



**JF8\*\*B(G)**  
**JF6\*\*B(G)**

**Installation instructions**  
**Notice d'instructions**  
**Bedienungsanleitung**  
**Instrucciones de uso**  
**Instruções**  
**Bruksanvisning**  
**Gebruiksaanwijzing**

## Invicta 3 Panelboard



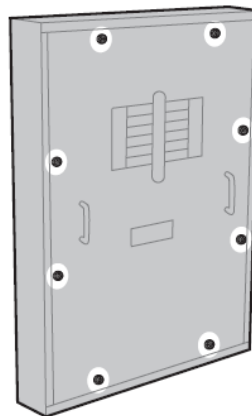
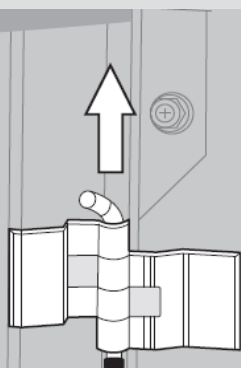
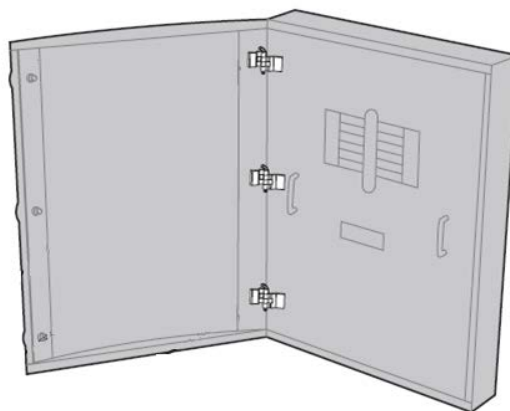
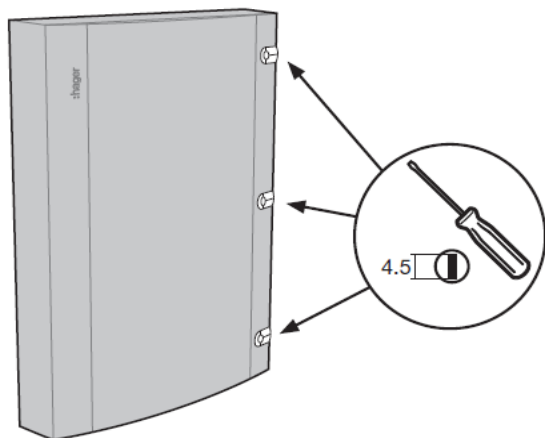
All product(s) must be installed by a suitably competent electrician giving consideration to their intended use and in accordance with the current edition of BS 7671 (IET Wiring Regulations).

The Electricity at Work regulations and the Health and Safety at Work Act shall be complied with. Only equipment and arrangements specified in Hager's technical documentation / catalogue shall be used.

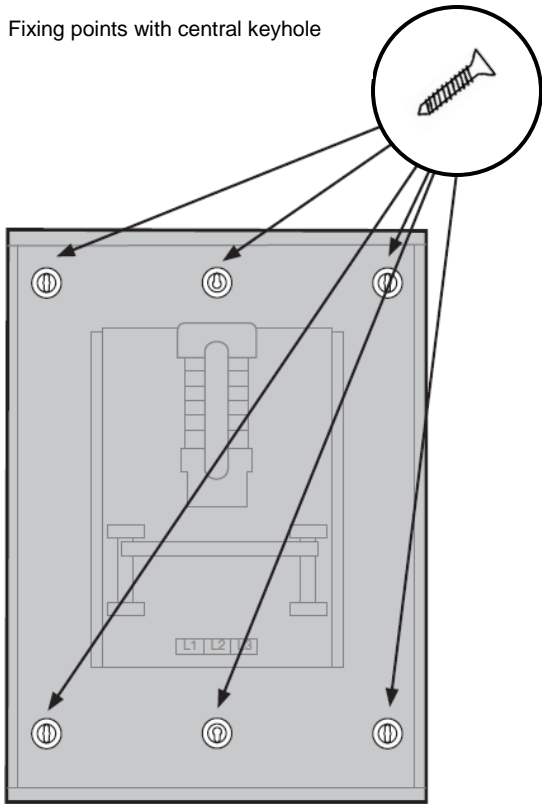
Install in the vertical plane only with the recommendation to use a cable extension box below the incomer to allow ease of cabling.

Notice:

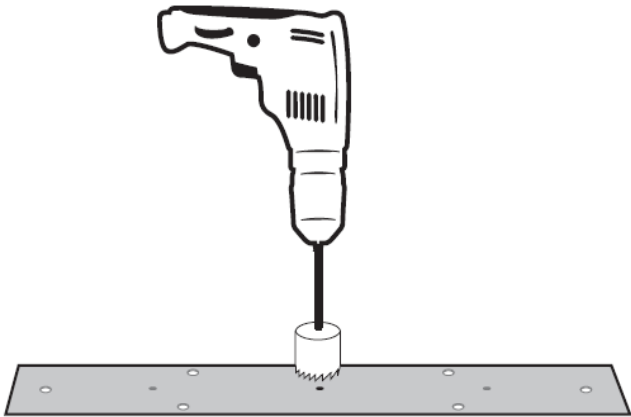
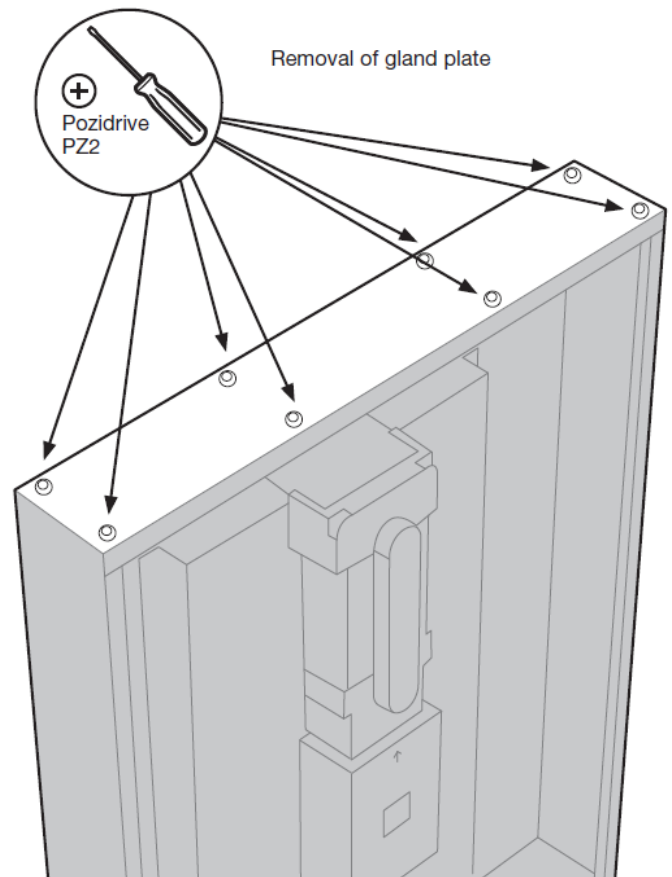
To prevent potential overheating from loose connections the installer shall check connections are tightened to the torque levels stated in these instructions prior to energising this board. This check should include factory made connections which may have loosened in transit or as a result of.



