

Catalogue

Residential Distribution

:hager



Residential Distribution solutions

BS 7671:2018 Amendment 2 was issued 28th March 2022.

The Wiring Regulations (**BS 7671**) regularly comes under review to ensure all standards are compliant with today's electrical needs.

These reviews may also happen when standards change at an International or European level, to ensure technical consistency with the UK.

The general structure of the Wiring Regulations remains unchanged, however there is now an additional part 8 on the topic of Functional requirements of Prosumer's Electrical Installations.

This edition may be implemented immediately however **BS 7671:2018+A1:2020** remains current until it is withdrawn on **27th September 2022**.

During this transition period a Designer or Installer can use either edition for compliance for his installation. They will, however, have to choose which edition they are working to, as it is not acceptable to mix clauses from the two amendments.

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Introducing

18th Edition Amendment 2

Previously there was the term ‘installations designed after a certain date are to comply to the new edition’. This time Amendment 1 is withdrawn on 27th September 2022 to bring BS 7671 into line with other British Standards when they are reviewed. In practice what this means is that completion of an electrical installation designed to the withdrawn standard will need to be subject to a contractual agreement between all parties involved.

Existing installations that have been installed in accordance with earlier editions of the Regulations may not fully comply with Amendment 2 requirements. This does not necessarily mean that they are unsafe for continued use or require upgrading. New work however carried out on an existing installation will need to meet the requirements of Amendment 2 after 27th September 2022.

Arc Fault Detection (421.1.7)

“Regulation 421.1.7 now states AFDD conforming to BS EN 62606 shall be provided for single-phase AC final circuits supplying socket-outlets with a rated current not exceeding 32A in...”

Page 04

Surge Protection (443.4.1)

“Regulation 443.4.1 now requires protection against transient overvoltages to be provided where the consequence caused by the overvoltage could result in...”

Page 06

Overload Protection of RCCBs, Switches (536.4.3.2)

“RCCBs & switches do not provide protection against overload, therefore they shall be protected by an overcurrent protective device...”

(536.4.202)

“ ... overload protection shall not solely be based on the use of diversity factors of the downstream circuits. To achieve overload protection of RCCBs or switches, the rated current of the overcurrent protective device (OCPD) shall be selected according to the manufacturers instructions...”

Page 08

RCD Selection (531.3.3)

“Different types of RCD exist, depending on their behaviour in the presence of DC components and frequencies. The appropriate RCD shall be selected...”

Page 10

RCD protection of socket outlets (411.3.3)

“Regulation 411.3.3 referring to RCD protection of socket-outlets up to 32 A has been redrafted and now has three indents for the requirements of RCD protection not exceeding 30 mA...”

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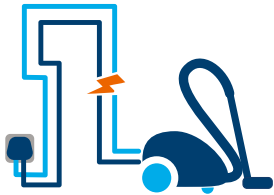
Precautions where particular risk of fire exits (422.2)

“Regulation 422.2 requires that: Cables or other electrical equipment shall not be installed in a protected escape route unless part of: (i) an essential fire safety or related safety system...”

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Arc Fault Detection Devices

Parallel Arc Fault



Series Arc Fault



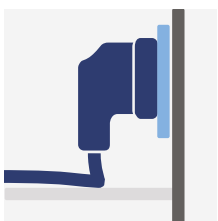
Arc fault detection devices (AFDD) use microprocessors to identify characteristic current flow and voltage curves that indicate an arc fault and automatically trip the affected circuit.

This significantly reduces the risk of fire due to faulty conductors and connections. The protective function of the AFDD has already proven its worth internationally and the use of arc fault detection devices conforming to BS EN 62606 is recommended as a means of providing additional protection in AC final circuits.

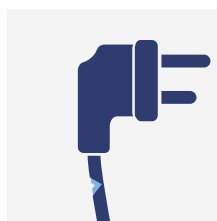
The 18th Edition of BS 7671, recommends the use of these to provide additional protection against fire.

Potential Causes

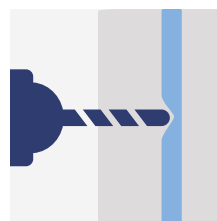
Arc faults can be caused by all types of line faults and worn contacts. An AFDD will trip the circuit when a potentially hazardous arc occurs, eliminating the resulting fire hazard.



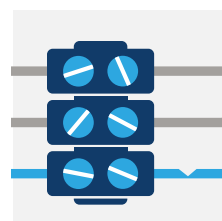
Kink/break in the cable



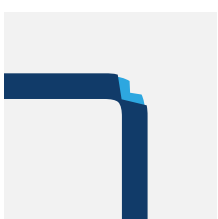
Cable wear due to frequent use



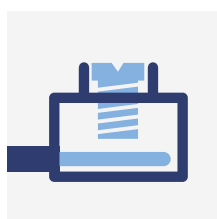
Line damage resulting from drilling or construction work



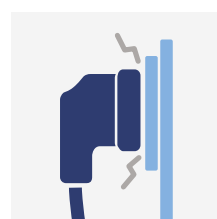
Incorrect wire stripping



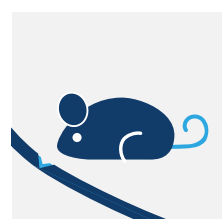
Incorrect bending radii



Loose screwed connections



Defective plugs



Rodent bites

The biggest change to be aware of that has been made to Amendment 2, is that the use of Arc Fault Detection Devices (AFDD) have changed from being recommended to a mandatory use in certain types of installations.

With the increase of new technologies being introduced and being more widely used, these devices are becoming more vitally important to everyday life.

Regulation 421.1.7 now states AFDD conforming to BS EN 62606 shall be provided for single-phase AC final circuits supplying socket-outlets with a rated current not exceeding 32A in:

- Higher risk residential buildings (HRRB)
- Houses in multiple occupation (HMO)
- Purpose-built student accommodation (PBSA)
- Care homes

For all other premises, the use of AFDDs is recommended for single-phase AC final circuits supplying socket-outlets not exceeding 32A.



Higher risk residential buildings (HRRB)

Higher Risk Residential Buildings are assumed to be residential buildings over 18 m in height or in excess of six storeys, whichever is met first. Should this building incorporate a business premises on the ground floor for example then this too could fall under this requirement.



Houses in multiple occupation (HMO)

A house in multiple occupation is a property rented out by at least three people who are not from one “Household” but share facilities like a bathroom or kitchen.



Purpose-built Student accommodation

PBSA is housing built specifically for students to live in.



Care home

A care home is a place where personal care and accommodation are provided together.

Surge Protection

With everyday activities relying on electronic equipment, the whole nature of how electrical equipment is used in homes and at work has evolved.

Transient Overvoltages

Products such as computers, printers, flat screen televisions, alarms, microwaves and washing machines are common place. These can all be vulnerable to **transient overvoltages**, which can significantly reduce the equipment's lifespan through degradation and damage.

A transient overvoltage or surge is a short duration increase in voltage measured between two or more conductors. In short, this means anything from microseconds (millionths of a second) to a few milliseconds (thousandths of a second) in duration.

The requirements of Section 443 on protection against Transient Overvoltages has been completely rewritten with the risk assessment removed.

Regulation 443.4.1 now requires protection against transient overvoltages to be provided where the consequence caused by the overvoltage could result in:

- (i) serious injury to, or loss of, human life
- (ii) failure of a safety service, as defined in Part 2
- (iii) significant financial or data loss.

For all other cases, protection against transient overvoltages shall be provided unless the owner of the installation declares it is not required due to any loss or damage being tolerable and they accept the risk of damage to equipment and any consequential loss.

Indent (ii) however requires the use of overvoltage protection devices to protect a Safety Service. This is defined in Part 2 as;

An electrical system for electrical equipment provided to protect or warn persons in the event of a hazard, or essential to their evacuation from a location.

