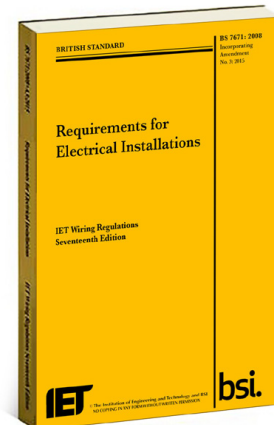




17<sup>TH</sup> EDITION AMENDMENT THREE

WORLD LEADERS IN  
LOW VOLTAGE DISTRIBUTION SYSTEMS



### Amendment No. 3 BS 7671 & Consumer Units for use in Domestic (Household) Premises

#### 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. Other types of building you may need to consider (these may be commercial ventures) but also where people live and guests sleep overnight such as guest houses, hostels, bed & breakfast accommodation, nursing homes 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?

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

#### What is Similar Switchgear?

Similar switchgear is switchgear that is used for the same fundamental application i.e. a circuit protection assembly with two pole isolator and one or more circuit protection devices, e.g. fuse switch, garage unit or PV switchgear 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 consumer unit (FAL) can be installed within. If the cabinet is of a combustible material, a metal consumer unit is required.



### Shayla Electrical Limited

With our headquarters in Hythe on the South Coast near Southampton, Shayla Electrical Limited provide superior services for the United Kingdom's electrical industry, serving the domestic, industrial and commercial sectors.

Shayla Electrical Limited brings a fresh and innovative approach to the design and manufacturing of low voltage power distribution systems, as liaison between the installer and the end-user. Our goal is to exceed the expectations of every customer by offering outstanding customer service, increased flexibility, and greater value, thus optimizing our products functionality and improving efficiency. Our team are distinguished by their worldwide functional and technical expertise combined with their hands-on experience, thereby ensuring that our customers receive the most effective and professional service.

As experts in low voltage distribution management systems, Shayla Electrical Limited is involved in every stage of the customer's selection of installation, from implementation to completion, offering continual functional and technical support. Our extensive skills encompass all aspects of installation and operation, development of functional specifications for installer approval, product design, and overseeing research and development teams customising our products to fit specific Installer needs.

Typically, we are at the customer's request, handling all their contact, providing functional and technical training and support, and resolving any and all troubleshooting issues that arise when the customer initiates our products in a live setting. Unlike other manufacturers, at Shayla Electrical Limited we possess the experience in low voltage distribution products across all disciplines.

Our Team are well versed in all aspects of research management, from developing products to the manufacturing productivity, this enables us to establish and maintain business partnerships. We pride ourselves on our proven track record for effectively producing quality worldwide accepted products. This is due to effectively directing team members in the development of low voltage distribution modifications to ensure that all business requirements are met within budget restraints and time schedules. In addition, Shayla Electrical Limited has experience within all the commercial selling processes from design to installation.

In order to meet the individual needs of all our customers, Shayla Electrical Limited maintains a wide range of stock. We excel in the delivery chain and our friendly helpful team strive to exceed our customers' expectations. Our extensive knowledge base entails technical interfacing with wholesalers and installers, including future designs, which keeps us ahead of the market. Our functional and technical experience extends to interfacing with the whole market chain.

Shayla Electrical Limited are continually expanding upon our knowledge and services to assist customers with successfully implementing their low voltage distribution management systems in multiple markets across the UK. Exceptional functional and technical expertise coupled with extensive industry knowledge makes Shayla Electrical Limited the ideal choice for a safe and life changing installation system.

**Nigel Owen** C.Eng MIEE  
Sales Director  
Shayla Electrical Limited





The most important change from the 16th to the 17th Edition is the increased use of residual current devices. Previously, RCDs have only been required to protect socket outlets for use outdoors (where disconnection times were unable to be achieved), and special locations.

With the introduction of the 17th Edition, this has changed, the term ‘Additional Protection’ is used throughout the publication. The use of RCDs are recognised as a means of providing additional protection in the event of a failure of the provision for basic protection, as an additional means of fault protection, and to protect against carelessness by users.

If an RCD is used to provide Additional Protection it must then meet the requirements of the regulation 415.1.1. That is, that the RCD must have a rated residual operating current not exceeding 30mA, and an operating time not exceeding 40ms at 5x the rated current.

The 17th Edition refers to various applications and installations which require additional protection by the means of the aforementioned RCD.

The first of which is found in Regulation 411.3.3, which has been modified in Amendment 3, where by additional protection is required for:

- a). **Socket outlets with a rated current not exceeding 20A**
- b). **Mobile equipment with a current rating not exceeding 32A for use outdoors**

An exception to ‘a’ is permitted:

- 1). **Where, other than for an installation in a dwelling, a documented risk assessment determines that the RCD protection is not necessary, or**
- 2). **For a specific labelled or otherwise suitably identified socket outlet provided for connection of a particular item of equipment**

This regulation has been modified in Amendment 3 to provide less exceptional circumstances where RCD’s may not be used. The document doesn’t define the risk assessment, but the installer should consider each individual socket in all areas, and should include consideration and timings for regular assessments. Labelling could be interpreted as a socket outlet marked ‘fridge’, ‘freezer’. ‘I.T.’

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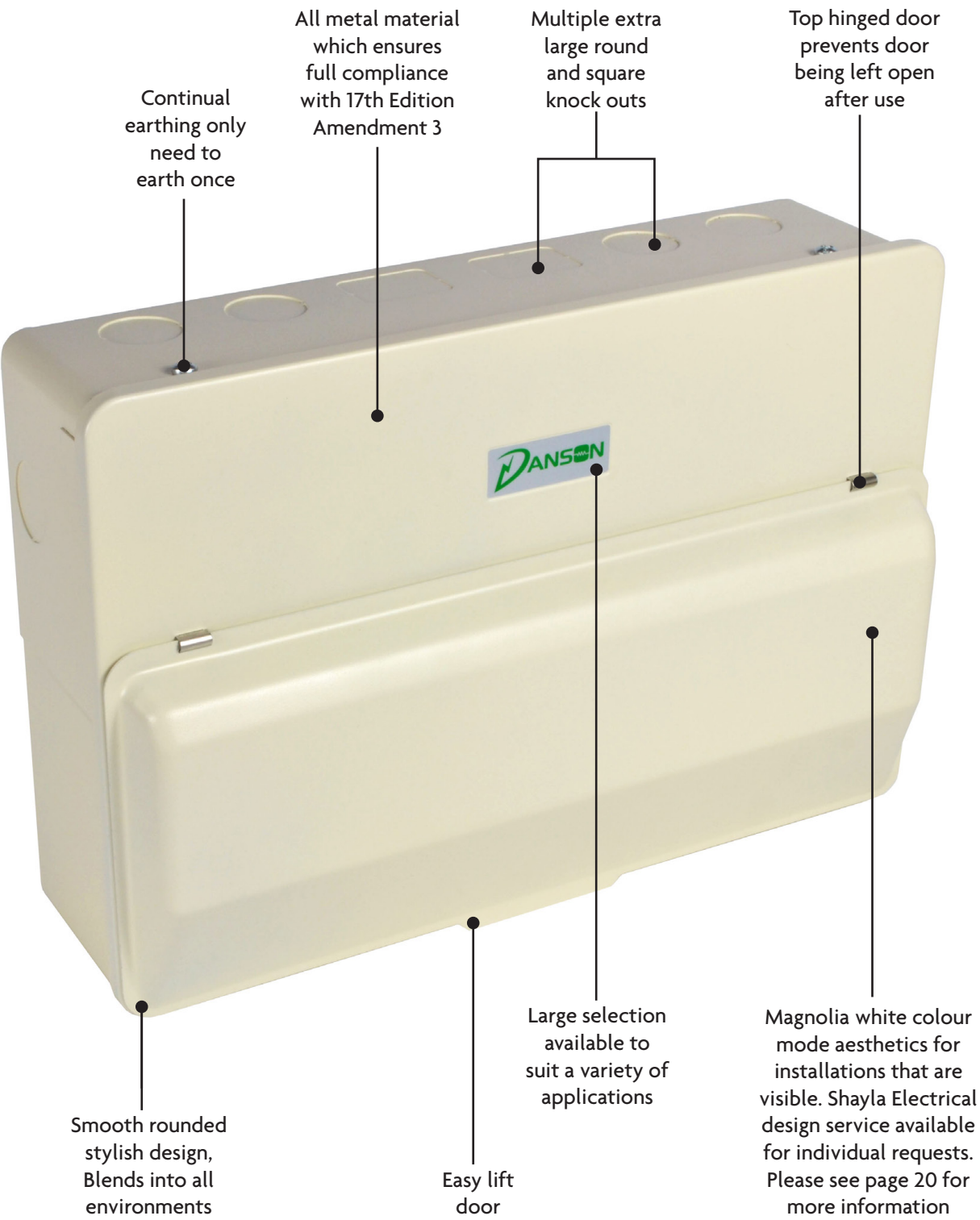
Features and Benefits

Regulation 421.1.201 – Protection against thermal effects – Consumer Units

The London Fire Brigade has been at the forefront in the key edits to Amendment 3 requirements that will directly improve personal safety and release the risk of residential fires.

This was as a result of arcing on cables where the tightening of terminals had not been sufficient, resulting in the overheating of terminals which eventually ignited the plastic enclosures.

Consequently, Amendment 3 introduces a new regulation (421.1.201) relating to the enhancement of fire safety.

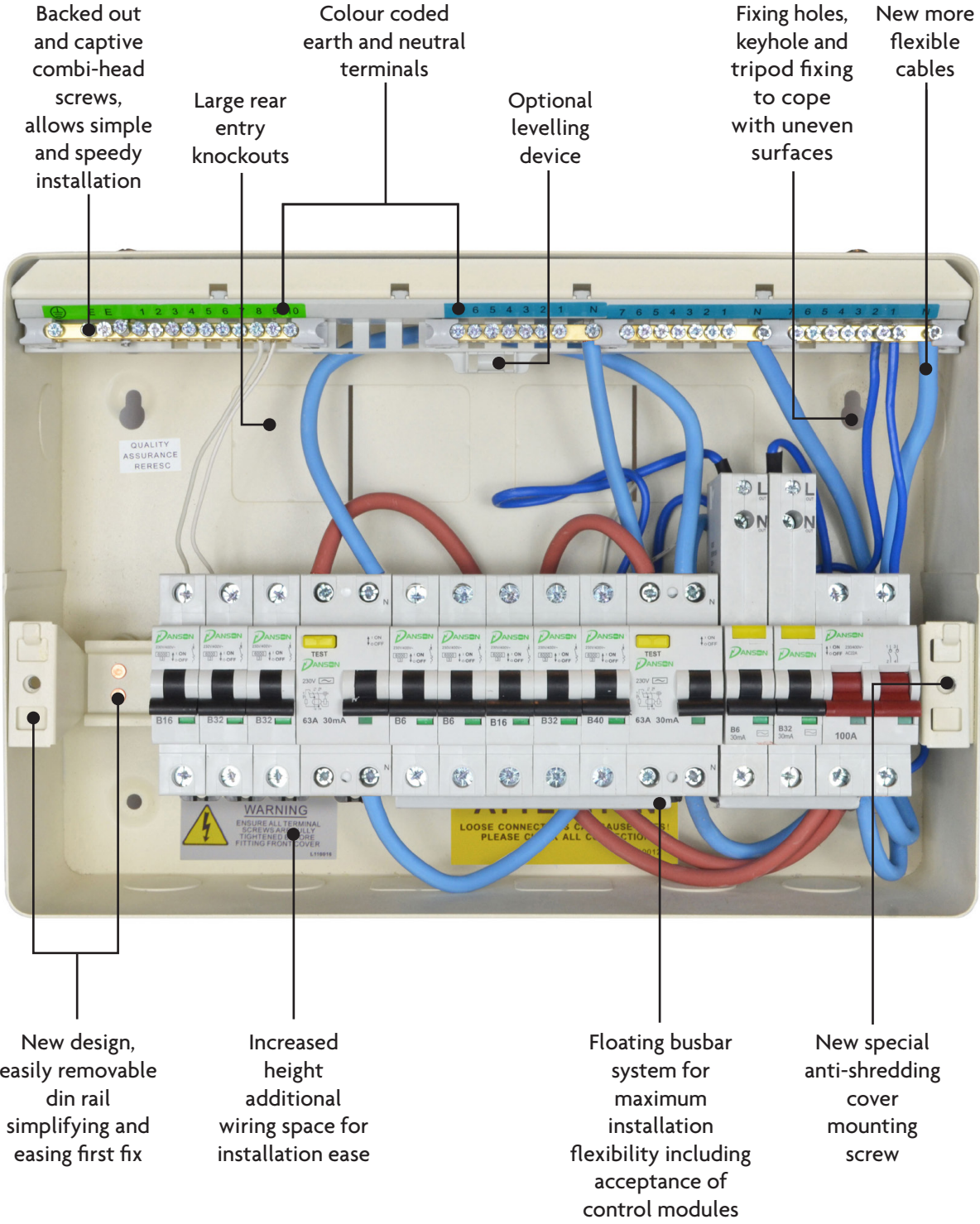


Features and Benefits

Regulation 421.1.201 states that: Within domestic (household) premises, consumer units and similar switchgear assemblies shall comply with BS EN 61439 3 and shall have their enclosure manufactured from a non-combustible material, or enclosed in a cabinet or enclosure constructed of non-combustible material and complying with regulation 132.12.

