

(GB) Design 10 Two Row Consumer Unit
Instructions/Data Sheet

This Consumer Unit and Hager devices conform with the following standards:
Consumer Unit: BS EN 61439-3 including Annex ZB.
Switch-disconnectors: BS EN 60947-3.
Residual Current Circuit Breaker (RCCB): BS EN 61008-1
Residual current operated circuit breaker with integral overload (RCBO): BS EN 61009-1
Miniature Circuit Breaker (MCB): BS EN 60898-1

Installation Instructions:

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 horizontal plane only.

For guidance when making connections in a consumer unit electrical safety first /BEAMA document "Guidance for installers when making connections in consumer units" is available from hager.co.uk/63026.htm

Important notice:

To prevent potential overheating from loose connections the installer shall check connections are tight to the torque levels stated in these

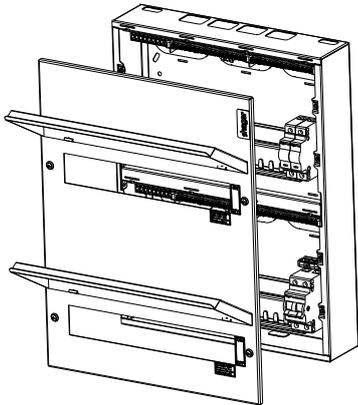
Additional Extras

Accessory	Ref.
Cable protector plate Can be used on the rear knockouts to smooth any sharp edges	Insulated: VM02CE Metal: VM01CE
Cable Clamp Can be used to clamp meter tails in place when entering main switch	VA10MT

instructions prior to energizing this board. This check should include factory made connections which may have loosened in transit.

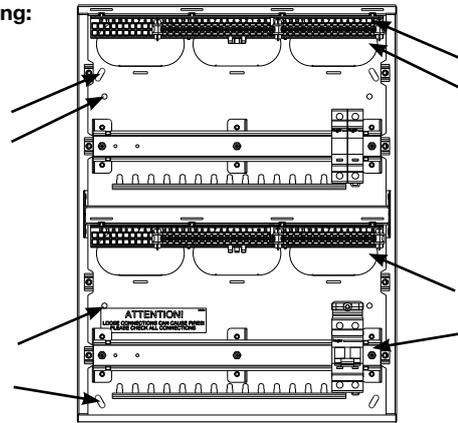
Good workmanship and proper materials must be applied by the installer. The cable entry method shall, as far as reasonably practical, maintain the non-combustable arrangement of the enclosure. Account shall be taken of these instructions.

Removal of Front Cover:



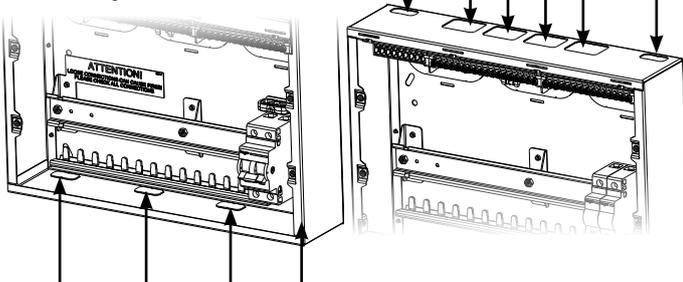
Lift door and loosen the two captive screws until the cover can be removed.

Wall Fixing:

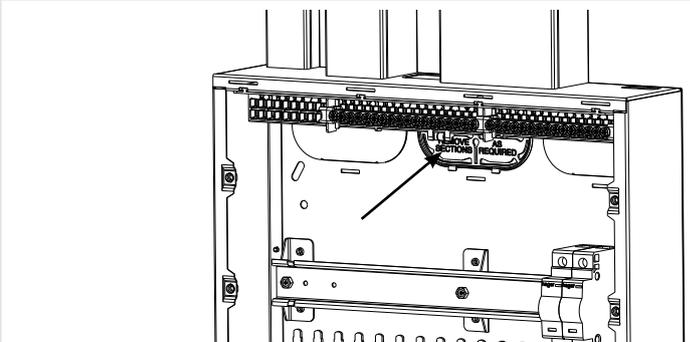


The units have multiple fixing points that will suit No.8 & No.10 screws

Cable entry facilities:



These metal units are provided with knockouts suitable for use with 100x50mm trunking, 50x50mm trunking, 40x25mm trunking and also large rear knockouts. Grommet strip is provide to protect the cables when entering the board.



