

## Product Guide

Comparing today's 'Trade' descriptions to European standards:-

BS EN 60947-3 Definition	'Trade' Description	Technical Description
<b>Switch-Disconnecter</b> Sym.	<b>Isolator</b>	A ' <b>Disconnecter</b> ' is a mechanical switch which in the 'Open' position, complies with requirements specified for the isolating function. A ' <b>Disconnecter</b> ' or ' <b>Isolator</b> ' is an off-load device and marked 'Isolate elsewhere before opening' they have an AC20/DC20 utilisation category.  A ' <b>Switch</b> ' 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 ' <b>Switch-Disconnecter</b> ' meets both of these criteria and with a Red/Yellow padlockable handle may also be called a ' <b>Safety Isolator</b> '.
<b>Changeover Switch-Disconnecter</b> Sym.	<b>Changeover Switch</b>	A ' <b>Changeover</b> ' 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-Disconnecter' requirements.
<b>Fuse Combination Unit</b> Sym.	<b>Fuse Switch</b>	A ' <b>Fuse Combination Unit</b> ' is a combination of a mechanical switching device with fuses in a composite assembly.

## Ingress Protection

When choosing an isolating 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 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 moisture i.e.

**IP66** (protection against solid objects)  
 (protection against water)

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

1st Digit	Protection against solid objects		2nd Digit	Protection against water	
0	Not Protected		0	Not Protected	
2		Protected against solid objects greater than Ø12.5	1		Protected against dripping water.
4		Protected against solid objects greater than Ø1.0	4		Protected against splashed water from any direction.
5		Protected against dust - allowing a degree of ingress that isn't harmful to the assembly.	5		Protected against water jets from any direction.
6		No ingress of dust.	6		Protected against strong water jets from any direction.

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



## General Description

Switchgear housed in moulded plastic enclosures provide the basis for most industrial applications and the added benefits offered by the 'i-switch' range provide the user with a wealth of opportunities when selecting the correct item for a specific application. Sealing up to IP66 is a standard feature as is the ability to add a selection of auxiliary blocks providing additional contacts and a choice of Neutral assemblies.

With the 'i-switch' range comes an important safety feature which prevents the enclosure cover being removed when the device has been padlocked in the 'Off' position. When combined with the excellent on-load breaking capacity of the 'i-switch' family this feature ensures that the term 'Safety Switch' is fully satisfied.



## Safety Features

### Padlocking

All items allow for the insertion of up to three padlocks in the 'Off' position thus preventing the isolator being switched to the 'On' position.

Standard shackle diameter Ø6.4



### Safety Interlock

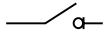
Screwed lid enclosures have always been open to abuse by having the lid removable when the isolator is 'Off' and padlocked. This would allow the switch shaft to be turned manually to the 'On' position, thus defeating the safety padlocking feature.

The 'i-switch' range now incorporates a mechanical interlock which when a padlock is inserted prevents the enclosure lid from being removed.



Watch a 3 minute video explaining the various safety features built-in to the design of the i-switch 'screwed lid' product family.

## Switch-Disconnectors (O-I)



### Catalogue Numbers

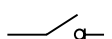
Rating	Format	Interior Switch product range	Cat. No.	Enclosure Size
20A	6P	GX20	SDP206	A (IP66)
	6P+2EB Aux	GX20	SDP206EB	
25A	2P	CS25	SDP252	A (IP66)
	3P	CS25	SDP253	
	3P+NL	CS25	SDP253NL	
	3P+N	CS25	SDP253N	
	3P+2EB Aux	CS25	SDP253EB	
32A	2P	CS32	SDP322	A (IP66)
	3P	CS32	SDP323	
	3P+NL	CS32	SDP323NL	
	3P+N	CS32	SDP323N	
	3P+2EB Aux	CS32	SDP323EB	
40A	2P	CS40R	SDP402	B (IP66)
	3P	CS40R	SDP403	
	3P+NL	CS40R	SDP403NL	
	3P+N	CS40R	SDP403N	
	3P+2EB Aux	CS40R	SDP403EB	
	6P	GX40	SDP406	
63A	2P	CS63	SDP632	B (IP66)
	3P	CS63	SDP633	
	3P+NL	CS63	SDP633NL	
	3P+N	CS63	SDP633N	
	3P+2EB Aux	CS63	SDP633EB	
80A	2P	CS80	SDP802	C (IP65)
	3P	CS80	SDP803	
	3P+NL	CS80	SDP803NL	
	3P+N	CS80	SDP803N	
	3P+2EB Aux	CS80	SDP803EB	
100A	2P	CS100	SDP1002	D (IP65)
	3P	CS100	SDP1003	
	3P+NL	CS100	SDP1003NL	
	3P+N	CS100	SDP1003N	
	3P+2EB Aux	CS100	SDP1003EB	

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

'NL' = Unswitched neutral

'EB' = Early break auxiliary contacts

## Changeover Switch-Disconnectors (I-O-II)



### Catalogue Numbers

Rating	Format	Interior Switch product range	Cat. No.	Enclosure Size
20A	2P	GX20	SCODP202	A (IP66)
	3P	GX20	SCODP203	
	4P	GX20	SCODP204	
40A	2P	GX40	SCODP402	B (IP66)
	3P	GX40	SCODP403	
	4P	GX40	SCODP404	




Technical Data  
Page 31

Dimensions  
Page 35

## Design Features

### Enclosure

Material	20A-63A PC/ABS 80A-100A PC	
Colour	Enclosure - Grey RAL 7035	
Entries	<b>Size A Enclosure</b> - 2 x M20 knock-outs on top & bottom faces. <b>Size B Enclosure</b> - 2 x M20/25 knock-outs on top & bottom faces. Back face - 2 x M20 knock-outs. <b>Size C &amp; D Enclosures</b> - Blank sides.	
Cover Screws	Stainless Steel (Captive)	
Fixings	Outside sealed cavity.	

### Switch-Disconnectors

2 & 3 Pole	Type <b>CS</b> - base mounted. (Accepts add-on Aux. blocks & Neutrals)
6 Pole	Type <b>GX</b> - base mounted. (also available with 2 E/B Aux.)

### Changeover Switch-Disconnectors

2, 3 & 4 Pole	Type <b>GX</b> - base mounted.
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### Earthing

Earth terminals are provided in the base of the enclosures.

## Accessories

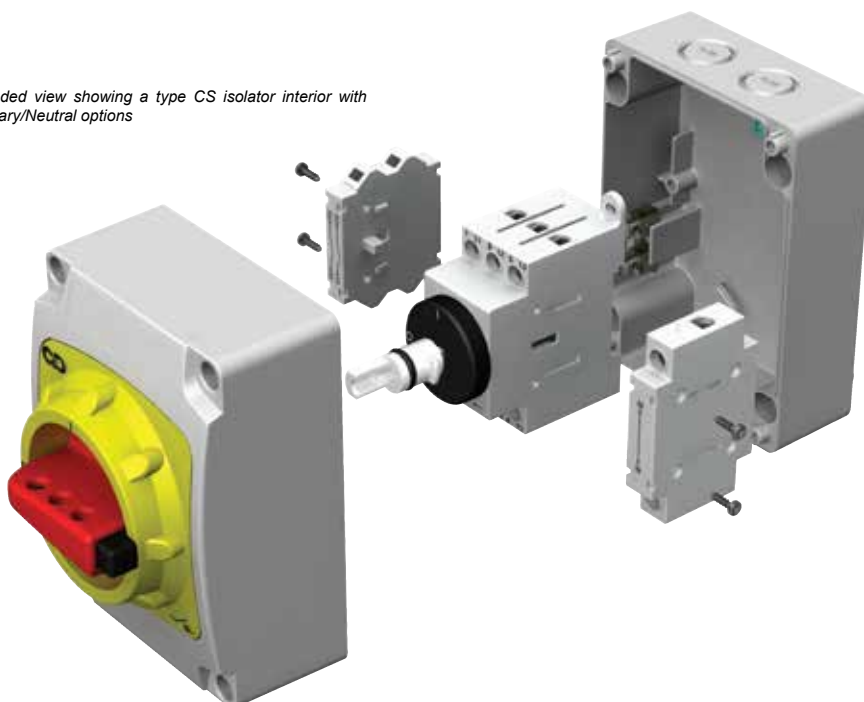
Applicable to type 'CS' interiors only

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
25A Neutral (Switched)	SSP25
32A & 40A Neutral (Switched)	SSP40
63A Neutral (Switched)	SSP63
80A Neutral (Switched)	SSP80
100A Neutral (Switched)	SSP100



Neutral Link (Unswitched)    2 Early Break Auxiliary    Neutral Link (Switched)    SNLC40 Neutral Link

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



Moulded Plastic



Technical Data  
Page 31

Dimensions  
Page 35

## General Description

The 'i-switch' die cast range provides the user with a product that will withstand a good deal of rough treatment. With sealing to IP66 these assemblies can be placed in environments where resistance to impacts, moisture and dust/dirt are a concern. 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.



Size A & Size B enclosures as Switch-Disconnectors in both Red & Grey



20A Changeover Switch-Disconnecter in a size A enclosure

Switch-Disconnectors (O-I)

C/O Switch-Disconnectors (I-O-II)

### Catalogue Numbers

Rating	Format	Interior Switch product range	Catalogue Nos.		Enclosure Size (IP66)	
			Grey	Red		
20A	6P	GX20	SDDG206	SDDR206	A	
	6P+2EB Aux	GX20	SDDG206EB	SDDR206EB		
25A	2P	CS25	SDDG252	SDDR252	A	
	3P	CS25	SDDG253	SDDR253		
	3P+NL	CS25	SDDG253NL	SDDR253NL		
	3P+N	CS25	SDDG253N	SDDR253N		
	3P+2EB Aux	CS25	SDDG253EB	SDDR253EB		
32A	2P	CS32	SDDG322	SDDR322	A	
	3P	CS32	SDDG323	SDDR323		
	3P+NL	CS32	SDDG323NL	SDDR323NL		
	3P+N	CS32	SDDG323N	SDDR323N		
40A	3P+2EB Aux	CS32	SDDG323EB	SDDR323EB	A	
	2P	CS40R	SDDG402X	SDDR402X		
	3P	CS40R	SDDG403X	SDDR403X		
	3P+NL	CS40R	SDDG403NLX	SDDR403NLX		
	3P+N	CS40R	SDDG403NX	SDDR403NX		
	3P+2EB Aux	CS40R	SDDG403EBX	SDDR403EBX		
	2P	CS40R	SDDG402	SDDR402		B
	3P	CS40R	SDDG403	SDDR403		
	3P+NL	CS40R	SDDG403NL	SDDR403NL		
	3P+N	CS40R	SDDG403N	SDDR403N		
	3P+2EB Aux	CS40R	SDDG403EB	SDDR403EB		
	6P	GX40	SDDG406	SDDR406		
	6P+2EB Aux	GX40	SDDG406EB	SDDR406EB		
63A	2P	CS63	SDDG632	SDDR632	B	
	3P	CS63	SDDG633	SDDR633		
	3P+NL	CS63	SDDG633NL	SDDR633NL		
	3P+N	CS63	SDDG633N	SDDR633N		
	3P+2EB Aux	CS63	SDDG633EB	SDDR633EB		
	6P	CS63	SDDG636	SDDR636		
80A	6P+2EB Aux	CS63	SDDG636EB	SDDR636EB	B	
	3P	CS80	SDDG803	SDDR803		
	3P+NL	CS80	SDDG803NL	SDDR803NL		
80A	3P+N	CS80	SDDG803N	SDDR803N	B	

Rating	Format	Interior Switch product range	Cat. No.	Enclosure Size (IP66)
20A	2P	GX20	SCODDG202	A
	3P	GX20	SCODDG203	
	4P	GX20	SCODDG204	
40A	2P	GX40	SCODDG402	B
	3P	GX40	SCODDG403	
	4P	GX40	SCODDG404	

### Accessories

Applicable to type 'CS' interiors only

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
25A Neutral (Switched)	SSP25
32A & 40A Neutral (Switched)	SSP40
63A Neutral (Switched)	SSP63
80A Neutral (Switched)	SSP80

### Safety Features

Screwed lid enclosures have always been open to abuse by having the lid removable when the isolator is 'Off' and padlocked. This would allow the switch shaft to be turned manually to the 'On' position, thus defeating the safety padlocking feature.

The 'i-switch' range now incorporates a mechanical interlock which when a padlock is inserted prevents the enclosure lid from being removed.





## Enclosure

### Material

Die cast aluminium alloy LM24 (BS1490)

### Paint finish

Grey - RAL 7035

Red - RAL 3020.



### Entries

#### Size A

**20A - 32A**

Std Cat No. : 2xM20 on bottom face

Suffix X : 2xM25 on bottom face

Suffix Y : 2xM25 on bottom face & 2xM25 on top face

#### Size A

**40A**

Std Cat No. : 2xM25 on bottom face

Suffix X : 2xM25 on bottom face

Suffix Y : 2xM25 on bottom face & 2xM25 on top face

#### Size B

**40A**

Std Cat No. : 2xM25 + 1xM20 on bottom face

#### Size B

**63A**

Std Cat No. : 2xM25 + 1xM20 on bottom face

Suffix X : 2xM32 + 1xM16 on bottom face

Suffix Y : 2xM32 + 1xM16 on bottom face & 2xM32 on top face

#### Size B

**80A**

Std Cat No. : 2xM32 + 1xM20 on bottom face

Suffix X : 2xM32 + 1xM16 on bottom face

Suffix Y : 2xM32 + 1xM16 on bottom face & 2xM32 on top face

Maximum number of possible entries:-

Size A - 4 (2 Top+2 Bottom).

Size B - 6 (3 Top+3 Bottom).

### Cover Screws

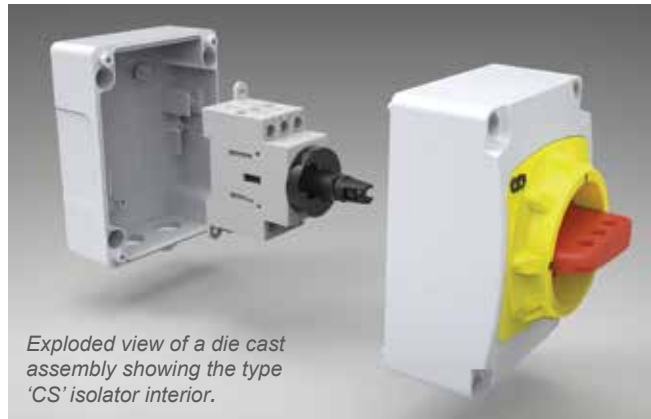
Stainless Steel (Captive)

### Earthing

Terminals are provided on both lid and base to allow full earth continuity to be maintained.

### Mounting

All fixings are internal but outside of the IP66 sealed area. Guide channels are provided to assist with the fixing screw location.



Exploded view of a die cast assembly showing the type 'CS' isolator interior.



The size 'B' enclosure is available with 'Start/Stop' or 'Start/Emergency Stop' pushbuttons.

Die-Cast Aluminium

## Switch-Disconnectors

- |               |  |
|---------------|--|
| 2, 3 & 6 Pole | Type <b>CS</b> - base mounted.<br>(Accepts add-on Aux. blocks & Neutrals, see page 13 for ratings) |
| 6 Pole        | Type <b>GX</b> - base mounted.<br>(also available with 2 E/B Aux.)                                 |

## Changeover Switch-Disconnectors

- |               |                                |
|---------------|--------------------------------|
| 2, 3 & 4 Pole | Type <b>GX</b> - base mounted. |
|---------------|--------------------------------|

## ...products for the real world



Technical  
Data  
Page 31

Dimensions  
Page 35

## General Description

Craig & Derricott have been manufacturing flush mounting isolators for more than 70 years and in that time the design has been carefully modified to give features that installers and end users really need.

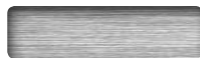
The assembly consists of a zinc plated back box (complete with knock-outs) and a stainless steel fascia plate which carries the isolating switch and lockable handle. The fascia plate now comes in an attractive brushed finish which resists the fingerprint effect associated with highly polished surfaces. Equally at home in kitchens, laboratories, food processing areas, hospitals and many other areas where an elegant, low projection isolation device is required.



## Design Features

### Enclosure

Fascia plate      Stainless steel 304, thickness 1.2mm  
*Finish*          Brushed.



Back box          Sheet steel, thickness 1.4mm  
*Finish*          Galvanised

### Entries

Knockouts in back box.

### Sealing

Isolating switch to stainless steel fascia plate - IP66.

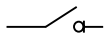
### Fascia plate securing screws

Stainless steel (M5 x 25 with 'Allen Key' head).

### Earthing

Separate earthing points on fascia plate and back box.

