

REGULATION 421.1.201

From January 2015 Amendment No. 3 to BS 7671 IET Wiring Regulations prescribe that within domestic (household) premises, consumer units and similar switchgear assemblies shall have their enclosures manufactured from non combustible material, or be enclosed in a cabinet or enclosure constructed of non combustible material and comply with product standard BS EN 61439-3.

What are Domestic Household Premises ?

Typical Domestic household premises would include single and multiple occupancy homes such as Houses, Bungalows, High Rise & Low Rise Flats, Apartments, Student lets, Sheltered Accommodation, Farmhouses, Houseboats, Static Homes, Home Office, attached Garages, Workshops and Detached Summerhouses etc.

What is Non Combustible Material ?

There are many types of non combustible material however, amendment 3 of the 17th Edition regulations provides an acceptable example as ferrous metal i.e. Steel Consumer Units.

What is an Enclosure ?

An enclosure means the box, cover, door, hinges, handle and any components required to maintain the integrity of the unit. All of the consumer unit enclosure must be manufactured from a non combustible material so as to limit the spread of fire.

What is Similar Switchgear ?

Similar switchgear is switchgear that is used for the same fundamental application as a consumer unit i.e. a circuit protection assembly with two pole isolator and one or more circuit protection devices, e.g. domestic fuse switch or garage unit etc.

What are Cabinets ?

Typical cabinets are meter cabinets that are normally built into the fabric of the building and that may or may not include consumer units within. If the cabinet is of an all metal construction (non-combustible), then a standard skeleton spine unit can be installed within. If the cabinet is not non-combustible, a metal unit is required.

What about Cable Entry ?

As usual good workmanship and proper materials should be applied to all installation work. Consumer units must be installed to achieve IP4X on the top elevation (regulation 416.2.2) and IP2XC on all other elevations. This can be achieved by use of cable entry accessories such as consumer unit pattress or other means such as glanding. In all cases mains tails should be protected at the point of entry into the metal enclosure to protect against the possibility of mechanical damage or disturbance to connections i.e. by use of a mains tails gland.



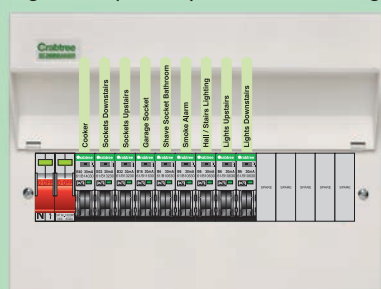
CONSUMER UNITS FOR USE IN DOMESTIC HOUSEHOLD PREMISES

Amendment No3 has brought about the requirement for 'all metal' non combustible enclosures for consumer units and similar switchgear. This is in addition to the requirements for additional protection, which are summarised below, within domestic household premises;

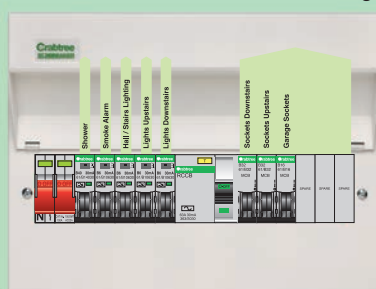
- All socket outlets should be protected by 30mA RCD*
- All circuits serving or passing through a room with a fixed bath or shower should be protected by one or more 30mA RCDs**
- All cables buried beneath the plaster surface of the wall or partition (at less than 50mm) should be protected by 30mA RCDs***
- All cables concealed in metal stud partitions (common in new builds) should be protected by 30mA RCDs***
- Installations should be divided up into circuits so as to take account of danger and inconvenience caused by a single fault - e.g. such as a lighting circuit****
- Installations should be designed and arranged so as to prevent unwanted tripping of RCDs*****
- Safety services such as smoke alarms should be on independent circuits*****