A fire or smoke detection system would fall into this definition. If then this system is supplied from the electrical installation then an overvoltage could cause it to fail and as such requires protection.

The simplest way to provide this protection may be to supply it at the distribution board or consumer unit.

Surge Protection Devices

SPD's protect electrical and electronic equipment against transients, originating from lightning, switching of transformers, lighting and motors. These transients can cause premature aging of equipment, downtime, or complete destruction of electronic components and materials. SPDs are strongly recommended for installations that are exposed to transients, to protect sensitive and expensive electrical equipment such as TVs, washing machines, PCs, alarms etc.



Selection Criteria

Surge protection devices are classified according to their functions:

Type 1

SPD which can discharge partial lightning current with a typical waveform 10/350 μ s. Usually employs spark gap technology.

Type 2

SPD which can prevent the spread of overvoltages in the electrical installations and protects equipment connected to it. It usually employs metal oxide varistor (MOV) technology and is characterised by an 8/20 μ s current wave.

Type 3

These SPDs have a low discharge capacity. They must therefore only be installed as a supplement to Type 2 SPD and in the vicinity of sensitive loads. Type 3 SPD's are characterised by a combination of voltage waves (1.2/50 μ s) and current waves (8/20 μ s).



Terminology



I_{imp} – Impulse current of 10/350 μ s waveform associated with Type 1 SPD's.

I_n – Surge current of 8/20 μ s waveform associated with Type 2 SPD's.

U_p – The residual voltage that is measured across the terminal of the SPD when I_n is applied.

U_c – The maximum voltage which may be continuously applied to the SPD without it conducting.

Overload Protection

536.4.3.2

"RCCBs & switches do not provide protection against overload, therefore they shall be protected by an overcurrent protective device."

536.4.202

"... overload protection shall not solely be based on the use of diversity factors of the downstream circuits. To achieve overload protection of RCCBs or switches, the rated current of the overcurrent protective device (OCPD) shall be selected according to the manufacturers instructions".



Devices such as switches, RCCBs etc. in distribution boards and consumer units may have historically had their rated current determined after having taken diversity into account but without having considered overload protection of the devices.

These devices do not provide protection against overload and the 18th Edition prescribes that overload protection of the switch or RCCB shall not solely be based on the use of diversity factors of the downstream circuits.

2 Pole 100A 30mA RCCB

Overload protection of switches and RCCBs can be achieved by:

Method 1

Ensure the sum of the rated current of the downstream MCBs do not exceed the rated current of the switch or RCCB (I_{NC}). This method would however need to consider the consequences of any spare ways and later additions.

Method 2

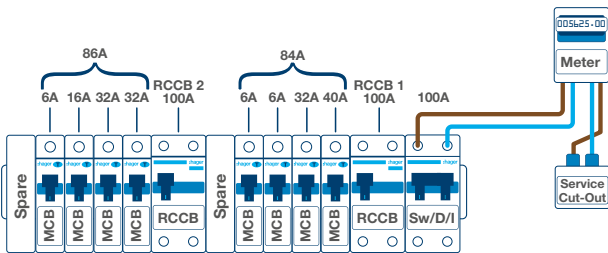
Ensure that the rated current of a switch or RCCB (I_{NC}), stated by the assembly manufacturer, is not less than the rating of the upstream OCPD. For a domestic installation this could be a 100A cut-out fuse.

Method 3

Select a consumer unit that only utilises RCBOs on outgoing circuits. Consideration will still need to be given as to the rated current of the main switch.

Example 1

Maximum demand based upon diversity = 92 A
 (100% Largest load + 40% all other loads)
 Consumer Unit I_{NA} = 100A



Method 1. Overload protection provided by:
Sum of Rated current of downstream devices

- RCCB1 \geq Sum of rated current of downstream MCBs: 84 A
- RCCB2 \geq Sum of rated current of downstream MCBs: 86 A

Method 2. Overload protection provided by:
Upstream cut-out fuse

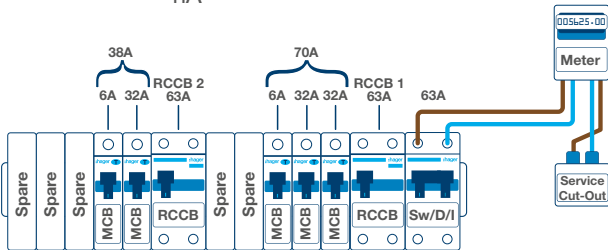
- RCCBs \geq Rated current of upstream protection
- RCCBs (100 A) - Cut-out fuse 100 A
- Cut-out fuse 80 A
- Cut-out fuse 60 A

Summary

A consumer unit with a rated current of 100A (I_{NA}), with two RCCB 100A (I_{NC}) will allow the consumer unit to be installed in any single phase application up to 100A.

Example 2

Maximum demand based upon diversity = 62.4 A
 (100% Largest load + 40% all other loads)
 Consumer Unit I_{NA} = 63A



Method 1. Overload protection provided by:
Sum of Rated current of downstream devices

- RCCB1 \geq Sum of rated current of downstream MCBs: 70 A
- RCCB2 \geq Sum of rated current of downstream MCBs: 38 A

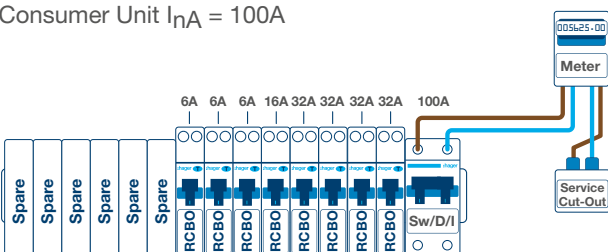
Method 2. Overload protection provided by:
Cut-out fuse

- RCCBs \geq Rated current of upstream protection
- RCCBs (63 A) - Cut-out fuse 100 A
- Cut-out fuse 80 A
- Cut-out fuse 60 A

Note: Potential future loads on spare ways should be considered.

Example 3

Maximum demand based upon diversity = 84 A
 (100% Largest load + 40% all other loads)
 Consumer Unit I_{NA} = 100A



Method 3. Overload protection provided by:
Each RCBO

Method 2. Overload protection provided by:
Upstream cut-out fuse

- Switch \geq Rated current of upstream protection
- Switch (100 A) - Cut-out fuse 100 A
- Cut-out fuse 80 A
- Cut-out fuse 60 A

RCD protection of socket outlets

Different types of RCDs were introduced when the 18th edition was first published in 2018 with Regulation 531.3.

Amendment 2 has gone further saying that Type AC RCDs shall only be used where it is known the load current contains no DC components.

This will only be in a purely resistive item of equipment such as a resistive heating element of filament lighting. It is likely then that Type A RCDs as a minimum will generally be used.

Unwanted tripping is still a consideration for the designer of the installation with Regulation 531.3.2.

To achieve this they should ideally ensure there is no more than 30% of the rated residual operating current due to protective conductor current and/or earth leakage currents (i.e. 9mA for a 30mA device).

There is a new indent (ii) to consider the use of RCBOs as opposed to split load arrangements for this purpose.



Type AC General purpose use

RCD can detect & respond to AC sinusoidal wave only.



Type A Equipment incorporating electronic components

RCD can detect & respond the same as Type AC + **pulsating DC components.**



Type F Equipment with frequency controlled speed drives

RCD can detect & respond the same as Type A + **high frequency residual current.**



Type B Electric vehicle chargers, PV supplies

RCD can detect & respond the same as Type F + **smooth DC residual current.**





Regulation 411.3.3 referring to RCD protection of socket-outlets up to 32A has been redrafted and now has three indents for the requirements of RCD protection not exceeding 30mA.

