an accessory sized to match each enclosure. The range is supplied with a handle manufactured from a material suitable to withstand cleaning products containing sodium hydroxide.


Stainless Steel Grade 316 enclosures are available on request.

'N' = switched neutral (Early make, late break) | 'NL' = Unswitched neutral | 'EB' = Early break auxiliary contacts

Switch-Disconnectors (O-I)									
Image	Rating	Interior Switch	Format	Cat. No.	Encl. Size	Encl. Material	IP Rating	Encl. Colour	Cable Entries
	20A	GX20	6P	SDS206	A	Stainless Steel Grade 304	IP66	Brushed Satin Finish	2 x M20
			6P+2EB Aux	SDS206EB					
	25A	CS25	2P	SDS252	A	Stainless Steel Grade 304	IP66	Brushed Satin Finish	2 x M20
			3P	SDS253					
			3P+NL	SDS253NL					
			3P+N	SDS253N					
			3P+2EB Aux	SDS253EB					
	32A	CS32	2P	SDS322	A	Stainless Steel Grade 304	IP66	Brushed Satin Finish	2 x M20
			3P	SDS323					
			3P+NL	SDS323NL					
			3P+N	SDS323N					
			3P+2EB Aux	SDS323EB					
	40A	CS40R	2P	SDS402	B	Stainless Steel Grade 304	IP66	Brushed Satin Finish	2 x M20 + 2 x M25
			3P	SDS403					
			3P+NL	SDS403NL					
			3P+N	SDS403N					
		3P+2EB Aux	SDS403EB						
		GX40	6P	SDS406					
	6P+2EB Aux		SDS406EB						
	63A	CS63	2P	SDS632	B	Stainless Steel Grade 304	IP66	Brushed Satin Finish	2 x M20 + 2 x M25
			3P	SDS633					
			3P+NL	SDS633NL					
			3P+N	SDS633N					
			3P+2EB Aux	SDS633EB					
Changeover Switch-Disconnectors (I-O-II)									
	20A	GX20	2P	SCODS202	A	Stainless Steel Grade 304	IP66	Brushed Satin Finish	2 x M20
			3P	SCODS203					
			4P	SCODS204					
	40A	GX40	2P	SCODS402	B	Stainless Steel Grade 304	IP66	Brushed Satin Finish	2 x M20 + 2 x M25
			3P	SCODS403					
			4P	SCODS404					

Accessories

The external fixing feet listed below can be supplied on request.

Image	Description	Cat. No.
	External Fixing Feet for 20A- 32A	EFA
	External Fixing Feet for 40A- 63A	EFB

Stainless Steel Sloping Roof Enclosed Switchgear

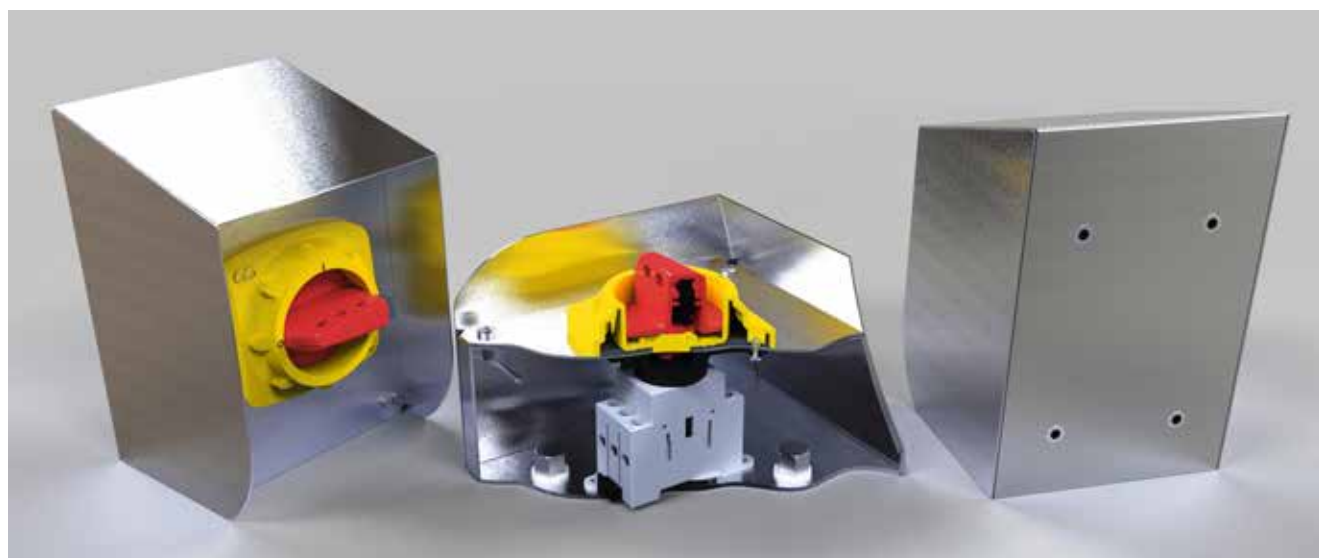
A range of isolation equipment housed in Grade 316 stainless steel enclosures, supplied with a specially designed stainless steel 'sloping roof'. These units are ideally suited for hygienic environments with their associated severe cleaning routines. The design has been created to minimise areas where dirt can accumulate and incorporates a flush rear surface and universal fixing sealed to IP66.

All units are supplied with a handle manufactured from a material suitable to withstand cleaning products containing sodium hydroxide. All units have a padlockable handle which allow for the insertion of up to three padlocks in the 'Off' position thus preventing the isolator being switched to the 'On' position. All units are interlocked in the ON position preventing the lid from being removed.

'N' = switched neutral (Early make, late break) | 'EB' = Early break auxiliary contacts

Optional pre-drilled bottom entries can be supplied. For 2xM20 in Size A Enclosures add suffix **'/M20'** to the Cat. No. e.g. SDSSR253/**M20** | For 2xM25 in Size B Enclosures add suffix **'/M25'** to the Cat. No. e.g. SDSSR253/**M25**.

Switch-Disconnectors (O-I)										
Image	Rating	Interior Switch	Format	Cat. No.	Encl. Size	Encl. Material	IP Rating	Encl. Colour	Roof Angle	Cable Entries
	20A	GX20	6P	SDSSR206	A	Stainless Steel Grade 316	IP66	Brushed Satin Finish	15° Slope	None
			6P+2EB AUX	SDSSR206EB						
	25A	CS25	2P	SDSSR252	A	Stainless Steel Grade 316	IP66	Brushed Satin Finish	15° Slope	None
			3P	SDSSR253						
			3P+2EB AUX	SDSSR253EB						
			3P+N	SDSSR253N						
	32A	CS32	2P	SDSSR322	A	Stainless Steel Grade 316	IP66	Brushed Satin Finish	15° Slope	None
			3P	SDSSR323						
			3P+2EB AUX	SDSSR323EB						
			3P+N	SDSSR323N						
	40A	CS40R	2P	SDSSR402	B	Stainless Steel Grade 316	IP66	Brushed Satin Finish	15° Slope	None
			3P	SDSSR403						
			3P+2EB AUX	SDSSR403EB						
			3P+N	SDSSR403N						
		GX40	6P	SDSSR406						
			6P+2EB AUX	SDSSR406EB						
	63A	CS63	2P	SDSSR632	B	Stainless Steel Grade 316	IP66	Brushed Satin Finish	15° Slope	None
			3P	SDSSR633						
			3P+2EB AUX	SDSSR633EB						
			3P+N	SDSSR633N						
	80A	CS80	2P	SDSSR802	B	Stainless Steel Grade 316	IP66	Brushed Satin Finish	15° Slope	None
			3P	SDSSR803						
			3P+2EB AUX	SDSSR803EB						
			3P+N	SDSSR803N						



Section view showing the enclosures flush rear face with 'sealed' fixings that ensure the IP66 seal is maintained.

Flush Mounting Enclosed Switchgear

A range of flush mounting isolation equipment ranging 20A to 63A, supplied with a sheet steel back box and stainless steel fascia plate sealed up to IP65. All units are supplied with a handle manufactured from a material suitable to withstand cleaning products containing sodium hydroxide. Suitable for installation in kitchens, laboratories, food processing areas, hospitals and many other areas.

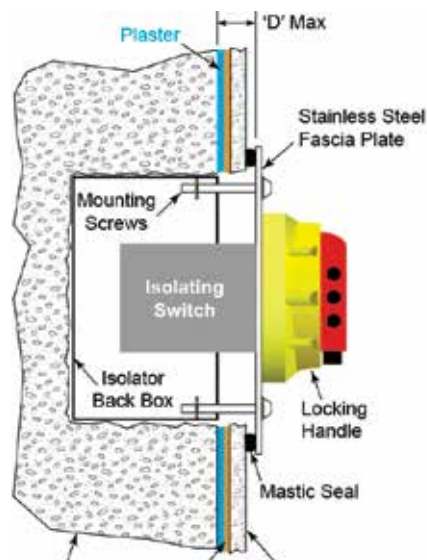
Installation

Whilst the joint between the isolating switch and the stainless steel fascia plate is factory sealed to IP65 min, when installed, the fascia to mounting surface seal is the responsibility of the installer.

To maintain the sealing overall, an efficient bond must be made using some form of gasketing material. This is particularly vital on tiled surfaces where grout lines can channel moisture down the wall.

A continuous bead of moisture resistant mastic is a simple way of providing a seal, and can improve the appearance of the final assembly on an uneven surface.

Switch-Disconnectors (O-I)									
Image	Rating	Interior Switch	Format	Cat. No.	IP Rating	Encl. Size	Fascia plate Material	Back Box Material	Cable Entries
	20A	GX20	2P	SDFL202	Isolating switch to stainless steel fascia plate IP65	A	Brushed Stainless Steel Grade 304	Zinc Plated Sheet Steel	Knockouts in back box
			3P	SDFL203					
			4P	SDFL204					
	32A	GX32	2P	SDFL322	Isolating switch to stainless steel fascia plate IP65	B	Brushed Stainless Steel Grade 304	Zinc Plated Sheet Steel	Knockouts in back box
			3P	SDFL323					
			4P	SDFL324					
	40A	GX40	2P	SDFL402	Isolating switch to stainless steel fascia plate IP65	B	Brushed Stainless Steel Grade 304	Zinc Plated Sheet Steel	Knockouts in back box
			3P	SDFL403					
			4P	SDFL404					
	63A	GN63	2P	SDFL632	Isolating switch to stainless steel fascia plate IP65	C	Brushed Stainless Steel Grade 304	Zinc Plated Sheet Steel	Knockouts in back box
			3P	SDFL633					
			4P	SDFL634					



Typical Installation

'D' max = 20mm with standard length mounting screws

Sheet Steel Enclosed Switchgear

A range of sheet steel enclosed isolation equipment sealed to IP66, providing the user with a robust and cost effective assembly. Each unit is supplied with a polyester powder coated finish in Light Grey (RAL 7035). External mounting feet in stainless steel are offered as an accessory sized to match each enclosure. Size A- Cat. No. EFA / Size B- Cat. No. EFB


All units have a padlockable handle which allow for the insertion of up to three padlocks in the 'Off' position thus preventing the isolator being switched to the 'On' position. All units are interlocked in the ON position preventing the lid from being removed. Standard shackle diameter Ø6.4 Earth continuity terminals are provided in the base and lid of each enclosure. A selection of auxiliary blocks can be provided as additional contacts as well as a choice of Neutral assemblies.

'N' = switched neutral (Early make, late break) | 'NL' = Unswitched neutral | 'EB' = Early break auxiliary contacts

Switch-Disconnectors (O-I)										
Image	Rating	Interior Switch	Format	Cat. No.	Encl. Size	Encl. Material	IP Rating	Encl. Colour	Cable Entries	
	20A	GX20	6P	SDMG206	A	Sheet Steel	IP66	Light Grey RAL 7035	2 x M20	
			6P+2EB Aux	SDMG206EB						
	25A	CS25	2P	SDMG252	A	Sheet Steel	IP66	Light Grey RAL 7035	2 x M20	
			3P	SDMG253						
			3P+NL	SDMG253NL						
			3P+N	SDMG253N						
			3P+2EB Aux	SDMG253EB						
	32A	CS32	2P	SDMG322	A	Sheet Steel	IP66	Light Grey RAL 7035	2 x M20	
			3P	SDMG323						
			3P+NL	SDMG323NL						
			3P+N	SDMG323N						
			3P+2EB Aux	SDMG323EB						
	40A	CS40R	2P	SDMG402	B	Sheet Steel	IP66	Light Grey RAL 7035	2 x M20 + 2 x M25	
			3P	SDMG403						
			3P+NL	SDMG403NL						
			3P+N	SDMG403N						
			3P+2EB Aux	SDMG403EB						
		GX40	6P	SDMG406						
	6P+2EB Aux		SDMG406EB							
	63A	CS63	2P	SDMG632	B	Sheet Steel	IP66	Light Grey RAL 7035	2 x M20 + 2 x M25	
			3P	SDMG633						
			3P+NL	SDMG633NL						
			3P+N	SDMG633N						
			3P+2EB Aux	SDMG633EB						
	80A	GA080A	2P	SDMG802	C	Sheet Steel	IP66	Light Grey RAL 7035	-	
			3P	SDMG803						
			3P+1EB	SDMG803/1EB						
			3P+N	SDMG803N						
			3P+NL	SDMG803NL						
	100A	GA0100A	2P	SDMG1002	C	Sheet Steel	IP66	Light Grey RAL 7035	-	
			3P	SDMG1003						
			3P+1EB	SDMG1003/1EB						
			3P+N	SDMG1003N						
			3P+NL	SDMG1003NL						
	Changeover Switch-Disconnectors (I-O-II)									
		20A	GX20	2P	SCODMG202	A	Sheet Steel	IP66	Light Grey RAL 7035	2 x M20
3P				SCODMG203						
4P				SCODMG204						
40A		GX40	2P	SCODMG402	B	Sheet Steel	IP66	Light Grey RAL 7035	2 x M20 + 2 x M25	
			3P	SCODMG403						
			4P	SCODMG404						

Accessories

The external fixing feet listed below can be supplied on request.

Image	Description	Cat. No.
	External Fixing Feet for 20A- 32A	EFA
	External Fixing Feet for 40A- 63A	EFB
	External Fixing Feet for 80A- 100A	EFC

Moulded Plastic Enclosed Switchgear




A more economical range of moulded plastic enclosed isolation equipment with sealed up to IP66. All units have a padlockable handle which allow for the insertion of up to three padlocks in the 'Off' position thus preventing the isolator being switched to the 'On' position. The units have the ability to add a selection of auxiliary blocks providing additional contacts and a choice of Neutral assemblies. All units are interlocked in the ON position preventing the lid from being removed. Compliant to IEC / BS EN 60947-3.

Add suffix **'/10'** to a Cat. No. for padlocking in the 'On' position e.g. EDP253/10

Add suffix **'/CO'** to a Cat. No. to include 1 set of Auxiliary contacts e.g. EDP253/CO

'N' = switched neutral (Early make, late break) | 'NL' = Unswitched neutral | 'EB' = Early break auxiliary contacts



Switch-Disconnectors (O-I)									
Image	Rating	Switch Type	Format	Cat. No.	Encl. Size	Encl. Material	IP Rating	Encl. Colour	Cable Entries
	20A	GX20	6P	EDP206	E	PA / ABS	IP66	Light Grey RAL 7035	2 x M20 knock-outs top & bottom.
			6P+2EB Aux	EDP206EB					
	25A	CS25	2P	EDP252	E	PA / ABS	IP66	Light Grey RAL 7035	2 x M20 knock-outs top & bottom.
			3P	EDP253					
			3P+NL	EDP253NL					
			3P+N	EDP253N					
			3P+2EB Aux	EDP253EB					
	32A	CS32	2P	EDP322	E	PA / ABS	IP66	Light Grey RAL 7035	2 x M20 knock-outs top & bottom.
			3P	EDP323					
			3P+NL	EDP323NL					
			3P+N	EDP323N					
			3P+2EB Aux	EDP323EB					
	40A	CS40R	2P	EDP402	B	PC / ABS	IP65	Light Grey RAL 7035	2 x M20/25 knock-outs top & bottom. Back face - 2 x M20 knock-outs
			3P	EDP403					
		GX40	6P	EDP406					
			6P+2EB Aux	EDP406EB					
	63A	CS63	2P	EDP632	B	PC / ABS	IP65	Light Grey RAL 7035	2 x M20/25 knock-outs top & bottom. Back face - 2 x M20 knock-outs
			3P	EDP633					
			3P+NL	EDP633NL					
			3P+N	EDP633N					
			3P+2EB Aux	EDP633EB					
	80A	CS80	2P	EDP802	C	PA / PC	IP65	Light Grey RAL 7035	Blank sides
			3P	EDP803					
			3P+NL	EDP803NL					
			3P+N	EDP803N					
			3P+2EB Aux	EDP803EB					

Die-Cast Aluminium Fixed Lid Enclosed Switchgear

A more economical range of die-cast aluminium enclosed isolation equipment with sealed up to IP66 available in Light Grey (RAL 7035) powder coated finish. These units can be placed in environments where resistance to impacts, moisture and dust/dirt are a concern.



All units have a padlockable handle which allows for the insertion of up to three padlocks in the 'Off' position thus preventing the isolator being switched to the 'On' position. All units are interlocked in the ON position preventing the lid from being removed.

The option to add a selection of auxiliary blocks providing additional contacts and a choice of Neutral assemblies increases the flexibility of the product range. Compliant to IEC / BS EN 60947-3.

Add suffix '/10' to a Cat. No. for padlocking in the 'On' position e.g. EDDG253/10

Add suffix '/CO' to a Cat. No. to include 1 set of Auxiliary contacts e.g. EDDG253/CO

'N' = switched neutral (Early make, late break) | 'NL' = Unswitched neutral | 'EB' = Early break auxiliary contacts

Switch-Disconnectors (O-I)								
Image	Rating	Switch Type	Format	Cat. No.	Encl. Size	IP Rating	Encl. Material	Cable Entries
	20A	GX20	6P	EDDG206	C	IP66	Die cast aluminium alloy Light Grey RAL 7035	2 x M20 bottom only.
			6P+2EB Aux	EDDG206EB				
	25A	CS25	2P	EDDG252	C	IP66	Die cast aluminium alloy Light Grey RAL 7035	2 x M20 bottom only.
			3P	EDDG253				
			3P+N	EDDG253N				
			3P+NL	EDDG253NL				
			3P+2EB Aux	EDDG253EB				
	32A	CS32	2P	EDDG322	C	IP66	Die cast aluminium alloy Light Grey RAL 7035	2 x M20 bottom only.
			3P	EDDG323				
			3P+N	EDDG323N				
			3P+NL	EDDG323NL				
			3P+2EB Aux	EDDG323EB				
	40A	CS40R	2P	EDDG402	C	IP66	Die cast aluminium alloy Light Grey RAL 7035	2 x M20 bottom only.
			3P	EDDG403				
			3P+N	EDDG403N				
			3P+NL	EDDG403NL				
			3P+2EB Aux	EDDG403EB				
		GX40	6P	EDDG406	B	IP65		2 x M25 & 1 x M20 bottom only.
			6P+2EB Aux	EDDG406EB				
	63A	CS63	2P	EDDG632	B	IP65	Die cast aluminium alloy Light Grey RAL 7035	2 x M25 & 1 x M20 bottom only.
			3P	EDDG633				
			3P+N	EDDG633N				
			3P+NL	EDDG633NL				
			3P+2EB Aux	EDDG633EB				
			6P	EDDG636				
	80A	CS80	2P	EDDG802	B	IP65	Die cast aluminium alloy Light Grey RAL 7035	2 x M25 & 1 x M20 bottom only.
			3P	EDDG803				
			3P+N	EDDG803N				
			3P+NL	EDDG803NL				
		GA080A	3P	EDDG803T				
			3P+N	EDDG803NT				
			3P+NL	EDDG803NLT				

Fixed Lid Accessories (Applicable for products on pages 2 - 10)

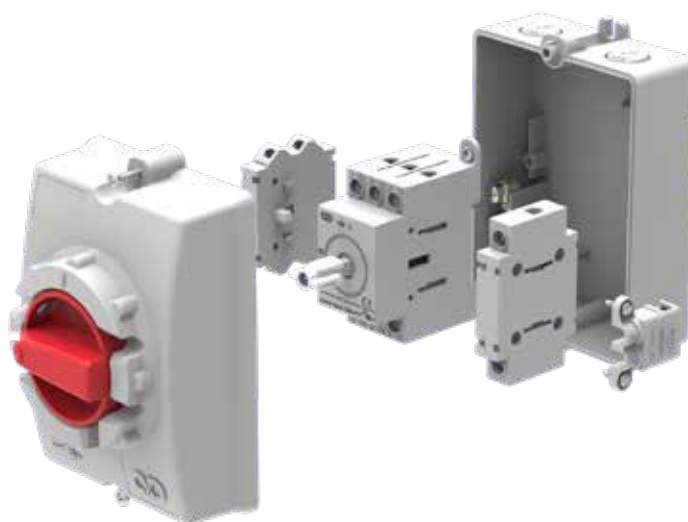
All of the accessories listed below can be retrofitted. One block can be fitted either side of the main assembly on all of the 3 pole Switch-Disconnectors interiors.

Description	Cat. No.
Auxiliary Contact- 2 Early Break	SAUX2EB
Auxiliary Contact- 1 N/O + 1 N/C	SAUXCO
80A- 100A Auxiliary Contact- 1 Early Break for GA switches	SAUX1EBL
80A- 100A Auxiliary Contact- 1 N/O + 1 N/C for GA switches	SAUXCOL
25A- 40A Compact Neutral (Unswitched)	SNLC40
63A Neutral (Unswitched)	SNL63
80A Neutral (Unswitched) for CS switches	SNL80
100A Neutral (Unswitched) for CS switches	SNL100
80A- 100A Neutral (Unswitched) for GA switches	SNL100L
125A Neutral (Unswitched)	SNL125
160A Neutral (Unswitched)	SNL160
200A Neutral (Unswitched)	SNL200
25A Neutral (Switched)	SSP25
40A Neutral (Switched)	SSP40
63A Neutral (Switched)	SSP63
80A Neutral (Switched) for CS switches	SSP80
100A Neutral (Switched) for CS switches	SSP100
80A Neutral (Switched) for GA switches	SSP80L
100A Neutral (Switched) for GA switches	SSP100L
125A Neutral (Switched)	SSP125
160A Neutral (Switched)	SSP160
200A Neutral (Switched)	SSP200
External Fixing Feet for 20A- 32A	EFA
External Fixing Feet for 40A- 63A	EFB
External Fixing Feet for 80A- 100A	EFC

Auxiliary Contact Block

Data supplied against tests to IEC/BS EN 60947-5-1

Application	Sym.	Category	Type 'A'
Thermal current	I_{th}		10A
Rated insulation voltage	U_i		690V
Utilisation Category	-	AC15	8A@110V / 8A@240V / 3A@400V / 1A@690V
		DC13	-
		Pure Resistive	-
Max Cond.	mm ²		1.5
Tight Torque	Nm		0.6



Exploded view showing a type CS switch disconnector interior with Auxiliary/Neutral options







Sheet Steel Hinged Door Switchgear

A range of 'hinged door' Light Grey (RAL 7035) powder coated sheet steel isolation equipment. Supplied in IP65 generously sized boxes which helps to avoid the need for extension boxes. All enclosures have the switches mounted on a removable galvanised chassis plate. All units are provided with removable top & bottom gland plates.

The range has a padlockable handle which allows for the insertion of up to three padlocks in the "Off" position. The hinged door cannot be opened in the ON position or when the handle is padlocked in the OFF position. For padlocking in both 'Off' and 'On' positions, add '/10' to the catalogue no. e.g. EDG00323N/10. The door interlock handle can be defeated to enable emergency opening or for testing purposes (100A and above).

Both red (RAL 3020) painted Sheet Steel and Stainless Steel (Grade 304 & 316) enclosures are available on request for the more severe environments. Contact our sales team on 01543 375 541 for further information. Compliant to IEC / BS EN 60947-3.

'N' = switched neutral | 'NL' = Unswitched neutral (100% rated 32A-200A, 50% rated 250A-1000A) | 'EB' = Early break auxiliary contacts

Switch-Disconnectors (O-I)							
Image	Rating	Format	Cat. No.	Encl. Size	Encl. Material	IP Rating	Encl. Colour
	32A	3P+N	EDG00323N	1	Sheet Steel	IP65	Light Grey RAL 7035
		3P+NL	EDG00323NL				
	63A	3P+N	EDG00633N	1	Sheet Steel	IP65	
		3P+NL	EDG00633NL				
		6P	EDG00636				
		6P+2EB Aux	EDG00636EB				
	80A	3P+N	EDG00803N	1	Sheet Steel	IP65	
		3P+NL	EDG00803NL				
		6P	EDG00806				
	100A	3P+N	EDG01003N	1	Sheet Steel	IP65	
		3P+NL	EDG01003NL				
		6P	EDG01006	5			
	125A	3P+N	EDG01253N	3	Sheet Steel	IP65	
		3P+NL	EDG01253NL				
		6P	EDG01256	5			
	160A	3P+N	EDG01603N	3	Sheet Steel	IP65	
		3P+NL	EDG01603NL				
		6P	EDG01606	5			
	200A	3P+N	EDG02003N	7	Sheet Steel	IP65	
		3P+NL	EDG02003NL				
	250A	3P+N	EDG02503N	9	Sheet Steel	IP65	
		3P+NL	EDG02503NL				
	400A	3P+N	EDG04003N	11	Sheet Steel	IP65	
		3P+NL	EDG04003NL				
	630A	3P+N	EDG06303N	13	Sheet Steel	IP65	
		3P+NL	EDG06303NL				
	800A	3P+N	EDG08003N	13	Sheet Steel	IP65	
		3P+NL	EDG08003NL				
	1000A	3P+N	EDG10003N	14	Sheet Steel	IP65	
		3P+NL	EDG10003NL				
	Changeover Switch-Disconnectors (I-O-II)						
	63A	4P	ECODG00634	4	Sheet Steel	IP65	Light Grey RAL 7035
	100A	4P	ECODG01004	4	Sheet Steel	IP65	
	125A	4P	ECODG01254	8	Sheet Steel	IP65	
	160A	4P	ECODG01604	8	Sheet Steel	IP65	
	200A	4P	ECODG02004	8	Sheet Steel	IP65	
	250A	4P	ECODG02504	10	Sheet Steel	IP65	
	400A	4P	ECODG04004	13	Sheet Steel	IP65	
	630A	4P	ECODG06304	13	Sheet Steel	IP65	
Fuse Combination Units (O-I)							
	32A	3P+NL	EDFG00323NL	2	Sheet Steel	IP65	Light Grey RAL 7035
	63A	3P+NL	EDFG00633NL	2	Sheet Steel	IP65	
	100A	3P+NL	EDFG01003NL	6	Sheet Steel	IP65	
	125A	3P+NL	EDFG01253NL	6	Sheet Steel	IP65	
	160A	3P+NL	EDFG01603NL	6	Sheet Steel	IP65	
	200A	3P+NL	EDFG02003NL	8	Sheet Steel	IP65	
	250A	3P+NL	EDFG02503NL	8	Sheet Steel	IP65	
	315A	3P+NL	EDFG03153NL	12	Sheet Steel	IP65	
	400A	3P+NL	EDFG04003NL	12	Sheet Steel	IP65	
	630A	3P+NL	EDFG06303NL	13	Sheet Steel	IP65	

Glass Fibre Reinforced Polycarbonate (GRP) Hinged Door Switchgear

A range of 'hinged door' Light Grey (RAL 7035) Glass Fibre Reinforced Polycarbonate (GRP) isolation equipment sealed to IP65. All enclosures have the switches mounted on a removable galvanised chassis plate.


The range has a padlockable handle which allows for the insertion of up to three padlocks in the "Off" position. The hinged door cannot be opened in the ON position or when the handle is padlocked in the OFF position. The door interlock handle can be defeated to enable emergency opening or for testing purposes (100A and above).

Features

- High impact resistance. Able to withstand contact up to IK 10
- Non corrosive for use in extremely harsh and demanding environments offering a long-lifetime and excellent security
- UV (UL 508: 720hours) stabilized polycarbonate ensuring high performance in outdoor installations
- Chemical resistant
- Raw material flammability rating UL 94-5VA

Contact our sales team on 01543 375 541 for further information. Compliant to IEC / BS EN 60947-3.

'N' = switched neutral | 'NL' = Unswitched neutral (100% rated 32A-200A, 50% rated 250A-1000A)



Switch-Disconnectors (O-I)							
Image	Rating	Format	Cat. No.	Encl. Size	Encl. Material	IP Rating	Encl. Colour
	32A	3P+N	SDGP00323N	1	Glass Fibre Reinforced Polycarbonate	IP65	Light Grey RAL 7035
		3P+NL	SDGP00323NL				
	63A	3P+N	SDGP00633N	1	Glass Fibre Reinforced Polycarbonate	IP65	Light Grey RAL 7035
		3P+NL	SDGP00633NL				
	80A	3P+N	SDGP00803N	1	Glass Fibre Reinforced Polycarbonate	IP65	Light Grey RAL 7035
		3P+NL	SDGP00803NL				
	100A	3P+N	SDGP01003N	1	Glass Fibre Reinforced Polycarbonate	IP65	Light Grey RAL 7035
		3P+NL	SDGP01003NL				
	125A	3P+N	SDGP01253N	1	Glass Fibre Reinforced Polycarbonate	IP65	Light Grey RAL 7035
		3P+NL	SDGP01253NL				
	160A	3P+N	SDGP01603N	1	Glass Fibre Reinforced Polycarbonate	IP65	Light Grey RAL 7035
		3P+NL	SDGP01603NL				
	200A	3P+N	SDGP02003N	4	Glass Fibre Reinforced Polycarbonate	IP65	Light Grey RAL 7035
		3P+NL	SDGP02003NL				
	250A	3P+N	SDGP02503N	4	Glass Fibre Reinforced Polycarbonate	IP65	Light Grey RAL 7035
		3P+NL	SDGP02503NL				
	400A	3P+N	SDGP04003N	6	Glass Fibre Reinforced Polycarbonate	IP65	Light Grey RAL 7035
		3P+NL	SDGP04003NL				
	630A	3P+N	SDGP06303N	7	Glass Fibre Reinforced Polycarbonate	IP65	Light Grey RAL 7035
		3P+NL	SDGP06303NL				
	800A	3P+N	SDGP08003N	7	Glass Fibre Reinforced Polycarbonate	IP65	Light Grey RAL 7035
		3P+NL	SDGP08003NL				
	1000A	3P+N	SDGP10003N	7	Glass Fibre Reinforced Polycarbonate	IP65	Light Grey RAL 7035
		3P+NL	SDGP10003NL				

Sheet Steel Flagged Switchgear

The Flag Indicator is viewed through a 4mm thick polycarbonate window in the enclosure door providing the user with confirmation of the switch contact state. All assemblies are sealed to IP65 and are supplied with 2 C/O auxiliary blocks wired down to terminals. The range has a padlockable handle which allows for the insertion of up to three padlocks in the 'Off' position thus preventing the isolator being switched to the 'On' position. The door interlock handle can be defeated to enable emergency opening or for testing purposes. All assemblies are supplied with the switching element mounted on a removable internal 2mm galvanised steel chassis plate.

The standard range of Flag isolators are supplied with silver plated conductors but if the product is to be installed in an environment where there is a high amount of Hydrogen Sulphide and Sulphur dioxide we offer the option of Tin plated conductors in order to prevent the growth of Silver whiskers. Stainless Steel Grade 304 enclosures, Castell Lock options and EX Zone 22 versions are available on request. Contact your local Area Sales Manager for more information.

'N' = switched neutral | Add suffix 'T' to the beginning of any Cat. No. for tin plate contacts e.g. TSDS00323N/F






Switch-Disconnectors (O-I)							
Image	Rating	Format	Cat. No.	Encl. Size	Encl. Material	IP Rating	Encl. Colour
	32A	3P+N	SDG00323N/F	1F	Sheet Steel	IP65	Light Grey RAL 7035
	63A	3P+N	SDG00633N/F	1F	Sheet Steel	IP65	Light Grey RAL 7035
	100A	3P+N	SDG01003N/F	2F	Sheet Steel	IP65	Light Grey RAL 7035
	125A	3P+N	SDG01253N/F	2F	Sheet Steel	IP65	Light Grey RAL 7035
	200A	3P+N	SDG02003N/F	4F	Sheet Steel	IP65	Light Grey RAL 7035
	250A	3P+N	SDG02503N/F	4F	Sheet Steel	IP65	Light Grey RAL 7035
	400A	3P+N	SDG04003N/F	5F	Sheet Steel	IP65	Light Grey RAL 7035
Fuse Combination Units (O-I)							
	32A	3P+N	SDFG00323N/F	1F	Sheet Steel	IP65	Light Grey RAL 7035
	63A	3P+N	SDFG00633N/F	1F	Sheet Steel	IP65	Light Grey RAL 7035
	100A	3P+N	SDFG01003N/F	2F	Sheet Steel	IP65	Light Grey RAL 7035
	125A	3P+N	SDFG01253N/F	2F	Sheet Steel	IP65	Light Grey RAL 7035
	160A	3P+N	SDFG01603N/F	3F	Sheet Steel	IP65	Light Grey RAL 7035
	200A	3P+N	SDFG02003N/F	4F	Sheet Steel	IP65	Light Grey RAL 7035
	250A	3P+N	SDFG02503N/F	4F	Sheet Steel	IP65	Light Grey RAL 7035

Hinged Door Accessories (Applicable for products on pages 12 - 14)

Add-on auxiliary blocks are available for all hinged door products. All auxiliaries are supplied as 1 N/O+1 N/C pair. All N/O auxiliary contacts are early break with respect to the main poles when switching from 'On' to 'Off'.













All of the Fuse Combination Units are supplied fitted with a set of fully rated IEC/BS EN 60269 (BS88) fuse links. Replacements can be supplied as individual fuse links and can be fitted to a lower rating to suit a particular load: please refer to the rating table below to maintain the correct size/tag format.

Terminal protection is provided on all items for live incoming terminals; spare terminal covers are available for replacement or extending the protection to the outgoing terminals. (Not available for 800A & 1000A switch-disconnectors.)

Auxiliary Contacts		
Image	Description	Cat. No.
  	Auxiliary Contact for 32A- 200A Switch-Disconnectors (Type A)	SAUXCO
	Auxiliary Contact for 63A- 160A Fuse Combination (Type B)	SAUXKITA
	Auxiliary Contact for 250A Switch-Disconnectors (Type C)	SAUXKITB
	Auxiliary Contact for 400A- 800A Switch-Disconnectors & 200A- 400A Fuse Combination (Type C)	SAUXKITC
	Auxiliary Contact for 1000A Switch-Disconnectors & 630A Fuse Combination Units (Type D)	SAUXKITD
Fuse Links		
	32A Fuse Link. BS Fuse format A2, A3. Fuse Fixing CRS (mm) 73 nom.	SFL32
	63A Fuse Link. BS Fuse format A2, A3. Fuse Fixing CRS (mm) 73 nom.	SFL63
	100A Fuse Link. BS Fuse format A4. Fuse Fixing CRS (mm) 94 nom.	SFL100
	125A Fuse Link. BS Fuse format A4. Fuse Fixing CRS (mm) 94 nom.	SFL125
	160A Fuse Link. BS Fuse format B1, B2. Fuse Fixing CRS (mm) 111 nom.	SFL160
	200A Fuse Link. BS Fuse format B1-B2. Fuse Fixing CRS (mm) 111 nom.	SFL200
	250A Fuse Link. BS Fuse format B1-B2. Fuse Fixing CRS (mm) 111 nom.	SFL250
	315A Fuse Link. BS Fuse format B1-B4. Fuse Fixing CRS (mm) 111 nom.	SFL315
	400A Fuse Link. BS Fuse format B1-B4. Fuse Fixing CRS (mm) 111 nom.	SFL400
	630A Fuse Link. BS Fuse format C1-C3. Fuse Fixing CRS (mm) 133/184 nom.	SFL630
Terminal Covers		
	Individual Spare Terminal Cover for 200A Switch-Disconnectors & Fuse Combination	STS1
	Individual Spare Terminal Cover for 250A- 400A Switch-Disconnectors & Fuse Combination	STS2
	Individual Spare Terminal Cover for 630A Fuse Combination	STS3
	Set of 4 Spare Terminal Cover for 630A Switch-Disconnectors	STS4

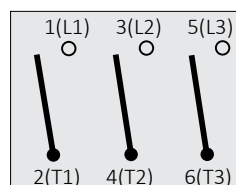
Technical Specification - Fixed Lid Enclosed Switchgear

Data supplied against tests to IEC/BS EN 60947-3

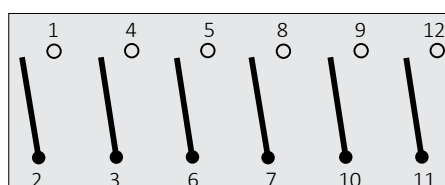
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Interior Switch	-		GX20	CS25	GX32	CS32	GX40	CS40R	GN63	CS63	CS80	GA080A	CS100	GA100A
Rated thermal current (I _{the})	A		20	25	32	32	40	40	63	63	80	80	100	100
Rated insulation voltage (U _i)	V		690	690	690	690	690	690	690	690	690	1000	1000	1000
Rated impulse voltage (U _{imp})	kV		6	6	6	6	6	6	6	6	6	8	8	8
Rated operational power (Single phase)	kW	240V- AC23	-	3.7	-	4.8	-	6.0	-	9.4	-	-	-	-
Rated operational power (Three phase)	kW	380/440- AC23	7.5	11	15	15	18.5	15	30	25	30	45	59	55
		500V- AC23	7.5	15	15	15	15	15	30	30	37	-	63	-
		690V- AC23	7.5	15	15	15	15	15	30	30	30	45	51	45
Rated short time withstand current (1 sec) (I _{cw})	A		250	500	800	600	800	600	1600	1300	1400	2500	2600	250
Max. fuse size for short circuit protection (gG Characteristic)	kA	10kA	20	35	35	35	40	40	63	80	80	80	160	100
		25kA	16	32	35	32	35	32	63	63	63	80	160	100
		50kA	-	32	-	32	-	32	63	63	63	80	160	100
Recommended connecting capacity	-	Terminal type												
	mm ²	Flexible cable	2.5 x 2	6	6 x 2	6	6 x 2	6	10	16	16	35	50	50
	mm ²	Rigid cable	2.5 x 2	10	10 x 2	10	10 x 2	10	16	25	25	35	25	50
	Nm	Tightening torque	1.0	1.2	1.0	1.2	1.0	1.2	1.2	1.2	1.2	5-6	5	5-6

Terminal Markings

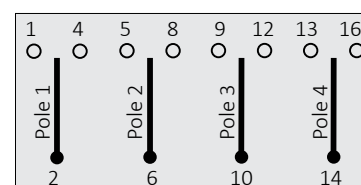
O-I (90° indexing)



O-I (90° indexing)



I-O-II (90° indexing)



Technical Specification - Photovoltaic (PV)














For products on page 4. Data supplied against tests to IEC/BS EN 60947-3.