## Switch-Disconnectors (O-I)



### Catalogue Numbers

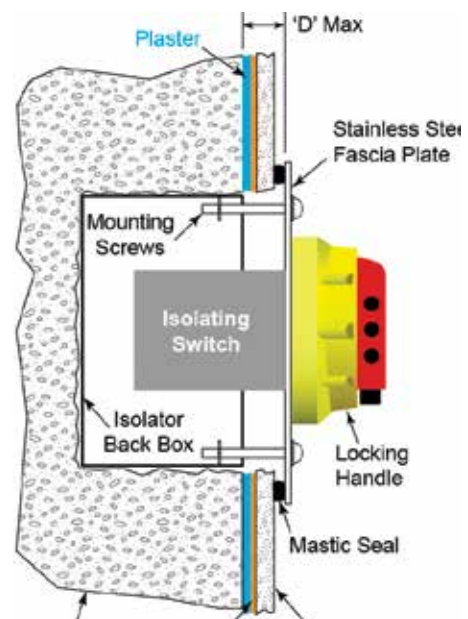
Rating	Format	Interior Switch product range	Cat. No.	Enclosure Size
20A	2P	GX	SDFL202	A
	3P		SDFL203	
	4P		SDFL204	
32A	2P	GX	SDFL322	B
	3P		SDFL323	
	4P		SDFL324	
40A	2P	GX	SDFL402	B
	3P		SDFL403	
	4P		SDFL404	
63A	2P	GN	SDFL632	C
	3P		SDFL633	
	4P		SDFL634	

## Installation

Whilst the joint between the isolating switch and the stainless steel fascia plate is factory sealed to IP66 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.



**Typical Installation**  
('D' max = 20mm with standard length mounting screws)



## General Description

Switchgear housed in mild steel enclosures provides the user with a robust and cost effective assembly along with the added features offered by the 'i-switch' range. Sealing to IP66 is a standard feature as is 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.

With the 'i-switch' range comes an important safety feature which prevents the enclosure cover being removed when the device has been padlocked in the 'Off' position. When combined with the excellent on-load breaking capacity of the 'i-switch' family this feature ensures that the term 'Safety Switch' is fully satisfied.



## Safety Features

All safety features are identical to the plastic moulded range - see page 3 for details.

## Design Features

### Enclosure

Material	Sheet steel, thickness 1.2mm	
Paint finish	Epoxy Powder Coated.	
Colour	Enclosure - Grey RAL 7035	
Entries	<b>Size A Enclosure</b> - 2 x M20 <b>Size B Enclosure</b> - 2 x M20 + 2 x M25	
Cover Screws	Stainless Steel (Captive)	
External Feet	Size A enclosure - Cat. No. <b>EFA</b> Size B enclosure - Cat. No. <b>EFB</b>	

### Switch-Disconnectors

2 & 3 Pole	Type <b>CS</b> - base mounted. (Accepts add-on Aux. blocks & Neutrals)
6 Pole	Type <b>GX</b> - base mounted. (also available with 2 E/B Aux.)

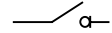
### Changeover Switch-Disconnectors

2, 3 & 4 Pole	Type <b>GX</b> - base mounted.
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### Earthing

Earth continuity terminals are provided in the base and lid of each enclosure.

## Switch-Disconnectors (O-I)

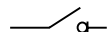


### Catalogue Numbers

Rating	Format	Interior Switch product range	Cat. No.	Enclosure Size (IP66)
20A	6P	GX20	SDMG206	A
	6P+2EB Aux	GX20	SDMG206EB	
25A	2P	CS25	SDMG252	A
	3P	CS25	SDMG253	
	3P+NL	CS25	SDMG253NL	
	3P+N	CS25	SDMG253N	
	3P+2EB Aux	CS25	SDMG253EB	
32A	2P	CS32	SDMG322	A
	3P	CS32	SDMG323	
	3P+NL	CS32	SDMG323NL	
	3P+N	CS32	SDMG323N	
	3P+2EB Aux	CS32	SDMG323EB	
40A	2P	CS40R	SDMG402	B
	3P	CS40R	SDMG403	
	3P+NL	CS40R	SDMG403NL	
	3P+N	CS40R	SDMG403N	
	3P+2EB Aux	CS40R	SDMG403EB	
	6P	GX40	SDMG406	
	6P+2EB Aux	GX40	SDMG406EB	
63A	2P	CS63	SDMG632	B
	3P	CS63	SDMG633	
	3P+NL	CS63	SDMG633NL	
	3P+N	CS63	SDMG633N	
	3P+2EB Aux	CS63	SDMG633EB	

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

## Changeover Switch-Disconnectors (I-O-II)



### Catalogue Numbers

Rating	Format	Interior Switch product range	Cat. No.	Enclosure Size
20A	2P	GX20	SCODMG202	A
	3P	GX20	SCODMG203	
	4P	GX20	SCODMG204	
40A	2P	GX40	SCODMG402	B
	3P	GX40	SCODMG403	
	4P	GX40	SCODMG404	

## Accessories

Applicable to type 'CS' interiors only

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
25A Neutral (Switched)	SSP25
32A & 40A Neutral (Switched)	SSP40
63A Neutral (Switched)	SSP63



## General Description

Switchgear housed in stainless steel enclosures provides the user with an assembly that can be installed in the harshest of environments. Outdoor in unprotected positions or indoor and subject to severe environmental conditions, the standard stainless steel i-switch range with a flush back surface offers the ideal solution. Sealing to IP66 is a standard feature as is 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.

With the 'i-switch' range comes an important safety feature which prevents the enclosure cover being removed when the device has been padlocked in the 'Off' position. When combined with the excellent on-load breaking capacity of the 'i-switch' family this feature ensures that the term 'Safety Switch' is fully satisfied.



## Safety Features

All safety features are identical to the plastic moulded range - see page 3 for details.

## Design Features

### Enclosure (Flush rear surface)

Material	Stainless steel, Grade 304, thickness 1.2mm (Grade 316 to special order)
Finish	Brushed -  Satin (150 grit)
Entries	<b>Size A Enclosure</b> - 2 x M20 <b>Size B Enclosure</b> - 2 x M20 + 2 x M25
Cover Screws	Stainless Steel (Captive)
External Feet	Size A enclosure - Cat. No. <b>EFA</b> Size B enclosure - Cat. No. <b>EFB</b>

### Switch-Disconnectors

2 & 3 Pole	Type <b>CS</b> - base mounted. (Accepts add-on Aux. blocks & Neutrals)
6 Pole	Type <b>GX</b> - base mounted. (also available with 2 E/B Aux.)

### Changeover Switch-Disconnectors

2, 3 & 4 Pole	Type <b>GX</b> - base mounted.
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### Earthing

Earth continuity terminals are provided in the base and lid of each enclosure.

## Standard Switch-Disconnectors (O-I)

### Catalogue Numbers

Rating	Format	Interior Switch product range	Cat. No.	Enclosure Size (IP66)
20A	6P	GX20	<b>SDS206</b>	A
	6P+2EB Aux	GX20	<b>SDS206EB</b>	
25A	2P	CS25	<b>SDS252</b>	A
	3P	CS25	<b>SDS253</b>	
	3P+NL	CS25	<b>SDS253NL</b>	
	3P+N	CS25	<b>SDS253N</b>	
32A	3P+2EB Aux	CS25	<b>SDS253EB</b>	A
	2P	CS32	<b>SDS322</b>	
	3P	CS32	<b>SDS323</b>	
	3P+NL	CS32	<b>SDS323NL</b>	
	3P+N	CS32	<b>SDS323N</b>	
40A	3P+2EB Aux	CS32	<b>SDS323EB</b>	B
	2P	CS40R	<b>SDS402</b>	
	3P	CS40R	<b>SDS403</b>	
	3P+NL	CS40R	<b>SDS403NL</b>	
	3P+N	CS40R	<b>SDS403N</b>	
	6P	GX40	<b>SDS406</b>	
63A	6P+2EB Aux	GX40	<b>SDS406EB</b>	B
	2P	CS63	<b>SDS632</b>	
	3P	CS63	<b>SDS633</b>	
	3P+NL	CS63	<b>SDS633NL</b>	
	3P+N	CS63	<b>SDS633N</b>	
	3P+2EB Aux	CS63	<b>SDS633EB</b>	

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

'NL' = Unswitched neutral

'EB' = Early break auxiliary contacts

## Changeover Switch-Disconnectors (I-O-II)

### Catalogue Numbers

Rating	Format	Interior Switch product range	Cat. No.	Enclosure Size
20A	2P	GX20	<b>SCODS202</b>	A
	3P	GX20	<b>SCODS203</b>	
	4P	GX20	<b>SCODS204</b>	
40A	2P	GX40	<b>SCODS402</b>	B
	3P	GX40	<b>SCODS403</b>	
	4P	GX40	<b>SCODS404</b>	

## Accessories

Applicable to type 'CS' interiors only - Please refer to the table on Page 4.



## General Description

Based upon Craig & Derricott's 'i-switch' range of isolation equipment, the specially designed stainless steel 'sloping roof' enclosure is 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 that include IP66 sealings.

With the 'i-switch' range comes an important safety feature which prevents the enclosure cover being removed when the device has been padlocked in the 'Off' position. When combined with the excellent on-load breaking capacity of the 'i-switch' family this feature ensures that the term 'Safety Switch' is fully satisfied.




## Safety Features

All safety features are identical to the plastic moulded range - see page 3 for details.

## Design Features

### Enclosure (Flush rear surface)

Material	Stainless steel, Grade 316, thickness 1.2mm body, 1.5mm lid. (15° Slope)
Finish	Brushed -  Satin 150 grit
Entries	The enclosures are supplied as standard without entries. Optional pre-drilled bottom entries can be supplied as follows:- Size A - 2xM20 (add M20 to cat No.) Size B - 2xM25 (add M25 to cat No.) e.g. SDSSR322/M20, SDSSR403N/M25
Cover Screws	Stainless Steel (Captive)

### Fixings

Universal fixings across the range.

### Switch-Disconnectors

2 & 3 Pole	Type <b>CS</b> - base mounted. (Accepts add-on Aux. blocks & Neutrals)
6 Pole	Type <b>GX</b> - base mounted. (also available with 2 E/B Aux.)

### Earthing

Earth continuity terminals are provided in the base and lid of each enclosure.

## Sloping Roof Switch-Disconnectors (O-I)

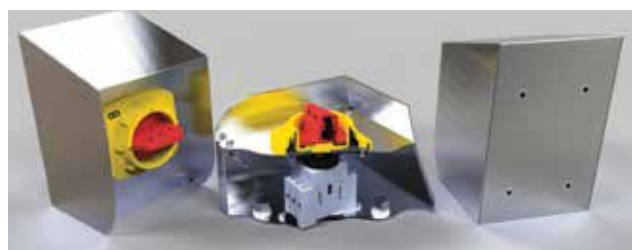
### Catalogue Numbers

Rating	Format	Interior Switch product range	Cat. No.	Encl. Size (IP66)
20A	6P	GX20	SDSSR206	A
	6P+2EB AUX	GX20	SDSSR206EB	
25A	2P	CS25	SDSSR252	A
	3P	CS25	SDSSR253	
	3P+2EB AUX	CS25	SDSSR253EB	
	3P+N	CS25	SDSSR253N	
32A	2P	CS32	SDSSR322	A
	3P	CS32	SDSSR323	
	3P+2EB AUX	CS32	SDSSR323EB	
	3P+N	CS32	SDSSR323N	
40A	2P	CS40R	SDSSR402	B
	3P	CS40R	SDSSR403	
	3P+2EB AUX	CS40R	SDSSR403EB	
	3P+N	CS40R	SDSSR403N	
	6P	GX40	SDSSR406	
	6P+2EB AUX	GX40	SDSSR406EB	
63A	2P	CS63	SDSSR632	B
	3P	CS63	SDSSR633	
	3P+2EB AUX	CS63	SDSSR633EB	
	3P+N	CS63	SDSSR633N	

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

## Accessories

Applicable to type 'CS' interiors only - Please refer to the table on Page 4.



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



## General Description

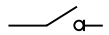
Supplied in 'hinged door' grey powder coated sheet steel enclosures, these IP41 sealed assemblies are suitable for most indoor industrial applications. Supplied as 'Switch-Disconnectors' or 'Fuse Combination Units' all items are supplied in generously sized enclosures which helps to avoid the need for extension boxes.



## Design Features

- Safety handle - when padlocked in the 'Off' position, the enclosure door cannot be opened. Capable of accepting up to three padlocks in the 'Off' position. (Locking in 'On' position on request)
- Door interlock handle can be defeated to enable emergency opening or for testing purposes. (Must be carried out by a competent person)
- Removable gland plates on top & bottom on enclosures 200A and above.
- Enclosure size 2 and above isolating switches are mounted on a removable galvanised chassis plate.
- All Fuse Combination Units are supplied complete with a set of fully rated fuse links.
- Terminal covers are supplied for incoming terminals.
- Earth terminals fitted to door and gland plates.

## Switch-Disconnectors (O-I)

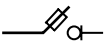


### Catalogue Numbers

Rating	Format	Cat. No.	Encl. Size
32A	3P+N	SD41G00323N	1
	3P+NL	SD41G00323NL	1
63A	3P+N	SD41G00633N	1
	3P+NL	SD41G00633NL	1
	6P+2E/B	SD41G00636EB	2
80A	3P+N	SD41GC00803N	1
	3P+NL	SD41GC00803NL	1
100A	3P+N	SD41GC01003N	3A
	3P+NL	SD41GC01003NL	3A
125A	3P+N	SD41GC01253N	4A
	3P+NL	SD41GC01253NL	4A
160A	3P+N	SD41GC01603N	4A
	3P+NL	SD41GC01603NL	4A
200A	3P+N	SD41GC02003N	5A
	3P+NL	SD41GC02003NL	5A
250A	3P+N	SD41G02503N	5
	3P+NL	SD41G02503NL	5
400A	3P+N	SD41G04003N	6
	3P+NL	SD41G04003NL	6
630A	3P+N	SD41G06303N	8
	3P+NL	SD41G06303NL	8
800A	3P+N	SD41G08003N	8
	3P+NL	SD41G08003NL	8
1000A	3P+N	SD41G10003N	10
	3P+NL	SD41G10003NL	10

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

## Fuse Combination Units (O-I)



### Catalogue Numbers

Rating	Format	Cat. No.	Enclosure Size
32A	3P+NL	SDF41G00323N	2
63A	3P+NL	SDF41G00633N	2
100A	3P+NL	SDF41G01003N	4A
125A	3P+NL	SDF41G01253N	4
160A	3P+NL	SDF41G01603N	4
200A	3P+NL	SDF41G02003N	5
250A	3P+NL	SDF41G02503N	5
315A	3P+NL	SDF41G03153N	6
400A	3P+NL	SDF41G04003N	6
630A	3P+NL	SDF41G06303N	8

Please note Fuse Combination Units are supplied unswitched neutral.



## General Description

In addition to the basic features of the IP41 enclosed range, the IP65 sealed family of products introduces:-

- IP65 Handle assemblies
- Sealed gland plates
- Up to 1000A Switch-Disconnectors
- Changeover Switch-Disconnectors
- Grey or Stainless steel enclosures (Red also available)

## Design Features

- Safety handle - when padlocked in the 'Off' position, the enclosure door cannot be opened. Capable of accepting up to three padlocks in the 'Off' position. ('On' position on request)
- Door interlock handle can be defeated to enable emergency opening or for testing purposes. (Must be carried out by a competent person)
- Removable gland plates on top & bottom of all enclosures.
- Enclosure size 2 and above isolating switches are mounted on a removable galvanised chassis plate.
- All Fuse Combination Units are supplied complete with a set of fully rated fuse links.
- Castell Lock options available on request.
- Stainless steel enclosures for severe environments.
- Changeover Switch-Disconnectors in four pole format
- Enclosures finished Red (RAL 3020) are available to order, please contact our Sales team for details

Removable gland plates are fitted to the top & bottom faces and employ 'blind' fixings (Compact enclosures) that will maintain the IP sealing even if a gland plate fixing screw should be missed.