- (i) Socket-outlets with a rated current not exceeding 32 A in locations where they are liable to be used by persons of capability BA1, BA3 or children (BA2, BA3),
- (ii) Socket-outlets with a rated current not exceeding 32 A in other locations, and
- (iii) Mobile equipment with a rated current not exceeding 32A for use outdoors.

An explanation of BA1,BA2 & BA3 can be found in Appendix 5 but are summarised as follows:

BA1

Ordinary Person as defined in Part 2 i.e. not skilled or instructed

BA2

Children

BA3

Disabled persons i.e. Persons not in command of all their physical and/or intellectual abilities (sick persons, old persons)

There is still an exception to omit RCD protection where a documented risk assessment is carried out.

However this can only be applied for indent (ii) and not for (i) or (iii).



Precautions where particular risk of fire exists

A new definition has been included in Amendment 2 of protected escape route.

This is defined as:

A route enclosed with specified fire-resisting construction designated for escape to a place of safety in the event of an emergency.

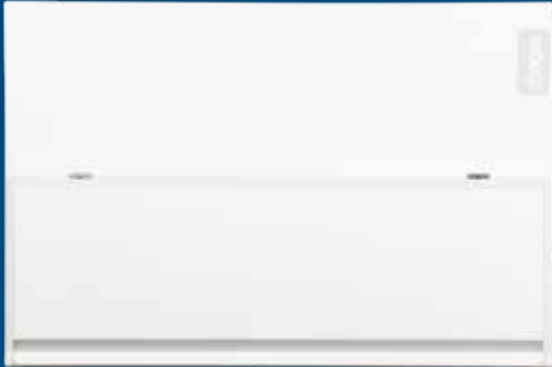
Regulation 422.2 requires that:

Cables or other electrical equipment shall not be installed in a protected escape route unless part of:

- (i) an essential fire safety or related safety system
- (ii) general needs lighting
- (iii) socket-outlets provided for cleaning or maintenance

There are also requirements for the types of cables and cable management systems to be used in this specific area which are fire resistant or installed within non-flame propagating cable management systems.

Consumer Units



Design 10

Design 10 is our board for all applications. As with all models in the range, there is ample cable space available even when RCBOs are fitted. The top mounted terminal rail makes the wiring of the neutral and earth connections neat and simple. Multiple fixing points are available to ease installation and a full metal DIN rail ensure the devices sit square. Available in surface and flush.



Design 30

Design 30 is our enhanced consumer unit, created to be more aesthetically pleasing whilst including extra features to ease installation. Design 30 comes with a cable clamp installed and rear cable entry plate supplied, which allows for incoming meter tails to be safely secured, eliminating stresses within the switch terminal.



Design 50

Design 50 focuses on clean aesthetics and a flush fit for seamless integration into any home. Design 50 comes with all the installation features you would expect from us, such as an incoming cable clamp and cable protector plate, as well as a series of colour options, finishes & sizes. There's a Design 50 for any home environment.

Residential Distribution

Functional, stylish, and innovative, our Design Range of consumer units provide an exceptional option for any home. In addition, we offer MCB's and RCBO's as well as new surge protection and arc fault detection solutions to provide optimal protection.



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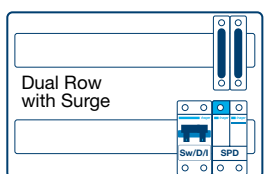
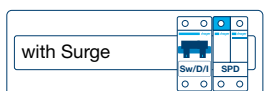
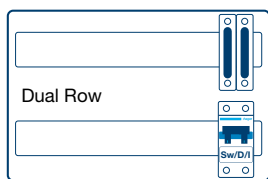


VML106

Switch Disconnecter Incomer

Characteristics:

- All Design 10 consumer units contain top, bottom & rear knockouts and a meter tail cable entry plate (**VM04CE**) as standard- see page 33 for knockout sizes.
- Supplied with a full metal DIN rail, 100A switch disconnecter incomer and a full complement of earth and neutral terminals along with marking labels, busbar and instructions.
- References ending in **SPD** come with a Type 2 SPD fitted.
- Recommended for use with TT systems when utilising RCBO on all outgoing circuits.
- We also recommend the use of cable clamp (**VA10MT**) for use on TT systems, available as an accessory.
- Conforms to BS EN 61439-3 Including Annex ZB (16kA rating).
- For accessories see page 28, for dimensions see page 33, refer to board sizes below.



Description	Size	Cat ref.	Cat ref. With Round Knockouts
2 Way 63A Switch Disconnecter Incomer	2	VML202	VML202RK
6 Way 63A Switch Disconnecter Incomer	3	VML206	VML206RK
6 Way 100A Switch Disconnecter Incomer	3	VML106	VML106RK
10 Way 100A Switch Disconnecter Incomer	4	VML110	VML110RK
14 Way 100A Switch Disconnecter Incomer	5	VML114	VML114RK
20 Way 100A Switch Disconnecter Incomer	7	VML120	VML120RK
8 Way 100A Switch Disconnecter Incomer with Factory Fitted Surge Protection	4	VML108SPD	VML108SPDRK
12 Way 100A Switch Disconnecter Incomer with Factory Fitted Surge Protection	5	VML112SPD	VML112SPDRK
18 Way 100A Switch Disconnecter Incomer with Factory Fitted Surge Protection	7	VML118SPD	VML118SPDRK
6 + 6 Way Dual Row 100A Switch Disconnecter Incomer	3 (2)	VML10606	-
10 + 10 Way Dual Row 100A Switch Disconnecter Incomer	4 (2)	VML11010	-
14 + 14 Way Dual Row 100A Switch Disconnecter Incomer	5 (2)	VML11414	-
20 + 20 Way Dual Row 100A Switch Disconnecter Incomer	7 (2)	VML12020	-
8 + 10 Way Dual Row 100A Switch Disconnecter Incomer with Factory Fitted Surge Protection	4(2)	VML10810SPD	-
12 + 14 Way Dual Row 100A Switch Disconnecter Incomer with Factory Fitted Surge Protection	5(2)	VML11214SPD	-
18 + 20 Way Dual Row 100A Switch Disconnecter Incomer with Factory Fitted Surge Protection	7(2)	VML11820SPD	-

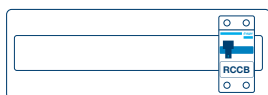


VML310AH

RCCB Incomer

Characteristics:

- All Design 10 consumer units contain top, bottom & rear knockouts and a meter tail cable entry plate (**VM04CE**) as standard- see page 33 for knockout sizes.
- Supplied with a full metal DIN rail, 40A, 63A or 100A 30mA Type A RCCB incomer and a full complement of earth and neutral terminals along with marking labels, busbar and instructions.
- Conforms to BS EN 61439-3 Including Annex ZB (16kA rating).
- For accessories see page 28, for dimensions see page 33, refer to board sizes below.



Description	Size	Cat ref.	Cat ref. With Round Knockouts
2 Way 63A 30mA Type A RCCB Incomer	2	VML402AH	-
6 Way 63A 30mA Type A RCCB Incomer	3	VML406AH	-
10 Way 63A 30mA Type A RCCB Incomer	4	VML410AH	-
6 Way 100A 30mA Type A RCCB Incomer	3	VML306AH	VML306AHRK
10 Way 100A 30mA Type A RCCB Incomer	4	VML310AH	VML310AHRK
14 Way 100A 30mA Type A RCCB Incomer	5	VML314AH	VML314AHRK

Split Load

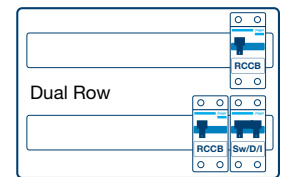
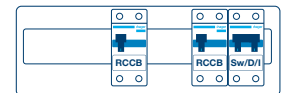
Characteristics:

- All Design 10 consumer units contain top, bottom & rear knockouts and a meter tail cable entry plate (**VM04CE**) as standard- see page 33 for knockout sizes.
- Supplied with 2 x Type A RCCBs, a full metal DIN rail, 100A switch disconnecter incomer and a full complement of earth and neutral terminals along with marking labels, busbar and instructions.
- Conforms to BS EN 61439-3 Including Annex ZB (16kA rating).
- * 100A device in these boards are de-rated to 80A.
- For accessories see page 28, for dimensions see page 33.



