

GB Design 50 Flush 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

Passed hot-wire fire test for "non-combustible enclosure" in context of Regulation 421.1.201 indent (i) in BS 7671.

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.

Important notice:

To prevent potential overheating from loose connections the installer shall check connections are tight to the torque levels stated in these instructions prior to energizing this board. This check should include factory made connections which may have loosened in transit.

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)

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

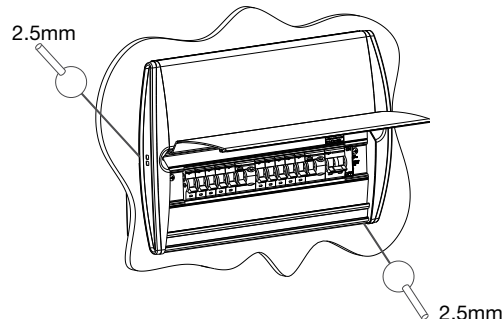
Cable Access:



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:

- 2.5 mm for all other surfaces of the enclosure that are accessible after installation.

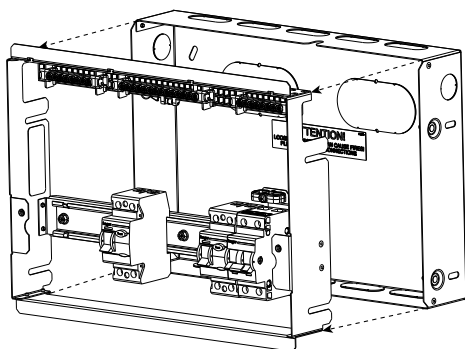
For rear cable access, the minimum number of knockout(s) shall be removed.

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.



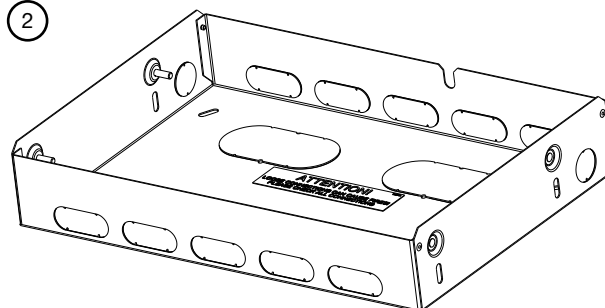
Torque Settings			Cables >1.5mm² Tightening torque (N.m)		Cables ≤1.5mm² Tightening torque (N.m)		Cable Stripping (mm)
	Pz No.	(mm)	Single Cable	Multi Cables	Single Cable	Multi Cable	
Consumer unit terminals							
Earth and neutral terminal bars	2	6.5	2	2	1.5	1.5	10
Isolation							
SB switch disconnectors	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

1



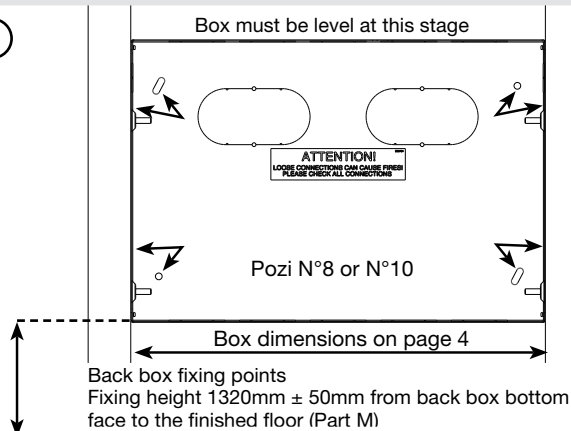
Remove internal chassis.
(No requirement to disconnect factory cable connections)

2



Remove required KO's before fixing to stud wall & use provided grommet strip or grommet accessory VMGROM for cable protection

3



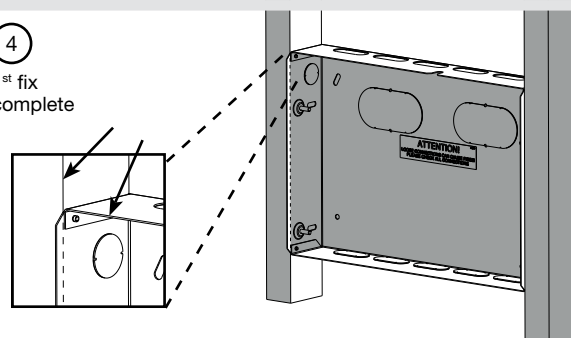
Box must be level at this stage

Box dimensions on page 4

Back box fixing points
Fixing height 1320mm \pm 50mm from back box bottom face to the finished floor (Part M)