Regulation 421.1.201 will not be mandatory until 1st January 2016.

In line with this new Regulation, Shayla Electrical Limited has introduced a new concept of metal consumer units into their DANSON range which are manufactured from corrosion resistant steel and have delivered added features to provide full compliance to Amendment 3 regulation 421.1.201, as detailed here.








Empty Consumer Unit

In accordance with Amendment 3, 17th Edition



All DANSON units are white coloured. All units feature a robust metal base, lid & door. The DIN rail is complete with a useful alignment and fixing mechanism that allows quick installation. Cable entry points are located on top, bottom, side and rear surfaces.

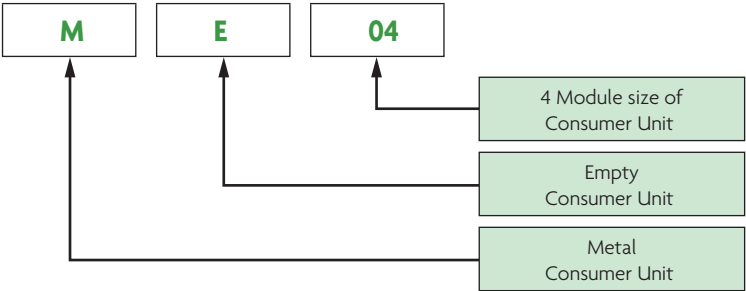
**Dimensions:** Width Height Depth

4-way 127 x 264 x 123mm  
8-way 199 x 264 x 123mm  
12-way 271 x 264 x 123mm  
16-way 343 x 264 x 123mm  
18-way 379 x 264 x 123mm  
22-way 451 x 264 x 123mm

**Main Incomer Rating:**

4-way enclosures: 63A  
8, 12, 16, 18 & 22-way enclosures: 100A

Degree of protection to **BS EN 60529 to IP2XC**. Precautions must be taken to maintain the IP rating, e.g. use of cable glands and knockouts. **BS EN 61439-3**




ME Series - Metal Consumer Unit Enclosure Only

In accordance with IEC/BSEN 60439-3

Product Code	Description
ME04	4 module Consumer Unit, Accept 4 modules (1 Integral neutral bar)
ME08	8 module Consumer Unit, Accept 8 modules (1 Integral neutral bar)
ME12	12 module Consumer Unit, Accept 12 modules (2 Integral neutral bars)
ME16	16 module Consumer Unit, Accept 16 modules (3 Integral neutral bars)
ME18	18 module Consumer Unit, Accept 18 modules ( 3 Integral neutral bars)
ME22	22 module Consumer Unit, Accept 22 modules (3 Integral neutral bars)

Consumer Unit with Switch Disconnecter

In accordance with Amendment 3, 17th Edition



All DANSON units are white coloured. All units feature a robust metal base, lid & door. The DIN rail is complete with a useful alignment and fixing mechanism that allows quick installation. Cable entry points are located on top, bottom, side and rear surfaces.

**All units are pre-fitted with a switch disconnector.**

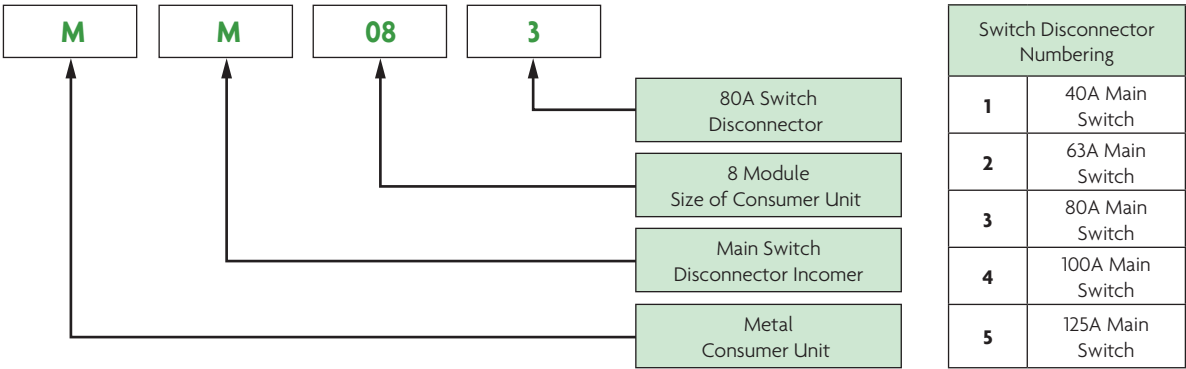
**Dimensions:** Width Height Depth

4-way 127 x 264 x 123mm  
8-way 199 x 264 x 123mm  
12-way 271 x 264 x 123mm  
16-way 343 x 264 x 123mm  
18-way 379 x 264 x 123mm  
22-way 451 x 264 x 123mm

**Main Incomer Rating:**

4-way enclosures: 63A  
8, 12, 16, 18 & 22-way enclosures: 100A

Degree of protection to **BS EN 60529 to IP2XC**. Precautions must be taken to maintain the IP rating, e.g. use of cable glands and knockouts. **BS EN 61439-3**




MM Series - Metal Consumer Unit Supplied with Switch Disconnecter Incomer

In accordance with IEC/BSEN 60439-3

Product Code	Description
MM042	4 module Consumer Unit 63A Switch disconnecter, Accept a further 2 modules (1 Integral neutral bar)
MM082	8 module Consumer Unit 63A Switch disconnecter, Accept a further 6 modules (1 Integral neutral bar)
MM122	12 module Consumer Unit 63A Switch disconnecter, Accept a further 10 modules (1 Integral neutral bar)
MM162	16 module Consumer Unit 63A Switch disconnecter, Accept a further 14 modules (1 Integral neutral bar)
MM182	18 module Consumer Unit 63A Switch disconnecter, Accept a further 16 modules (1 Integral neutral bar)
MM222	22 module Consumer Unit 63A Switch disconnecter, Accept a further 20 modules (1 Integral neutral bar)
MM043	4 module Consumer Unit 80A Switch disconnecter, Accept a further 2 modules (1 Integral neutral bar)
MM083	8 module Consumer Unit 80A Switch disconnecter, Accept a further 6 modules (1 Integral neutral bar)
MM123	12 module Consumer Unit 80A Switch disconnecter, Accept a further 10 modules (1 Integral neutral bar)
MM163	16 module Consumer Unit 80A Switch disconnecter, Accept a further 14 modules (1 Integral neutral bar)
MM183	18 module Consumer Unit 80A Switch disconnecter, Accept a further 16 modules ( 1 Integral neutral bar)
MM223	22 module Consumer Unit 80A Switch disconnecter, Accept a further 20 modules (1 Integral neutral bar)
MM044	4 module Consumer Unit 100A Switch disconnecter, Accept a further 2 modules (1 Integral neutral bar)
MM084	8 module Consumer Unit 100A Switch disconnecter, Accept a further 6 modules (1 Integral neutral bar)
MM124	12 module Consumer Unit 100A Switch disconnecter, Accept a further 10 modules (1 Integral neutral bar)
MM164	16 module Consumer Unit 100A Switch disconnecter, Accept a further 14 modules (1 Integral neutral bar)
MM184	18 module Consumer Unit 100A Switch disconnecter, Accept a further 16 modules (1 Integral neutral bar)
MM224	22 module Consumer Unit 100A Switch disconnecter, Accept a further 20 modules (1 Integral neutral bar)

Consumer Unit with RCD Incomer

In accordance with Amendment 3, 17th Edition



All DANSON units are white coloured. All units feature a robust metal base, lid & door. The DIN rail is complete with a useful alignment and fixing mechanism that allows quick installation. Cable entry points are located on top, bottom, side and rear surfaces.

**All units are pre-fitted with an RCD Incomer.**

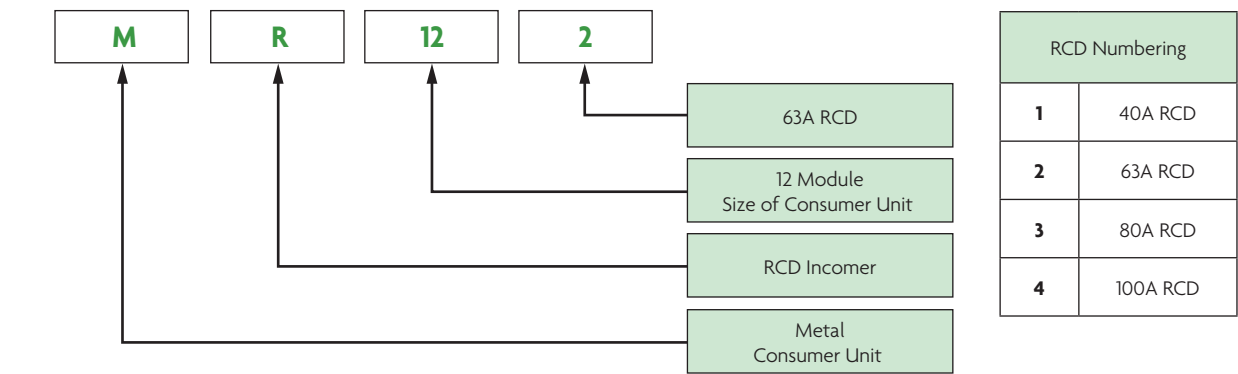
**Dimensions:** Width Height Depth

4-way 127 x 264 x 123mm	16-way 343 x 264 x 123mm
8-way 199 x 264 x 123mm	18-way 379 x 264 x 123mm
12-way 271 x 264 x 123mm	22-way 451 x 264 x 123mm

**Main Incomer Rating:**

4-way enclosures: 63A  
8, 12, 16, 18 & 22-way enclosures: 100A

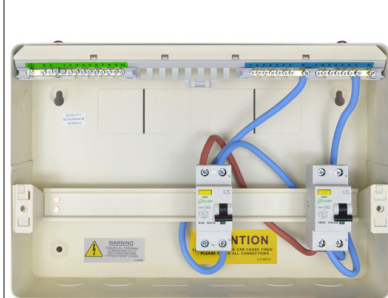
Degree of protection to **BS EN 60529 to IP2XC**. Precautions must be taken to maintain the IP rating, e.g. use of cable glands and knockouts. **BS EN 61439-3**