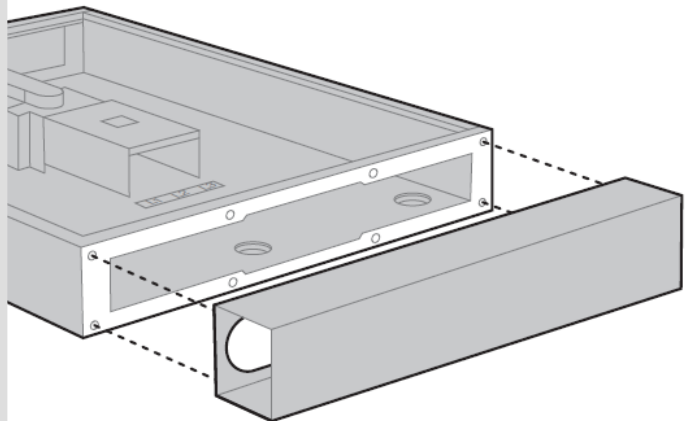
Fixing points with central keyhole



Removal of gland plate



Drill centre mark provided when fitting SWA or conduit



Remove gland plate when fitting trunking

## JF6/8 3 Pole h 400A MCCB incomer kit

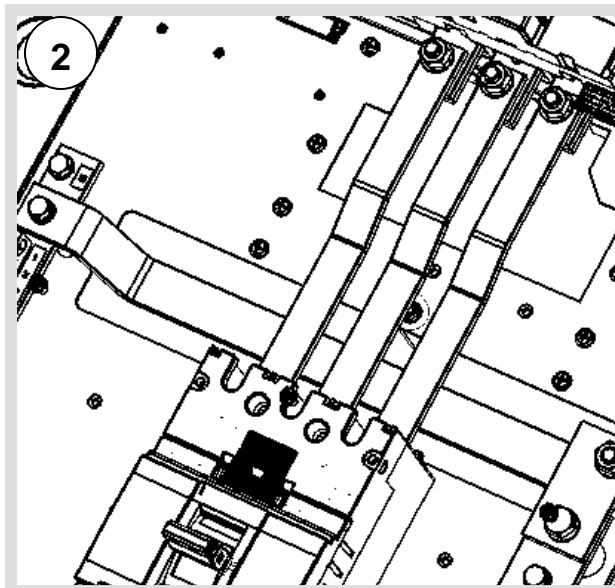
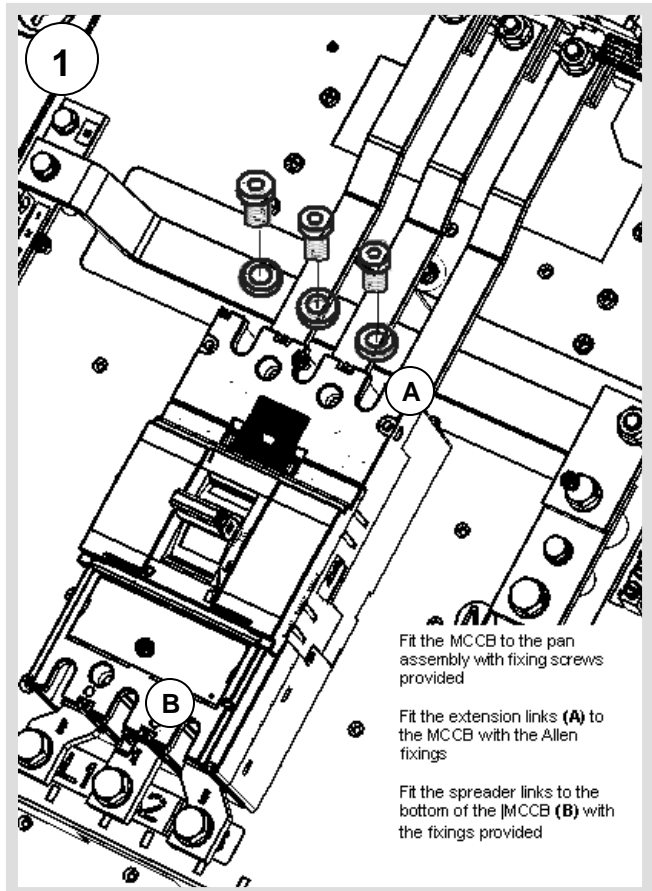
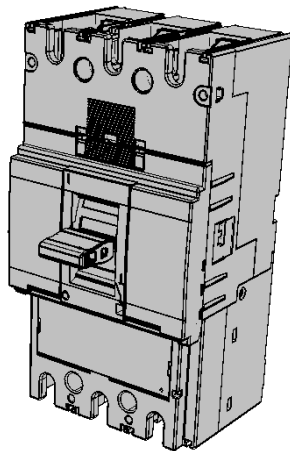
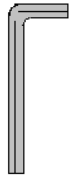
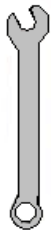
400A Incomer kits contain:

- 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 M10 Bolts
- Terminal covers

Ensure terminal shrouds are removed before fitting.