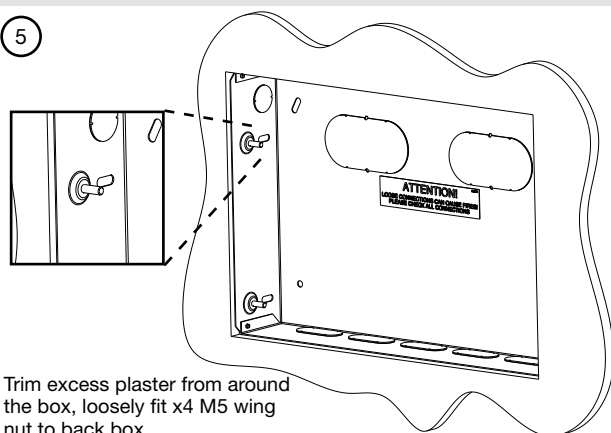
4

1st fix complete



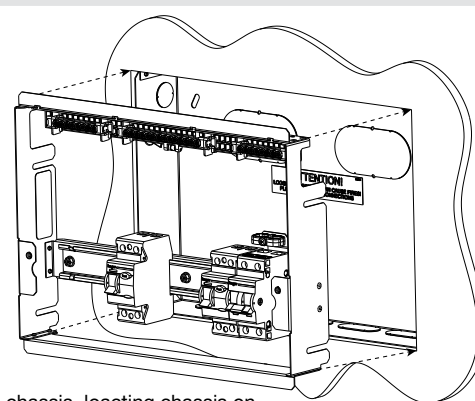
Top & bottom edge to be flush with front of stud work, with left and right edges protruding slightly from stud work

5



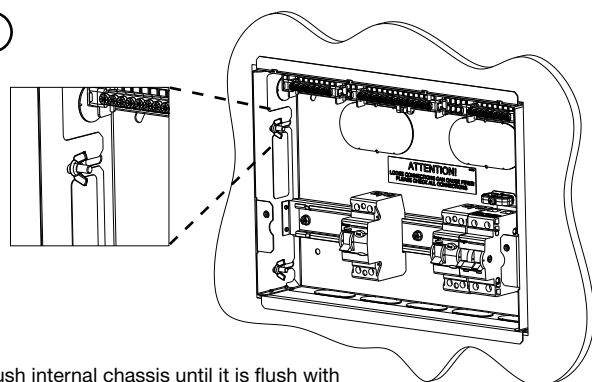
Trim excess plaster from around the box, loosely fit x4 M5 wing nut to back box

6



Offer up internal chassis, loading chassis on the metal studs

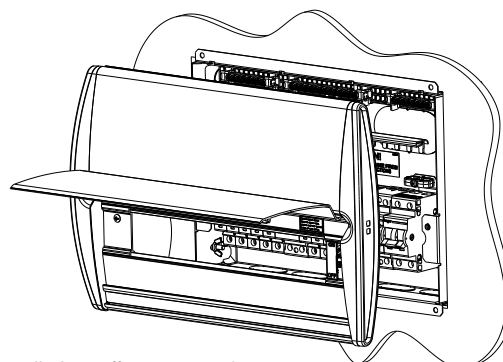
7



Push internal chassis until it is flush with the wall surface. Tighten x4 M5 wing nut to secure internal chassis

8

2nd fix complete



After wiring installation, offer up cover & door assembly, secure with the captive screws.

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	
Note: Dependent upon rating of main incoming device	
Rated current of an Outgoing circuit (Inc) Circuit next to an RCCB: MCB & RCBO 6-50A (marked rated current on device) All other circuits MCB 6A - 63A (marked rated current on device) All other circuits RCBO 6A - 50A (marked rated current on device)	Rated current of outgoing unit (Inc) RCCB 80A (marked rated current on device) RCCB 63A
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.	
Intended use Intended for use in domestic (residential) or similar premises.	
Electromagnetic compatibility (EMC) classification EMC Environment B	
External design VSR: Wall-mounted, enclosed assembly.	
Mechanical impact protection IK 05	
The type of construction Fixed parts	
Type A DBO (Distribution board for use by ordinary persons)	

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 sales 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.

Accessories

Open Hole Grommet 38mm (10 Pack)	VMGROM
Cable Protector Plate	VM02CE
Label Pack	VAP00
1 Module Busbar Blank (25 pack)	JK01B

Hager Technical Service Centre: 01952 675 689
Hager Technical Fax: 01952 675 557

Hager Sales Service Centre: 01952 675612

Website: www.hager.co.uk
E-mail us: info@hager.co.uk
Twitter: @hageruk

Fitting Hager MCBs and RCBOs:

Only equipment and arrangements specified in Hager's technical documentation / catalogue shall be used.
Isolate the electrical supply from the consumer unit.

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.