The internal arrangement of a typical Fuse Combination Unit



Hinged Door IP65

## Catalogue Numbers

### Switch-Disconnectors\* (O-I)

Rating	Format	Sheet steel (Grey)	Stainless Steel	Encl. Size
32A	3P+N	SDG00323N	SDS00323N	1
	3P+NL	SDG00323NL	SDS00323NL	1
63A	3P+N	SDG00633N	SDS00633N	1
	3P+NL	SDG00633NL	SDS00633NL	1
	6P+2E/B	SDG00636EB	SDS00636EB	2
80A	3P+N	SDGC00803N	SDSC00803N	1
	3P+NL	SDGC00803NL	SDSC00803NL	1
100A	3P+N	SDGC01003N	SDSC01003N	3A
	3P+NL	SDGC01003NL	SDSC01003NL	3A
125A	3P+N	SDGC01253N	SDSC01253N	4A
	3P+NL	SDGC01253NL	SDSC01253NL	4A
160A	3P+N	SDGC01603N	SDSC01603N	4A
	3P+NL	SDGC01603NL	SDSC01603NL	4A
200A	3P+N	SDGC02003N	SDSC02003N	5A
	3P+NL	SDGC02003NL	SDSC02003NL	5A
250A	3P+N	SDG02503N	SDS02503N	5
	3P+NL	SDG02503NL	SDS02503NL	5
400A	3P+N	SDG04003N	SDS04003N	6
	3P+NL	SDG04003NL	SDS04003NL	6
630A	3P+N	SDG06303N	SDS06303N	8
	3P+NL	SDG06303NL	SDS06303NL	8
800A	3P+N	SDG08003N	SDS08003N	8
	3P+NL	SDG08003NL	SDS08003NL	8
1000A	3P+N	SDG10003N	SDS10003N	10
	3P+NL	SDG10003NL	SDS10003NL	10

### Fuse Combination Units\* (O-I)

Rating	Format	Sheet steel (Grey)	Stainless Steel	Encl. Size
32A	3P+NL	SDFG00323N	SDFS00323N	2
63A	3P+NL	SDFG00633N	SDFS00633N	2
100A	3P+NL	SDFG01003N	SDFS01003N	3
125A	3P+NL	SDFG01253N	SDFS01253N	4
160A	3P+NL	SDFG01603N	SDFS01603N	4
200A	3P+NL	SDFG02003N	SDFS02003N	5
250A	3P+NL	SDFG02503N	SDFS02503N	5
315A	3P+NL	SDFG03153N	SDFS03153N	6
400A	3P+NL	SDFG04003N	SDFS04003N	6
630A	3P+NL	SDFG06303N	SDFS06303N	8

### Changeover Switch Disconnectors (I-O-II)

Rating	Format	Sheet steel (Grey)	Stainless Steel	Encl. Size
63A	4P C/O	SCODGC00634	SCODSC00634	3
100A	4P C/O	SCODGC01004	SCODSC01004	3
125A	4P C/O	SCODGC01254	SCODSC01254	5
160A	4P C/O	SCODGC01604	SCODSC01604	5
200A	4P C/O	SCODGC02004	SCODSC02004	5
250A	4P C/O	SCODG02504	SCODS02504	7
400A	4P C/O	SCODG04004	SCODS04004	9
630A	4P C/O	SCODG06304	SCODS06304	9

'N' = switched neutral  
'NL' = Unswitched neutral  
'EB' = Early break auxiliary contacts

\* Items painted Red (RAL3020) are readily available. Please contact our Sales team for further details or a brochure.



Technical Data  
Page 32-33

Dimensions  
Page 36

## General Description

The provision of a Flag Indicator driven off the main operating shaft viewed through a window in the enclosure door provides the user with confirmation of the isolating switch contact state.

Offered in both Switch-Disconnecter & Fuse Combination Unit assemblies with a choice of sheet steel or stainless steel enclosures. All assemblies are sealed to IP65 for protection against harsh environments and are supplied with 2 C/O auxiliary blocks wired down to terminals (N/O contacts are Early Break when switching 'Off').



(Items shown with optional external mounting feet fitted).



Interior view showing flag indicator and the auxiliary blocks wired down to terminals.

## Design Features

- Flag indication is operated off the end of the main operating shaft ensuring 'positive contact indication'.
- Flag window - 4mm thick polycarbonate.
- Safety handle - when padlocked in the 'Off' position, the enclosure door cannot be opened. Capable of accepting up to three padlocks in the 'Off' position. (Max. hasp/shackle dia. 6.4mm).
- Door interlock handle can be defeated to enable emergency opening or for testing purposes. (Must be carried out by a competent person).
- Castell Lock options available on request.
- External stainless steel mounting feet option.
- Sheet steel finish painted RAL7035  
Stainless steel brushed finish grade 304.
- All assemblies are supplied with the switching element mounted on a removable internal chassis plate. Material - 2mm galvanised steel.
- All gland plate fixings are 'non invasive' i.e. leaving out a gland plate fixing does not compromise the enclosures IP65 sealing.
- All items are supplied with 2 C/O aux. blocks wired down to terminals (N/O contacts are Early Break when switching 'Off').

## Flagged Switch-Disconnectors (O-I)



### Catalogue Numbers

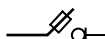
Rating	Format	Sheet steel (Grey)	Stainless Steel	Encl. Size
32A	3P+N	SDG00323N/F	SDS00323N/F	1F
63A	3P+N	SDG00633N/F	SDS00633N/F	1F
100A	3P+N	SDG01003N/F	SDS01003N/F	2F
125A	3P+N	SDG01253N/F	SDS01253N/F	2F
200A	3P+N	SDG02003N/F	SDS02003N/F	4F
250A	3P+N	SDG02503N/F	SDS02503N/F	4F
400A	3P+N	SDG04003N/F	SDS04003N/F	5F

"ATEX - Zone 22 versions of these products are available. Please contact our technical sales staff for details."

Typical handle assembly showing the facility to accept up to three Ø6.4 shackle padlocks.



## Flagged Fuse Combination Units (O-I)



### Catalogue Numbers

Rating	Format	Sheet steel (Grey)	Stainless Steel	Encl. Size
32A	3P+N	SDFG00323N/F	SDFS00323N/F	1F
63A	3P+N	SDFG00633N/F	SDFS00633N/F	1F
100A	3P+N	SDFG01003N/F	SDFS01003N/F	2F
125A	3P+N	SDFG01253N/F	SDFS01253N/F	2F
160A	3P+N	SDFG01603N/F	SDFS01603N/F	3F
200A	3P+N	SDFG02003N/F	SDFS02003N/F	4F
250A	3P+N	SDFG02503N/F	SDFS02503N/F	4F

'N' = switched neutral



Technical Data  
Page 32-33

Dimensions  
Page 36



### Accessories



For electrical ratings please refer to **Page 29**.

### Auxiliary Contacts

Add-on auxiliary blocks are available for all hinged door products. Please select the blocks/kit 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'.

For additional contacts or details regarding auxiliaries for Changeover Switch-Disconnectors please contact our sales team.

#### Catalogue Numbers

For Switch-Disconnectors

Rating (A)	63-200	250	400-800	1000
Cat No	SAUXCO	SAUXKITB	SAUXKITC	SAUXKITD
Type	A	C	C	B

For Fuse Combination Units

Rating (A)	32-160	200-400	630
Cat No	SAUXKITA	SAUXKITC	SAUXKITD
Type	B	C	B

### Fuse Links



IEC/BS EN 60269 (BS88) fuse links

All of the Fuse Combination Units are supplied fitted with a set of fully rated IEC/BS EN 60269 (BS88) fuse links. Replacement can be supplied as individual fuse links to the table below.

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.).

Rating (A)	32	63	100	125	160	200	250	315	400	630
C&D Cat. No.	SFL32	SFL63	SFL100	SFL125	SFL160	SFL200	SFL250	SFL315	SFL400	SFL630
Cooper Bussmann Cat. No.	AA032	BA063	CE0100	DE0125	DD160	DD200	ED250	ED315	ED400	FF630
Lawson Cat. No.	TIA32	TIS63	TCP100	TFP125	TF160	TF200	TKF250	TKF315	TMF400	3T630
BS fuse format	A2, A3	A2, A3	A4	A4	B1, B2	B1-B2	B1-B2	B1-B4	B1-B4	C1-C3
Fuse Fixing CRS (mm)	73 nom.	73 nom.	94 nom.	94 nom.	111 nom.	111 nom.	111 nom.	111 nom.	111 nom.	133/184 nom.

### Terminal Covers



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.)

#### Catalogue Numbers - individual covers

For Switch-Disconnectors

Isol Rating (A)	63-160	200	250-400	630
Cat No	Not reqd	STS1	STS2	STS4

For Fuse Combination Units

Isol Rating (A)	32-63	100-160	200-400	630
Cat No	Not reqd	STS1	STS2	STS3



### General Description

Craig and Derricott have been supplying isolation equipment for the Ventilation Industry for more than 15 years. The F400 Fire Rated product is designed specifically for installations where the supply must be maintained for **2 hours at 400°C**.

The use of this switchgear range is to maintain power to vital equipment such as smoke extraction / ventilation fans allowing the safe evacuation of businesses, carparks and public areas.

These switch-disconnectors are installed near to the extraction fan for isolation purposes, and has been tested in conjunction with the fan equipment to meet the stringent thermal requirements of BSEN 12101-3. All enclosures come standard with padlocking in both 'Off' and 'On'.

The F300 Fire Rated product is designed for installations where the supply must be maintained for **60 min at 300°C**.



F400 Fire Rated Range



F300 Fire Rated Range

\* Enclosure sizes from the Standard 'Hinged Door' range - see page 36.

All assemblies are supplied capable of being padlocked in the 'Off' & 'On' positions

'N' = Neutral  
'NL' = Neutral Link (100% rated 32A-200A, 50% rated 250A-630A)  
'EB' = Early break auxiliary contacts

Catalogue Numbers					
Rating	Format	Assembly Form	Catalogue No. (Finished Red)	Temp. Class.	Encl. size (IP65)
20A	2P	Lid mounted in sheet steel enclosure	FSDMR0202	F400	A
	3P		FSDMR0203		
	3P+2EB Aux		FSDMR0203EB		
	3P+N		FSDMR0203N		
	4P		FSDMR0204		
	6P		FSDMR0206		
20A	2P	Lid mounted in die-cast aluminium enclosure	FSDDR0202	F400	E
	3P		FSDDR0203		
	3P+2EB Aux		FSDDR0203EB		
	3P+N		FSDDR0203N		B
	4P		FSDDR0204		
	6P		FSDDR0206		
32A	2P	Lid mounted in die-cast aluminium enclosure	FSDDR0322	F400	B
	3P		FSDDR0323		
	3P+2EB Aux		FSDDR0323EB		
	3P+N		FSDDR0323N		
	4P		FSDDR0324		
	6P		FSDDR0326		
63A	2P	Base mounted in hinged door sheet steel enclosure	FSDMR0632	F400	C
	3P		FSDMR0633		
	3P+2EB Aux		FSDMR0633EB		
	3P+N		FSDMR0633N		
	4P		FSDMR0634		
	6P		FSDMR0636		
125A	2P	Base mounted in hinged door sheet steel enclosure	FSDMR0636EB	F400	D
	3P		RS1BD11/HPHT		
	3P+2EB Aux		RS1BT21/HPHT		
	3P+N		RS1BT31/2EB/HPHT		
	4P		RS1BT21/HPHT/NL		
	6P		RS1BQ21/HPHT		
160A	2P	Base mounted in hinged door sheet steel enclosure	RS1BY31/HPHT	F300	*5
	3P		F3SDR01603		
	3P+NL		F3SDR01603NL		
	4P		F3SDR01604		*7
	6P		F3SDR01606		
	6P+NL		F3SDR01606NL		
200A	3P	Base mounted in hinged door sheet steel enclosure	F3SDR02003	F300	*5
	3P+NL		F3SDR02003NL		
	4P		F3SDR02004		
	6P		F3SDR02006		*7
	6P+NL		F3SDR02006NL		
	3P		F3SDR02503		
250A	3P+NL	Base mounted in hinged door sheet steel enclosure	F3SDR02503NL	F300	*5
	4P		F3SDR02504		
	6P		F3SDR02506		
	6P+NL		F3SDR02506NL		*7
	3P		F3SDR03153		
	3P+NL		F3SDR03153NL		
315A	4P	Base mounted in hinged door sheet steel enclosure	F3SDR03154	F300	*6
	6P		F3SDR03156		
	6P+NL		F3SDR03156NL		*9
	3P		F3SDR04003		
400A	3P+NL	Base mounted in hinged door sheet steel enclosure	F3SDR04003NL	F300	*6
	4P		F3SDR04004		
	6P		F3SDR04006		
	6P+NL		F3SDR04006NL		*9
	3P		F3SDR06303		
3P+NL	F3SDR06303NL				
630A	4P	Base mounted in hinged door sheet steel enclosure	F3SDR06304	F300	*8
	6P		F3SDR06306		
	6P+NL		F3SDR06306NL		*9
	6P+NL		F3SDR06306NL		



## Technical Specification

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

Application	Sym.	Unit	Category	20A	32A	63A	125A	160A	200A	250A	315A	400A	630A	
Rated thermal current	$I_{the}$	A		20	32	63	125	160	200	250	315	400	630	
Rated insulation voltage	$U_i$	V		690	690	690	690	1000	1000	1000	1000	1000	1000	
Rated impulse voltage	$U_{imp}$	kV		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	100/55	160/90	200/110	250/132	315/175	400/200	630/315	
			690V - AC23A	-	-	-	-	160/150	200/190	250/200	315/300	400/315	630/355	
			690V - AC23B	20/9.5	20/9.5	20/9.5	-	-	-	-	-	-	-	-
			660V - AC23B	-	-	-	30/22	-	-	-	-	-	-	-
Short circuit withstand (1 sec)	$I_{ow}$	kA	RMS value	-	-	-	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	50/200	50/160	50/200	50/250	-	-	-	
			690V	40/32	40/32	40/63	50/63	50/160	50/200	50/250	50/315	50/400	100/630	
Recommended connecting capacity			Terminal type											
			mm <sup>2</sup> Flexible cable	≤ 4.0	6	16	50	95	95	120	2/150	2/150	2/185	
			mm <sup>2</sup> Rigid cable	≤ 4.0	10	25	50	95	95	120	2/150	2/150	2/185	
			Nm Tightening torque	1.2	1.2	3.0	12.0	8.0	8.0	8.0	17.0	17.0	21.0	

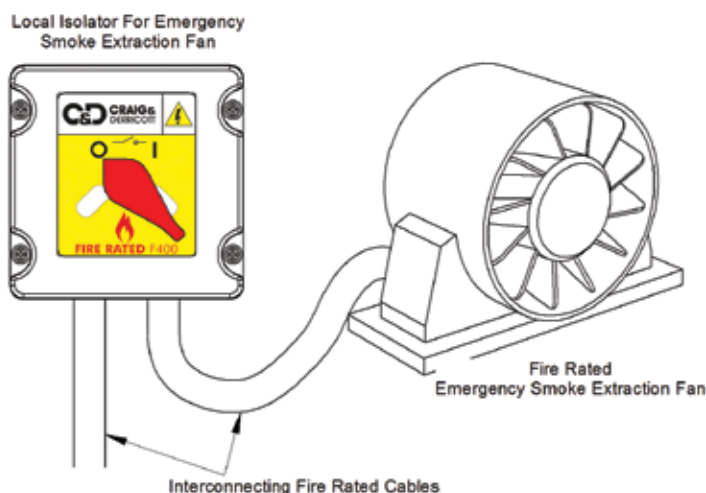
## Specification

Within BS EN 12101-3: 2003 (Smoke and heat controls) there are several classes of duty which define a specific temperature gradient, upper temperature limit and time period.

- F300** 300°C for 60 min\*
- F400** 400°C for 120 min.

\*Craig and Derricott's F300 products can withstand 300°C for 120 min.

The specification calls for dynamic tests designed to check the performance of the complete ventilation system. The critical function of the associated isolator is required to maintain the essential supply for the duration of the test.



High velocity extraction fans installed in an underground car park

**“Smoke kills more people than fire”**

A well known fact, and it's the job of the ventilation designer to ensure this doesn't happen - to do this effectively he will need continuous power.



## Background

London Underground Limited (LUL) Section 12 Equipment

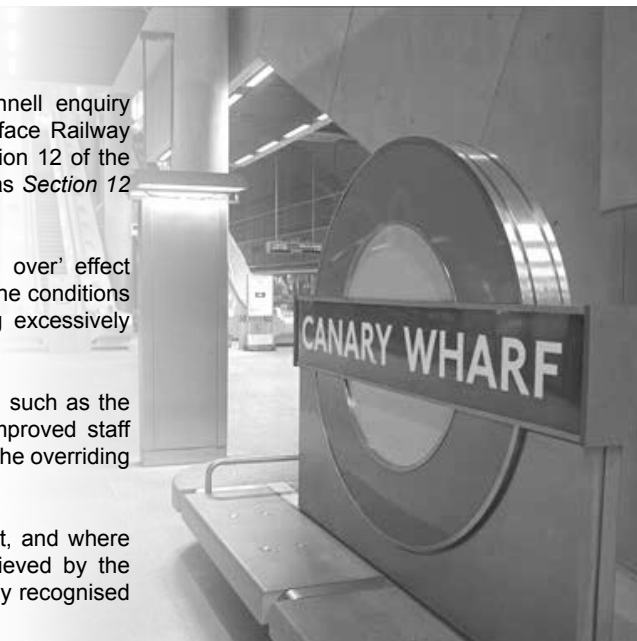
Following the London Kings Cross fire of 1987, the resulting Fennell enquiry prompted the introduction of additional fire precautions for 'Sub-surface Railway Stations'. These additional requirements were introduced under section 12 of the Fire Precautions Act 1971, and since then have been known simply as *Section 12 regs*.

The forensic report on the fire cited several instances of a 'flash over' effect caused by materials and paint finishes being ignitable. Exacerbating the conditions underground were toxic fumes given off by certain materials being excessively heated.

Although the new regulations dealt with all aspects of fire prevention such as the removal of wooden escalators, the installation of heat detectors, improved staff training etc, as far as actual equipment supplied for underground use, the overriding emphasis was on materials and paint finishes.

With this 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.

\* Replaced by the current regulations:- 'The Fire Precautions (Sub-surface Railway Stations)' (England) Regulations 2009.