VML966H

Description	Size	Cat ref.	Cat ref. With Round Knockouts
6 Way 3+3 80A Switch 2x 80A 30mA RCCB*	4	VML933H*	VML933RK*
10 Way 5+5 100A Switch 2x 100A 30mA RCCB	5	VML955H	VML955RK
12 Way 6+6 100A Switch 2x 100A 30mA RCCB	6	VML966H	VML966RK
14 Way 6+6+2 100A Switch 3x 100A 30mA RCCB	7	VML9662	-
4 + 6 Way Dual Row 100A Switch 2x 100A 30mA RCCB	3(2)	VML946H	-
8 + 10 Way Dual Row 100A Switch 2x 100A 30mA RCCB	4(2)	VML90810H	-
12 + 14 Way Dual Row 100A Switch 2x 100A 30mA RCCB	5(2)	VML91214H	-
18 + 20 Way Dual Row 100A Switch 2x 100A 30mA RCCB	7(2)	VML91820H	-



Configurable High Integrity

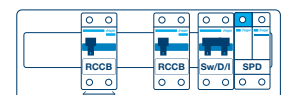
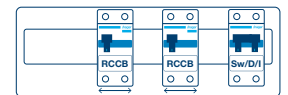
Characteristics:

- Metal split load and configurable consumer units with the ability to protect selected circuits with RCBOs/MCBs and the remainder of circuits split across two RCCBs.
- All Design 10 consumer units contain top, bottom & rear knockouts and a meter tail cable entry plate (**VM04CE**) as standard- see page 33 for knockout sizes.
- Supplied with 2 x Type A RCCBs, a full metal DIN rail, 100A switch disconnecter incomer and a full complement of earth and neutral terminals along with marking labels, busbar and instructions.
- References ending in **SPD** come with a Type 2 SPD fitted.
- Conforms to BS EN 61439-3 Including Annex ZB (16kA rating).
- For accessories see page 28, for dimensions see page 33.

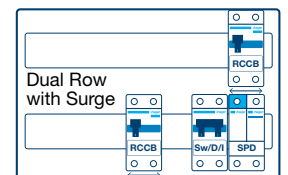
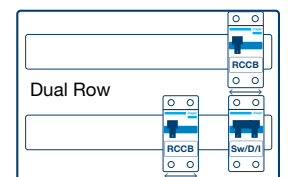


VML912C

Description	Size	Cat ref.	Cat ref. With Round Knockouts
10 Way 100A Switch 2x 100A 30mA RCCB	5	VML910C	-
12 Way 100A Switch 2x 100A 30mA RCCB	6	VML912C	-
16 Way 100A Switch 2x 100A 30mA RCCB	7	VML916C	-
10 Way High Integrity 100A Switch 2x 100A 30mA RCCB	5	VML910CU	VML910CURK
12 Way High Integrity 100A Switch 2x 100A 30mA RCCB	6	VML912CU	-
16 Way High Integrity 100A Switch 2x 100A 30mA RCCB	7	VML916CU	VML916CURK
8 Way High Integrity 100A Switch 2x 100A 30mA RCCB with Factory Fitted Surge Protection	5	VML908CUSPD	VML908CUSPDRK
10 Way High Integrity 100A Switch 2x 100A 30mA with Factory Fitted Surge Protection	6	VML910CUSPD	VML910CUSPDRK
14 Way High Integrity 100A Switch 2x 100A 30mA RCCB with Factory Fitted Surge Protection	7	VML914CUSPD	VML914CUSPDRK
8+10 Way Dual Row High Integrity 100A Switch 2x 100A	4(2)	VML90810CU	-
12+14 Way Dual Row High Integrity 100A Switch 2x 100A	5(2)	VML91214CU	-
18+20 Way Dual Row High Integrity 100A Switch 2x 100A	7(2)	VML91820CU	-
6+10 Way Dual Row High Integrity 100A Switch 2x 100A 30mA RCCB with Factory Fitted Surge Protection	4(2)	VML90610CUSPD	-
10+14 Way Dual Row High Integrity 100A Switch 2x 100A 30mA Type RCCB with Factory Fitted Surge Protection	5(2)	VML91014CUSPD	-
16+20 Way Dual Row High Integrity 100A Switch 2x 100A 30mA RCCB with Factory Fitted Surge Protection	7(2)	VML91620CUSPD	-
12 Way Configurable, 100A Switch 1x 100A 30mA RCCB (Remaining Ways for RCBOs)	5	VML512AC	-
18 Way Configurable, 100A Switch 1x 100A 30mA RCCB (Remaining Ways for RCBOs)	7	VML518AC	-

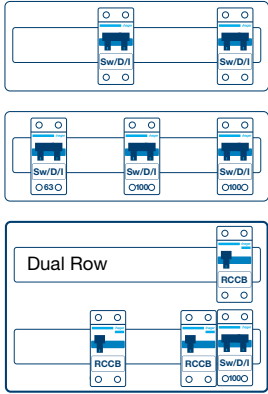


with Surge





VML918C



Multi Tariff

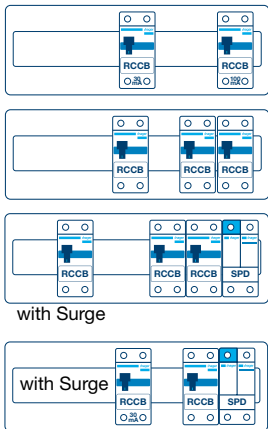
Characteristics:

- All Design 10 consumer units contain top, bottom & rear knockouts and a meter tail cable entry plate (**VM04CE**) as standard- see page 33 for knockout sizes.
- Supplied with Type A RCCBs, a full metal DIN rail, multiple switch disconnecter incomers and a full complement of earth and neutral terminals along with marking labels, busbar and instructions.
- Conforms to BS EN 61439-3 Including Annex ZB (16kA rating).
- For accessories see page 28, for dimensions see page 33.

Description	Size	Cat ref.
18 Way Twin Tariff Configurable 2x 100A Switch	7	VML918C
12 Way Multi Tariff 6+5+1 2x100A 1x 63A Switch	6	VML9651
10 Way Split Load 5+5 100A Switch 2x 100A Type A RCCB 1x 100A Type A RCCB Incomer 14 Ways Dual Row	5 (2)	VML955914H



VML912TG



Time Delayed RCCB Incomer

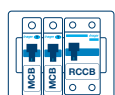
Characteristics:

- All Design 10 consumer units contain top, bottom & rear knockouts and a meter tail cable entry plate (**VM04CE**) as standard- see page 33 for knockout sizes.
- Supplied with Type A RCCBs, a full metal DIN rail 100A 100mA time delayed incomer and a full complement of earth and neutral terminals along with marking labels, busbar, meter tail clamp and instructions.
- Recommended for use with TT systems (meter tail clamp secures meter tails to prevent accidental disconnection and contact with metal enclosure).
- References ending in **SPD** come with a Type 2 SPD fitted.
- Conforms to BS EN 61439-3 Including Annex ZB (16kA rating).
- For accessories see page 28, for dimensions see page 33, refer to board sizes below.

