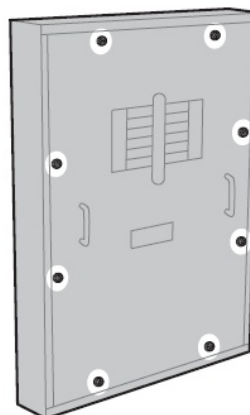
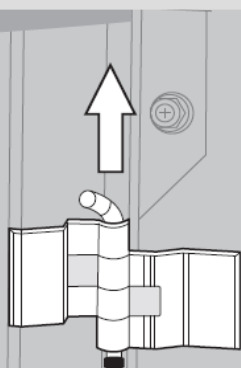
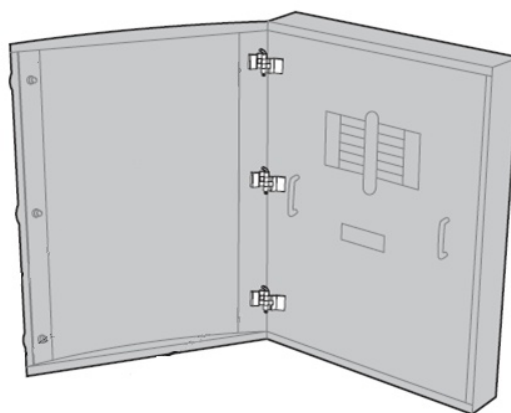
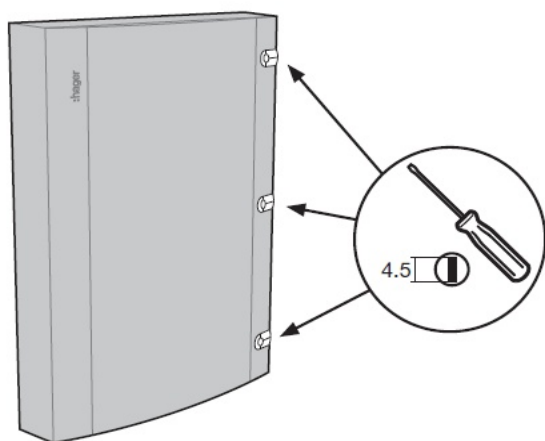
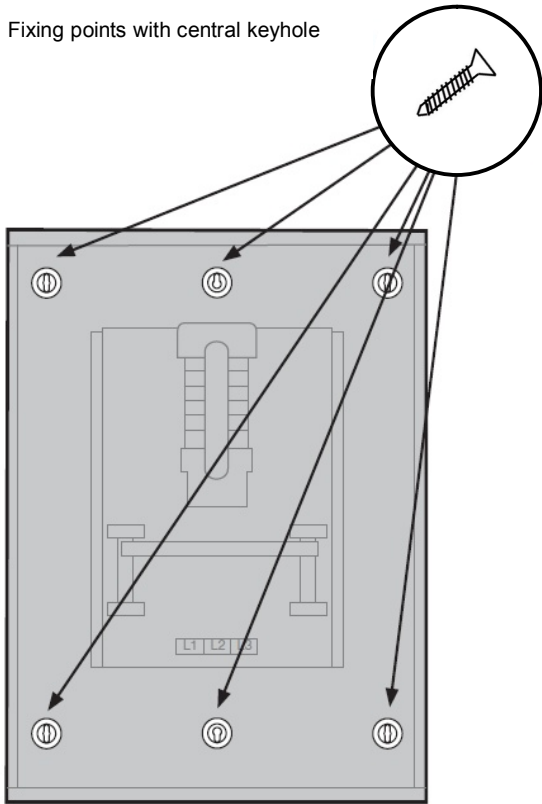


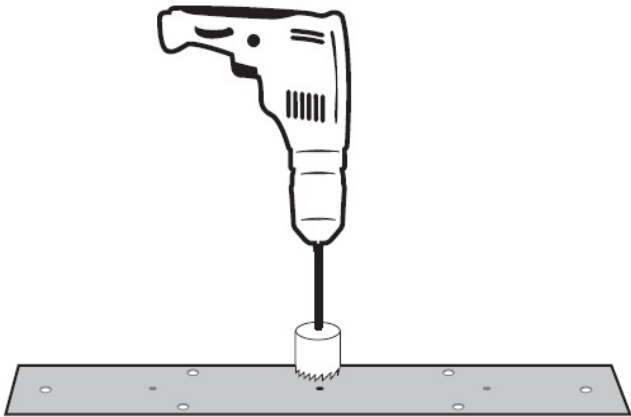
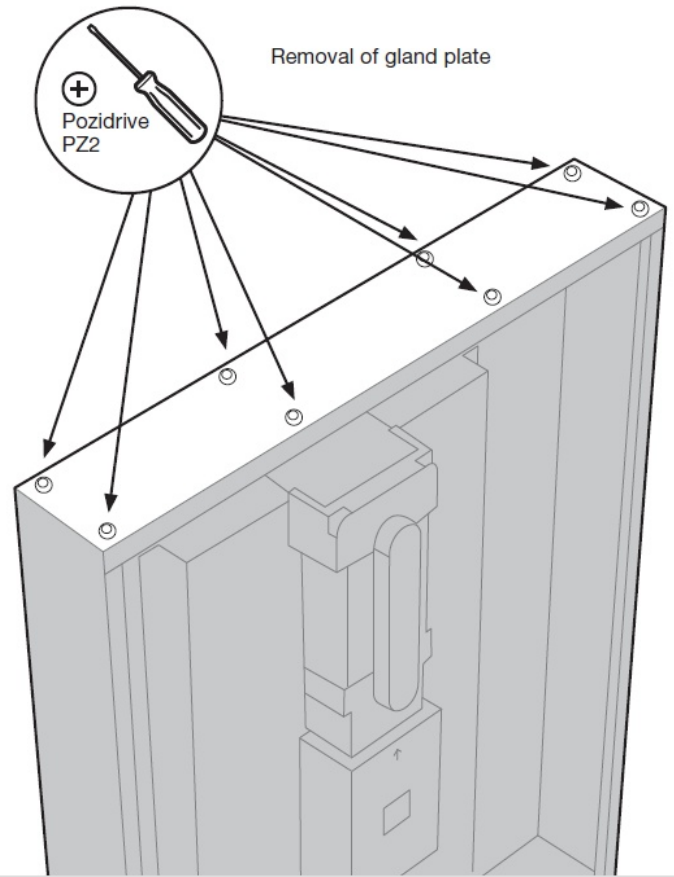
## Invicta 3 Panelboard