## Stainless Steel Enclosures

Switch-Disconnectors (O-I)

Catalogue Numbers				
Rating	Format	Interior Switch product range	Catalogue Nos.	Enclosure Size
			Stainless steel	
25A	2P	GN25	DS252LUL10	C (IP65)
	3P	GN25	DS253LUL10	
	3P+2EB Aux	GN25	DS253EBLUL10	
	4P	GN25	DS254LUL10	
	6P	GN25	DS256LUL10	
40A	6P+2EB Aux	GN25	DS256EBLUL10	D (IP65)
	2P	GN40	DS402LUL10	
	3P	GN40	DS403LUL10	
	3P+2EB Aux	GN40	DS403EBLUL10	
	4P	GN40	DS404LUL10	
	6P	GN40	DS406LUL10	
	6P+2EB Aux	GN40	DS406EBLUL10	



## Design Features

- Lid mounted switch interiors.
- Captive lid fixing screws with a security head.
- Enclosure material - 18 gauge stainless steel grade 304.
- Finish - Natural - Brushed (Non glare)
- Sealing to IP65.
- Supplied with stainless steel mounting brackets
- Padlocking cast lever handle.
- Positive break contacts.
- Earthing points on both lid and base plus external earth stud.
- Padlocking in both 'Off' & 'On'.
- Labels - 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.

## Technical Specification

Electrical ratings to BS EN 60947-3

Application	Sym	Unit	Category	Rating	
Rated thermal current	$I_{the}$	A	-	25A	40A
Rated operational power (3 phase AC)	-	kW	380/440V AC23A	11.0	18.5





## Die-Cast Enclosures

### Switch-Disconnectors (O-I)

Catalogue Numbers					
Rating	Format	Interior Switch product range	Catalogue Nos.		Enclosure Size
			Grey	Red	
25A	2P	GN25	DCG252LUL10	DCR252LUL10	A (IP65)
	3P	GN25	DCG253LUL10	DCR253LUL10	
	3P+2EB Aux	GN25	DCG253EBLUL10	DCR253EBLUL10	
	4P	GN25	DCG254LUL10	DCR254LUL10	
	6P	GN25	DCG256LUL10	DCR256LUL10	
	6P+2EB Aux	GN25	DCG256EBLUL10	DCR256EBLUL10	
40A	2P	R32	DCG402LUL10	DCR402LUL10	B (IP65)
	3P	R32	DCG403LUL10	DCR403LUL10	
	3P+2EB Aux	R32	DCG403EBLUL10	DCR403EBLUL10	
	4P	R32	DCG404LUL10	DCR404LUL10	
	6P	R32	DCG406LUL10	DCR406LUL10	
	6P+2EB Aux	R32	DCG406EBLUL10	DCR406EBLUL10	



## Design Features

## Spares

- Paint Finishes:-
  - LU1-085 Compliant Paint Finish
  - Colour - Light Grey (RAL7035)
  - Traffic Red (RAL3020)
- Captive lid fixing screws with a security head.
- Enclosure material - Aluminium (LM6)
- Sealing to IP65.
- Supplied with pre-finished steel mounting brackets.
- Padlocking cast lever handle.
- Positive break contacts.
- Earthing points on both lid and base plus external earth stud.
- Padlocking in both 'Off' & 'On'.
- Labels - 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.

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

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

## Technical Specification

Electrical ratings to BS EN 60947-3

Application	Sym	Unit	Category	Rating	
Rated thermal current	$I_{the}$	A	-	25A	40A
Rated operational power (3 phase AC)	-	kW	380/440V AC23A	11.0	15.0

If you require further information on these products please contact our technical sales team.



## Hinged Door Enclosures



Fuse Combination Unit  
all metal handle

### Design Features

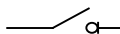
#### Switch-Disconnectors

- Ratings 40A - 400A (3P + switched N).
- Grey or Traffic Red LU1-085 Compliant Paint Finish.
- All metal padlocking handle.
- Supplied lockable in both 'Off' & 'On'.
- Removable top & bottom gland plates.
- Optional Castell Lock.
- Sealing to IP65.

#### Fuse Combination Units

- Ratings 32A - 630A (3P + switched N).
- Grey or Traffic Red LU1-085 Compliant Paint Finish.
- All metal padlocking handle.
- Supplied lockable in both 'Off' & 'On'.
- Removable top & bottom gland plates.
- Optional Castell Lock.
- Takes BS88 fuse links.
- Sealing to IP65.

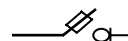
### Switch-Disconnectors (O-I)



#### Catalogue Numbers

Rating	Catalogue Nos.		Enc. Size
	Grey	Red	
40A	DCG0403LUL	DCR0403LUL	1
63A	DCG0633LUL	DCR0633LUL	1
80A	DCG0803LUL	DCR0803LUL	2
100A	DCG1003LUL	DCR1003LUL	2
125A	DCG1253LUL	DCR1253LUL	2A
160A	DCG1603LUL	DCR1603LUL	2A
200A	DCG2003LUL	DCR2003LUL	3
250A	DCG2503LUL	DCR2503LUL	3
315A	DCG3153LUL	DCR3153LUL	4
400A	DCG4003LUL	DCR4003LUL	4

### Fuse Combinations Units (O-I)



#### Catalogue Numbers

Rating	Catalogue Nos.		Enc. Size
	Grey	Red	
32A	SFDCG0323LUL	SFDCR0323LUL	2
63A	SFDCG0633LUL	SFDCR0633LUL	2
100A	SFDCG1003LUL	SFDCR1003LUL	2
160A	SFDCG1603LUL/COM	SFDCR1603LUL/COM	2A
200A	SFDCG2003LUL/COM	SFDCR2003LUL/COM	2A
250A	SFDCG2503LUL	SFDCR2503LUL	3
315A	SFDCG3153LUL	SFDCR3153LUL	4
400A	SFDCG4003LUL	SFDCR4003LUL	4
630A	SFDCG6303LUL	-	5

For **Castell** lock option, add suffix '/CL' to the catalogue number - e.g. DCG2003LUL/CL

## Technical Specification

Electrical ratings to BS EN 60947-3

### Switch-Disconnectors

Rating	Rated Thermal Current $I_{th}$	Rated operational Power $P_e$
		kW (400V - AC23A)
40A	40A	18.5
63A	63A	25
80A	80A	40
100A	100A	40
125A	125A	63
160A	160A	80
200A	200A	100
250A	250A	132
315A	315A	160
400A	400A	220

### Fuse Combination Units

Rating	Rated Thermal Current $I_{th}$	Rated operational Power $P_e$
		kW (400V - AC23A)
32A	32A	15
63A	63A	30
100A	100A	51
160A	160A	80
200A	200A	100
250A	250A	312
315A	315A	160
400A	400A	220
630A	630A	355



## LUL Automatic Transfer Switches (ATS)

The ATS units are supplied with two integral isolation switches. The ATS indicator / control panel and switch operating handle are behind an overall lockable door. The range provides all the necessary requirements for automatically switching from Mains (Duty) to Generator (Standby) or alternative Mains with local status indication and a supply monitoring relay.

Built in a IP65 stainless steel enclosures, the ATS units are manufactured to LU 1-085 fire safety performance of materials, with LSZH (low Smoke Zero Halogen) cables.

The Automatic Transfer Switches (ATS) are supplied with a DSE333 electronic controller and DSE160 self-seeking power supply, providing a configurable controlled system where the customer can program using the electronic user interface or PC.

The range is available 32A to 400A ratings and provides all the essential requirements for automatically switching from Mains (Duty) to Generator (Standby) or Mains (Standby).

## Design Features

### Standard LUL ATS

- Automatic supply transfer control.
- Electro-mechanical interlocked 3/4 pole AC1 rated contactor.
- Compliant to EN 60947-4-1 & EN 60947-6-1.
- All metal locks supplied with one key per enclosure.
- All cabling to be LSZH (Low Smoke Zero Halogen).
- IP2X terminal covers fitted (if applicable).
- Removable top and bottom gland plates.
- Changeover time adjustable to 50m/s.
- Supply available status indication.
- Dual supply voltage monitoring.
- IP65 Stainless Steel Enclosure.
- Second external door included.
- External fixing feet included.

### Combination LUL ATS

As well as all of the listed features of a Standard ATS, the combination ATS includes:

- Compliant to EN 60947-4-1 , EN 60947-3 & EN 60947-6-1.
- Both incoming isolators fitted with door interlock rotary handles.
- Terminal blocks for easy fit supply cable installation.
- All hinged doors to be fitted with 1/4 turn locks.
- Incoming cables at bottom and outgoing at top.
- Top and bottom earth bonded gland plates.
- Incoming Isolation (2x isolators).
- Form 4 type 2 separation.



DSE333 electronic controller is accessible underneath external door.



## Catalogue Numbers

Rating	Standard LUL ATS	Enc. Size	Combination LUL ATS	Enc. Size
32A	ATS0324BM/DSE/LUL/SS	A	ATSSD0324BM/DSE/LUL/SS	A
45A	ATS0454BM/DSE/LUL/SS		ATSSD0454BM/DSE/LUL/SS	
63A	ATS0634BM/DSE/LUL/SS	B	ATSSD0634BM/DSE/LUL/SS	B
100A	ATS1004BM/DSE/LUL/SS	C	ATSSD1004BM/DSE/LUL/SS	C
160A	ATS1604BM/DSE/LUL/SS	D	ATSSD1604BM/DSE/LUL/SS	
200A	ATS2004BM/DSE/LUL/SS	E	ATSSD2004BM/DSE/LUL/SS	D
400A	ATS4004BM/DSE/LUL/SS	F	ATSSD4004BM/DSE/LUL/SS	

Please refer to our dedicated ATS Brochure for more information.



## Standard Automatic Transfer Switches (ATS)

At the core of each system is a three/four pole changeover device. The 'Standard' range utilises electromechanical interlocked contactors and provides all of the essential requirements to automatically transfer between supplies. The mains/generator configured unit is provided with a normally open / normally closed generator start signal and a 230Vac aux supply. The units have configurable parameters for under-voltage and time delay requirements. Local door mounted light indicators show the availability of the supplies and the status of the contactors.

A Deep Sea Control Module, with a self-seeking power supply is available as an alternative to the standard relay/timer configuration for controlling the automatic "transfer" from one power supply to another.

See our dedicated ATS brochure for more information.



Typical 45A/63A Interior

### Technical Features

- Electro-mechanical interlocked 3/4 pole AC1 rated contactor.
- Volt free contacts for remote generator start (N/O & N/C) (Applies to Mains / Generator configuration only).
- Supply available / supply on load status indication.
- Incoming supply adjustable Undervoltage and Time delay relays for setting individual supply parameters.
- Supplied with BXP4003/BXP2000 - a 3/1 phases & neutral Mains Supply Monitoring Relay.
- Changeover time adjustable to 50m/s.
- Removable Top and Bottom Gland plates.
- Metal locks supplied with one key per enclosure.
- All cabling to be LSZH (Low Smoke Zero Halogen).
- IP65 Steel Enclosure (Stainless Steel optional).
- Paint finish – Polyester Powder Coat, Light Grey RAL7035.
- Optional DSE330 control module available.
- Compliant to EN 60947-4-1 & EN 60947-6-1.

### Panel Indication / Control



Connections	Termination	Protection
Input 1 (Mains Duty)	1/3P+N+E Hardwire	32 to 800A 3/4 P Contactor
Input 2 (Generator or Mains Standby)	1/3P+N+E Hardwire	32 to 800A 3/4 P Contactor
Outgoing (Load)	1/3P+N+E Hardwire	N/A
Aux.	1/1P+N+E Hardwire	20A 2 Pole MCB

### Optional DSE controller complete with Self Seeking Power Supply

Our ATS with configurable DSE controller, is designed to interface with the control of the standby generator supply. The controller, with a DSE self-seeking power supply, monitors the incoming mains supply (single or three phase) for under voltage and frequency.

If the voltage falls out of the upper and lower pre determined limits, the module will issue a start command to the generator control panel to initiate the transfer of supplies. The controller continues to monitor the mains supply for a "return to mains" transfer. The mains return timer is set to allow the confirmation for a "stable" mains supply before the transfer back is carried out.

Please refer to our dedicated ATS Brochure for more information.





## Catalogue Numbers

Ratings	Format	Single Phase Mains/ Generator Cat No.	Single Phase Mains/Mains Cat No.	Format	Three Phase Mains/Generator Cat No.	Three Phase Mains/Mains Cat No.	Enclosure size
32A	2P	ATS0322B	ATS0322BM	4P	ATS0324B	ATS0324BM	A
45A	2P	ATS0452B	ATS0452BM	4P	ATS0454B	ATS0454BM	
63A	2P	ATS0632B	ATS0632BM	4P	ATS0634B	ATS0634BM	
90A	2P	ATS0902B	ATS0902BM	4P	ATS0904B	ATS0904BM	B
100A	2P	ATS1002B	ATS1002BM	4P	ATS1004B	ATS1004BM	
110A	2P	ATS1102B	ATS1102BM	4P	ATS1104B	ATS1104BM	
125A	2P	ATS1252B	ATS1252BM	4P	ATS1254B	ATS1254BM	C
160A	2P	ATS1602B	ATS1602BM	4P	ATS1604B	ATS1604BM	
200A	2P	ATS2002B	ATS2002BM	4P	ATS2004B	ATS2004BM	
250A	2P	ATS2502B	ATS2502BM	4P	ATS2504B	ATS2504BM	D
275A	2P	ATS2752B	ATS2752BM	4P	ATS2754B	ATS2754BM	
300A	2P	ATS3002B	ATS3002BM	4P	ATS3004B	ATS3004BM	
350A	2P	ATS3502B	ATS3502BM	4P	ATS3504B	ATS3504BM	
400A	2P	ATS4002B	ATS4002BM	4P	ATS4004B	ATS4004BM	
450A	2P	ATS4502B	ATS4502BM	4P	ATS4504B	ATS4504BM	
500A	2P	ATS5002B	ATS5002BM	4P	ATS5004B	ATS5004BM	
550A	2P	ATS5502B	ATS5502BM	4P	ATS5504B	ATS5504BM	E
600A	2P	ATS6002B	ATS6002BM	4P	ATS6004B	ATS6004BM	
650A	2P	ATS6502B	ATS6502BM	4P	ATS6504B	ATS6504BM	
700A	2P	ATS7002B	ATS7002BM	4P	ATS7004B	ATS7004BM	
750A	2P	ATS7502B	ATS7502BM	4P	ATS7504B	ATS7504BM	
800A	2P	ATS8002B	ATS8002BM	4P	ATS8004B	ATS8004BM	

For DSE option, add suffix 'DSE' to catalogue number. E.g. ATS0322B/DSE

For Stainless Steel enclosure, add suffix 'SS' to catalogue number. E.g. ATS0322B/SS



Standard ATS with LED indicator panel



Standard ATS with DSE330 control module

Standard ATS

## Automatic Transfer Switches (ATS) with Bypass

Craig and Derricott offer the option of ATS units with Single Line or Dual Line Bypass. Speak to your local Area Sales Manager today for more information or refer to our dedicated ATS Brochure for more information.



## Combination Automatic Transfer Switches (ATS)

The Combination ATS unit is supplied with two integral isolation switches. The ATS indicator / control panel and switch operating handle are behind an overall lockable door. The Range provides all the essential requirements for automatically switching from Mains (Duty) to Generator (Standby) or alternative Mains with local LED status indication and a BXP4003/BXP2000 Mains supply monitoring relay.

A Deep Sea Control Module, with a self seeking power supply is available as alternative to the standard LED indicator panel for controlling the automatic changeover from one power source to another. See our ATS catalogue for more information.

### Technical Features

- Electro-mechanical interlocked 3/4 pole AC1 rated contactor.
- Volt free contacts for remote generator start (N/O & N/C) (Applies to Mains / Generator configuration only).
- Incoming supply adjustable Undervoltage and Time delay relays for setting individual supply parameters.
- Supplied with BXP4003/BXP2000 - a 3/1 phases & neutral Mains Supply Monitoring Relay.
- Changeover time adjustable to 50m/s.
- Second external door included.
- IP65 Steel Enclosure (Stainless Steel optional).
- Removable Top and Bottom Gland Plates.
- Metal locks supplied with one key per enclosure.
- All cabling to be LSZH (Low Smoke Zero Halogen).
- Supply available status indication.
- Incoming isolation (2 x isolators).
- Form 4 type 2 separation.
- Terminal blocks for easy fit cable installation.
- Paint finish – Polyester Powder Coat, Light Grey RAL7035.
- Optional DSE331 control module available.
- Compliant to EN 60947-4-1 , EN 60947-3 & EN 60947-6-1.