Description	Size	Cat ref.
12 Way Configurable 100A 100mA Time Delay Type A RCCB 100A 30mA Type A RCCB	5	VML912TG
12 Way 100A 100mA Time Delay Type A RCCB 2x 100A 30mA Type A RCCB	6	VML966TG
10 Way 100A 100mA Time Delayed + 2 x 100A RCCB with Factory Fitted Surge Protection	6	VML955TGSPD
10 Way Configurable 100A 100mA Time Delayed RCCB +100A 30mA with Factory Fitted Surge Protection	5	VML910TGSPD



VML24AH



Garage Boards

Characteristics:

- Consumer unit comes complete with Type A RCCB, 40A 30mA RCCB Incomer, 32A MCB and 6A MCB, earth & neutral connections, busbar, grommet strip, marking labels & Instructions.
- All Design 10 consumer units contain top, bottom & rear knockouts and a meter tail cable entry plate (**VM04CE**) as standard- see page 33 for knockout sizes.
- Cable protector plate for rear knockouts is available as an accessory. (**VM02CE**)
- Conforms to BS EN 61439-3
- For dimensions see page 33.

Description	Size	Cat ref.
2 Way 40A 30mA Type A RCCB with 1x 32A & 1x 6A MCB	2	VML24AH

Arc Fault Protection

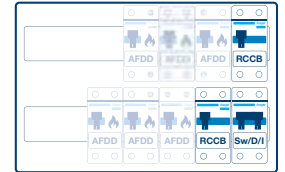
Characteristics:

- Metal split load board with 100A incomer and 2 x 100A RCCBs.
- Supplied with Type A RCCBs
- Supplied with double pole busbar system.
- All Design 10 consumer units contain top, bottom & rear knockouts and a meter tail cable entry plate (**VM04CE**) as standard- see page 33 for knockout sizes.
- Supplied with Type A RCCBs, a full metal DIN rail, switch disconnecter incomer and a full complement of earth and neutral terminals along with marking labels, busbar and instructions.
- Conforms to BS EN 61439-3, Annex ZB (16kA Rating)
- Suitable for use with Hager 2 pole Arc Fault Detection Devices **ARC*****
- For accessories see page 28, for dimensions see page 33, refer to board sizes below.



VMLA90405H

Description	Size	Cat ref.
5 + 4 Way Dual Row, 100A Switch Disconnecter 2x 100A 30mA RCCB, 2 Pole Busbar, for Arc Fault Detection devices	4(2)	VMLA90405H
6 + 7 Way Dual Row, 100A Switch Disconnecter 2x 100A 30mA RCCB, 2 Pole Busbar, for Arc Fault Detection devices	5(2)	VMLA90607H
9 + 10 Way Dual Row, 100A Switch Disconnecter 2x 100A 30mA RCCB, 2 Pole Busbar, for Arc Fault Detection devices	7(2)	VMLA90910H
5 + 7 Way Dual Row, 100A Switch Disconnecter 2x 100A 30mA RCCB, 2 Pole Busbar, + Surge Protection Devices, for Arc Fault Detection Devices	5(2)	VMLA90507HSPD
8 + 10 Way Dual Row, 100A Switch Disconnecter 2x 100A 30mA RCCB, 2 Pole Busbar, + Surge Protection Devices, for Arc Fault Detection Devices	7(2)	VMLA90810HSPD



Arc Fault Detection Devices

Characteristics:

- Protection device which combines an MCB with an Arc Fault Detection Device.
- Complies with BS EN 62606
- Current rating 6A - 40A 6kA
- Available in B & C curve
- Connection capacity - Rigid=25mm², Flexible = 16mm²

Description	Width (1 Mod =17.5mm)	Cat ref. B Curve	Cat ref. C Curve
6A	2 Mod	ARC906U	ARC956U
10A	2 Mod	ARC910U	ARC960U
16A	2 Mod	ARC916U	ARC966U
20A	2 Mod	ARC920U	ARC970U
25A	2 Mod	ARC925U	ARC975U
32A	2 Mod	ARC932U	ARC982U
40A	2 Mod	ARC940U	ARC990U



ARC906U

Tailored Solutions

We can provide the right solution that meets your specification. If your enquiry falls out of the standard offer, for example if you require AFDD in combination with MCBs, RCCBs or RCBOs, Tailored Solutions can meet your requirements.

Interested in Tailored Solutions?

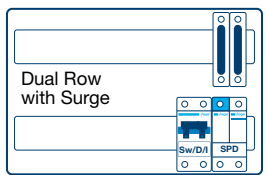
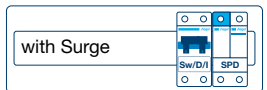
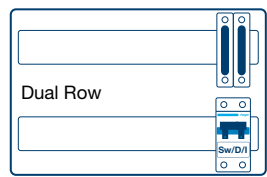
Telephone: **01952 675 689**

Online form: go.hager.com/tailored





VM106



Switch Disconnector In-come

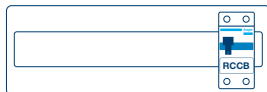
Characteristics:

- All consumer units contain rear cable entry. Boards with knockouts have top & bottom knockouts. A meter tail cable entry plate (**VM04CE**) is provided as standard - see page 33 for knockout sizes.
- Supplied with a full metal DIN rail, 100A switch disconnector in-come and a full complement of earth and neutral terminals along with marking labels, busbar, instructions, rear cable protector plate and meter tail clamp.
- References ending in **SPD** come with a Type 2 SPD fitted.
- Recommended for use with TT systems when utilising RCBOs on outgoing circuits.
- Conforms to BS EN 61439-3 Including Annex ZB (16kA rating).
- For accessories see page 28, for dimensions see page 33, refer to board sizes below.

Description	Size	Cat ref.	Cat ref. With Knockouts
2 Way 63A Switch Disconnector In-come	2	VM202	VM202K
6 Way 63A Switch Disconnector In-come	3	VM206	VM206K
6 Way 100A Switch Disconnector In-come	3	VM106	VM106K
10 Way 100A Switch Disconnector In-come	4	VM110	VM110K
14 Way 100A Switch Disconnector In-come	5	VM114	VM114K
20 Way 100A Switch Disconnector In-come	7	VM120	VM120K
8 Way 100A Switch Disconnector In-come with Factory Fitted Surge Protection	4	VM108SPD	VM108KSPD
12 Way 100A Switch Disconnector In-come with Factory Fitted Surge Protection	5	VM112SPD	VM112KSPD
18 Way 100A Switch Disconnector In-come with Factory Fitted Surge Protection	7	VM118SPD	VM118KSPD
6+6 Way Dual Row 100A Switch Disconnector In-come	3 (2)	VM10606	VM10606K
10+10 Way Dual Row 100A Switch Disconnector In-come	4 (2)	VM11010	VM11010K
14+14 Way Dual Row 100A Switch Disconnector In-come	5 (2)	VM11414	VM11414K
20+20 Way Dual Row 100A Switch Disconnector In-come	7 (2)	VM12020	VM12020K
8 + 10 Way Dual Row 100A Switch Disconnector In-come with Factory Fitted Surge Protection	4(2)	VM10810SPD	VM10810KSPD
12 + 14 Way Dual Row 100A Switch Disconnector In-come with Factory Fitted Surge Protection	5(2)	VM11214SPD	VM11214KSPD
18 + 20 Way Dual Row 100A Switch Disconnector In-come with Factory Fitted Surge Protection	7(2)	VM11820SPD	VM11820KSPD



VM410AH



RCCB In-come

Characteristics:

- All consumer units contain rear cable entry. Boards with knockouts have top & bottom knockouts. A meter tail cable entry plate (**VM04CE**) is provided as standard - see page 33 for knockout sizes.
- Supplied with a full metal DIN rail, 40A, 63A or 100A 30mA Type A RCCB in-come and a full complement of earth and neutral terminals along with marking labels, busbar, instructions, rear cable protector plate and meter tail clamp.
- Conforms to BS EN 61439-3 Including Annex ZB (16kA rating).
- For accessories see page 28, for dimensions see page 33, refer to board sizes below.