2 Pollution Degree 2

Cat. No.		Rated Operational Voltage d.c.					
		300/400V	600V	800V	1,000V	1,200V ²	1,500V ²
EPV162	Rated Operational Current (DC21B)	16A	16A	16A	16A	-	-
PVP164		-	-	-	-	16A	16A
EPV252		25A	25A	25A	16A	-	-
EPV253		-	-	-	25A	-	-
PVP254		-	-	-	-	20A	16A
EPV322		32A	32A	-	-	-	-
EPV323		-	-	32A	32A	-	-
PVP324		-	-	-	-	25A	20A
EPV402		40A	-	-	-	-	-
EPV403		-	40A	40A	-	-	-
PVP404		-	-	-	40A	32A	25A
PVP1622	Rated Operational Current (DC21B)	16A	16A	16A	16A	-	-
PVP2522		25A	25A	25A	16A	-	-
PVP3222		32A	32A	-	-	-	-
PVP4022		40A	-	-	-	-	-

Technical Specification


























Data supplied against tests to IEC/BS EN 60947-3. * All AC21, AC22 & AC23 tests carried out at 415V

Sheet Steel Switch-Disconnectors (O-I)																
Application	Sym	Unit	Category	32	63		80	100	125	160	200	250	400	630	800	1000
				3P	3P	6P	3P	3P	3P	3P	3P	3P	3P	3P	3P	3P
Rated thermal current	I_{the}	A		32	63	63	80	100	125	160	200	250	400	630	720	1000
Rated insulation voltage	U_i	V		690	690	690	690	1000	1000	1000	1000	1000	1000	1000	1000	1000
Rated impulse voltage	U_{imp}	kV		6	6	6	6	8	8	8	8	12	12	12	12	8
Rated operational current (AC)	I_e	A	400V- AC21A	32	63	63	80	100	125	160	200	250*	400*	630*	800*	1000*
			690V- AC21A	32	63	63	80	100	125	160	200	250	400	630	800	1000
			400V- AC22A	-	-	-	-	100	125	160	200	250*	400*	630*	800*	1000*
			690V- AC22A	-	-	-	-	100	125	160	160	250	400	630	800	-
			400V- AC23A	29	48	48	56	100	112	128	128	250*	400*	630*	720*	1000
			690V- AC23A	17	33	33	33	-	-	-	-	250	350	350	350	-
Rated operational current (DC) (/ poles in series)	I_e	A	Up to 48V- DC21A	32/1	63/1	63/1	80/1	-	-	-	-	250/2	400/2	630/1	800/1	1000/1
			220V- DC21A	32/3	63/4	1/1	80/4	-	-	-	-	250/2	400/2	630/2	800/2	1000/3
			Up to 48V- DC22A	-	-	-	-	-	-	-	-	250/2	400/1	630/1	800/1	-
			220V- DC22A	-	-	-	-	-	-	-	-	250/2	400/2	630/2	800/2	-
			Up to 48V- DC23A	-	-	-	-	-	-	-	-	250/2	400/1	630/1	800/1	-
			220V- DC23A	-	-	-	-	-	-	-	-	250/2	400/2	630/2	630/2	-
Rated operational power	P_e	kW	400/415V- AC23A	15	25	25	30	59	63	75	75	132	200	315	355	400
			690V- AC23A	15	30	30	30	51	55	55	55	200	315	355	355	-
Short circuit making capacity	I_{cm}	kA	Peak value	1.4	2.9	2.9	3.0	3.7	4.0	5.0	5.0	35	65	80	80	105
Short circuit withstand (1sec)	I_{cw}	kA	rms value	0.6	1.3	1.3	1.4	2.6	2.8	3.0	3.0	8	17	17	17	50
Min. mechanical endurance	-	-	Operations (10 ³)	250	250	500	250	50	50	50	50	16	10	10	10	6
Min. electrical endurance	-	-	415V- at 0.65 pf	-	-	-	-	-	-	-	-	1,000	1,000	500	500	500
Connecting capacity		-	Terminal type													
		mm ²	Min/Max	2.5 / 10	2.5 / 25	2.5 / 25	2.5 / 25	-/50	-/70	-/70	-/95	120	2 x 150	2 x 185	2 x 240	60 x 5
		mm	Stud/Cu palm width	-	-	-	-	-	-	-	8 x 25	10 x 30	10 x 30	12 x 40	12 x 40	12 x 60
		Nm	Tightening torque	1.2	1.2	1.2	1.2	5	5	5	10	35	35	50	50	50

Sheet Steel Fuse Combination Units (O-I)														
Application		Sym	Unit	Category	32	63	100	125	160	200	250	315	400	630
Rated thermal current		I _{the}	A		32	63	100	125	160	200	250	315	400	630
Rated insulation voltage		U _i	V		750	750	750	750	750	1000	1000	1000	1000	1000
Rated impulse voltage		U _{imp}	kV		12	12	12	12	12	12	12	12	12	12
Rated operational current	AC	I _e	A	415V- AC23A	32	63	100	125	160	200	250	315	400	630
	DC*			220V- DC23A	-	-	100	125	160	200	250	315	400	630
Rated making capacity (AC23A)			A	415V, 0.35 pf	320	630	1,000	1,250	1,600	2,000	2,500	3,150	4,000	6,300
Rated breaking capacity (AC23A)			A	415V, 0.35 pf	256	504	800	1,000	1,280	1,600	2,000	2,520	3,200	5,040
Rated Conditional (Fused) short circuit			kA	S/C current rms	80	80	80	80	80	80	80	80	80	80
			A	back-up fuse	32	63	100	125	160	200	250	315	400	630
Min. mechanical endurance			-	Operations	25,000	25,000	15,000	15,000	15,000	10,000	10,000	10,000	10,000	6,000













Technical Specification

Data supplied against tests to IEC/BS EN 60947-3

Sheet Steel Fuse Combination Units (O-I)													
Application	Sym	Unit	Category	32	63	100	125	160	200	250	315	400	630
Min. electrical endurance		-	415V- at 0.65 pf	1,500	1,500	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
BS fuse format				A2	A2	A4	A4	B1, B2	B1, B2	B1, B2	B1, B4	B1, B4	C1, C3
Connecting capacity		-	Terminal type										
		mm²	Min/Max	16	25	95	95	120	150	185	240	300	400
		mm	Stud/Cu palm width	-	-	8x20	8x20	8x20	10x25	10x25	10x25	10x25	12x50
		Nm	Tightening torque	2.5	2.5	10	12	16	35	35	35	35	50
Sheet Steel Changeover Switch-Disconnectors (I-O-II)													
Application	Sym	Unit	Category	63	100	125	160	200	250	400	630		
Rated thermal current	I _{the}	A		63	100	125	160	200	250	400	630		
Rated insulation voltage	U _i	V		750	750	1000	1000	1000	1000	1000	1000		
Rated impulse voltage	U _{imp}	kV		6	6	6	6	6	12	12	12		
Rated operational current	I _e	A	415V- AC22A	63	100	125	160	200	250	400	630		
Rated making capacity (AC23A)		A	415V, 0.35 pf	630	630	1,250	1,600	2,000	2,500	4,000	6,300		
Rated breaking capacity (AC23A)		A	415V, 0.35 pf	504	504	1,000	1,280	1,600	2,000	3,200	5,040		
Short circuit current		kA	rms (with fuses)	80	80	80	80	80	100	100	80		
Rated S/C making capacity		kA	Peak	15	15	20	20	20	30	40	50		
Min. mechanical endurance		-	Operations	20,000	20,000	10,000	10,000	10,000	10,000	10,000	10,000		
Min. electrical endurance		-	415V- at 0.65 pf	2,500	1,500	1,000	1,000	1,000	1,000	1,000	500		
Connecting capacity		-	Terminal type										
		mm²	Max	35	35	95	95	95	240	300	400		
		mm	Stud/Cu palm width	6/12	6/12	8/22	8/22	8/22	10/25	10/25	12/50		
		Nm	Tightening torque	3	3	10	10	10	30	45	50		
Flagged Switch-Disconnectors (O-I)													
Application	Sym	Unit	Category	32	63	100	125	160	200	250			
Rated thermal current	I _{the}	A		32	63	100	125	160	200	250			
Rated insulation voltage	U _i	V		750	750	750	750	750	750	750			
Rated impulse voltage	U _{imp}	kV		12	12	12	12	12	12	12			
Rated operational current	I _e	A	415V- AC23A	32	63	100	125	160	200	250			
			220V- DC23A	-	-	100	125	160	200	250			
Rated making capacity (AC23A)		A	415V, 0.35 pf	320	630	1,000	1,250	1,600	2,000	2,500			
Rated breaking capacity (AC23A)		A	415V, 0.35 pf	256	504	800	1,000	1,280	1,600	2,000			
Rated Conditional (Fused) short circuit		kA	S/C current rms	80	80	80	80	80	80	80			
		A	back-up fuse	32	63	100	125	160	200	250			
Min. mechanical endurance		-	Operations	25,000	25,000	15,000	15,000	15,000	10,000	10,000			
Min. electrical endurance		-	415V- at 0.65 pf	1,500	1,500	1,000	1,000	1,000	1,000	1,000			
BS fuse format				A2	A2	A4	A4	B1, B2	B1, B2	B1, B2			
Connecting capacity		-	Terminal type										
		mm²	Min/Max	16	25	95	95	120	240	240			
		mm	Stud/Cu palm width	-	-	8x20	8x20	8x20	10x25	10x25			
		Nm	Tightening torque	2.5	2.5	10	12	16	25	30			

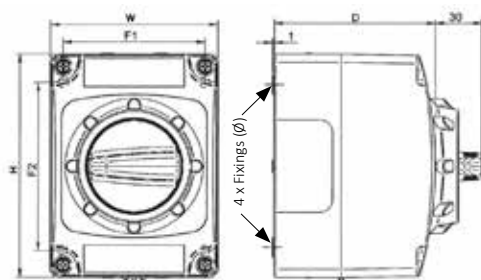
Technical Specification

Data supplied against tests to IEC/BS EN 60947-3. * All AC21, AC22 & AC23 tests carried out at 415V

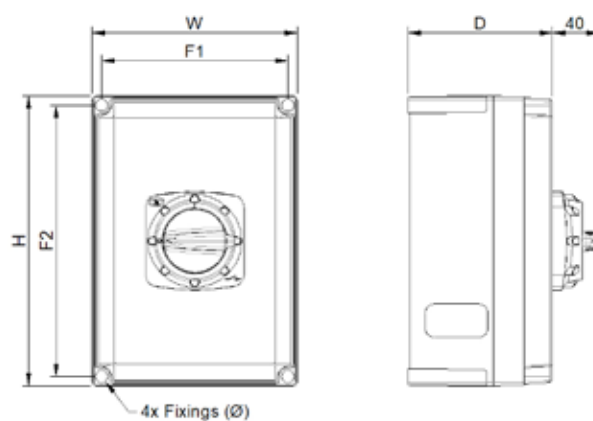
Glass Fibre Reinforced Polycarbonate Switch-Disconnectors (O-I)															
Application	Sym	Unit	Category	32	63	80	100	125	160	200	250	400	630	800	1000
Rated thermal current	I_{the}	A		32	63	80	100	125	160	200	250	400	630	720	1000
Rated insulation voltage	U_i	V		690	690	690	1000	1000	1000	1000	1000	1000	1000	1000	1000
Rated impulse voltage	U_{imp}	kV		6	6	6	8	8	8	8	12	12	12	12	8
Rated operational current (AC)	I_e	A	400V- AC21A	32	63	80	100	125	160	200	250*	400*	630*	800*	1000*
			690V- AC21A	32	63	80	100	125	160	200	250	400	630	800	1000
			400V- AC22A	-	-	-	100	125	160	200	250*	400*	630*	800*	1000*
			690V- AC22A	-	-	-	100	125	160	160	250	400	630	800	-
			400V- AC23A	29	48	56	100	112	128	128	250*	400*	630*	720*	1000
			690V- AC23A	17	33	33	-	-	-	-	250	350	350	350	-
Rated operational current (DC) (/poles in series)	I_e	A	Up to 48V- DC21A	32/1	63/1	80/1	-	-	-	-	250/2	400/2	630/1	800/1	1000/1
			220V- DC21A	32/3	63/4	80/4	-	-	-	-	250/2	400/2	630/2	800/2	1000/3
			Up to 48V- DC22A	-	-	-	-	-	-	-	250/2	400/1	630/1	800/1	-
			220V- DC22A	-	-	-	-	-	-	-	250/2	400/2	630/2	800/2	-
			Up to 48V- DC23A	-	-	-	-	-	-	-	250/2	400/1	630/1	800/1	-
			220V- DC23A	-	-	-	-	-	-	-	250/2	400/2	630/2	630/2	-
Rated operational power	P_e	kW	400/415V- AC23A	15	25	30	59	63	75	75	132	200	315	355	400
			690V- AC23A	15	30	30	51	55	55	55	200	315	355	355	-
Short circuit making capacity	I_{cm}	kA	Peak value	1.4	2.9	3.0	3.7	4.0	5.0	5.0	35	65	80	80	105
Short circuit withstand (1sec)	I_{cw}	kA	rms value	0.6	1.3	1.4	2.6	2.8	3.0	3.0	8	17	17	17	50
Min. mechanical endurance		-	Operations (10^3)	250	250	250	50	50	50	50	16	10	10	10	6
Min. electrical endurance		-	415V- at 0.65 pf	-	-	-	-	-	-	-	1,000	1,000	500	500	500
Connecting capacity		-	Terminal type												
		mm ²	Min/Max	2.5 / 10	2.5 / 25	2.5 / 25	-/70	-/70	-/70	-/95	120	2 x 150	2 x 185	2 x 240	60 x 5
		mm	Stud/Cu palm width	-	-	-	-	-	-	8 x 25	10 x 30	10 x 30	12 x 40	12 x 40	12 x 60
		Nm	Tightening torque	1.2	1.2	1.2	5	5	5	10	35	35	50	50	50

Moulded Plastic Switchgear

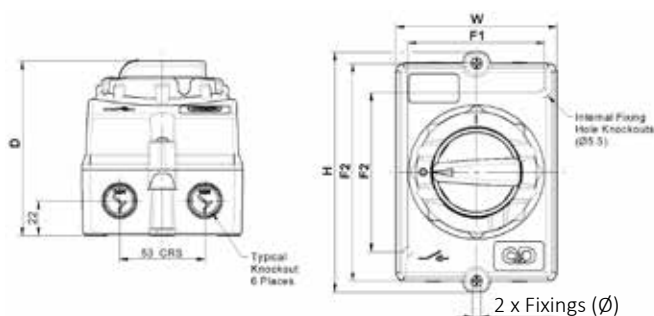
Sizes A & B



Sizes C & D



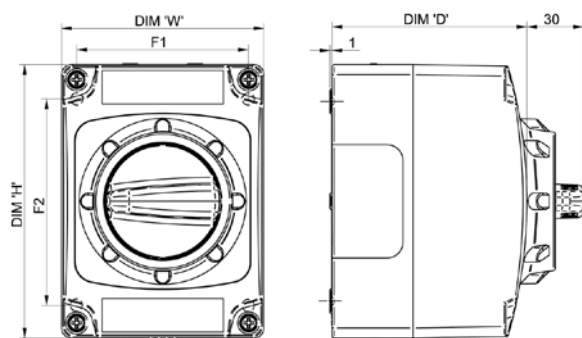
Size E



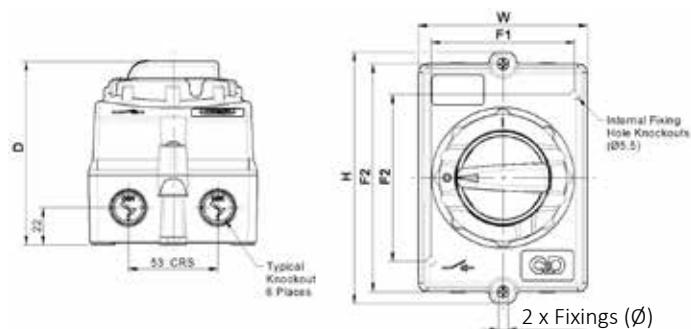
Encl. Size	Overall Dims.			Fixing details			Knockouts		
	H	W	D	F1	F2	Ø	Top	Btm	Back
A	135	100	95	85	98.5	5.5	2x M20	2x M20	2x M20
B	175	130	115	115	135	5.5	2x Combination M20 / M25		2x M20
C	255	180	125	163.5	238.5	4.5	Plain sided		
D	255	180	175	163.5	238.5	4.5	Plain sided		
E	149	100	108.5	85	136.5 / 98.5	5.5	2x M20	2x M20	2x M20

Photovoltaic (PV) Switchgear

Size B

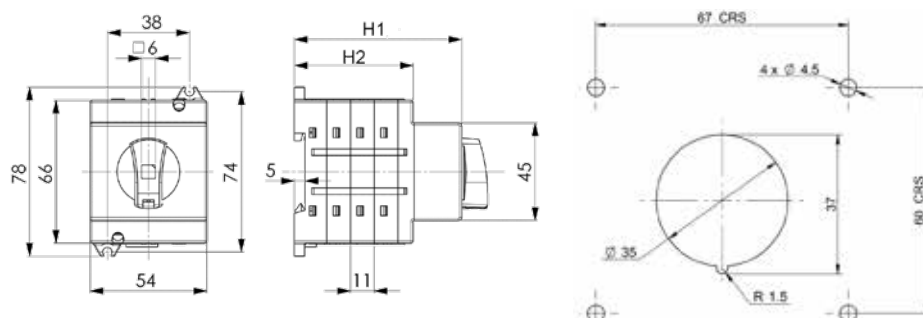


Size E



Encl. Size	Overall Dims.			Fixing details			Knockouts		
	H	W	D	F1	F2	Ø	Top	Btm	Back
B	175	130	115	115	135	5.5	2x Combination M20 / M25		2x M20
E	149	100	108.5	85	136.5 / 98.5	5.5	2x M20	2x M20	2x M20

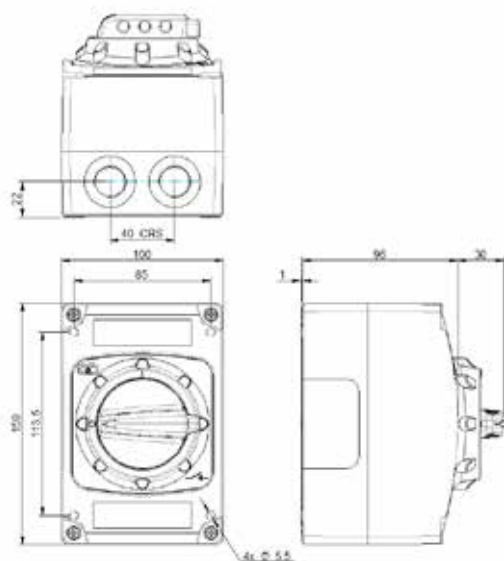
Interior Switch



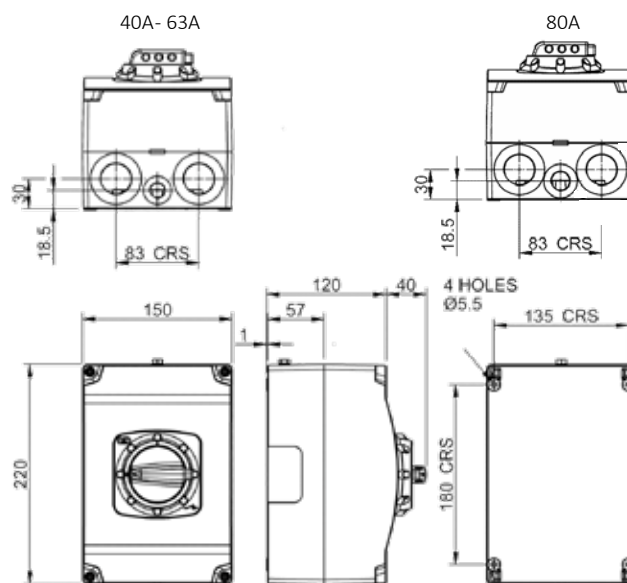
Cat. No.	H1	H2
SPV162	50.5	28
SPV164	72.5	50
SPV1622*1	72.5	50
SPV252	50.5	28
SPV253	61.5	39
SPV254	72.5	50
SPV2522*1	72.5	50
SPV322	50.5	28
SPV323	61.5	39
SPV324	72.5	50
SPV322*1	72.5	50
SPV402	50.5	28
SPV403	61.5	39
SPV404	72.5	50
SPV4022*1	72.5	50

Die-Cast Aluminium Switchgear

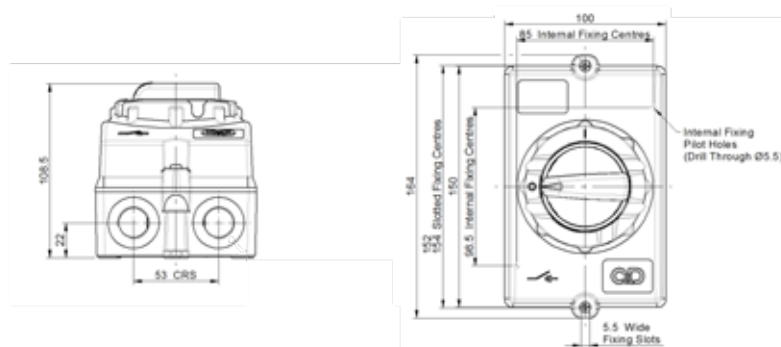
Size A



Size B

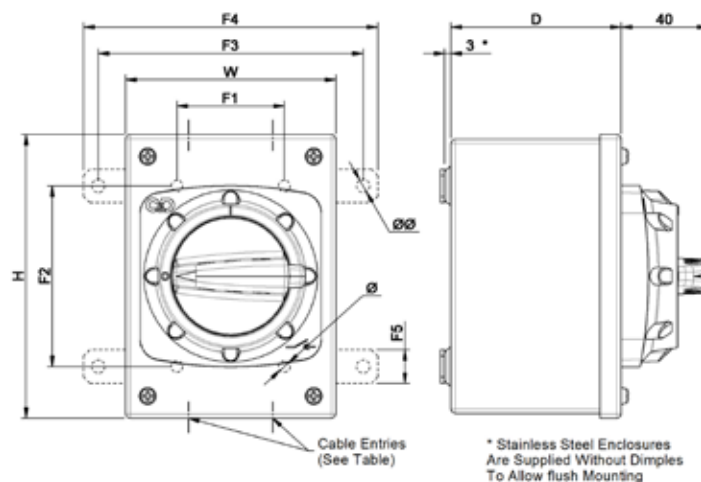


Size C



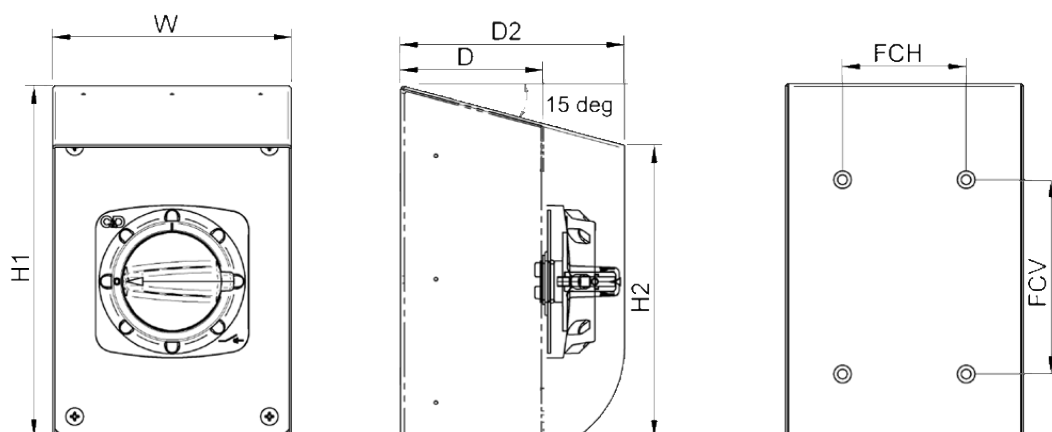
Rating	Cat. No.	Cable Entries					
		Enclosure A		Enclosure B		Enclosure C	
		Top	Bottom	Top	Bottom	Top	Bottom
20A- 32A	Standard	--	2 x M20	--	--	--	2x M25
	Suffix X	--	2x M25	--	--	--	2x M25
	Suffix Y	2x M25	2x M25	--	--	2x M25	2x M25
40A	Standard	--	2x M25	--	2x M25 + 1x M20	--	2x M20
	Suffix X	--	2x M25	--	2x M32 + 1x M16	--	2x M25
	Suffix Y	2x M25	2x M25	2 x M32	2x M32 + 1x M16	2x M25	2x M25
63A	Standard	--	--	--	2x M25 + 1x M20	--	--
	Suffix X	--	--	--	2x M32 + 1x M16	--	--
	Suffix Y	--	--	2 x M32	2x M32 + 1x M16	--	--
80A	Standard	--	--	--	2x M32 + 1x M20	--	--
	Suffix X	--	--	--	2x M32 + 1x M16	--	--
	Suffix Y	--	--	2 x M32	2x M32 + 1x M16	--	--

Sheet Steel & Stainless Steel Switchgear



Encl. Size	Overall Dims.			Internal Fixings			External EFA/EFB Fixings				Cable Entries	
	H	W	D	F1	F2	∅	F3	F4	F5	∅∅	Top	Bottom
Size A	135	100	80	51	86	5.5	126	140	16	6.35	--	2x M20
Size B	175	130	100	81	126	5.5	155	178	16	6.35	2x M20	2x M25
Size C	310	200	100	146	256	6.5	228	249	20	6.35	Centre mark dimples for on-site drilling to suit	

Stainless Steel Sloping Roof Switchgear

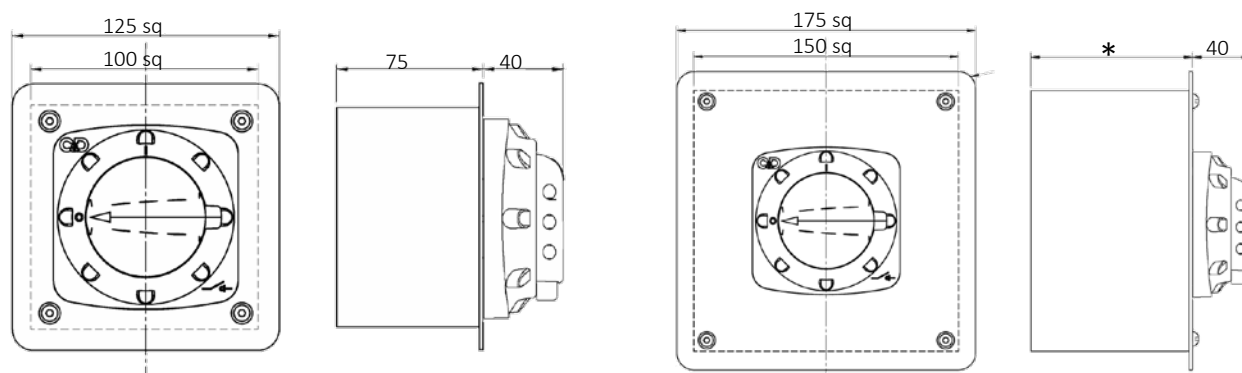


Encl. Size	Overall Dims.					Internal Fixings		
	H1	H2	W	D	D2	FCH	FCV	∅
Size A	200	165	135	80	127	70	110	5.5
Size B	240	200	185	100	147	90	130	5.5

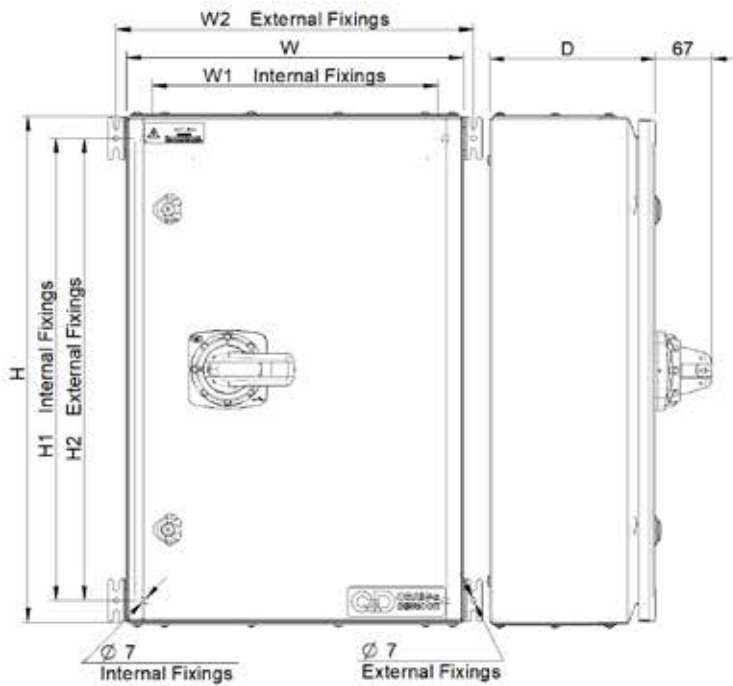
Flush Mounting Switchgear

Size A

Size B (* = 75) / Size C (* = 100)

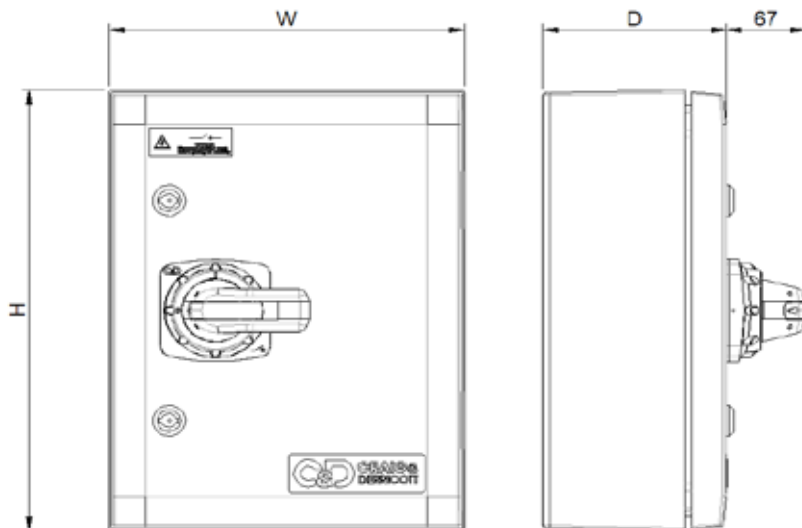


Dimensions- Sheet Steel



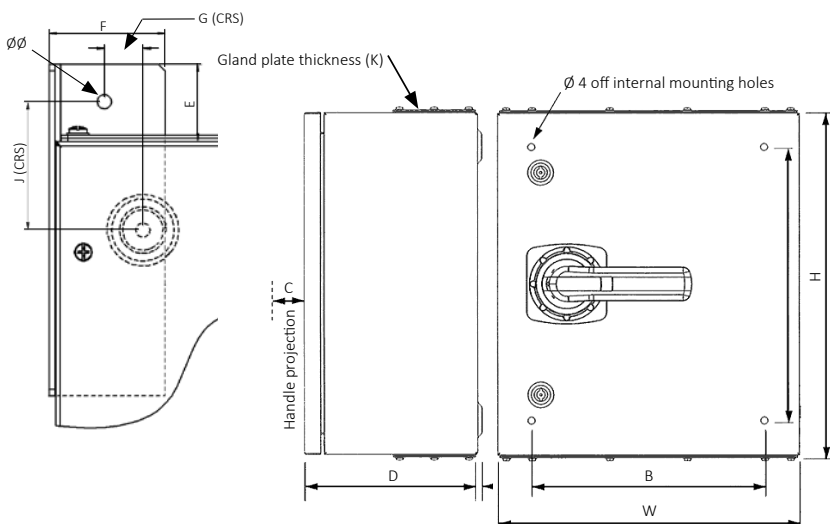
Encl. Size	H	W	D	H1	H2	W1	W2
1	300	300	150	248	248	258	324
2	300	300	200	248	248	258	324
3	400	300	150	348	348	258	324
4	400	300	200	348	348	258	324
5	400	400	200	348	348	358	424
6	500	400	200	448	448	358	424
7	600	400	200	548	548	358	424
8	600	400	300	548	548	358	424
9	600	500	200	548	548	458	524
10	700	500	300	648	648	458	524
11	800	600	200	748	748	558	624
12	800	600	300	748	748	558	624
13	1000	600	300	948	948	558	624
14	1000	800	300	948	948	758	824

Dimensions- Glass Fibre Reinforced Polycarbonate



Encl. Size	H	W	D
1	400	300	150
2	400	300	210
3	500	400	210
4	600	400	210
5	700	500	300
6	800	600	300
7	1035	835	300

Dimensions- Flagged



Encl. Size	1F	2F	3F	4F	5F
H	250	400	500	600	750
W	350	350	400	450	450
D	163	163	163	220	220
A	170	320	420	520	670
B	270	270	320	370	370
C	67	67	67	67	67
K	1.5	1.5	1.5	2	2
Ø	6.5	6.5	6.5	6.5	6.5
E	35	35	35	35	35
F	53	58	58	58	52
G	18	18	13	13	13
J	58	58	58	58	58
Ø Ø	6.5	6.5	8.5	8.5	8.5

FIRE RATED SWITCHGEAR

Craig & Derricott offer one of the most extensive range of Fire Rated Switchgear in the market.

Available 20A to 800A, this switchgear is used to maintain power to vital equipment such as smoke extraction / ventilation fans allowing the safe evacuation of businesses, car parks and public areas in the event of a fire. These switch-disconnectors are installed near to the extraction fan for isolation purposes, and have been tested in conjunction with the fan equipment to meet the stringent thermal requirements of BS EN 12101-3. Within BS EN 12101-3 (smoke and heat controls) there are different classes of duty which define a specific temperature gradient, upper temperature limit and time period.

- F400 products can withstand 400°C for 2 hours
- F300 products can withstand 300°C for 2 hours
- F200 products can withstand 200°C for 2 hours



F200 Fire Rated Switchgear

The F200 Fire Rated products range is designed for installations where the supply must be maintained for 2 hours at 200°C.

Ranging from 20A to 200A, these units are supplied in IP66/65 die-cast aluminium or IP65 sheet steel enclosures. All units come standard in a Traffic Red (RAL 3020) polyester powder coat finish, with padlocking in both 'Off' and 'On' positions.

'N' = switched neutral (Early make, late break) | 'NL' = Unswitched neutral | 'EB' = Early break auxiliary contacts

'T' = Increased terminal capacity

Local isolator for emergency smoke
extraction fan

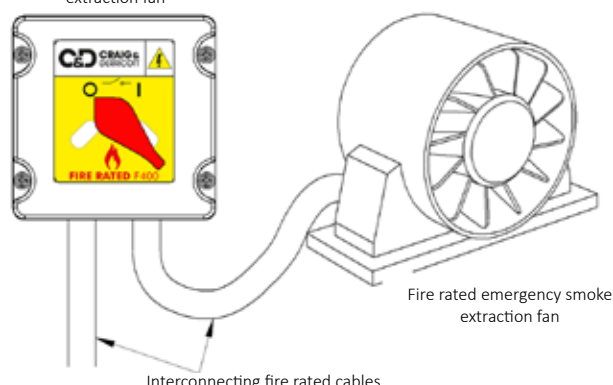


Image	Rating	Format	Switch Type	Cat. No.	Encl. Size	Encl. Material	IP Rating	Encl. Colour
	20A	6P	GX20	F2SDDR206	A	Die-Cast Aluminium	IP66	Traffic Red Ral 3020
		6P+2EB Aux		F2SDDR206EB				
	25A	2P	CS25	F2SDDR252	A	Die-Cast Aluminium	IP66	Traffic Red Ral 3020
		3P		F2SDDR253				
		3P+2EB Aux		F2SDDR253EB				
		3P+N		F2SDDR253N				
		3P+NL		F2SDDR253NL				
	32A	2P	CS32	F2SDDR322	A	Die-Cast Aluminium	IP66	Traffic Red Ral 3020
		3P		F2SDDR323				
		3P+2EB Aux		F2SDDR323EB				
		3P+N		F2SDDR323N				
	40A	3P+NL	CS40R	F2SDDR323NL	A	Die-Cast Aluminium	IP66	Traffic Red Ral 3020
		2P		F2SDDR402				
		3P		F2SDDR403				
		3P+2EB Aux		F2SDDR403EB				
		3P+N	CS40	F2SDDR403N	B	Die-Cast Aluminium	IP65	Traffic Red Ral 3020
		3P+NL		F2SDDR403NL				
		6P		F2SDDR406				
		6P+2EB Aux		F2SDDR406EB				
		2P		F2SDDR402T				
		3P		F2SDDR403T				
		3P+2EB Aux		F2SDDR403EBT				
		3P+N		F2SDDR403NT				
		3P+NL		F2SDDR403NLT				
	63A	2P	CS63	F2SDDR632	B	Die-Cast Aluminium	IP65	Traffic Red Ral 3020
		3P		F2SDDR633				
		3P+2EB Aux		F2SDDR633EB				
		3P+N		F2SDDR633N				
		3P+NL		F2SDDR633NL				
	80A	3P	CS80	F2SDDR803	B	Die-Cast Aluminium	IP65	Traffic Red Ral 3020
		3P+N		F2SDDR803N				
		3P+NL		F2SDDR803NL				
	63A	3P+N	CS63	F2SDRC00633N	1	Sheet Steel	IP65	Traffic Red Ral 3020
		3P+NL		F2SDRC00633NL				
		6P		F2SDRC00636	2			
	80A	3P+N	CS80	F2SDRC00803N	1	Sheet Steel	IP65	Traffic Red Ral 3020
		3P+NL		F2SDRC00803NL				
		6P		F2SDRC00806	2			
	100A	3P+N	CS100	F2SDRC01003N	3A	Sheet Steel	IP65	Traffic Red Ral 3020
		3P+NL		F2SDRC01003NL				
	125A	3P+N	CS125	F2SDRC01253N	4A	Sheet Steel	IP65	Traffic Red Ral 3020
		3P+NL		F2SDRC01253NL				
	160A	3P+N	CS160	F2SDRC01603N	4A	Sheet Steel	IP65	Traffic Red Ral 3020
		3P+NL		F2SDRC01603NL				
	200A	3P+N	CS200	F2SDRC02003N	5A	Sheet Steel	IP65	Traffic Red Ral 3020
		3P+NL		F2SDRC02003NL				

F300 Fire Rated Switchgear

The F300 Fire Rated products range from 20A to 800A, supplied in IP65 die-cast aluminium or sheet steel enclosures with a Traffic Red (RAL 3020) powder coat finish. All enclosures come standard with padlocking in both 'Off' and 'On'.

The interior switches are constructed from a high temperature grade thermoset material, designed specifically for installations where the supply must be maintained for 60 mins at 300°C. Craig & Derricott's F300 products will withstand 300°C for 120 min.