REGULATIONS	RELATING TO:	EXAMPLES	ADDITIONAL PROTECTION
411.3.3*	Sockets up to a 20A rating	Upstairs Sockets Downstairs Sockets Kitchen Sockets Cooker outlet with integral 13A socket Garage Sockets Plus any other sockets up to 20A rated	30mA RCD Taking into account 3.14.1 ***** 3.14.2 *****
701.411.3.3**	All Circuits serving a room containing a fixed bath or shower or circuits not serving but passing through zones 1 or 2 of a room containing a fixed bath or shower.	Shower circuit Lighting circuit Heating circuit Ventilation circuit Plus Other circuits	30mA RCDs Taking into account 3.14.1 ***** 3.14.2 *****
522.6.200 series*** and 560.7.1*****	All circuits buried in a wall or partition at less than 50mm and without mechanical protection	Downstairs Lighting Upstairs Lighting Immersion heater Smoke Alarms (Safety service) Burglar Alarm Plus any other circuits	30mA RCD Taking into account 3.14.1 ***** 3.14.2 *****

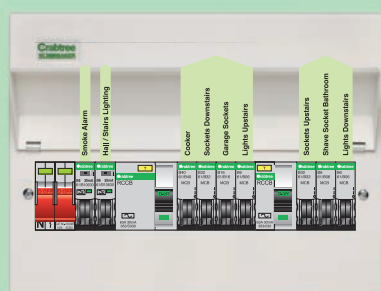
- 1 The IET onsite guide also recommends that where metal consumer units are installed into TT systems protection from faults arising from the possibility of mains tails becoming loose and making contact with the metal enclosure by incorporating into the installation a 100mA time delayed (S type) RCCB.
- 2 Furthermore in all cases the mains tails should be protected at the point of entry into the metal enclosure by use of a mains tails gland to protect against the possibility of mechanical damage and or disturbance that could lead to tails becoming loose and making contact with the metal enclosure.



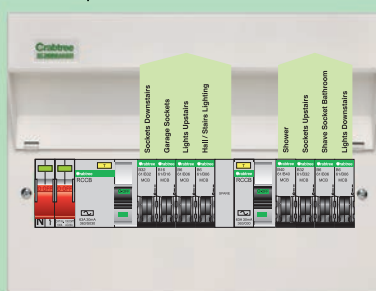
ALL INDEPENDENT CIRCUITS
Full metal Main Switch unit with RCBOs



HALF INDEPENDENT CIRCUITS
Full metal Split Load unit with RCBOs and MCBs



SOME INDEPENDENT CIRCUITS
Full metal High Integrity unit with RCBOs and MCBs



NO INDEPENDENT CIRCUITS
Full metal Dual RCD unit with MCBs



TT SYSTEM
All independent circuits & 100mA Time Delay RCD

- * Regulation 411.3.3 socket outlets with a rated current not exceeding 20A.
- ** Regulation 701.411.3.3 Additional protection shall be provided for all circuits serving the location and any circuits not serving but passing through zones 1 or 2 of the location by use of one or more 30mA RCD.
- *** Regulations in the 522.6.200 series, cables concealed in a wall or partition at less than 50mm depth and without earthed mechanical protection e.g. conduit.
- **** Regulation 314.1 Every installation shall be divided into circuits as necessary to avoid danger and inconvenience in the event of a fault, take account of danger that may arise from the failure of a single circuit such as a lighting circuit, reduce the possibility of unwanted tripping of RCDs etc.
- **** Regulation 314.2 Separate circuits to be provided for parts of the installation that need to be separately controlled in such a way that those circuits are not affected by the failure of other circuits.
- ***** Regulation 560.7.1 Chapter 56 circuits for safety services shall be independent of other circuits.

In addition Chapter 51 requires designers/installers to take account of all relevant British Standards and manufacturers instructions. For example BS5839 Part 6 is the British Standard for fire detection and alarm systems in dwellings. It states that power supplies to Grade D smoke alarms should be an independent circuit at the consumer unit, or a separately electrically protected local lighting circuit.

Regulation 416.2.2 requires that the installed consumer unit achieves IP4X (1mm probe) on the top elevation. All other elevations should be to IP2XC (2.5mm probe).