Product Code	Description
MR041	4 module Consumer Unit 40A 30mA RCD Incomer, Accept a further 2 modules (1 Integral neutral bar)
MR081	8 module Consumer Unit 40A 30mA RCD Incomer, Accept a further 6 modules (1 Integral neutral bar)
MR121	12 module Consumer Unit 40A 30mA RCD Incomer, Accept a further 10 modules (1 Integral neutral bar)
MR161	16 module Consumer Unit 40A 30mA RCD Incomer, Accept a further 14 modules (1 Integral neutral bar)
MR181	18 module Consumer Unit 40A 30mA RCD Incomer, Accept a further 16 modules (1 Integral neutral bar)
MR221	22 module Consumer Unit 40A 30mA RCD Incomer, Accept a further 20 modules (1 Integral neutral bar)
MR042	4 module Consumer Unit 63A 30mA RCD Incomer, Accept a further 2 modules (1 Integral neutral bar)
MR082	8 module Consumer Unit 63A 30mA RCD Incomer, Accept a further 6 modules (1 Integral neutral bar)
MR122	12 module Consumer Unit 63A 30mA RCD Incomer, Accept a further 10 modules (1 Integral neutral bar)
MR162	16 module Consumer Unit 63A 30mA RCD Incomer, Accept a further 14 modules (1 Integral neutral bar)
MR182	18 module Consumer Unit 63A 30mA RCD Incomer, Accept a further 16 modules (1 Integral neutral bar)
MR222	22 module Consumer Unit 63A 30mA RCD Incomer, Accept a further 20 modules (1 Integral neutral bar)
MR043	4 module Consumer Unit 80A 30mA RCD Incomer, Accept a further 2 modules (1 Integral neutral bar)
MR083	8 module Consumer Unit 80A 30mA RCD Incomer, Accept a further 6 modules (1 Integral neutral bar)
MR123	12 module Consumer Unit 80A 30mA RCD Incomer, Accept a further 10 modules (1 Integral neutral bar)
MR163	16 module Consumer Unit 80A 30mA RCD Incomer, Accept a further 14 modules (1 Integral neutral bar)
MR183	18 module Consumer Unit 80A 30mA RCD Incomer, Accept a further 16 modules (1 Integral neutral bar)
MR223	22 module Consumer Unit 80A 30mA RCD Incomer, Accept a further 20 modules (1 Integral neutral bar)
MR044	4 modules Consumer Unit 100A 30mA RCD Incomer, Accept a further 2 modules (1 Integral neutral bar)
MR084	8 modules Consumer Unit 100A 30mA RCD Incomer Accept a further 6 modules (1 Integral neutral bar)
MR124	12 modules Consumer Unit 100A 30mA RCD Incomer Accept a further 10 modules (1 Integral neutral bar)
MR164	16 modules Consumer Unit 100A 30mA RCD Incomer Accept a further 14 modules (1 Integral neutral bar)
MR184	18 modules Consumer Unit 100A 30mA RCD Incomer, Accept a further 16 modules (1 Integral neutral bar)
MR224	22 modules Consumer Unit 100A 30mA RCD Incomer Accept a further 20 modules (1 Integral neutral bar)

Consumer Unit with Time Delay RCD and Additional RCD

In accordance with Amendment 3, 17th Edition



All DANSON units are white coloured. All units feature a robust metal base, lid & door. The DIN rail is complete with a useful alignment and fixing mechanism that allows quick installation. Cable entry points are located on top, bottom, side and rear surfaces.

**All units are pre-fitted with a time delay RCD & an additional RCD.**

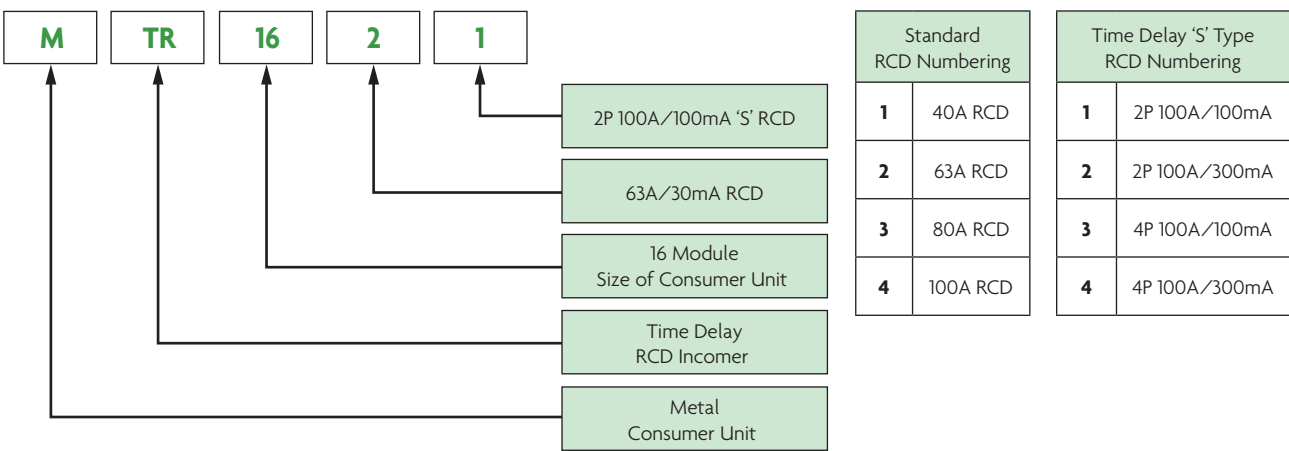
**Dimensions:** Width Height Depth

16-way 343 x 264 x 123mm

**Main Incomer Rating:**

16-way enclosure: 100A

Degree of protection to **BS EN 60529 to IP2XC**. Precautions must be taken to maintain the IP rating, e.g. use of cable glands and knockouts. **BS EN 61439-3**




Product Code	Description
MTR1621	16 module Consumer Unit 2P 100A/100mA +S Time Delay RCD, 63A/30mA RCD, Accept a further 12 modules (2 Integral neutral bars)



Consumer Unit Split Load with One RCD and Main Switch

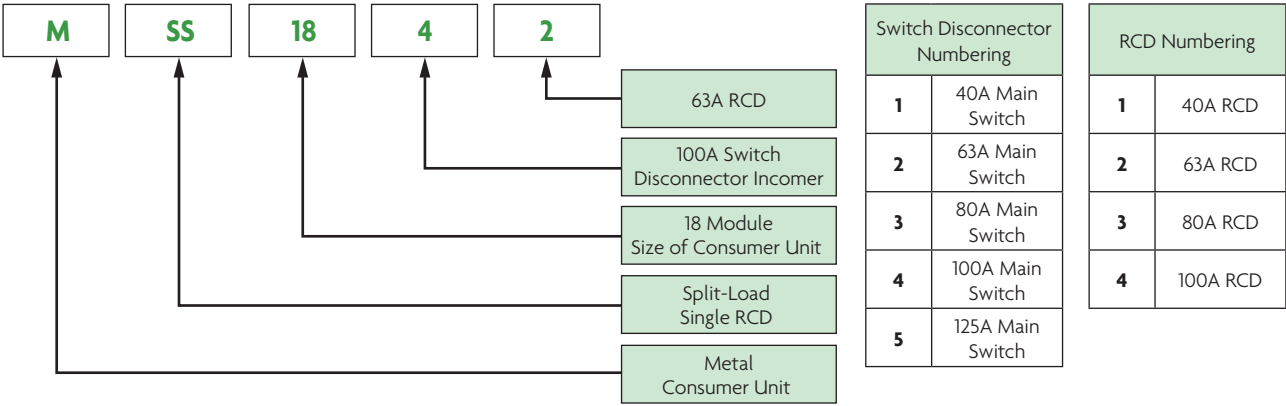
In accordance with Amendment 3, 17th Edition



All units are white coloured. All units feature a robust metal base, lid & door. The DIN rail embodies a useful alignment and fixing mechanism that allows quick installation. Cable entry points are located on top, bottom, side and rear surfaces. **All units are pre-fitted with a switch disconnector and RCD** together with all the necessary split-load cabling. The flexibility of design allows the RCD to be positioned to suit the required configuration of RCD protected and non-protected circuits, subject to the rating of either the switch or RCD not being exceeded. Shayla Electrical Limited recommends the use of RCBO's for non RCD protected circuits to comply with the 17th Edition Amendment 3 Wiring Regulations.

**Dimensions:** Width Height Depth  
12-way 271 x 264 x 123mm      18-way 379 x 264 x 123mm  
16-way 343 x 264 x 123mm      22-way 451 x 264 x 123mm


**Main Incomer Rating:**  
12, 16, 18 & 22-way enclosures: 100A  
Degree of protection to **BS EN 60529 to IP2XC**. Precautions must be taken to maintain the IP rating, e.g. use of cable glands and knockouts. **BS EN 61439-3**



Product Code	Description
MSS1242	12 module Consumer Unit 100A Switch disconnector & 63A 30mA RCD, Accept a further 8 modules (1 Integral neutral bar)
MSS1642	16 module Consumer Unit 100A Switch disconnector & 63A 30mA RCD, Accept a further 12 modules (1 Integral neutral bar)
MSS1842	18 module Consumer Unit 100A Switch disconnector & 63A 30mA RCD, Accept a further 14 modules (1 Integral neutral bar)
MSS2242	22 module Consumer Unit 100A Switch disconnector & 63A 30mA RCD, Accept a further 18 modules (1 Integral neutral bar)
MSS1243	12 module Consumer Unit 100A Switch disconnector & 80A 30mA RCD, Accept a further 8 modules (1 Integral neutral bar)
MSS1643	16 module Consumer Unit 100A Switch disconnector & 80A 30mA RCD, Accept a further 12 modules (1 Integral neutral bar)
MSS1843	18 module Consumer Unit 100A Switch disconnector & 80A 30mA RCD, Accept a further 14 modules (1 Integral neutral bar)
MSS2243	22 module Consumer Unit 100A Switch disconnector & 80A 30mA RCD, Accept a further 18 modules (1 Integral neutral bar)

Consumer Unit Split Load with Dual RCD's and Main Switch

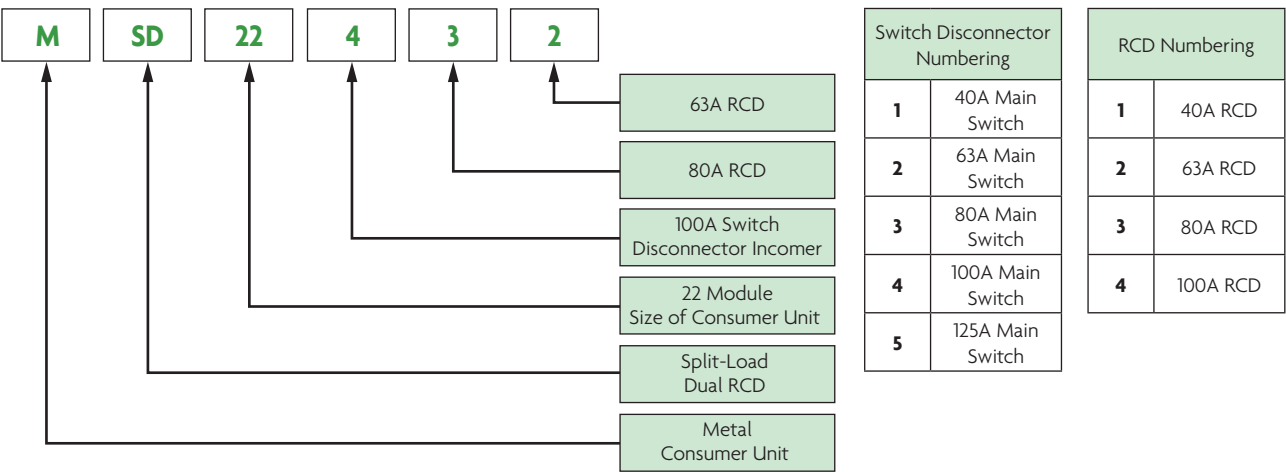
In accordance with Amendment 3, 17th Edition



All units are white coloured. All units feature a robust metal base, lid & door. The DIN rail embodies a useful alignment and fixing mechanism that allows quick installation. Cable entry points are located on top, bottom, side and rear surfaces. **All units are pre-fitted with a switch disconnector and 2 x RCD's** together with all the necessary split-load cabling. The flexibility of design allows the RCD's to be positioned to suit the required configuration of RCD's protected and non-protected circuits, subject to the rating of either the switch or RCD's not being exceeded. Shayla Electrical Limited recommends the use of RCBO's for non RCD's protected circuits to comply with the 17th Edition Amendment 3 Wiring Regulations.