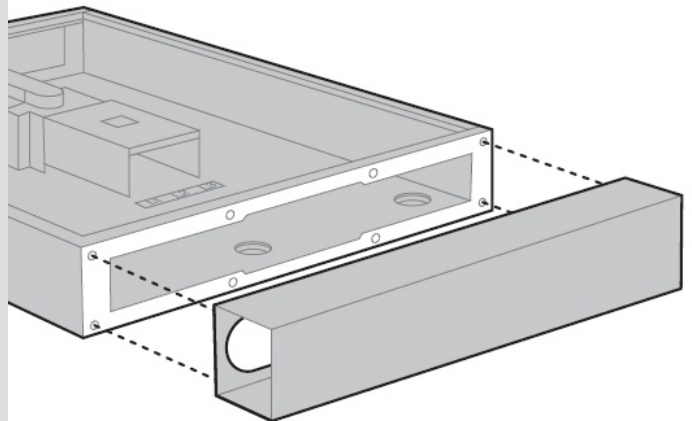
Fixing points with central keyhole



Removal of gland plate



Drill centre mark provided when fitting SWA or conduit



Remove gland plate when fitting trunking

## JF8 3 Pole 400A MCCB incomer kit

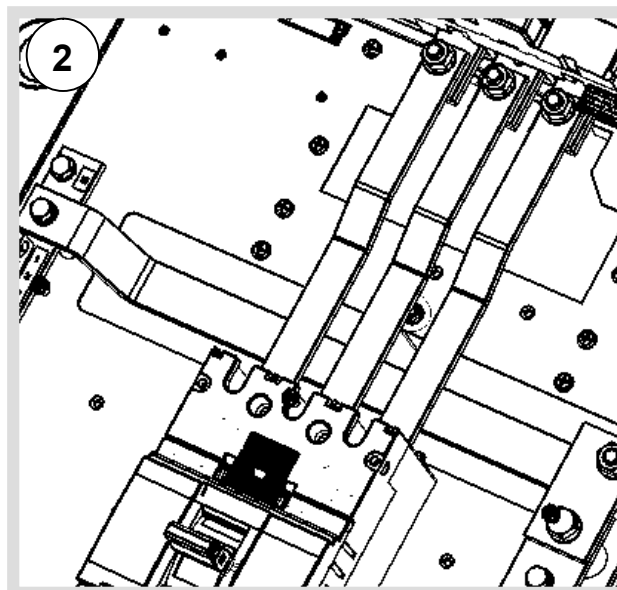
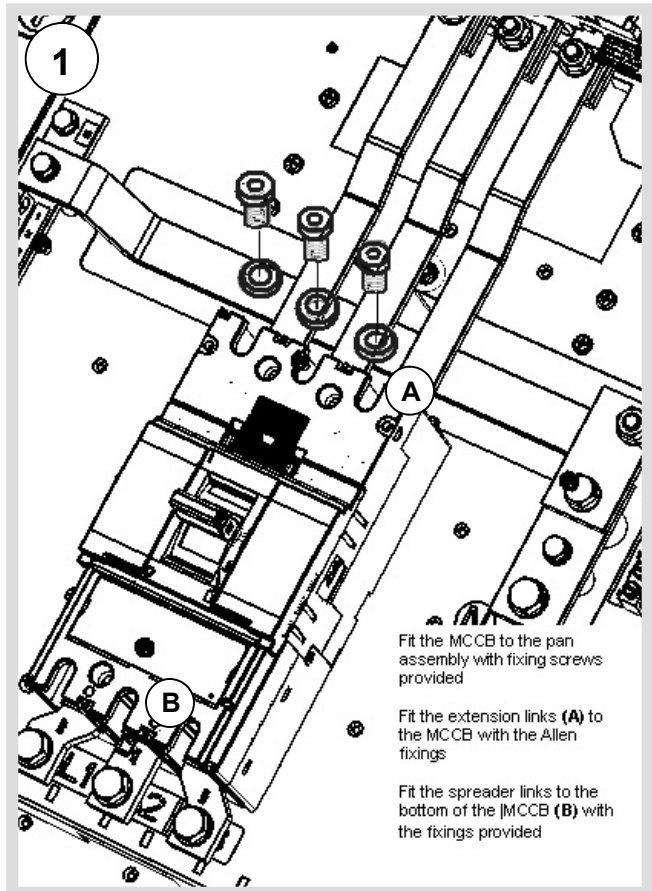
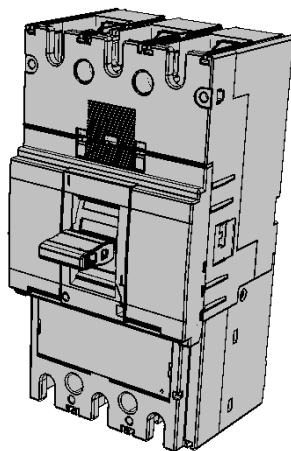
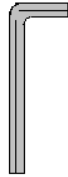
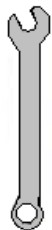
400A Incomer kits contain:

- 3 x Phase extension links
- 3 x spreader links
- 6 x Phase link Allen fixing bolts and washers (M10)
- 4 x Long fixing screws
- 1 x MCCB
- 3 x M8 120mm Lug
- Terminal covers

Ensure terminal shrouds are removed before fitting.

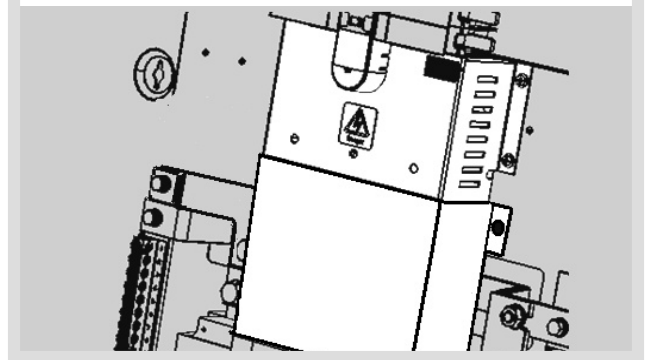
17 mm A/F

8 mm HEX



Connect the extension links to the busbar with the 3 x M10 coach bolts. Hand tighten at this stage.  
Now tighten the MCCB fixing screws to secure the MCCB to the pan assembly.