Rear cable entries shall enter thorough selected rear Knockout; once the Knockout is removed apply the grommet strip provided. Grommet strip lengths: **Small EKO** – 79mm, **Large EKO** – 127mm **Rear EKO** – 255mm

Note: Only BASEC approved cable should be used
 1.0mm² to 16mm² for outgoing cables

Up to 35.0mm² for incoming live cables
 Single conductors below 1.5mm² need to be doubled back in the terminal bar

Guidance Notes:

The total load must not exceed the rating of the incoming device or the assigned assembly rating (InA) whichever is the lower. Each neutral and earth connection must correspond numerically to its outgoing way. Additional blanks (ref. JK01B) are available to cover spare ways.

A pack is provided to label this consumer unit, please consult us for spares or replacements.

Operating Instruction leaflet is provided overleaf. This leaflet should be left for the end user.

Single conductors below 1.5mm² need to be doubled back in the terminal bar.

Consumer Units incorporating RCDs in TT systems should incorporate an S type (time Delayed) RCCB, e.g. 100 mA s-type RCCB . Alternatively a main switch with RCBO protection on all outgoing circuits should be used.

Precautions need to be taken to prevent faults to earth on the supply side of the RCD (as per BS7671 regulation 531.4.1)

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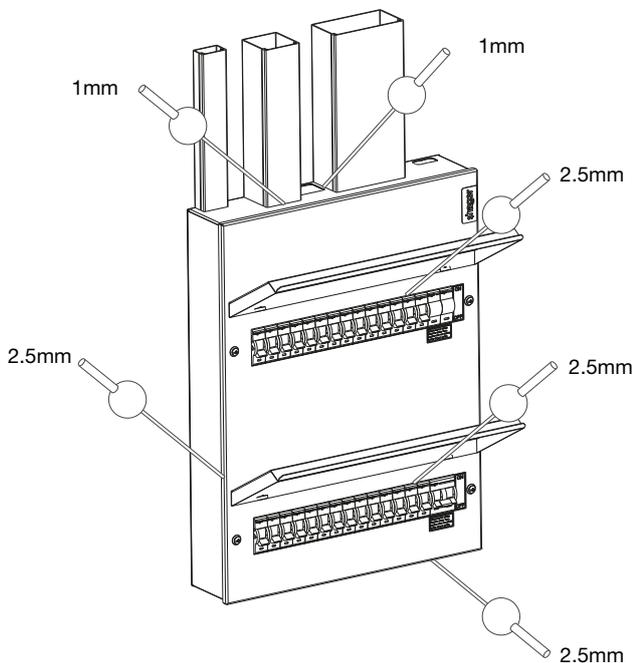
Cable Access:

Cable access into the metal consumer unit must maintain the integrity of the non-combustible consumer unit so far as reasonably practicable. This can generally be achieved by the installer ensuring that cable access holes they make in the enclosure do not leave gaps greater than:

- 1.0 mm for the horizontal top surface and
- 2.5 mm for all other surfaces of the enclosure that are accessible after installation.

For rear cable access, the minimum number of knockout(s) shall be removed.

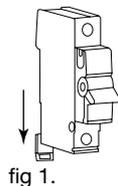
Tests on hager consumer units have indicated that there is no specific need for external fire rated cable glands or intumescent sealing in addition to the guidance below, with respect to achieving a non-combustible enclosure. However this does not preclude the designer/installer from using fire rated cable glands or external intumescent sealing should they consider necessary. Internal intumescent pads shall not be used.



Fitting Hager MCBs and RCBOs:

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

1. Isolate the electrical supply from the consumer unit.
2. Remove the front cover, by loosening the two captive screws.
3. Fully slacken the lower terminal of the device.
4. Fully open the bottom device clip (fig 1.)



5. Locate the device onto the din rail, and busbar. Ensure that the busbar tooth is within the device terminal cage.
6. Close the bottom device clip.
7. While holding the device firmly onto the busbar, fully tighten the lower terminal screw.
8. After fitting all outgoing devices and connecting all outgoing cables, please check the tightness of all cable connections. This should include all factory made connections, which may have loosened during installation or transit.

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.

For dimensional information and weights please consult the Hager catalogue.