Description	Size	Cat ref.	Cat ref. With Knockouts
6 Way 100A 30mA Type A RCCB In-come	3	VM306AH	VM306AHK
10 Way 100A 30mA Type A RCCB In-come	4	VM310AH	VM310AHK
14 Way 100A 30mA Type A RCCB In-come	5	VM314AH	VM314AHK
2 Way 40A 30mA Type A RCCB In-come	2	VM402AH	VM402AHK
6 Way 63A 30mA Type A RCCB In-come	3	VM406AH	VM406AHK
10 Way 63A 30mA Type A RCCB In-come	4	VM410AH	VM410AHK

Split Load

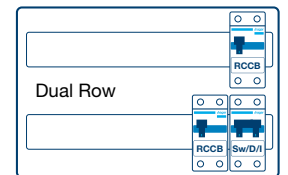
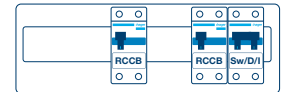
Characteristics:

- All consumer units contain rear cable entry. Boards with knockouts have top & bottom knockouts. A meter tail cable entry plate (**VM04CE**) is provided as standard - see page 33 for knockout sizes.
- Supplied with Type A RCCBs, a full metal DIN rail, 100A switch disconnecter incomer, 2 100A RCCBs and a full complement of earth and neutral terminals along with marking labels, busbar, instructions, rear cable protector plate and meter tail clamp.
- Conforms to BS EN 61439-3 Including Annex ZB (16kA rating).
- For accessories see page 28, for dimensions see page 33, refer to board sizes below.



VM955H

Description	Size	Cat ref.	Cat ref. With Knockouts
10 Way Split Load 5+5 100A Switch 2x 100A 30mA RCCB	5	VM955H	VM955HK
12 Way Split Load 6+6 100A Switch 2x 100A 30mA RCCB	6	VM966H	VM966HK
4+6 Way Dual Row 100A Switch 2x 100A 30mA RCCB	3 (2)	VM946H	VM946HK
8+10 Way Dual Row 100A Switch 2x 100A 30mA RCCB	4 (2)	VM90810H	VM90810HK
12+14 Way Dual Row 100A Switch 2x 100A 30mA RCCB	5 (2)	VM91214H	VM91214HK
18+20 Way Dual Row 100A Switch 2x 100A 30mA RCCB	7 (2)	VM91820H	VM91820HK



Configurable High Integrity

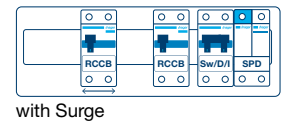
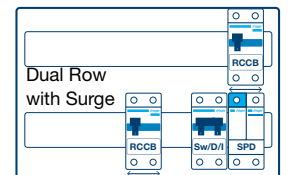
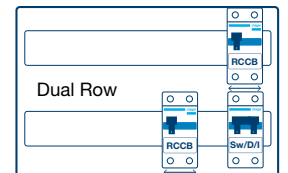
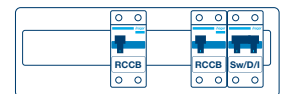
Characteristics:

- Metal split load and configurable consumer units with ability to protect selected circuits with RCBOs/MCBs and the remainder of circuits split across two RCCBs.
- All consumer units contain rear cable entry. Boards with knockouts have top & bottom knockouts. A meter tail cable entry plate (**VM04CE**) is provided as standard - see page 33 for knockout sizes.
- Supplied with Type A RCCBs, a full metal DIN rail, 100A switch disconnecter incomer, 2 100A RCCBs and a full complement of earth and neutral terminals along with marking labels, busbar, instructions, rear cable protector plate and meter tail clamp.
- References ending in **SPD** come with a Type 2 SPD fitted.
- Conforms to BS EN 61439-3 Including Annex ZB (16kA rating).
- For accessories see page 28, for dimensions see page 33, refer to board sizes below.



VM916CU

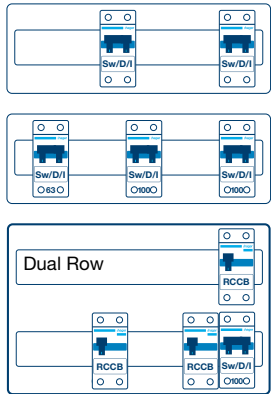
Description	Size	Cat ref.	Cat ref. With Knockouts
10 Way High Integrity 100A Switch 2x 100A 30mA RCCB	5	VM910CU	VM910CUK
12 Way High Integrity 100A Switch 2x 100A 30mA RCCB	6	VM912CU	VM912CUK
16 Way High Integrity 100A Switch 2x 100A 30mA RCCB	7	VM916CU	VM916CUK
8 Way High Integrity 100A Switch 2x 100A 30mA RCCB with Factory Fitted Surge Protection	5	VM908CUSPD	VM908CUKSPD
10 Way High Integrity 100A Switch 2x 100A 30mA RCCB with Factory Fitted Surge Protection	6	VM910CUSPD	VM910CUKSPD
14 Way High Integrity 100A Switch 2x 100A 30mA RCCB with Factory Fitted Surge Protection	7	VM914CUSPD	VM914CUKSPD
8+10 Way Dual Row High Integrity 100A Switch 2x 100A	4(2)	VM90810CU	VM90810CUK
12+14 Way Dual Row High Integrity 100A Switch 2x 100A	5(2)	VM91214CU	VM91214CUK
18+20 Way Dual Row High Integrity 100A Switch 2x 100A	7(2)	VM91820CU	VM91820CUK
6+10 Way Dual Row High Integrity 100A Switch 2x 100A 30mA RCCB with Factory Fitted Surge Protection	4(2)	VM90610CUSPD	VM90610CUKSPD
10+14 Way Dual Row High Integrity 100A Switch 2x 100A 30mA RCCB with Factory Fitted Surge Protection	5(2)	VM91014CUSPD	VM91014CUKSPD
16+20 Way Dual Row High Integrity 100A Switch 2x 100A 30mA RCCB with Factory Fitted Surge Protection	7(2)	VM91620CUSPD	VM91620CUKSPD
12 Way Configurable, 100A Switch 1x 100A 30mA RCCB (Remaining Ways for RCBOs)	5	VM512AC	VM512ACK
18 Way Configurable, 100A Switch 1x 100A 30mA RCCB (Remaining Ways for RCBOs)	7	VM518AC	VM518ACK



with Surge



VM918C



Multi Tariff

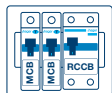
Characteristics:

- All consumer units contain rear cable entry. Boards with knockouts have top & bottom knockouts. A meter tail cable entry plate (**VM04CE**) is provided as standard - see page 33 for knockout sizes.
- Supplied with Type A RCCBs, a full metal DIN rail, multiple switch disconnecter incomers and a full complement of earth and neutral terminals along with marking labels, busbar, instructions, rear cable protector plate and meter tail clamp.
- Conforms to BS EN 61439-3 Including Annex ZB (16kA rating).
- For accessories see page 28, for dimensions see page 33, refer to board sizes below.

Description	Size	Cat ref.	Cat ref. With Knockouts
12 Way Multi Tariff 6+5+1 2x 100A 1x 63A	6	VM9651	VM9651K
18 Way Twin Tariff Configurable 2x 100A Switch	7	VM918C	VM918CK
10 Way Dual Row Split Load 5+5 100A Switch 2x 100A RCCB 1x 100A RCCB Incomer 14 Ways	5 (2)	VM955914H	VM955914HK



VM24AH



Garage Board

Characteristics:

- Consumer unit comes complete with Type A RCCBs, 40A 30mA RCCB Incomer, 32A MCB and 6A MCB, earth & neutral connections, busbar, cable protector plate, grommet strip, meter tail clamp, marking labels & instructions.
- All consumer units contain rear cable entry. Boards with knockouts have top & bottom knockouts. A meter tail cable entry plate (**VM04CE**) is provided as standard - see page 33 for knockout sizes.
- For dimensions see page 33, refer to board sizes below.