Once the MCCB is in place tighten all M10 electrical connections to **22Nm**  
Fit the terminal shrouds

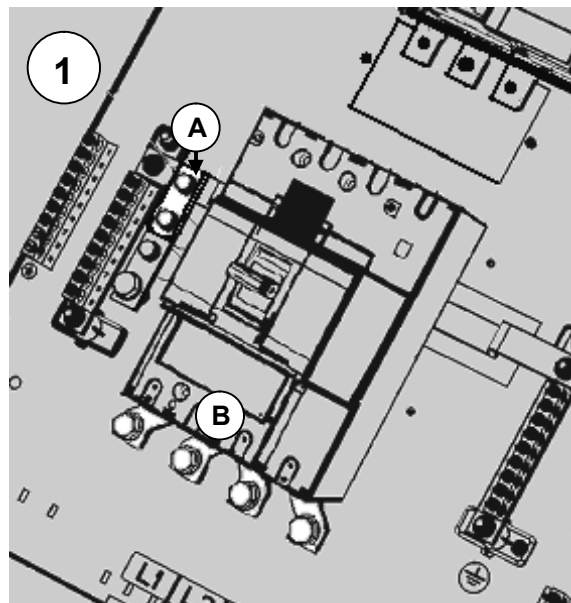
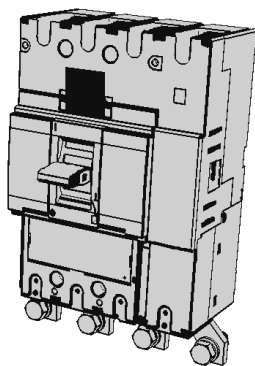
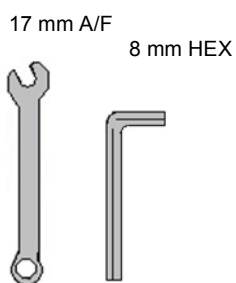


## JF8 4 Pole 400A MCCB incomer kit

400A 4 pole incomer kits contain:

- 3 x Line extension links
- 1 x Neutral link
- 4 x spreader links
- 8 x Phase link Allen fixing bolts and washers (M10)
- 4 x Long fixing screws
- 1 x MCCB
- Terminal covers

Ensure terminal shrouds are removed before fitting.

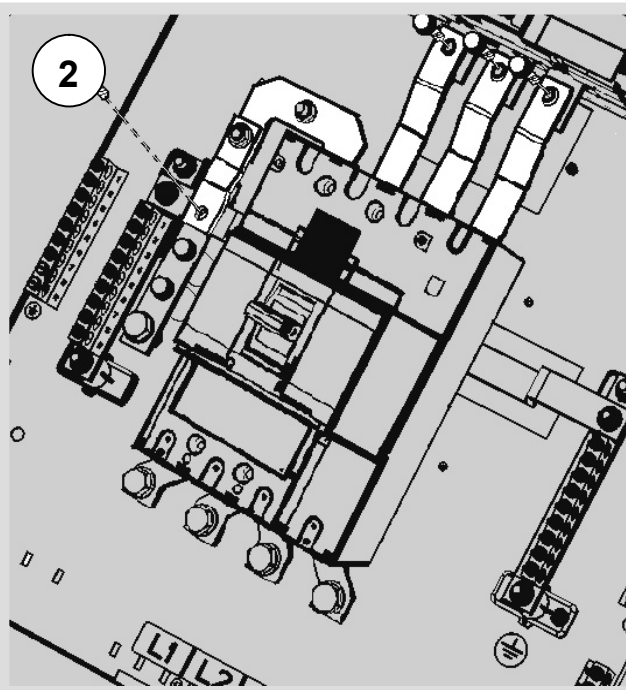


Remove the busbar shield. Remove the two M8 bolts that secure the neutral swing link (A). Replace the bottom M8 bolt.

The top bolt is used to connect the 4 pole neutral link. The swing link is not required for the 4 pole incomer.

Fit the MCCB to the pan assembly with the fixings provided

Fit the spreader links to the bottom of the MCCB (B) with the fixings provided



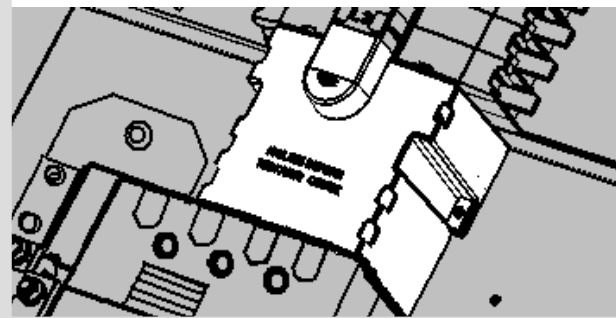
Connect the extension links to the busbar with the 3 x M10 coach bolts the M8 coach bolts. Hand tighten at this stage.

Connect the neutral link with the M8 coach bolts. Hand tighten at this stage

Now tighten the MCCB fixing screws to secure the MCCB to the pan assembly.

Once the MCCB is in place tighten all M10 electrical connections to **22Nm**. Tighten all **M8** connections to **13Nm**

Fit the terminal shrouds



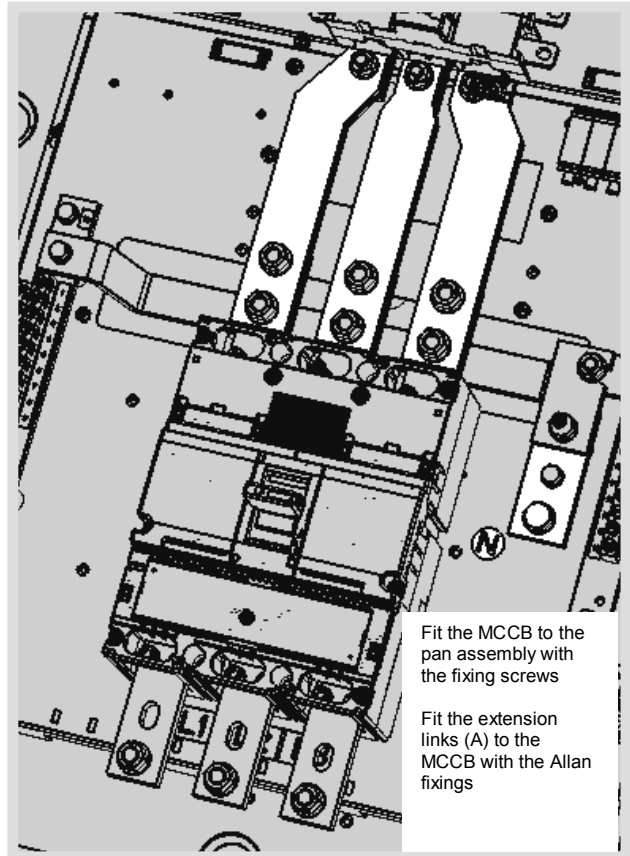
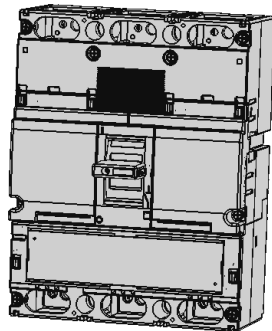
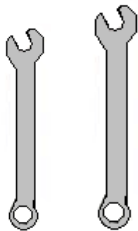
## JF8 3 Pole 630A MCCB incomer kit

630A Incomer kits contain:

- 3 x Phase extension links
- 3 x spreader links
- 6 x Phase link Allen fixing bolts and washers (M10)
- 4 x Long fixing screws
- 1 x MCCB
- 3 x M8 120mm Lug
- Terminal covers