'N' = switched neutral (Early make, late break) | 'NL' = Unswitched neutral | 'EB' = Early break auxiliary contacts



Image	Rating	Format	Switch Mount	Cat. No.	Encl. Size	Encl. Material	IP Rating	Encl. Colour
	20A	2P	Lid mounted	F3SDR0202	A	Sheet Steel	IP65	Traffic Red Ral 3020
		3P		F3SDR0203				
		3P+2E/B Aux		F3SDR0203EB				
		3P+NL		F3SDR0203NL				
		4P		F3SDR0204				
		6P		F3SDR0206				
		6P+2E/B Aux		F3SDR0206EB				
	25A	2P	Lid mounted	F3SDR0252	A	Sheet Steel	IP65	Traffic Red Ral 3020
		3P		F3SDR0253				
		4P		F3SDR0254				
 	20A	2P	Lid mounted	F3DDR0202	E	Die-Cast Aluminium	IP65	Traffic Red Ral 3020
		3P		F3DDR0203				
		3P+2E/B Aux		F3DDR0203EB				
		3P+NL		F3DDR0203NL				
		4P		F3DDR0204				
		6P		F3DDR0206				
		6P+2E/B Aux		F3DDR0206EB				
	32A	2P	Lid mounted	F3DDR0322	B	Die-Cast Aluminium	IP65	Traffic Red Ral 3020
		3P		F3DDR0323				
		3P+2E/B Aux		F3DDR0323EB				
		3P+NL		F3DDR0323NL				
		4P		F3DDR0324				
		6P		F3DDR0326				
		6P+2E/B Aux		F3DDR0326EB				
	40A	2P	Lid mounted	F3DDR0402	B	Die-Cast Aluminium	IP65	Traffic Red Ral 3020
		3P		F3DDR0403				
		4P		F3DDR0404				
	63A	2P	Base mounted	F3SDR0632	C	Sheet Steel	IP65	Traffic Red Ral 3020
		3P		F3SDR0633				
		3P+2E/B Aux		F3SDR0633EB				
		3P+NL		F3SDR0633NL				
		4P		F3SDR0634				
		6P		F3SDR0636				
		6P+2E/B Aux		F3SDR0636EB				
	80A	2P	Base mounted	F3SDR0802	3A	Sheet Steel	IP65	Traffic Red Ral 3020
		3P		F3SDR0803				
		3P+NL		F3SDR0803NL				
		4P		F3SDR0804				
		3P+2E/B Aux		F3SDR0803EB	D			
		6P		F3SDR0806				
		6P+2E/B Aux		F3SDR0806EB				
	125A	2P	Base mounted	F3SDR01252	D	Sheet Steel	IP65	Traffic Red Ral 3020
		3P		F3SDR01253				
		3P+NL		F3SDR01253NL				
		3P+2E/B Aux		F3SDR01253EB				
		4P		F3SDR01254				
		6P		F3SDR01256				
		6P+2E/B Aux		F3SDR01256EB				

Image	Rating	Format	Switch Mount	Cat. No.	Encl. Size	Encl. Material	IP Rating	Encl. Colour
	160A	3P	Base mounted	F3SDR01603	5	Sheet Steel	IP65	Traffic Red Ral 3020
		3P+NL		F3SDR01603NL				
		4P		F3SDR01604	7			
		6P		F3SDR01606				
	200A	3P	Base mounted	F3SDR02003	5	Sheet Steel	IP65	Traffic Red Ral 3020
		3P+NL		F3SDR02003NL				
		4P		F3SDR02004	7			
		6P		F3SDR02006				
	250A	3P	Base mounted	F3SDR02503	5	Sheet Steel	IP65	Traffic Red Ral 3020
		3P+NL		F3SDR02503NL				
		4P		F3SDR02504	7			
		6P		F3SDR02506				
	315A	3P	Base mounted	F3SDR03153	6	Sheet Steel	IP65	Traffic Red Ral 3020
		3P+NL		F3SDR03153NL				
		4P		F3SDR03154	9			
		6P		F3SDR03156				
	400A	3P	Base mounted	F3SDR04003	6	Sheet Steel	IP65	Traffic Red Ral 3020
		3P+NL		F3SDR04003NL				
		4P		F3SDR04004	9			
		6P		F3SDR04006				
	630A	3P	Base mounted	F3SDR06303	8	Sheet Steel	IP65	Traffic Red Ral 3020
		3P+NL		F3SDR06303NL				
		4P		F3SDR06304	9			
		6P		F3SDR06306				
	800A	3P	Base mounted	F3SDR08003	8	Sheet Steel	IP65	Traffic Red Ral 3020
		3P+NL		F3SDR08003NL				
		4P		F3SDR08004	9			
		6P		F3SDR08006				

F400 Fire Rated Switchgear

The F400 Fire Rated products range from 20A to 630A, supplied in IP65 die-cast aluminium or sheet steel enclosures with a Traffic Red (RAL 3020) powder coat finish. Units rated 63A and above are fitted with highly durable anodised aluminium metal handles. All enclosures come standard with padlocking in both 'Off' and 'On'.

The interior switches are constructed from a high temperature grade thermoset material, designed specifically for installations where the supply must be maintained for 2 hours at 400°C.

Stainless Steel Grade 316L enclosures are available on request for 63A- 630A. Replace 'R' with 'S' in the Cat. No. e.g. F3SDS0633N.

'N' = switched neutral (Early make, late break) | 'NL' = Unswitched neutral | 'EB' = Early break auxiliary contacts




























Image	Rating	Format	Switch Mount	Cat. No.	Encl. Size	Encl. Material	IP Rating	Encl. Colour
	20A	2P	Lid mounted	FSDMR0202	A	Sheet Steel	IP65	Traffic Red Ral 3020
		3P		FSDMR0203				
		3P+2E/B Aux		FSDMR0203EB				
		3P+NL		FSDMR0203NL				
		4P		FSDMR0204				
		6P		FSDMR0206				
	6P+2E/B Aux	FSDMR0206EB						
	25A	2P	Lid mounted	FSDMR0252	A	Sheet Steel	IP65	Traffic Red Ral 3020
		3P		FSDMR0253				
		4P		FSDMR0254				
	20A	2P	Lid mounted	FSDDR0202	E	Die-Cast Aluminium	IP65	Traffic Red Ral 3020
		3P		FSDDR0203				
		3P+2E/B Aux		FSDDR0203EB				
		3P+NL		FSDDR0203NL				
		4P		FSDDR0204				
		6P		FSDDR0206	B			
		6P+2E/B Aux		FSDDR0206EB				

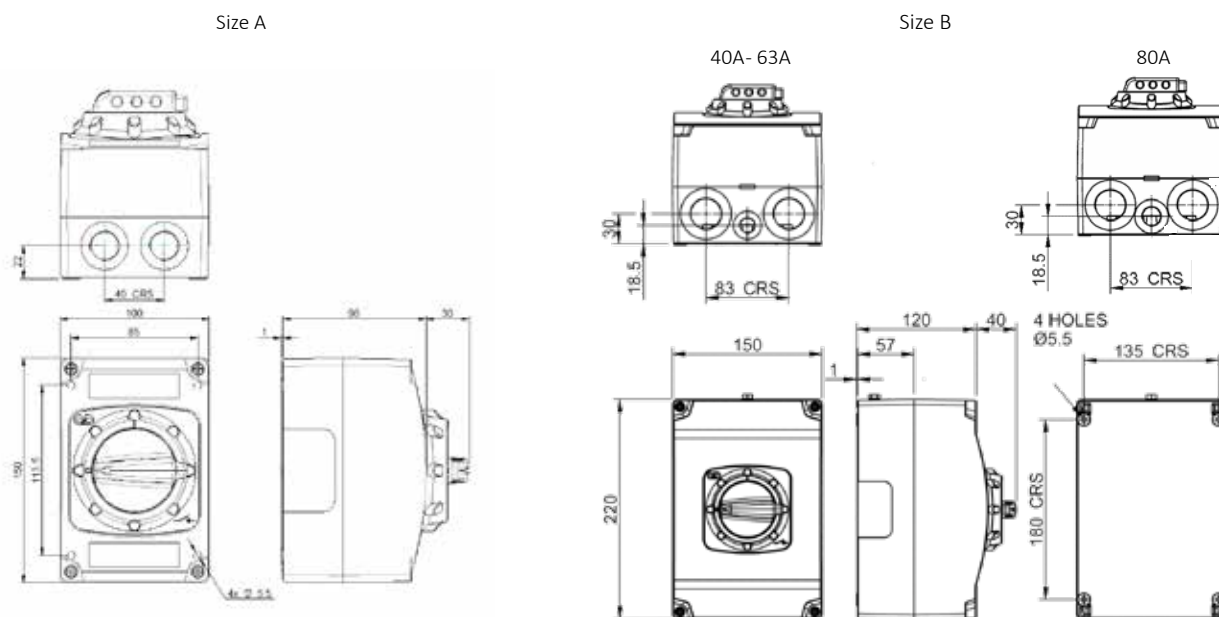
Image	Rating	Format	Switch Mount	Cat. No.	Encl. Size	Encl. Material	IP Rating	Encl. Colour
	32A	2P	Lid mounted	FSDDR0322	B	Die-Cast Aluminium	IP65	Traffic Red Ral 3020
		3P		FSDDR0323				
		3P+2E/B Aux		FSDDR0323EB				
		3P+NL		FSDDR0323NL				
		4P		FSDDR0324				
		6P		FSDDR0326				
	6P+2E/B Aux	FSDDR0326EB						
	40A	2P	Lid mounted	FSDDR0402	B	Die-Cast Aluminium	IP65	Traffic Red Ral 3020
		3P		FSDDR0403				
		4P		FSDDR0404				
	63A	2P	Base mounted	FSDMR0632	C	Sheet Steel	IP65	Traffic Red Ral 3020
		3P		FSDMR0633				
		3P+2E/B Aux		FSDMR0633EB				
		3P+NL		FSDMR0633NL				
		4P		FSDMR0634				
		6P		FSDMR0636				
		6P+2E/B Aux		FSDMR0636EB				
	80A	2P	Base mounted	FSDMR0802	3A	Sheet Steel	IP65	Traffic Red Ral 3020
		3P		FSDMR0803				
		3P+NL		FSDMR0803NL				
		4P		FSDMR0804				
		3P+2E/B Aux		FSDMR0803EB	D			
		6P		FSDMR0806				
		6P+2E/B Aux		FSDMR0806EB				
	125A	2P	Base mounted	FSDMR01252	D	Sheet Steel	IP65	Traffic Red Ral 3020
		3P		FSDMR01253				
		3P+NL		FSDMR01253NL				
		3P+2E/B Aux		FSDMR01253EB				
		4P		FSDMR01254				
		6P		FSDMR01256				
		6P+2E/B Aux		FSDMR01256EB				
	160A	3P	Base mounted	FSDMR01603	5	Sheet Steel	IP65	Traffic Red Ral 3020
		3P+NL		FSDMR01603NL				
		4P		FSDMR01604	7			
		6P		FSDMR01606				
	200A	3P	Base mounted	FSDMR02003	5	Sheet Steel	IP65	Traffic Red Ral 3020
		3P+NL		FSDMR02003NL				
		4P		FSDMR02004	7			
		6P		FSDMR02006				
	250A	3P	Base mounted	FSDMR02503	5	Sheet Steel	IP65	Traffic Red Ral 3020
		3P+NL		FSDMR02503NL				
		4P		FSDMR02504	7			
		6P		FSDMR02506				
	315A	3P	Base mounted	FSDMR03153	6	Sheet Steel	IP65	Traffic Red Ral 3020
		3P+NL		FSDMR03153NL				
		4P		FSDMR03154	9			
		6P		FSDMR03156				
	400A	3P	Base mounted	FSDMR04003	6	Sheet Steel	IP65	Traffic Red Ral 3020
		3P+NL		FSDMR04003NL				
		4P		FSDMR04004	9			
		6P		FSDMR04006				
	630A	3P	Base mounted	FSDMR06303	8	Sheet Steel	IP65	Traffic Red Ral 3020
		3P+NL		FSDMR06303NL				
		4P		FSDMR06304	9			
		6P		FSDMR06306				

Important Note:

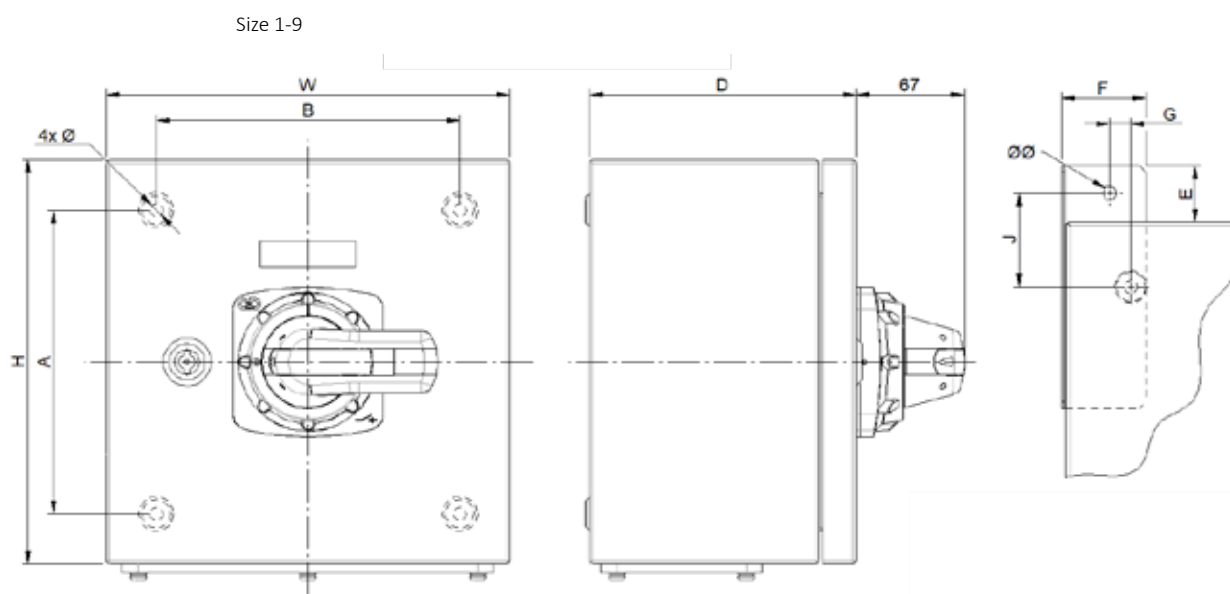
When choosing the product for your application please ensure the size of the Fire rate cable will be suitable for the available cable entry sizes.

F200 - Switch-Disconnectors (O-I)																	
Application	Sym.	Unit	Category	20A	25A	32A	40A			63A	80A	100A	125A	160A	200A		
Switch product range	-	-		GX20	CS25	CS32	GX40	CS40	CS40R	CS63	CS80	CS100	CS125	CS160	CS200		
Rated thermal current	I _{the}	A		20	25	32	40	40	40	63	80	100	125	160	200		
Rated insulation voltage	U _i	V		690	690	690	690	690	690	690	690	1000	1000	1000	1000		
Rated impulse voltage	U _{imp}	kV		6	6	6	6	6	6	6	6	8	8	8	8		
Rated operational power (3 phase AC)		kW	380 / 440-AC23	7.5	11	15	18.5	18.5	15	25	30	59	63	75	75		
			690V- AC23	7.5	15	15	15	22	15	30	30	51	55	55	55		
Rated short time withstand current (1 sec)	I _{cw}	A		250	500	600	800	1100	600	1300	1400	2600	2800	3000	3000		
Max. fuse size for short circuit protection (gG Characteristic)		kA	10kA	20	35	35	40	80	40	80	80	160	160	160	200		
			25kA	16	32	35	35	80	32	63	63	160	160	160	160		
			50kA	-	32	32	-	80	32	63	63	160	160	160	160		
Recommended connecting capacity		-	Terminal type														
		mm ²	Flexible cable	2.5x2	6	6	6 x 2	16	6	16	16	25	50	50	70		
		mm ²	Rigid cable	2.5 x 2	10	10	10 x 2	25	10	25	25	50	70	70	95		
		Nm	Tightening torque	1.0	1.2	1.2	1.0	1.2	1.2	1.2	1.2	1.2	2/ 5	2/ 5	2/ 5	12	
F300 & F400 - Switch-Disconnectors (O-I)																	
Application	Sym.	Unit	Category	20A	25A	32A	40A	63A	80A	125A	160A	200A	250A	315A	400A	630A	800A
Rated thermal current	I _{the}	A		20	25	32	40	63	80	125	160	200	250	315	400	630	720
Rated insulation voltage	U _i	V		690	690	690	690	690	690	690	1000	1000	1000	1000	1000	1000	1000
Rated impulse voltage	U _{imp}	kV		6.0	6.0	6.0	6.0	6.0	6.0	6.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Rated operational power (3 phase AC)	I _e / P _e	A/kW	415V-AC23A	20 / 9.5	25 / 11	32 / 15	32 / 15	40 / 18.5	80 / 40	100 / 55	160 / 90	200 / 110	250 / 132	315 / 200	400 / 200	630 / 315	720 / 355
			690V-AC23A	-	-	-	-	-	-	-	160 / 150	200 / 190	250 / 200	315 / 315	350 / 315	350 / 355	350 / 355
			690V-AC23B	20 / 9.5	20 / 9.5	20 / 9.5	-	20 / 9.5	-	-	-	-	-	-	-	-	-
			660V-AC23B	-	-	-	-	-	30 / 22	30 / 22	-	-	-	-	-	-	-
Conditional Short Circuit Current	Fuse gG	kA / Fuse (A)	415V	50 / 32	50 / 32	50 / 32	50 / 32	50 / 63	50 / 150	50 / 200	50 / 160	50 / 200	50 / 250	-	-	-	-
		690V	40 / 32	40 / 32	40 / 32	40 / 32	40 / 63	50 / 63	50 / 63	50 / 160	50 / 200	50 / 250	50 / 315	50 / 400	100 / 630	-	
Short circuit withstand (1 sec)	I _{cw}	kA	RMS value	-	-	-	-	-	1.5	1.5	8.0	8.0	8.0	17.0	17.0	17.0	17.0
Recommended connecting capacity		-	Terminal type														
		mm ²	Flexible cable	≤ 4.0	≤ 4.0	6	6	16	50	50	95	95	120	2 / 150	2 / 150	2 / 185	2 / 240
		mm ²	Rigid cable	≤ 4.0	≤ 4.0	10	10	25	35	50	95	95	120	2 / 150	2 / 150	2 / 185	2 / 240
		mm	Stud/ Cu Palm Width	-	-	-	-	-	M10 / 21	M10 / 21	M10 / 30	M10 / 30	M10 / 30	M10 / 40	M10 / 40	M12 / 40	M12 / 40
		Nm	Tightening torque	1.2	1.2	1.2	1.2	3	12	12	35	35	35	35	35	50	50

F200 Fire Rated Switch-Disconnectors Dimensions



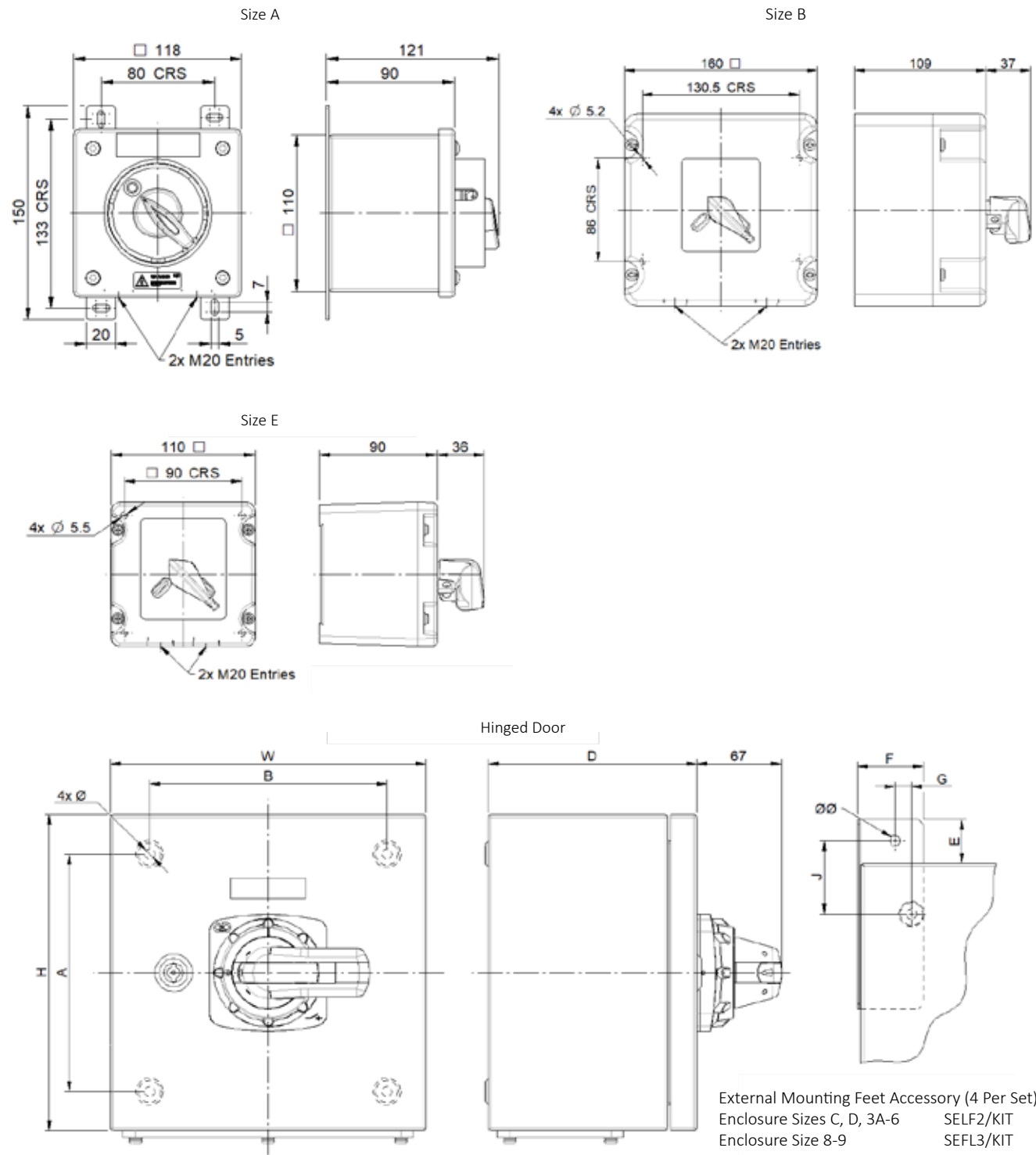
Rating	Cable Entries			
	Enclosure A		Enclosure B	
	Top	Bottom	Top	Bottom
20A- 32A	--	2 x M20	--	--
40A	--	2x M25	--	2x M25 + 1x M20
63A	--	--	--	2x M25 + 1x M20
80A	--	--	--	2x M32 + 1x M20



Encl. Size	H	W	D	A	B	C	Ø	E	F	G	J	Ø Ø
1	250	250	100	170	170	40	6.5	35	53	18	58	6.5
2	250	300	200	170	220	67	6.5	35	58	18	58	6.5
3A	350	300	175	270	220	67	8.5	35	58	13	58	8.5
4A	400	300	175	320	220	67	8.5	35	58	13	58	8.5
5	550	450	250	470	370	67	8.5	35	58	13	58	8.5
5A	550	400	175	470	320	67	8.5	35	58	13	58	8.5
6	750	450	275	670	370	67	8.5	35	58	13	58	8.5
7	750	600	300	670	520	67	8.5	35	58	13	58	8.5
8	900	600	300	820	520	67	10.5	35	58	13	58	10.5
9	900	600	400	820	520	67	10.5	35	58	13	58	10.5

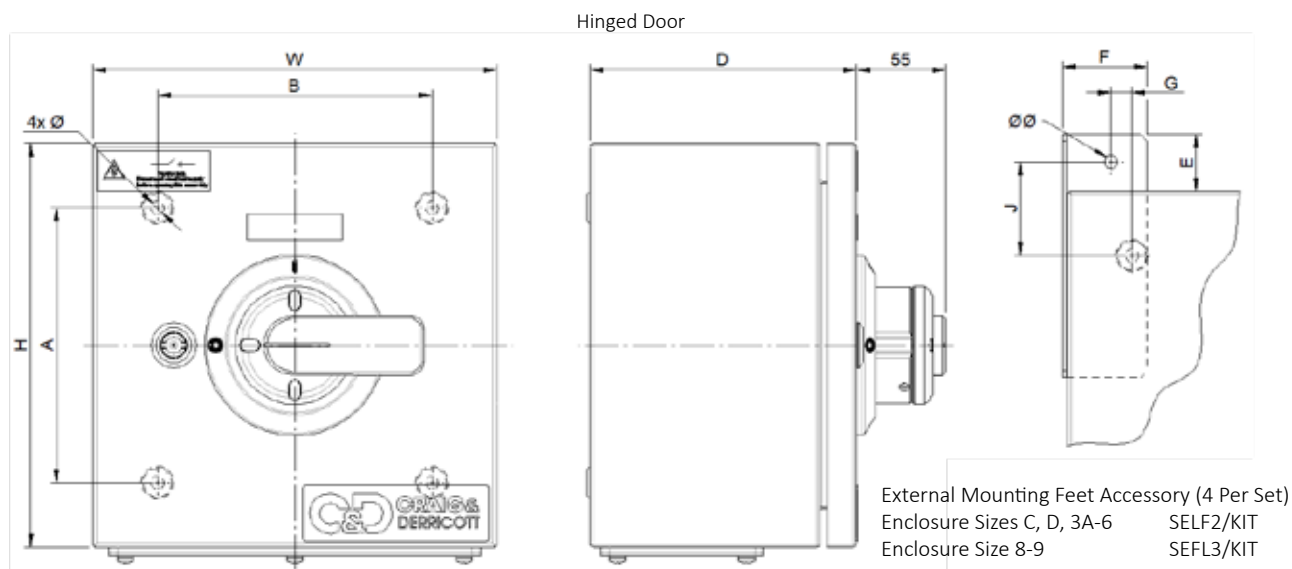
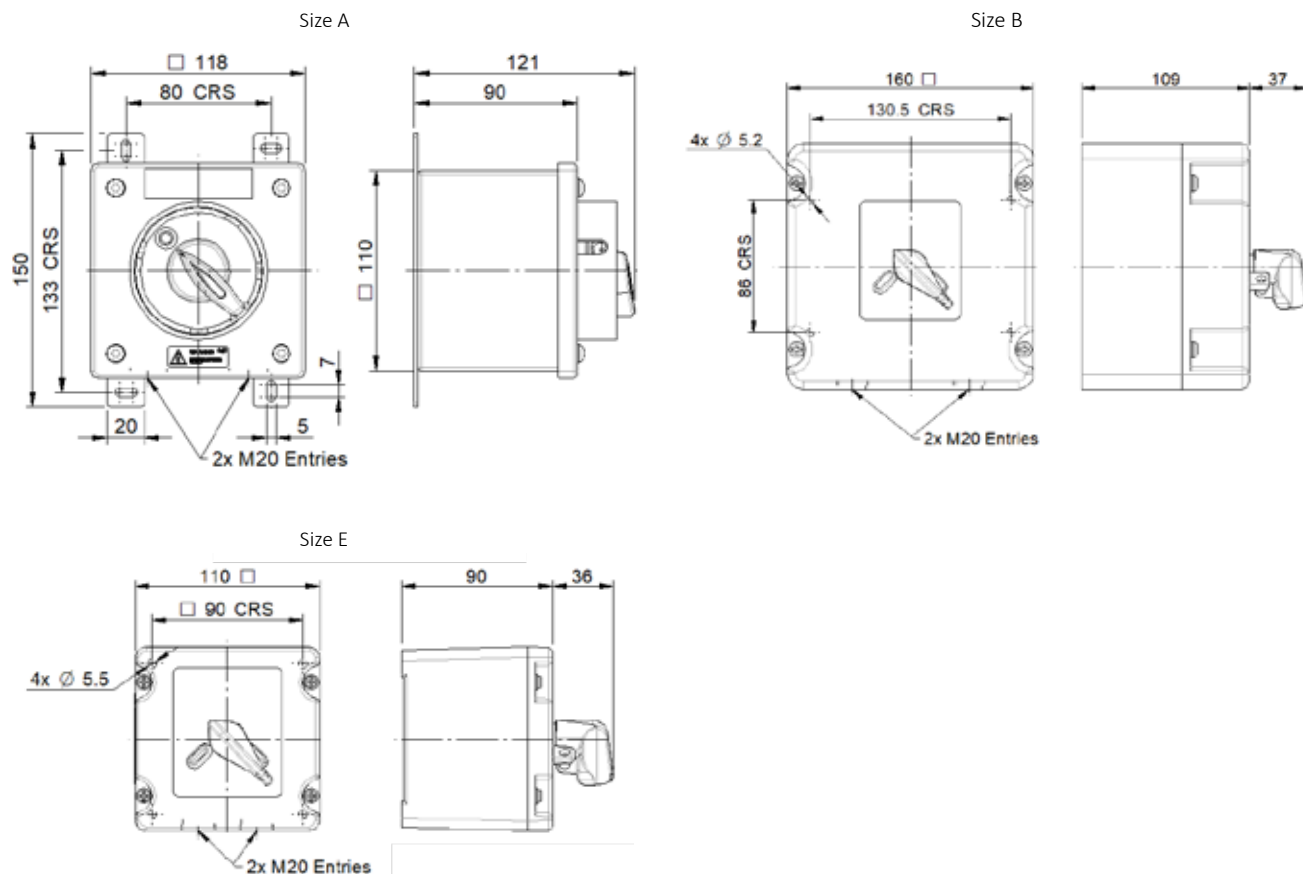
External Mounting Feet (Four per set)
 Enclosure Sizes 1 & 2 Cat No. [SEFL1/KIT](#)
 Enclosure Sizes 3- 7 Cat No. [SEFL2/KIT](#)
 Enclosure Sizes 8- 10 Cat No. [SEFL3/KIT](#)

F300 Fire Rated Switch-Disconnectors Dimensions



Dimensions	Enclosure Size							
	C	3A	D	5	6	7	8	9
Height (H)	250	350	480	550	750	750	900	900
Width (W)	250	300	240	450	450	600	600	600
Depth (D)	165	175	238	250	275	300	300	400
Vertical Fixing CRS (A)	188	270	400	470	670	670	820	820
Horizontal Fixing CRS (B)	188	220	160	370	370	520	520	520
Fixing Hole Size (Ø)	8.5	8.5	8.5	8.5	8.5	8.5	10.5	10.5
Foot Projection (E)	35	35	35	35	35	35	35	35
Foot Width (F)	58	58	58	58	58	58	58	58
Hole Centres (G)	13	13	13	13	13	13	13	13
Hole Centres (J)	58	58	58	58	58	58	58	58
Fixing Hole Size (ØØ)	8.5	8.5	8.5	8.5	8.5	8.5	10.5	10.5

F400 Fire Rated Switch-Disconnectors Dimensions



Dimensions	Enclosure Size							
	C	3A	D	5	6	7	8	9
Height (H)	250	350	480	550	750	750	900	900
Width (W)	250	300	240	450	450	600	600	600
Depth (D)	165	175	238	250	275	300	300	400
Vertical Fixing CRS (A)	188	270	400	470	670	670	820	820
Horizontal Fixing CRS (B)	188	220	160	370	370	520	520	520
Fixing Hole Size (Ø)	8.5	8.5	8.5	8.5	8.5	8.5	10.5	10.5
Foot Projection (E)	35	35	35	35	35	35	35	35
Foot Width (F)	58	58	58	58	58	58	58	58
Hole Centres (G)	13	13	13	13	13	13	13	13
Hole Centres (J)	58	58	58	58	58	58	58	58
Fixing Hole Size (ØØ)	8.5	8.5	8.5	8.5	8.5	8.5	10.5	10.5

ENCLOSED SWITCHGEAR FOR LU

Following the London Kings Cross fire of 1987, the resulting Fennell enquiry prompted the introduction of additional fire precautions for 'Sub-surface Railway Stations'. These additional requirements were introduced under section 12 of the Fire Precautions Act 1971, and since then have been known simply as Section 12 regs. These regulations have been revoked and partly replaced with:- 'The Fire Precautions (Sub-surface Railway Stations) (England) Regulations 2009.

With this London Underground (LU) isolation range, the overall consideration has been to meet, and where possible exceed, the Section 12 requirements. This has been achieved by the careful selection of individual component materials and the use of only recognised and approved paint finishes.

This range of enclosed Switch Disconnectors have all been designed for the isolation and distribution of electrical supplies, for use on sub-surface and surface railway station installations. They meet the stringent requirements of LUL-TFL fire regulations and international low voltage switchgear standards.





Stainless Steel London Underground (LU) Switchgear

London Underground approved use lid mounted switch-disconnectors designed to provide the user with an assembly that can be installed for indoor or outdoor use, in the harshest of environments.

Available in 25A & 40A ranging from 2P to 6P, these isolators are supplied in 18 gauge stainless steel Grade 304 enclosures in a natural brushed finish with mounting brackets for easy installation. Sealed to IP65, each unit is supplied with captive lid fixing screws with a security head and earthing points on both lid and base plus external earth stud. The die-cast handle is padlockable in both 'Off' and 'On' positions.

Engraved traffolyte labels in various colours can be supplied attached to the side of the enclosure or supplied loose for fitting adjacent to the isolator.





Image	Rating	Format	Interior Switch	Cat. No.	Encl. Size	Encl. Material	IP Rating	Encl. Colour
	25A	2P	GN25	DS252LUL10	C	Stainless Steel Grade 304	IP65	Natural brushed finish (Non Glare)
		3P		DS253LUL10				
		3P+2EB Aux		DS253EBLUL10				
		4P		DS254LUL10				
		6P		DS256LUL10				
		6P+2EB Aux		DS256EBLUL10				
	40A	2P	GN40	DS402LUL10	D	Stainless Steel Grade 304	IP65	Natural brushed finish (Non Glare)
		3P		DS403LUL10				
		3P+2EB Aux		DS403EBLUL10				
		4P		DS404LUL10				
		6P		DS406LUL10				
		6P+2EB Aux		DS406EBLUL10				

Die-Cast Aluminium London Underground (LU) Switchgear

London Underground approved use isolators available in 25A & 40A ranging from 2P to 6P. Designed in Die-Cast Aluminium (LM6) enclosures finished in LU S1085 Compliant Paint Finish. Available in either Light Grey (RAL 7035) or Traffic Red (RAL 3020).

Sealed to IP65, these switch-disconnectors are supplied with pre-finished steel mounting brackets for ease of installation. Each unit is supplied with captive lid fixing screws with a security head and earthing points on both lid and base plus external earth stud. The die-cast handle is padlockable in both 'Off' and 'On' positions.

Engraved traffolyte labels in various colours can be supplied attached to the side of the enclosure or supplied loose for fitting adjacent to the isolator.

Image	Rating	Format	Interior Switch	Cat. No.	Encl. Size	Encl. Material	IP Rating	Encl. Colour
	25A	2P	GN25	DCG252LUL10	A	Die-Cast Aluminium (LM6)	IP65	LU S1085 Compliant Paint Finish: Light Grey (RAL 7035)
		3P		DCG253LUL10				
		3P+2EB Aux		DCG253EBLUL10				
		4P		DCG254LUL10				
		6P		DCG256LUL10				
		6P+2EB Aux		DCG256EBLUL10				
	25A	2P	GN25	DCR252LUL10	A	Die-Cast Aluminium (LM6)	IP65	LU S1085 Compliant Paint Finish: Traffic Red (RAL 3020)
		3P		DCR253LUL10				
		3P+2EB Aux		DCR253EBLUL10				
		4P		DCR254LUL10				
		6P		DCR256LUL10				
		6P+2EB Aux		DCR256EBLUL10				
	40A	2P	R32	DCG402LUL10	B	Die-Cast Aluminium (LM6)	IP65	LU S1085 Compliant Paint Finish: Light Grey (RAL 7035)
		3P		DCG403LUL10				
		3P+2EB Aux		DCG403EBLUL10				
		4P		DCG404LUL10				
		6P		DCG406LUL10				
		6P+2EB Aux		DCG406EBLUL10				
	40A	2P	R32	DCR402LUL10	B	Die-Cast Aluminium (LM6)	IP65	LU S1085 Compliant Paint Finish: Traffic Red (RAL 3020)
		3P		DCR403LUL10				
		3P+2EB Aux		DCR403EBLUL10				
		4P		DCR404LUL10				
		6P		DCR406LUL10				
		6P+2EB Aux		DCR406EBLUL10				

Rating	Description	Catalogue No.
25A	Set of 4 off security lid fixing screws	MR/SEC/FIX
	Security screwdriver bit	MR/SEC/ALLEN KEY
40A	Set of 4 off security lid fixing screws	R40/SEC/FIX
	Security screwdriver bit	R40/SEC/ALLEN

To order spare switch interiors, add suffix 'INT' to the part number e.g.. DCG252LUL10INT



Sheet Steel London Underground (LU) Switchgear

Craig & Derricott offer a range of London underground approved for use switch disconnectors and fuse combination units. Supplied in IP65 sheet steel hinged door enclosures, the range comes standard in a three phase and switched neutral configuration and is generously sized to allow easy cable connection. Current ratings of 40A- 800A for switch disconnectors and 32A- 630A for fuse combination units are offered in this collection.

Each enclosure has removable top and bottom gland plates and a metal anodised aluminium operating handle lockable in both ON and OFF positions. These are also interlocked with the switching device in the ON position preventing unsafe access. All operating handles accept 3 padlocks with a 6.3mm shackle, optional castell locking available on request. For Castell lock option, add suffix '/CL' to the Cat. No. e.g. DCG00403N/LUL2/CL


The switch-disconnector range is fire rated to F200, designed specifically for installations where the supply must be maintained for 120 mins at 200°C.

'N' = switched neutral (Early make, late break)

Switch-Disconnectors								
Image	Rating	Format	Light Grey Cat. No.	Traffic Red Cat. No.	Encl. Size	Encl. Material	IP Rating	Encl. Colour
	40A	3P+N	DCG00403N/LUL2	DCR00403N/LUL2	1	Sheet Steel	IP65	LU S1085 Compliant Paint Finish: Light Grey (RAL 7035)
	63A	3P+N	DCG00633N/LUL2	DCR00633N/LUL2	1			
	80A	3P+N	DCG00803N/LUL2	DCR00803N/LUL2	3			
	100A	3P+N	DCG01003N/LUL2	DCR01003N/LUL2	3			
	125A	3P+N	DCG01253N/LUL2	DCR01253N/LUL2	4			
	160A	3P+N	DCG01603N/LUL2	DCR01603N/LUL2	4			
	200A	3P+N	DCG02003N/LUL2	DCR02003N/LUL2	5			
	250A	3P+N	DCG02503N/LUL2	DCR02503N/LUL2	7			
	315A	3P+N	DCG03153N/LUL2	DCR03153N/LUL2	8			
	400A	3P+N	DCG04003N/LUL2	DCR04003N/LUL2	8			
	630A	3P+N	DCG06303N/LUL2	DCR06303N/LUL2	10			
	800A	3P+N	DCG08003N/LUL2	DCR08003N/LUL2	10			
Fuse Combination Units								
Image	Rating	Format	Light Grey Cat. No.	Traffic Red Cat. No.	Encl. Size	Encl. Material	IP Rating	Encl. Colour
	32A	3P+N	SFDCG00323N/LUL2	SFDCR00323N/LUL2	2	Sheet Steel	IP65	LU S1085 Compliant Paint Finish: Light Grey (RAL 7035)
	63A	3P+N	SFDCG00633N/LUL2	SFDCR00633N/LUL2	2			
	100A	3P+N	SFDCG01003N/LUL2	SFDCR01003N/LUL2	4			
	160A	3P+N	SFDCG01603N/LUL2	SFDCR01603N/LUL2	4			
	200A	3P+N	SFDCG02003N/LUL2	SFDCR02003N/LUL2	6			
	250A	3P+N	SFDCG02503N/LUL2	SFDCR02503N/LUL2	6			
	315A	3P+N	SFDCG03153N/LUL2	SFDCR03153N/LUL2	9			
	400A	3P+N	SFDCG04003N/LUL2	SFDCR04003N/LUL2	9			
	630A	3P+N	SFDCG06303N/LUL2	SFDCR06303N/LUL2	11			

Accessories - Auxiliary Contacts

Add-on auxiliary blocks are available for all hinged door products. All auxiliaries are supplied as 1 N/O+1 N/C pair. All N/O auxiliary contacts are early break with respect to the main poles when switching from 'On' to 'Off'.