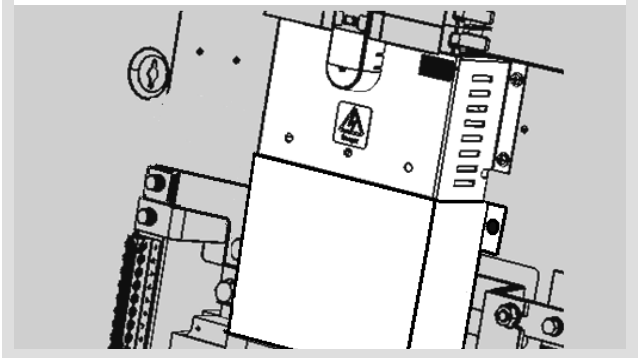
17 mm A/F

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



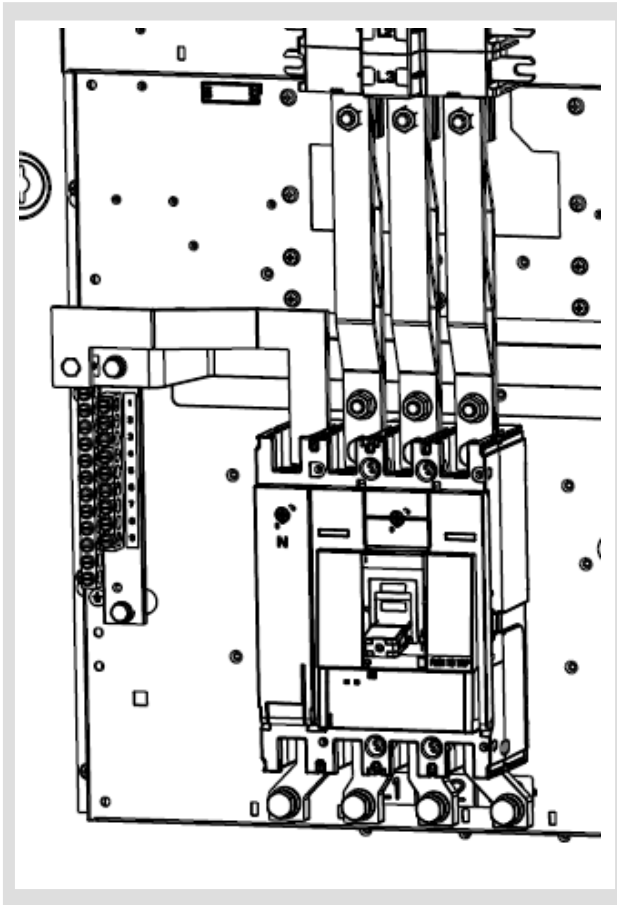
## JF6/8 3&4 Pole P 400A Electronic MCCB incomer kit JF843P4 & JF844P4

400A Incomer kits contain:

- 3 x Phase extension links (per Phase)
- 2 x Neutral links (doubled up - 4 Pole only)
- 4 x spreader links
- 6 x Phase link Allen fixing bolts and washers (M10)
- 4 x Long fixing screws
- 1 x MCCB
- 3 x M10 Bolts
- Terminal covers

Ensure terminal shrouds are removed before fitting.

### JF844P4 Shown for illustration



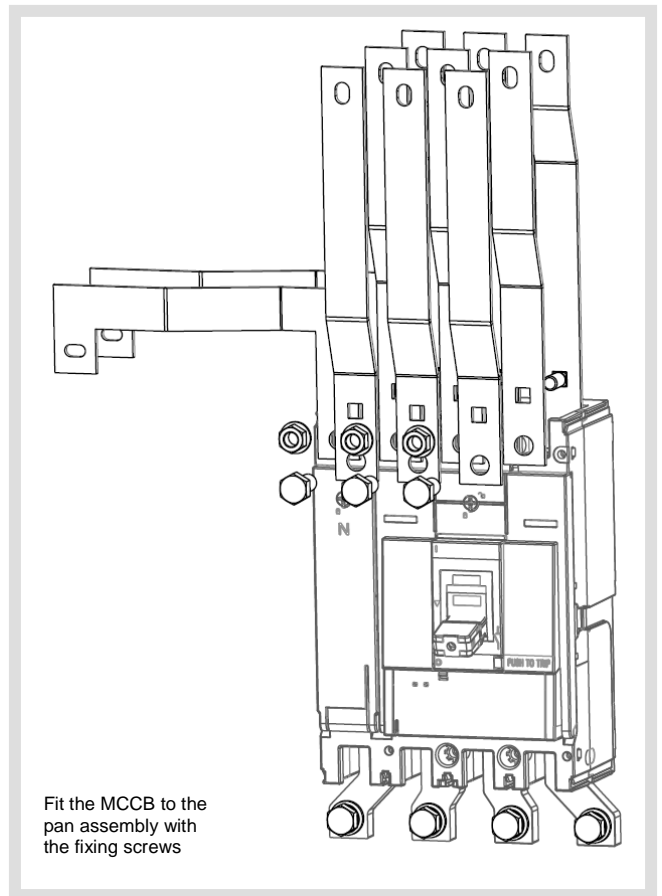
Fit the MCCB to the pan assembly with the fixings provided

Fit the spreader links to the bottom of the MCCB with the 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.

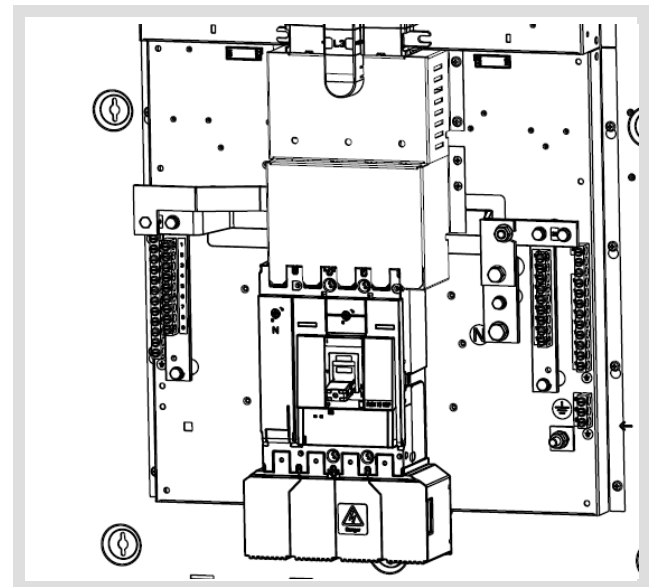
Once the MCCB is in place tighten all M10 electrical connections to **18Nm**



Remove the busbar shield.