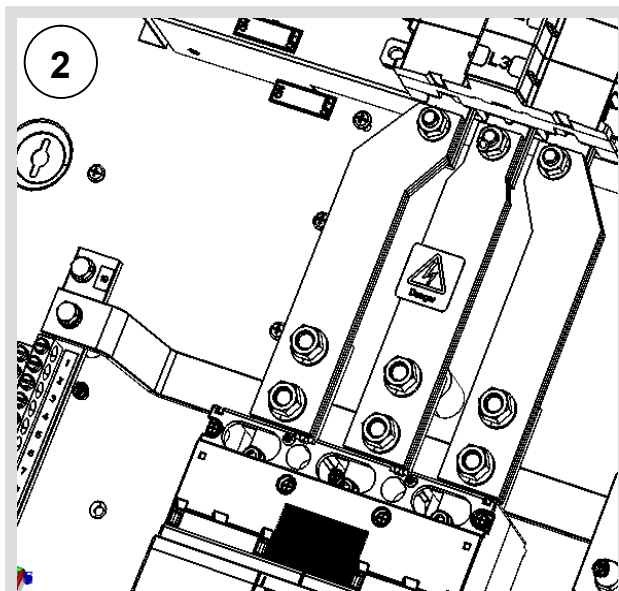
Ensure terminal shrouds are removed before fitting.

17mm & 19 mm  
A/F



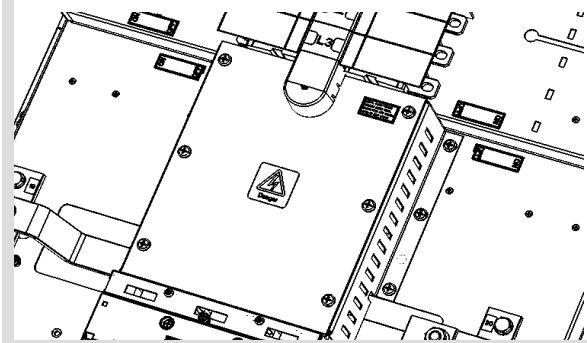
Fit the MCCB to the pan assembly with the fixing screws

Fit the extension links (A) to the MCCB with the Allen fixings



Connect the extension links to the busbar with the 3 x M10 coach bolts. Hand tighten at this stage. Now tighten the MCCB fixing screws to secure the MCCB to the pan assembly.

Once the MCCB is in place tighten all M10 electrical connections to **22Nm** and M12 to **45-65Nm**  
Fit the terminal shrouds





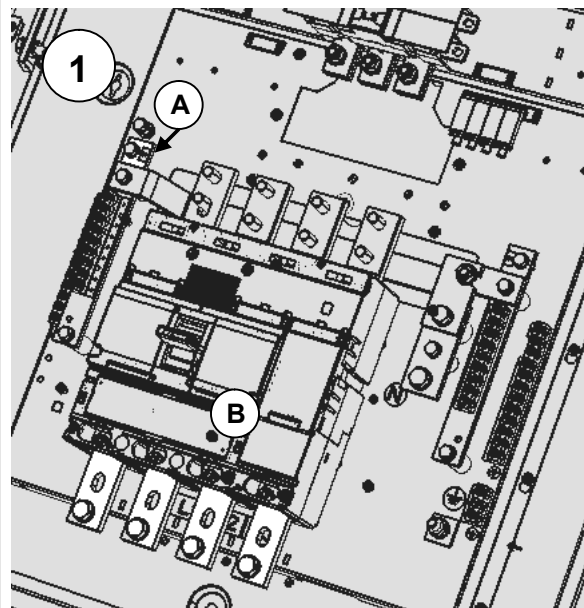
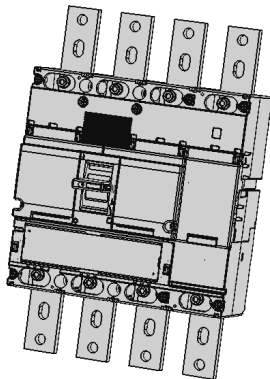
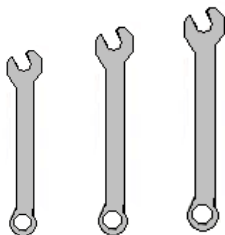
## JF8 4 Pole 630A MCCB incomer kit

400A 4 pole incomer kits contain:

- 3 x Line extension links
- 1 x Neutral link
- 4 x spreader links
- 8 x Phase link Allen fixing bolts and washers (M10)
- 4 x Long fixing screws
- 1 x MCCB
- 4 x M8 120mm Lug
- Terminal covers

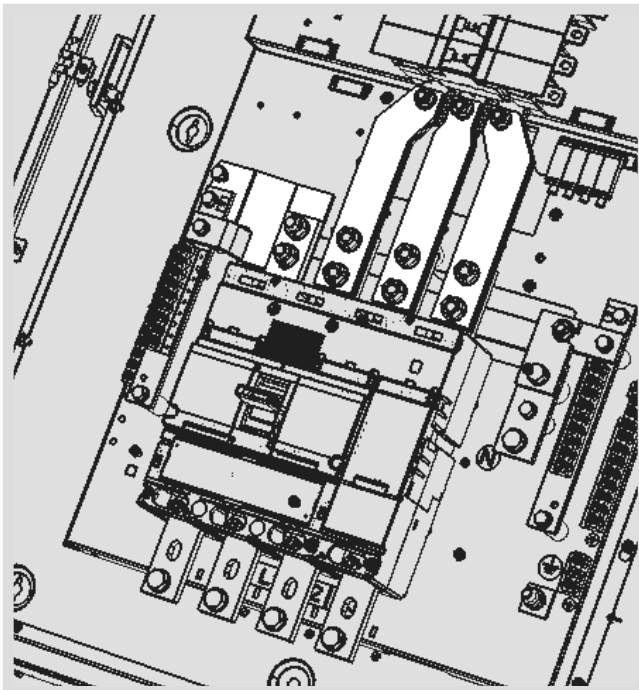
Ensure terminal shrouds are removed before fitting.

12 mm, 17mm & 19 mm  
A/F



Remove the busbar shield. Remove the M8 bolt (A). The top bolt is used to connect the 4 pole neutral link.

Fit the MCCB to the pan assembly with the fixings provided

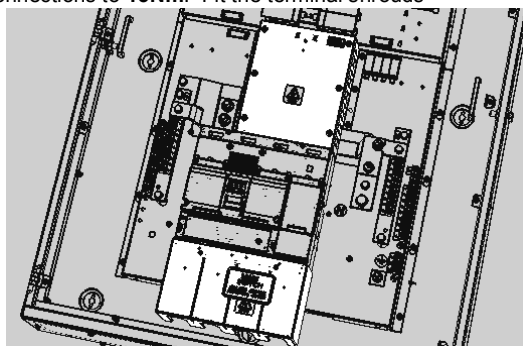


Connect the extension links to the busbar with the 3 x M10 coach bolts the M8 coach bolts. Hand tighten at this stage.