Description	Size	Cat ref.	Cat ref. With Knockouts
2 Way 40A 30mA Type A RCCB with 1x 32A & 1x 6A MCB	2	VM24AH	VM24AHK

Arc Fault Detection

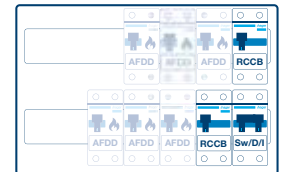
Characteristics:

- Metal split load board with 100A incomer and 2 x 100A RCCBs.
- Supplied with Type A RCCBs
- Supplied with double pole busbar system.
- All consumer units contain rear cable entry. Boards with knockouts have top & bottom knockouts. A meter tail cable entry plate (**VM04CE**) is provided as standard - see page 33 for knockout sizes.
- Supplied with Type A RCCBs, a full metal DIN rail, switch disconnecter incomer and a full complement of earth and neutral terminals along with marking labels, busbar, instructions, rear cable protector plate and meter tail clamp.
- Conforms to BS EN 61439-3 including Annexe ZB
- Suitable for use with Hager AFDD ARC***
- For accessories see page 28, for dimensions see page 33, refer to board sizes below.



VMA933H

Description	Size	Cat ref.	Cat ref. With Knockouts
4+5 Way, Dual Row, 100A Switch Disconnecter 2x 100A 30mA RCCB, 2 Pole Busbar, for Arc Fault Detection Devices	4(2)	VMA90405H ★	VMA90405HK ★
6+7 Way, Dual Row, 100A Switch Disconnecter 2x 100A 30mA RCCB, 2 Pole Busbar, for Arc Fault Detection Devices	5(2)	VMA90607H ★	VMA90607HK ★
9+10 Way, Dual Row, 100A Switch Disconnecter 2x 100A 30mA RCCB, 2 Pole Busbar, for Arc Fault Detection Devices	7(2)	VMA90910H ★	VMA90910HK ★
5 + 7 Way, Dual Row, 100A Switch Disconnecter 2x 100A 30mA RCCB, 2 Pole Busbar + Surge Protection Devices, for Arc Fault Detection Devices	5(2)	VMA90507HSPD ★	VMA90507HKSPD ★
8 + 10 Way, Dual Row, 100A Switch Disconnecter 2x 100A 30mA RCCB, 2 Pole Busbar + Surge Protection Devices, for Arc Fault Detection Devices	7(2)	VMA90810HSPD ★	VMA90810HKSPD ★



Arc Fault Detection Devices

Characteristics:

- Protection device which combines an MCB with an Arc Fault Detection Device.
- Complies with BS EN 62606
- Current rating 6A - 40A 6kA
- Available in B & C curve
- Connection capacity - Rigid=25mm², Flexible = 16mm²

Description	Width (1 Mod =17.5mm)	Cat ref. B Curve	Cat ref. C Curve
6A	2 Mod	ARC906U	ARC956U
10A	2 Mod	ARC910U	ARC960U
16A	2 Mod	ARC916U	ARC966U
20A	2 Mod	ARC920U	ARC970U
25A	2 Mod	ARC925U	ARC975U
32A	2 Mod	ARC932U	ARC982U
40A	2 Mod	ARC940U	ARC990U



ARC906U

Tailored Solutions

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Interested in Tailored Solutions?

Telephone: **01952 675 689**

Online form: **go.hager.com/tailored**





VMLF110



Switch Disconnecter Incomer

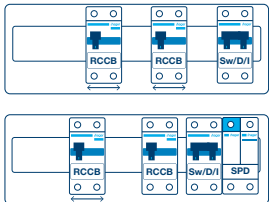
Characteristics:

- All consumer units contain rear cable entry, along with top & bottom knockouts.
- Supplied with a full metal DIN rail, 100A switch disconnecter incomer and a full complement of earth and neutral terminals along with marking labels, busbar, instructions, rear cable protector plate and meter tail clamp.
- Recommended for use with TT systems when utilising RCBO on outgoing circuits.
- Conforms to BS EN 61439-3 including Annex ZB (16kA rating).
- Adjustable depth in wall 72mm-92mm.
- For dimensions see page 33.

Description	Size	Cat ref.
10 Way Flush 100A Switch Disconnecter Incomer	4	VMLF110
14 Way Flush 100A Switch Disconnecter Incomer	5	VMLF114
20 Way Flush 100A Switch Disconnecter Incomer	7	VMLF120
12 Way Flush 100A Switch Disconnecter Incomer with Factory Fitted Surge Protection	5	VMLF112SPD
18 Way Flush 100A Switch Disconnecter Incomer with Factory Fitted Surge Protection	7	VMLF118SPD



VMLF910CU



with Surge

Configurable High Integrity

Characteristics:

- Metal split load and configurable consumer units with ability to protect selected circuits with RCBOs and the remainder of circuits split across two RCCBs.
- All consumer units contain rear cable entry, along with top & bottom knockouts.
- Supplied with a full metal DIN rail, 100A switch disconnecter incomer and 2 Type A RCCBs and a full complement of earth and neutral terminals along with marking labels, busbar, instructions, rear cable protector plate and meter tail clamp.
- References ending in **SPD** come with a Type 2 SPD fitted.
- Conforms to BS EN 61439-3 Including Annex ZB (16kA rating).
- Adjustable depth in wall 72mm-92mm.
- For dimensions see page 33.

Description	Max Unprotected Ways	Size	Cat ref.
10 Way Flush High Integrity 100A Switch 2x 100A 30mA Type A RCCB	3	5	VMLF910CU
12 Way Flush High Integrity 100A Switch 2x 100A 30mA Type A RCCB	3	6	VMLF912CU
16 Way Flush High Integrity 100A Switch 2x 100A 30mA Type A RCCB	6	7	VMLF916CU
8 Way High Integrity 100A Switch 2x 100A 30mA RCCB Type A with Factory Fitted Surge Protection		5	VMLF908CUSPD
10 Way High Integrity 100A Switch 2x 100A 30mA RCCB Type A with Factory Fitted Surge Protection		6	VMLF910CUSPD
14 Way High Integrity 100A Switch 2x 100A 30mA RCCB Type A with Factory Fitted Surge Protection		7	VMLF914CUSPD

Switch Disconnecter Incomer

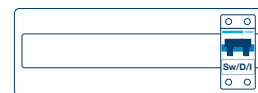
Characteristics:

- All consumer units contain rear cable entry, along with top & bottom knockouts.
- Supplied with a full metal DIN rail, 100A switch disconnecter incomer and a full complement of earth and neutral terminals along with marking labels, busbar, instructions, rear cable protector plate and meter tail clamp.
- Recommended for use with TT systems when utilising RCBO on outgoing circuits.
- References ending in **SPD** come with a Type 2 SPD fitted.
- Conforms to BS EN 61439-3 including Annex ZB (16kA rating).
- Adjustable depth in wall 72mm-92mm.
- For dimensions see page 33.