Auxiliary Contacts				
Image	Rating	Type	Range	Cat. No.
	32A- 160A	B	Fuse Combination	SAUXKITA
	40A- 200A	A	Switch-Disconnectors	SAUXCO
	200A- 400A	C	Fuse Combination	SAUXKITC
	250A	C	Switch-Disconnectors	SAUXKITB
	630A	B	Fuse Combination	SAUXKITD
	400A- 800A	C	Switch-Disconnectors	SAUXKITC

F400 Fire Rated London Underground (LU) Switchgear

The F400 Fire Rated products range from 20A to 630A, supplied in either IP65 die-cast aluminium or sheet steel enclosures with a Traffic Red (RAL 3020) powder coat finish. Units rated 63A and above are fitted with highly durable anodised aluminium metal handles. All enclosures come standard with padlocking in both 'Off' and 'On'. The interior switches are constructed from a high temperature grade thermoset material, designed specifically for installations where the supply must be maintained for 2 hours at 400°C.

When choosing a switch disconnector enclosure, care must be taken to select the most suitable material taking into account the location, level of pollution, temperature, UV levels, vibration and humidity. Typical enclosure materials include powder painted Die-Cast Aluminium, Mild Steel or Stainless Steel. Enclosures that are sealed to IP65 are commonly mistaken as being suitable for all outside environments. A powder painted mild steel or Aluminium enclosure will degrade and corrode under certain environmental conditions.

Installing enclosures in an external environment may also result in condensation forming on the inside of the enclosure, resembling water ingress. This is caused by a difference in temperature between inner and outer surfaces of the enclosure and the most common solution is to fit an anti-condensation heater within the enclosure. When the isolator is subject to chemical cleaning a stainless steel enclosure is recommended although the correct grade of stainless steel must be selected. If in doubt, please consult our technical department on sales@craigandderricott.com or +44(0)1543 375 541.

Stainless Steel Grade 316L enclosures are available on request for 63A- 630A. Replace 'R' with 'S' in the Cat. No. E.g. F3SDS0633NL.

'N' = switched neutral (Early make, late break) | 'NL' = Unswitched neutral | 'EB' = Early break auxiliary contacts



























Image	Rating	Format	Cat. No.	Encl. Size	Encl. Material	IP Rating	Encl. Colour
	20A	2P	FSDDR0202/LUL	E	Red Die-Cast Aluminium	IP65	LU S1085 Compliant Paint Finish: Traffic Red (RAL 3020)
		3P	FSDDR0203/LUL				
		3P+2E/B Aux	FSDDR0203EB/LUL				
		3P+NL	FSDDR0203NL/LUL				
		4P	FSDDR0204/LUL				
		6P	FSDDR0206/LUL				
	32A	6P+2E/B Aux	FSDDR0206EB/LUL	B	Red Die-Cast Aluminium	IP65	LU S1085 Compliant Paint Finish: Traffic Red (RAL 3020)
		2P	FSDDR0322/LUL				
		3P	FSDDR0323/LUL				
		3P+2E/B Aux	FSDDR0323EB/LUL				
		3P+NL	FSDDR0323NL/LUL				
		4P	FSDDR0324/LUL				
	6P	FSDDR0326 /LUL					
	6P+2E/B Aux	FSDDR0326EB/LUL					
	63A	3P+NL	FSDMR0633NL/LUL	C	Red Sheet Steel	IP65	LU S1085 Compliant Paint Finish: Traffic Red (RAL 3020)
		3P+2E/B Aux	FSDMR0633EB/LUL				
	80A	3P + 2E/B Aux	FSDMR0803EB/LUL	3A	Red Sheet Steel	IP65	LU S1085 Compliant Paint Finish: Traffic Red (RAL 3020)
		4P	FSDMR0804/LUL				
	100A	4P	FSDMR01004/LUL	D	Red Sheet Steel	IP65	
	125A	3P	FSDMR01253/LUL	D	Red Sheet Steel	IP65	
		3P + 2E/B Aux	FSDMR01253EB/LUL				
		4P	FSDMR01254/LUL				
	160A	4P	FSDMR01604/LUL	5	Red Sheet Steel	IP65	
	200A	4P	FSDMR02004/LUL	5	Red Sheet Steel	IP65	
	250A	4P	FSDMR02504/LUL	5	Red Sheet Steel	IP65	
	315A	4P	FSDMR03154/LUL	6	Red Sheet Steel	IP65	
	400A	4P	FSDMR04004/LUL	6	Red Sheet Steel	IP65	
	630A	4P	FSDMR06304/LUL	8	Red Sheet Steel	IP65	

Important Note:

When choosing the product for your application please ensure the size of the Fire rate cable will be suitable for the available cable entry sizes.











Technical Specification - London Underground Switchgear

Data supplied against tests to IEC/BS EN 60947-3

F400 Fire Rated Switch-Disconnectors															
Application	Sym.	Unit	Category	20A	32A	63A	80A	100A	125A	160A	200A	250A	315A	400A	630A
Rated thermal current	I _{the}	A		20	32	63	80	100	125	160	200	250	315	400	630
Rated insulation voltage	U _i	V		690	690	690	690	690	690	1000	1000	1000	1000	1000	1000
Rated impulse voltage	U _{imp}	kV		6.0	6.0	6.0	6.0	6.0	6.0	12.0	12.0	12.0	12.0	12.0	12.0
Rated operational power (3 phase AC)	I _e / P _e	A/kW	415V- AC23A	20 / 9.5	32 / 15	40 / 18.5	80 / 40	90 / 47.5	100 / 55	160 / 90	200 / 110	250 / 132	315 / 175	400 / 200	630 / 315
			690V- AC23A	-	-	-	-	-	-	160 / 150	200 / 190	250 / 200	315 / 300	350 / 315	350 / 355
			690V- AC23B	20 / 9.5	20 / 9.5	20 / 9.5	-	-	-	-	-	-	-	-	-
			660V- AC23B	-	-	-	30 / 22	30 / 22	30 / 22	-	-	-	-	-	-
Short circuit withstand (1 sec)	I _{cw}	kA	RMS value	-	-	-	1.5	1.5	1.5	8.0	8.0	8.0	17.0	17.0	17.0
Conditional Short Circuit Current	Fuse gG	kA/ Fuse (A)	415V	50 / 32	50 / 32	50 / 63	50 / 150	50 / 150	50 / 200	50 / 160	50 / 200	50 / 250	-	-	-
		690V	40 / 32	40 / 32	40 / 63	50 / 63	50 / 63	50 / 63	50 / 160	50 / 200	50 / 250	50 / 315	50 / 400	100 / 630	
Recommended connecting capacity		-	Terminal type												
		mm ²	Flexible cable	≤ 4.0	6	16	50	50	50	95	95	120	2 / 150	2 / 150	2 / 185
		mm ²	Rigid cable	≤ 4.0	10	25	35	35	50	95	95	120	2 / 150	2 / 150	2 / 185
		mm	Stud/Cu Palm Width	-	-	-	M10 / 21	M10 / 21	M10 / 21	M10 / 30	M10 / 30	M10 / 30	M10 / 40	M10 / 40	M12 / 40
		Nm	Tightening torque	1.2	1.2	3.0	12.0	12.0	12.0	35.0	35.0	35.0	35.0	35.0	50.0
Sheet Steel Hinged Door Switch-Disconnectors															
Application	Sym	Unit	Category	40	63	80	100	125	160	200	250	315	400	630	800
Rated thermal current	I _{the}	A		40	63	80	100	125	160	200	250	315	400	630	720
Rated insulation voltage	U _i	V		690	690	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Rated impulse voltage	U _{imp}	kV		6	6	8	8	8	8	8	12	12	12	12	12
Rated operational current (AC)	I _e	A	400V- AC23A	35.1	48	56	100	112	128	128	250	315	400	630	720
Rated operational power	P _e	kW	400 / 415V- AC23A	8.5	25	30	59	63	75	75	132	160	200	315	355
Short circuit making capacity	I _{cm}	kA	Peak value	2.7	2.9	3.0	3.7	4.0	5.0	5.0	35	35	65	80	80
Short circuit withstand (1sec)	I _{cw}	kA	rms value	1.1	1.3	2	2.6	2.8	3.0	3.0	8	8	17	17	17
Min. mechanical endurance		-	Operations (10 ³)	250	250	50	50	50	50	50	16	16	10	10	10
Min. electrical endurance		-	415V- at 0.65 pf	-	-	-	-	-	-	-	1,000	1,000	1,000	500	500
Connecting capacity		-	Terminal type												
		mm ²	Min/Max	2.5/25	2.5/25	-/50	-/50	-/70	-/95	-/95	120	2x150	2x150	2x185	2x240
		mm	Stud/Cu palm width	-	-	-	-	-	8x25	8x25	10x30	10x30	10x30	12x40	12x40
		Nm	Tightening torque	1.3	1.3	5	5	5	12	12	25	25	25	40	40

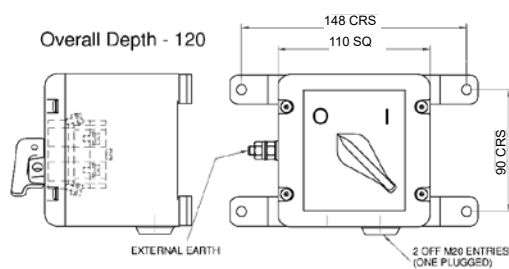
Technical Specification - London Underground Switchgear

Data supplied against tests to IEC/BS EN 60947-3

Sheet Steel Hinged Door Fuse Combination Units														
Application		Sym	Unit	Category	32	63	100	125	160	200	250	315	400	630
Rated thermal current		I _{the}	A		32	63	100	125	160	200	250	315	400	630
Rated insulation voltage		U _i	V		750	750	750	750	750	750	750	750	750	750
Rated impulse voltage		U _{imp}	kV		12	12	12	12	12	12	12	12	12	12
Rated operational current	AC	I _e	A	415V- AC23A	32	63	100	125	160	200	250	315	400	630
	DC			220V- DC23A	-	-	100	125	160	200	250	315	400	630
Rated operational power @ 0.75pf		P _e	kW	400/415- AC23A	17.2	33.9	53.9	67.3	86.2	107.8	134.7	169.8	215.6	339.6
Rated making capacity (AC23A)			A	415V, 0.35 pf	320	630	1,000	1,250	1,600	2,000	2,500	3,150	4,000	6,300
Rated breaking capacity (AC23A)			A	415V, 0.35 pf	256	504	800	1,000	1,280	1,600	2,000	2,520	3,200	5,040
Rated Conditional (Fused) short circuit		kA	S/C current rms	80	80	80	80	80	80	80	80	80	80	80
		A	back-up fuse	32	63	100	125	160	200	250	315	400	630	630
Min. mechanical endurance			-	Operations	25,000	25,000	15,000	15,000	15,000	10,000	10,000	10,000	10,000	6,000
Min. electrical endurance			-	415V- at 0.65 pf	1,500	1,500	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
BS fuse format					A2	A2	A4	A4	B1, B2	B1, B2	B1, B2	B1, B4	B1, B4	C1, C3
Connecting capacity		-	Terminal type											
		mm ²	Min/Max	16	25	95	95	120	240	240	300	300	400	
		mm	Stud/Cu palm width	-	-	8x20	8x20	8x20	10x25	10x25	10x25	10x25	10x25	12x50
		Nm	Tightening torque	2.5	2.5	10	12	16	25	30	35	45	50	50
Stainless Steel & Die-Cast Aluminium Fixed Lid Switch-Disconnectors														
Application				Sym	Unit	Category			GN25		R32		GN40	
Rated thermal current				I _{the}	A				25		40		40	
Rated insulation voltage				U _i	V				690		690		690	
Rated impulse voltage				U _{imp}	kV				6		6		6	
Rated operational voltage					V				480		415		480	
Rated operational power					kW	AC23A @ 380V/440V			11		15		18.5	
Max fuse size for short circuit protection				I _n	(gG/gI)	25kA			25		40		40	
						50kA			-		40		40	
Mechanical life						Switching cycles			5x10 ⁶		10 ⁶		5x10 ⁶	
Terminal screw size									M3.5		M4		M4	
Terminal capacity					2xmm ²	max r/f			4/4		6/6		10/6	
									10/12		10/10		8/10	
					2xmm ²	min r/f			0.5/0.5		1/1		1.5/1.5	
									20/20		18/18		16/16	

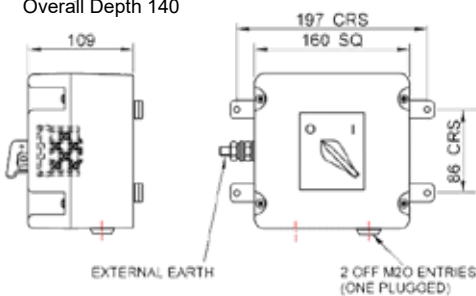
LU Die-Cast Aluminium Switchgear

Size A



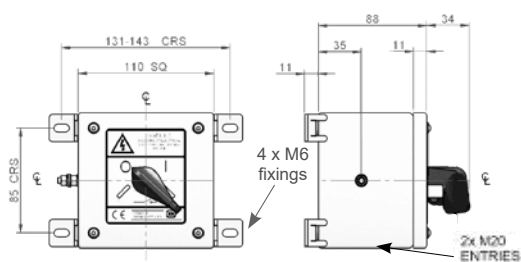
Size B

Overall Depth 140

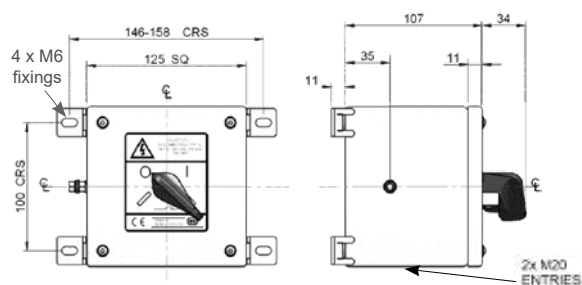


LU Stainless Steel Switchgear

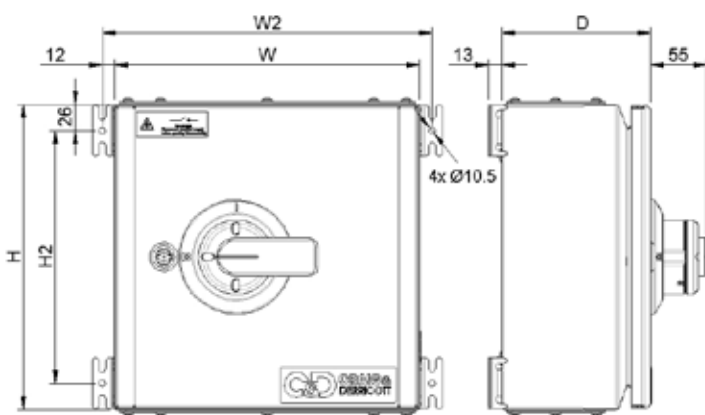
Size C



Size D



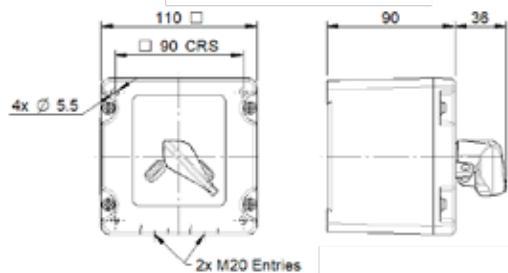
LU Sheet Steel Switchgear



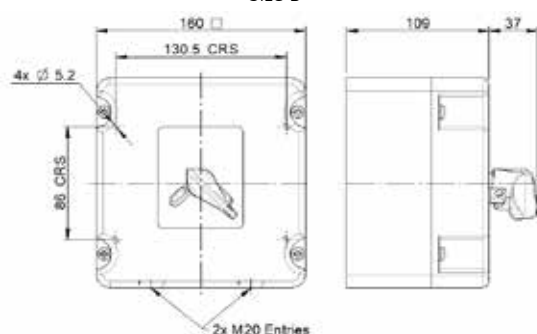
Encl Size	Dimensions (mm)				
	H	W	D	H2	W2
1	300	300	150	248	324
2	400	400	200	348	324
3	400	300	150	348	324
4	500	400	200	448	424
5	600	400	200	548	424
6	600	600	300	548	424
7	600	500	200	548	524
8	800	600	200	748	624
9	800	600	300	748	624
10	1000	600	300	948	624
11	1000	800	300	948	624

LU Fire Rated Switchgear

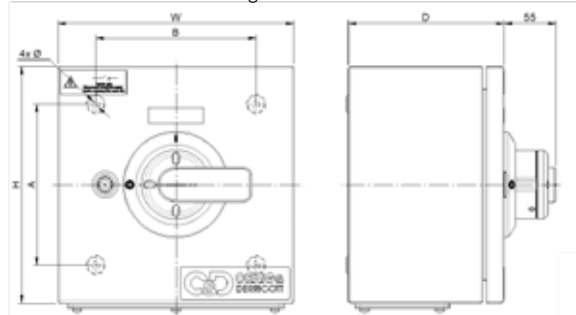
Size E



Size B



Hinged Door



Enclosure Dimensions	C	3A	D	5	6	8
Height (H)	250	350	480	550	750	900
Width (W)	250	300	240	450	450	600
Depth (D)	165	175	238	250	275	300
Vertical Fixing CRS (A)	188	270	400	470	670	820
Horizontal Fixing CRS (B)	188	220	160	370	370	520
Fixing Hole Size (Ø)	8.5	8.5	8.5	8.5	8.5	10.5

AUTOMATIC TRANSFER SWITCHES

Automatic Transfer Switches (ATS) are essential wherever substantial power must be maintained. Whether it's to ensure people's safety in a work or public space, or to maintain essential supplies to a vital process, the fast and efficient transfer of power is automatically managed by the ATS system. The second source of power can either be from a generator or from an alternative/stand-by source. Either of which can be accommodated in Craig & Derricott's range of ATS systems.

Ratings from 32A to 800A, these ATS units are sealed up to IP65 and are suitable for all internal installations. For external use, the ATS should be specified with Stainless Steel enclosures that include an integral anti-condensation heater & breather.

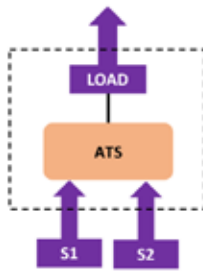
Craig & Derricott have designed their ATS units to be operational in a variety of installations such as hospitals, water distribution facilities, airports, banking computers, data centres, shopping centres, offices, apartments and railway - wherever there is a critical need for the automatic transfer of power from permanent (S1) to an alternative (S2) supply.

Contact our sales team on +44 (0) 1543 375 541 for more information.



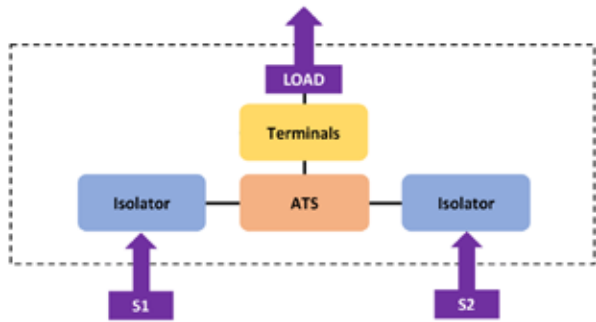
Standard ATS

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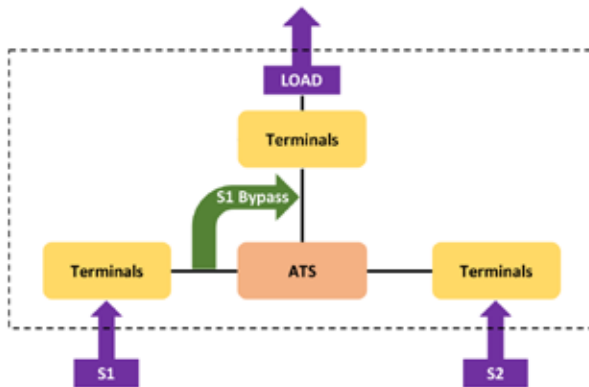
Standard ATS with Isolators

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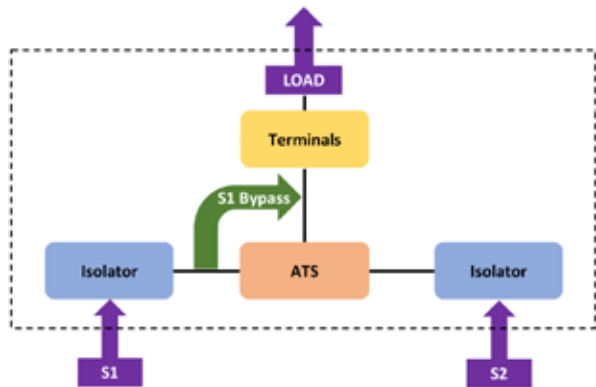
Single Line Bypass ATS

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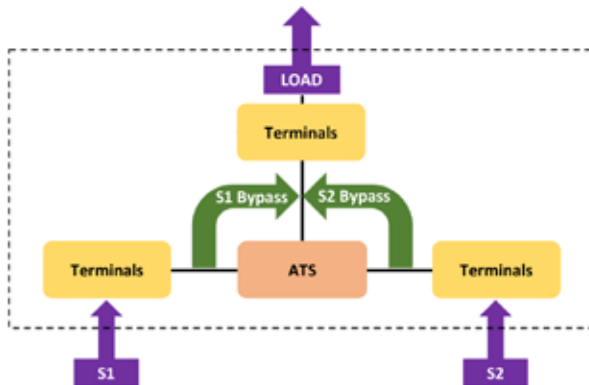
Single Line Bypass ATS with Isolators

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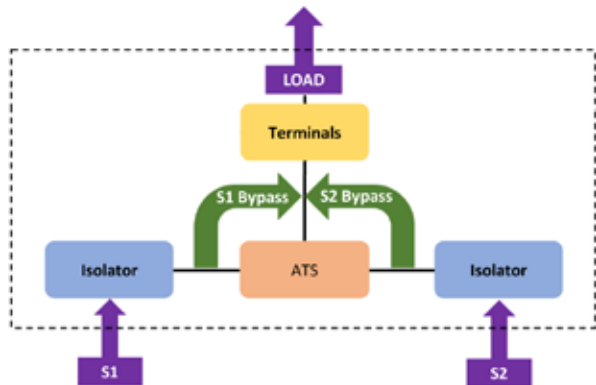
Dual Line Bypass ATS

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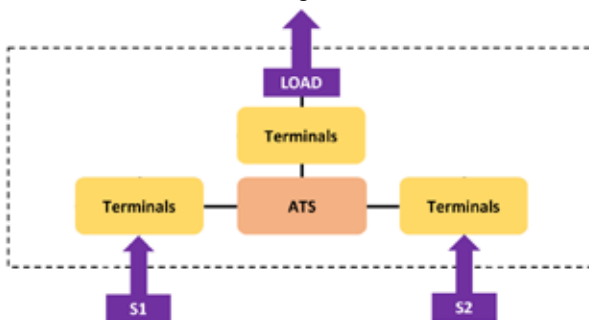
Dual Line Bypass ATS with Isolators

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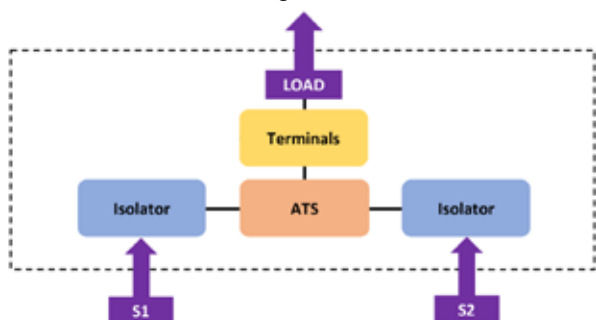
London Underground ATS

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London Underground ATS with Isolators

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Standard Automatic Transfer Switches (ATS)

At the core of each system is a four-pole contactor changeover device. Rated 230V or 400V AC the 'Standard' range utilises electromechanical interlocked 4 pole AC1/AC3 rated contactors and provides all the essential requirements for automatically switching to a replacement power source. Units are rated from 32A to 800A with a rated frequency of 50/60Hz.

The Single or Three-phase ATS units allow automatic connection of a secondary electrical supply to a load upon failure of the primary supply. Supplied in sheet steel enclosures up to IP65 with a light grey (RAL 7035) paint finish, each enclosure comes standard with a removable gland plate(s). Each ATS unit comes standard with terminals for easy connection of a mimic panel. Volt-Free Status Relays are included within the ATS unit in order to connect to the BMS (building management system) installed within the building.

Each unit comes with a built-in controller designed to monitor the voltage of an incoming AC supply from two different sources. This could be from both generator or mains (utility), or a combination of both. The module monitors S1 (Source 1) and in the event of a failure issues a start command to S2 (Source 2). The main LED indicator lights show the status of the supplies. An Auto / test switch is supplied with a set of 2 keys.


Applied standards: BS EN / IEC 60947-4 & BS EN / IEC 60947-6-1.

Standard ATS											
Image	Rating		Cat. No.		Encl. size (mm)			Max Cable Size	Cable Entry	IP Rating	Encl. Material
	AC1	AC3	Single Phase	Three Phase	H	W	D				
	32A	18A	ATS03220000	ATS03240000	400	300	150	6mm ²	Bottom	IP65	Sheet Steel Light Grey RAL 7035
	45A	26A	ATS04520000	ATS04540000	400	300	150	10mm ²	Bottom	IP65	
	63A	40A	ATS06320000	ATS06340000	600	400	300	16mm ²	Bottom	IP65	
	100A	65A	ATS10020000	ATS10040000	600	400	300	35mm ²	Bottom	IP65	
	125A	95A	ATS12520000	ATS12540000	600	400	300	50mm ²	Bottom	IP65	
	160A	115A	ATS16020000	ATS16040000	600	400	300	70mm ²	Bottom	IP65	
	250A	150A	ATS25020000	ATS25040000	800	600	300	120mm ²	Top	IP55	
	400A	320A	ATS40020000	ATS40040000	800	600	300	240mm ²	Top	IP55	
	630A	520A	ATS63020000	ATS63040000	1200	800	400	2x185mm ²	Top	IP55	
	800A	630A	ATS80020000	ATS80040000	1200	800	400	2x300mm ²	Top	IP55	

Standard ATS with Isolators

This option includes two separate isolators built-in, providing the ability to isolate both supplies. Isolators are separated from and changeover equipment using rigid, metallic barriers resulting in Form 4, type 2 separation.

Applied standards: BS EN / IEC 60947-4 & BS EN / IEC 60947-6-1.

Standard ATS with Isolators											
Image	Rating		Cat. No.		Encl. size (mm)			Max Cable Size	Cable Entry	IP Rating	Encl. Material
	AC1	AC3	Single Phase	Three Phase	H	W	D				
	32A	18A	ATS03220200	ATS03240200	600	600	300	16mm ²	Bottom	IP65	Sheet Steel Light Grey RAL 7035
	45A	26A	ATS04520200	ATS04540200	600	600	300	16mm ²	Bottom	IP65	
	63A	40A	ATS06320200	ATS06340200	800	600	300	2 x 70mm ²	Bottom	IP65	
	100A	65A	ATS10020200	ATS10040200	800	600	300	2 x 70mm ²	Bottom	IP65	
	125A	95A	ATS12520200	ATS12540200	800	600	300	2 x 70mm ²	Bottom	IP65	
	160A	115A	ATS16020200	ATS16040200	800	600	300	2 x 70mm ²	Bottom	IP65	
	250A	150A	ATS25020400	ATS25040400	1600	1000	400	2x 240mm ²	Top	IP55	
	400A	320A	ATS40020400	ATS40040400	1600	1000	400	2x 240mm ²	Top	IP55	
	630A	520A	ATS63020400	ATS63040400	1800	1000	400	2x 300mm ²	Top	IP55	
	800A	630A	ATS80020400	ATS80040400	1800	1000	400	2x 300mm ²	Top	IP55	

Single Line Bypass Automatic Transfer Switches (ATS)


At the core of each system is a four-pole contactor changeover device. Rated 230V or 400V AC the 'Single-line Bypass' range utilises electromechanical interlocked 4 pole AC1/AC3 rated contactors and provides all the essential requirements for automatically switching to a replacement power source. Units are rated from 32A to 800A with a rated frequency of 50/60Hz.

The Single or Three-phase ATS units allow automatic connection of a secondary electrical supply to a load upon failure of the primary supply. The Single-line bypass function isolates the ATS by bypassing the incoming (S1) supply directly to the outgoing load, enabling essential maintenance in accordance with BS8519:2010 (life safety recommendations). The key advantage is that the supply to the load is maintained whilst service and repairs can be carried out on the ATS unit.

Supplied in sheet steel enclosures up to IP65 with a light grey (RAL 7035) paint finish, each enclosure comes standard with a removable gland plate(s). Each ATS unit comes standard with terminals for easy connection of a mimic panel. Volt-Free Status Relays are included within the ATS unit in order to connect to the BMS (building management system) installed within the building.

Each unit comes with a built-in controller designed to monitor the voltage of an incoming AC supply from two different sources. This could be from both generator or mains (utility), or a combination of both. The module monitors S1 (Source 1) and in the event of a failure issues a start command to S2 (Source 2). The main LED indicator lights show the status of the supplies. An Auto / test switch is supplied with a set of 2 keys.


Applied standards: BS EN / IEC 60947-4 & BS EN / IEC 60947-6-1.

Single Line Bypass ATS											
Image	Rating		Cat. No.		Encl. size (mm)			Max Cable Size	Cable Entry	IP Rating	Encl. Material
	AC1	AC3	Single Phase	Three Phase	H	W	D				
	32A	18A	ATS03220110	ATS03240110	800	600	300	16mm ²	Bottom	IP65	Sheet Steel Light Grey RAL 7035
	45A	26A	ATS04520110	ATS04540110	800	600	300	16mm ²	Bottom	IP65	
	63A	40A	ATS06320110	ATS06340110	1200	600	300	2 x 70mm ²	Bottom	IP65	
	100A	65A	ATS10020110	ATS10040110	1200	600	300	2 x 70mm ²	Bottom	IP65	
	125A	95A	ATS12520110	ATS12540110	1200	600	300	2 x 70mm ²	Bottom	IP65	
	160A	115A	ATS16020110	ATS16040110	1200	600	300	2 x 70mm ²	Bottom	IP65	
	250A	150A	ATS25020310	ATS25040310	1800	1000	400	2x 240mm ²	Top	IP55	
	400A	320A	ATS40020310	ATS40040310	1800	1000	400	2x 240mm ²	Top	IP55	
	630A	520A	ATS63020310	ATS63040310	2000	1200	400	2x 300mm ²	Top	IP55	
	800A	630A	ATS80020310	ATS80040310	2000	1200	400	2x 300mm ²	Top	IP55	

Single Line Bypass ATS with Isolators

This option includes two separate isolators built-in, providing the ability to isolate both supplies. Isolators are separated from and changeover equipment using rigid, metallic barriers resulting in Form 4, type 2 separation.

Applied standards: BS EN / IEC 60947-4 & BS EN / IEC 60947-6-1.

Single Line Bypass ATS with Isolators											
Image	Rating		Cat. No.		Encl. size (mm)			Max Cable Size	Cable Entry	IP Rating	Encl. Material
	AC1	AC3	Single Phase	Three Phase	H	W	D				
	32A	18A	ATS03220210	ATS03240210	800	600	300	16mm ²	Bottom	IP65	Sheet Steel Light Grey RAL 7035
	45A	26A	ATS04520210	ATS04540210	800	600	300	16mm ²	Bottom	IP65	
	63A	40A	ATS06320210	ATS06340210	1200	600	300	2 x 70mm ²	Bottom	IP65	
	100A	65A	ATS10020210	ATS10040210	1200	600	300	2 x 70mm ²	Bottom	IP65	
	125A	95A	ATS12520210	ATS12540210	1200	600	300	2 x 70mm ²	Bottom	IP65	
	160A	115A	ATS16020210	ATS16040210	1200	600	300	2 x 70mm ²	Bottom	IP65	
	250A	150A	ATS25020410	ATS25040410	1800	1000	400	2x 240mm ²	Top	IP55	
	400A	320A	ATS40020410	ATS40040410	1800	1000	400	2x 240mm ²	Top	IP55	
	630A	520A	ATS63020410	ATS63040410	2000	1200	400	2x 300mm ²	Top	IP55	
	800A	630A	ATS80020410	ATS80040410	2000	1200	400	2x 300mm ²	Top	IP55	

Dual Line Bypass Automatic Transfer Switches (ATS)


At the core of each system is a four-pole contactor changeover device. Rated 230V or 400V AC the 'Dual-line Bypass' range utilises electromechanical interlocked 4 pole AC1/AC3 rated contactors and provides all the essential requirements for automatically switching to a replacement power source. Units are rated from 32A to 800A with a rated frequency of 50/60Hz.

The Single or Three-phase ATS units allow automatic connection of a secondary electrical supply to a load upon failure of the primary supply. The Dual Line Bypass function isolates the ATS by bypassing the (S1) supply or the (S2) supply directly to the outgoing load, enabling essential maintenance in accordance with BS8519:2010 (life safety recommendations). The key advantage is that both the (S1) supply and (S2) supply to the load can be maintained whilst service and repairs can be carried out on the ATS unit.

Supplied in sheet steel enclosures up to IP65 with a light grey (RAL 7035) paint finish, each enclosure comes standard with a removable gland plate(s). Each ATS unit comes standard with terminals for easy connection of a mimic panel. Volt-Free Status Relays are included within the ATS unit in order to connect to the BMS (building management system) installed within the building.

Each unit comes with a built-in controller designed to monitor the voltage of an incoming AC supply from two different sources. This could be from both generator or mains (utility), or a combination of both. The module monitors S1 (Source 1) and in the event of a failure issues a start command to S2 (Source 2). The main LED indicator lights show the status of the supplies. An Auto / test switch is supplied with a set of 2 keys.


Applied standards: BS EN / IEC 60947-4 & BS EN / IEC 60947-6-1.

Dual Line Bypass ATS											
Image	Rating		Cat. No.		Encl. size (mm)			Max Cable Size	Cable Entry	IP Rating	Encl. Material
	AC1	AC3	Single Phase	Three Phase	H	W	D				
	32A	18A	ATS03220120	ATS03240120	800	600	300	16mm ²	Bottom	IP65	Sheet Steel Light Grey RAL 7035
	45A	26A	ATS04520120	ATS04540120	800	600	300	16mm ²	Bottom	IP65	
	63A	40A	ATS06320120	ATS06340120	1200	800	300	2 x 70mm ²	Bottom	IP65	
	100A	65A	ATS10020120	ATS10040120	1200	800	300	2 x 70mm ²	Bottom	IP65	
	125A	95A	ATS12520120	ATS12540120	1200	800	300	2 x 70mm ²	Bottom	IP65	
	160A	115A	ATS16020120	ATS16040120	1200	800	300	2 x 70mm ²	Bottom	IP65	
	250A	150A	ATS25020320	ATS25040320	1800	1000	400	2x 240mm ²	Top	IP55	
	400A	320A	ATS40020320	ATS40040320	1800	1000	400	2x 240mm ²	Top	IP55	
	630A	520A	ATS63020320	ATS63040320	2000	1200	400	2x 300mm ²	Top	IP55	
	800A	630A	ATS80020320	ATS80040320	2000	1200	400	2x 300mm ²	Top	IP55	

Dual Line Bypass ATS with Isolators

This option includes two separate isolators built-in, providing the ability to isolate both supplies. Isolators are separated from and changeover equipment using rigid, metallic barriers resulting in Form 4, type 2 separation.

Applied standards: BS EN / IEC 60947-4 & BS EN / IEC 60947-6-1.

Dual Line Bypass ATS with Isolators											
Image	Rating		Cat. No.		Encl. size (mm)			Max Cable Size	Cable Entry	IP Rating	Encl. Material
	AC1	AC3	Single Phase	Three Phase	H	W	D				
	32A	18A	ATS03220220	ATS03240220	800	600	300	16mm ²	Bottom	IP65	Sheet Steel Light Grey RAL 7035
	45A	26A	ATS04520220	ATS04540220	800	600	300	16mm ²	Bottom	IP65	
	63A	40A	ATS06320220	ATS06340220	1200	800	300	2 x 70mm ²	Bottom	IP65	
	100A	65A	ATS10020220	ATS10040220	1200	800	300	2 x 70mm ²	Bottom	IP65	
	125A	95A	ATS12520220	ATS12540220	1200	800	300	2 x 70mm ²	Bottom	IP65	
	160A	115A	ATS16020220	ATS16040220	1200	800	300	2 x 70mm ²	Bottom	IP65	
	250A	150A	ATS25020420	ATS25040420	1800	1000	400	2x 240mm ²	Top	IP55	
	400A	320A	ATS40020420	ATS40040420	1800	1000	400	2x 240mm ²	Top	IP55	
	630A	520A	ATS63020420	ATS63040420	2000	1200	400	2x 300mm ²	Top	IP55	
	800A	630A	ATS80020420	ATS80040420	2000	1200	400	2x 300mm ²	Top	IP55	


London Underground Automatic Transfer Switches (ATS)

At the core of each system is a four-pole contactor changeover device. Rated 230V or 400V AC the 'Standard' range utilises electromechanical interlocked 4 pole AC1/AC3 rated contactors and provides all the essential requirements for automatically switching to a replacement power source. Units are rated from 32A to 800A with a rated frequency of 50/60Hz.

The Single or Three-phase ATS units allow automatic connection of a secondary electrical supply to a load upon failure of the primary supply. Supplied in stainless steel enclosures (304) up to IP65, each enclosure comes standard with a removable gland plate(s), anti-condensation heater and breather plug. Each ATS unit comes standard with terminals for easy connection of a mimic panel. Volt-Free Status Relays are included within the ATS unit in order to connect to the BMS (building management system) installed within the building.

Each unit comes with a built-in DSE334 controller designed to monitor the voltage of an incoming AC supply from two different sources. This could be from both generator or mains (utility), or a combination of both. The module monitors S1 (Source 1) and in the event of a failure issues a start command to S2 (Source 2). The main LED indicator lights show the status of the supplies. An Auto / test switch is supplied with a set of 2 keys.


Applied standards: BS EN / IEC 60947-4 & BS EN / IEC 60947-6-1.

London Underground ATS											
Image	Rating		Cat. No.		Encl. size (mm)			Max Cable Size	Cable Entry	IP Rating	Encl. Material
	AC1	AC3	Single Phase	Three Phase	H	W	D				
	32A	18A	ATS03221101	ATS03241101	400	300	150	16mm ²	Bottom	IP65	Stainless Steel 304
	45A	26A	ATS04521101	ATS04541101	400	300	150	16mm ²	Bottom	IP65	
	63A	40A	ATS06321101	ATS06341101	600	400	300	2 x 70mm ²	Bottom	IP65	
	100A	65A	ATS10021101	ATS10041101	600	400	300	2 x 70mm ²	Bottom	IP65	
	125A	95A	ATS12521101	ATS12541101	600	400	300	2 x 70mm ²	Bottom	IP65	
	160A	115A	ATS16021101	ATS16041101	600	400	300	2 x 70mm ²	Bottom	IP65	
	250A	150A	ATS25021101	ATS25041101	800	600	300	2x 240mm ²	Bottom	IP55	
	400A	320A	ATS40021101	ATS40041101	800	600	300	2x 240mm ²	Bottom	IP55	
	630A	520A	ATS63021101	ATS63041101	1200	800	400	2x 300mm ²	Bottom	IP55	
	800A	630A	ATS80021101	ATS80041101	1200	800	400	2x 300mm ²	Bottom	IP55	

London Underground ATS with Isolators




This option includes two separate isolators built-in, providing the ability to isolate both supplies. Isolators are separated from and changeover equipment using rigid, metallic barriers resulting in Form 4, type 2 separation.