Connect the neutral link with the M8 coach bolts. Hand tighten at this stage

Now tighten the MCCB fixing screws to secure the MCCB to the pan assembly.

Once the MCCB is in place tighten all M10 electrical connections to **22Nm** and M12 to **45-65Nm**. Tighten all **M8** connections to **13Nm**. Fit the terminal shrouds

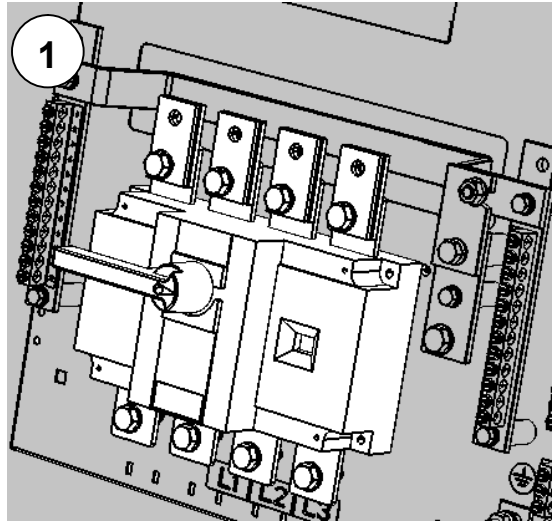
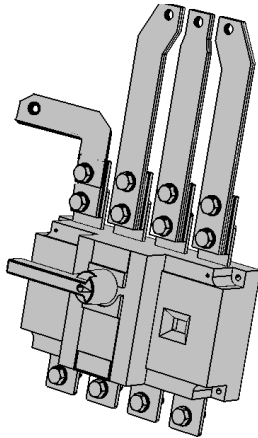


## JF8 4 Pole 630A Switch disconnector incomer kit

630A 4 pole incomer kits contain:

- 3 x Line extension links
- 1 x Neutral link
- 8 x Phase link fixing bolts and washers (M12)
- 4 x Long M6 fixing screws and washers
- 1 x 630A switch
- 1 x rear terminal shield
- Terminal covers

Ensure terminal shrouds are removed before fitting.



Remove busbar cover and fit the switch to the pan assembly with the M6 fixings provided

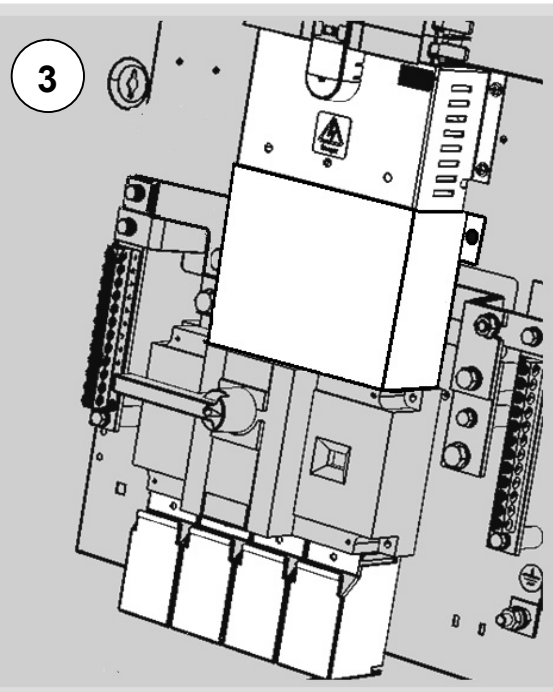
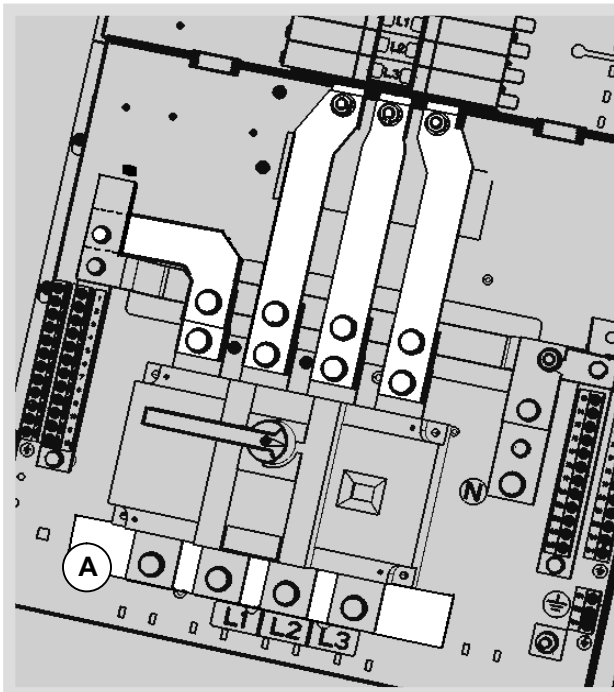
Fit the rear terminal shield (A)

Connect the extension links to the busbar with the 3 x M10 coach bolts. Hand tighten at this stage.

Connect the neutral link with the M8 bolts. Hand tighten at this stage

Now tighten the M6 fixing screws to secure the switch to the pan assembly.

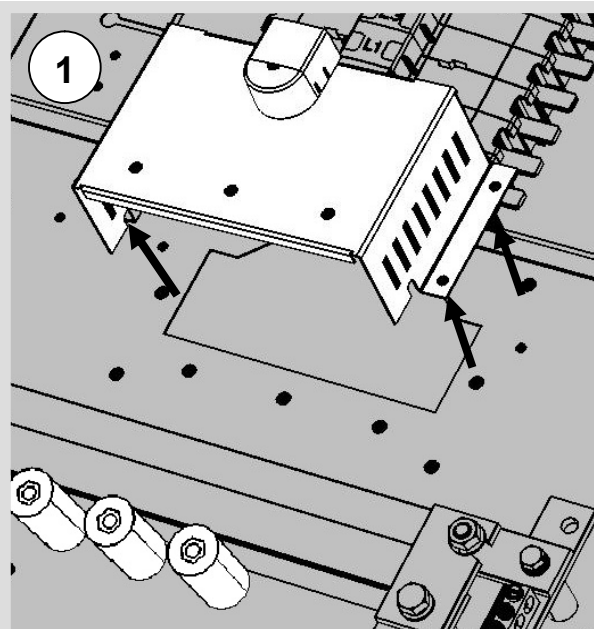
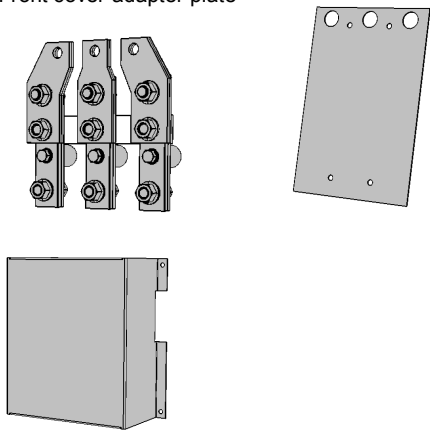
Once the Switch is in place tighten all M10/M12 electrical connections to **22Nm**. tighten the M8 electrical connections to **13Nm**. Fit the cover plate to the front cover.