- Full metal enclosure, no exposed plastic parts
- Low Smoke & Fume paint
- Top hinged self closing, stay shut door & metal hinges
- Cable entry knockouts on all sides & large square knockouts on the rear
- Mains tails cable entry gland for supplementary insulation similar to Class II level of protection to tails
- Non combustible cover blanks for unused ways
- Plug in MCB & RCBO 25% fewer screw terminals to make - significantly reducing risk of loose connections
- Add or upgrade circuits without removing busbar - no need to disturb adjacent devices - reducing risk of installation errors
- RoHS compliant in excess of UK standards
- UKAS certified to BS EN 61439-3



- Finger safe, insulated busbar assembly - provides greater personal protection
- Permanent factory fitted, non removable busbar shield - can't be lost or left out
- Plug in MCB and RCBOs for instant guaranteed connections
- Extra height for added wiring space with single module RCBOs
- DIN control devices can be fitted in any position along the DIN rail - without affecting any other devices or busbar connections
- High capacity neutral & earth terminals
- Factory fitted incoming devices for reduced installation time



513/236565B

HIGH INTEGRITY DUAL RCD UNITS

MS Rating	Total Ways	Main Switch	RCCB 1 63A 30mA	RCCB 2 63A 30mA	Metal
100A	8	2	3	3	508/226363B
100A	13	2	6	5	513/226665B
100A	13	2	7	4	513/226764B
100A	13	2	8	3	513/226863B
100A	13	3	5	5	513/236565B
100A	13	3	6	4	513/236664B
100A	13	3	7	3	513/236763B
100A	13	4	5	4	513/246564B
100A	13	4	6	3	513/246663B
100A	13	5	4	4	513/256464B
100A	13	5	5	3	513/256563B
100A	13	6	4	3	513/266463B

MS Rating	Total MCB Ways	Main Switch	RCCB 1 80A 30mA	RCCB 2 80A 30mA	Metal
100A	9	1	4	4	509/218484B
100A	13	3	5	5	513/238585B

MS Rating	Total MCB Ways	Main Switch	RCCB 1 80A 30mA	RCCB 2 63A 30mA	Metal
100A	13	3	5	5	513/238565B
100A	13	2	6	5	513/228665B



513/2837636B

DUAL RCD SPLIT LOAD UNITS

MS Rating	Total MCB Ways	Main Switch	RCCB 1 63A 30mA	RCCB 2 63A 30mA	Metal
100A	13	0	7	6	513/2637636B
100A	13	0	8	5	513/2638635B
100A	13	0	9	4	513/2639634B

MS Rating	Total MCB Ways	Main Switch	RCCB 1 80A 30mA	RCCB 2 63A 30mA	Metal
100A	8	0	4	4	508/2834634B
100A	13	0	7	6	513/2837636B
100A	13	0	8	5	513/2838635B
100A	13	0	9	4	513/2839634B



518/383B

RCD INCOMER UNITS

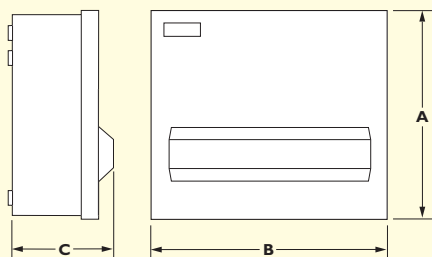
RCCB Rating	Total MCB Ways	RCCB	Metal
40A 30mA	2	2	502/343B
63A 30mA	2	2	502/363B
40A 30mA	4	4	504/343B
80A 30mA	4	4	504/383B
40A 30mA	7	7	507/343B
80A 30mA	7	7	507/383B
80A 30mA	10	10	510/383B
100A 30mA	10	10	510/313B
80A 30mA	13	13	513/383B
100A 30mA	13	13	513/313B
80A 30mA	18	18	518/383B
100A 30mA	18	18	518/313B

RCD INCOMER UNIT WITH MCBs

RCCB Rating	MCB 1 (B)	MCB 2 (B)	Metal
63A 30mA	2	2	502/363GU

DIMENSIONS

METAL ENCLOSURES



STARBREAKER SIZE 4 ENCLOSURE (504/0A)