Applied standards: BS EN / IEC 60947-4 & BS EN / IEC 60947-6-1.

London Underground ATS with Isolators											
Image	Rating		Cat. No.		Encl. size (mm)			Max Cable Size	Cable Entry	IP Rating	Encl. Material
	AC1	AC3	Single Phase	Three Phase	H	W	D				
	32A	18A	ATS03221201	ATS03241201	600	600	300	16mm ²	Bottom	IP65	Stainless Steel 304
	45A	26A	ATS04521201	ATS04541201	600	600	300	16mm ²	Bottom	IP65	
	63A	40A	ATS06321201	ATS06341201	800	600	300	2 x 70mm ²	Bottom	IP65	
	100A	65A	ATS10021201	ATS10041201	800	600	300	2 x 70mm ²	Bottom	IP65	
	125A	95A	ATS12521201	ATS12541201	800	600	300	2 x 70mm ²	Bottom	IP65	
	160A	115A	ATS16021201	ATS16041201	800	600	300	2 x 70mm ²	Bottom	IP65	
	250A	150A	ATS25021201	ATS25041201	1600	1000	400	2x 240mm ²	Bottom	IP55	
	400A	320A	ATS40021201	ATS40041201	1600	1000	400	2x 240mm ²	Bottom	IP55	
	630A	520A	ATS63021201	ATS63041201	1800	1000	400	2x 300mm ²	Bottom	IP55	
	800A	630A	ATS80021201	ATS80041201	1800	1000	400	2x 300mm ²	Bottom	IP55	

Mimic Panels

A range of remote status mimic panels are available to support the ATS units. The mimic panel remotely indicates the status of the ATS. Supplied in IP65 sheet steel enclosure with removable top and bottom gland plates. Each remote mimic panel is supplied with terminals allowing for quick & easy installation. Stainless steel grade 304 enclosure are available on request. Add suffix 'SS' to catalogue no. E.g. ATSINDSLSS


Mimic Indication Panels					
Image	Type	Cat. No.	Encl. size	IP Rating	Encl. Material
	Standard	ATSINDSTD	300 x 300 x 150	IP65	Sheet Steel Light Grey RAL 7035
	Single Line Bypass	ATSINDSL	300 x 300 x 150	IP65	Sheet Steel Light Grey RAL 7035
	Dual Line Bypass	ATSINDDL	300 x 300 x 150	IP65	Sheet Steel Light Grey RAL 7035

ATS Optional Features

Craig & Derricott can supply various options of equipment that include motorised switches, motorised MCCB's (CB class ATS's), overlapping neutral's, programmable ATS controllers and alternative cable access arrangements.

Motorised Switch Automatic Transfer Switches (ATS)

The motorised ATS range is the CB class product of a new generation combined with advanced digital electronic control technique. The product features compactness, energy conservation and dual-interlock protection.

Image	Key Features
	Compactness - Single motor driven actuator, operating two circuit breaker devices with an LED integral electronic monitoring module
	Energy saving - The product only requires power when changing position from S1 (Duty supply) to S2 (Standby supply) or back from S2 to S1 resulting in increased reliable service life and lower running costs.
	Dual interlock protection - the electromechanical interlock prevents two power sources from being connected simultaneously.
	The integral electronic monitoring display module is mounted behind a secure door for access to operate the ATS manually or to change settings of the ATS operation.

Solenoid Automatic Transfer Switches (ATS) - Overlapping Neutral

This range is an all-in-one automatic transfer switch, engineered to incorporate switch and controller in one seamless unit. Performance tested beyond standard requirements, this unit stands ready to ensure the steady delivery of critical power at all times. Its self-contained design reduces the number of wires and connections, which speeds installation and ensures best-in-class reliability. Its predictive maintenance and modular components reduce downtime and service costs. And its advanced connectivity is ready for the future. In addition, unlike typical ATS solutions, this range allows emergency manual operation under load for immediate power restoration in the event of equipment malfunction.

Image	Key Features
	The unit enables emergency manual operation - even under load - without opening the panel door when the HMI is mounted to the ATS frame. The HMI can be detached from the frame for door mounting, offering more flexibility for the panel designer.
	Each ATS features predictive maintenance, self diagnostics and customer-replaceable critical modules to simplify service and significantly reduce downtime and service costs.
	Full compatibility with BMS systems allows data processing from the site's electrical equipment to deliver analysis and make recommendations for optimizing the electrical system's performance. This allows remote monitoring of plants, energy consumption and costs at a glance, making implementation of energy management strategies easier and faster.
	Overlapping neutral - the neutral is maintained when switching from one supply to another.

Contact our sales team on +44 (0) 1543 375 541 for more information.

Craig & Derricott has been associated with the design and manufacture of Ex products for more than 30 years. The current product range has been developed to meet the technical requirements of today's market and a great deal of the design consideration has been given to bringing a quality product to the market at a competitive price.



Explosion Proof - Zone 1, 2, 21 and 22 EXe

The 'EXZ1' range of enclosed switch-disconnectors are supplied in Exe enclosures manufactured from glass reinforced polyester sealing to IP65 ensuring the product will withstand being installed in the harshest of industrial environments.

The operating handles come standard in Red/Yellow and can be padlocked in the 'Off' position. All lids are mechanically interlocked with the isolating switch and are removable in the 'On' position only. If you would require a black handle instead please replace R in the Cat. No. with a B e.g. EXZ1SDB02530.

Available in ratings from 25A- 180A the isolating switch interiors are supplied in either 3 or 4 pole formats complete with 1 N/O (Early break) & 1 N/C (Late make) auxiliary contacts.

Optional Brass Earthing Plates are available on request to enable armoured cables to be earth bonded within the insulated enclosure a selection of pre-drilled earthing plates are available for each enclosure size.

Key to Marking

	Specific marking for Explosion protection	II	Equipment group
2		2	Equipment category
G		G	Environment e.g. Gas

Image	Rating	Format	Cat. No.	Optional Brass Earthing Plate Cat. No.	Encl. Size	IP Rating	Equipment Marking	Min & Max Temp.
	25A	3P+Aux	EXZ1SDR02530	EXEP0254	A	IP65	25A  II2GD Ex de IIC T6 Gb Ex tb IIIC T80°C Db	-40°C to +40°C
		4P+Aux	EXZ1SDR02540				25A  II2GD Ex de IIC T5 Gb Ex tb IIIC T95°C Db	-40°C to +55°C
	40A	3P+Aux	EXZ1SDR04030	EXEP0404	B	IP65	40A  II2GD Ex de IIC T6 Gb Ex tb IIIC T80°C Db	-40°C to +40°C
		4P+Aux	EXZ1SDR04040				40A  II2GD Ex de IIC T5 Gb Ex tb IIIC T95°C Db	-40°C to +55°C
	80A	3P+Aux	EXZ1SDR08030	EXEP0804	C	IP65	80A  II2GD Ex de IIC T6 Gb Ex tb IIIC T80°C Db	-40°C to +40°C
		4P+Aux	EXZ1SDR08040				80A  II2GD Ex de IIC T5 Gb Ex tb IIIC T95°C Db	-40°C to +55°C
	180A	3P+Aux	EXZ1SDR18030	EXEP1804	D	IP65	180A  II2GD Ex de IIC T5 Gb Ex tb IIIC T95°C Db	-40°C to +40°C
		4P+Aux	EXZ1SDR18040				180A  II2GD Ex de IIC T4 Gb Ex tb IIIC T130°C Db	-40°C to +55°C

Certification

All items have been approved with 'ATEX' (CML 15ATEX1197X) and 'IECEX' (IECEX CML 15.0093X) certificates for use in Zones 1, 2, 21 & 22.

The equipment is designed and tested to comply with the following:-

- EN 60079-0 Electrical Atmospheres, Part 0 : Equipment- General requirements.
- EN 60079-1 Electrical Atmospheres, Part 1 : Equipment protection by flameproof enclosures 'd'.
- EN 60079-7 Electrical Atmospheres, Part 7 : Equipment protection by increased safety 'e'.
- EN 60947-1 Low-Voltage switch gear and controlgear- Part 1:general rules.
- EN 60947-3 Low-Voltage switch gear and controlgear- Part 3:switches, disconnectors, switch-disconnectors and fuse combination units.
- EN 60529 Degrees of protection provided by enclosures. (IP Code)

Technical Specification - Zone 1, 2, 21 and 22 EXe

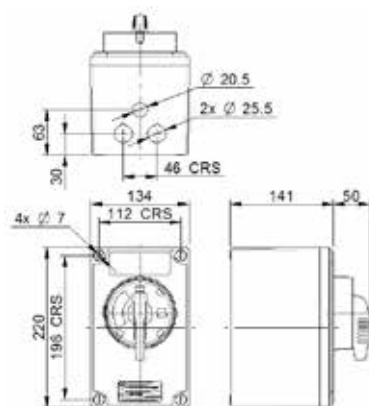
For products on pages 44 to 46. Data supplied against tests to IEC/BS EN 60947-3



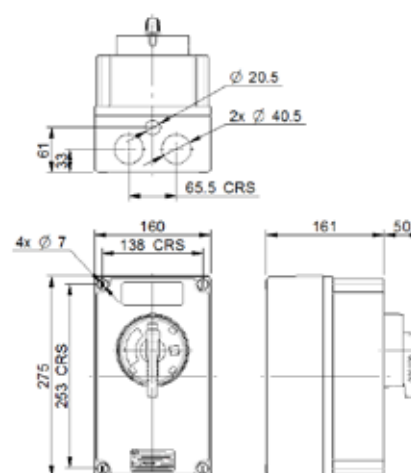
Zone 1, 2, 21 and 22 EX 'e'									
Application	Sym.	Unit	Category	Main Contacts				Aux. Contacts	
				25A	40A	80A	180A	Category	Aux.
Rated thermal current	I_{the}	A		25	40	80	180		10
Rated insulation voltage	U_i	V		690	690	690	690		690
Rated current		A	AC3 (230V)	25	40	80	180	AC15 (250V)	10
			AC3 (400V)	25	40	80	180	AC15 (400V)	8
			AC3 (500V)	20	40	80	150	DC13 (24V)	8
			AC3 (690V)	16	32	63	125	DC13 (250V)	1
Terminal Capacity		mm ²	-	2x4	2x10	2x25	2x95		2x1.5
Tightening Torque (Nm)			-	2.5	2.5	3.5	8.5		2.5
Terminal Type	-								

Zone 1, 2, 21 and 22 EXe Dimensions

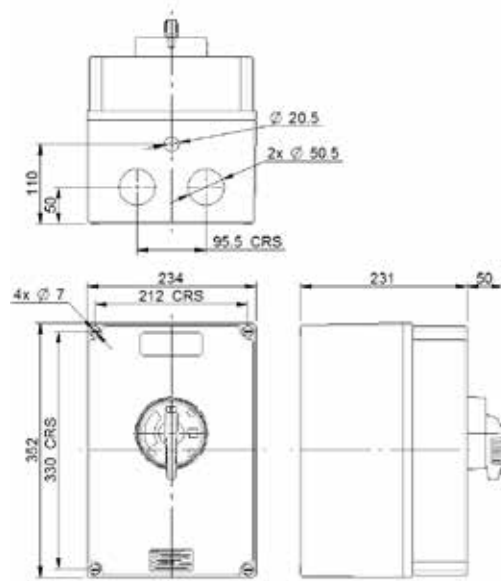
Enclosure A



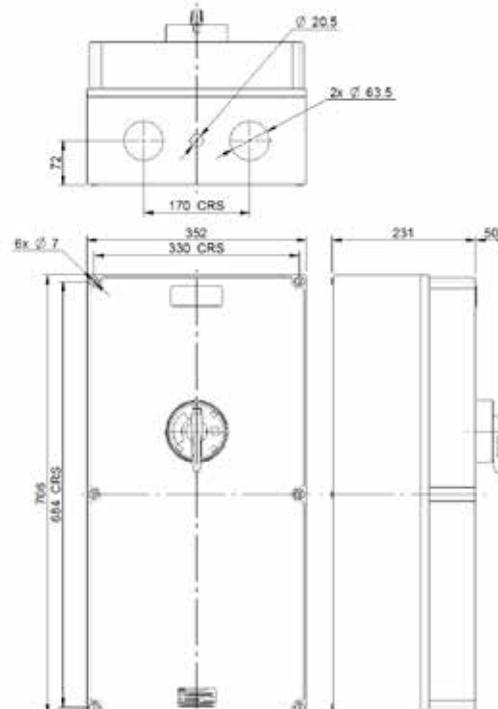
Enclosure B



Enclosure C



Enclosure D



Explosion Proof - Zone 22

Craig & Derricott has been manufacturing enclosed switchgear for more than 70 years. Using high quality die cast aluminium and hinged door sheet steel enclosures the range covers 20A- 63A ratings. Other ratings are available on request.

All items allow for the fitting of up to three padlocks in the 'Off' position. Units are inclusive of fixings outside of the enclosure seal area and an external earth point.

Explosion Proof - Zone 22- How it works.

From July 2006 the onus was placed upon companies to ensure that all equipment within their organisations is suitable for the environment in which it is being used. This was aimed particularly at areas where there may be a possibility of a combustible atmosphere being present, even for short periods i.e. Less than 10 hours/year.

People normally think of such atmospheres as being gases, mists or vapours, however there are various industries where a conductive or non-conductive dust mixed with air in the right proportion can become explosive. It is these areas where the Craig & Derricott ATEX Group II (Zone 22) equipment can be used to help you comply with Health & Safety regulations.

Typical industries where such atmospheres may be generated:-

- Grain Mills
- Powder Coating Plant
- Textiles
- Chemicals
- Cargo Handling
- Woodworking
- Pharmaceuticals
- Waste Processing

There are different degrees of protection against explosive dusts, and Zone 22 is defined as:-




"A place in which an explosive atmosphere, in the form of a cloud of combustible dust in air, is not likely to occur in normal operation but, if it does occur, will persist for a short period only."

Applicable Regulations / Specifications

- Directive 2014/34/EU ("Manufacturers Directive") Sets out the route equipment manufacturers must take to get their products certified for use in hazardous environments.
- Directive 1999/92/EC ("Users Directive") Defines the classifications for protection zones, and the approach users must take to ensure that the correct equipment is matched to specific hazardous environments.



Both of the above are classed as 'ATEX' directives and are concerned solely with ensuring safety in the workplace.

- DSEAR Dangerous Substances and Explosive Atmospheres Regulations 2002.
- BS EN 60079-0 Explosive atmospheres- Part 0: Equipment- General requirements.
- BS EN 60079-31 Explosive atmospheres- Part 31: Equipment dust ignition protection by enclosure "t".
- BS EN 60529 Specification for degrees of protection provided by enclosures. (IP code)
- BS EN 60947-3 Specification for low-voltage switchgear and control gear.
- BS EN 60204-1 Safety of machinery. Electrical equipment of machines- General requirements.

Image	Rating	Format	Cat. No.	Encl. Size	Encl. Material	IP Rating	Supplied Bottom Entries
	20A	6P+2/EB	SDDG206EBZ22	A22	Die-Cast Aluminium	IP65	1 x M20 top + 2 x M20 bottom
	25A	3P+2/EB	SDDG253EBZ22	A22	Die-Cast Aluminium	IP65	1 x M20 top + 2 x M20 bottom
	32A	3P+2/EB	SDDG323EBZ22	A22	Die-Cast Aluminium	IP65	1 x M20 top + 2 x M20 bottom
6P+2/EB		SDDG326EBZ22	B22	2 x M25 + 1 x M20 bottom			
	40A	3P+2/EB	SDDG403EBZ22	B22	Die-Cast Aluminium	IP65	2 x M25 + 1 x M20 bottom
		6P+2/EB	SDDG406EBZ22				
			3P+2/EB	SDDG633EBZ22	B22	Die-Cast Aluminium	IP65
	63A	3P+2/EB	SDMG633EBZ22	C22	Sheet Steel	N/A	
		6P+2/EB	SDMG636EBZ22	D22			

Certification and Approvals

Die cast Aluminium / Sheet Steel

- Certification Code  II 3D
 tc IIIB T85°C Dc
- Certification standard BS EN 60079-0, BS EN 60079-31, BS EN 60529, BS EN 60947-3, BS EN 60204-1

Technical Specification - Zone 22

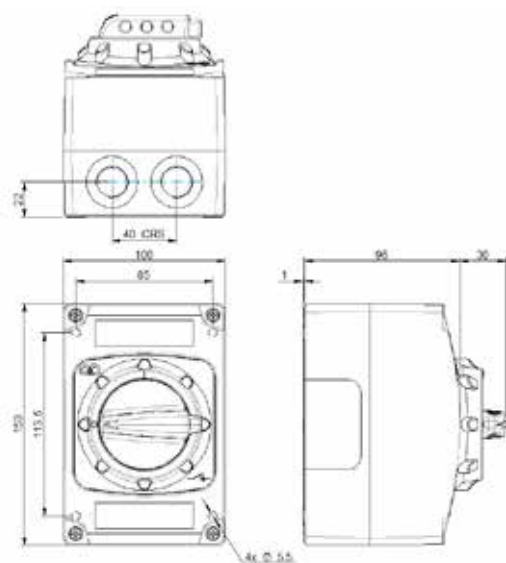
For products on pages 44 to 46. Data supplied against tests to IEC/BS EN 60947-3



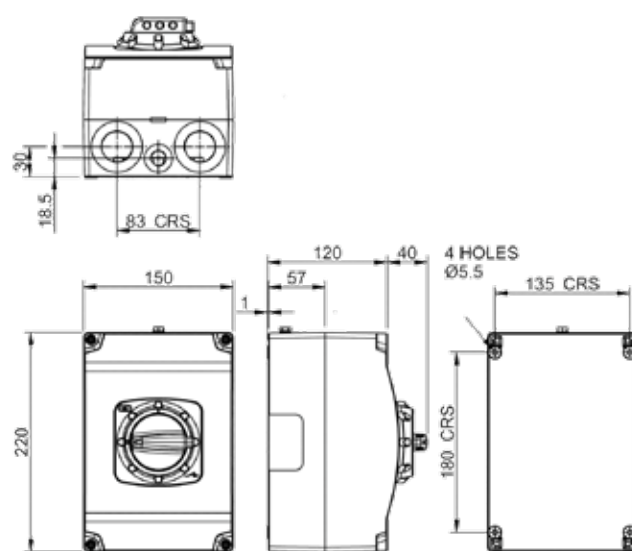
Zone 22									
Application	Sym.	Unit	Category	20A	25A	32A	40A	40A	63A
Format	-	-	-	6P	3P	3P+6P	3P	6P	3P+6P
Rated thermal current	I_{the}	A	-	20	25	32	40	40	63
Rated insulation voltage	U_i	V	-	690	690	690	690	690	690
Rated impulse voltage	U_{imp}	kV	-	6.0	6.0	6.0	6.0	6.0	6.0
Rated operational power (3 phase AC)	-	kW	380/440V- AC23	7.5	11	15	15	15	25
			500V- AC23	7.5	15	15	15	15	30
			690V- AC23	7.5	15	15	15	15	30
Rated short time withstand current (1 sec)	I_{cw}	A	-	250	500	600	600	600	1300
Max. fuse size for short circuit protection (gG Characteristic)	-	kA	10kA	20	35	35	40	40	80
			25kA	16	32	32	32	32	63
			50kA	-	32	32	32	32	63
Connecting capacity	-	-	Terminal type						
	-	mm ²	Flexible cable	2.5 x 2	6	6	6	6	16
	-	mm ²	Rigid cable	2.5 x 2	10	10	10	10	25
	-	Nm	Tightening torque	1.0	1.2	1.2	1.2	1.2	1.2

Zone 22 Dimensions

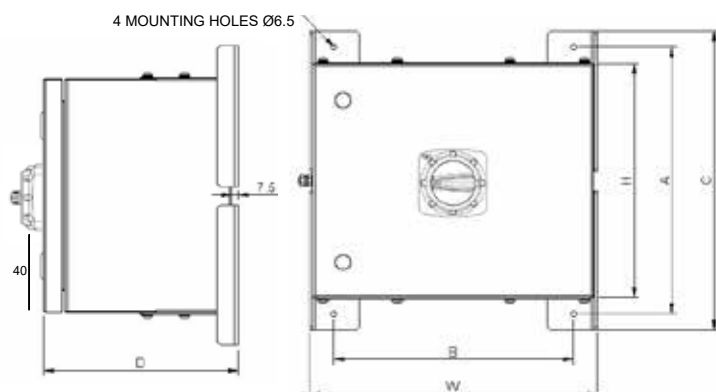
Enclosure A22



Enclosure B22



Enclosure C22 & D22



Encl.	H	W	D	A	B	C
C22	250	256	108	286	206	320
D22	250	306	208	286	256	320








CONTROL STATIONS

Craig & Derricott have been at the forefront of electrical control gear design and manufacture for more than 70 years. The i-push range has been designed and developed to incorporate safety, functionality and ease of installation incorporating suggestions from re-sellers and end-users. The 'i-push' range contains many unique features:-

- Heavy (HD) & Normal Duty (ND) actuators
- Pushbutton position indicators
- Security fixing lids
- Protective guards
- Ingress protection
- Flap covers
- Safety contact
- Bespoke assemblies



Features & Benefits

Image	Product Feature
 <p>HD</p> <p>ND</p>	<p>Craig & Derricott's Control Station range incorporate two different component series:- Normal Duty & Heavy Duty Actuators.</p> <ul style="list-style-type: none"> Normal Duty (ND) actuators manufactured from high strength moulded materials and are suitable for most applications. Heavy Duty (HD) actuators are manufactured using metal based components and are therefore suitable for use in arduous environments.
	<p>All control stations are sealed to a minimum Ingress Protection of IP65 and are suitable for indoor and outdoor applications.</p> <p>To withstand the high pressure water cleaning in certain environments, Craig & Derricott offer a stainless steel control station that complies with IP69K water test. See page 56.</p>
	<p>A Position Indicator design feature has been included on all Normal Duty Emergency Stop Actuators to clearly indicate that the actuator has not been operated.</p>
	<p>The Normal Duty range contains the option for actuators with an integral Protective Guard. This will give a control station protection against accidental operation.</p> <p>The shroud is also padlockable in the latched position.</p>
	<p>The Heavy Duty control stations have the choice for Flap Cover protection. These are manufactured using die-cast aluminium components and can be supplied as locking or non-locking.</p> <ul style="list-style-type: none"> A Non-Locking flap cover provides an additional degree of protection against accidental operation of the actuator. A Locking flap cover includes a padlocking feature for up to 3 padlocks that as well as protection against accidental operation, but also unauthorised access to the actuator. <p>Emergency Stop Control Stations fitted with flap covers are used solely to prevent unauthorised resetting. In an emergency situation, having to lift a flap cover to gain access to the pushbutton is not permissible. Should an emergency occur, the cover itself is used as the primary "stop" actuator.</p>
	<p>Safety contacts are available for Emergency Stop control stations. A pair of contact blocks are joined together and connected in series. When inserted, the green plunger will be operated by the pushbutton actuator and the red plunger will retain a N/C contact when the block is pushed fully home and clicked in-place.</p> <p>Should for any reason the block become loose, the contact under the red plunger will open and initiate a stop function.</p>
	<p>Although this catalogue contains a wide choice of control stations, there will always be the case where a Bespoke Assembly is the only answer to fulfil a precise requirement.</p> <p>Craig & Derricott has over 75 years experience in designing products to meet a specific need. Call our Customer Service team who will be pleased to discuss your requirements.</p>

Emergency Stop

Emergency Stop stations are designed and installed primarily to provide machine operators with a means of shutting down in the event of a dangerous occurrence taking place.

Electrical machines often require Emergency Stops which are required to meet specific requirements and International standards (IEC/EN60204, BS EN ISO 13850, IEC 60947-5-1, IEC 60947-5-5). These standards were applied to the design, testing and installation of such devices offer by Craig & Derricott.

The following pages contain the following options:-

- Enclosure formats - PA / PC Plastic, Glass Filled Polyester, Die-cast Aluminium, Stainless Steel, Sheet Steel & Flush Mounting.
- 'Reset' Methods - Twist-to-Reset, Pull-to-Reset & Key Reset
- Protection Devices - Raised Shroud & Flap Cover
- Actuators - Heavy (HD) & Normal Duty (ND)

Image	Description		Cat. No.
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Emergency Stop, twist-to-reset None 1N/C (EMSL Base Mount) D12 PC/PA IP66, IP67 & IP69K	ND EMSL/TNS/PS/NC
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Emergency Stop twist-to-reset Emergency Stop Circular yellow 1N/C (EMSL Base Mount) D12 PC/PA IP66, IP67 & IP69K	ND EMSL/T/PS/NC
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Emergency Stop key reset (2 Keys) Emergency Stop Circular yellow 1N/C (EMSL Base Mount) D12 PC/PA IP66, IP67 & IP69K	ND EMSL/K/PS/NC
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	Emergency Stop twist-to-reset Emergency Stop Circular yellow Raised shroud 1N/C (EMSL Base Mount) D12 PC/PA IP66, IP67 & IP69K	ND EMSL/TS/PS/NC
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Emergency Stop, twist-to-reset Emergency Stop Circular yellow 1N/C (EMSL Lid Mount) D2 PC IP65	ND EMSL/T/P/NC
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	Emergency Stop twist-to-reset None Raised shroud 1N/C (EMSL Lid Mount) D2 PC IP65	ND EMSL/TS/P/NC
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Emergency Stop key reset. (2 Keys) Emergency Stop Circular yellow 1N/C (EMSL Lid Mount) D2 PC IP65	ND EMSL/K/P/NC
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	Emergency Stop key reset. (2 Keys) None Raised shroud 1N/C (EMSL Lid Mount) D2 PC IP65	ND EMSL/KS/P/NC

Image	Description			Cat. No.
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Emergency Stop twist-to-reset Emergency Stop Circular yellow 1N/C (EMSL Lid Mount) D5 Die-cast Aluminium IP65	ND	EMSL/T/MG/NC
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Emergency Stop key reset (2 Keys) Emergency Stop Circular yellow 1N/C (EMSL Lid Mount) D5 Die-cast Aluminium IP65	ND	EMSL/K/MG/NC
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	Emergency Stop twist-to-reset None Raised Shroud 1N/C (EMSL Lid Mount) D5 Die-cast Aluminium IP65	ND	EMSL/TS/MG/NC
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	Emergency Stop key reset (2 Keys) None Raised Shroud 1N/C (EMSL Lid Mount) D5 Die-cast Aluminium IP65	ND	EMSL/KS/MG/NC
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Emergency Stop, twist-to-reset Emergency Stop Circular yellow 1N/C (EMSL Lid Mount) D0 Die-cast Aluminium IP65	ND	EMSL/T/MGS/NC
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Emergency Stop, key reset (2 Keys) Emergency Stop Circular yellow 1N/C (EMSL Lid Mount) D0 Die-cast Aluminium IP65	ND	EMSL/K/MGS/NC
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Emergency Stop, key reset (2 Keys) Emergency Stop Circular yellow 1N/C (EMSL Lid Mount) D0 Die-cast Aluminium IP65	ND	EMSL/K/MRS/NC
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Emergency Stop, twist-to-reset Emergency Stop printed yellow collar 1N/C (EMSL Lid Mount) D9 Stainless Steel IP65	ND	EMSL/T/SS/NC
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Emergency Stop key reset (2 Keys) Emergency Stop printed yellow collar 1N/C (EMSL Lid Mount) D9 Stainless Steel IP65	ND	EMSL/K/SS/NC










Image	Description			Cat. No.
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Emergency Stop twist-to-reset Emergency Stop Circular yellow 1N/C (EMSL Lid Mount) D11 Stainless Steel IP65	ND	EMSL/T/F/NC
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Emergency Stop key reset (2 Keys) Emergency Stop Circular yellow 1N/C (EMSL Lid Mount) D11 Stainless Steel IP65	ND	EMSL/K/F/NC
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Emergency Stop, twist-to-reset Emergency Stop circular yellow 1N/C + safety contact (EMSL Lid Mount) D10 Stainless Steel IP69K	ND	EMSL/T/SS/NC69
EMSL/T/SS/NC69 is sealed to withstand the forces associated with pressure washers. Tested to withstand a hose delivering water at a pressure between 80-100 bar at a temperature of 80°C. The combination of a stainless steel enclosure and sealing to IP69K make these items ideally suited to environments where strict hygiene cleaning routines are enforced. Supplied with external fixing feet for vertical or horizontal mounting.				
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Emergency Stop Mushroom twist-to-reset Pattern box or trucking 2xN/C with 'faston' terminals (Monobloc-5A) D8 Sheet Steel IP65	ND	EMS/T/FS/NC
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Emergency Stop Mushroom pull-to-reset Emergency Stop circular yellow 1N/C+1N/O (MT-16A) D5 Die-cast Aluminium IP65	HD	EMSH/P/MG/CO
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Emergency Stop Mushroom pull-to-reset Emergency Stop circular yellow 1N/C+1N/O (MT-16A) D5 Die-cast Aluminium IP65	HD	EMSH/P/MR/CO
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Emergency Stop Mushroom twist-to-reset Emergency Stop circular yellow 1N/C+1N/O (MT-16A) D5 Die-cast Aluminium IP65	HD	EMSH/T/MG/CO
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Emergency Stop Mushroom key reset (2 Keys) Emergency Stop circular yellow 1N/C+1N/O (MT-16A) D5 Die-cast Aluminium IP65	HD	EMSH/K/MG/CO
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Emergency Stop Mushroom key reset (2 Keys) Emergency Stop circular yellow 1N/C+1N/O (MT-16A) D5 Die-cast Aluminium IP65	HD	EMSH/K/MR/CO

Image	Description			Cat. No.
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	Emergency Stop Mushroom pull-to-reset Emergency Stop printed flap cover Padlocking flap cover 1N/C+1N/O (MT-16A) D5 Die-cast Aluminium IP65	HD	EMSH/P/F1/MG/CO
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	Emergency Stop Mushroom pull-to-reset Emergency Stop printed flap cover Padlocking flap cover 1N/C+1N/O (MT-16A) D5 Die-cast Aluminium IP65	HD	EMSH/P/F1/MR/CO
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Emergency Stop Mushroom twist-to-reset Emergency Stop circular yellow 1N/C+1N/O (MT-16A) D4 Glass Filled Reinforced Polyester IP65	HD	EMSH/T/GP/CO
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Emergency Stop Mushroom pull-to-reset Emergency Stop circular yellow 1N/C+1N/O (MT-16A) D4 Glass Filled Reinforced Polyester IP65	HD	EMSH/P/GP/CO
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Emergency Stop Mushroom key reset (2 Keys) Emergency Stop circular yellow 1N/C+1N/O (MT-16A) D4 Glass Filled Reinforced Polyester IP65	HD	EMSH/K/GP/CO
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	Emergency Stop Mushroom pull-to-reset Emergency Stop printed flap cover Padlocking flap cover 1N/C+1N/O (MT-16A) D4 Glass Filled Reinforced Polyester IP65	HD	EMSH/P/F1/GP/CO
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Emergency Stop Mushroom twist-to-reset Emergency Stop circular yellow 1N/C+1N/O (MT-16A) D11 Stainless Steel IP65*	HD	EMSH/T/F/CO
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Emergency Stop Mushroom pull-to-reset Emergency Stop circular yellow 1N/C+1N/O (MT-16A) D11 Stainless Steel IP65*	HD	EMSH/P/F/CO
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Emergency Stop Mushroom key reset (2 Keys) Emergency Stop circular yellow 1N/C+1N/O (MT-16A) D11 Stainless Steel IP65*	HD	EMSH/K/F/CO
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	Emergency Stop Mushroom pull-to-reset Padlocking flap cover Emergency Stop pad printed flap cover 1N/C+1N/O (MT-16A) D11 Stainless Steel IP65*	HD	EMSH/P/F1/F/CO





*As supplied there is an IP65 seal between the Pushbutton and the face plate. To maintain this seal when installing the complete assembly the onus is upon the installer to use a continuous bead of flexible sealant to provide an effective seal between the rear of the face plate and what may be an uneven mounting surface.

General Description

'Emergency Stops' are often situated adjacent to the associated 'Start' button. In these assemblies the two functions are combined in a single enclosure.

All of the stayput 'Emergency Stop' buttons meet the latest safety requirements.

The flap cover option operates the stayput actuator when the cover is pressed. Padlocks can be inserted to prevent an unauthorised reset. Enclosures in polycarbonate and die-cast aluminium provide a choice dependent upon the environment.

Image	Description			Cat. No.
	Actuator	a/ Start, momentary b/ Emergency Stop, twist-to-reset	ND	ESSL/GS/T/MG/NOC
	Legend	a/ I b/ Emergency Stop Circular yellow		
	Contacts	1N/C+1N/O (EMSL Lid Mount)		
	Dimensions	D7		
	Enclosure Material	Die-cast Aluminium		
	IP Rating	IP65		
	Actuator	a/ Start, momentary b/ Emergency Stop, twist-to-reset	ND	ESSL/GS/T/P/NOC
	Legend	a/ I b/ Emergency Stop Circular yellow		
	Contacts	1N/C+1N/O (EMSL Lid Mount)		
	Dimensions	D3		
	Enclosure Material	Moulded Plastic		
	IP Rating	IP65		
	Actuator	a/ Start, momentary b/ Emergency Stop, pull-to-reset	HD	SSTH/GS/P/F1/MG/CO
	Legend	a/ Start b/ Emergency Stop Printed flap cover		
	Guard	Padlocking flap cover		
	Contacts	1N/C+1N/O (MT-16A)		
	Dimensions	D7		
	Enclosure Material	Die-cast Aluminium		
	IP Rating	IP65		
	Actuator	a/ Start, momentary b/ Emergency Stop, mushroom pull-to-reset	HD	ESSH/GS/P/MG/CO
	Legend	a/ Start b/ Emergency Stop Circular yellow		
	Contacts	1N/C+1N/O (MT-16A)		
	Dimensions	D7		
	Enclosure Material	Die-cast Aluminium		
	IP Rating	IP65		

General Description

'Emergency Power Off' or 'EPO' control stations can be used where the safety requirements associated with Emergency Stops are not required.

Typical uses would include:-

- Computer suites
- School workshops
- Water treatment plants
- Service and maintenance

All items are housed in robust die-cast aluminium enclosures fitted with flap covers to prevent accidental operation.





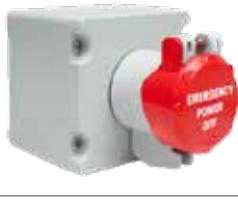











Image	Description			Cat. No.
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	Twist-to-reset Emergency Power Off printed flap cover Flap cover non-locking 1N/C (EMSL Lid Mount) D5 Die-cast Aluminium IP65	ND	EPOL/T/F5/MG/NC
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	Key-to-reset (2 Keys) Emergency Power Off printed flap cover Flap cover non-locking 1N/C (EMSL Lid Mount) D5 Die-cast Aluminium IP65	ND	EPOL/K/F5/MG/NC
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	Twist-to-reset Emergency Power Off printed flap cover Flap cover non-locking 1N/C (EMSL Lid Mount) D0 Die-cast Aluminium IP65	ND	EPOL/T/F5/MGS/NC
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	Key-to-reset (2 Keys) Emergency Power Off printed flap cover Flap cover non-locking 1N/C (EMSL Lid Mount) D0 Die-cast Aluminium IP65	ND	EPOL/K/F5/MGS/NC
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	Mushroom momentary action Emergency Power Off printed flap cover Flap cover non-locking 1N/C+1N/O (MT-16A) D5 Die-cast Aluminium IP65	HD	EPOH/M/F5/MG/CO
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	Mushroom momentary action Emergency Power Off printed flap cover Flap cover non-locking 2N/C+2N/O (MT-16A) D5 Die-cast Aluminium IP Rating IP65	HD	EPOH/M/F5/MG/2CO
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	Mushroom momentary action Emergency Power Off printed flap cover Flap cover non-locking 3C/O (S1-10A) D6 Die-cast Aluminium IP65	HD	EPOH/M/F5/MGL/3CO
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	Mushroom momentary action Emergency Power Off printed flap cover Flap cover non-locking 4C/O (S1-10A) D6 Die-cast Aluminium IP65	HD	EPOH/M/F5/MGL/4CO

Image	Description			Cat. No.
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	Mushroom, pull-to-reset Emergency Power Off printed flap cover Flap cover non-locking 1N/C+1N/O (MT-16A) D5 Die-cast Aluminium IP65	HD	EPOH/P/F5/MG/CO
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	Mushroom, pull-to-reset Emergency Power Off printed flap cover Flap cover non-locking 2N/C+2N/O (MT-16A) D5 Die-cast Aluminium IP65	HD	EPOH/P/F5/MG/2CO
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	Mushroom, pull-to-reset Emergency Power Off printed flap cover Flap cover non-locking 3C/O (S1-10A) D6 Die-cast Aluminium IP65	HD	EPOH/P/F5/MGL/3CO
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	Mushroom, pull-to-reset Emergency Power Off printed flap cover Flap cover non-locking 4C/O (S1-10A) D6 Die-cast Aluminium IP65	HD	EPOH/P/F5/MGL/4CO
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	Mushroom key reset (2 Keys) Emergency Power Off printed flap cover Flap cover non-locking 1N/C+1N/O (MT-16A) D5 Die-cast Aluminium IP65	HD	EPOH/K/F5/MG/CO
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	Mushroom key reset (2 Keys) Emergency Power Off printed flap cover Flap cover non-locking 2N/C+2N/O (MT-16A) D5 Die-cast Aluminium IP65	HD	EPOH/K/F5/MG/2CO
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	Mushroom key reset (2 Keys) Emergency Power Off printed flap cover Flap cover non-locking 3C/O (S1-10A) D6 Die-cast Aluminium IP65	HD	EPOH/K/F5/MGL/3CO
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	Mushroom key reset (2 Keys) Emergency Power Off printed flap cover Flap cover non-locking 4C/O (S1-10A) D6 Die-cast Aluminium IP65	HD	EPOH/K/F5/MGL/4CO

General Description

Individual 'Stop' stations have been designed for use in many applications.

The range includes alternatives for both surface and flush mounting with options of flap covers which add an extra degree of security against inadvertent operation.






