Prepare the Phase links as shown (3 per Phase)

2 off Neutral links doubled up if 4 pole



Fit the terminal shrouds

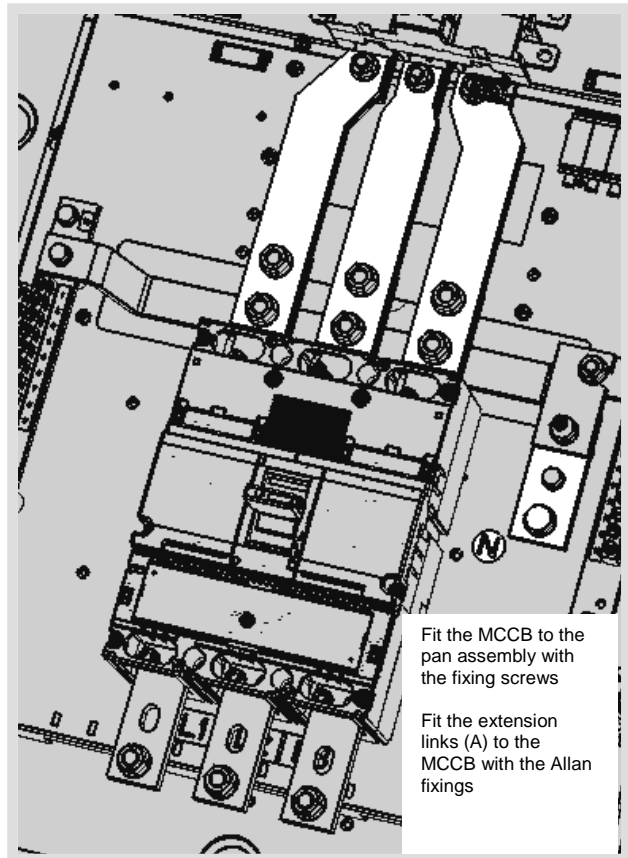
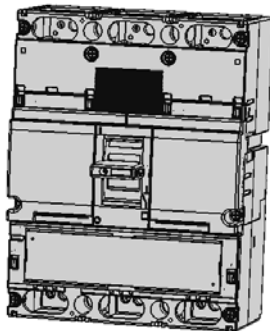
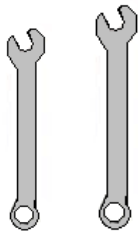
## JF6/8 3 Pole h 630A MCCB incomer kit

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 M10 Bolts
- Terminal covers

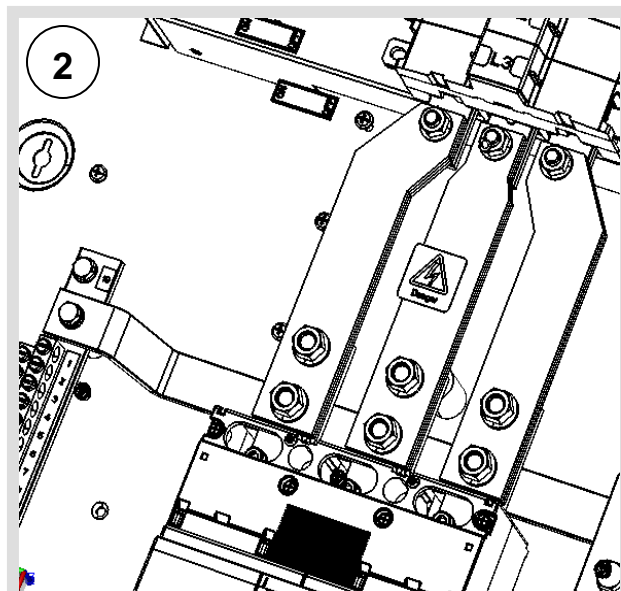
Ensure terminal shrouds are removed before fitting.

17mm & 19 mm  
A/F



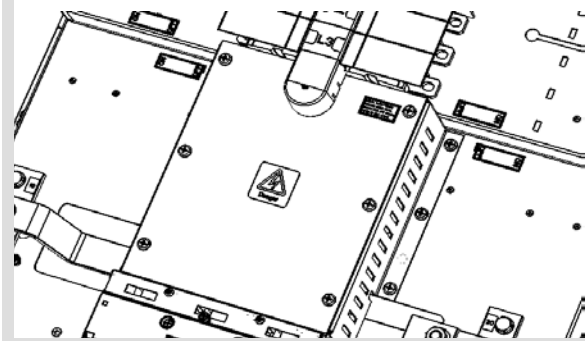
Fit the MCCB to the pan assembly with the fixing screws

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



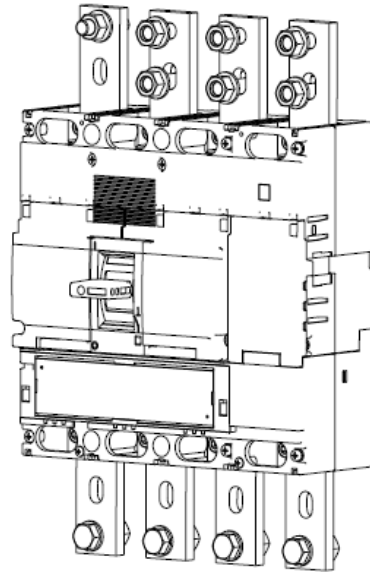
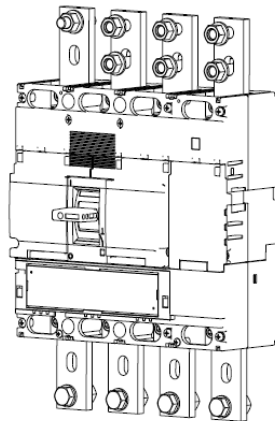
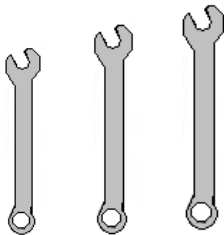
## JF6/8 4 Pole h 630A MCCB incomer kit

630A 4 pole incomer kits contain:

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

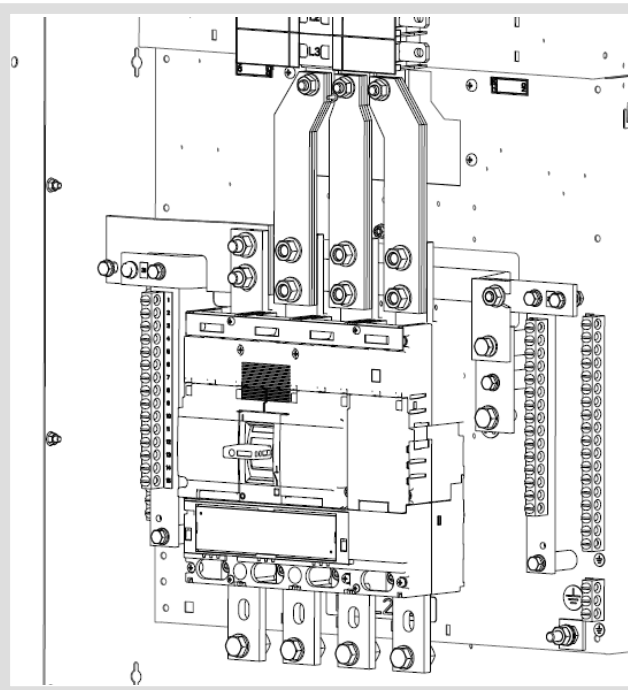
Ensure terminal shrouds are removed before fitting.

13 mm, 17mm & 19 mm  
A/F



Remove the busbar shield.

Fit the MCCB to the pan assembly with the fixings provided

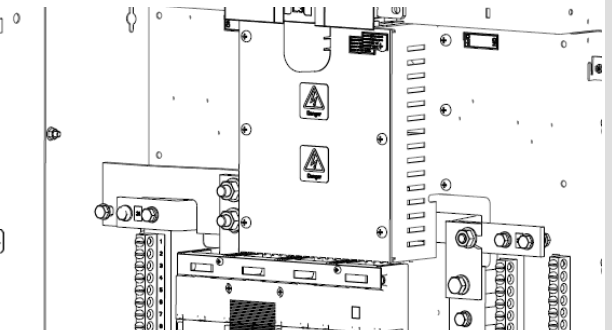


Connect the extension links to the busbar with the 3 x M10 coach bolts the M8 coach bolts. Hand tighten at this stage.

Connect the 2 neutral links with the M8 coach bolts, making sure they are fitted under the Neutral phase of the MCCB. 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

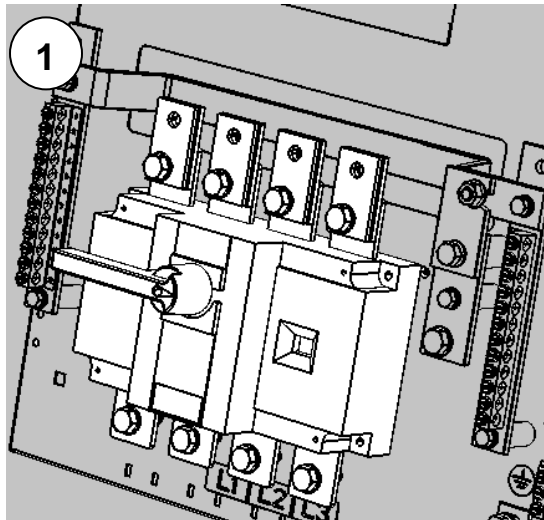
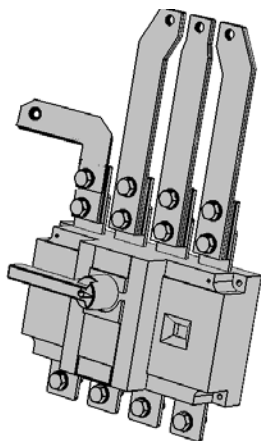


## JF6/8 4 Pole 630A Switch disconnector incomer kit

630A 4 pole incomer kits contain:

- 3 x Line extension links
- 2 x Neutral links
- 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

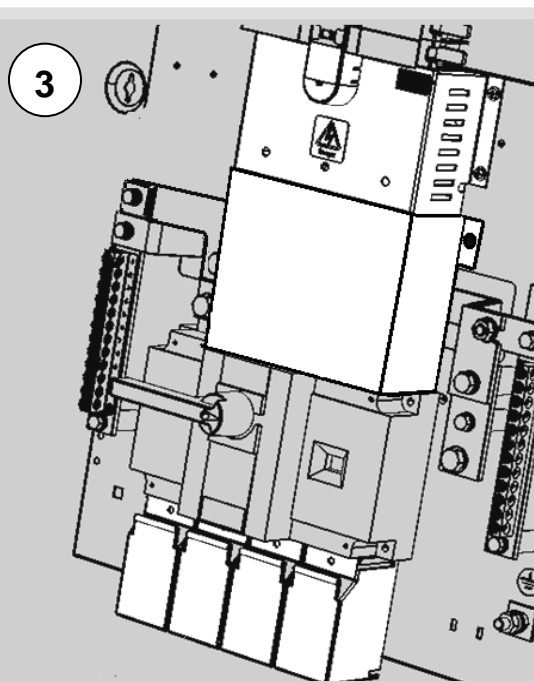
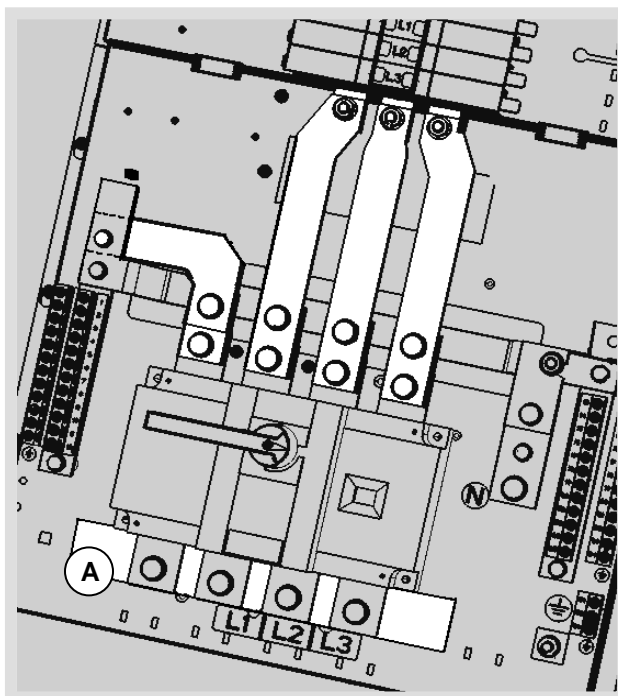
Fit the rear terminal shield (A)

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

Connect the neutral links 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.