Connections	Termination	Protection
Input 1 (Mains)	1/3P+N+E Hardwire	32 to 800A 3/4 P Contactor
Input 2 (Generator/Mains)	1/3P+N+E Hardwire	32 to 800A 3/4 P Contactor
Outgoing (Load)	1/3P+N+E Hardwire	N/A
Aux.	1/3P+N+E Hardwire	20A 2 Pole MCB

### Optional DSE controller complete with Self Seeking Power Supply

See Page 21 for more information

#### Catalogue Numbers

Rating	Format	Mains Generator Cat No.	Mains / Mains Cat No.	Enclosure Size
32A	4P	ATSSD0324B	ATSSD0324BM	1A
45A	4P	ATSSD0454B	ATSSD0454BM	
63A	4P	ATSSD0634B	ATSSD0634BM	
90A	4P	ATSSD0904B	ATSSD0904BM	1B
100A	4P	ATSSD1004B	ATSSD1004BM	
110A	4P	ATSSD1104B	ATSSD1104BM	
125A	4P	ATSSD1254B	ATSSD1254BM	
160A	4P	ATSSD1604B	ATSSD1604BM	1C
200A	4P	ATSSD2004B	ATSSD2004BM	
250A	4P	ATSSD2504B	ATSSD2504BM	
275A	4P	ATSSD2754B	ATSSD2754BM	1D
300A	4P	ATSSD3004B	ATSSD3004BM	
350A	4P	ATSSD3504B	ATSSD3504BM	
400A	4P	ATSSD4004B	ATSSD4004BM	
450A	4P	ATSSD4504B	ATSSD4504BM	1E
500A	4P	ATSSD5004B	ATSSD5004BM	
550A	4P	ATSSD5504B	ATSSD5504BM	
600A	4P	ATSSD6004B	ATSSD6004BM	
650A	4P	ATSSD6504B	ATSSD6504BM	1F
700A	4P	ATSSD7004B	ATSSD7004BM	
750A	4P	ATSSD7504B	ATSSD7504BM	
800A	4P	ATSSD8004B	ATSSD8004BM	

For DSE option, add suffix 'DSE' to catalogue number. E.g. ATSSD0324B/DSE  
 For Stainless Steel enclosure, add suffix 'SS' to catalogue number. E.g. ATSSD0324B/SS





Combination ATS with external door open



Combination ATS units with external door closed

## Accessories

IP Protection Rainhood



Neutral Link for total circuit isolation (control circuit)



External Fixing Feet



Customer Termination  
(not shown on main assembly)



Please refer to our dedicated ATS Brochure for more information.

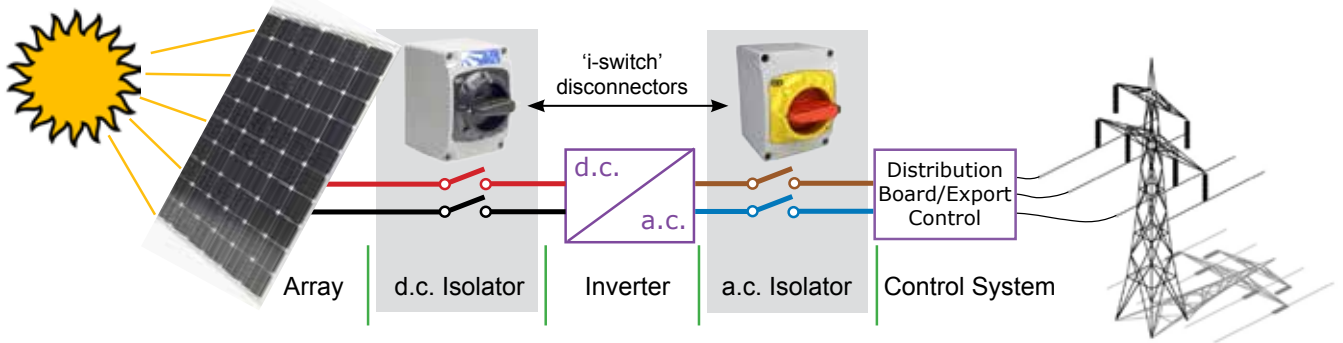


## General Description

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 and Derricott have developed a range of DC switch-disconnectors to manage this specific application. See page 3 for AC isolating devices.

### The basic PV Installation



Select from the table below the suitable d.c. switch-disconnector to meet the required installation that is applicable to Rated Operational Voltage and Rated Operational Current rating.

### D.C. Isolators (Array side of inverter)

Catalogue Numbers		Technical Specification								
Enclosed Assembly Cat. No.	Interior Isolating Switch Cat. No.	Rated Operational Current (DC21B)	Rated Operational Voltage d.c.					Connection Diag.	Enclosure Size	
			300/400V	600V	800V	1,000V	1,200V <sup>2</sup>			1,500V <sup>2</sup>
PVP162	SPV162	Rated Operational Current (DC21B)	16A	16A	16A	16A	-	-	W	A
PVP164	SPV164		-	-	-	-	16A	16A	Z	B
PVP252	SPV252		25A	25A	25A	16A	-	-	W	A
PVP253	SPV253		-	-	-	25A	-	-	X	A
PVP254	SPV254		-	-	-	-	20A	16A	Z	B
PVP322	SPV322		32A	32A	-	-	-	-	W	A
PVP323	SPV323		-	-	32A	32A	-	-	X	A
PVP324	SPV324		-	-	-	-	25A	20A	Z	B
PVP402	SPV402		40A	-	-	-	-	-	W	A
PVP403	SPV403		-	40A	40A	-	-	-	X	A
PVP404	SPV404	-	-	-	40A	32A	25A	Z	B	
PVP1622 <sup>1</sup>	SPV1622 <sup>1</sup>	Rated Operational Current (DC21B)	16A	16A	16A	16A	-	-	Y	B
PVP2522 <sup>1</sup>	SPV2522 <sup>1</sup>		25A	25A	25A	16A	-	-	Y	B
PVP3222 <sup>1</sup>	SPV3222 <sup>1</sup>		32A	32A	-	-	-	-	Y	B
PVP4022 <sup>1</sup>	SPV4022 <sup>1</sup>		40A	-	-	-	-	-	Y	B

1. Designed to isolate twin arrays
2. Pollution degree 2



Interior view showing a 32A 4 pole Isolating switch



All enclosures supplied with plain sides: ABS/Polycarbonate Colour - Grey (RAL7035)





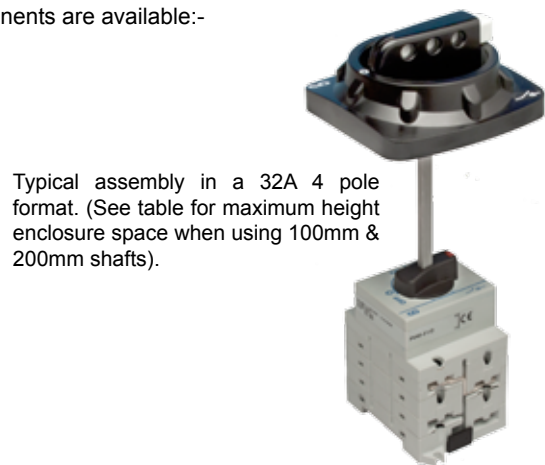
For those installing PV isolators in their own assemblies, the following components are available:-

- On-load d.c. isolating switches
- Operating shaft kits
- IP65 Door interlocking handle assemblies

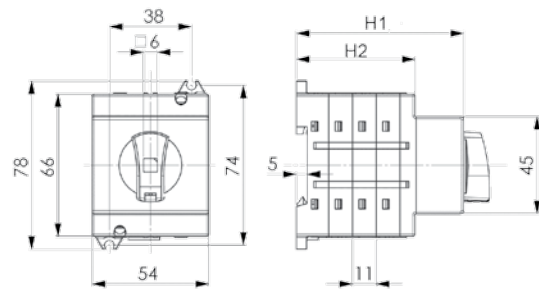
## Isolating Switch Modules

### Catalogue Numbers

Cat No	Max. enclosure depth with SSH8 shaft	Max. enclosure depth with SSH19 shaft	H1	H2
SPV162	148	248	50.5	28
SPV252				
SPV322				
SPV402				
SPV253	159	259	61.5	39
SPV323				
SPV403				
SPV1622	170	270	72.5	50
SPV2522				
SPV3222				
SPV4022				
SPV164	170	270	72.5	50
SPV254				
SPV324				
SPV404				

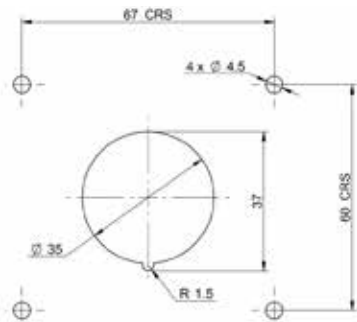


Typical assembly in a 32A 4 pole format. (See table for maximum height enclosure space when using 100mm & 200mm shafts).



## Door Interlocking Handles

The door interlocked handle is of a stylish design and compact in size. Up to 3 padlocks can be fitted to lock the handle in the 'Off' position. (Ø6.4 max. shackle diameter)



PVPH1 Fixings

Switch Rating	Sealing	Catalogue No.
16A, 25A, 32A & 40A	IP65	PVPH1

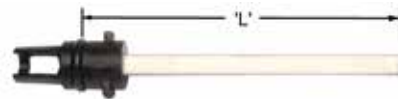
## Design Features

- Type tested to BS EN 60947-3
- Thermal rating ( $I_{th}$ ) Up to 40A
- Utilization Category DC21B
- Ambient temp. limits 55°C (Peak) max
- Ingress protection all assemblies IP66
- Operating handles will accept up to three padlocks in the 'Off' position. Recommended shackle diameter is 1/4" (Ø6.4mm)
- Terminal capacity:-

Cable type	Capacity (40A)
Rigid	2 x 10mm <sup>2</sup>
Flex.	2 x 6mm <sup>2</sup>
Tightening torque	1.0Nm

## Operating Shafts

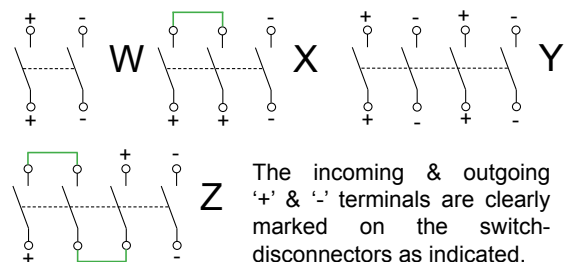
Supplied in two lengths to suit varying enclosure depths, the shafts can easily be shortened and re-assembled.



Switch Rating	Shaft Length 'L'	Catalogue No.
16A, 25A, 32A & 40A	100mm	SSH8
	200mm	SSH19

## Internal Switch Linking

Links supplied factory fitted



The incoming & outgoing '+' & '-' terminals are clearly marked on the switch-disconnectors as indicated.



### EX Zone 1, 2, 21 & 22 EX "e"

#### General Description

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.

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 are available in Red/Yellow or Black 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.

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.



#### Catalogue Numbers

Rating	Format	Handle Colour	Cat. No.	Optional Brass Earthing Plate Cat. No.	Enclosure Size
25A	3P+Aux	Red/Yellow	EXZ1SDR02530	EXEP0253	A
		Black	EXZ1SDB02530		
	4P+Aux	Red/Yellow	EXZ1SDR02540	EXEP0254	
		Black	EXZ1SDB02540		
40A	3P+Aux	Red/Yellow	EXZ1SDR04030	EXEP0403	B
		Black	EXZ1SDB04030		
	4P+Aux	Red/Yellow	EXZ1SDR04040	EXEP0404	
		Black	EXZ1SDB04040		
80A	3P+Aux	Red/Yellow	EXZ1SDR08030	EXEP0803	C
		Black	EXZ1SDB08030		
	4P+Aux	Red/Yellow	EXZ1SDR08040	EXEP0804	
		Black	EXZ1SDB08040		
180A	3P+Aux	Red/Yellow	EXZ1SDR18030	EXEP1803	D
		Black	EXZ1SDB18030		
	4P+Aux	Red/Yellow	EXZ1SDR18040	EXEP1804	
		Black	EXZ1SDB18040		

Aux - 1 N/O (Early break) & 1 N/C (Late make)

#### Brass Earthing Plates

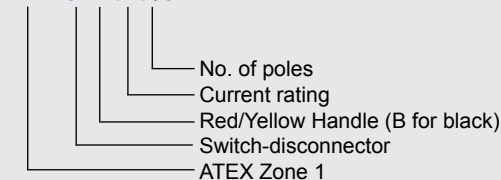
To enable armoured cables to be earth bonded within the insulated enclosure a selection of pre-drilled earthing plates are available for each enclosure size.

Optional Brass Earthing Plate shown below.

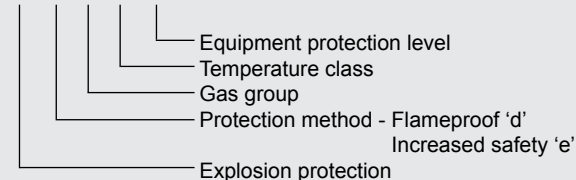


#### Catalogue No. Key

**EXZ1SDR02530**



**Ex d e IIC T6 Gb**



#### Equipment Marking

25A	II2GD	Ex d e IIC T6 Gb Ex tb IIIC T80°C Db (Ta≤40°C)
		Ex d e IIC T5 Gb Ex tb IIIC T95°C Db (Ta≤55°C)
40A	II2GD	Ex d e IIC T6 Gb Ex tb IIIC T80°C Db (Ta≤40°C)
		Ex d e IIC T5 Gb Ex tb IIIC T95°C Db (Ta≤55°C)
80A	II2GD	Ex d e IIC T6 Gb Ex tb IIIC T80°C Db (Ta≤40°C)
		Ex d e IIC T5 Gb Ex tb IIIC T95°C Db (Ta≤55°C)
180A	II2GD	Ex d e IIC T5 Gb Ex tb IIIC T95°C Db (Ta≤40°C)
		Ex d e IIC T4 Gb Ex tb IIC T130°C Db (Ta≤55°C)

#### Key to Marking

	Specific marking for Explosion protection	<b>II</b>	Equipment group
<b>2</b>		<b>G</b>	Environment e.g. Gas



## 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)

## EX Zone 1, 2, 21 & 22 EX "d"

## General Description

A range of Switch-Disconnectors housed in heavy duty cast enclosures - ATEX certified for use in Cat II, Zones 1, 2, 21 & 22 environments.

## Certifications and Approvals

- Certification Code **Ex II 2 GD Ex d IIB**
- Certification No. **Ex tD A21 IP6X**
- Certification standard **ITS 09 ATEX 16433X, ITS 09 ATEX 16436U**
- Certification standard **EN 60079-0, EN 60079-1, EN 61241-0 & EN 61241-1**
- Operating temperature **-20°C to +40°C**
- Ingress Protection **IP65**

## Construction

High quality heavy duty cast enclosures are used throughout the range. (Cast Iron 16A - 63A, Cast Aluminium 80A - 250A).

The enclosures are supplied with large cable entries which can be fitted with approved reducers to suit individual cable requirements. Specific entry requirements can be accommodated - please specify when ordering.

All load switching interiors are supplied as either 3P+N (switched neutral) or 6P and have AC23A ratings to BS EN 60947-3. Auxiliary contacts are available for applications such as SCADA packages.

Finish - RAL 7035 Two pack grey epoxy coating over etching primer.

## Catalogue Numbers

Current Rating (A)	Format	Catalogue No.	Enclosure Ref.	Supplied Entries*	External Earth
16	3P+N+2E/B	DGC0164EBZ1	G21	3 x M20	M6
25	3P+N+2E/B	DGC0254EBZ1	G21	4 x M20	M6
20	6P + 2E/B	DGC0206EBZ1	G21	2 x M25 + 1 x M20	M6
40	3P+N+2E/B	DGC0404EBZ1	G22	2 x M25 + 1 x M20	M8
40	6P + 2E/B	DGC0406EBZ1	G22	2 x M25 + 1 x M20	M8
63	3P+N+2E/B	DGC0634EBZ1	G22	2 x M25 + 1 x M20	M8
80	3P+N+2E/B	DGC0804EBZ1	G24	3 x M32 + 1 x M20	M8
100	3P+N+2E/B	DGC1004EBZ1	G25	3 x M32 + 1 x M20	M8
125	3P+N+2E/B	DGC1254EBZ1	G25	3 x M40 + 1 x M20	M8
160	3P+N+2E/B	DGC1604EBZ1	G25	2 x M32 + 1 x M20	M8
200	3P+N+2E/B	DGC2004EBZ1	G28	3 x M50 + 1 x M20	M10
250	3P+N+2E/B	DGC2504EBZ1	G28	3 x M50 + 1 x M20	M10

\* Other entry configurations available on request.

*The items listed are standard products. If you require a bespoke arrangement, then please contact our technical sales staff who will be pleased to discuss your individual requirements.*



Typical small assembly



Example of a 100A assembly



## How safe is your workspace?

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
- Textiles
- Cargo Handling
- Pharmaceuticals
- Powder Coating Plant
- Chemicals
- Woodworking
- 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 94/9/EC** ("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 61241-0** Electrical apparatus for use in the presence of combustible dust - General requirements.
- **BS EN 61241-1** Electrical apparatus for use in the presence of combustible dust - Protection by enclosures 'tD'.
- **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.

## ATEX Switch-Disconnectors 25A - 63A

Craig & Derricott has been manufacturing enclosed switchgear for more than 70 years. We have incorporated all of that experience in producing an outstanding product that has now been approved for use in explosive dust atmospheres.

Using high quality die cast aluminium and hinged door sheet steel enclosures the range covers 20A - 63A ratings.