Image	Description			Cat. No.
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Full guard, momentary stop 0 1N/C (EMSL Lid Mount) D2 PC IP65	ND	STOL/RS/P/NC
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Full guard, momentary stop 0 1N/C (EMSL Lid Mount) D5 Die-cast Aluminium IP65	ND	STOL/RS/MG/NC
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Full guard, momentary stop 0 1N/C (EMSL Lid Mount) D9 Stainless Steel IP65	ND	STOL/RS/SS/NC
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Full guard, momentary stop 0 1N/C (EMSL Lid Mount) D11 Stainless Steel IP65	ND	STOL/RS/F/NC
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	Mushroom pull-to-reset Stop printed flap cover Flap cover non-locking 1N/C+1N/O (MT-16A) D5 Die-cast Aluminium IP65	HD	STOH/P/F3/MG/CO
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	Mushroom key reset (2 Keys) Stop printed flap cover Flap cover non-locking 1N/C+1N/O (MT-16A) D5 Die-cast Aluminium IP65	HD	STOH/K/F3/MG/CO
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	Mushroom pull-to-reset Stop printed flap cover Flap cover non-locking 1N/C+1N/O (MT-16A) D5 Die-cast Aluminium IP65	HD	STOH/P/F3/MR/CO
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Full guard, momentary stop Stop 1N/C+1N/O (MT-16A) D5 Die-cast Aluminium IP65	HD	STOH/RS/MG/CO

Image	Description			Cat. No.
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Mushroom, momentary stop Stop 1N/C+1N/O (ETR-10A) D5 Die-cast Aluminium IP65	HD	STOH/M/MG/CO
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	Mushroom, momentary stop Stop printed flap cover Flap cover non-locking 1N/C+1N/O (MT-16A) D5 Die-cast Aluminium IP65	HD	STOH/M/F3/MG/CO
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	Mushroom, momentary stop Stop printed flap cover Flap cover non-locking 1N/C+1N/O (MT-16A) D4 Glass Filled Reinforced Polyester IP65	HD	STOH/M/F3/GP/CO
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	Mushroom, pull-to-reset Stop printed flap cover Flap cover non-locking 1N/C+1N/O (MT-16A) D4 Glass Filled Reinforced Polyester IP65	HD	STOH/P/F3/GP/CO
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	Mushroom key reset (2 Keys) Stop printed flap cover Flap cover non-locking 1N/C+1N/O (MT-16A) D4 Glass Filled Reinforced Polyester IP65	HD	STOH/K/F3/GP/CO
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	Mushroom, pull-to-reset Stop printed flap cover Flap cover non-locking 1N/C+1N/O (MT-16A) D11 Stainless Steel IP65	HD	STOH/P/F3/F/CO
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	Mushroom, momentary stop Stop printed flap cover Flap cover non-locking 1N/C+1N/O (MT-16A) D11 Stainless Steel IP65	HD	STOH/M/F3/F/CO
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	Mushroom key reset (2 Keys) Stop printed flap cover Flap cover non-locking 1N/C+1N/O (MT-16A) D11 Stainless Steel IP65	HD	STOH/K/F3/F/CO

General Description





Individual 'Start' stations have been designed for use in many applications.

Image	Description			Cat. No.
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Full guard, momentary start I 1N/O (EMSL Lid Mount) D2 PC IP65	ND	STAL/GS/P/NO
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Full guard, momentary start I 1N/O (EMSL Lid Mount) D5 Die-cast Aluminium IP65	ND	STAL/GS/MG/NO
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Full guard, momentary start I 1N/O (EMSL Lid Mount) D9 Stainless Steel IP65	ND	STAL/GS/SS/NO
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Full guard, momentary start I 1N/O (EMSL Lid Mount) D11 Stainless Steel IP65	ND	STAL/GS/F/NO
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Full guard, momentary start Start 1N/O (MT-16A) D5 Die-cast Aluminium IP65	HD	STAH/GS/MG/CO

General Description

'Start/Stop' control stations are the most convenient way of providing simple local control for a variety of applications. When inserted into a control scheme they provide the local interface with which machinery can be easily be controlled.

The assembled stations are offered in various enclosure materials which are designed to match applications in terms of mechanical protection.

Image	Description			Cat. No.
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Full guard, momentary start / stop O & I I - 1N/O (EMSL Lid Mount) O - 1N/C (EMSL Lid Mount) D2 PC IP65	ND	SSTL/GS/RS/P/NOC
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Full guard, momentary start / stop O & I I - 1N/O (EMSL Lid Mount) O - 1N/C (EMSL Lid Mount) D5 Die-cast Aluminium IP65	ND	SSTL/GS/RS/MG/NOC
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Full guard, momentary start O & I I - 1N/O (EMSL Lid Mount) O - 1N/C (EMSL Lid Mount) D9 Stainless Steel IP65	ND	SSTL/GS/RS/SS/NOC
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	a/ Full guard, momentary b/ Mushroom, pull-to-reset a/ Start b/ Stop printed flap cover Flap cover non-locking Start- 1N/O (MT-16A) Stop- 1N/C (MT-16A) D7 Die-cast Aluminium IP65	HD	SSTH/GS/P/F3/MG/CO
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating	Full guard, momentary start Start & Stop Start- 1N/O (MT-16A) Stop- 1N/C (MT-16A) D7 Die-cast Aluminium IP65	HD	SSTH/GS/RS/MG/CO
	Actuator Legend Guard Contacts Dimensions Enclosure Material IP Rating	a/ Full guard, momentary b/ Mushroom, key reset (2 Keys) a/ Start b/ Stop printed flap cover Flap cover non-locking Start- 1N/O (MT-16A) Stop- 1N/C (MT-16A) D7 Die-cast Aluminium IP65	HD	SSTH/GS/K/F3/MG/CO

General Description

In the UK from July 2006 the onus was placed upon companies to ensure that all equipment within their organisations is suitable for the environment in which it is being used. This was aimed primarily at areas where there may be a possibility of a combustible atmosphere being present, even for short periods e.g. less than 10 hours/year.



People normally associate such atmospheres as being gases, mists or vapours. However there are many industries where a non-conductive dust mixed with air in the right proportion can become potentially explosive. It is these areas where the Craig & Derricott ATEX Group II (Zone 22 equipment) can be used to help you comply with Health & Safety regulations. All listed items shown here have been certified to the appropriate international standards for explosive atmospheres.




Certification data:

Ex II 3D, EX tD A22 IP65 T85°C

Complies in part or full with:







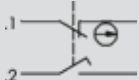











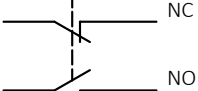

BS EN 50014, BS EN 50281-1-1, BS EN 60529, BS EN 60947-3, BS EN 60204-1

Image	Description		Cat. No.
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating EX	Full guard, momentary stop Stop 1N/C+1N/O (MT-16A) D2 Die-cast Aluminium IP65 Zone 22	HD STOH/RS/MG/COZ
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating EX	Full guard, momentary start Start 1N/C+1N/O (MT-16A) D5 Die-cast Aluminium IP65 Zone 22	HD STAH/GS/MG/COZ
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating EX	Full guard, momentary start / stop Start & Stop Start - 1N/O (MT-16A) Stop - 1N/C (MT-16A) D7 Die-cast Aluminium IP65 Zone 22	HD SSTH/GS/RS/MG/COZ
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating EX	Mushroom, twist-to-reset Emergency Stop circular yellow 1N/C+1N/O (MT-16A) D5 Die-cast Aluminium IP65 Zone 22	HD EMSH/T/MG/COZ
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating EX	Mushroom, momentary stop Stop 1N/C+1N/O (MT-16A) D5 Die-cast Aluminium IP65 Zone 22	HD STOH/M/MG/COZ
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating EX	a/ Start, momentary b/ Emergency stop, pull-to-reset a/ Start b/ Circular yellow Start - 1N/O (MT-16A) Emergency Stop - 1N/C (MT-16A) D7 Die-cast Aluminium IP65 Zone 22	HD ESSH/GS/P/MG/COZ
	Actuator Legend Contacts Dimensions Enclosure Material IP Rating EX	Mushroom, pull-to-reset Emergency Stop circular yellow 1N/C+1N/O (MT-16A) D5 Die-cast Aluminium IP65 Zone 22	HD EMSH/P/MG/COZ

Image	Description	Cat. No.
	<p>Actuator a/ Start, momentary HD</p> <p>Legend b/ Emergency stop, pull-to-reset</p> <p>Guard a/ Start</p> <p>Contacts b/ Emergency Stop Printed flap cover</p> <p>Padlocking flap cover</p> <p>Start- 1N/O (MT-16A)</p> <p>Stop- 1N/C (MT-16A)</p> <p>Dimensions D7</p> <p>Enclosure Material Die-cast Aluminium</p> <p>IP Rating IP65</p> <p>EX Zone 22</p>	SSTH/GS/P/F1/MG/COZ
	<p>Actuator Emergency stop, pull-to-reset HD</p> <p>Legend Emergency Stop Printed flap cover</p> <p>Guard Padlocking flap cover</p> <p>Contacts 1N/C+1N/O (MT-16A)</p> <p>Dimensions D5</p> <p>Enclosure Material Die-cast Aluminium</p> <p>IP Rating IP65</p> <p>EX Zone 22</p>	EMSH/P/F1/MG/COZ
	<p>Actuator Mushroom, key reset (2 Keys) HD</p> <p>Legend Emergency Stop circular yellow</p> <p>Contacts 1N/C+1N/O (MT-16A)</p> <p>Dimensions D5</p> <p>Enclosure Material Die-cast Aluminium</p> <p>IP Rating IP65</p> <p>EX Zone 22</p>	EMSH/K/MG/COZ



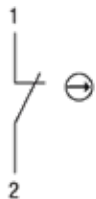



Accessories

Contact blocks are available to replace or extend the arrangements supplied as standard.

MT Series		
A 'clip-in' module which can be supplied in N/O, N/C & safety formats. The clip-in housing allows for a total of three blocks per actuator.		
Image	Description	Cat. No.
	<p>Normally Closed (N/C) contact block. Momentary action.</p> <p>0 1 2 3 4 5 6 7</p> <p>.1/.2   .1  .2</p>	MTO
	<p>'Safety Contact' for Emergency Stops.</p> <p>.3 -.2 -.1 0 1 2 3 4 5 6 7</p> <p>.1/.2  </p>	MTOSFE
	<p>Normally Open (N/O) contact block. Momentary action.</p> <p>0 1 2 3 4 5 6 7</p> <p>.3/.4   .3  .4</p>	MTI
ETR Series		
The 'ETR' block provides N/O + N/C contacts in one assembly.		
Image	Description	
	<p>Contact Block, Momentary Action 1 N/O + 1 N/C</p> <p>0 1 2 3 4 5 6</p> <p>12/11   12  11</p> <p>24/23  24  23</p>	ETR
S1 Series		
The S1 contact block is designed to be stacked in pairs side-by-side and then back-to-back making a total of four changeover blocks on one Heavy Duty actuator. Three or four blocks will require extended fixing screws (U42)		
Image	Description	Cat. No.
	<p>Contact Block, Momentary Action C/O</p> <p>NC  NC</p> <p>NO  NO</p>	S1
	Assembly screw kit to enable 3 or 4 'S1' contacts to be mounted on a single Heavy Duty actuator.	U42

Accessories

Contact blocks are available to replace or extend the arrangements supplied as standard.

Monobloc Series						
The Monobloc assembly is designed for use in very restricted space. The contacts are assembled in the base of the actuator and cannot be supplied separately. To replace the contacts will require a new complete actuator.						
Image		Description				
		Contact Block, Momentary Action 2 N/C			FRVKOO	
EMSL Series						
A 'clip-in' module which can be supplied in N/O and N/C format. Each contact block has screw termination and designed for Direct snap-on mounting to control station base. Maximum tightening torque for screw terminals: 1Nm.						
Image		Description		Cat. No.		
		Base mounted normally closed contact block		EMSL/NC		
		Base mounted normally open contact block		EMSL/NO		
Image		Description				Cat. No.
		Lid mounted normally closed safety contact block available for Emergency Stop control stations. When inserted the Red plunger will be operated by the pushbutton actuator, the green plunger will retain a N/C contact when the block is pushed fully home and clicked in-place. Should for any reason the block become loose, the contact under the green plunger will open and initiate a stop function.				CB01NCSM
		<ul style="list-style-type: none">Screw terminationDirect snap-on mounting to control station actuatorMaximum tightening torque for screw terminals: 1Nm				

Technical Specification - Control Stations

Data supplied against tests to BS EN 60947-5-1

Series	Current	Utilisation Category	Rated Insulation Voltage (U_i)	Rated Operational Voltage (U_o) / Current (I_o)										Breaking Capacity	Continuous thermal current (I_{th})
MT	a.c.	AC15 A600	600V	V	-	-	-	-	250	440	-	-	-	10Ie	16A
				A	-	-	-	-	3	1.6	-	-	-		
	d.c.	DC13 Q600	600V	V		24	60	125	250	440				1.1Ie	16A
				A		2	1	0.4	0.2	0.12					
ET	a.c.	AC15	400V	V	-	-	-	-	250	400	-	-	-	10Ie	10A
				A	-	-	-	-	5	3	-	-	-		
	d.c.	DC13	400V	V	-	24	60	125	250	400	-	-	-	1.1Ie	10A
				A	-	2	1	0.4	0.2	0.12	-	-	-		
Mono bloc	a.c.	AC15 B300	250V	V	-	-	-	120	240	-	-	-	-	-	10A
				A	-	-	-	5	5	-	-	-	-		
S1	a.c.	AC15	660V	V	-	-	-	-	-	400	-	-	-	-	10A
				A	-	-	-	-	-	5	-	-	-		
EMSL	a.c.	AC15	690V	V	12	24	48	120	240	400	480	500	600	10Ie	10A
				A	6	6	6	6	6	3	1.5	1.4	1.2		
	d.c.	DC13	690V	V	12	24	48	125	250	440	-	500	600	1.1Ie	10A
				A	3	3	1.5	0.55	0.27	0.15	-	0.13	0.1		

Control Stations

Dims as shown are for the enclosures only used in the various assemblies. Projections will vary depending upon the actuators incorporated in the design.

Normal Duty Actuators (ND)

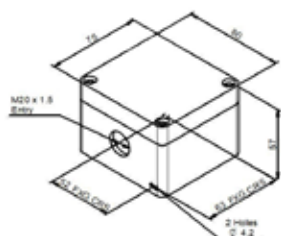
Emergency Stop (incl. guards)
Start/Stop

42mm
11mm

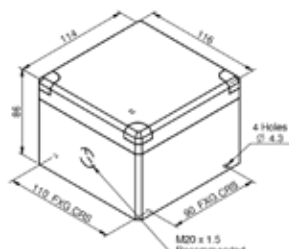
Heavy Duty Actuators (HD)

Mushroom (Twist or pull to reset)
Mushroom (Key reset)
Full guard (Start/Stop)
Flap Cover

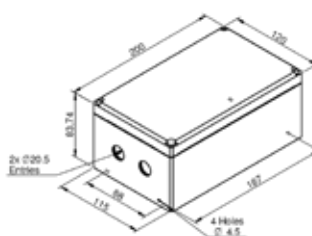
43mm
51mm
30mm
66mm



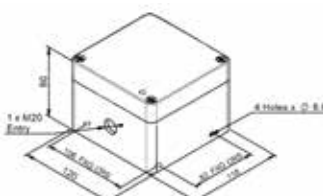
Enclosure D0
Material Die-Cast Aluminium
Colour Grey (RAL 7001)
Entries 1 x M20
Fixings 2 x M4



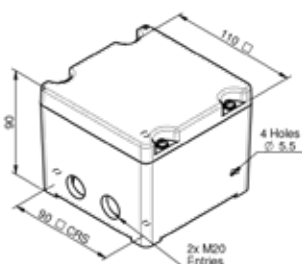
Enclosure D2
Material Polycarbonate
Colour Grey (RAL 7035)
Entries Plain sides
Fixings 2 x M4



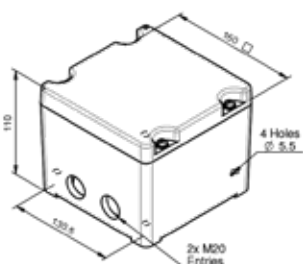
Enclosure D3
Material Polycarbonate
Colour Grey (RAL 7035)
Entries Plain sides
Fixings 4 x M4



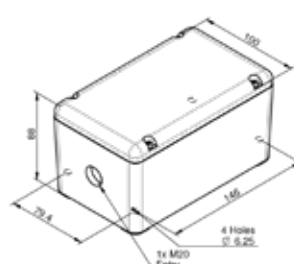
Enclosure D4
Material Glass reinforced Polyester
Colour Grey (RAL 7001)
Entries 1 x M20
Fixings 4 x M5



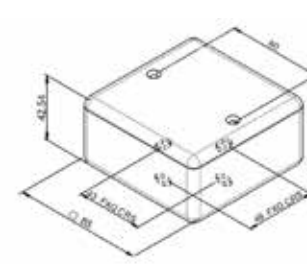
Enclosure D5
Material Die-Cast Aluminium
Colour Grey (RAL 7035)
Red (RAL 3020)
Entries 2 x M20
Fixings 4 x M5



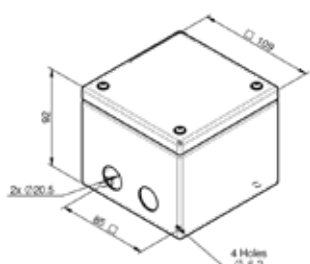
Enclosure D6
Material Die-Cast Aluminium
Colour Grey (RAL 7035)
Entries 2 x M20
Fixings 4 x M5



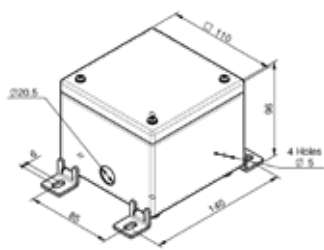
Enclosure D7
Material Die-Cast Aluminium
Colour Grey (RAL 7035)
Entries 1 x M20
Fixings 4 x M5



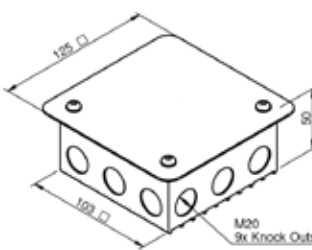
Enclosure D8
Material Steel
Colour Silver
Entries 5 x M20 knockouts
Fixings 4 off 5 x 10 slots



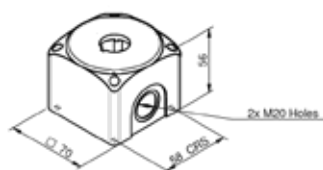
Enclosure D9
Material Stainless Steel (Grade 304)
Colour Brushed
Entries 2 x M20
Fixings 4 x M6



Enclosure D10
Material Stainless Steel (Grade 304)
Colour Brushed
Entries 1 x M20
Fixings 4 x M6



Enclosure D11
Material Fascia Plate - Stainless Steel
Back Box - Galvanised
Steel
Colour Fascia Plate - Brushed
Entries 9 x M20 knockouts
Fixings 4 x M5



Enclosure D12
Material Polycarbonate
Colour Yellow/Black
Entries 2 x M20/M25/
PG13.5/PG16
2 x M16/PG11
Fixings 4xM4

MOTOR CONTROLS

The motor control range provides the user with a product that is robust and cost effective. Housed in weatherproof sheet steel enclosures, these assemblies can be placed in most industrial environments.

Manufactured to British standards BS EN 60947-Pt4-Sec 1, BS EN 60529-1992 and to IEC 947-4-1. All starters give degree of protection IP55 and are suitable for use up to an altitude of 2000 meters above sea level and for operation in ambient temperatures of -5° C to +40° C.

The Direct-On-Line and Star Delta Starters are available with or without integral triple pole isolator. The rotary mains isolator switch comes standard with a door interlocking red / yellow handle, pad-lockable in the "Off" position.



Enclosed Starters

Craig & Derricott range of enclosed starters consist of Direct Online (DOL) Starters, Reversing Direct Online Starters and Star Delta Starters. All three products ranges are supplied in surface mounting IP55 sheet steel enclosures with an epoxy powder coated paint finish in RAL 7035- Light Grey.



Direct Online Starters and Star Delta Starters are both provided with built-in Start / Stop Reset push buttons and are available with or without integral triple pole isolator. The rotary mains isolator switch comes standard with a door interlocking red / yellow handle, pad-lockable in the "Off" position. Reversing Direct Online Starters are provided with built-in Forward / Stop Reset / Reverse push buttons.

Overloads are supplied separately for each range. Manual reset thermal overloads available up to 43A and suitable for all of the enclosed starter range. Other sizes and features are available in our collection of Motor Controls.

Contact your local Area Sales Manager for more information.

Speed Controls

Craig & Derricott offer a range of range of 0.25kW to 22kW, single or three phase, enclosed internally mounted energy saving Speed Control inverter panels supplied ready to run.



Supplied with the latest Emotron VS inverters, this range of Speed Controls are provided in compact IP54 enclosures with ventilation fans & filters. Integral EMC filter & keypad/display are fitted as standard with built in short circuit, overload, voltage imbalance & earth fault detection. The internally mounted energy saving potentiometer and simple Start & Stop external Push buttons make it an easy product to use.

1. Pre-engineered enclosures & simple controls
2. Pre-programmed soft start and stop ramps
3. Set the speed and press start

REDUCE THE SPEED AND SAVE MONEY

Approximate Saving
 10% slower = 25% saving
 20% slower = 45% saving
 30% slower = 65% saving

Other sizes and features are available in our collection of Motor Controls.

Contact your local Area Sales Manager for more information.

ROTARY SWITCHES

Hand operated Rotary Switches remain the most cost effective way of performing complex switching functions.

- They don't require any form of separate expensive power supply.
- Total freedom in the way contacts are made to open and close.
- The number of indexing positions can vary between 2 and 12.
- Contacts can be provided capable of switching low energy or high power; from a few milliamps up to 125A.
- A vast array of alternative operating handles can provide interlocking and other safety features.
- Early break, late break, make-before-break and fleeting contact conditions are available for use.

Full details on our range of selector switches, please visit our website www.craigandderricott.com to download a copy of our i-select range PDF.

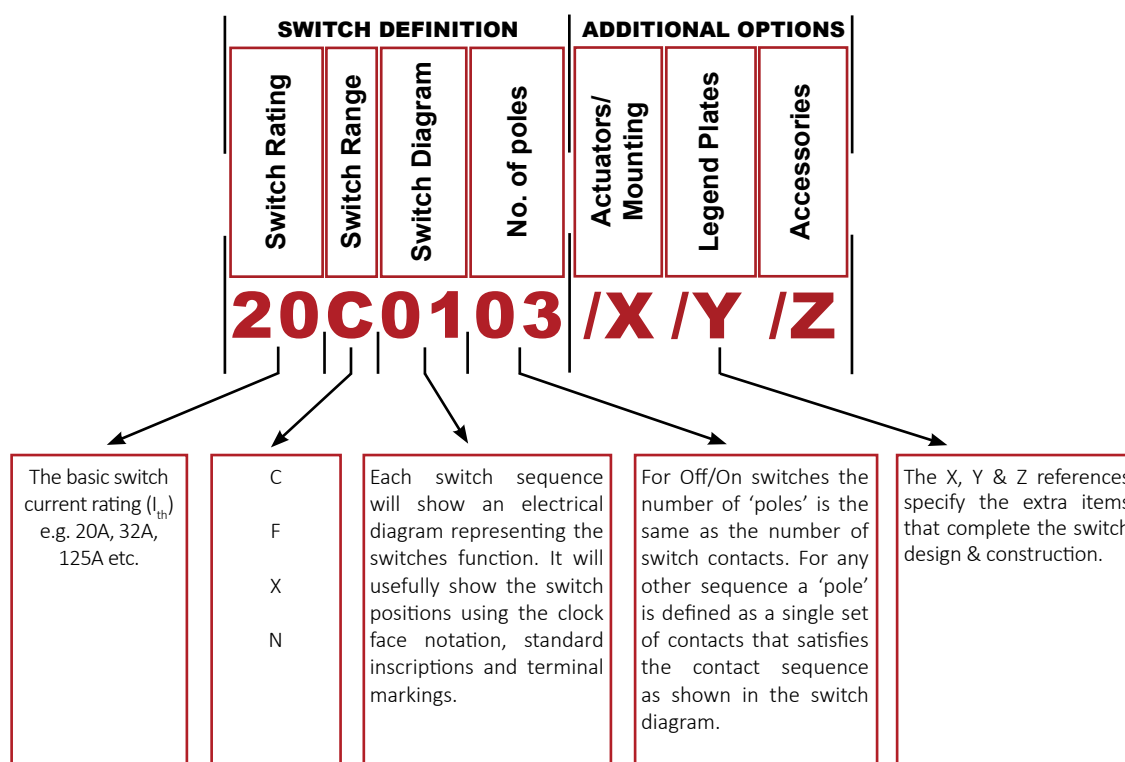


General Description

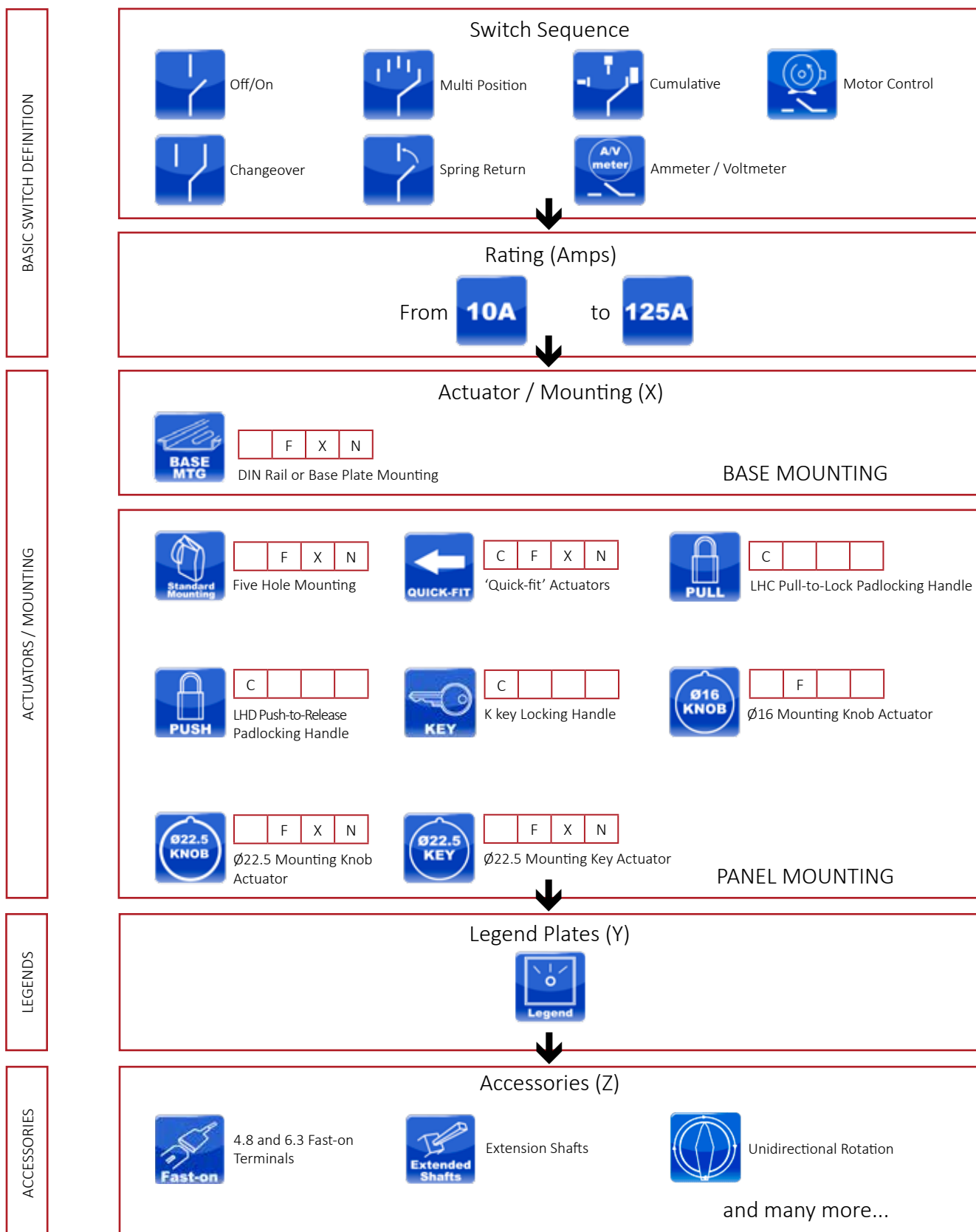
Craig & Derrickott's selector switches are available in four different ranges, each of which has distinct design differences and ranges of accessories. This presents the user with a vast choice of options and the aim of the following pages is to help the user decide the best option for their precise application.

Image	Range	Ratings	Index Options	Terminal Type	Terminal Access	Temp. Range	Finger Protection
	C	20A	45°, 60° & 90°	Tunnel	Side	-25°C to +40°C	IP2X
	F	10A & 20A	30°, 45°, 60° & 90°	Clamp	Rear	-25°C to +55°C	IP2X
	X	16A, 20A, 32A & 40A	30°, 45°, 60° & 90°	Clamp	Rear	-25°C to +55°C	IP2X
	N	20A, 25A, 32A, 40A, 63A & 125A	30°, 45°, 60° & 90°	Clamp	Rear	-25°C to +55°C	IP2X

The below example represents a 20A rated 'C' switch, three pole, Off/On sequence requiring two switching sections, one holding two contact sets the other holding the remaining third pole.

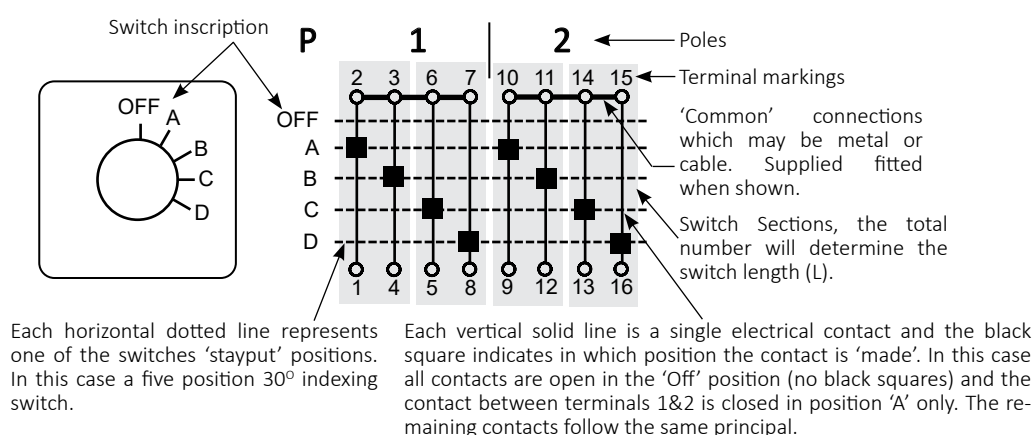


Guide to defining a selector switch



Understanding Switch Diagrams

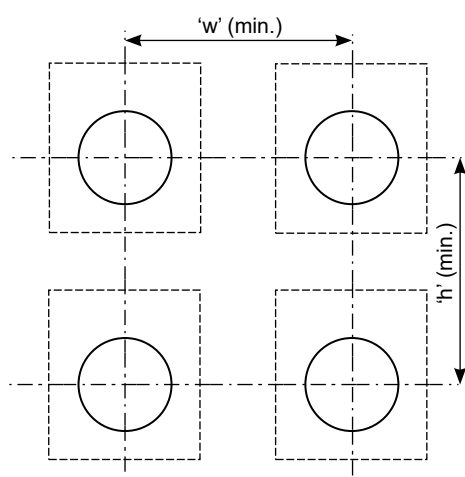
Each switch sequence shown on the following pages includes a Switch Diagram. This contains a lot of useful information for the user and installer and the following description is intended for those who may not be familiar with the layout.



Using this system you can indicate the full requirements for a special or 'bespoke' switch construction. Full details and a template which can be found on our website www.craigandderricott.com.

Fixing Matrix

In certain applications groups of rotary switches need to be fitted in the smallest space envelope possible. The tables shown take into account the legend plates that would normally be supplied with each switch.



The Dims shown are for guidance only. The spacing for each application will depend upon the product mix and the individual switch length/complexity.

Image	Range	Rating	Width (min.)	Height (min.)
	C	20A	80	70
	F	10A	32	45
		20A	50	65
	X	16A	50	65
		20A	50	65
		32A	67	85
		40A	67	85
	N	20A	65	65
		25A	65	65
		32A	85	85
		40A	85	85
		63A	85	85
		125A	115	115

ENCLOSED SAFETY SWITCHES

Enclosed safety (grabwire) switches are the equipment of choice to provide safety protection over long distances. Prior to the development of Grabwire switches, machinery such as conveyors had to be fitted with a number of separate Emergency Stops. Positioning the 'Stops' such that at least one could be reached from any point, was often difficult to fulfil.

Conveyors are the obvious application for such devices, but with the ability to take the protection wire around bends, and provide safety cover over both horizontal and vertical runs, the system lends itself to many different applications.

Reference standards:-

BS EN ISO 12100-1:2003 Pts. 1 & 2 | BS EN 418 | BS EN 60947-5-1 | BS EN 60529 | BS EN 60947-5-5 | BS EN 60204-1 | PD 5304.



GW Range

The 'GW' range, is a tensioned wire system which is designed to cover small to medium sized runs. (Up to 100m max. between pairs). A Grabwire switch assembly gives a continuous and uninterrupted safety provision over long distances.

Prior to the development of Grabwire switches, machinery such as conveyors had to be fitted with a number of separate Emergency Stops. Positioning the 'Stops' such that at least one could be reached from any point, was often difficult to fulfil. Conveyors are the obvious application for such devices, but with the ability to take the protection wire around bends, and provide safety cover over both horizontal and vertical runs, the system lends itself to many different applications.






The minimum requirements in this situation would be a Grabwire Switch at one end and an Anchor Box at the other.

The effective installation involves the fitting of Grabwire switches at both ends of the 'pull wire'. However, this does involve electrical cabling up to, and between, the switching units. The use of a non electrical 'Anchor Box' at one end removes the need to cable between the end assemblies.

The 'Anchor Box' effectively houses a long spring, which is compressed when the 'pull wire' is activated. At a fixed point during the compression, a latch is operated which locks the spring in the compressed or shortened state. When the 'pull wire' is released, it will be in a 'slack' condition, and the switching unit at the other end of the 'pull wire' senses the 'slack' condition and activates the 'Stop' signal. Although the 'Anchor Box' contains no electrical contacts, the latch needs manual resetting to restore the system.

Apart from the Grabwire switch, the only other item required in a simple set-up, is the connection kit. In the kit you will find all the parts necessary to install the system.



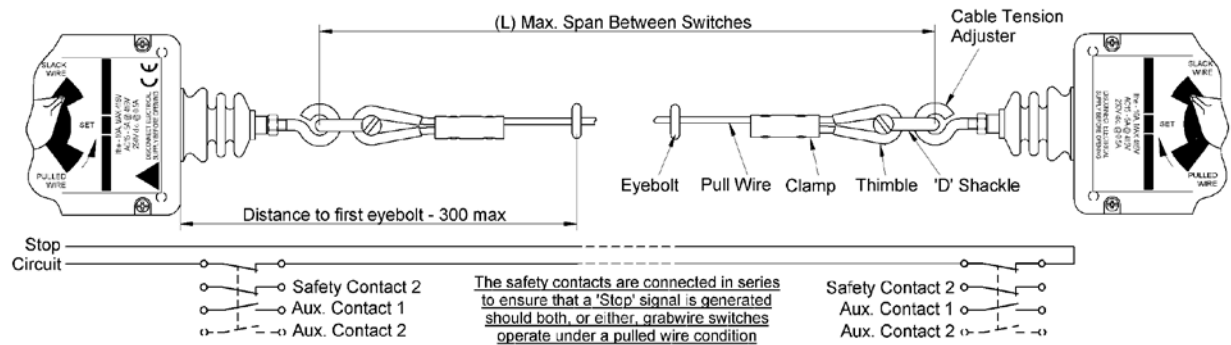
Image				
Cat. No.	GWN1	GWN2	GWN2/SS	GWDE
Description	Universal single ended	Universal single ended	Universal single ended	Universal double ended
Max. span between pairs (L) (or between switch & anchor box)	50m	100m	100m	2 x 100m
Encl. Material	Die-cast Aluminium (LM24)	Die-cast Aluminium (LM24)	Stainless Steel 1.6 mm Grade 316	Sheet Steel 1.6 mm
Finish	Textured Powder Coat RAL 3020	Textured Powder Coat RAL 3020	Polished	Textured Powder Coat RAL 3020
Ingress Protection	IP65	IP65	IP65	IP65
Rope Tensioner	Included	Included	Included	Included
Earthing	M4 Internal & External	M5 Internal & External	M5 Internal & External	M5 Internal & External
Electrical Contacts	2 N/C (Safety) + 1 N/O	2 N/C (Safety) + 2 N/O	2 N/C (Safety) + 2 N/O	2 x {2 N/C (Safety) + 2 N/O}
Electrical Rating:- Ith / Ui	10A/415V	10A/415V	16A/600V	16A/600V
AC21/22/23A to BS EN 60947-3	-	-	16A at 415V	16A at 415V
AC15 to BS EN 60947-5-1	5A at 415V	5A at 415V	5A at 415V	5A at 415V
Optional Indicator Lamp	✓	✓	-	-
Setting-up indicator	✓	✓	✓	✓
Hand reset knob	✓	✓	✓	✓
Universal (LH or RH) mounting	✓	✓	✓	✓
Image	Description			Cat. No.
	Each connection kit includes:- <ul style="list-style-type: none"> Multi strand steel catenary cable with red PVC covering* Stainless steel eyebolt supports. Sufficient to support the cable at 2M intervals. Supplied complete with two fixing nuts* 2 x Stainless steel thimbles 2 x Stainless steel 'D' shackles 2 x Stainless steel clamps 			Basic - GK00* Up to 5m - GK5 Up to 10m - GK10 Up to 20m - GK20 Up to 50m - GK50 Up to 75m - GK75 Up to 100m - GK100

Minimum Installation Requirements

When planning a grabwire installation, it is vital that the operators safety is always the primary objective. Plan the route of the 'pull wire' carefully to ensure maximum accessibility by the possible users. Ensure that supports can be placed at a maximum of 2m spacing. The placement of the grabwire switches need to be in reachable positions for setting-up, monitoring and resetting after an incident.

It is necessary to place the first eyebolt close to the switching body to ensure that if the wire is pulled at a very oblique angle, then the pull on the switch remains linear. Although corners/bends can be incorporated in the run, try to avoid too many. It may be necessary to install additional systems to ensure an effective installation. The ultimate objective must be to provide a free running 'pull wire' with the minimum of resistance to movement.

Measure each run and select a Grabwire switch whose max. span (L) is greater than the measured distance. If the total length is over 100m, then multiple installations will be necessary. If the length is excessive, then consider using the 'LW' system. Choose the Stainless Steel grabwire switch option if the working environment will be continuously wet or subject to systematic cleansing routines.

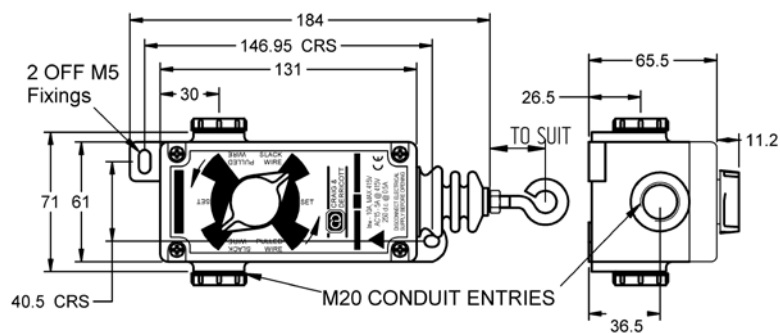


Accessories

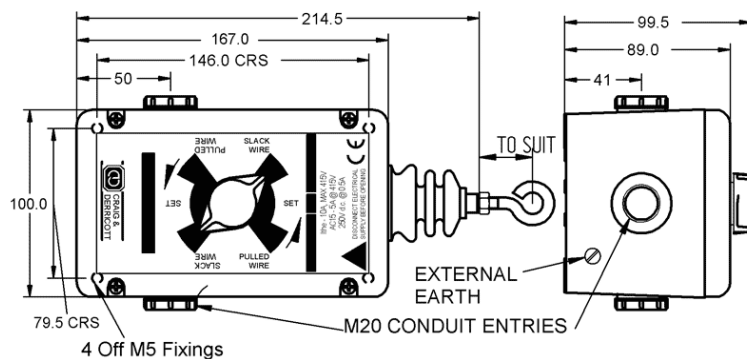
To assist with the possible variations necessary when designing an installation, the following accessories are available.