**Dimensions:** Width Height Depth  
12-way 271 x 264 x 123mm      18-way 379 x 264 x 123mm  
16-way 343 x 264 x 123mm      22-way 451 x 264 x 123mm

**Main Incomer Rating:**  
12, 16, 18 & 22-way enclosures: 100A  
Degree of protection to **BS EN 60529 to IP2XC**. Precautions must be taken to maintain the IP rating, e.g. use of cable glands and knockouts. **BS EN 61439-3**

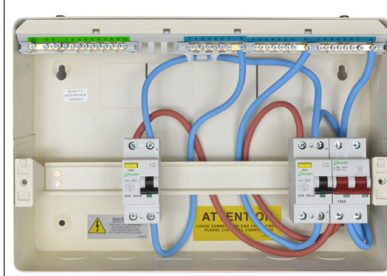


Product Code	Description
MSD16222	16 module Consumer Unit 63A Switch disconnector & 2 x 63A 30mA RCDs, Accept a further 10 modules (2 Integral neutral bars)
MSD18222	18 module Consumer Unit 63A Switch disconnector & 2 x 63A 30mA RCDs, Accept a further 12 modules (2 Integral neutral bars)
MSD12422	12 module Consumer Unit 100A Switch disconnector & 2 x 63A 30mA RCDs, Accept a further 6 modules (2 Integral neutral bars)
MSD16422	16 module Consumer Unit 100A Switch disconnector & 2 x 63A 30mA RCDs, Accept a further 10 modules (2 Integral neutral bars)
MSD18422	18 module Consumer Unit 100A Switch disconnector & 2 x 63A 30mA RCDs, Accept a further 12 modules (2 Integral neutral bars)
MSD22422	22 module Consumer Unit 100A Switch disconnector & 2 x 63A 30mA RCDs, Accept a further 16 modules (2 Integral neutral bars)
MSD12433	12 module Consumer Unit 100A Switch disconnector & 2 x 80A 30mA RCDs, Accept a further 6 modules (2 Integral neutral bars)
MSD16433	16 module Consumer Unit 100A Switch disconnector & 2 x 80A 30mA RCDs, Accept a further 10 modules (2 Integral neutral bars)
MSD18433	18 module Consumer Unit 100A Switch disconnector & 2 x 80A 30mA RCDs, Accept a further 12 modules (2 Integral neutral bars)
MSD22433	22 module Consumer Unit 100A Switch disconnector & 2 x 80A 30mA RCDs, Accept a further 16 modules (2 Integral neutral bars)
MSD12432	12 module Consumer Unit 100A Switch disconnector & 80A & 63A 30mA RCDs, Accept a further 6 modules (2 Integral neutral bars)
MSD16432	16 module Consumer Unit 100A Switch disconnector & 80A & 63A 30mA RCDs, Accept a further 10 modules (2 Integral neutral bars)
MSD18432	18 module Consumer Unit 100A Switch disconnector & 80A & 63A 30mA RCDs, Accept a further 12 modules (2 Integral neutral bars)
MSD22432	22 module Consumer Unit 100A Switch disconnector & 80A & 63A 30mA RCDs, Accept a further 16 modules (2 Integral neutral bars)



Consumer Unit High Integrity with Dual RCD's and Main Switch

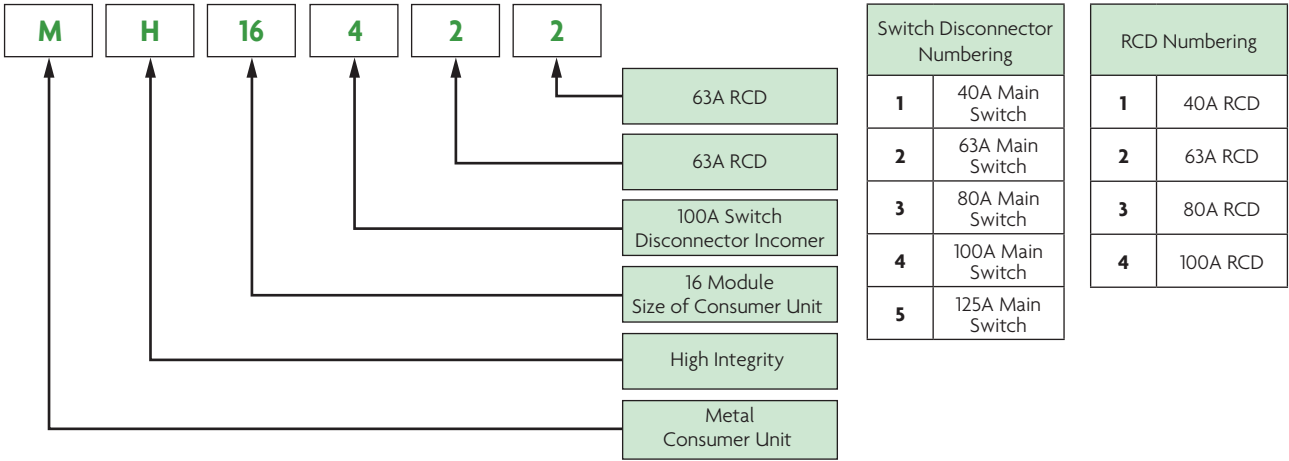
In accordance with Amendment 3, 17th Edition



All units are white coloured. All units feature a robust metal base, lid & door. **All units are pre-fitted with a switch disconnecter and Two RCD's** together with all the necessary high integrity cabling. The flexibility of design allows the RCD's to be positioned to suit the required configuration of RCD's protected and non-protected circuits, subject to the rating of either the switch or RCD's not being exceeded. Shayla Electrical Limited recommends the use of RCBO's for non RCD's protected circuits to comply with the 17th Edition Amendment 3 Wiring Regulations.

**Dimensions:** Width Height Depth  
16-way 343 x 264 x 123mm    22-way 451 x 264 x 123mm  
18-way 379 x 264 x 123mm

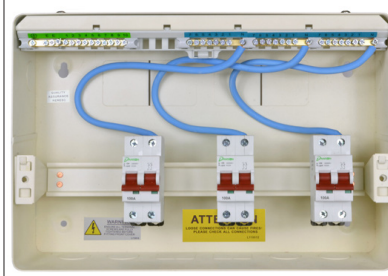
**Main Incomer Rating:**  
16, 18 & 22-way enclosures: 100A  
Degree of protection to **BS EN 60529 to IP2XC**. Precautions must be taken to maintain the IP rating, e.g. use of cable glands and knockouts. **BS EN 61439-3**



Product Code	Description
MH16422	16 module Consumer Unit 100A Switch disconnecter & 2 x 63A 30mA RCDs, Accept a further 10 modules (3 Integral neutral bars)
MH18422	18 module Consumer Unit 100A Switch disconnecter & 2 x 63A 30mA RCDs, Accept a further 12 modules (3 Integral neutral bars)
MH22422	22 module Consumer Unit 100A Switch disconnecter & 2 x 63A 30mA RCDs, Accept a further 16 modules (3 Integral neutral bars)
MH16433	16 module Consumer Unit 100A Switch disconnecter & 2 x 80A 30mA RCDs, Accept a further 10 modules (3 Integral neutral bars)
MH18433	18 module Consumer Unit 100A Switch disconnecter & 2 x 80A 30mA RCDs, Accept a further 12 modules (3 Integral neutral bars)
MH22433	22 module Consumer Unit 100A Switch disconnecter & 2 x 80A 30mA RCDs, Accept a further 16 modules (3 Integral neutral bars)

Consumer Unit Dual or Multi Tariff with 2 or 3 Main Switches

In accordance with Amendment 3, 17th Edition

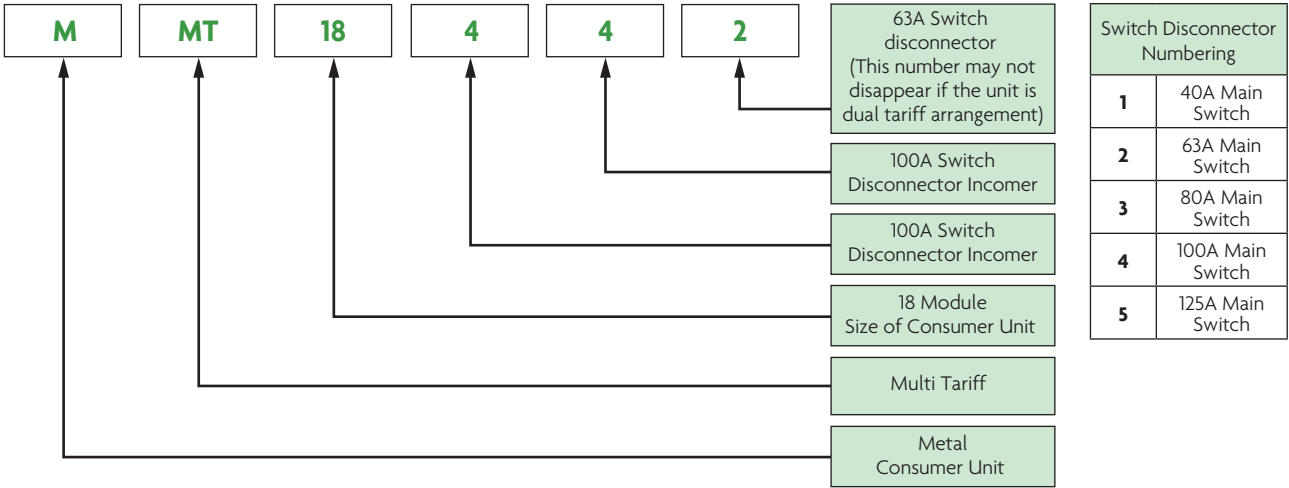


All units are white coloured. All units feature a robust metal base, lid & door. The DIN rail embodies a useful alignment and fixing mechanism that allows quick installation. Cable entry points are located on top, bottom, side and rear surfaces. **All units are pre-fitted with two or three Switch disconnectors**

The flexibility of design allows the switches to be positioned to suit the required configuration of dual or multi tariff circuits, subject to the rating of the switches not being exceeded. Shayla Electrical Limited recommends the use of RCBO's for non RCD protected circuits to comply with the 17th Edition Amendment 3 Wiring Regulations.

**Dimensions:** Width Height Depth  
18-way 379 x 264 x 123mm    22-way 451 x 264 x 123mm

**Main Incomer Rating:**  
18 & 22-way enclosures: 100A  
Degree of protection to BS EN 60529 to IP2XC. Precautions must be taken to maintain the IP rating, e.g. use of cable glands and knockouts. **BS EN 61439-3**



Product Code	Description
MMT2244	22 module Consumer Unit, 2 x 100A Switches, Accept a further 18 modules (2 Integral neutral bars)
MMT18442	18 module Consumer Unit, 2 x 100A Switches & 1 x 63A Switch, Accept a further 12 modules (3 Integral neutral bars)

Consumer Unit - Garage Unit

In accordance with Amendment 3, 17th Edition



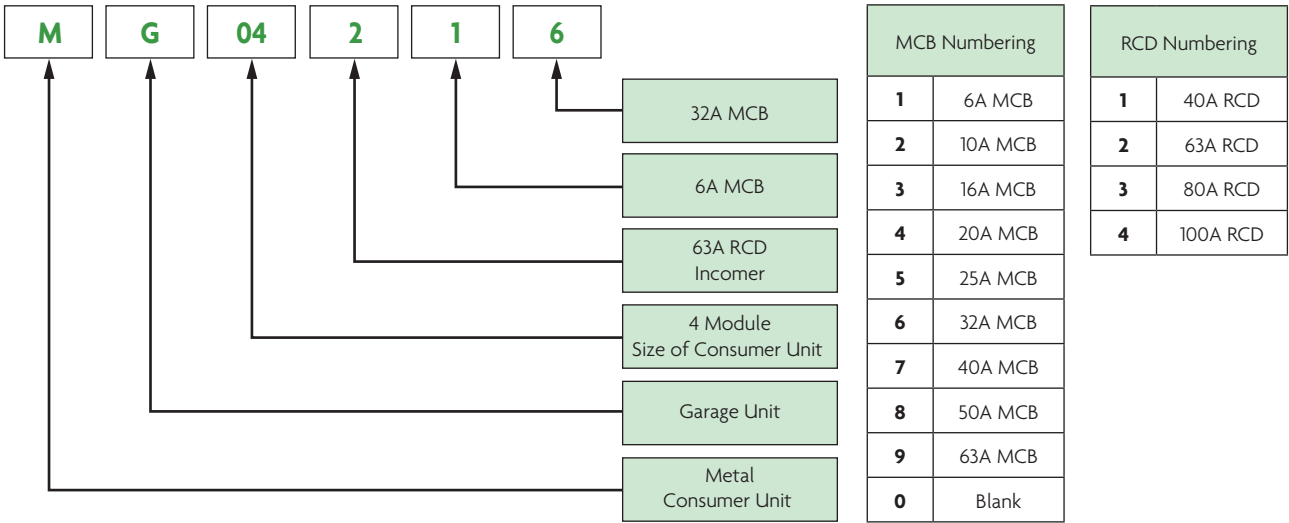
All units are white coloured. All units feature a robust metal base, lid & door. The DIN rail embodies a useful alignment and fixing mechanism that allows quick installation. Cable entry points are located on top, bottom, side and rear surfaces.