DIMENSIONS A=185mm B=130mm C=104mm

502/26B 502/343B 502/363GU
502/2B 502/363B

STARBREAKER SIZE 6 ENCLOSURE (506/0A)

DIMENSIONS A=261mm B=188mm C=121mm

504/2B 504/383B
504/343B

STARBREAKER SIZE 9 ENCLOSURE (509/0A)

DIMENSIONS A=261mm B=242mm C=121mm

504/2263B 507/2B
505/232B 507/383B
507/343B

STARBREAKER SIZE 12 ENCLOSURE (512/0A)

DIMENSIONS A=261mm B=292mm C=121mm

507/2263B 507/2563B 510/2B
507/2283B 507/2583B 510/313B
507/2363B 508/232B 510/383B
507/2383B 508/242B
507/2463B 508/252B
507/2483B 508/262B

STARBREAKER SIZE 15 ENCLOSURE (515/0A)

DIMENSIONS A=261mm B=343mm C=121mm

508/22623B 510/2683B
508/226363B 510/2763B
508/2834634B 511/242B
509/242124B 511/252B
510/2363B 511/262B
510/2383B 511/272B
510/2463B 511/282B
510/2483B 513/2B
510/2563B 513/313B
510/2583B 513/383B
510/2663B 509/218484B

STARBREAKER SIZE 20 ENCLOSURE (520/0A)

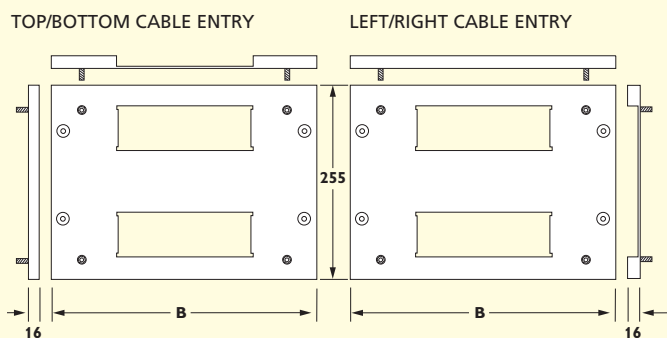
DIMENSIONS A=261mm B=438mm C=121mm

513/226764B 513/256563B 515/2183B 516/212B 513/238565B
513/226863B 513/2637636B 515/2563B 516/262B 513/228665B
513/23624B 513/2638635B 515/2663B 516/272B
513/236565B 513/2639634B 515/2683B 516/282B
513/236664B 513/266463B 515/2763B 516/292B
513/236763B 513/2837636B 515/2783B 518/2B
513/23824B 513/2838635B 515/2863B 518/313B
513/246564B 513/2839634B 515/2883B 518/383B
513/246663B 514/272126B 515/2963B 512/2683B
513/25626B 514/282125B 515/2983B 513/226665B
513/256464B 515/2163B 516/2112B 513/238585B

CONSUMER UNIT PATTRAESSES

ENCLOSURE	PATTRAESSES	LEFT/RIGHT	TOP/BOTTOM
WIDTH	DEPTH	ENTRY	ENTRY
6 Module	16mm	MNSPE6670/1NR	MNSPE6584/1NR
9 Module	16mm	MNSPE6670/2NR	MNSPE6584/2NR
12 Module	16mm	MNSPE6670/3NR	MNSPE6584/3NR
15 Module	16mm	MNSPE6670/4NR	MNSPE6584/4NR
20 Module	16mm	MNSPE6670/5NR	MNSPE6584/5NR

For use with Crabtree All Metal consumer units. Allows surface cable entry through rear knockouts and automatically maintains enclosure IP rating to comply with BS7671 and BSEN61439-3 and the IET onsite guide.



Cable entry slot line up with rear knockouts, the minimum number of knockouts only should be removed for cable entry.

Suitable for use with trunking systems.