## JF8 3 Pole direct connect incomer kit

Direct connect kit includes:

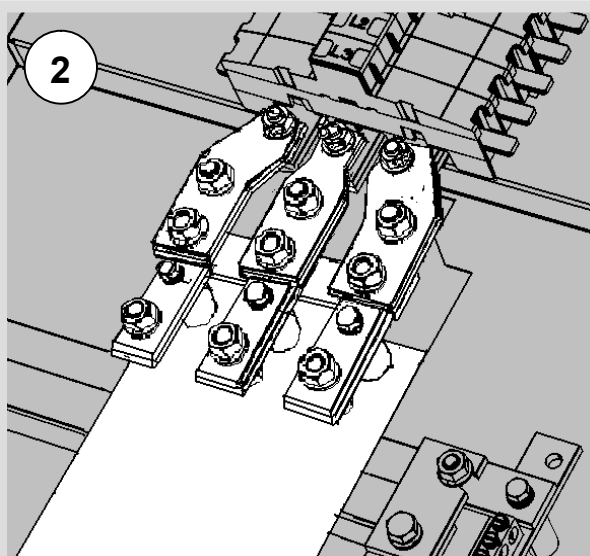
- 3 phase link assembly
  - 3 x nylon pillar
  - 1 x direct connect strap
  - 3 x M6 bolt, spring washer, flat washer
  - 6 x M12 bolt, flat washer, carp nut
  - 1 x insulation barrier
- Lower direct connection shield
  - 4 x M6 fixing bolts (for shield)
- Front cover adapter plate



Remove busbar shield

Place 3 x nylon pillars and hand tighten

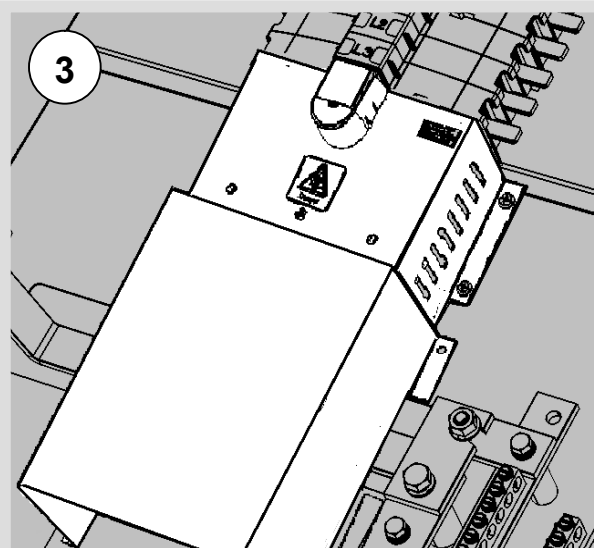
Fit the insulation barrier over the nylon pillar



Secure used fixings provided

Locate the link sub assembly onto the nylon pillars

Use 3 x M6 bolts and washers to fix the links to the pillars



Tighten all M10 electrical connections to 22Nm

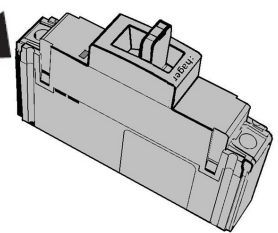
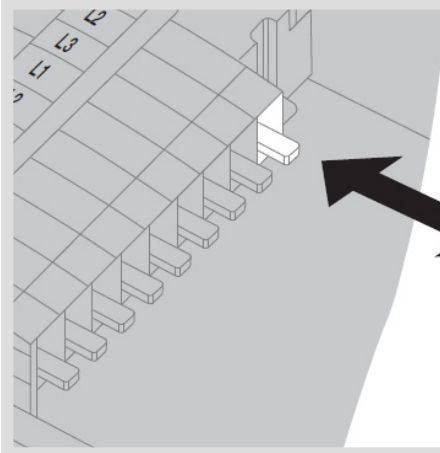
Refit the busbar shield

Use the 4 x M6 fixings to fit the lower direct connection shield



Use the 3 x M10 bolts and washers to fix at busbar

**Only equipment and arrangements specified in Hager's technical documentation / catalogue shall be used.**



**Fitting Single Pole MCCBs**

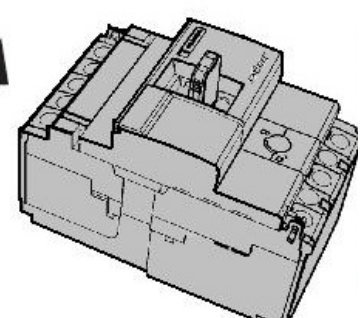
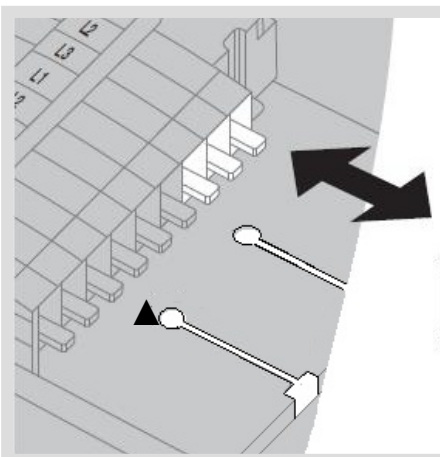
Single pole MCCB contains:

- 2 x Fixing bolts
- 2 x Spring washers
- 2 x Single fixing plates
- 2 x Double fixing plates

Mount the MCCB on to the busbar finger with the red trip button facing inwards. Fix the device to the pan assembly using the fixings provided

See single pole instructions for more information

Tighten electrical connections to 6.6Nm



**Fitting Three Pole MCCBs**

Three pole MCCB contains:

- 2 x Fixing bolts
- 2 x Spring washers
- 2 x Flat washers

Mount the MCCB on to the busbar finger with the red trip button facing inwards. Fix the device to the pan assembly using the fixings provided.