Image	Description	Cat. No.
	Non Switching Anchor Box with manual reset	GW/AB
	Indicator lamp, which when powered through one of the spare N/O contacts, will indicate which grabwire switch has been actuated. (Indicates on 'Pulled' or 'Slack Wire' conditions) Supplied complete with bulb. Other colours and supply voltages available to order. 24V (Amber) Annunicator Lamp 110V (Amber) Annunicator Lamp	GW024A GW110A
	Stranded steel 'pull wire' with red PVC covering. (Ø5 approx O/D) Sold per Metre. Pull Wire (As supplied in the connecting kits)	MR 0221
	Standard length 'eyebolt' for 'pull wire' support. Supplied complete with 2 x locking nuts. Material- Stainless steel, Size - M6, Overall length - 80, Thread length - 58 Standard M6 Eyebolt (As supplied in the connection kits)	GWA 0070
	Extended length 'eyebolt' for 'pull wire' support. Supplied complete with 2 x locking nuts. Material - Stainless steel, Size - M6, Overall length - 230, Thread length - 200 Extended M6 Eyebolt	GWC 0270
	Wrap around 'thimble' to terminate the 'pull wire'. Material - Stainless steel Termination 'thimble' (As supplied in the connection kits)	GWC 0163
	'D Shackle' to connect the 'pull wire' to the grabwire switches. Material- Stainless steel Connection 'D Shackle' (As supplied in the connection kits)	GWC 0166
	Cable clamp for securing the 'pull wire' back upon itself once passed around the 'thimble'. Tightening via 2 x Allen screws. Material - Stainless steel Cable clamp (As supplied in the connection kits)	GWC 0167
	Allen key for tightening 'Cable Clamp' above. Size- 2.5 A/F Allen Key (As supplied in the connection kits)	GWC 0189

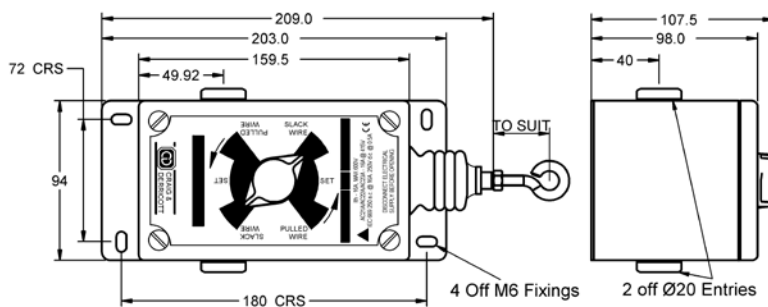
GWN1



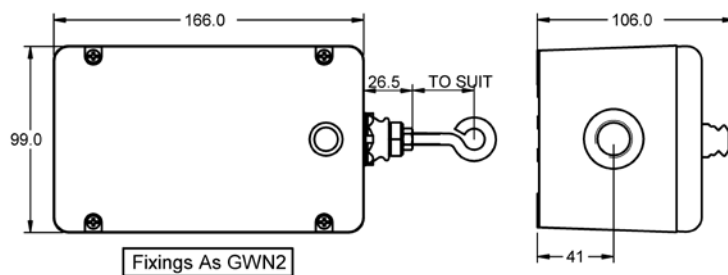
GWN2



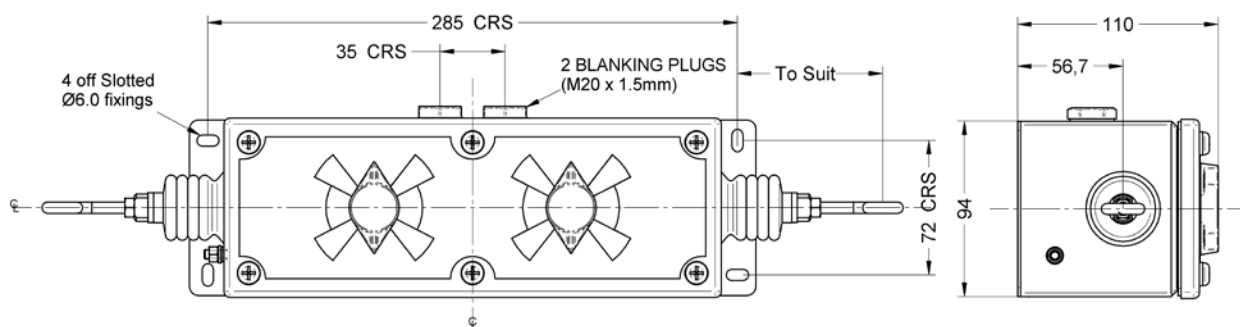
GWN2/SS



GW/AB Anchor Box



GWDE

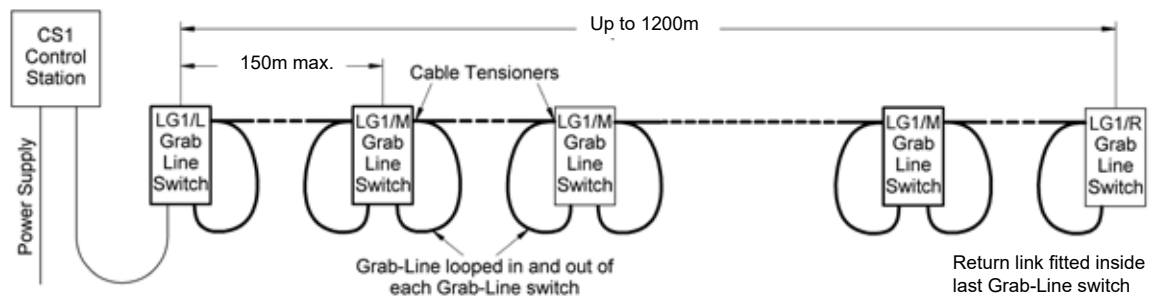




LW Range

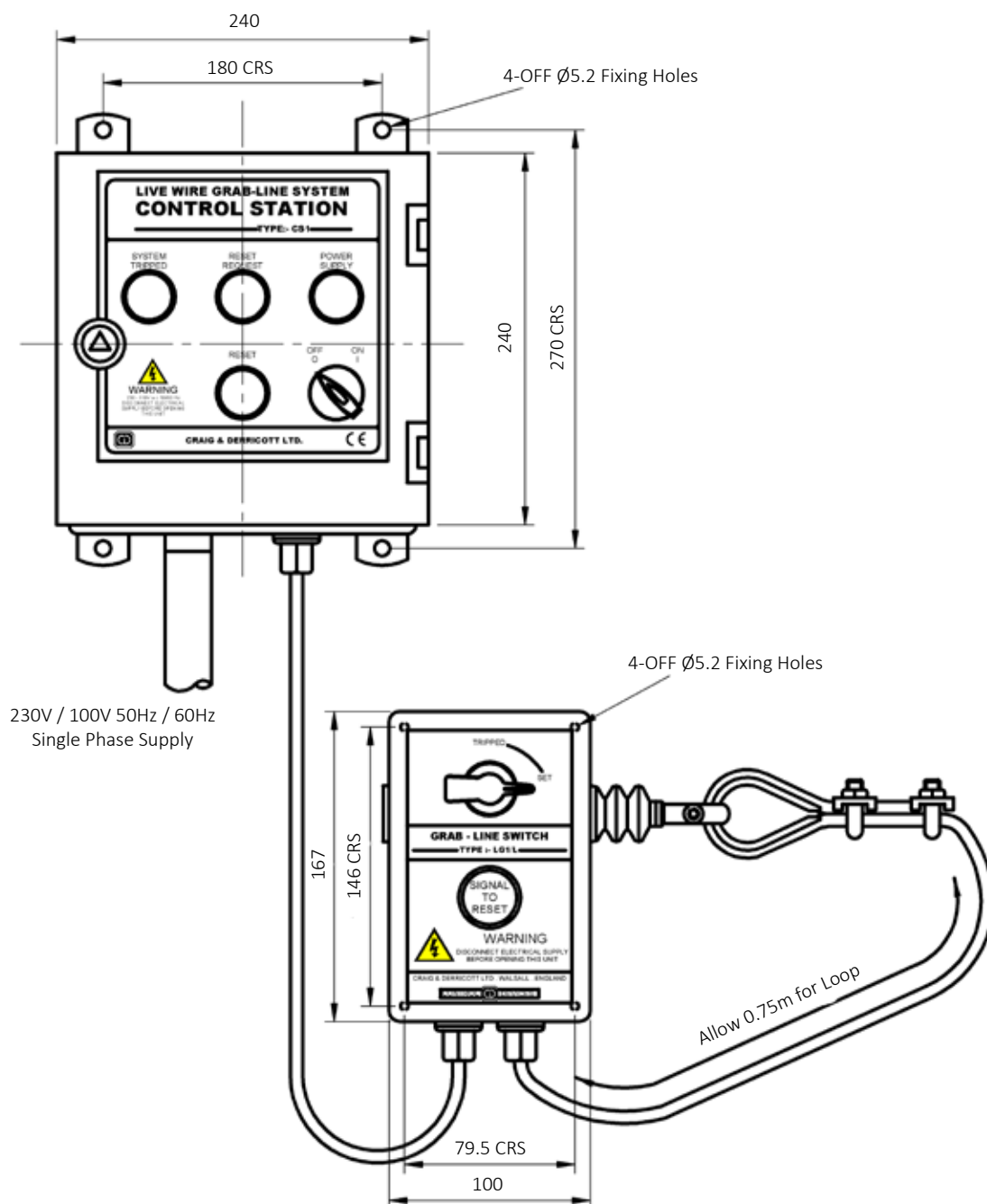
Designed specifically for long distance protection, where a tensioned wire installation (GW series) becomes expensive or impractical. The 'LW' range system incorporates the following safety features:-

- The trip switch interior to each grabwire assembly contains positive push-off contacts.
- The system will trip in the event of-
 - (a) a Grab-Line being pulled in any direction.
 - (b) a Grab-Line being broken or the Grab-Line circuit interrupted.
 - (c) a short circuit condition occurring in the Grab-Line circuit.
 - (d) a loss of power to the Control Station.
- Once tripped, the system requires manual resetting.
- Only a safe low voltage is applied to the Grab-Line circuit and Grab-Line switch assemblies.

The system is ideal for heavy duty and exposed situations. The Control Station and Grab-Line switch assemblies are housed in substantial enclosures which are sealed to IP65. Stainless steel components are used where necessary to ensure reliability is maintained.



	Description	Cat. No.
	A control station assembly required for each installation. The sheet steel housed control station contains the following equipment: <ul style="list-style-type: none"> • On/Off switch • 'Supply On' Indicator Lamp (Blue) • 'Reset' Pushbutton • 'Reset System' Indicator Lamp (White) • 'System Tripped' indicator Lamp (Red) 	CS1
	LH Grab-Line switch housed in heavy duty die-cast aluminium enclosures. <ul style="list-style-type: none"> • Manual 'Reset/Condition Indicator' knob • 'Signal to Reset' pushbutton 	LG1/L
	RH Grab-Line switch housed in heavy duty die-cast aluminium enclosures. <ul style="list-style-type: none"> • Manual 'Reset/Condition Indicator' knob • 'Signal to Reset' pushbutton 	LG1/R
	Mid Grab-Line switch housed in heavy duty die-cast aluminium enclosures. <ul style="list-style-type: none"> • Manual 'Reset/Condition Indicator' knob • 'Signal to Reset' pushbutton 	LG1/M
	Grab-Line cable (75m). Thick outer sheath of red PVC. Flexible steel wire armour	GWC 0038A
	Grab-Line cable (100m). Thick outer sheath of red PVC. Flexible steel wire armour	GWC 0038B
	Grab-Line cable (125m). Thick outer sheath of red PVC. Flexible steel wire armour	GWC 0038C
	Grab-Line cable (150m). Thick outer sheath of red PVC. Flexible steel wire armour	GWC 0038D
	Stainless Steel Eyebolt with fixing nuts	GWA 0070
	Grab-Line Thimble	GWC 0031A
	Grab-Line Clamp	GWC 0032A
	Grab-Line 'D' shackle	GWC 0033A
	Cable gland	GWC 0039

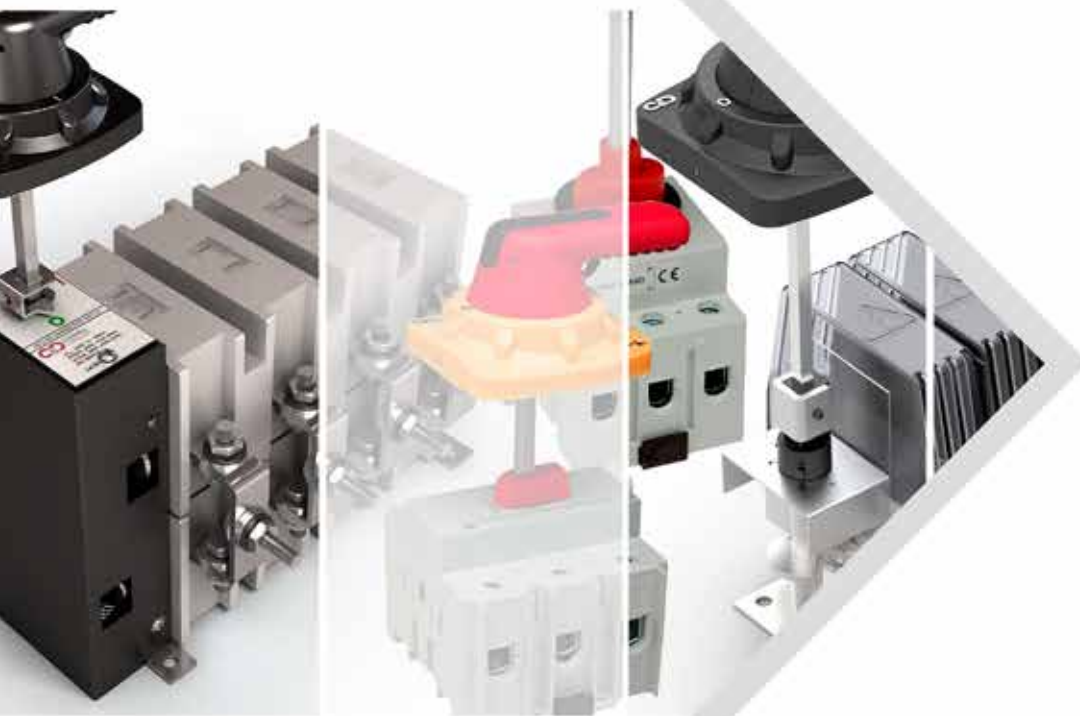


Application		
Input Voltage		110V (15W max.), 240V (15W max)
System Voltage		24V a.c. - 1/2 wave rectified
Control Circuit Relay	Contact Operation	Positively operated
	Rated Load	3A at 240V a.c. 3A (Resistive) at 24V d.c.
	Max. Switching Current	6A
	Max. Switching Voltage	250V a.c. & 24V d.c
	Minimum Permissible Load	5V d.c.- 10mA
	Mechanical / Electrical Life	10 x 10 ⁶ /10 x 10 ³
	Contact Resistance	100 mΩ
Power Protection Fuse		2A
Safety Circuit Fuse		200mA
Max. Grab-Line Circuit Resistance		50 Ohms
Pull Force To Operate		Approx 5kg.

Full documentation and installation instructions are supplied with each control station

PANEL ISOLATORS

Craig & Derrickott has a range of products designed specifically for control panel and switchboard construction. Most panels require a means of electrical isolation and the i-switch range can offer variants in the range of 25A- 1250A. All handle assemblies employ safety features with an override facility for testing or emergency situations. A choice of shaft lengths, auxiliary contacts & shields provide the flexibility to suit most applications.



Compact Range

Craig & Derricott has ranges of compact control panel isolation equipment for panel mounting ranging from 25A to 200A. All come supplied with operating handle and a standard length shaft.


A compact range of Switch-Disconnectors with the capacity to add auxiliary and neutral block options to the basic load break switch block.

Features

- IP2X terminal protection.
- Door interlock handles with override facility
- DIN rail or base mounting.
- Add-on auxiliary/neutral blocks.

The Cat. No.s below include:

- On-load AC23A Switch-disconnector.
- 100mm standard length shaft assembly.
- IP65 minimum door interlock handle.
- Incoming terminal covers (A3 frame sizes only).

Image	Rating	Format	Cat. No.	Frame Size
	25A	3P	SD00253B	A0
		6P	SD00256B	A0-A0
	32A	3P	SD00323B	A0
	40A	3P	SD00403B	A0
		6P	SD00406B	A1-A1
	63A	3P	SD00633B	A1
		6P	SD00636B	A1-A1
	80A	3P	SD00803B	A1
	100A	3P	SDC01003B	A2
		6P	SDC01006B	A2-A2
	125A	3P	SDC01253B	A2
		6P	SDC01256B	A2-A2
	160A	3P	SDC01603B	A2
		6P	SDC01606B	A2-A2
	200A	3P	SDC02003B	A3

'B' = Black Handle. For Red Handle, replace B with R in the Cat. No. e.g. SD00253R

Accessories

All of the accessories listed below can be retrofitted. One block can be fitted either side of the main assembly on all of the 3 pole Switch-Disconnector interiors.

Image	Description	Cat. No.
	Auxiliary Contact- 2 Early Break	SAUX2EB
	Auxiliary Contact- 1 N/O + 1 N/C	SAUXCO
	25A- 40A Compact Neutral (Unswitched)	SNLC40
	63A Neutral (Unswitched)	SNL63
	80A Neutral (Unswitched)	SNL80
	100A Neutral (Unswitched)	SNL100
	125A Neutral (Unswitched)	SNL125
	160A Neutral (Unswitched)	SNL160
	200A Neutral (Unswitched)	SNL200
	25A Neutral (Switched)	SSP25
	40A Neutral (Switched)	SSP40
	63A Neutral (Switched)	SSP63
	80A Neutral (Switched)	SSP80
	100A Neutral (Switched)	SSP100
	125A Neutral (Switched)	SSP125
	160A Neutral (Switched)	SSP160
	200A Neutral (Switched)	SSP200

Extended Shafts

Both the standard 100mm shaft and the longer version as shown below can easily be adjusted to suit specific panel depths.

Shaft length	Frame size	Shaft (mm ²)	Cat. No.
200mm	AO & A1	6	SSH2
200mm	A2 & A3	8	SSH17



The standard 100mm Option shown.



Handle assembly supplied with the 'AO' & 'A1' frame Sizes (SDH1/BLK).

Handle assembly supplied with the 'A2' & 'A3' frame Sizes (SDH3/BLK).

Standard Range



A robust range of load break switches to ensure simple installation in applications such as power distribution boards. The compact design also suits OEM's and stand alone enclosure installations. A range of accessories extends the versatility.

Features:-

- On-load AC23A ratings.
- Four frame sizes covering 100A- 1250A.
- Direct lug connections onto plated Copper palms.
- Windows for contact inspection
- Supplied as either 3 or 4 pole versions.
- IP65 sealing door interlocking handles.
- Internal locking feature.

The Cat. No.s below include:-

- On-load AC23A Switch-disconnector.
- 200mm standard length shaft assembly.
- IP65 door interlock handle..

Image	Rating	Format	Cat. No.	Frame Size
	100A	3P	SD01003B	B1
		4P	SD01004B	
	125A	3P	SD01253B	B1
		4P	SD01254B	
	160A	3P	SD01603B	B1
		4P	SD01604B	
	200A	3P	SD02003B	B2
		4P	SD02004B	
	250A	3P	SD02503B	B2
		4P	SD02504B	
	400A	3P	SD04003B	B3
		4P	SD04004B	
	630A	3P	SD06303B	B3
		4P	SD06304B	
	800A	3P	SD08003B	B3
		4P	SD08004B	
	1000A	3P	SD10003B	B4
		4P	SD10004B	
	1250A	3P	SD12503B	B4
		4P	SD12504B	

'B' = Black Handle. For Red Handle, replace B with R in the Cat. No. e.g. SD01003R

Accessories

Add-on auxiliary contacts are available for the 100A- 1250A range and can be selected from the table below.

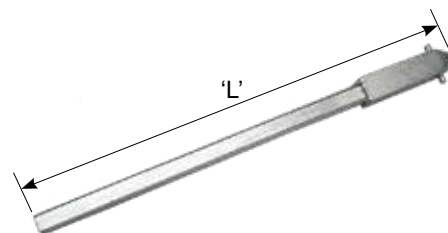
All auxiliary kits contain the necessary fixings and attachments to install the contact blocks which are supplied in 1 N/O + 1 N/C format. All N/O contacts are early break with respect to the main poles when switching from 'On' to 'Off'.

Image	Description	Cat. No.
	Auxiliary Contact for 100A - 160A	SAUXKITA
	Auxiliary Contact for 1000A - 1250A	SAUXKITD
	Auxiliary Contact for 200A - 250A	SAUXKITB
	Auxiliary Contact for 400A - 800A	SAUXKITC
	Spare Terminal Cover for 200A	STS1
	Spare Terminal Cover for 250A - 400A	STS2
	Set of 4 Terminal Covers for 630A	STS4
	Handle assembly for B1 frame size	SDH2/BLK
	Handle assembly for B2 frame size	SDH3/BLK
	Handle assembly for B3 frame size	SDH4/BLK
	Handle assembly for B4 frame size	SDH7/BLK

Alternative Shafts

As an alternative to the standard 200mm shaft a 400mm option is available as indicated below. The shafts are manufactured from square section steel and zinc plated. The height setting is adjusted by passing the shaft through a bush in the switch mechanism and locking it in position using a 'cup point' grub screw.

Rating	Shaft length	Cat. No.
100A - 160A	400mm	SSH13
200A - 250A	400mm	SSH14
400A - 1250A	400mm	SSH15



Fuse Combination Range



A compact range of fuse combination units designed specifically for the panel builder market.

Features

- IP2X terminal protection.
- Suitable for std. IEC/BS EN 60269 (BS88) fuse links.
- Supplied as 3P+N or 3P+NL (Neutral Switched or Unswitched respectively).
- Add-on auxiliary/neutral blocks.

The Cat. No.s below include:-


- On-load AC23A fuse combination unit.
- 200mm standard length shaft assembly.
- IP65 door interlocking handle.

Image	Rating	Format	Cat. No.	Frame Size
	32A	3P+N	SDF00323NB	D1
		3P+NL	SDF00323NLB	
	63A	3P+N	SDF00633NB	D1
		3P+NL	SDF00633NLB	
	100A	3P+N	SDF01003NB	D2
		3P+NL	SDF01003NLB	
	125A	3P+N	SDF01253NB	D2
		3P+NL	SDF01253NLB	
	160A	3P+N	SDF01603NB	D3
		3P+NL	SDF01603NLB	
	200A	3P+N	SDF02003NB	D4
		3P+NL	SDF02003NLB	
	250A	3P+N	SDF02503NB	D4
		3P+NL	SDF02503NLB	
	315A	3P+N	SDF03153NB	D5
		3P+NL	SDF03153NLB	
	400A	3P+N	SDF04003NB	D5
		3P+NL	SDF04003NLB	
	630A	3P+N	SDF06303NB	D6
		3P+NL	SDF06303NLB	

'B' = Black Handle. For Red Handle, replace B with R in the Cat. No. e.g. SDF00253R

Accessories

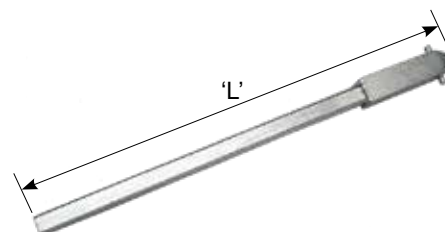
Auxiliary blocks and fuse links are available for all Fuse Combination Units. Please select from the tables below. All auxiliaries are supplied as 1 N/O+1 N/C pair. All N/O auxiliary contacts are early break with respect to the main poles when switching from 'On' to 'Off'. Fuse links can be fitted to a lower rating to suit a particular load: please refer to the rating table below to maintain the correct size/tag format (A2, A4, B1 etc.)

Image	Description	Fuse Fixing CRS (mm)	Cat. No.
	Auxiliary Contact for 32A - 160A		SAUXKITA
	Auxiliary Contact for 630A		SAUXKITD
	Auxiliary Contact for 200A - 400A		SAUXKITC
	32A fuse link for BS fuse format A2 - A3	73 nom.	SFL32
	63A fuse link for BS fuse format A2 - A3	73 nom.	SFL63
	100A fuse link for BS fuse format A4	94 nom.	SFL100
	125A fuse link for BS fuse format A4	94 nom.	SFL125
	160A fuse link for BS fuse format B1 - B2	111 nom.	SFL160
	200A fuse link for BS fuse format B1 - B2	111 nom.	SFL200
	250A fuse link for BS fuse format B1 - B2	111 nom.	SFL250
	315A fuse link for BS fuse format B1 - B4	111 nom.	SFL315
	400A fuse link for BS fuse format B1 - B4	111 nom.	SFL400
	630A fuse link for BS fuse format C1 - C3	133 / 184 nom.	SFL630

Alternative Shafts

As an alternative to the standard 200mm shaft a 400mm option is available as indicated below. The shafts are manufactured from square section steel and zinc plated. The height setting is adjusted by passing the shaft through a bush in the switch mechanism and locking it in position using two 'cup point' grub screw.

Rating	Shaft length	Cat. No.
32A - 160A	400mm	SSH13
200A - 630A	400mm	SSH15



Changeover Range


A compact range of load break Changeover Switches suitable for a wide range of applications.

Features

- Compact 'piggy-back' design.
- On-load AC23A ratings.
- Supplied as four pole format.
- Windows for visual contact inspection.

The Cat. No.s below include:-

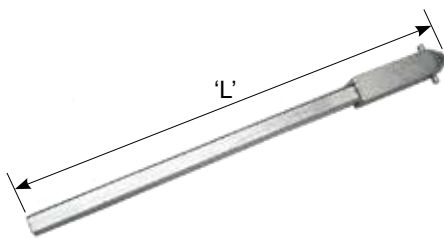
- On-load AC23A changeover four pole switch.
- 200mm standard length shaft assembly.
- IP65 door interlocking handle.

Image	Rating	Format	Cat. No.	Frame Size
	63A	4P	SCOD00634B	C1C
	100A	4P	SCOD01004B	C1C
	125A	4P	SCOD01254B	C2C
	160A	4P	SCOD01604B	C2C
	200A	4P	SCOD02004B	C2C
	250A	4P	SCOD02504B	C2
	400A	4P	SCOD04004B	C3
	630A	4P	SCOD06304B	C3

Alternative Shafts

As an alternative to the standard 200mm shaft a 400mm option is available as indicated below. The shafts are manufactured from square section steel and zinc plated. The height setting is adjusted by passing the shaft through a bush in the switch mechanism and locking it in position using a 'cup point' grub screw.

Rating	Shaft length	Cat. No.
63A- 100A	400mm	SSH14
125A- 200A	400mm	SSH18
250A- 630A	400mm	SSH15



Supplied Handles

Designed to compliment the handles used on our enclosed equipment, the door interlocked versions are capable of being locked with up to three individual padlocks (Ø6.4 max shackle dia). All handles are sealed to IP65 which will enable installations in a wide variety of environmental conditions.

If the contacts should weld due to a fault or an excessive current situation, an override facility is provided for the use of a competent person which will allow the enclosure lid to be opened.






















Handle assembly supplied with the 'C1C & C2C' frame size (PSA0515). Handle length 145mm.



Handle assembly supplied with the 'C2' & 'C3' frame size (SDH6/BLK). Handle length 220mm.



















Technical Specification - Panel Isolators

Data supplied against tests to BS EN 60947-3. *All AC21, AC22 & AC23 tests carried out at 415V.

Compact Range													
Application	Sym	Unit	Category	25	32	40	63	80	100	125	160	200	
Rated thermal current	I _{th}	A		25	32	40	63	80	100	125	160	200	
Rated insulation voltage	U _i	V		690	690	690	690	690	1000	1000	1000	1000	
Rated impulse voltage	U _{imp}	kV		6	6	6	6	6	8	8	8	8	
Rated operational current (AC)	I _e	A	400V- AC21A	25	32	40	63	80	100	125	160	200	
			400V- AC22A	-	-	-	-	-	100	125	160	200	
			400V- AC23A	21	29	29	48	56	100	112	128	128	
Rated operational current (DC) (/poles in series)	I _e	A	Up to 48V- DC21A	25/1	32/1	40/1	63/1	80/1	-	-	-	-	
			220V- DC21A	25/3	32/3	40/3	63/4	80/4	-	-	-	-	
			Up to 48V- DC22A	-	-	-	-	-	-	-	-	-	
			220V- DC22A	-	-	-	-	-	-	-	-	-	
			Up to 48V- DC23A	-	-	-	-	-	-	-	-	-	
			220V- DC23A	-	-	-	-	-	-	-	-	-	
Rated operational power	P _e	kW	400/415V- AC23A	11	15	15	25	30	59	63	75	75	
Short circuit making capacity	I _{cm}	kA	Peak value	1.2	1.4	1.4	2.9	3.0	3.7	4.0	5.0	5.0	
Short circuit withstand (1sec)	I _{cw}	kA	rms value	0.5	0.6	0.6	1.3	1.4	2.6	2.8	3.0	3.0	
Min. mechanical endurance		-	Operations	250 x 10 ³	250 x 10 ³	250 x 10 ³	250 x 10 ³	250 x 10 ³	50 x 10 ³	50 x 10 ³	50 x 10 ³	50 x 10 ³	
Min. electrical endurance		-	415V- at 0.65 pf	-	-	-	-	-	-	-	-	-	
Connecting capacity		-	Terminal type										
		mm ²	Min/Max	2.5/6	2.5/10	2.5/10	2.5/25	2.5/25	10/70	10/70	10/70	-	
		mm	Stud/Cu palm width	-	-	-	-	-	-	-	-	8/20	
		Nm	Tightening torque	1.2	1.2	1.2	1.2	1.2	5	5	5	12	
Standard Range													
Application	Sym	Unit	Category	100	125	160	200	250	400	630	800	1000	1250
Rated thermal current	I _{th}	A		115	125	160	200	270	500	630	720	1000	1250
Rated insulation voltage	U _i	V		750	750	750	1000	1000	1000	1000	1000	1000	1000
Rated impulse voltage	U _{imp}	kV		8	8	8	12	12	12	12	12	8	8
Rated operational current (AC)	I _e	A	400V- AC21A	100*	125*	160*	200*	250*	400*	630*	800*	1000*	1250*
			400V- AC22A	100*	125*	160*	200*	250*	400*	630*	800*	1000*	1250*
			400V- AC23A	100*	125*	135*	200*	250*	400*	630*	720*	-	-
Rated operational current (DC) (/poles in series)	I _e	A	Up to 48V- DC21A	100/2	125/2	160/2	200/2	250/2	400/2	630/1	800/1	1000/1	1250/1
			220V- DC21A	100/3	125/3	160/3	200/2	250/2	400/2	630/2	800/2	1000/3	1250/3
			Up to 48V- DC22A	100/2	125/2	160/2	200/2	250/2	400/1	630/1	800/1	-	-
			220V- DC22A	100/3	125/3	160/3	200/2	250/2	400/2	630/2	800/2	-	-
			Up to 48V- DC23A	100/2	125/2	160/2	200/2	250/2	400/1	630/1	800/1	-	-
			220V- DC23A	100/3	125/3	160/3	200/2	250/2	400/2	630/2	630/2	-	-
Rated operational power	P _e	kW	400/415V- AC23A	37	45	75	110	132	200	315	355	400	500
Short circuit making capacity	I _{cm}	kA	Peak value	7	7	7	35	35	65	80	80	105	105
Short circuit withstand (1sec)	I _{cw}	kA	rms value	5	5	5	8	8	17	17	17	50	50
Min. mechanical endurance		-	Operations	20 x 10 ³	20 x 10 ³	20 x 10 ³	16 x 10 ³	16 x 10 ³	10 x 10 ³	10 x 10 ³	10 x 10 ³	6 x 10 ³	6 x 10 ³
Min. electrical endurance		-	415V- at 0.65 pf	5,000	5,000	1,000	1,000	1,000	1,000	500	500	500	500
Connecting capacity		-	Terminal type										
		mm ²	Min/Max	-	-	-	-	-	-	-	-	-	-
		mm	Stud/Cu palm width	8x25	8x25	8x25	8x25	10x30	10x40	12x40	12x40	12x60	12/60
		Nm	Tightening torque	6	8	8	20	25	25	40	40	40	40

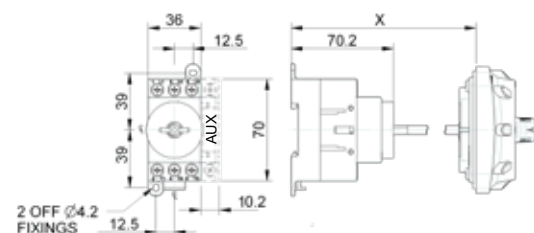
Technical Specification - Panel Isolators

Data supplied against tests to BS EN 60947-3. *Two Pole in series.

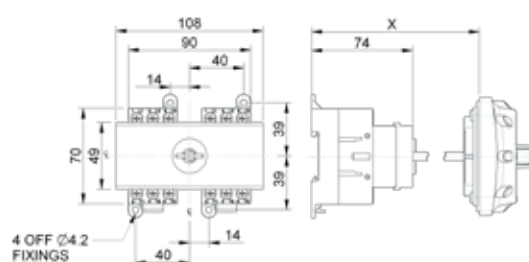
Fuse Combination Range													
Application	Sym	Unit	Category	32	63	100	125	160	200	250	315	400	630
Rated thermal current	I _{the}	A		32	63	100	125	160	200	250	315	400	630
Rated insulation voltage	U _i	V		750	750	750	750	750	750	750	750	750	750
Rated impulse voltage	U _{imp}	kV		12	12	12	12	12	12	12	12	12	12
Rated operational current	I _e	A	415V- AC23A	32	63	100	125	160	200	250	315	400	630
			220V- DC23A	-	-	100	125	160	200	250	315	400	630
Rated making capacity (AC23A)		A	415V, 0.35 pf	320	630	1,000	1,250	1,600	2,000	2,500	3,150	4,000	6,300
Rated breaking capacity (AC23A)		A	415V, 0.35 pf	256	504	800	1,000	1,280	1,600	2,000	2,520	3,200	5,040
Rated Conditional (Fused) short circuit		kA	S/C current rms	80	80	80	80	80	80	80	80	80	80
		A	back-up fuse	32	63	100	125	160	200	250	315	400	630
Min. mechanical endurance		-	Operations	25,000	25,000	15,000	15,000	15,000	10,000	10,000	10,000	10,000	6,000
Min. electrical endurance		-	415V- at 0.65 pf	1,500	1,500	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
BS fuse format				A2	A2	A4	A4	B1, B2	B1, B2	B1, B2	B1, B4	B1, B4	C1, C3
Connecting capacity		-	Terminal type										
		mm ²	Min/Max	16	25	95	95	120	240	240	300	300	400
		mm	Stud/Cu palm width	-	-	8x20	8x20	8x20	10x25	10x25	10x25	10x25	12x50
		Nm	Tightening torque	2.5	2.5	10	12	16	25	30	35	45	50
Changeover Range													
Application	Sym	Unit	Category	63	100	125	160	200	250	400	630		
Rated thermal current	I _{the}	A		63	100	125	160	200	250	400	630		
Rated insulation voltage	U _i	V		750	750	1000	1000	1000	1000	1000	1000		
Rated impulse voltage	U _{imp}	kV		6	6	6	6	6	12	12	12		
Rated operational current	I _e	A	415V- AC22A	63	100	125	160	200	250	400	630		
Rated making capacity (AC23A)		A	415V, 0.35 pf	630	630	1,250	1,600	2,000	2,500	4,000	6,300		
Rated breaking capacity (AC23A)		A	415V, 0.35 pf	504	504	1,000	1,280	1,600	2,000	3,200	5,040		
Short circuit current		kA	rms (with fuses)	80	80	80	80	80	100	100	80		
Rated S/C making capacity		kA	Peak	15	15	20	20	20	30	40	50		
Min. mechanical endurance		-	Operations	20,000	20,000	10,000	10,000	10,000	10,000	10,000	10,000		
Min. electrical endurance		-	415V- at 0.65 pf	2,500	1,500	1,000	1,000	1,000	1,000	1,000	500		
Connecting capacity		-	Terminal type										
		mm ²	Max	35	35	95	95	95	240	300	400		
		mm	Stud/Cu palm width	6/12	6/12	8/22	8/22	8/22	10/25	10/25	12/50		
		Nm	Tightening torque	3	3	10	10	10	30	45	50		

Compact Range

A0 Size (25A- 40A) - x1 = n/a | x2= 105-180 | x3 = 105-280

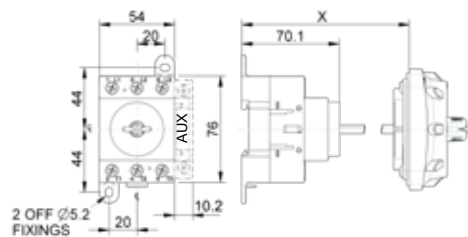


A0-A0 Size (6 pole 25A) - x1 = 98 | x2= 116-191 | x3 = 116-291

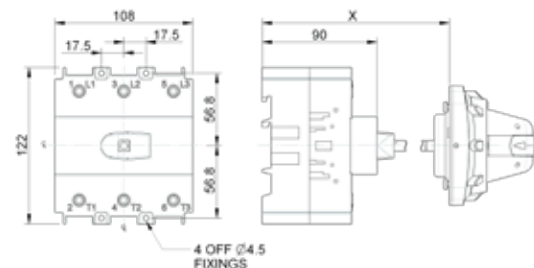


Compact Range

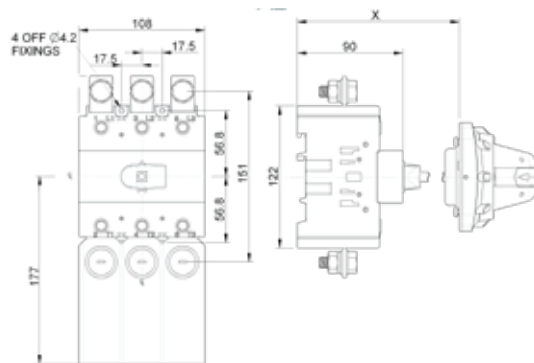
A1 Size (63A- 80A) - x1 = 98 | x2= 110-185 | x3 = 110-285