**All units are pre-fitted with 1 x 63A/ 30mA RCD and 1 x 6A and 1 x 32A MCB's.**

**Dimensions:** Width Height Depth  
4-way 127 x 264 x 123mm

**Main Incomer Rating:**  
4-way enclosures: 63A

Degree of protection to **BS EN 60529 to IP2XC**. Precautions must be taken to maintain the IP rating, e.g. use of cable glands and knockouts. **BS EN 61439-3**



Product Code	Description
MG04216	Garage Unit - 4 module consumer unit 63A 30mA & 6A MCB & 32A MCB (1 Integral neutral bar)

Consumer Unit - Shower Unit

In accordance with Amendment 3, 17th Edition



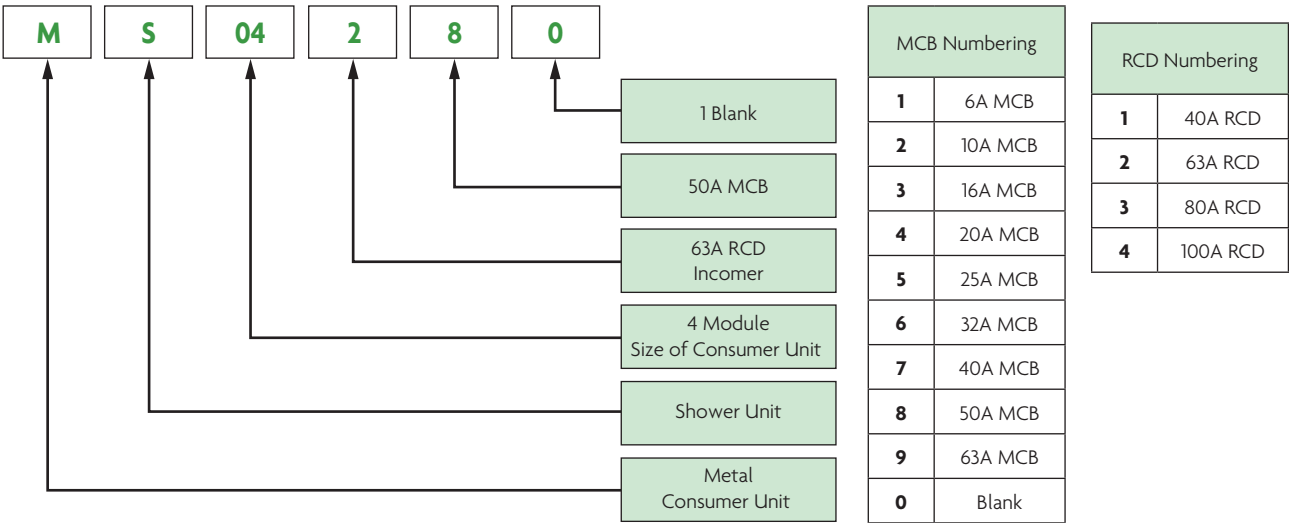
All units are white coloured. All units feature a robust metal base, lid & door. The DIN rail embodies a useful alignment and fixing mechanism that allows quick installation. Cable entry points are located on top, bottom, side and rear surfaces.

**All units are pre-fitted with 1 x 63A/ 30mA RCD and 1 x 50A MCB and 1 x Blank.**

**Dimensions:** Width Height Depth  
4-way 127 x 264 x 123mm

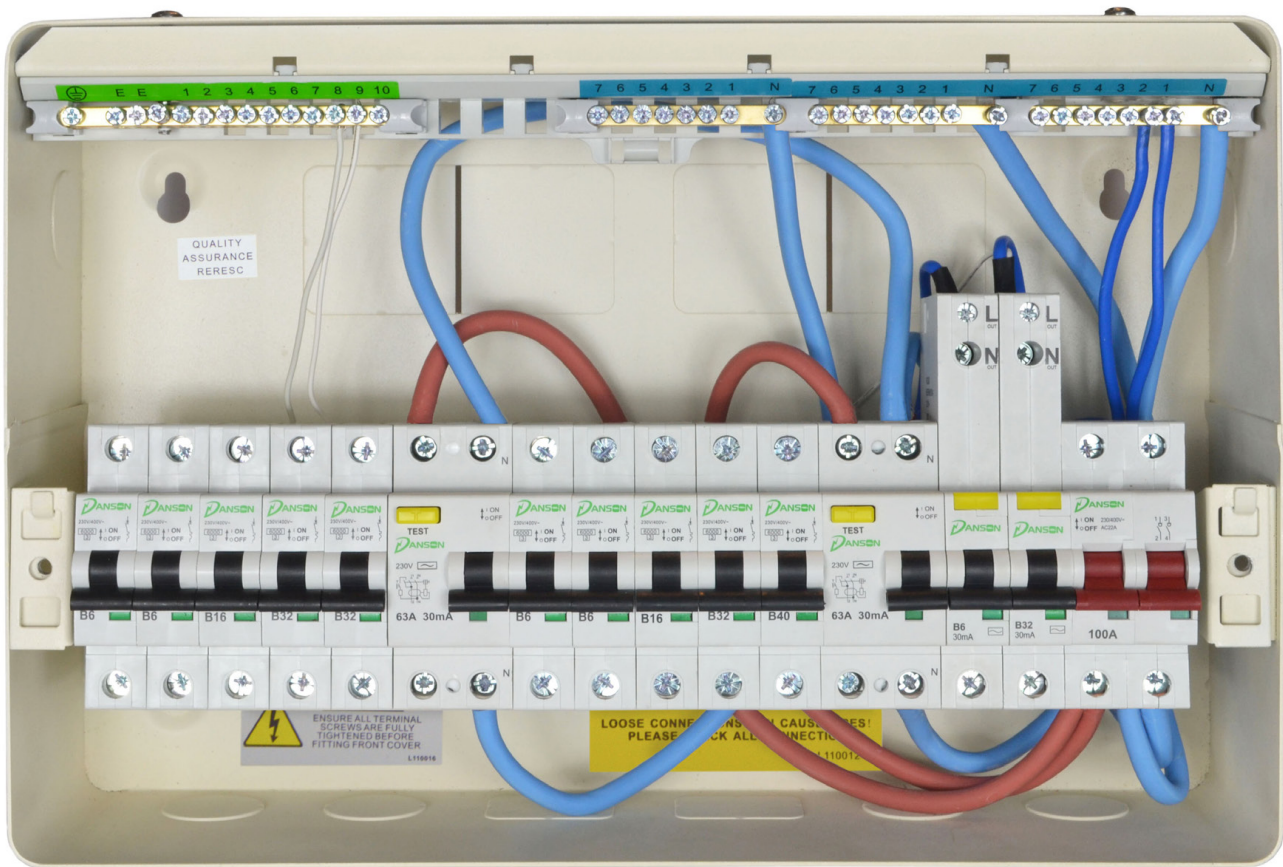
**Main Incomer Rating:**  
4-way enclosures: 63A

Degree of protection to **BS EN 60529 to IP2XC**. Precautions must be taken to maintain the IP rating, e.g. use of cable glands and knockouts. **BS EN 61439-3**



Product Code	Description
MS04280	Shower Unit - 4 module consumer unit 63A 30mA & 50A MCB & 1 Blank (1 Integral neutral bar)

Special Custom Built Consumer Units



At Shayla Electrical we offer to meet the ever changing requirements and designs of the modern electrical consumer unit installation, Shayla Electrical can now offer a service to the electrical contractor for all our Danson range of products, for 5 boards minimum quantity, Our consumer units can be modified and assembled to the electrical contractors own particular specification.

The level of configuration may vary from a basic pre-populated assembly of outgoing protective devices MCBs, RCBOs into the units with personalised labelling, to the complete configuration and wiring of additional devices within the consumer unit.

The Shayla Electrical custom built service can save time on site, reduce labour costs, and help achieve early completion & ultimately save money for the electrical contractor of these consumer units.

Step 1	Call the Shayla Electrical Sales Services Team on 023 8114 0059 or email sales@shayla-electrical.co.uk
Step 2	Discuss the details of your project and Consumer Unit requirements with a member of the Shayla Electrical Sales Services Team
Step 3	Within one working day you will have a response to your initial enquiry
Step 4	Confirm the configuration and quantities (only +5 boards)
Step 5	Shayla Electrical will issue a quotation
Step 6	Contractor places order with Wholesaler
Step 7	Your order will be delivered to the wholesaler of your choice. All the Consumer Units will be fully assembled and ready for installation
Step 8	Shayla Electrical Sales Service Team will follow up with a satisfaction call

Main Switch - 1 / 2 / 3 and 4 Pole

In accordance with Amendment 3, 17th Edition

The DANSON main switch is designed to accept both cable-in / cable-out and direct to busbar connections.

The DANSON main switch may be used as an isolating switch.

The DANSON switch disconnecter is capable of switching both resistive and inductive loads.

The operating dolly is capable of being locked in either the ON or OFF position. When locked in the ON position it will no longer operate as an isolator.

Positive indication of the opening of the contacts is only given when the green stripe can be seen in the window.

Product Code (Provide a unique product identification)

<b>D</b>	<b>M</b>	<b>2</b>	<b>2</b>	
Danson Family Range	Product Type M for Main Switch	Poles	Rated Current	
		<b>1</b>	1P	
		<b>2</b>	2P	
		<b>3</b>	3P	
		<b>4</b>	4P	
			<b>1</b>	40A
			<b>2</b>	63A
			<b>3</b>	80A
			<b>4</b>	100A
			<b>5</b>	125A

Technical specifications

Main Switches

DM Series

Functions

- Making and breaking under load condition
- Providing safety isolation for terminal distribution system
- Used in residential building, non-residential building

Technical specifications

- Standard: BSEN60947-3
- Approval: CE+CB+TUV
- Rated current In (A): 40, 63, 80, 100, 125
- Rated voltage Un (VAC): 230/400
- Rated insulation voltage (VAC): 500
- Number of poles: 1, 2, 3, 4
- Rated short-time withstand current 20 In: 1s
- Degree of protection: IP20, with connected conductors

- Electrical life (times): 10,000
- Mechanical life (times): 20,000
- Fire resistance according to UL 94 : V0
- Mounting position: Any
- Conductor cross-sections
  - Solid and stranded (mm²): 0.75 - 35
  - Finely stranded with end sleeve (mm²): 0.75 - 25
  - Terminal tightening torque (N .m): 2-2.5
- Ambient temperature (°C): -25~+45, max. 95% humidity
- Storage temperature (°C): -40~+75
- Altitude (meters): Max. 2,000
- Connection Capacity (mm²): 1 - 25

Features

- The handle provides a clear indication of the contact position
- Adequate printing of all data on the front provides long-term identification


Product Code	Description
<b>DM11</b>	Main Switch 1 pole 40A
<b>DM12</b>	Main Switch 1 pole 63A
<b>DM13</b>	Main Switch 1 pole 80A
<b>DM14</b>	Main Switch 1 pole 100A
<b>DM15</b>	Main Switch 1 pole 125A
<b>DM21</b>	Main Switch 2 pole 40A
<b>DM22</b>	Main Switch 2 pole 63A
<b>DM23</b>	Main Switch 2 pole 80A
<b>DM24</b>	Main Switch 2 pole 100A
<b>DM25</b>	Main Switch 2 pole 125A

Product Code	Description
<b>DM31</b>	Main Switch 3 pole 40A
<b>DM32</b>	Main Switch 3 pole 63A
<b>DM33</b>	Main Switch 3 pole 80A
<b>DM34</b>	Main Switch 3 pole 100A
<b>DM35</b>	Main Switch 3 pole 125A
<b>DM41</b>	Main Switch 4 pole 40A
<b>DM42</b>	Main Switch 4 pole 63A
<b>DM43</b>	Main Switch 4 pole 80A
<b>DM44</b>	Main Switch 4 pole 100A
<b>DM45</b>	Main Switch 4 pole 125A



# RCCB - Residual Current Circuit Breaker

In accordance with Amendment 3, 17th Edition



The DANSON range of RCDs (Residual Current Devices) offers a comprehensive selection of devices designed to meet most domestic, commercial and light industrial requirements. The range includes two and four pole, a.c., d.c. fault current sensitive and time delayed devices, and a selection of current ratings from 25A to 100A, in a variety of tripping sensitivities. In this catalogue we have listed the 30mA/100mA and 300mA standard - 230V devices and the 100mA and 300mA time delay 'S' type 230V devices.