### Catalogue Numbers

Rating	Format	Cat. No.	Enclosure Size
20A	6P+2 EB Aux	<a href="#">SDDG206EBZ22</a>	A
25A	3P+2 EB Aux	<a href="#">SDDG253EBZ22</a>	A
32A	3P+2 EB Aux	<a href="#">SDDG323EBZ22</a>	A
	6P+2 EB Aux	<a href="#">SDDG326EBZ22</a>	B
40A	3P+2 EB Aux	<a href="#">SDDG403EBZ22</a>	B
	6P+2 EB Aux	<a href="#">SDDG406EBZ22</a>	B
63A	3P+2 EB Aux	<a href="#">SDDG633EBZ22</a>	B
	3P+2 EB Aux	<a href="#">SDMG633EBZ22</a>	C
	6P+2 EB Aux	<a href="#">SDMG636EBZ22</a>	D

Other ratings are available upon request.

### Design & Safety Features

- 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.



## Certification Details 20A - 63A

Die cast Aluminium / Sheet Steel Coding

II 3D  
 tc IIIB T85°C Dc

Complies in part or in full with standards:-

BS EN 60079-0, BS EN 60079-31  
 BS EN 60529, BS EN 60947-3, BS EN 60204-1





## General Description

To complement the F300 / F400 fire rated Switch-Disconnecter range described on page 15-16, Craig and Derricott have introduced the F200 Fire Rated isolator for installations where the supply must be maintained for **2 hours at 200°C**.

The use of this product is to maintain power to vital equipment such as smoke extraction / ventilation fans allowing the safe evacuation of businesses, car parks and public areas.

These units come standard in a red (RAL 3020) colour finish, with padlocking in both 'Off' and 'On' position.



Die-cast aluminium enclosures - Sealing to IP66

### Catalogue Numbers

Rating	Format	Interior Switch Product Range	Catalogue No. (Finished Red)	Temp. Class.	Encl. size			
20A	6P	GX20	F2SDDR206	F200	A			
	6P+2EB Aux		F2SDDR206EB					
25A	2P	CS25	F2SDDR252	F200	A			
	3P		F2SDDR253					
	3P+2EB Aux		F2SDDR253EB					
	3P+N		F2SDDR253N					
	3P+NL		F2SDDR253NL					
32A	2P	CS32	F2SDDR322	F200	A			
	3P		F2SDDR323					
	3P+2EB Aux		F2SDDR323EB					
	3P+N		F2SDDR323N					
40A	3P+NL	CS40R	F2SDDR323NL	F200	A			
	2P		F2SDDR402					
	3P		F2SDDR403					
	3P+2EB Aux		F2SDDR403EB					
	40A	3P+N	GX40			F2SDDR403N	F200	B
		3P+NL				F2SDDR403NL		
		6P				F2SDDR406		
		6P+2EB Aux				F2SDDR406EB		
		2P				F2SDDR402T		
		3P				F2SDDR403T		
63A	3P+2EB Aux	CS40	F2SDDR403EBT	F200	B			
	3P+N		F2SDDR403NT					
	3P+NL		F2SDDR403NLT					
	2P		F2SDDR632					
	3P		F2SDDR633					
63A	3P+2EB Aux	CS63	F2SDDR633EB	F200	B			
	3P+N		F2SDDR633N					
	3P+NL		F2SDDR633NL					
	3P		F2SDDR803					
80A	3P+N	CS80	F2SDDR803N	F200	B			
	3P+NL		F2SDDR803NL					

Hinged door sheet steel enclosures - Sealing to IP65

### Catalogue Numbers

Rating	Format	Interior Switch Product Range	Catalogue No. (Finished Red)	Temp. Class.	Encl. size
63A	3P+N	CS63	F2SDRC00633N	F200	1
	3P+NL		F2SDRC00633NL		
80A	3P+N	CS80	F2SDRC00803N	F200	1
	3P+NL		F2SDRC00803NL		
100A	3P+N	CS100	F2SDRC01003N	F200	3A
	3P+NL		F2SDRC01003NL		
125A	3P+N	CS125	F2SDRC01253N	F200	4A
	3P+NL		F2SDRC01253NL		
160A	3P+N	CS160	F2SDRC01603N	F200	4A
	3P+NL		F2SDRC01603NL		
200A	3P+N	CS200	F2SDRC02003N	F200	5A
	3P+NL		F2SDRC02003NL		

'N' = Switched neutral (Early make, late break)  
 'NL' = Unswitched neutral  
 'EB' = Early break auxiliary contacts  
 'T' = Increased terminal capacity  
 'X' = Bottom cable entries only. Add X to catalogue no. i.e. F2SDDR206X  
 'Y' = Top and bottom cable entries. Add Y to catalogue no. i.e. F2SDDR206Y

#### Entries

**Size A 20A - 32A**  
 Std Cat No. : 2xM20 on bottom face

**Size A 40A**  
 Std Cat No. : 2xM25 on bottom face

**Size B 40A - 63A**  
 Std Cat No. : 2xM25 + 1xM20 on bottom face

**Size B 80A**  
 Std Cat No. : 2xM32 + 1xM20 on bottom face

Part numbers can be suffixed X or Y for alternative conduit entry configurations. See page 6.



Technical  
Data  
Pages 31

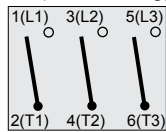
Dimensions  
Page 35-36

## Technical Specification - Fixed Lid

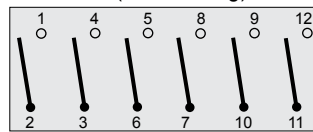
Data supplied against tests to IEC/BS EN 60947-3				Rating														
Application	Sym.	Unit	Category	20A	25A	32A	40A	63A	80A	100A	20A	25A	32A	40A	63A	80A	100A	
Switch product range	-	-		GX20	CS25	GX32	CS32	GX40	CS40R	GN63	CS63	CS80	CS100					
Rated thermal current	$I_{the}$	A		20	25	32	32	40	40	63	63	80	100					
Rated insulation voltage	$U_i$	V		690	690	690	690	690	690	690	690	690	1000					
Rated impulse voltage	$U_{imp}$	kV		6	6	6	6	6	6	6	6	6	8.0					
Rated operational power(3 phase AC)		kW	380/440 - AC23	7.5	11	15	15	18.5	15	30	25	30	59					
			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	51					
Rated short time withstand current (1 sec)	$I_{cw}$	A		250	500	800	600	800	600	1600	1300	1400	2600					
Max. fuse size for short circuit protection (gG Characteristic)		kA	10kA	20	35	35	35	40	40	63	80	80	160					
			25kA	16	32	35	32	35	32	63	63	63	160					
			50kA	-	32	-	32	-	32	63	63	63	160					
Recommended connecting capacity		-	Terminal type															
		mm <sup>2</sup>	Flexible cable	2.5 x 2	6	6 x 2	6	6 x 2	6	10	16	16	50					
		mm <sup>2</sup>	Rigid cable	2.5 x 2	10	10 x 2	10	10 x 2	10	16	25	25	70					
		Nm	Tightening torque	1.0	1.2	1.0	1.2	1.0	1.2	1.2	1.2	1.2	2					

### Terminal Markings

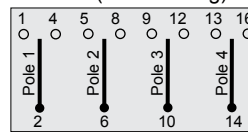
O-I (90° indexing)



O-II (90° indexing)



I-O-II (90° indexing)



### Auxiliary Contacts - Type A

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

Application	Category	Sym.	Unit	Rating
Rated insulation voltage	-	$U_i$	V	690
Rated thermal current	-	$I_{th}$	A	10
Rated operational current (AC15)	110V	$I_e$	A	8
	220-240V			8
	380-400V			3
	660-690V			1
Max. conductor size	-	-	mm <sup>2</sup>	1.5
Tightening torque	-	-	Nm	0.6



### Auxiliary Blocks - Type B & C

Data supplied against tests to BS EN 60947-1

	Sym.	Category	Auxiliary blocks type 'B'	Auxiliary blocks type 'C'
Thermal current	$I_{th}$		10A	10A
Rated insulation voltage	$U_i$		660V a.c. or d.c.	660V
Utilisation Category	-	AC15	3A@240V / 1.5A@480V	6A@120V / 4A@15V / 2A@660V
		DC13	3A@240V / 1.5A@480V	1A@120V / 0.5@240V / 0.1@660V
		Pure Resistive	10A	-

## Technical Specification - Hinged Door

## Switch-Disconnectors

Data supplied against tests to BS EN 60947-3

Application	Sym	Unit	Category	Rating (A)													
				32	63	63	80	100	125	160	200	250	400	630	800	1000	
Rated thermal current	$I_{the}$	A		32	63	63	80	100	125	160	200	250	500	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	540	
			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 <sup>2</sup> Min/Max	2.5/10	2.5/25	2.5/25	-25	-70	-70	-70	-95						
			mm Stud/Cu palm width	-	-	-	-	-	-	-	-	8x25	10x30	10x30	12x40	12x40	12x60
			Nm Tightening torque	1.2	1.3	1.3	2	2	2	2	2	12	25	25	40	40	40

\* All AC21, AC22 & AC23 tests carried out at 415V

## Technical Specification - Hinged Door

## Fuse Combination Units

Data supplied against tests to BS EN 60947-3

Application	Sym	Unit	Category	Rating (A)									
				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
Rated operational current (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
		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 <sup>2</sup> 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	3.5	5.5	9	12	16	25	30	35	45	50

\* Two poles in series



## Hinged Door

### Technical Specification - Hinged Door

### Changeover Switch-Disconnectors

Data supplied against tests to BS EN 60947-3				Rating (A)							
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
			415V - AC23A	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 <sup>2</sup>	Max	35	35	95	95	95	240	300	400
		mm	Stud/Cu palm width	6x12	6x12	8x22	8x22	8x22	10x25	10x25	12x50
		Nm	Tightening torque	3	3	10	10	10	30	45	50

## Technical Specification



## EX Zone 1, 2, 21 & 22 Ex“e” Enclosed

Application	Sym.	Unit	Category	Main Contacts			
				25A	40A	80A	180A
Rated thermal current	$I_{the}$	A		25	40	80	180
Rated insulation voltage	$U_i$	V		690	690	690	690
Rated current		A	AC3 (230V)	25	40	80	180
			AC3 (400V)	25	40	80	180
			AC3 (500V)	20	40	80	150
			AC3 (690V)	16	32	63	125
Terminal Capacity		mm <sup>2</sup>	-	2x4	2x10	2x25	2x95
Tightening Torque (Nm)			-	2.5	2.5	3.5	8.5
Terminal Type	-						

Aux. Contacts	
Category	Aux.
	10
	690
AC15 (250V)	10
AC15 (400V)	8
DC13 (24V)	8
DC13 (250V)	1
	2x1.5
	2.5





## Technical Specification

## EX Zone 1, 2, 21 & 22 Ex"d" Enclosed

Application	Sym.	Unit	Category	Rating (A)										
				16A	20A	25A	40A	40A	63A	80A	100A	125A	160A	250A
Format	-	-	-	3P	6P	3P	6P	3P	3P	3P	3P	3P	3P	3P
Enclosure	-	-	-	G21	G21	G21	G22	G22	G22	G24	G25	G25	G25	G28
Rated thermal current	$I_{the}$	A		16	20	25	40	40	63	80	100	125	160	250
Rated insulation voltage	$U_i$	V		690	690	690	690	690	690	690	750	750	750	1000
Rated impulse voltage	$U_{imp}$	kV		6.0	6.0	6.0	6.0	6.0	6.0	6.0	8.0	8.0	12.0	12.0
Rated operational power (3 phase AC)		kW	380/440V - AC23	7.5	7.5	11	18.5	15	25.0	30.0	37.0	45.0	45.0	132.0
			500V - AC23	9.0	7.5	15	15.0	15	30.0	37.0	-	-	-	-
			690V - AC23	9.0	7.5	15	15.0	15	30.0	30.0	37.0	45.0	45.0	200.0
Rated short time withstand current (1 sec)	$I_{cw}$	A		400	250	500	800	600	1300	1400	2500	2500	5000	8000
Max. fuse size for short circuit protection (gG characteristic)	$I_n$	A	10kA	35	20	35	40	40	80	80	-	-	-	-
			25kA	32	16	32	35	32	63	63	-	-	-	-
			50kA	32	-	32	-	32	63	63	-	-	-	-
Connecting capacity			Terminal type											
			mm <sup>2</sup> Flexible cable	6.0	2x2.5	6.0	2x6.0	16.0	16.0	16.0	-	-	-	-
			mm <sup>2</sup> Rigid cable	10.0	2x2.5	10.0	2x10	25.0	25.0	25.0	-	-	-	-
			mm Stud Cu palm width	-	-	-	-	-	-	-	8x20	8x20	8x20	10x30
			Nm Tightening torque	1.2	1.2	1.2	1.2	1.2	1.2	1.2	6.0	8.0	8.0	30-44

## Technical Specification

## EX Zone 22

Data supplied against tests to BS EN 60947-3

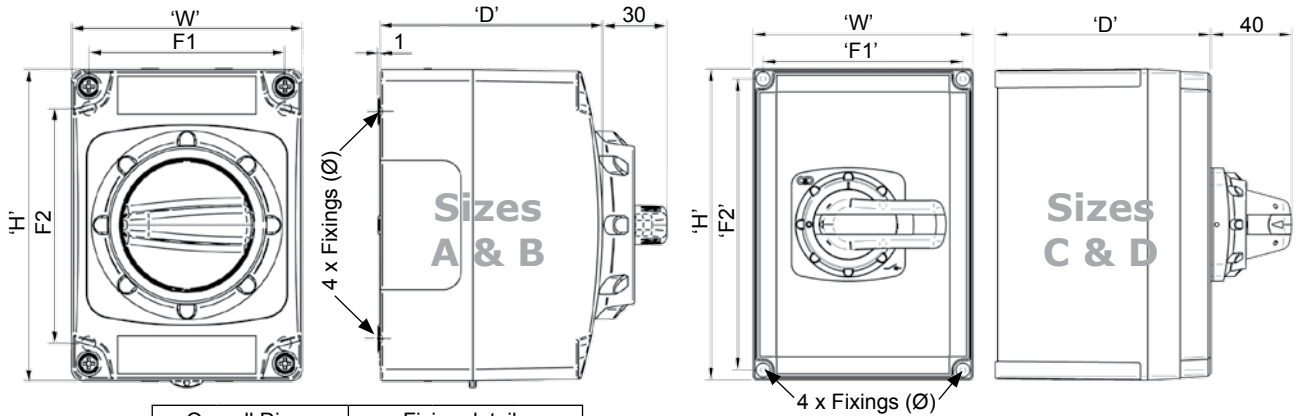
Application	Sym.	Unit	Category	Rating					
				6P	3P	3P+6P	3P	6P	3P+6P
Rated thermal current	$I_{the}$	A		20A	25A	32A	40A	40A	63A
Rated insulation voltage	$U_i$	V		690	690	690	690	690	690
Rated impulse voltage	$U_{imp}$	kV		6.0	6.0	6.0	6.0	6.0	6.0
Rated operational power (3 phase AC)		kW	380/440V - AC23	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 <sup>2</sup> Flexible cable	2.5 x 2	6	6	6	6	16
			mm <sup>2</sup> 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

\* Fuse in circuit -  $I_n$  (gG/gL)

\*\* Fuse in circuit - 63A



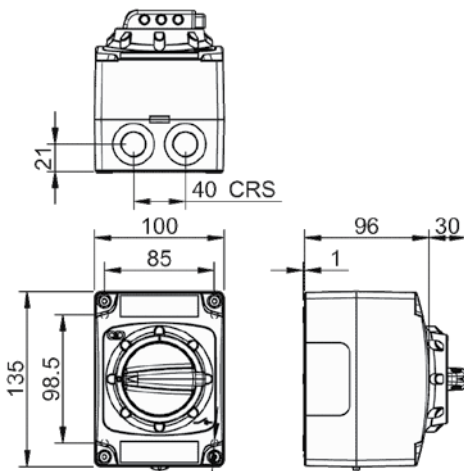
## Plastic Enclosed



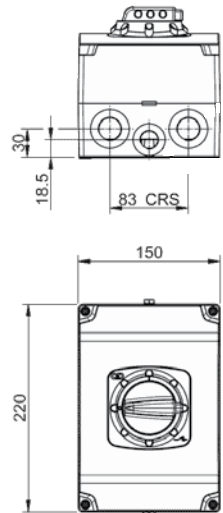
	Overall Dims.			Fixing details		
	H	W	D	F1	F2	Ø
Size A	135	100	95	85	98.5	5.5
Size B	175	130	115	115	135	5.5
Size C	255	180	125	163.5	238.5	4.5
Size D	255	180	175	163.5	238.5	4.5

## Die-Cast Enclosed

Size A

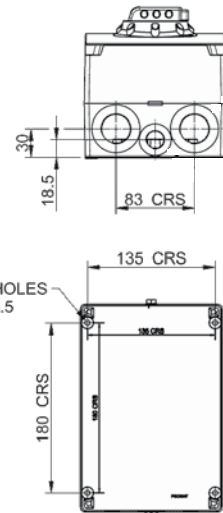


40A - 63A



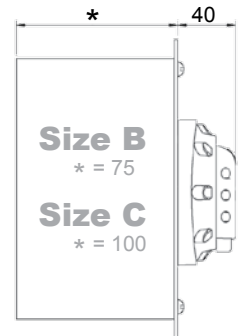
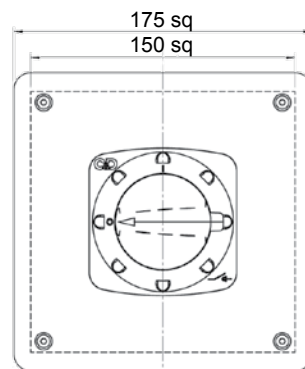
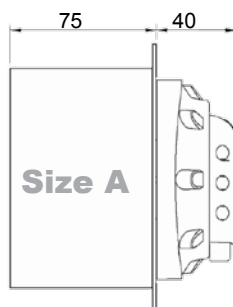
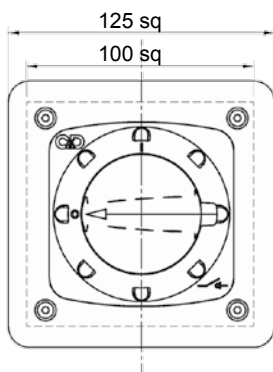
80A

Size B

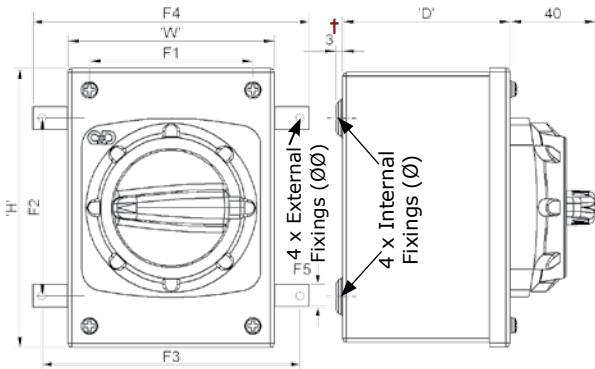


See page 6 for conduit entry configurations.