A2 Size (100A- 160A) - x1 = 121-166 | x2= n/a | x3 = 121-235

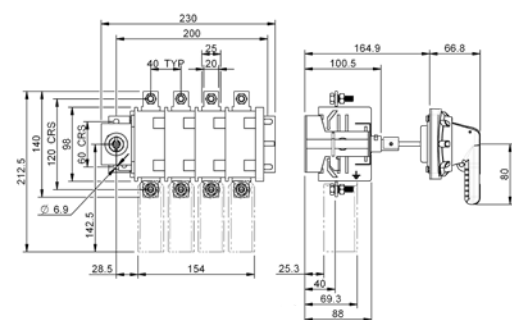


A3 Size (200A) - x1 = 121-166 | x2= n/a | x3 = 121-235

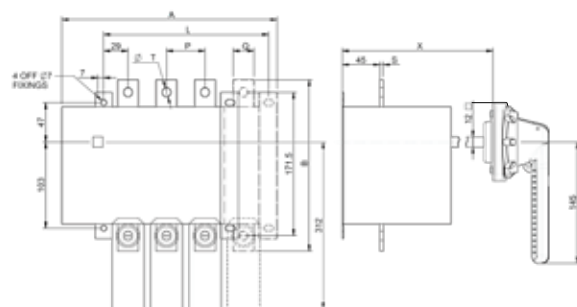


Standard Range

B1 Size (100A- 160A) - x3 = 156-251 | x4= 156-351

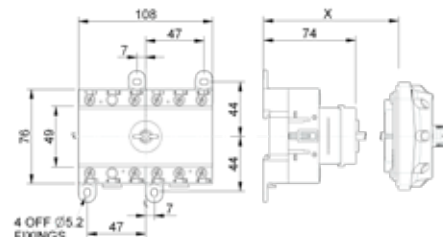


B3 Size (315A- 800A) - x3 = 163-257 | x4= 163-357

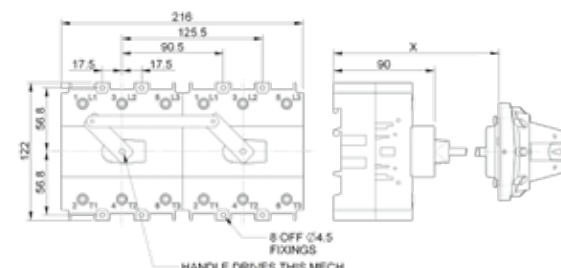


Rating	A		B	L		P	Q	S	T
	3P	4P		3P	4P				
400A	211	257	205	151	197	46	25	4	11
600A	244	306	223	183	245	62	40	5	13.5
800A	260	330	223	199	269	70	40	5	13.5

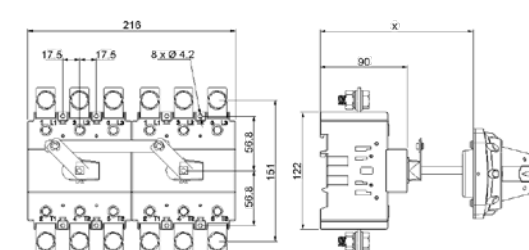
A1-A1 Size (6 pole 40A-80A) - x1 = 98 | x2= 116-191 | x3 = 116-291



A2-A2 Size (6 pole 100A-160A) - x1 = 121-166 | x2= n/a | x3 = 121-235



A3 Size (6 pole 200A) - x1 = 121-166 | x2= n/a | x3 = 121-235



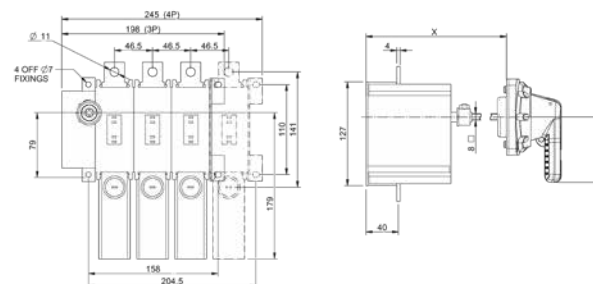
Compact Range

x1 = Min. & Max. (mm) (without extension shaft)

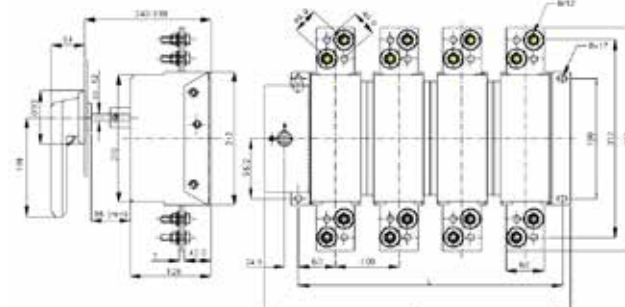
x2 = Min. & Max. (mm) with 100mm shaft extension

x3 = Min. & Max. (mm) with 200mm shaft extension

B2 Size (200A- 250A) - x3 = 158-254 | x4= 158-354



B4 Size (1000A-1250A)



Rating	A		L		T
	3P	4P	3P	4P	
1000A	383	483	318	418	8
1250A	383	483	318	418	8

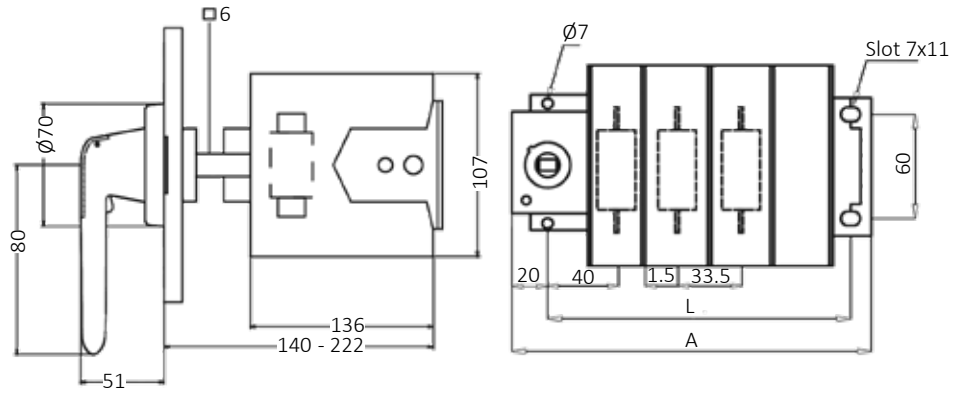
Standard Range

x3 = Min. & Max. (mm) with 200mm shaft extension

x4 = Min. & Max. (mm) with 400mm shaft extension

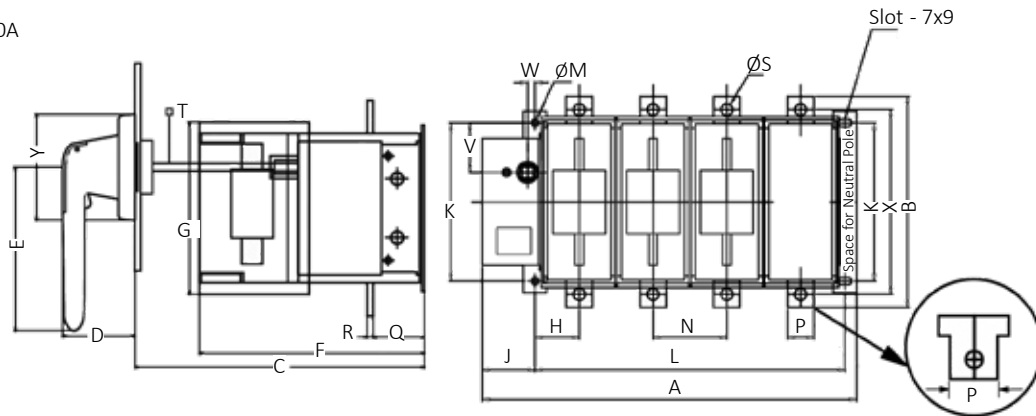
Fuse Combination Range

32A - 63A



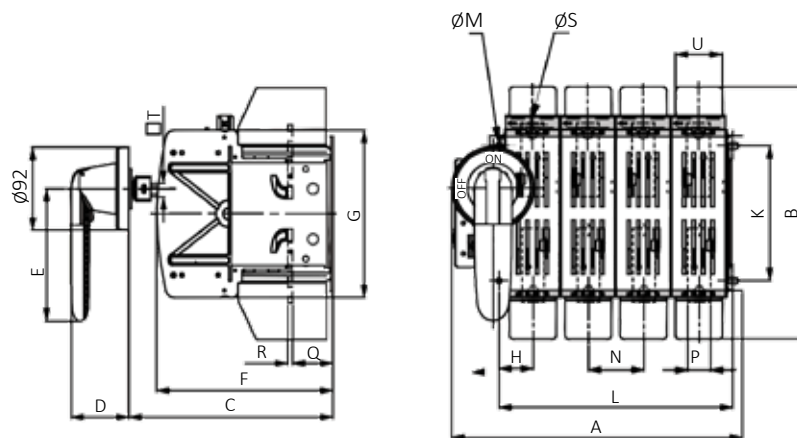
Format	A	L
3P+NL	168	138
3P+N	201	171
Frame Size D1		

100A - 160A



Rating (A)	A		B	C	D	E	F	G	H	J	K	L		M	N	P	Q	R	S	T	V	W	X	Y	Frame Size
	3P&NL	3P&N										3P&NL	3P&N												
100-125	190	230	142	135-225	67	80	134	98	44.5	20	60	160	195	7	40	20	40	2	9	6	30	0	122	93	D2
160	212	260	142	135-225	67	80	134	98	44.5	20	60	182	230	7	48	20	40	3	9	6	30	0	122	93	D3

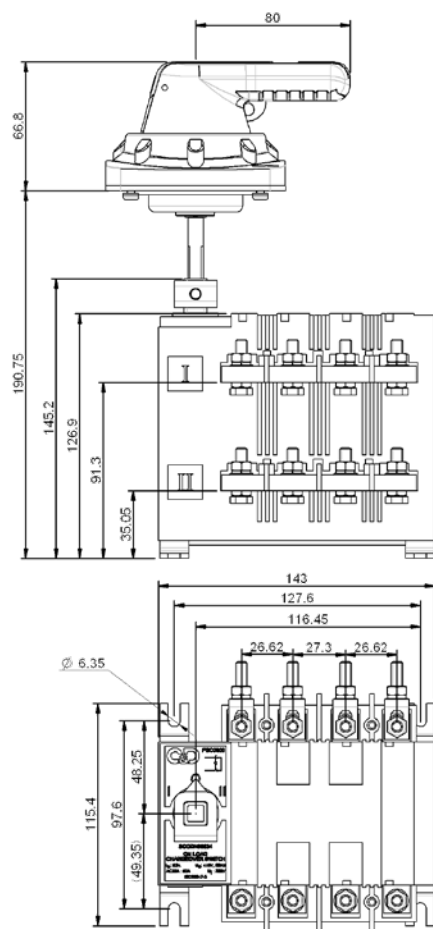
200A - 630A



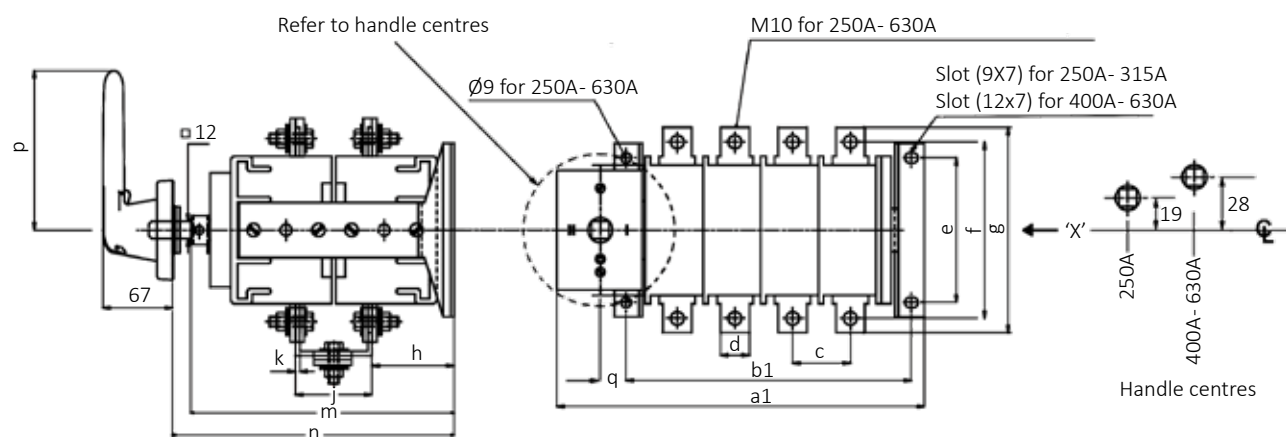
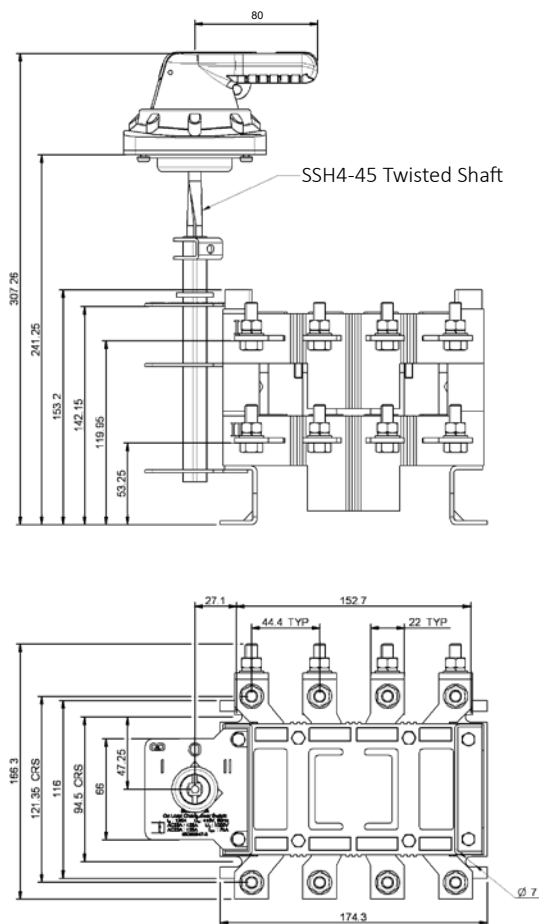
Rating (A)	A		B	C	D	E	F	G	H	K	L		M	N	P	Q	R	S	T	U	Frame Size
	3P&NL	3P&N									3P&NL	3P&N									
200-250	261	323	280	230-310	67	145	196	186	37	150	198	260	7	62	25	45	5	11	12	52	D4
315-400	285	355	280	230-310	67	145	196	186	37	150	222	292	7	70	25	45	5	11	12	52	D5
630	360	440	444	245-305	67	145	231	250	60	190	340	440	9	80	40	40	6	13	12	61	D6

Changeover Range

Frame Size C1C- 63A & 100A Ratings



Frame Size C2C- 125A, 160A & 200A Ratings



Rating (A)	A1	B1	C	D	E	F	G	H	J	K	M	N	P	Q	Frame Size
250 (C2)	309.5	252	61	25	124	138	163	65.5	81	4.0	242	255-355	145	18	C2
400 (C3)	352	276	70	25	150	180	205	85	96	4.0	262	300-400	220	26	C3
630 (C3)	352	276	70	40	150	185	223	84	98	5.0	262	300-400	220	26	C3

PUSH BUTTON COMPONENTS

Craig & Derricott have a wealth of pushbutton and indicator components to suit a wide range of applications.

For many years the '32 Series' has been the byword for heavy duty applications and many manufacturers standardise on this range. Although well established Craig & Derricott are still developing products to compliment the range.

When more conventional products are required Craig & Derricott can offer several different ranges with a comprehensive list of features and variations behind each one.



All of the ranges are covered by one or more of the following international approvals:-

Germany



Denmark



Canada



Sweden



Netherlands



Det Norske Veritas



ENEC



Norway



USA



Finland



China



UL


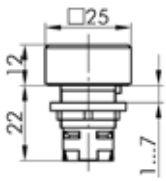

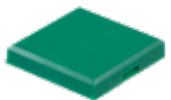

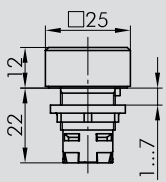
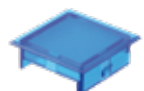
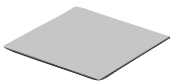


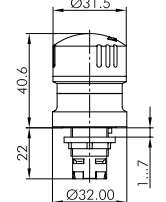

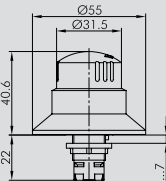

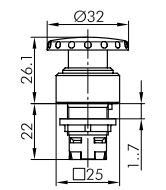

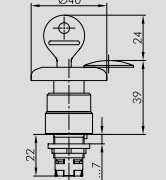


Europe



16 Series


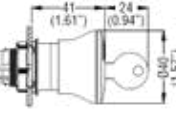

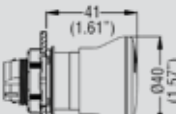

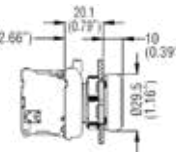

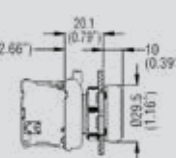

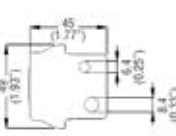



The 16 Series offers the user components with an attractive appearance and a small panel footprint. The square format allows simple alignment and the facility to butt components together to form very a compact multi-unit assembly. Although small in size, they are designed to withstand the rigours of normal industrial applications.

Image	Dims	Description	Cat. No.
		Pushbutton Actuator 25mm x 25mm Momentary action. Body Colour Black Charcoal (Contact block options AF, AT, AT2, ATL & ATL2) Requires flat colour cap & inscription plate	QXT QXTDG
		Flat Colour Caps Non transparent - no inscriptions WS - White, RT - Red, GN - Green, GB - Yellow, SW - Black, BL - Blue. (Add code letters to cat no e.g. T25FGRT)	T25FG...
		Flat Colour Caps Transparent - no inscriptions WS - White, RT - Red, GN - Green, GB - Yellow, SW - Black, BL - Blue, KL - Clear (Add code letters to cat no e.g. T25FRT)	T25F...
		Pilot Lamp 25mm x 25mm Colour Black Charcoal (Contact block options AL5) Requires flat lens & inscription plate	QXN QXNDG
		Pilot Lamp Lenses - Flat WS - Opal White, RT - Red, GN - Green, GB - Yellow, BL - Blue, KL - Clear (Add colour code to cat no e.g. KF25GB) For use with QXN..	KF25...
		Blank Inscription Plate	BSQXU
		Printed Inscription Plate Hundreds of standard printed images and text available, Speak to our sales department for details.	BSQX...
		Printed Inscription Plate Printed to customers own requirements. Suitable for QXT....	BSQXB
		Emergency Stop Actuator with Position Indicator Stayput twist-to-reset. Red button, yellow surround and green position indicator. (Contact block options AT & AT2) In accordance with EN 60068, EN ISO 13850, EN 60947-5-1 and EN 60947-5-5.	RXUV
		As the previous item but with anti-lock collar. Red actuator & yellow body, twist-to-reset action. (Contact block options AT & AT2)	RXBUV
		Stop actuator 25mm x 25mm Red actuator, momentary action. Body Colour Black Charcoal (Contact block options AT & AT2)	QXS QXSDG
		Emergency Stop actuator 25mm x 25mm Red actuator, stayput key reset action. Body Colour Black Charcoal (Contact block options AT & AT2) Replacement key- ES3A	QXVSCH QXVSCHDG

22 Series

Wherever the design of a control panel requires robustness, long life and reliability, then the 22 Series components meet the need. As well as looking elegant in their own right, they are often used as replacement items where other, less able components, have failed.


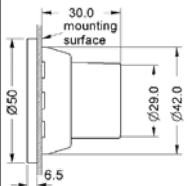

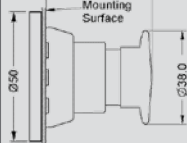

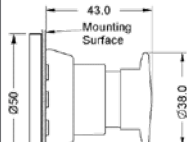

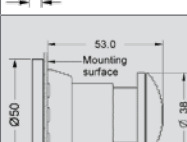

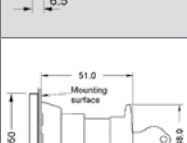

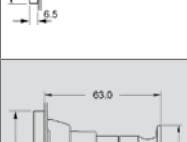
With a standard 22mm fixing, the range of actuators and contact block options lend themselves to a wide variety of applications- processing and manufacturing machines, shipbuilding, rail rolling stock, cranes & hoists, elevators and many other electromechanical applications.

Image	Dims	Description	Cat. No.
		Emergency Stop Actuator with Position Indicator Stayput key-to-reset. Red button, yellow surround and green position indicator.	22EMK/40
		Emergency Stop Actuator with Position Indicator Stayput twist-to-reset. Red button, yellow surround and green position indicator.	22EMT/40
		Ø22 Push button actuator- green	22PB/GN043
		Ø22 Push button actuator- red	22PB/RD041
		Yellow Padlockable shroud. Cannot be used with a legend plate.	ACC/PLPS
		Yellow Emergency Stop legend plate. Cannot be used with a padlockable shroud.	ACC/ESP60
		Mounting holder for 3 contact blocks For 22 series only.	MA3

32 Series

The 32 Series has long been recognised as being the pinnacle of strength and reliability in control gear components. All actuator bodies and locking rings are produced in Aluminium, with a silver anodised finish. The range incorporates all of the options required in today's safety conscious world, and all of the various items bring with them the ultimate in reliability.

There are several options suitable for Emergency Stop use, and to match the quality of the tactile components, the '32 Series' includes contact blocks with a generous rating which meet the latest safety requirements.


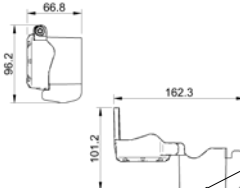

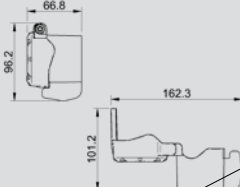

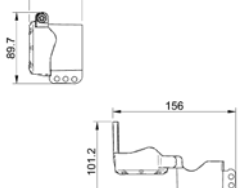

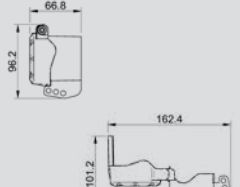

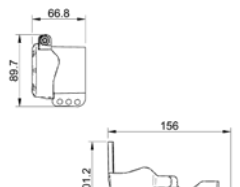

Image	Dims	Description	Cat. No.
		Full guard actuator- momentary. Moulded colour cap: Red Green Yellow Blue Black White	PR/SCH PG/SCH PY/SCH PZ/SCH PB/SCH PW/SCH
		Mushroom actuator Ø38- momentary. Moulded button. Actuator colour: Red Black Green Yellow Blue	PMR/SCH PMB/SCH PMG/SCH PMY/SCH PMZ/SCH
		Mushroom actuator Ø38 - stayput, pull-to-reset moulded button. Actuator colour: Red* Black Green Yellow Blue	PMRH/SCH PMBH/SCH PMGH/SCH PMYH/SCH PMZH/SCH
		Mushroom actuator Ø38- stayput, twist-to-reset. Moulded free to turn button with rear reset ring. Actuator colour: Red*	PMR-U59/SCH
		Mushroom actuator Ø38 - stayput, Key reset** die-cast button. Actuator colour: Red* Black	PMRA-U19 /SCH PMBA-U19 /SCH
		Mushroom actuator Ø32 - stayput, pull-to-reset die-cast button. Actuator colour: Red* (Designed specifically to work beneath flap covers to allow access for resetting)	PMARH- U51/ SCH

*Suitable for Emergency Stop use.

** 2 x DC800 series keys are supplied with each actuator as standard. Differs are available to special order.

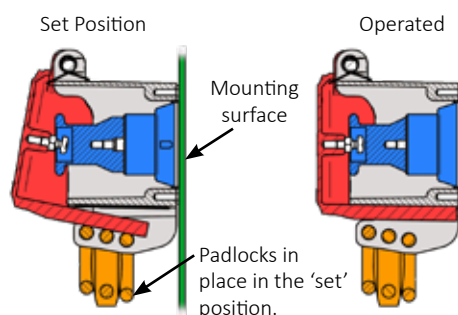
32 Series Accessories

The user can fit up to five 16A rated contact blocks on the back of an actuator, giving flexibility without rating constraints. The range incorporates many unique features and accessories, an example of which are the very popular die-cast flap covers. These are supplied in several variations to suit different levels of security and function. The 32 Series offers the user flexibility with strength.

Image	Dims	Description	Cat. No.
		Non-lockable Die-Cast Aluminium Flap Cover. Grey body with Red flap. Used to prevent accidental operation of a pushbutton or similar devices. Spring loaded so the flap is kept closed. 4 off M3.5 fixings on Ø49 PCD	U260-R
		Non-lockable Die-Cast Aluminium Flap Cover. Grey body with Red flap. Used to prevent accidental operation of a pushbutton or similar devices, cover is not spring loaded. 4 off M3.5 fixings on Ø49 PCD	U270-R
		Padlockable Die-Cast Aluminium Flap Cover. Grey body with Red flap (Other colours available to special order). Used to prevent unauthorised access to the actuator. Holes in the flap cover body are available to place up to three padlocks which will lock the cover closed. The cover cannot be opened until the last padlock has been removed. 4 off M3.5 fixings on Ø49 PCD	U280-R
		Padlockable Die-Cast Aluminium Flap Cover. Grey body with Red flap (Other colours available to special order). Used to prevent unauthorised resetting of stayput actuators. The flap is depressed to actuate the unit with the padlock(s) in position. The actuator remains in the operated position until access is allowed by removal of the padlock(s). 4 off M3.5 fixings on Ø49 PCD	U290-R
		Padlockable Die-Cast Aluminium Flap Cover. Grey body with Red flap (Other colours available to special order). Used as a hold button. The cover is depressed to operate the pushbutton, and it is manually held down whilst the padlock(s) are inserted. The pushbutton remains depressed until the padlock(s) are removed. 4 off M3.5 fixings on Ø49 PCD	U310-R
		Flap Cover Engraving STOP EMERGENCY STOP EMERGENCY TRIP EMERGENCY POWER OFF PRESS FIRMLY FOR EMERGENCY STOP Example:- U290-R0001 Other engravings can be accommodated, please contact our sales to discuss your requirements.	-0001 -0002 -0010 -0016 -0129


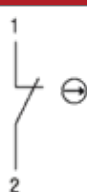



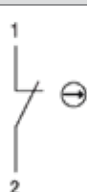



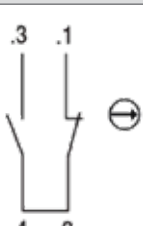


The U290 & U310 flaps are fitted with a set screw which depresses the actuator beneath the flap.



EMSL Series

For use with the 22 Series Actuators. A clip-in module which can be supplied in N/O and N/C format. Each contact block has screw termination and designed for Direct snap-on mounting to control station base. Maximum tightening torque for screw terminals: 1Nm.

Image	Contact Details	Description	Cat. No.
		Base mounted normally closed contact block <ul style="list-style-type: none"> Screw termination Direct snap-on mounting to control station base Maximum tightening torque for screw terminals: 1Nm 	EMSL/NC
		Base mounted normally open contact block <ul style="list-style-type: none"> Screw termination Direct snap-on mounting to control station base Maximum tightening torque for screw terminals: 1Nm 	EMSL/NO
		Lid mounted normally closed contact block <ul style="list-style-type: none"> Screw termination Direct snap-on mounting to control station actuator Maximum tightening torque for screw terminals: 1Nm 	CB1NC
		Lid mounted normally open contact block <ul style="list-style-type: none"> Screw termination Direct snap-on mounting to control station actuator Maximum tightening torque for screw terminals: 1Nm 	CB1NO
		Lid mounted normally closed safety contact block available for Emergency Stop control stations. When inserted the Red plunger will be operated by the pushbutton actuator, the green plunger will retain a N/C contact when the block is pushed fully home and clicked in-place. Should for any reason the block become loose, the contact under the green plunger will open and initiate a stop function. <ul style="list-style-type: none"> Screw termination Direct snap-on mounting to control station actuator Maximum tightening torque for screw terminals: 1Nm 	CB01NCM


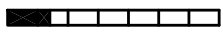



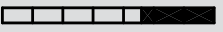








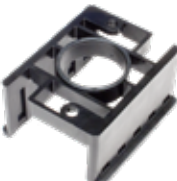
Technical Specification

Electrical Ratings- BS EN 60947-5-1

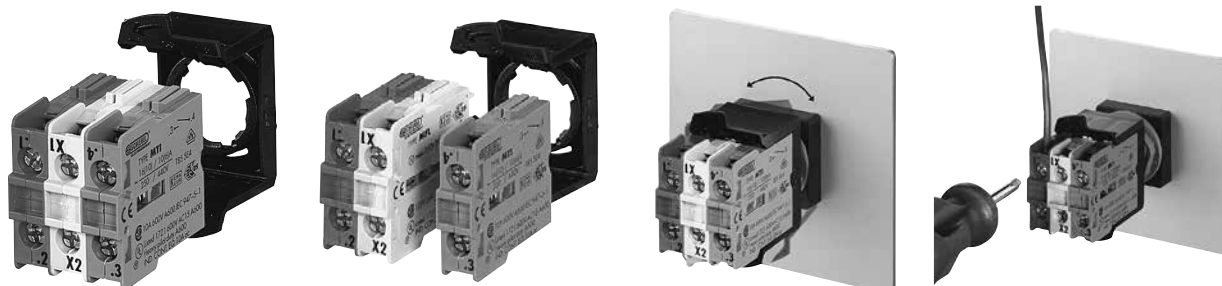
Application										
IEC/EN Operational Characteristics (AC15)	V	12	24	48	120	240	400	480	500	600
	A	6	6	6	6	6	3	1.5	1.4	1.2
IEC/EN Operational Characteristics (DC13)	V	12	24	48	125	250	440	500	600	
	A	3	3	1.5	0.55	0.27	0.15	0.13	0.1	
Short circuit protection fuse (max calibre)		10A gG/SC								
Contact Resistance		≤20m Ω								
Terminals		Clamp screw with washer Faston 1x 6.35mm (0.25") 2x 2.8mm (0.11")								
Maximum conductor cross section for screw terminals		1 or 2 2.5mm ² or AWG14 cables								
Mechanical & electrical endurance: Operating force		≤0.5kg / 1.1lb (auxiliary contacts)								
Mechanical & electrical endurance: Electrical Life		1,000,000 cycles / 600,000 cycles								
Compliant with standard		IEC/EN 60947-1, IEC/EN 60947-5-1, UL508, CSA C22.2 n° 14.								

MT Series

For use with the 32 Series Actuators. The 32 Series components share common modules. All items are tested and approved to the latest international standards and offer excellent performance with extended life.

Image	Contact Details	Description	Cat. No.
	<p>0 1 2 3 4 5 6 7</p> <p>.1/.2  </p> <p>.1  .2</p>	Modular Contact Block, Momentary. 1 N/C	MTO
	<p>0 1 2 3 4 5 6 7</p> <p>.3/.4 </p> <p>.3  .4</p>	Modular Contact Block, Momentary. 1 N/O	MTI
	<p>.1/.2 -3 -2 -1 0 1 2 3 4 5 6 7</p> <p></p> <p>.1  .2</p>	Modular Contact Block, Momentary, for Emergency Stop Actuators. 1 N/C safety contact switching off in an emergency and 1 N/C series contact that opens should the contact block become detached from the actuator. Not compatible with 32 Series Actuators.	MTOSFE
	<p>X1  X2</p>	Lamp Module BA9s Max. 250V 2W	ML
	<p>X1  X2</p>	Latching Module- BA9s When used as the centre element in the module holder, it provides a maintained unit with the adjacent momentary type modules. Max. 250V 2W	MFL
		Holder for 5 Modules. Screw fitting on actuator. For '32 Series' only Not applicable with MTOSFE.	MHR-5C

Other contact blocks and accessories are available within this range, please contact our Sales staff for further details.





GHOST R



Technical Specification

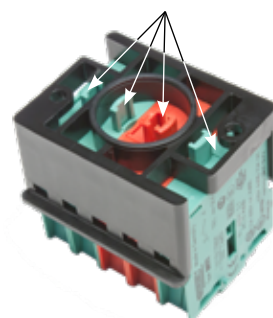
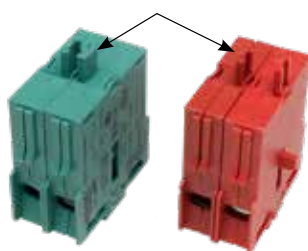
Electrical Ratings- BS EN 60947-5-1

Application		
Storage Temperature	-50°C up to +85°C	
Operating Temperature	-30°C up to +85°C	For non-illuminated items
	-30°C up to +55°C	Using incandescent lamps
	-30°C up to +65°C	Using LED's
Operating Travel	6mm	
Connections	screw connections for 2 x 2.5mm², IP2X.	
Lamp Type/Socket	incandescent lamps, LED's / BA9s	
Contact Material	silver-nickel alloy (Ag/Ni). Gold Plated Version available upon request.	
Mechanical Life	1 million operations	
Electrical Life	1 million cycles at rated load	
Min. Current / Voltage	1 mA / 5V (Under laboratory conditions)	
Contact Resistance (New State)	< 20mΩ	
Bounce Time	< 10 mS	
Positive Opening N/C Contact	to EN 60947-5-1 appendix K	
Application	a.c.	d.c.
Utilisation Category	AC15 A600	DC13 Q600
Rated Insulation Voltage (Ui)	600V	600V
Rated Operational Voltage (Ue)	250V/440V	440V / 250V /125V / 60V / 24V
Rated Operational Current (Ie)	3A/1.6A	0.12A / 0.2A / 0.4A / 1A / 2A
Breaking Capacity	10 _{Ie}	1.1 _{Ie}
Continuous thermal current (Ith)	16A	16A
Application	Electrical Data- Pilot Lamp Bodies	
Lamp Socket	BA9s	
Lamp Voltage	Max. 250V (CSA max. 125V)	
Lamp Output	Max. 2W	
Definition	X1.. anode, X2.. cathode.	

1. Up to 5 blocks in any combination can be accommodated.

2. Blocks can be reversed to suit the positions in the holder

3. When fitting blocks in the holder it is important that the actuators are free to move- reverse blocks as necessary. Ensure that all the blocks are fitted correctly by pressing any actuator and checking that all the other actuators move in unison.



A Series

For use with '16' Series Actuators.


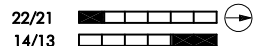
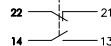
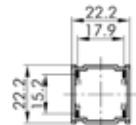
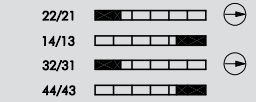
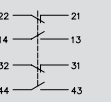
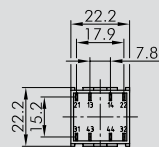

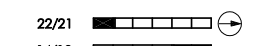
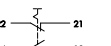
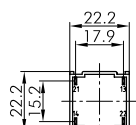


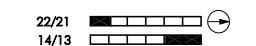
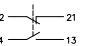
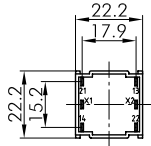
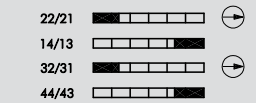
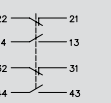
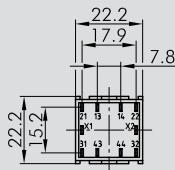




Image	Contact Details	Description	Cat. No.
	<p>AT</p> <p>0 1 2 3 4 5 6</p> <p>22/21 14/13</p>   	Momentary action. 1 N/O + 1 N/C	AT
	<p>0 1 2 3 4 5 6</p> <p>22/21 14/13 32/31 44/43</p>   	Momentary action. 2 N/O + 2 N/C	AT2
	<p>AF</p> <p>0 1 2 3 4 5 6</p> <p>22/21 14/13</p>   	Maintained action. 1 N/O + 1 N/C	AF
		Lampholder. Faston terminals 2.8 x 0.8mm Lampholder T5,5K	AL5
	<p>0 1 2 3 4 5 6</p> <p>22/21 14/13</p>   	Illuminated- Momentary. 1 N/C + 1 N/O	ATL
	<p>0 1 2 3 4 5 6</p> <p>22/21 14/13 32/31 44/43</p>   	Illuminated- Momentary. 2 N/C + 2 N/O	ATL2
'16 Series' 		Incandescent Lamps- T5,5K fitting 6V / 1.2W (200mA) 12V / 1.2W (100mA) 24V / 1.2W (50mA) 30V / 1.2W (40mA) 36V / 1.2W (35mA) 48V / 1.2W (25mA) 60V / 1.2W (20mA)	T5,5K-6V T5,5K-12V T5,5K-24V T5,5K-30V T5,5K-36V T5,5K-48V T5,5K-60V
'16 Series' 		Ultra-Bright LED's- T5.5K fitting with integrated series resistor and single-wave rectifier. 24V AC/DC (7/14mA) Blue Green Red White Yellow	L5,5K24UB L5,5K24UG L5,5K24UR L5,5K24UW L5,5K24UY

Image	Contact Details	Description	Cat. No.
		Tightening Tool '16 Series'	S16 S22
		Universal Lens Remover	USK

Other contact blocks are available within this range, please contact our Sales staff for further details.

Approvals



GHOST R



UkrSepro

NV

Technical Specification

Electrical Ratings- BS EN 60947-5-1

Application		
Storage Temperature	-50°C up to +85°C	
Operating Temperature	-30°C up to +70°C	For non-illuminated items
	-30°C up to +55°C	Using incandescent lamps
	-30°C up to +65°C	Using LED's
Protection Class	II	
Connections	Faston terminals 2.8 x 0.8mm	
Lamp Type/Socket	T5, 5K	
Contact Material	silver-nickel alloy (Ag/Ni). Gold Plated Version available upon request.	
Bounce Time	NC: < 10 mS / NO: < 10 mS	
Positive Opening N/C Contact	to EN 60947-5-1 appendix K	
Application	a.c.	d.c.
Utilisation Category	AC15 A300	DC13 Q300
Rated Insulation Voltage (Ui)	250V	300V
Rated Operational Voltage (Ue)	250V	250V / 125V / 60V / 24V
Rated Operational Current (Ie)	3A	0.2A / 0.4A / 1A / 2A
Breaking Capacity	10Ie	1.1Ie
Continuous thermal current (Ith)	6A	6A
Contact Resistance (New State)	< 20mΩ	
Application	Electrical Data- Pilot Lamp Bodies	
Lamp Socket	T5, 5K	
Lamp Voltage	Max. 60V	
Lamp Output	Max. 2W	
Definition	X1.. anode, X2.. cathode.	

FOOTSWITCHES

Linemaster has been at the forefront of footswitch design and manufacture since the 1950's and the range and quality of their products is second to none. From heavy to light duty, traditional to wireless, Linemaster foot controls are widely recognised as being some of the best in the world.

Linemaster can claim more than 550 catalogued products but it has the capacity to design and develop bespoke applications that makes the company so unique. By providing a 'third' hand, footswitches are indispensable across so many applications it's no wonder that Linemaster provide foot controls to some of the worlds largest OEM's.

Should you require any further information regarding Linemaster products please visit our website or give our sales staff a call.



Two examples of IR wireless footswitch assemblies

A cross section of typical industrial applications would be:-

- Adhesive Dispensers
- Abrasive Blasters
- Packaging Equipment
- Conveyors
- Material Handling
- Scissor lifts
- Communications Equipment
- Lighting
- Engine Brake
- Alarms/Security
- Emergency Vehicles (Siren)
- Degreasers
- Metal Working Machinery
- Electric Vehicles
- Farm Equipment
- Engraving Machinery
- Riveting Machines
- Soldering Machinery
- Welding Machines ...

BESPOKE PRODUCTS

Craig & Derricott has been manufacturer for more than 95 years and in that time has earned a reputation for well engineered products with the ultimate in reliability. Alongside our standard catalogue products, we offer a bespoke and special product service known as mi-switch, enabling customers to specify exact requirements which can be made to order.

We have a dedicated team of specialist engineers who can draw upon their vast experience to provide you with a unique design solution to meet your specific requirements. For too long customers, installers and specifiers have tried to mix and match component parts to meet their needs, but now you can simply hand over your project to us and we will create the ideal and most cost effective solution to your requirements.

Just contact us on +44 (0)1543 375 541 to discuss your requirements and we'll be happy to provide some options as to how this can be achieved.





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