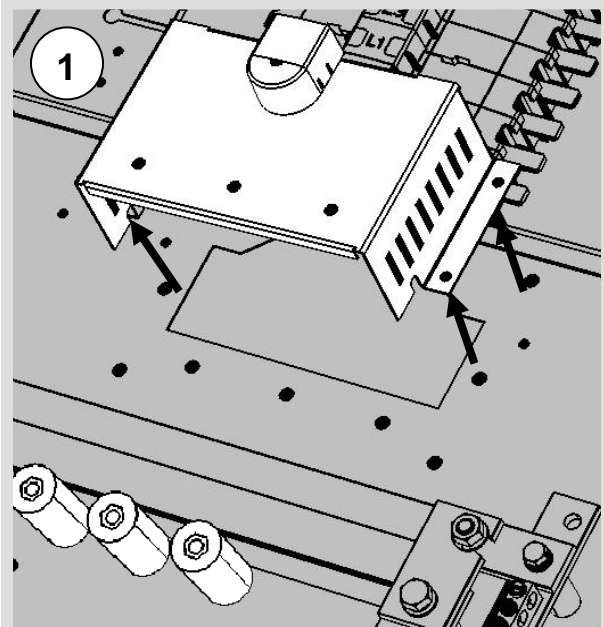
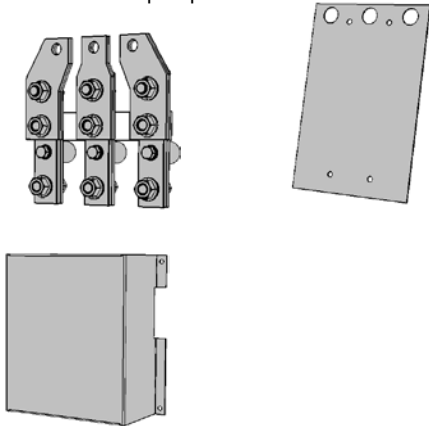




## JF6/8 3 Pole direct connect incomer kit

Direct connect kit includes:

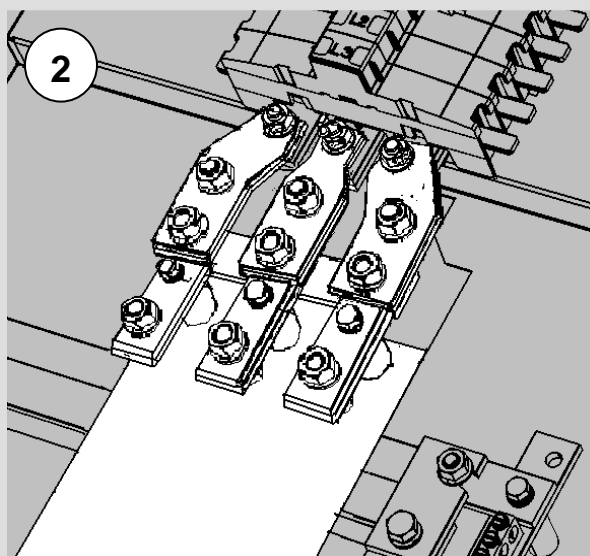
- 3 phase link assembly
  - 3 x nylon pillar
  - 1 x direct connect strap
  - 3 x M6 bolt, spring washer, flat washer
  - 6 x M12 bolt, flat washer, carp nut
  - 1 x insulation barrier
- Lower direct connection shield
  - 4 x M6 fixing bolts (for shield)
- Front cover adapter plate



Remove busbar shield

Place 3 x nylon pillars and hand tighten

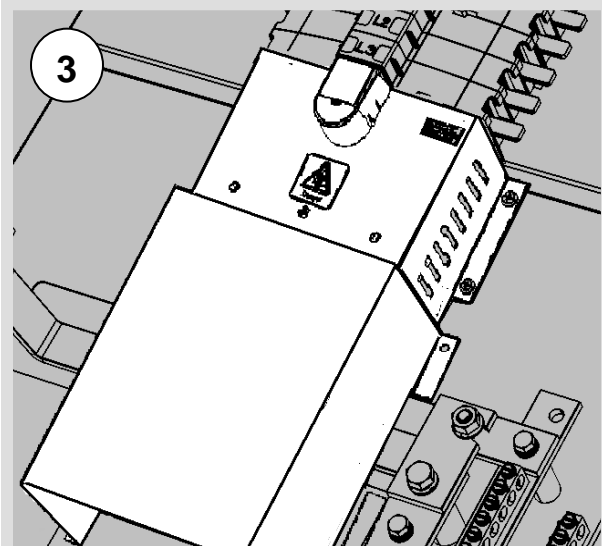
Fit the insulation barrier over the nylon pillar



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

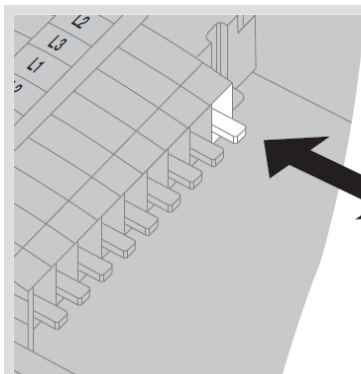
Refit the busbar shield

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

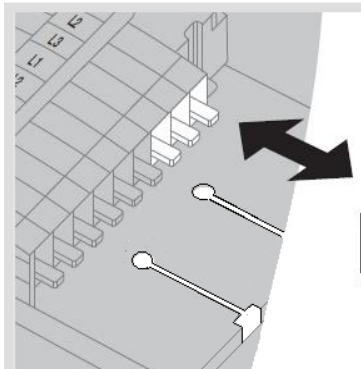
Single pole MCCB contains:

- 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 6Nm



#### Fitting Three Pole MCCBs

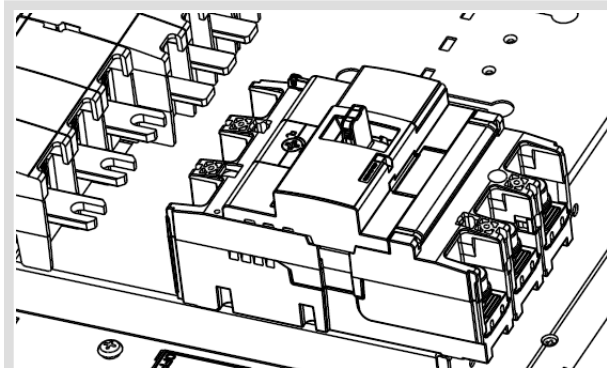
Three pole MCCB contains:

- 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 6Nm



#### Fitting Three Pole X 250 TM MCCB's

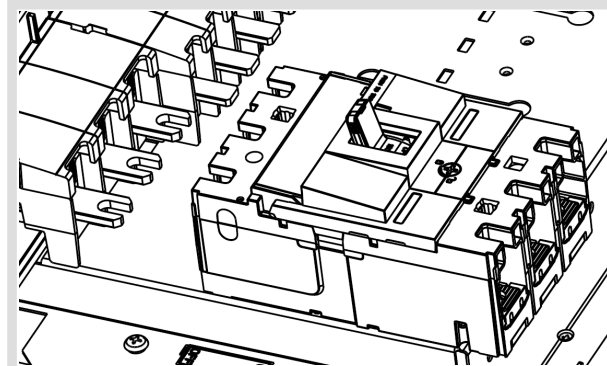
Three pole MCCB contains:

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

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 12Nm



#### Fitting Three Pole P 250 MCCB's

Three pole MCCB contains:

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

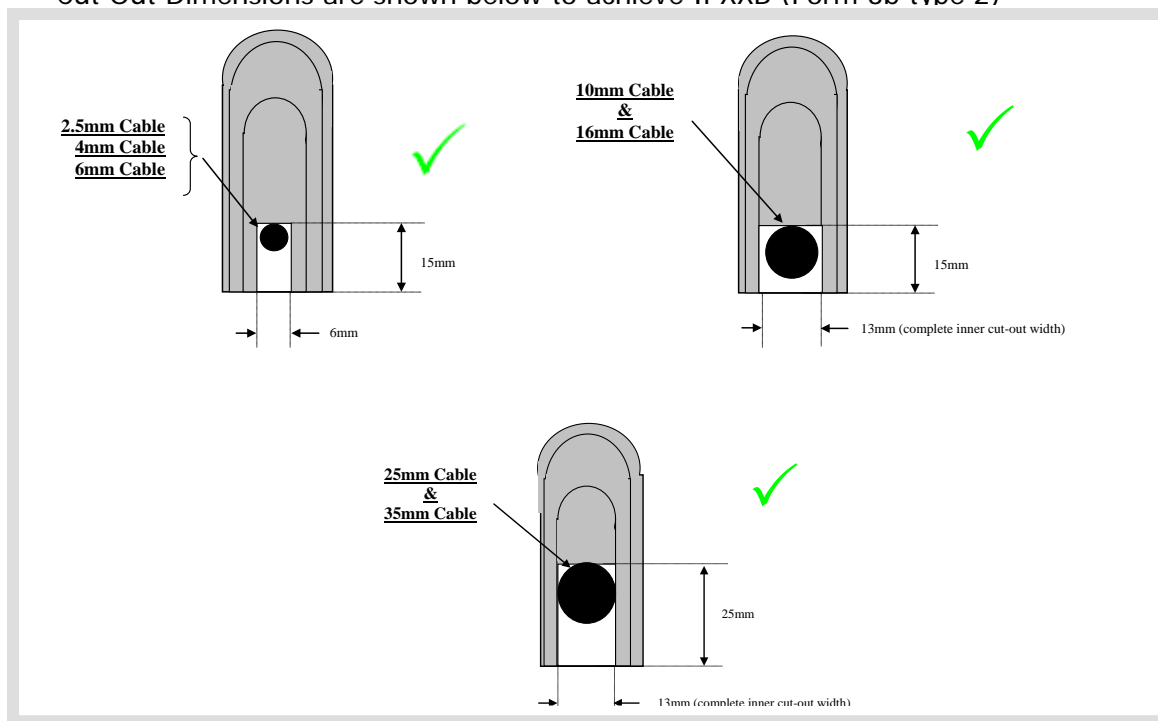
Mount the MCCB on to the busbar finger by screwing the allen bolts to the MCCB prior to offering up to the busbar with the red trip button facing inwards. Fix the device to the pan assembly using the fixings provided.

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

See three pole instructions for more information Tighten electrical connections to 12Nm

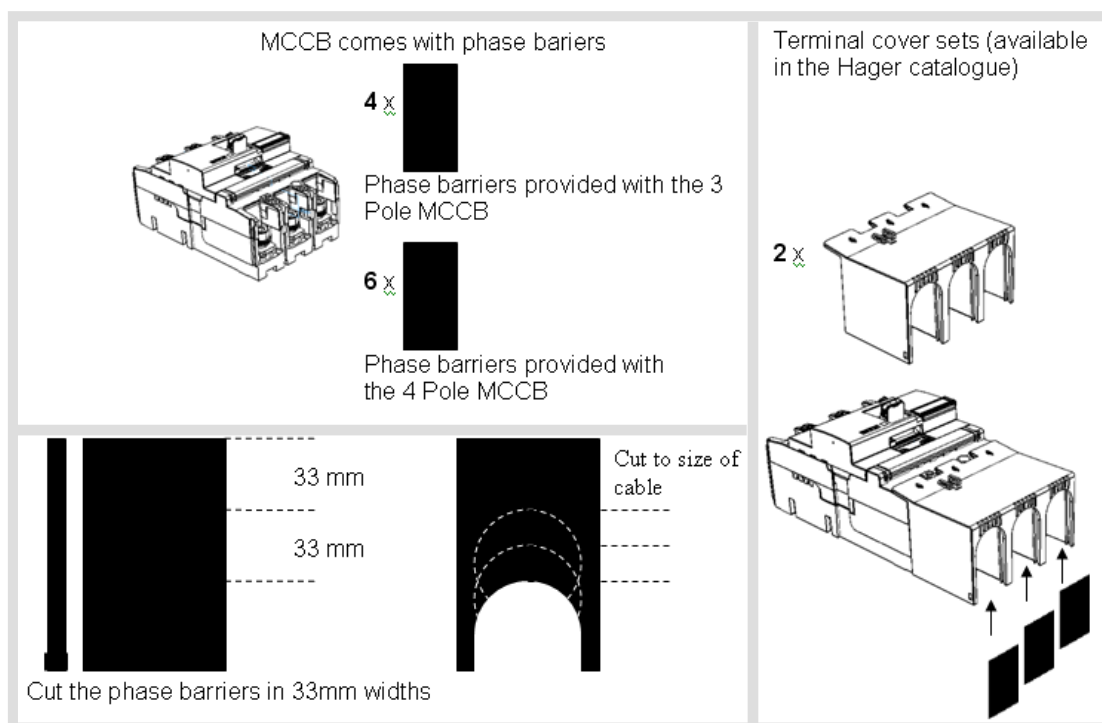
## Achieving Form 3b type 2 on x160 frame MCCB outgoing