## Flush Mounting Stainless Steel



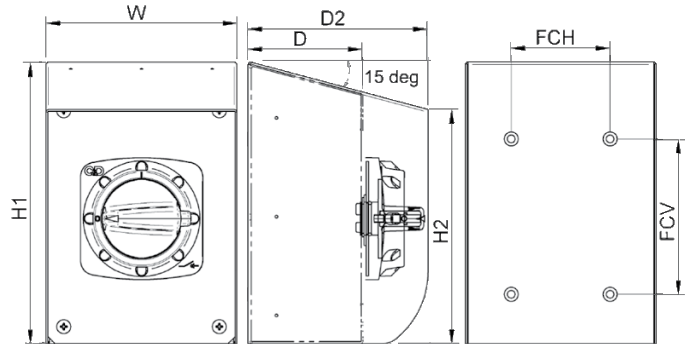
## Mild Steel & Stainless Steel Enclosed



† Stainless steel enclosures are supplied without 'raised dimples' to allow flush mounting.

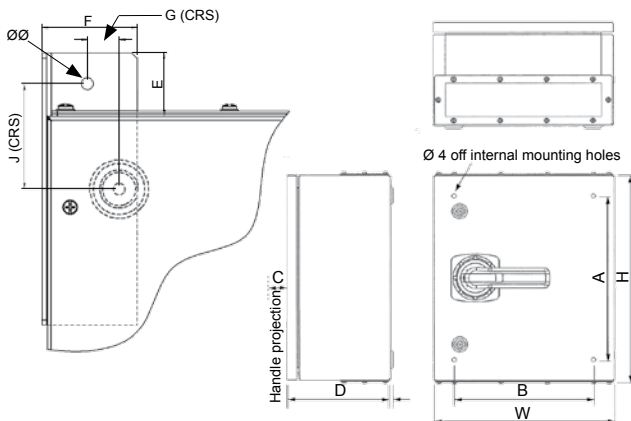
	Overall Dims.			Internal Fixings			External EFA/EFB Fixings			
	H	W	D	F1	F2	Ø	F3	F4	F5	ØØ
Size A	135	100	80	51	86	5.5	126	140	16	6.35
Size B	175	130	100	81	126	5.5	155	178	16	6.35

## Sloping Roof Stainless Steel



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

## Hinged Door Sheet Steel



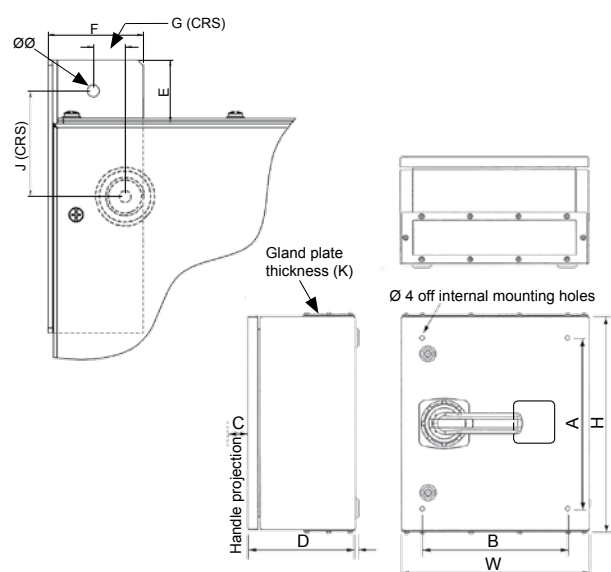
Sheet Steel Enclosure Sizes

Dim	1	2	3	3A	4	4A	5	5A	6	7	8	9	10
H	250	250	400	350	500	400	550	550	750	750	900	900	1000
W	250	300	350	300	350	300	450	400	450	600	600	600	750
D	100	200	200	175	200	175	250	175	275	300	300	400	300
A	170	170	320	270	420	320	470	470	670	670	820	820	920
B	170	220	270	220	270	220	370	320	370	520	520	520	670
C	40	67	67	67	67	67	67	67	67	67	67	67	67
Ø	6.5	6.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	10.5	10.5	10.5

External Feet

E	35	35	35	35	35	35	35	35	35	35	35	35	35
F	53	58	58	58	58	58	58	58	58	58	58	58	58
G	18	18	13	13	13	13	13	13	13	13	13	13	13
J	58	58	58	58	58	58	58	58	58	58	58	58	58
ØØ	6.5	6.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	10.5	10.5	10.5

## Hinged Door Flagged



Flagged Enclosure Sizes

Dim	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	2.0	2.0
Ø	6.5	6.5	6.5	6.5	6.5

External Feet

Dim	1F	2F	3F	4F
E	35	35	35	35
F	53	58	58	58
G	18	18	13	13
J	58	58	58	58
ØØ	6.5	6.5	8.5	8.5

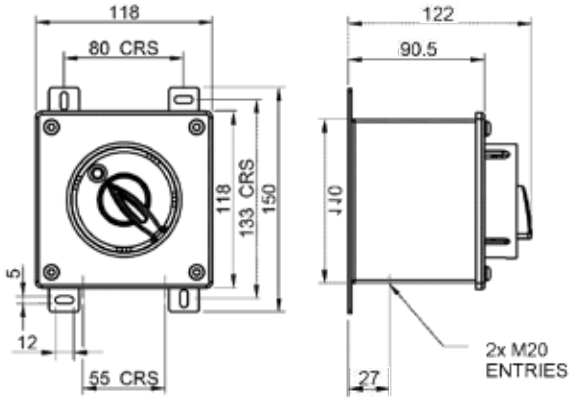
### External Mounting Feet (Four per set)

Enclosure Sizes 1 & 2 Cat No. SEFL1/KIT  
 Enclosure Sizes 3 - 7 Cat No. SEFL2/KIT  
 Enclosure Sizes 8 - 10 Cat No. SEFL3/KIT

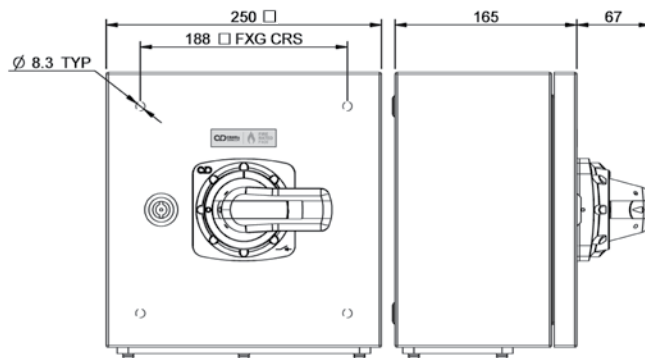
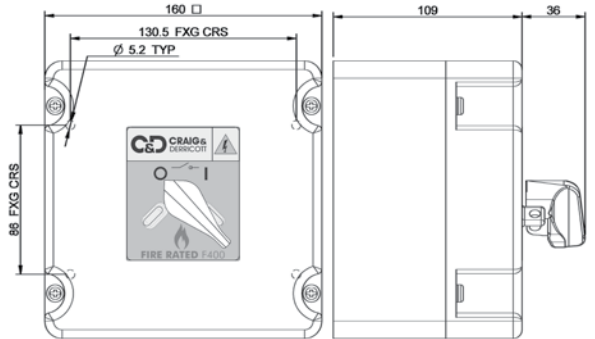


## Fire Rated F300 / F400 (High Temperature)

Size A

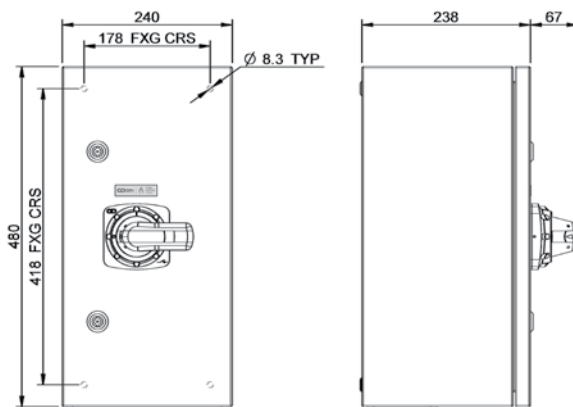


Size B

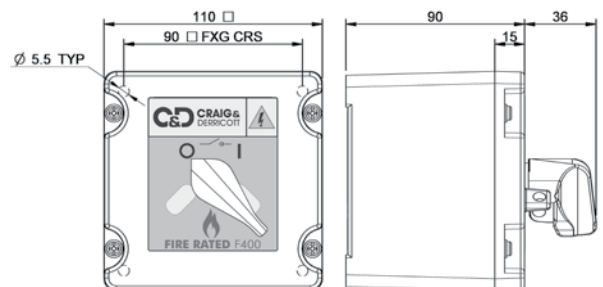


Size C

Size D

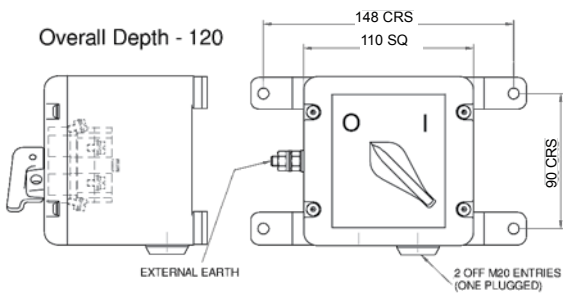


Size E

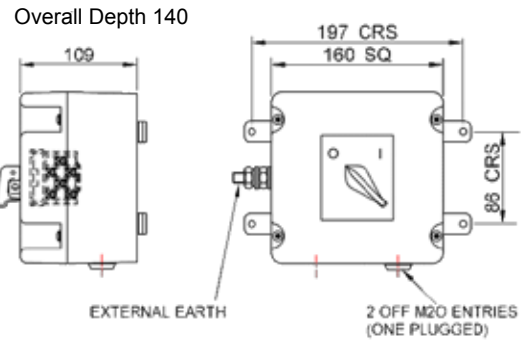




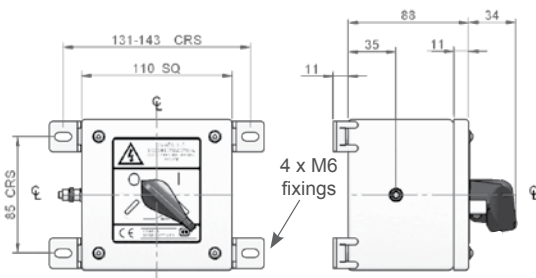
## LUL 'Section 12'



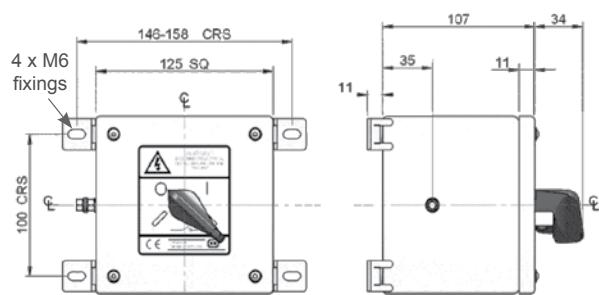
25A Die cast Aluminium Enclosure (A)



40A Die cast Aluminium Enclosure (B)

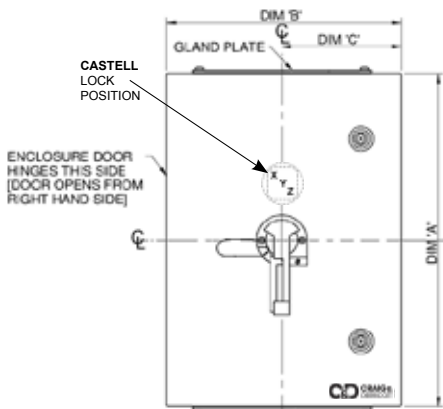


25A Stainless Steel Enclosure (C)

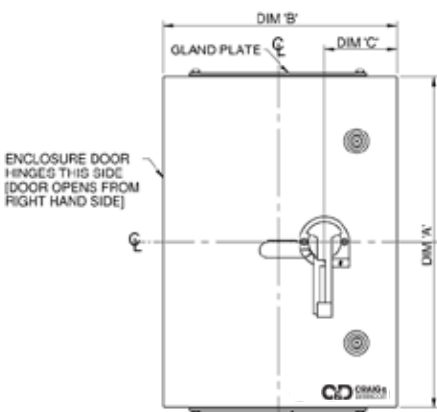
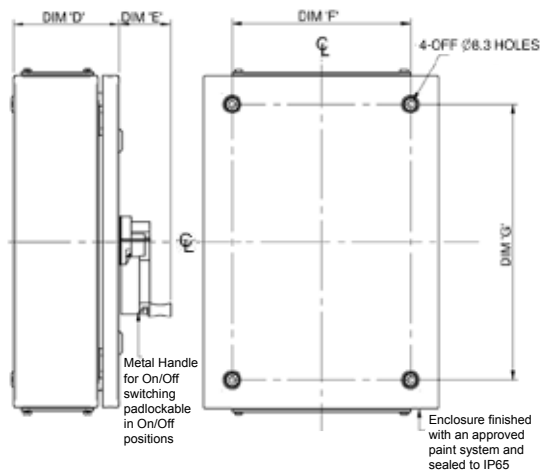


40A Stainless Steel Enclosure (D)

### Hinged Door Enclosure



Switch Disconnector Front



Fuse Combination Front

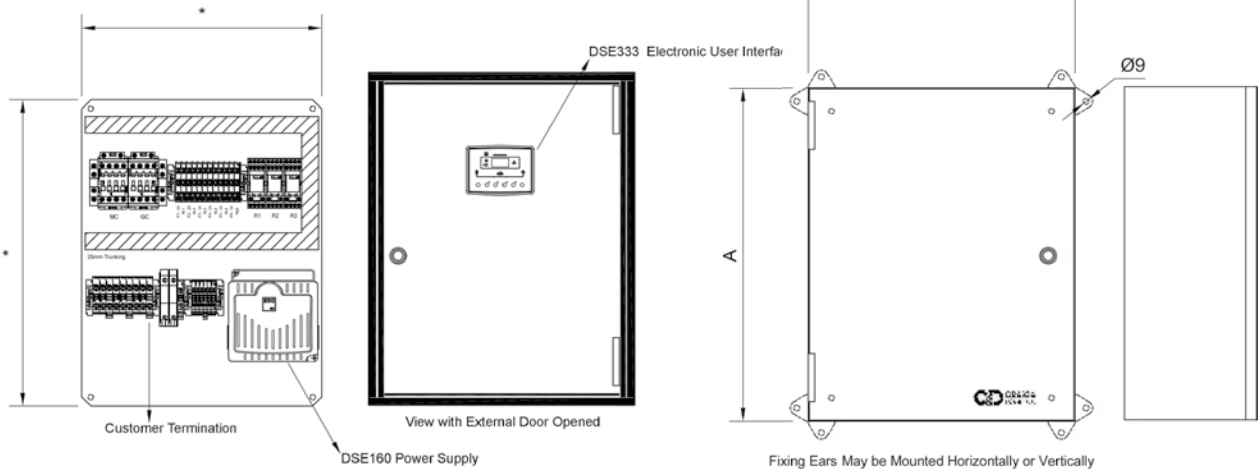
Box Size	Dim A	Dim B	Dim C		Dim D	Dim E	Dim F	Dim G
			Switch Disconnector	Fuse Combination				
1	270	285	124.5	-	130	64	215	200
2	410	290	145	91	190	64	220	340
2A	550	300	150	91	190	80	230	480
3	630	460	230	110	330	80	390	560
4	760	550	275	140	380	80	480	690
5	900	580	-	115	390	80	510	830



