Installation instructions,

Flush & Surface Flexible
Consumer Units
230 / 240V a.c.
BSEN61439-3

IMPORTANT INFORMATION

This unit should be installed by a qualified competent person in accordance with all relevant legislation and regulations including building regulations and wiring regulations BS7671. If in doubt contact a qualified competent person.

- **Turn off all power supplying this equipment before working on or inside the equipment.**
- **Always use a properly rated volt-sensing device to confirm the power is off.**
- **Replace all devices, doors and covers before turning on the power to this equipment.**
- **To avoid ingress of swarf and similar material, always remove gland plates to allow cutting/slotting for cable entries.**

Failure to follow these instructions could result in serious injury or death.

DO NOT USE POWER TOOL SCREWDRIVERS ON ELECTRICAL CONNECTIONS

The consumer unit and associated components are designed for use with copper cables and have been type tested to the following specifications: -

Consumer Unit	BSEN61439-3
MCB's	BSEN60898-1
RCD's	BSEN61008-1
RCBO's	BSEN61009-1
Main Switch	BSEN60947-3
Cartridge Fuses	BS1361 OR BS88

Ambient Temperature Considerations

The Loadstar range of MCB's is calibrated to meet the 30°C Ref Calibration Temperature requirements of BSEN 60898-1. At other temperatures the following rating factors should be used:-

At 60°C use 0.9	At 20°C use 1.0	At 0°C use 1.1

Adjacent thermal-magnetic MCBs should not be continuously loaded or approaching their nominal rated currents when mounted in enclosures. It is good engineering practice to apply generous derating factors or make provision for adequate free air between devices. In these situations, and in common with other manufacturers, we recommend a 60% diversity factor is applied to the MCB nominal rated current where it is intended to load the MCB's continuously (in excess of 1 hour).
Before fitting the front cover - **Check the tightness of all connections, including factory made connections.**

Device	Max. Cable Capacity	Recommended tightening torque
Main Switch / RCD	50mm²	2.3Nm
MCB	25mm²	2.3Nm
Standard RCBO	Outgoing connection - 16mm²	2.0Nm
	Busbar connection	2.5Nm
Earth & neutral terminals	16mm²	1.7Nm

Use No.2 Pozidrive bit

1. Fix unit to Wall

Remove the front cover by unscrewing the two screws under the visor. Remove knockouts to suit cable positions. Fasten the base of the enclosure to a flat wall or rigid surface.

2. Fit Circuit Breakers / RCBO's

Only Crabtree Loadstar 6MS range MCBs and 6FSR/6FSNR range RCBOs must be used within the Crabtree Loadstar range of units.
Fasten all circuit breakers directly onto the din rail.

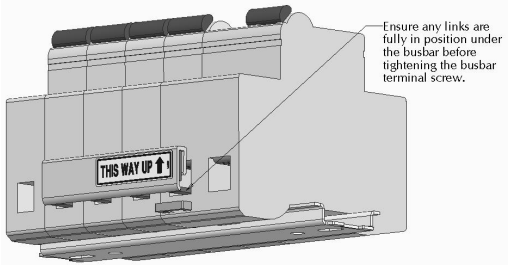
3. Cut busbar(s)

Cut busbars to suit the required number of circuit breakers / RCBO's.

IMPORTANT: - For split load, Dual RCD or High Integrity units cut all busbars to achieve the required split(s).
Note: - The user is advised to cut off any unused ways from the end(s) of busbar(s). Replacement busbars can be purchased, if required.

4. Install busbar(s)

Undo the bottom terminal screws on all devices, and the live terminal of the isolator and/or RCD(s). Insert the busbar(s) into the terminal cages with right hand end located within the isolator / RCD live terminal cage (see fig 1.0 for correct busbar orientation). Ensure the busbar is fully inserted above any cable links and where applicable within the top section of any protective devices (MCB(s)/RCBO(s)). Tighten all terminal screws starting with the isolator / RCD.



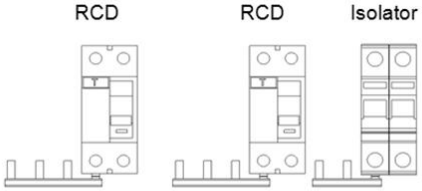


Illustration of a typical busbar fitting arrangement for a High Integrity unit

Fig. 1.1

5. Fit cover
Fit cover using screws provided and fit blanks into unused ways.

6. Circuit identification for split load units
The circuit identification label on the front of a split load unit shows the minimum number of ways, which can be protected by the RCD(s). More ways can be shown as protected by over-labelling with the continuation label supplied inside the unit.

7. Testing and Commissioning
Before the consumer unit and the installation of which it forms a part are commissioned they must be tested, in accordance with the requirements of the current edition of Requirements for Electrical Installations (BS 7671) published jointly by the British Standards Institute and the Institution of Engineering and Technology.

8. Consumer Unit Accessories
CABLE ENTRY PATTRESSES used with all metal consumer units allowing compliance with BS7671 416.2.2. IP4X can be maintained on the consumer unit's horizontal top surface by providing cable entry via rear knock outs.
Pattress cable entry slots can be provided top or bottom OR left or right.

Top / Bottom	Width	Left / Right	Width
MNSPE6584/1NR	7 module	MNSPE6670/1NR	7 module
MNSPE6584/2NR	10 module	MNSPE6670/2NR	10 module
MNSPE6584/3NR	13 module	MNSPE6670/3NR	13 module
MNSPE6584/4NR	16 module	MNSPE6670/4NR	16 module
MNSPE6584/5NR	21 module	MNSPE6670/5NR	21 module

Fire retardant CABLE MEMBRANE ENTRIES protect cables from damage and support compliance with the IP4X requirement BS7671 416.2.2.

CRCE1	Kit 1 – 3 x 32mm & 7 x 20mm
CRCE2	Kit 2 – 10 x 20mm

In line with published IET formal recommendation MAINS TAILS GLANDS will protect mains tails at their point of entry into all metal consumer units. Furthermore disturbance of mains tails within the consumer unit, up to their point of connection to the isolator, is restricted.

MTCG32	Tails Gland Kit (32mm)

INTUMESCENT STRIPS will dramatically subdue or fully extinguish any fire which may occur within a consumer unit. The addition of an intumescent strip within a correctly installed all metal consumer unit will support the requirement of BS7671 421.1.201 effectively containing and suppressing a fire at source.

CR0706FS	7 MODULE
CR1009FS	10 MODULE
CR1312FS	13 MODULE
CR1615FS	16 MODULE
CR2120FS	21 MODULE

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