When in the OFF position a contact gap of 4mm is present, enabling DANSON RCDs to be used as isolating switches where appropriate. When the green indicator is visible, a contact gap of 4mm has been achieved. The operating handle may be locked in either the ON or the OFF position without affecting the ability of the trip mechanism to operate, i.e. the RCD is 'trip-free'. It is not possible to hold the contacts closed when a fault condition exists.

All DANSON RCDs incorporate a filtering device to provide protection against transient surges in the supply to the unit, thus reducing the occurrence of unwanted tripping.

Product Code (Provide a unique product identification)

D	R	1	2	2	3
Danson Family Range	Product Type R for RCD	Characteristic of residual current	Residual current and time delay characteristic	Poles	Rated Current
		1AC Type of RCCB	130mA	22P	125A
		2A Type of RCCB	2100mA	44P	240A
			3300mA		363A
			4500mA		480A
			5100mA+ S Type Time Delay		580A
			6300mA+ S Type Time Delay		6100A

## Technical specifications

Residual current circuit breakers

### DR Series

#### Functions

- Switching and isolation function
- Controlling
- Protection against the effects of sinusoidal alternating earth fault currents
- Protection against indirect contacts and additional protection against direct contacts.
- Protection against fire hazard caused by insulation faults
- Used in residential building, non-residential building, energy sources, industry and infrastructure.
- Combination with auxiliary elements: auxiliary contact, signal contact, shunt trip, under voltage release.

#### Technical specifications

- Standards: BSEN61008-1
- Approvals: CE, CB, TUV
- Type (wave form of the earth leakage sensed): AC and A
- Trip time type: general use, selectivity of S
- Number of poles: 2P, 4P
- Rated current In (A): 25, 40, 63, 80, 100
- Rated voltage Ue (VAC): 230/400
- Rated insulation voltage Ui (VAC): 500
- Rated Frequency Fn (Hz): 50, 60, 50/60
- Rated residual currents (IΔn)(mA): 30, 100, 300
- Rated conditional short-circuit current:
  - Inc=IΔc= 6000A SCPD fuse 100A Gg
- Rated making and breaking capacity Im(A): 1000
- Rated residual making and breaking capacity Im(A): 1000
- Degree of protection: IP20, with connected conductors

## Terminals

- Terminal tightening torque (N.m): 2-2.5
- Ambient temperature (°C): -25-+55, max. 95 % humidity

### Features

- Electromagnetic type, voltage independent.
- The handle being sealable or equipped with padlock bracket avoids dangerous operation changes (ON /OFF)
  - The handle provides a clear indication of the contact position
  - Adequate printing of all data on the front provides

### Types

RCCBs are further divided into types depending on the operating function:

- Type AC: For which tripping is ensured for residual sinusoidal alternating currents, whether suddenly applied or slowly rising.
- Type A: For which tripping is ensured for residual sinusoidal alternating currents and residual pulsating direct currents, whether suddenly applied or slowly rising.
- Type S: For selectivity, with time- relay.

### Tripping sensitivity data

- RCD with a rated residual current of maximum 30mA are used for personnel , material and fire protection, as well as for protection against direct contact.
- RCD with a rated residual current of maximum 30mA are used as preventative fire protection in case of insulation faults.
- RCD with a rated residual current of 100mA co-ordinate with the earth system according to the formula  $I\Delta n < 50/R$ , to provide protection against indirect contacts.


# RCCB - Residual Current Circuit Breaker

Product Code	Description
DR1121	2P 25A / 30mA RCD - AC
DR1122	2P 40A / 30mA RCD - AC
DR1123	2P 63A / 30mA RCD - AC
DR1124	2P 80A / 30mA RCD - AC
DR1125	2P 100A / 30mA RCD - AC
DR1141	4P 25A / 30mA RCD - AC
DR1142	4P 40A / 30mA RCD - AC
DR1143	4P 63A / 30mA RCD - AC
DR1144	4P 80A / 30mA RCD - AC
DR1145	4P 100A / 30mA RCD - AC
DR1221	2P 25A / 100mA RCD -AC
DR1222	2P 40A / 100mA RCD - AC
DR1223	2P 63A / 100mA RCD - AC
DR1224	2P 80A / 100mA RCD - AC
DR1225	2P 100A / 100mA RCD - AC
DR1241	4P 25A / 100mA RCD - AC
DR1242	4P 40A / 100mA RCD - AC
DR1243	4P 63A / 100mA RCD - AC
DR1244	4P 80A / 100mA RCD - AC
DR1245	4P 100A / 100mA RCD - AC
DR1321	2P 25A / 300mA RCD - AC
DR1322	2P 40A / 300mA RCD - AC
DR1323	2P 63A / 300mA RCD - AC
DR1324	2P 80A / 300mA RCD - AC
DR1325	2P 100A / 300mA RCD - AC
DR1341	4P 25A / 300mA RCD - AC
DR1342	4P 40A / 300mA RCD - AC
DR1343	4P 63A / 300mA RCD - AC
DR1344	4P 80A / 300mA RCD - AC
DR1345	4P 100A / 300mA RCD - AC
DR2121	2P 25A / 30mA RCD - A
DR2122	2P 40A / 30mA RCD - A

Product Code	Description
DR2123	2P 63A / 30mA RCD - A
DR2124	2P 80A / 30mA RCD - A
DR2125	2P 100A / 30mA RCD - A
DR2141	4P 25A / 30mA RCD - A
DR2142	4P 40A / 30mA RCD - A
DR2143	4P 63A / 30mA RCD - A
DR2144	4P 80A / 30mA RCD - A
DR2145	4P 100A / 30mA RCD - A
DR2221	2P 25A / 100mA RCD - A
DR2222	2P 40A / 100mA RCD - A
DR2223	2P 63A / 100mA RCD - A
DR2224	2P 80A / 100mA RCD - A
DR2225	2P 100A / 100mA RCD - A
DR2241	4P 25A / 100mA RCD - A
DR2242	4P 40A / 100mA RCD - A
DR2243	4P 63A / 100mA RCD - A
DR2244	4P 80A / 100mA RCD - A
DR2245	4P 100A / 100mA RCD - A
DR2321	2P 25A / 300mA RCD - A
DR2322	2P 40A / 300mA RCD - A
DR2323	2P 63A / 300mA RCD - A
DR2324	2P 80A / 300mA RCD - A
DR2325	2P 100A / 300mA RCD - A
DR2341	4P 25A / 300mA RCD - A
DR2342	4P 40A / 300mA RCD - A
DR2343	4P 63A / 300mA RCD - A
DR2344	4P 80A / 300mA RCD - A
DR2345	4P 100A / 300mA RCD - A
DR1525	2P 100A / 100mA RCD - AC - Time Delay
DR1625	2P 100A / 300mA RCD - AC - Time Delay
DR1545	4P 100A / 100mA RCD - AC - Time Delay
DR1645	4P 100A / 300mA RCD - AC - Time Delay

# RCBO - Residual Circuit Breaker with Overcurrent Protection

In accordance with Amendment 3, 17th Edition



DANSON RCBOs (Residual Current Breakers with Overcurrent Protection) are of the solid neutral type, single pole, in the one module format. The RCBOs are a combination of an MCB and a RCD.

This enables both overcurrent protection and earth fault current protection to be provided by a single unit.

This combination allows earth fault protection to be restricted to a single circuit, thus ensuring that only the circuit with the fault is interrupted.

The operating dolly on all DANSON RCBOs may be locked in either the ON or OFF position without affecting the ability of the trip mechanism to operate.

Product Code (Provide a unique product identification)

D	L	Y		1		1		40	
Danson Family Range	Product Type L for RCBO	Short Circuit Breaking Capacity		Type of curves and characteristic of residual current		Residual current and time delay characteristic		Rated Current	
		Y	6000A	1	B Curve + AC Type (RCBO)	1	30mA	06	6A
		Z	10000A	2	B Curve + A Type RCBO			10	10A
				3	C Curve + AC Type RCBO			16	16A
				4	C Curve + A Type RCBO			20	20A
								25	25A
								32	32A
								40	40A
								50	50A

### Technical Specifications

Residual current circuit breakers with overcurrent protection

#### DL Series

#### Technical Specifications

- Standard: BSEN61009-1
- Approval: CB+TUV
- Type (wave form of the earth leakage sensed): AC and A
- Number of poles: 1+N (1 module)
- Rated current In(A): 6, 10, 16, 20, 25, 32, 40, 50
- Rated voltage Ue(V): 230
- Rated insulation voltage Ui(VAC): 500
- Rated Frequency Fn(Hz): 50/60
- Rated residual currents IΔ n(mA): 30
- Rated breaking capacity acc.to BSEN61009-1 ultimate Icn(kA): 10
- Rated breaking capacity acc.to BSEN60947-2 ultimate Icu (kA): 10
- Rated residual breaking capacity IΔm(kA): 10
- Rated impulse withstand voltage(1.2/50)Uimp(kV): 4
- Dielectric test voltage at ind.freq.for 1 min. (kV): 2
- Surge current resistance (wave 8/20)(A): 3,000
- Tripping characteristic: B,C
- Characteristic B (In): 3-5
- Characteristic C (In): 5-10
- Electrical life (times): 4,000
- Mechanical life (times): 10,000
- Degree of protection: IP20, with connected conductors
- Mounting position: Any

#### Conductor cross-sections

- Solid and stranded (mm²): 0.75 - 35
- Finely stranded with end sleeve (mm²): 0.75 - 25

### Terminals

- Terminal tightening torque (N.m): 2 - 2.5
- Ambient temperature (°C): -5~+45, max. 95% humidity
- Storage temperature (°C): -25~+75
- Altitude (meters): Max 2,000

### Functions

- Switching and isolation function.
- Protection against overload and short-circuit currents.
- Protection against the effects of sinusoidal alternating earth fault currents.
- Protection against indirect contacts and additional protection against direct contacts.
- Protection against fire hazard caused by insulation faults.
- Used in residential building and distribution boards.

### Features

- The combination of an RCBO and a miniature circuit breaker in a compact design.
- The MCB part protects lines against overload and short circuits and is available in characteristics curve B and C.
- Electronic Type, voltage dependent.
- The handle provides a clear indication of the contact position.
- The earth reference cable ensures protection against earth leakage in case of loss of supply neutral.

### Types

RCBOs are divided into types depending on the operating function:

- Type AC: For which tripping is ensured for residual sinusoidal alternating currents, whether suddenly applied or slowly rising
- Type A: For which tripping is ensured for residual sinusoidal alternating currents and residual pulsating direct currents, whether suddenly applied or slowly rising.