## LUL 'Section 12'

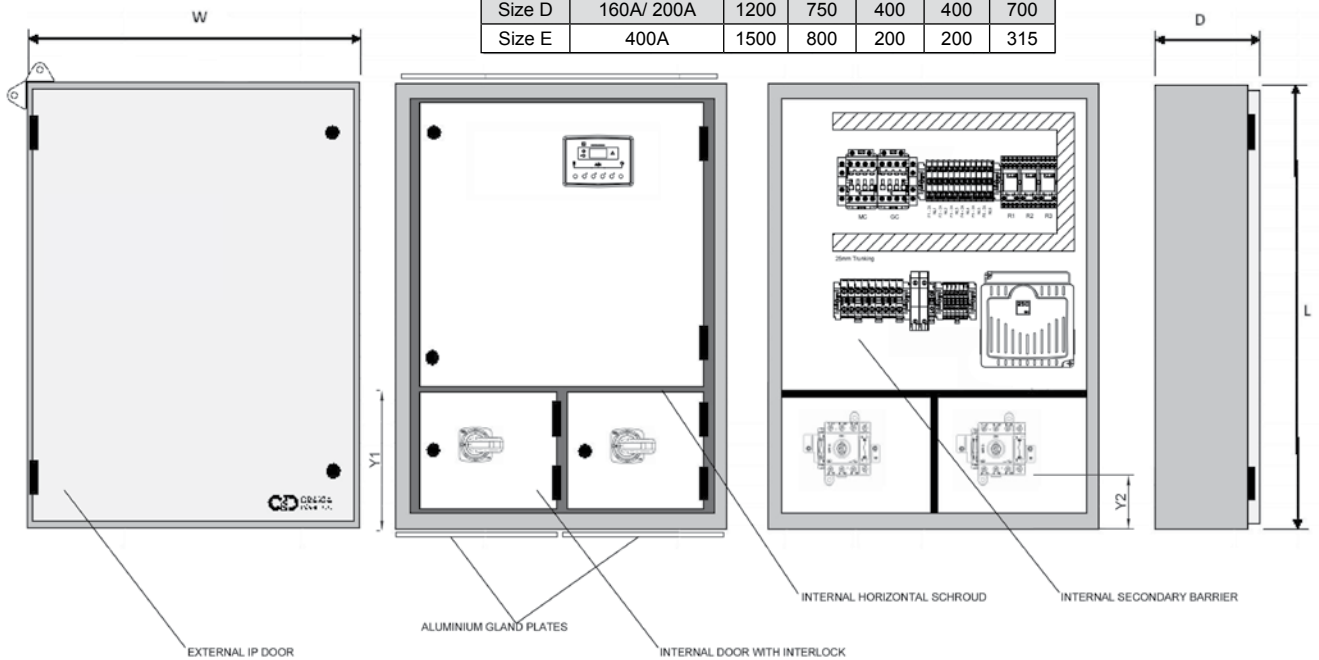
### Standard Automatic Transfer Switches

	Rating	A	B	C
Size A	32A / 45A	500	400	250
Size B	63A	700	500	250
Size C	100A	700	500	250
Size D	160A	800	600	250
Size E	200A	800	600	250
Size F	400A	1000	800	300

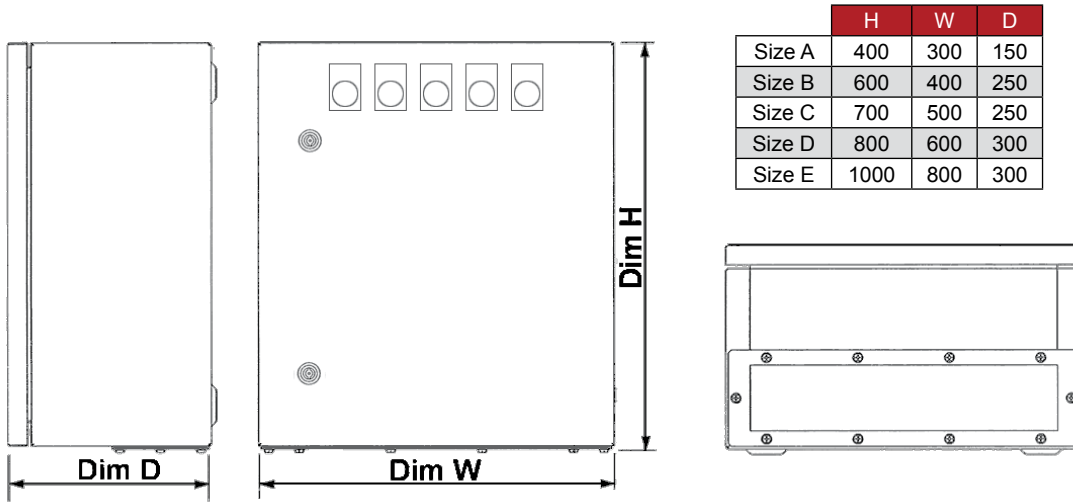


### Combination Automatic Transfer Switches

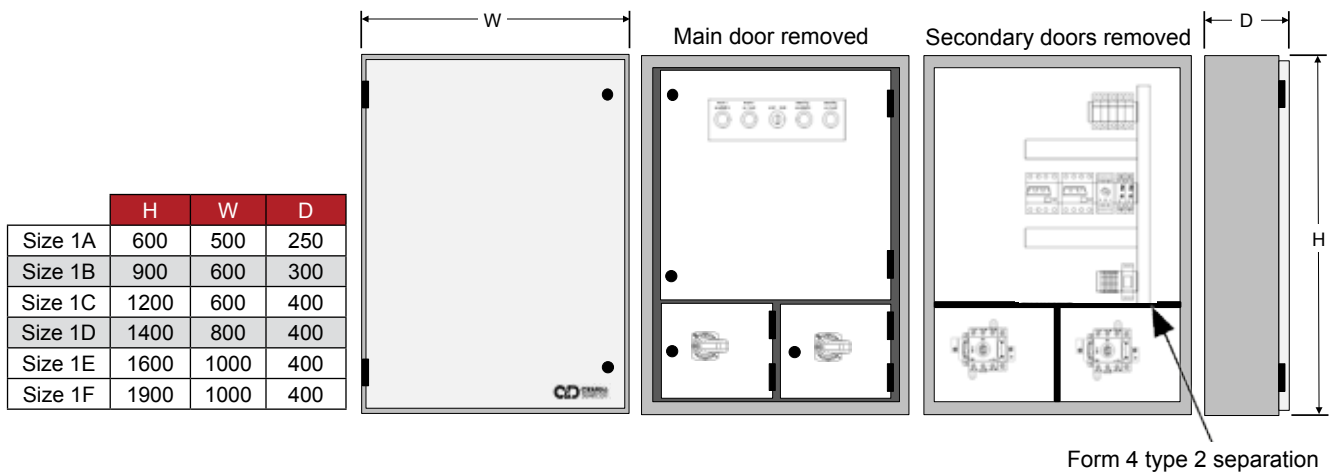
	Rating	L	W	D	Y1	Y2
Size A	32A / 45A	600	500	250	1200	1500
Size B	63A	900	650	300	750	800
Size C	100A / 125A	900	650	300	400	400
Size D	160A / 200A	1200	750	400	400	700
Size E	400A	1500	800	200	200	315



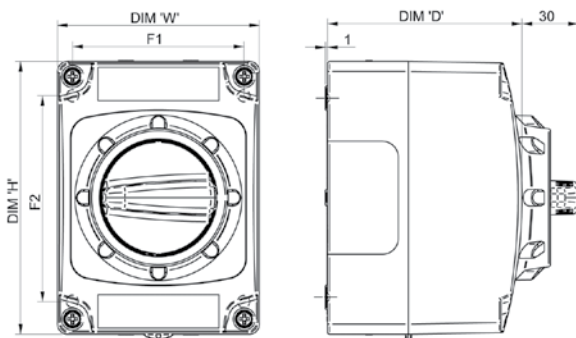
## Standard Automatic Transfer Switches (ATS)



## Combination Automatic Transfer Switches



## Photovoltaic (PV)

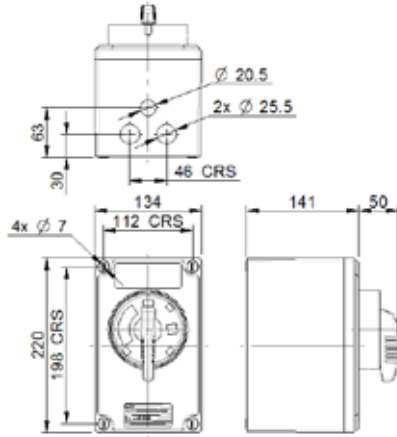


Enclosure Sizes	Overall Dims			Fixing Details		
	H	W	D	F1	F2	Ø
Size A	135	100	95	85	98.5	5.5
Size B	175	130	115	115	135	5.5

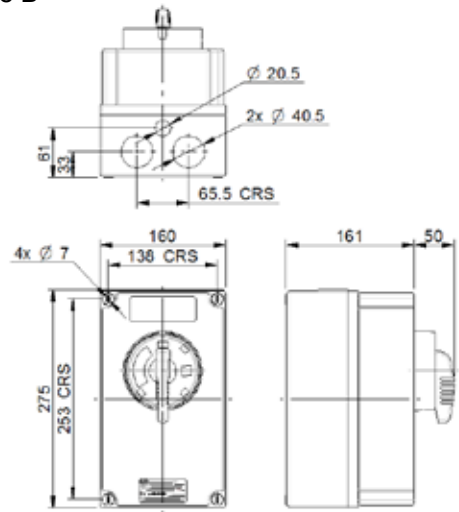


EX Zone 1, 2, 21 & 22 Ex 'e'

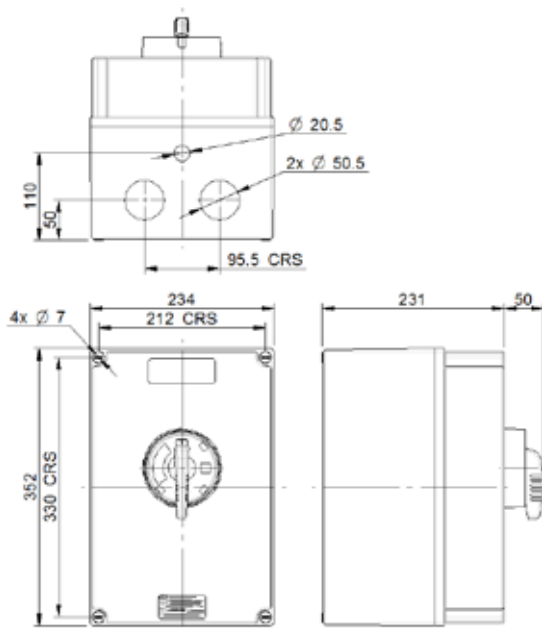
Enclosure A



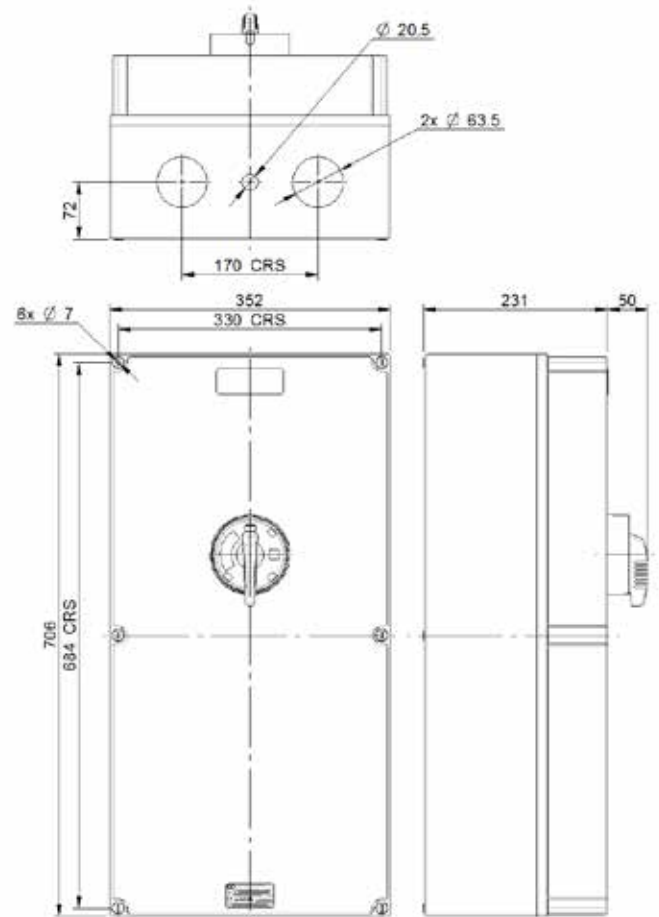
Enclosure B



Enclosure C



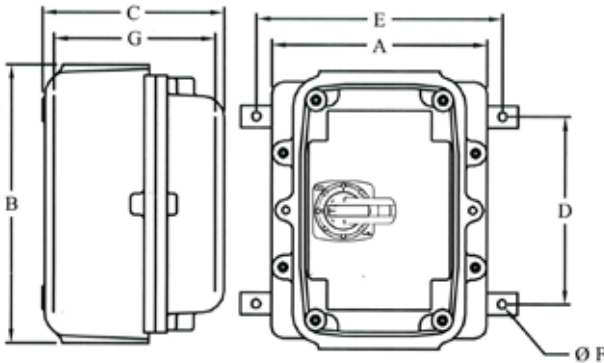
Enclosure D





## EX Zone 1, 2, 21 & 22 Ex 'd'

Enclosures G21 - G28

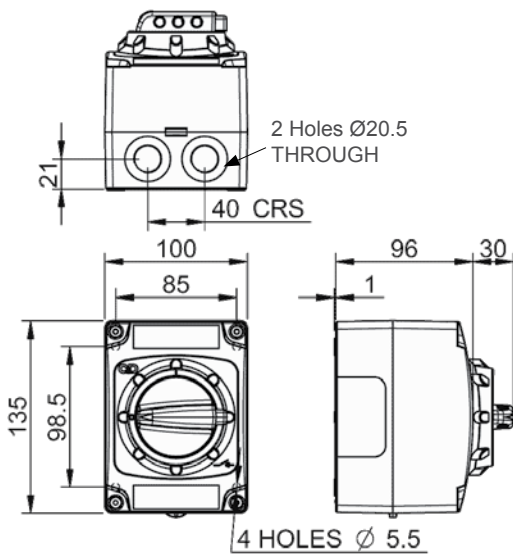


Enclosure	Material	Dimensions							Weight (kg)
		A	B	C	D	E	F	G	
G21	Fe	180	155	145	130	195	7.0	100	9
G22	Fe	205	220	156	160	230	9.0	117	19
G24	Al	321	361	228	291	320	11.0	179	21
G25	Al	366	406	218	250	370	11.0	177	25
G28	Al	586	690	294	480	580	14.0	216	96

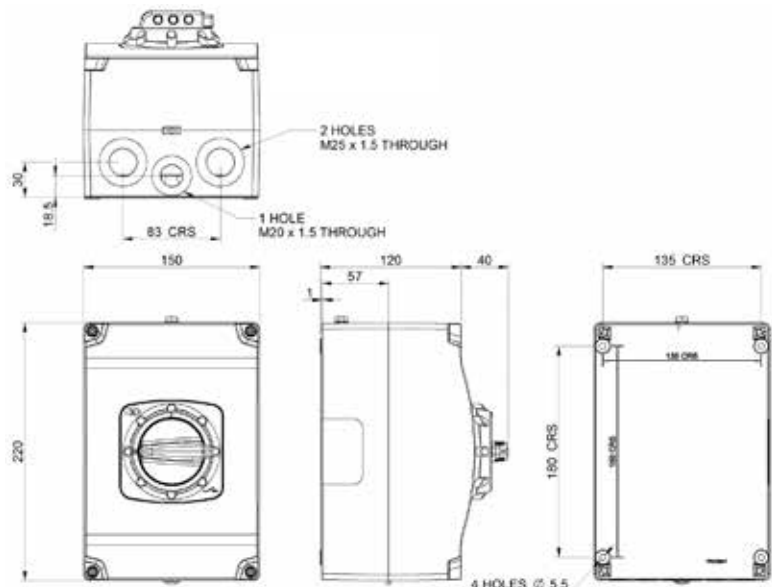
N.B. Enclosures can be close coupled at either end (To special order)

- A Enclosure Width
- B Enclosure Height
- C Enclosure Depth
- D Fixing Centre Height
- E Fixing Centre Width
- F Fixing Hole Diameter
- G Internal Depth from Base Plate

## EX Zone 22



Enclosure A



Enclosure B

Enclosure C & D

Dim	H	W	D	A	B	C
Size C	250	256	108	286	206	320
Size D	250	306	208	286	256	320