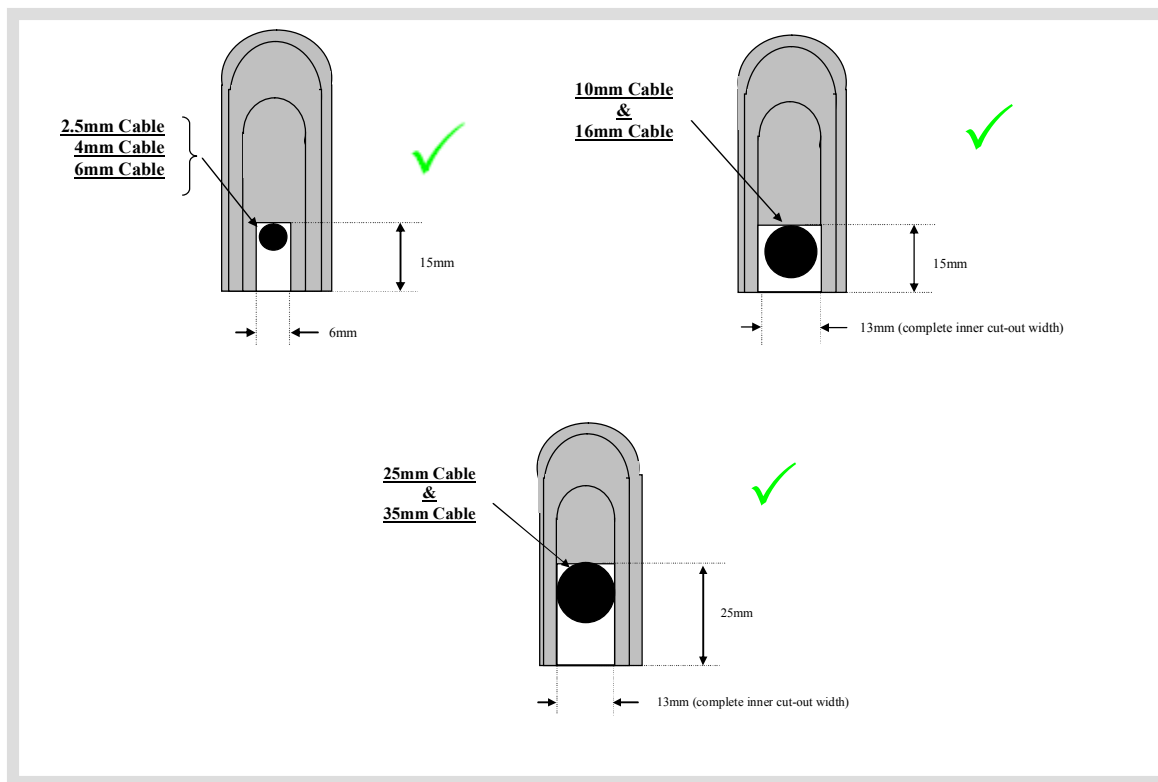
Use the Auxiliary/Shunt trip accessory channel ( ▲ ) to dress cables from these accessories

See three pole instructions for more information

Tighten electrical connections to 6.6Nm

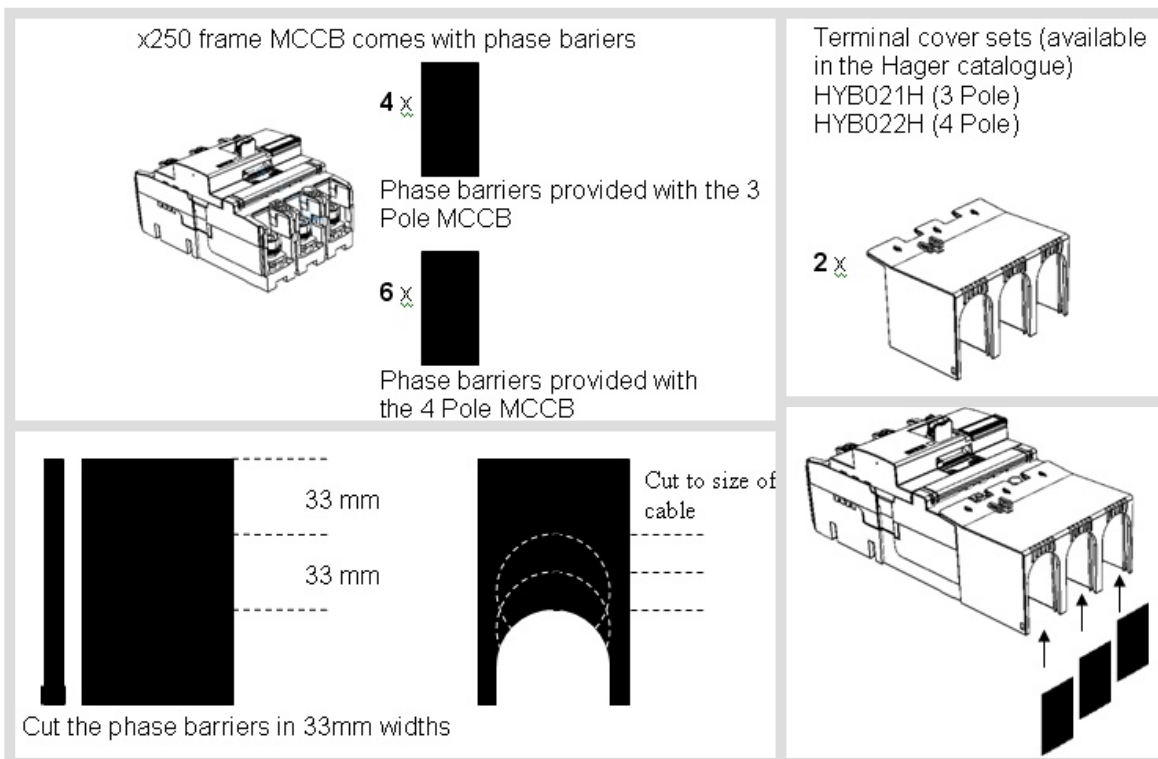
## Achieving Form 3b type 2 on x160 frame MCCB outgoing

Using HYA021H Terminal cover: Outgoing Devices x160 Frame only (125A)  
Cut Out Dimensions are shown below to achieve IPXXB (Form 3b type 2)



## Achieving Form 3b type 2 on x250 frame MCCB outgoing

Using HYA021H Terminal cover: Outgoing Devices x250 Frame (250A)  
Cut Out Dimensions for the insert are shown below to achieve IPXXB (Form 3b type 2)



## Service Conditions

Hager distribution boards must only be fitted with Hager Equipment and arrangements specified in Hager Technical documents and catalogues

Indoor Use only

Pollution degree: 3

Forms of separation: Form 3b when outgoing shrouds are fitted. A competent person must always complete a risk assessment and appropriate test to confirm that, the un-shrouded neutral within the Panelboard is not a hazardous live part. In particular, The Electricity at Work Regulations 1989 including any amendments must be complied with.