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 & P250 frame MCCB outgoing

Using HYB021H (3 Pole) HYB022H (4 Pole) Terminal cover: Outgoing Devices x250 Frame (250A)  
Using HYT021H (3 Pole) HYT022H (4 Pole) Terminal cover: Outgoing Devices P250 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 ( $I_{nA}$ )

JF6\*\*/JF8\*\* Using outgoing x160 / P250 MCCB<sup>1</sup> 600A 415 a.c. 50Hz

JF6\*\*/JF8\*\* Using outgoing x160 / P250 MCCB<sup>1</sup> 800A 415 a.c. 50Hz

Note 1 - or rating of main incomer whichever is lower

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

MCCB x160 frame 16 - 125A

MCCB x250 frame 100 – 250A

MCCB p250 frame 40 – 250A

MCCB BS EN 60947-2

### Short Circuit Withstand Ratings:-

#### Main busbar:

JF6/JF8 range lcc 35 kA for 1 sec / lpk 73.5 kA  
lcc 50 kA rms conditional / lpk 105 kA

#### Main Neutral arrangement:

JF6/JF8 range lcc 24 kA for 1 sec / lpk 50.4 kA

#### Main Earth arrangement:

JF6/JF8 range lcc 25 kA 1-ph conditional / lpk 52.5 kA

#### Distribution busbars:

x160 lcc 25 kA rms conditional / lpk 52.5 kA  
x250 lcc 40 kA rms conditional / lpk 84.0 kA  
P250 lcc 40 kA rms conditional / lpk 84.0 kA

#### Main Incomers:

JF884BD lcc 35 kA for 1 sec / lpk 73.5 kA  
lcc 40 kA rms conditional / lpk 84.0 kA  
lcc 50 kA rms conditional / lpk 105 kA  
JF843P4/JF844P4 lcc 50 kA rms conditional / lpk 105 kA  
JF863BM/JF864BM lcc 50 kA rms conditional / lpk 105 kA  
JF843BM/JF844BM lcc 50 kA rms conditional / lpk 105 kA  
JF864BSW lcc 50 kA rms conditional / lpk 105 kA (backup fuses)  
\*800LBS lcc 50 kA rms conditional / lpk 105 kA (backup fuses)

IP3X with door closed

IP2X 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 with x Frame MCCB's	Diversity>Loading Factor/RDF
6 to 9 inclusive	0.7
10 and above	0.6
Diversity factor for P250 Frame devices	0.6 RDF for 6 way and above.

### Performance Characteristics

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

Wall mounted stationary	Type F
assembly fixed Ui	690V a.c. 50Hz
Ue	415V a.c. 50Hz
Uimp	6kV
Rated Frequency	50Hz
Suitable earthing system	TNC-S, TN-S and TT
Mechanical Impact Protection	IK05
Electromagnetic compatibility (EMC) classification	EMC Environment B
Metallic Enclosure	Class 1

(Subject to compliance with 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.

## JF6/JF8 Incomer Kits

	Max cable capacity	Cat Ref
4 Pole 400A Load Break Switch 25kA	M10 Lug	<b>JF844BSW</b>
4 Pole 630A Load Break Switch 25kA	M12 Lug	<b>JF864BSW</b>
4 Pole 800A Load Break Switch	M12 Lug	<b>*800LBS</b>
800A Direct Connection Kit 4 Pole	M12 Lug	<b>JF884BD</b>
3 Pole 400A MCCB Incomer Kit 50kA Electronic LSI MCCB	M12 Lug	<b>JF843BM</b>
4 Pole 400A MCCB Incomer Kit Electronic LSI MCCB	M12 Lug	<b>JF844BM</b>
3 Pole 630A MCCB Incomer Kit 50kA Electronic LSI MCCB	M12 Lug	<b>JF863BM</b>
4 Pole 630A MCCB Incomer Kit 50kA Electronic LSI MCCB	M12 Lug	<b>JF864BM</b>
*3 Pole 400A H3+ MCCB Incomer Kit 50kA Electronic LSI MCCB	M12 Lug	<b>JF843P4</b>
*4 Pole 400A H3+ MCCB Incomer Kit Electronic LSI MCCB	M12 Lug	<b>JF844P4</b>

\*Note Compatible with P range of MCCB's

## JF6/JF8 Surge Protection Kit

JF861SPD Type 1+2 Surge Protection Kit

## JF6/JF8 Incoming Meter Kit

JF803MID MID Multifunction Meter Pack

## JF6/JF8 Accessories

JF003BP	3P BLANKING PLATE 250A FRAME
JN001BP	1P BLANKING PLATE 125A FRAME
JFPLATE	JF4 & 8 ENDPLATE
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
JF805DK	DOOR KIT FOR SMALL SPREADER BOX
JF805E	SMALL SPREADER BOX (NO DOOR)
JF806E	LARGE SPREADER BOX (NO DOOR)
JF806DK	DOOR KIT FOR LARGE SPREADER BOX
JK222PK	KEY LOCK WITH ONE KEY

\*NOTE - Dimensions can be found on the hager web site [www.hager.com/uk](http://www.hager.com/uk).

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

[www.hager.com/uk](http://www.hager.com/uk)

**National Sales Hotline 01952 675612**

**National Tech Support helpline 01952 675689**

**ZD0741 issue 6**