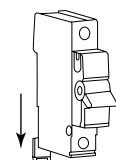
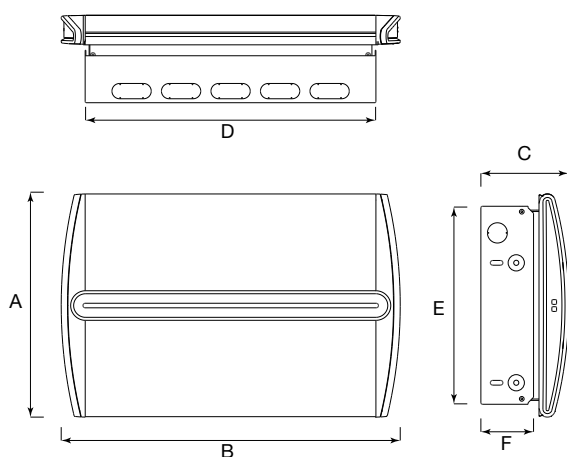
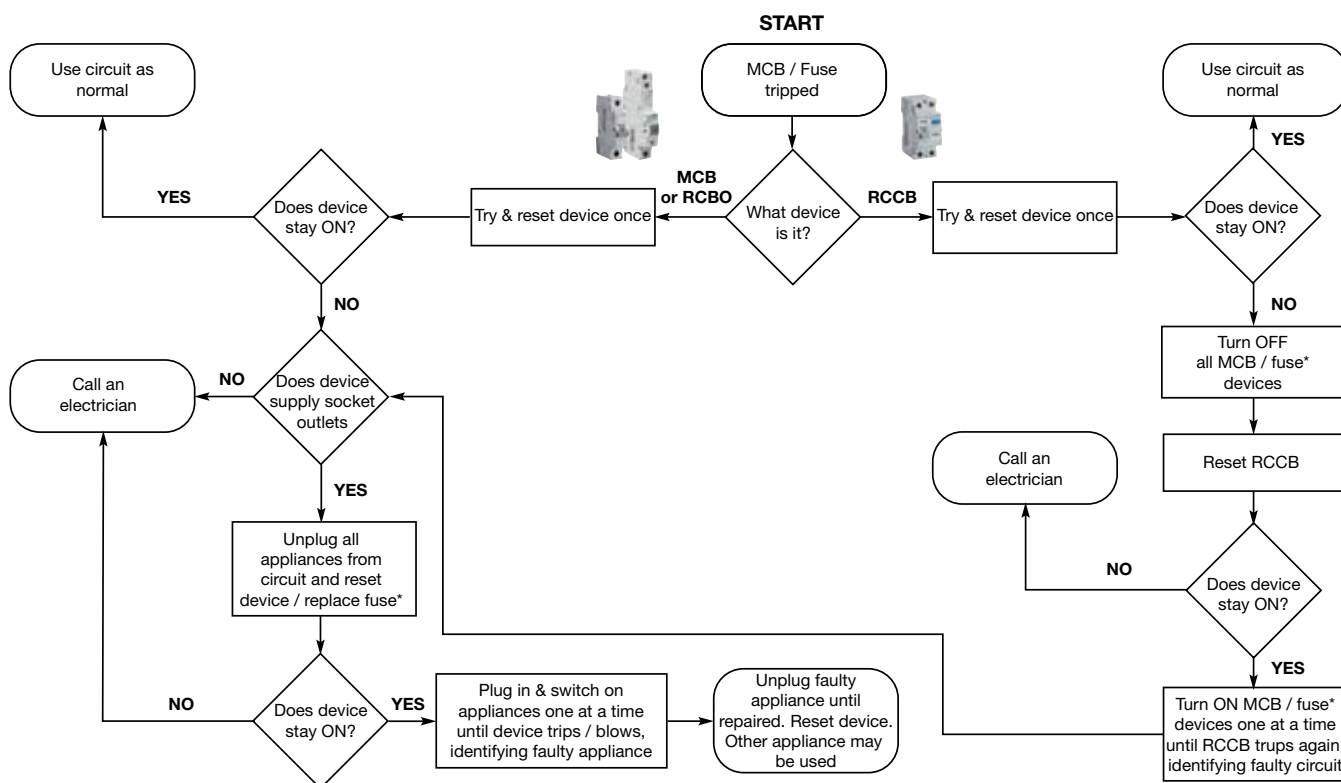
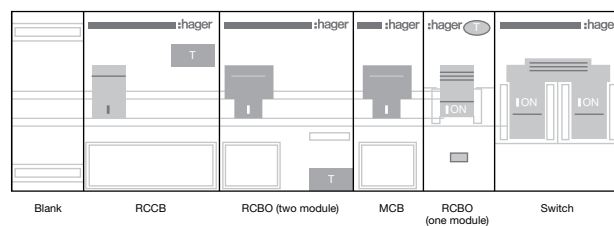


fig 1.



	SIZE 4	SIZE 5	SIZE 6	SIZE 7
	VSR110	VSR114	-	VSR120
	-	VSR710C	VSR712C	VSR716C
	-	VSR810C	VSR812C	VSR816C
	12 MOD	16 MOD	18 MOD	22 MOD
A	284	284	284	284
B	359	431	467	539
C	105	105	105	105
D	298	370	406	478
E	252	252	252	252
F	72	72	72	72