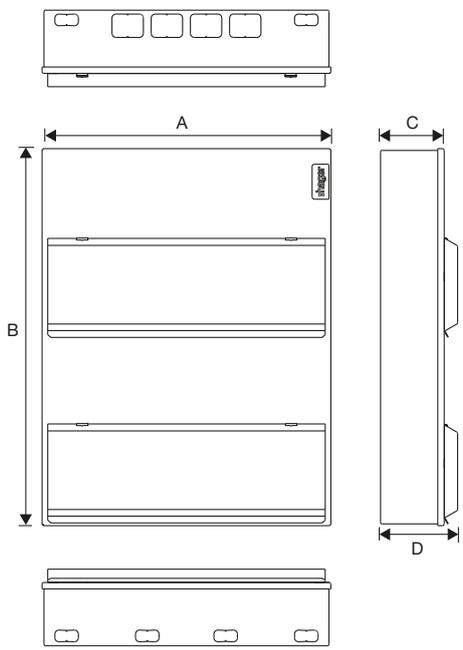
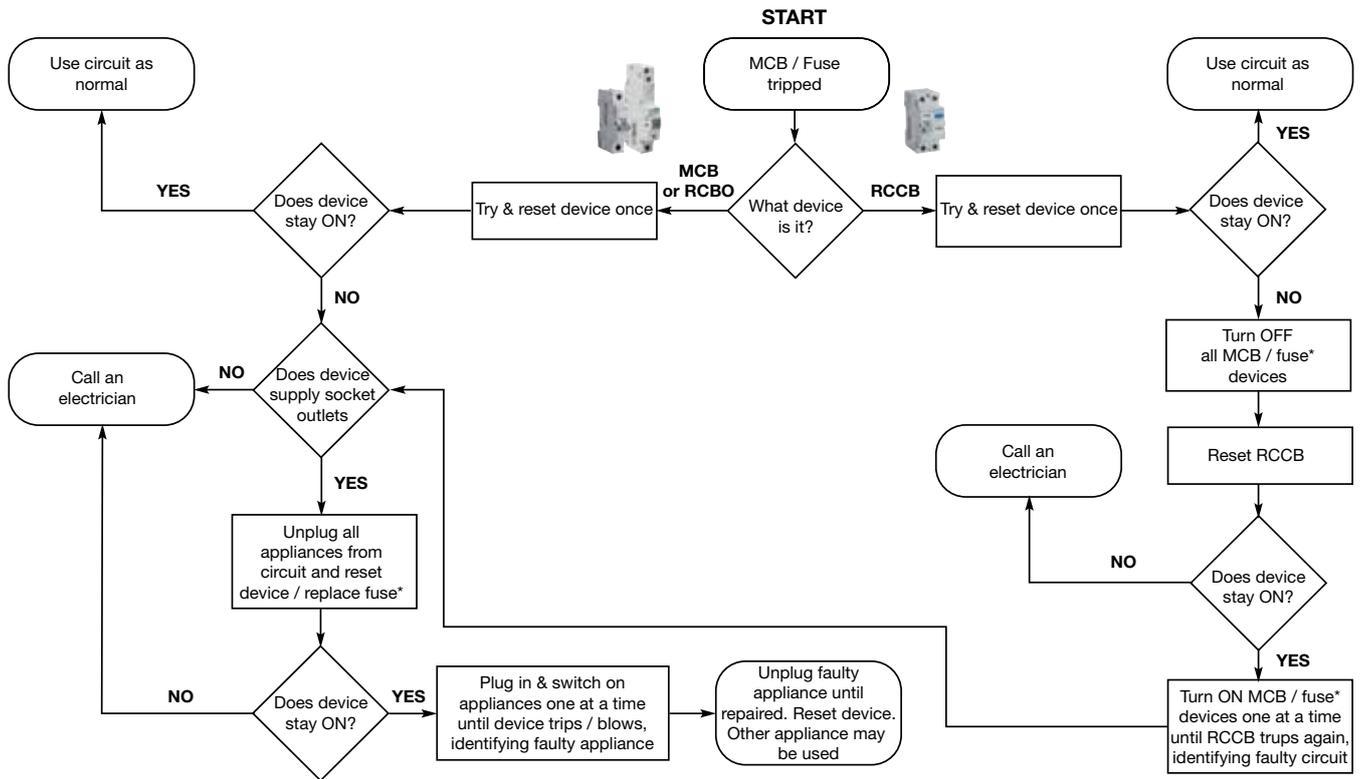
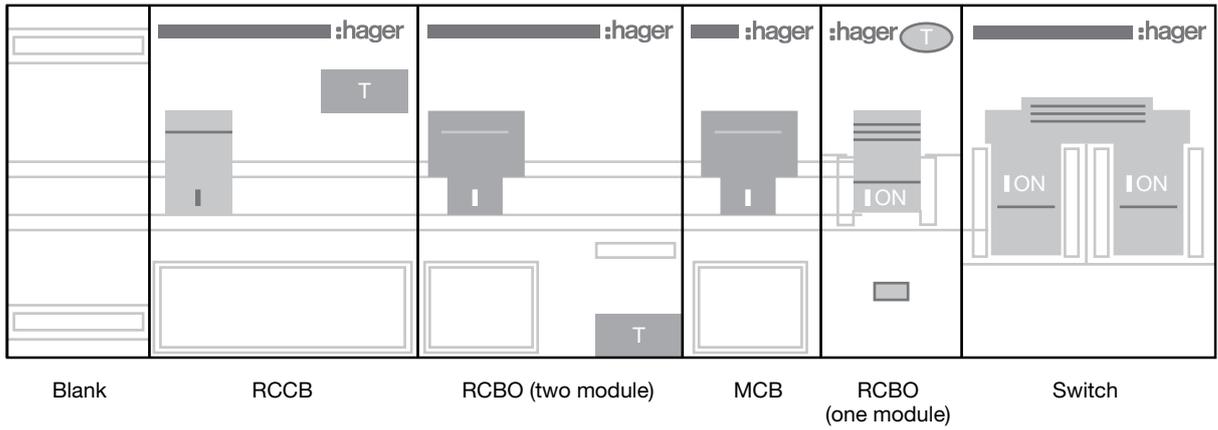
Hager Technical Help Line: 01952 675 689
 Hager Technical Fax: 01952 675 557
 Hager Technical E-mail: technical@hager.co.uk