Maximum Current (  $I_{nA}$  )

JN2\*\*\* 250A\*\* 415V a.c. 50Hz

JF4\*\*\* 400A\*\* 415V a.c. 50Hz

JF8\*\*\* 630A\*\* 415V a.c. 50Hz

*\*\* or rating of main incomer whichever is lower*

Range of outgoing devices (  $I_{nc}$  )

MCCB x160 frame 16 – 125A

MCCB x250 frame 100 – 250A

Main busbar (  $I_{cw}$  )

JN2\*\*\* 25kA for 1 sec / 52.5 kA Pk

JF4\*\*\* 35kA for 1 sec / 73.5 kA Pk

JF8\*\*\* 35kA for 1 sec / 73.5 kA Pk

Main Neutral conductor (  $I_{cw}$  )

JN2\*\*\* 15kA for 1 sec / 30 kA Pk

JF4\*\*\* 21kA for 1 sec / 44.1 kA Pk

JF8\*\*\* 24kA for 1 sec / 50.42.5 kA Pk

Main protective conductor (  $I_{cc}$  )

JN2\*\*\* 25kA conditional / 52.5 kA Pk

JF4\*\*\* 40kA conditional / 84 kA Pk

JF8\*\*\* 50kA conditional / 105 kA Pk

MCCB BS EN 60947-2

Main board	Incomer kit	Outgoing device	Conditional rating ( $I_{cc}$ )
JN2	Direct connection	125A MCCB	25kA/ 52.5 kA Pk
JF4	Direct connection	125A MCCB	25kA/ 52.5 kA Pk
JF8	Direct connection	125A MCCB	25kA/ 52.5 kA Pk
JF8	Direct connection	250A MCCB	40kA/ 84 kA Pk
JF8	JF864BSW	125A MCCB	25kA/ 52.5 kA Pk
JF8	JF864BSW	250A MCCB	25kA/ 52.5 kA Pk

IP3X with door closed

IP2XC with door open and compliment of outgoing devices and blanks fitted.

Suitable for Fixed connection (FF) Forms of Internal Separation 3b

No. of Main Circuits	Diversity/ Loading factor
2 & 3	0.9
4 & 5	0.8
6 to 9 inclusive	0.7
10 and above	0.6

## Performance Characteristics

Panelboard to BS EN 61439 -2 (unless otherwise stated)

Ui 690V a.c. 50Hz

Ue 415V a.c. 50Hz

Uimp 6kV

Rated frequency 50Hz

Suitable earthing system TNC-S, TN-S and TT  
(Subject to compliance with the relevant regulations in the current edition of BS 7671)

## Warranty

This distribution board is offered with a 24 month warranty against defective material or manufacture. If a warranty claim is necessary, please call the technical support number given at the bottom of the page and we will be pleased to help.

## JN2 Incomer kits

JN213BM	125A 3P MCCB INCOMER KIT
JN214BM	125A 4P MCCB INCOMER KIT
JN223BM	250A 3P MCCB INCOMER KIT
JN224BM	250A 4P MCCB INCOMER KIT
JN223BS	250A 3 POLE ISOLATOR INCOMER KIT
JN224BS	250A 4 POLE ISOLATOR INCOMER KIT
JN224BD	250A DIRECT CONNECTION KIT

## JN2 Accessories

JN001BP	1P BLANKING PLATE 125A FRAME
JN2PLATE	JN ENDPLATE
JN201BA	MULTI FUNCTION DIGITAL METER PACK
JN201BE	SMALL DIN RAIL BOX, PLAIN DOOR
JN201BEG	SMALL DIN RAIL BOX, GLAZED DOOR
JN203BE	LARGE DIN RAIL BOX, PLAIN DOOR
JN203BEG	LARGE DIN RAIL BOX, GLAZED DOOR
JN205BE	SMALL SPREADER BOX (NO DOOR)
JN205DK	DOOR KIT FOR SMALL SPREADER BOX
JN206BE	LARGE SPREADER BOX (NO DOOR)
JN206DK	DOOR KIT FOR LARGE SPREADER BOX

## JF4 Incomer kits

JF443BM	400A 3P MCCB INCOMER KIT
JF444BM	400A 4P MCCB INCOMER KIT
JF443BS	400A 3 POLE ISOLATOR INCOMER KIT
JF444BS	400A 4 POLE ISOLATOR INCOMER KIT
JF444BD	400A DIRECT CONNECTION KIT

## JF4 Accessories

JF003BP	3P BLANKING PLATE 250A FRAME
JN001BP	1P BLANKING PLATE 125A FRAME
JFPLATE	JF4 & 8 ENDPLATE
JF403BA	MULTI FUNCT DIGITAL METER PACK
JF801E	SMALL DIN RAIL BOX, PLAIN DOOR
JF801EG	SMALL DIN RAIL BOX GLAZED DOOR
JF803E	LARGE DIN RAIL BOX, PLAIN DOOR
JF803EG	LARGE DIN RAIL BOX, GLAZED DOOR
JF805E	SMALL SPREADER BOX (NO DOOR)
JF805DK	DOOR KIT FOR SMALL SPREADER BOX
JF806E	LARGE SPREADER BOX (NO DOOR)
JF806DK	DOOR KIT FOR LARGE SPREADER BOX

## JF8 Incomer kits

JF864BSW	630A 4 POLE ISOLATOR INCOMER KIT
JF840BM	400A 3P MCCB INCOMER KIT
JF840BM	400A 4P MCCB INCOMER KIT
JF863BM	630A 3P MCCB INCOMER KIT
JF864BM	630A 4P MCCB INCOMER KIT
JF884BD	JF8 DIRECT CONNECTION KIT

## JF8 Accessories

JF003BP	3P BLANKING PLATE 250A FRAME
JN001BP	1P BLANKING PLATE 125A FRAME
JF801E	SMALL DIN RAIL BOX, PLAIN DOOR
JF801EG	SMALL DIN RAIL BOX GLAZED DOOR
JF803BA	MULTI FUNCT DIGITAL METER PACK
JF803E	LARGE DIN RAIL BOX, PLAIN DOOR
JF803EG	LARGE DIN RAIL BOX, GLAZED DOOR
JF805DK	DOOR KIT FOR SMALL SPREADER BOX
JF805E	SMALL SPREADER BOX (NO DOOR)
JF806DK	DOOR KIT FOR LARGE SPREADER BOX
JF806E	LARGE SPREADER BOX (NO DOOR)
JFPLATE	JF4 & 8 ENDPLATE

**Panel board circuit designation chart**

D.B No:	Voltage:	Supplied From:
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Supply cable mm:	Incoming Isolator:	Ze:	P.S.C.
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CIR	AMPS	TYPE	CABLE MM	C.P.C MM	LOCATION DESCRIPTION

D.B No:	Voltage:	Supplied From:
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Supply cable mm:	Incoming Isolator:	Ze:	P.S.C.
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CIR	AMPS	TYPE	CABLE MM	C.P.C MM	LOCATION DESCRIPTION

Hager Ltd.  
Hortonwood 50  
Telford  
Shropshire  
TF1 7FT

National Sales Hotline 01952 675612  
National Tech Support helpline 01952 675689

**ZD0695**