### Tripping sensitivity data

- RCBO with a rated residual current of maximum 30 mA are used for personnel, material and fire protection, as well as for protection against direct contact.


# RCBO - Residual Circuit Breaker with Overcurrent Protection

Product Code	Description
DLY1106	RCBO 1M 1P 6kA B-6A 30mA AC
DLY1110	RCBO 1M 1P 6kA B-10A 30mA AC
DLY1116	RCBO 1M 1P 6kA B-16A 30mA AC
DLY1120	RCBO 1M 1P 6kA B-20A 30mA AC
DLY1125	RCBO 1M 1P 6kA B-25A 30mA AC
DLY1132	RCBO 1M 1P 6kA B-32A 30mA AC
DLY1140	RCBO 1M 1P 6kA B-40A 30mA AC
DLY1150	RCBO 1M 1P 6kA B-50A 30mA AC
DLY3106	RCBO 1M 1P 6kA C-6A 30mA AC
DLY3110	RCBO 1M 1P 6kA C-10A 30mA AC
DLY3116	RCBO 1M 1P 6kA C-16A 30mA AC
DLY3120	RCBO 1M 1P 6kA C-20A 30mA AC
DLY3125	RCBO 1M 1P 6kA C-25A 30mA AC
DLY3132	RCBO 1M 1P 6kA C-32A 30mA AC
DLY3140	RCBO 1M 1P 6kA C-40A 30mA AC
DLY3150	RCBO 1M 1P 6kA C-50A 30mA AC
DLY2106	RCBO 1M 1P 6kA B-6A 30mA A
DLY2110	RCBO 1M 1P 6kA B-10A 30mA A
DLY2116	RCBO 1M 1P 6kA B-16A 30mA A
DLY2120	RCBO 1M 1P 6kA B-20A 30mA A
DLY2125	RCBO 1M 1P 6kA B-25A 30mA A
DLY2132	RCBO 1M 1P 6kA B-32A 30mA A
DLY2140	RCBO 1M 1P 6kA B-40A 30mA A
DLY2150	RCBO 1M 1P 6kA B-50A 30mA A
DLY4106	RCBO 1M 1P 6kA C-6A 30mA A
DLY4110	RCBO 1M 1P 6kA C-10A 30mA A
DLY4116	RCBO 1M 1P 6kA C-16A 30mA A
DLY4120	RCBO 1M 1P 6kA C-20A 30mA A
DLY4125	RCBO 1M 1P 6kA C-25A 30mA A
DLY4132	RCBO 1M 1P 6kA C-32A 30mA A
DLY4140	RCBO 1M 1P 6kA C-40A 30mA A
DLY4150	RCBO 1M 1P 6kA C-50A 30mA A

Product Code	Description
DLZ1106	RCBO 1M 1P 10kA B-6A 30mA AC
DLZ1110	RCBO 1M 1P 10kA B-10A 30mA AC
DLZ1116	RCBO 1M 1P 10kA B-16A 30mA AC
DLZ1120	RCBO 1M 1P 10kA B-20A 30mA AC
DLZ1125	RCBO 1M 1P 10kA B-25A 30mA AC
DLZ1132	RCBO 1M 1P 10kA B-32A 30mA AC
DLZ1140	RCBO 1M 1P 10kA B-40A 30mA AC
DLZ1150	RCBO 1M 1P 10kA B-50A 30mA AC
DLZ3106	RCBO 1M 1P 10kA C-6A 30mA AC
DLZ3110	RCBO 1M 1P 10kA C-10A 30mA AC
DLZ3116	RCBO 1M 1P 10kA C-16A 30mA AC
DLZ3120	RCBO 1M 1P 10kA C-20A 30mA AC
DLZ3125	RCBO 1M 1P 10kA C-25A 30mA AC
DLZ3132	RCBO 1M 1P 10kA C-32A 30mA AC
DLZ3140	RCBO 1M 1P 10kA C-40A 30mA AC
DLZ3150	RCBO 1M 1P 10kA C-50A 30mA AC
DLZ2106	RCBO 1M 1P 10kA B-6A 30mA A
DLZ2110	RCBO 1M 1P 10kA B-10A 30mA A
DLZ2116	RCBO 1M 1P 10kA B-16A 30mA A
DLZ2120	RCBO 1M 1P 10kA B-20A 30mA A
DLZ2125	RCBO 1M 1P 10kA B-25A 30mA A
DLZ2132	RCBO 1M 1P 10kA B-32A 30mA A
DLZ2140	RCBO 1M 1P 10kA B-40A 30mA A
DLZ2150	RCBO 1M 1P 10kA B-50A 30mA A
DLZ4106	RCBO 1M 1P 10kA C-6A 30mA A
DLZ4110	RCBO 1M 1P 10kA C-10A 30mA A
DLZ4116	RCBO 1M 1P 10kA C-16A 30mA A
DLZ4120	RCBO 1M 1P 10kA C-20A 30mA A
DLZ4125	RCBO 1M 1P 10kA C-25A 30mA A
DLZ4132	RCBO 1M 1P 10kA C-32A 30mA A
DLZ4140	RCBO 1M 1P 10kA C-40A 30mA A
DLZ4150	RCBO 1M 1P 10kA C-50A 30mA A

MCB - Miniature Circuit Breaker, Single/Double Pole - 4.5kA/6kA/10kA Type B and C

In accordance with Amendment 3, 17th Edition



DANSON MCBs (Miniature Circuit Breakers) are of the thermo-magnetic, current limiting type and are available with either type B or type C operating characteristics.

The operating handle may be locked in either the ON or OFF position without affecting the ability of the trip mechanism to operate. The contacts themselves are manufactured from carefully chosen materials, selected specifically for their low electrical resistance and low propensity to weld under fault conditions.

When the green indicator is visible, a contact gap of 4mm has been achieved, therefore DANSON MCBs may be used as a single pole isolating switch where appropriate.

Product Code (Provide a unique product identification)

D	B	Y	B	1	40
Danson Family Range	Product Type B for MCB	Short Circuit Breaking Capacity	Type of curves	Poles	Rated Current
		X4500A	B B Curve	11P	022A
		Y6000A	C C Curve	22P	044A
		Z10000A	D D Curve	33P	066A
				44P	1010A
					1616A
					2020A
					2525A
					3232A
					4040A
					5050A
					6363A

Technical specifications

Miniature Circuit Breakers

DB Series

Technical specifications

- Standards: BSEN60898-1, BSEN60947-2
- Approvals: CE, TUV, CB
- Rated current In (A): 2, 4, 6, 10, 16, 20, 25, 32, 40, 50, 63
- Rated voltage Un (VAC): 230/400
- Operational voltage (VAC): Min. 24 Max. 240/415
- Rated frequency (Hz) : 50/60
- Rated insulation voltage (VAC): 500
- Number of poles: 1, 2, 3, 4
- Tripping characteristic: B, C, D
  - Characteristic curve B (In): 3-5
  - Characteristic curve C (In): 5-10
  - Characteristic curve D (In): 10-20
- Thermal operating limit ( In): 1.13 - 1.45
- Rated switching capacity Icn (kA): 10
- Degree of protection: IP20, with connected conductors
- Electrical life (times): not less than 4,000
- Mechanical life (times): not less than 10,000

Breaking Capacity

Model	Rated voltage (V)		Acc.to BSEN60898-1		Acc.to BSEN60947-2	
			Icn(kA)	Ics(kA)	Icu(kA)	Ics(kA)
DB Series	1P	230/400	10	7.5	15	7.5
	2-4P	400	10	7.5	15	7.5
	1P	230/400	6	6	10	6
	2-4P	400	6	6	10	6

- Fire resistance according to UL 94: V0
- Mounting position: Any
- Conductor cross-sections
- Solid and stranded (mm²): 0.75 - 35
- Finely stranded with end sleeve (mm²): 0 .75 - 25
- Terminal tightening torque (N .m): 2 - 2.5
- Ambient temperature (°C): -25~+45, max. 95 % humidity
- Storage temperature (°C): -40~+75
- Altitude (meters): Max 2,000

Functions

- Overload protection
- Short circuit protection
- Isolation
- Controlling
- Used in residential building, non - residential building, industry, energy and infrastructure.

Features

- The handle being sealable or equipped with padlock bracket avoids dangerous operation changes (ON /OFF)
- The handle provides a clear indication of the contact position
- Adequate printing of all data on the front provides long-term identification
- Energy limiting class: 3
- The emission of ionized gases is limited to the severest restrictions: 55 mm grid distance
- This MCB for household in accordance with: BSEN60898-1, B, C and D tripping characteristics
- This MCB for industry in accordance with BSEN60947-2 instantaneous tripping characteristics with release B: 4In, release c: 8In, release D: 12In
- This MCB may be extended with
  - A wide range of RCDs
  - Full sets of additional components
  - Full sets of accessories

MCB - Miniature Circuit Breaker, Single/Double Pole - 4.5kA/6kA/10kA Type B and C

Magnetic release (BSEN60898-1)

An electromagnet with plunger ensures instantaneous tripping in case of short circuit. The BSEN60898-1 distinguishes three different types, following the current for instantaneous release: type B, C, D

Type	Test current	Initial condition	Limits of tripping or non-tripping time	Result to be obtained	Remarks
B	3 In	Cold*	0.1s<t<45s (for In ≤ 32A) 0.1s<t<90s (for In > 32A)	Tripping	Current established by closing an auxiliary switch
C	5 In		0.1s<t<15s (for In ≤ 32A) 0.1s<t<30s (for In > 32A)		
D	10 In		0.1s<t<4s (for In ≤ 32A) 0.1s<t<8s (for In > 32A)		
B C D	5 In 10 In 20 In	Cold*	t<0.1s	Tripping	Current established by closing an auxiliary switch
NOTE: “Cold” means under the reference temperature, with no load before test					

Magnetic release (BSEN60947-2)

- An electromagnet with plunger ensures instantaneous tripping in case of short circuit
- The standard leaves the calibration of magnetic release to manufacturer’s decision
- DANSON MCB DB series offers instantaneous tripping ranges
  - release B:4In
  - release C:8In
  - release D:12In

Thermal release (BSEN60898-1)

- The release is initiated by a bimetal strip in case of overload
- The standard defines the range of release for specific overload values
- Reference ambient temperature is 30°C

Test current	Initial condition	Limits of tripping or non-tripping time	Result to be obtained	Remarks
1.13 In	Cold	t≤1h (for In ≤ 63A) t≤2h (for In > 63A)	No tripping	
1.45 In	Immediately following test	t<1h (for In ≤ 63A) t<2h (for In > 63A)	Tripping	Current steadily increased within 5 s
2.55 In	Cold	1s<t<60s (for In ≤ 32A) 1s<t<120s (for In> 32A)	Tripping	

Thermal release (BSEN60947-2)

- The release is initiated by a bimetal strip in case of overload.
- The standard defines the range of release for two specific overload values.
- Reference ambient temperature is 30°C

Test current	Tripping time
1.05 In	t≥1h (In ≤ 63A)
1.30 In	t<1h (In ≤ 63A)

Temperature derating

The maximum permissible current in a circuit breaker depends on the ambient temperature where the circuit breaker is placed. Ambient temperature is the temperature inside the enclosure or switchboard in which the circuit breakers are installed. The reference temperature is 30°C.

Ambient temperature

Rated current (A)	-35°C	-30°C	-20°C	-10°C	0°C	10°C	20°C	30°C	40°C	50°C	60°C
2	2.60	2.52	2.46	2.38	2.28	2.20	2.08	2.00	1.92	1.86	1.76
4	5.20	2.04	4.92	4.76	4.56	4.40	4.16	4.00	3.84	3.76	3.52
6	7.80	7.56	7.38	7.14	6.84	6.60	6.24	6.00	5.76	5.64	5.28
10	13.20	12.70	2.50	12.00	11.50	11.10	10.60	10.00	9.60	9.30	8.90
16	21.12	20.48	20.00	19.20	18.40	17.76	16.96	16.00	15.36	4.88	14.24
20	26.40	25.60	25.00	24.00	23.00	22.20	21.20	20.00	19.20	8.60	17.80
25	33.00	32.00	31.25	30.00	28.75	27.75	26.50	25.00	24.00	23.25	22.25
32	42.56	41.28	40.00	38.72	37.12	35.52	33.92	32.00	30.34	28.60	26.75
40	53.20	51.20	50.00	48.00	46.40	44.80	42.40	40.00	37.85	35.61	33.21
50	67.00	65.50	63.00	60.50	58.00	56.00	53.00	50.00	46.24	43.33	40.23
63	83.79	81.90	80.01	76.86	73.71	70.56	66.78	63.00	58.19	54.16	49.80

When several simultaneously operating circuit breakers are mounted side by side in a small enclosure, the temperature rise inside the enclosure causes a reduction in current rating. You must then assign the rating (already derated if necessary according to ambient temperature a down rating factor of 0.8.