Website: www.hager.co.uk

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Torque Settings			Cables >1.5mm ² Tightening torque (N.m)		Cables ≤1.5mm ² Tightening torque (N.m)		Cable Stripping (mm)
	Pz No.	(mm)	Single Cable	Multi Cables	Single Cable	Multi Cable	
Consumer unit terminals							
Earth and neutral terminal bars	2	6.5	2	2	1.5	1.5	10
Isolation							
SB switch disconnectors	2	6.5	3.6	3.6	3.6	3.6	15
Circuit protection							
MTN MCB	2	6.5	2.8	2.8	2.8	2.8	13
NBN/NCN/NDN MCB	2	6.5	2.8	2.8	2.8	2.8	13
RCBO	2	5.5	2.1	2.1	2.1	2.1	13
RCCB	2	5.5	2.8	2.8	2.8	2.8	13

Interface characteristics	
Rated & operational voltage (Un / Ue) 230V a.c. 50Hz	
Rated insulation voltage (Ui) 320V a.c. 50Hz	
Rated impulse withstand voltage (Uimp) 4kV	
Rated current of the Assembly (InA) 100A, 63A, 40A Note: Dependent upon rating of main incoming device	
Rated current of an Outgoing circuit (Inc) MCB 6A - 63A (marked rated current on device) RCBO 6A - 50A (marked rated current on device)	Rated current of outgoing unit (Inc) RCCB 40A -100A (marked rated current on device)
Rated conditional short-circuit current of the ASSEMBLY (Icc) Annex ZB: 16 kA rms at 250V, power factor 0.6 with equipment and arrangements specified in Hager's technical documentation / catalogue.	
Protection against electric shock Consumer unit shall be installed in an electrical system conforming to the current edition of IEC 60364 / BS 7671	
Rated diversity factor (RDF) / Values of assumed loading 1way = 1.0 2way - 3way = 0.8 4way - 5way = 0.7 6way - 9way = 0.6 10way and above = 0.5	Note: RDF only applies to continuously and simultaneously loaded circuits. In principle, this means adjacent circuit-breakers having a load 'on' time exceeding 30 minutes or where a load not exceeding 30 minutes has an 'off' time less than the 'on' time, will need to have the rated diversity factor applied as indicated.
Rated frequency (fn) 50 Hz	
Pollution degree 2	
Types of system earthing for which the ASSEMBLY is designed TNC-S, TN-S when installed in an electrical installation complying with BS 7671 Hager recommends for TT systems a 100A type S time delayed RCCB or a main switch with RCBO protection only on all outgoing circuits.	
Indoor use only	
Stationary ASSEMBLY	
Degree of protection IP2XC with Door Open / closed and full compliment of outgoing devices and or blanks fitted. Note: Where cables are installed through top wall of enclosure, gaps of IP4X to be maintained.	
Intended use Intended for use in domestic (residential) or similar premises.	
Electromagnetic compatibility (EMC) classification EMC Environment B	
External design VML: Wall-mounted, surface type, enclosed assembly.	
Mechanical impact protection IK 05	
The type of construction Fixed parts	
Type A DBO (Distribution board for use by ordinary persons)	



Design 10

Dimensions (mm)	Enclosure Size			
	3	4	5	7
A	227	299	370	478
B	486	486	486	486
C	83	83	83	83
D	100	100	100	100