MCB - Miniature Circuit Breaker, Single/Double Pole - 4.5kA/6kA/10kA Type B and C

Product Code	Description
	<b>1 pole - 6kA - B Type</b>
DBYB102	MCB 1P 6kA B-2A 1M
DBYB104	MCB 1P 6kA B-4A 1M
DBYB106	MCB 1P 6kA B-6A 1M
DBYB110	MCB 1P 6kA B-10A 1M
DBYB116	MCB 1P 6kA B-16A 1M
DBYB120	MCB 1P 6kA B-20A 1M
DBYB125	MCB 1P 6kA B-25A 1M
DBYB132	MCB 1P 6kA B-32A 1M
DBYB140	MCB 1P 6kA B-40A 1M
DBYB150	MCB 1P 6kA B-50A 1M
DBYB163	MCB 1P 6kA B-63A 1M
	<b>1 pole - 6kA - C Type</b>
DBYC102	MCB 1P 6kA C-2A 1M
DBYC104	MCB 1P 6kA C-4A 1M
DBYC106	MCB 1P 6kA C-6A 1M
DBYC110	MCB 1P 6kA C-10A 1M
DBYC116	MCB 1P 6kA C-16A 1M
DBYC120	MCB 1P 6kA C-20A 1M
DBYC125	MCB 1P 6kA C-25A 1M
DBYC132	MCB 1P 6kA C-32A 1M
DBYC140	MCB 1P 6kA C-40A 1M
DBYC150	MCB 1P 6kA C-50A 1M
DBYC163	MCB 1P 6kA C-63A 1M
	<b>1 pole - 4.5kA - B Type</b>
DBXB102	MCB 1P 4.5kA B-2A 1M
DBXB104	MCB 1P 4.5kA B-4A 1M
DBXB106	MCB 1P 4.5kA B-6A 1M
DBXB110	MCB 1P 4.5kA B-10A 1M
DBXB116	MCB 1P 4.5kA B-16A 1M
DBXB120	MCB 1P 4.5kA B-20A 1M
DBXB125	MCB 1P 4.5kA B-25A 1M
DBXB132	MCB 1P 4.5kA B-32A 1M
DBXB140	MCB 1P 4.5kA B-40A 1M
DBXB150	MCB 1P 4.5kA B-50A 1M
DBXB163	MCB 1P 4.5kA B-63A 1M
	<b>1 pole - 4.5kA - C Type</b>
DBXC102	MCB 1P 4.5kA C-2A 1M
DBXC104	MCB 1P 4.5kA C-4A 1M
DBXC106	MCB 1P 4.5kA C-6A 1M
DBXC110	MCB 1P 4.5kA C-10A 1M
DBXC116	MCB 1P 4.5kA C-16A 1M
DBXC120	MCB 1P 4.5kA C-20A 1M
DBXC125	MCB 1P 4.5kA C-25A 1M
DBXC132	MCB 1P 4.5kA C-32A 1M
DBXC140	MCB 1P 4.5kA C-40A 1M
DBXC150	MCB 1P 4.5kA C-50A 1M
DBXC163	MCB 1P 4.5kA C-63A 1M

Product Code	Description
	<b>1 pole - 10kA - B Type</b>
DBZB102	MCB 1P 10kA B-2A 1M
DBZB104	MCB 1P 10kA B-4A 1M
DBZB106	MCB 1P 10kA B-6A 1M
DBZB110	MCB 1P 10kA B-10A 1M
DBZB116	MCB 1P 10kA B-16A 1M
DBZB120	MCB 1P 10kA B-20A 1M
DBZB125	MCB 1P 10kA B-25A 1M
DBZB132	MCB 1P 10kA B-32A 1M
DBZB140	MCB 1P 10kA B-40A 1M
DBZB150	MCB 1P 10kA B-50A 1M
DBZB163	MCB 1P 10kA B-63A 1M
	<b>1 pole - 10kA - C Type</b>
DBZC102	MCB 1P 10kA C-2A 1M
DBZC104	MCB 1P 10kA C-4A 1M
DBZC106	MCB 1P 10kA C-6A 1M
DBZC110	MCB 1P 10kA C-10A 1M
DBZC116	MCB 1P 10kA C-16A 1M
DBZC120	MCB 1P 10kA C-20A 1M
DBZC125	MCB 1P 10kA C-25A 1M
DBZC132	MCB 1P 10kA C-32A 1M
DBZC140	MCB 1P 10kA C-40A 1M
DBZC150	MCB 1P 10kA C-50A 1M
DBZC163	MCB 1P 10kA C-63A 1M
	<b>2 pole - 6kA - B Type</b>
DBYB202	MCB 2P 6kA B-2A 2M
DBYB204	MCB 2P 6kA B-4A 2M
DBYB206	MCB 2P 6kA B-6A 2M
DBYB210	MCB 2P 6kA B-10A 2M
DBYB216	MCB 2P 6kA B-16A 2M
DBYB220	MCB 2P 6kA B-20A 2M
DBYB225	MCB 2P 6kA B-25A 2M
DBYB232	MCB 2P 6kA B-32A 2M
DBYB240	MCB 2P 6kA B-40A 2M
DBYB250	MCB 2P 6kA B-50A 2M
DBYB263	MCB 2P 6kA B-63A 2M
	<b>2 pole - 6kA - C Type</b>
DBYC202	MCB 2P 6kA C-2A 2M
DBYC204	MCB 2P 6kA C-4A 2M
DBYC206	MCB 2P 6kA C-6A 2M
DBYC210	MCB 2P 6kA C-10A 2M
DBYC216	MCB 2P 6kA C-16A 2M
DBYC220	MCB 2P 6kA C-20A 2M
DBYC225	MCB 2P 6kA C-25A 2M
DBYC232	MCB 2P 6kA C-32A 2M
DBYC240	MCB 2P 6kA C-40A 2M
DBYC250	MCB 2P 6kA C-50A 2M
DBYC263	MCB 2P 6kA C-63A 2M

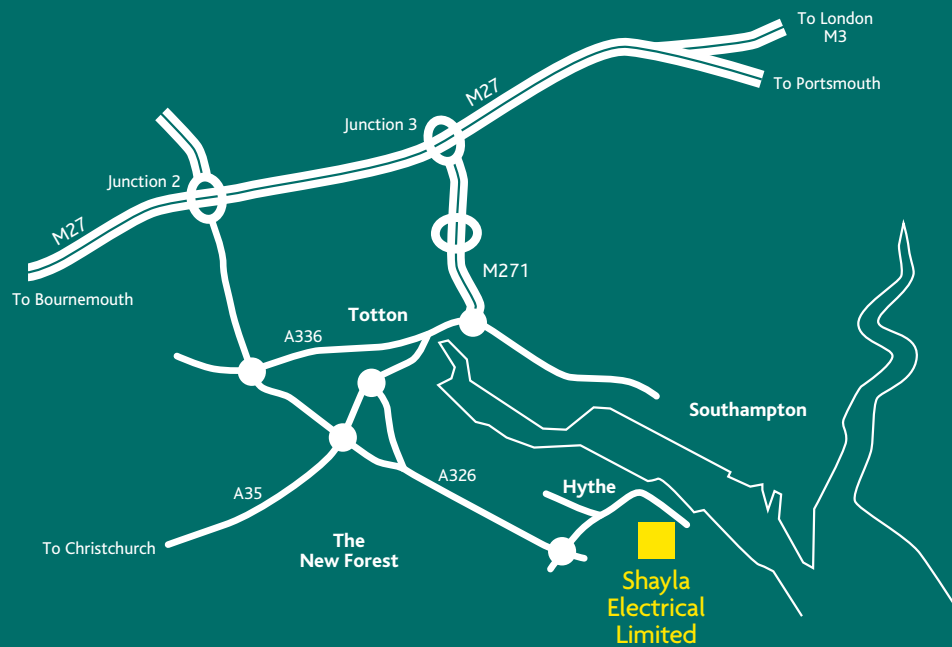
MCB - Miniature Circuit Breaker, Single/Double Pole - 4.5kA/6kA/10kA Type B and C

Product Code	Description
	<b>2 pole - 4.5kA - B Type</b>
DBXB202	MCB 2P 4.5kA B-2A 2M
DBXB204	MCB 2P 4.5kA B-4A 2M
DBXB206	MCB 2P 4.5kA B-6A 2M
DBXB210	MCB 2P 4.5kA B-10A 2M
DBXB216	MCB 2P 4.5kA B-16A 2M
DBXB220	MCB 2P 4.5kA B-20A 2M
DBXB225	MCB 2P 4.5kA B-25A 2M
DBXB232	MCB 2P 4.5kA B-32A 2M
DBXB240	MCB 2P 4.5kA B-40A 2M
DBXB250	MCB 2P 4.5kA B-50A 2M
DBXB263	MCB 2P 4.5kA B-63A 2M
	<b>2 pole - 4.5kA - C Type</b>
DBXC202	MCB 2P 4.5kA C-2A 2M
DBXC204	MCB 2P 4.5kA C-4A 2M
DBXC206	MCB 2P 4.5kA C-6A 2M
DBXC210	MCB 2P 4.5kA C-10A 2M
DBXC216	MCB 2P 4.5kA C-16A 2M
DBXC220	MCB 2P 4.5kA C-20A 2M
DBXC225	MCB 2P 4.5kA C-25A 2M
DBXC232	MCB 2P 4.5kA C-32A 2M
DBXC240	MCB 2P 4.5kA C-40A 2M
DBXC250	MCB 2P 4.5kA C-50A 2M
DBXC263	MCB 2P 4.5kA C-63A 2M

Product Code	Description
	<b>2 pole - 10kA - B Type</b>
DBZB202	MCB 2P 10kA B-2A 2M
DBZB204	MCB 2P 10kA B-4A 2M
DBZB206	MCB 2P 10kA B-6A 2M
DBZB210	MCB 2P 10kA B-10A 2M
DBZB216	MCB 2P 10kA B-16A 2M
DBZB220	MCB 2P 10kA B-20A 2M
DBZB225	MCB 2P 10kA B-25A 2M
DBZB232	MCB 2P 10kA B-32A 2M
DBZB240	MCB 2P 10kA B-40A 2M
DBZB250	MCB 2P 10kA B-50A 2M
DBZB263	MCB 2P 10kA B-63A 2M
	<b>2 pole - 10kA - C Type</b>
DBZC202	MCB 2P 10kA C-2A 2M
DBZC204	MCB 2P 10kA C- 4A 2M
DBZC206	MCB 2P 10kA C-6A 2M
DBZC210	MCB 2P 10kA C-10A 2M
DBZC216	MCB 2P 10kA C-16A 2M
DBZC220	MCB 2P 10kA C-20A 2M
DBZC225	MCB 2P 10kA C-25A 2M
DBZC232	MCB 2P 10kA C-32A 2M
DBZC240	MCB 2P 10kA C-40A 2M
DBZC250	MCB 2P 10kA C-50A 2M
DBZC263	MCB 2P 10kA C-63A 2M

## Notes

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Shayla Electrical Limited, Unit 6 Trident Business Park, Shore Road, Hythe SO45 6GJ  
General: 023 8114 0050 Sales: 023 8114 0059 Fax: 023 8178 1930  
Email: [sales@shayla-electrical.co.uk](mailto:sales@shayla-electrical.co.uk) Web: [www.shayla-electrical.co.uk](http://www.shayla-electrical.co.uk)