VSR114

Description	Size	Cat ref.
10 Way 100A Switch Disconnecter Incomer	4	VSR110
14 Way 100A Switch Disconnecter Incomer	5	VSR114
20 Way 100A Switch Disconnecter Incomer	7	VSR120
12 Way 100A Switch Disconnecter Incomer with Factory Fitted Surge Protection	5	VSR112SPD
18 way 100A Switch Disconnecter Incomer with Factory Fitted Surge Protection	7	VSR118SPD



Configurable High Integrity

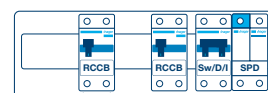
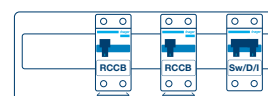
Characteristics:

- Metal split load and configurable consumer units with the ability to protect selected circuits with RCBOs/MCBs and the remainder of circuits split across two RCCBs.
- All consumer units contain rear cable entry, along with top & bottom knockouts.
- Supplied with a full metal DIN rail, 100A switch disconnecter incomer and 2 Type A RCCBs and a full complement of earth and neutral terminals along with marking labels, busbar, instructions, rear cable protector plate and meter tail clamp.
- References ending in **SPD** come with a Type 2 SPD fitted.
- Conforms to BS EN 61439-3 Including Annex ZB (16kA rating).
- Adjustable depth in wall 72mm-92mm.
- For dimensions see page 33.



VSR910C

Description	Max Unprotected Ways	Size	Cat ref.
10 Way High Integrity Split Load 100A Switch 2x 100A 30mA RCCB	3	5	VSR910CU
12 Way High Integrity Split Load 100A Switch 2x 100A 30mA RCCB	3	6	VSR912CU
16 Way High Integrity Split Load 100A Switch 2x 100A 30mA RCCB	6	7	VSR916CU
8 Way High Integrity 100A Switch 2x 100A 30mA RCCB with Factory Fitted Surge Protection	3	5	VSR908CUSPD
10 Way High Integrity 100A Switch 2x 100A 30mA RCCB with Factory Fitted Surge Protection	3	6	VSR910CUSPD
14 Way High Integrity 100A Switch 2x 100A 30mA RCCB with Factory Fitted Surge Protection	6	7	VSR914CUSPD



with Surge

IP55 Weather Proof 100A

100 A InA Consumer unit enabling conformity with 18th Edition wiring regulations for overload protection of RCCBs and switches, in any single phase residential application regardless of the current rating of the supply authority fuse.



IP55 Weather Proof

Characteristics:

- Rated at IP55 protection against low pressure water splashing from all directions
- Conforms to BS EN 61439-3 including Annex ZB (16kA rating).

Description

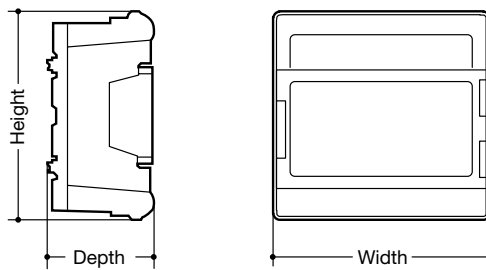
10 Way 100A Switch Disconnecter Incomer IP55

10 Way 100A 30mA RCCB Incomer Type A

Cat ref.

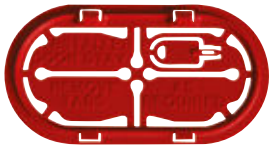
VW110G

VW310G



IP55 Weather Proof

	Dimensions (mm)		
	Width	Height	Depth
VW110G	310	302	151
VW310G	310	302	151



VM02CE

Cable Protector Plate

Characteristics:

- Provides protection against sharp edges for cables entering a consumer unit.
- **VM01CE:** Simply insert protector plate and bend over tabs inside board.
- **VM02CE:** Designed to fit into the aperture left by the removal of a rear knockout on the Design 10, Design 30 & Design 50 Consumer Unit. (Included as standard with Design 30 & 50 consumer units). Break away sections as required and simply push into place.
- **VM03/04:** Simply clip into place to allow cable entry or blanking of removed knockouts.



VM03CB

VM03CE



VM04CB

VM04CE

Description	Quantity	Cat ref.
Cable Protector Plate (Metal)	1	VM01CE
Cable Protector Plate (Insulated)	5	VM02CE
Top Wall Cable Protector Plate (30mm x 40mm)	10	VM03CE
Top Wall Cable Protector Plate (30mm x 40mm) Closed	10	VM03CB
Meter Tail Entry Cable Protector Plate (25mm x 30mm)	10	VM04CE
Meter Tail Entry Cable Protector Plate (25mm x 30mm) Closed	10	VM04CB



VA10MT

Cable Clamp

Characteristics:

- Secures supply cables on entry to main incoming device, eliminating any movement of the cables being transmitted to the terminals.
- Simply insert supply cables through clamp into incoming device & secure with fixing provided.
- (Included as standard with Design 30 & 50 consumer units)

Description	Cat ref.
Cable Clamp for Meter Tails	VA10MT



VMLOCK

Locks

Characteristics:

- **VMLOCK** allows door to be lockable. Simply remove the centre of the lock surround and the knockout behind, and fit lock.
- Provides the ability to lock the consumer unit during the installation process.
- Can only be used with Design 30 consumer units.

Description	Cat ref.
Design 30 Door Locking Kit	VMLOCK
Health & Safety Padlock Bracket	VMHBL
Padlock	JK25A
Design 50 Safety Lock (Pack of 6, Supplied without Padlock)	VSRHBL
Padlock (Accessory for Design 50 Safety Lock, Sold Individually)	JK25A
Design 50 Door Locking Device	VSRLOCK



VMGROM

Grommets & Grommet Strip

Characteristics:

- Grommet for protecting against sharp edges on knockouts.

Description	Quantity	Cat ref.
Grommet strip 5 metres	1 Strip	VM05GS
38mm open grommet for use with VMLF* back boxes	10	VMGROM



VM01SP

Stand-off Plate

Characteristics:

- The rear stand off plate provides 12mm of clearance at the rear of the consumer unit to allow surface mounted cables to enter the board from the rear avoiding any potential IP issues with the top of the board. Supplied with two cable protector plates as standard.

Description	Cat ref.
Rear stand off plates VM & VML VM01SP	VM01SP

Other Accessories

Description	Cat ref.
1 Module Busbar Blank	JK01B
Neutral Link	VAN00
Dual Tariff Link Kit	VAK0D
Split Load Link Kit	VAK0S
Triple Tariff Link Kit	VAK0T
8 Module Busbar	VAB08
12 Module Busbar	VAB12
16 Module Busbar	VAB16
21 Module Busbar	VAB21
Spare Terminal Bar Support Clips (Quantity - 5)	VAT00
Terminal Bar 2 Way with Two Support Clips	VAT02
Terminal Bar 3 Way with Two Support Clips	VAT03
Terminal Bar 4 Way with Two Support Clips	VAT04
Terminal Bar 5 Way with Two Support Clips	VAT05
Terminal Bar 6 Way with Two Support Clips	VAT06
Terminal Bar 7 Way with Two Support Clips	VAT07
Terminal Bar 8 Way with Two Support Clips	VAT08
Terminal Bar 9 Way with Two Support Clips	VAT09
Terminal Bar 10 Way with Two Support Clips	VAT10
Terminal Bar 11 Way with Two Support Clips	VAT11
Terminal Bar 12 Way with Two Support Clips	VAT12
Terminal Bar 13 Way with Two Support Clips	VAT13
Terminal Bar 14 Way with Two Support Clips	VAT14
Terminal Bar 15 Way with Two Support Clips	VAT15
Terminal Bar 16 Way with Two Support Clips	VAT16
Terminal Bar 17 Way with Two Support Clips	VAT17
Terminal Bar 18 Way with Two Support Clips	VAT18
Terminal Bar 19 Way with Two Support Clips	VAT19
Terminal Bar 20 Way with Two Support Clips	VAT20
Terminal Bar 21 Way with Two Support Clips	VAT21
Terminal Bar 22 Way with Two Support Clips	VAT22
Terminal Bar 23 Way with Two Support Clips	VAT23
Terminal Bar 24 Way with Two Support Clips	VAT24
Label Pack	VAP00



JK01B



VAB08



VAN00

Locking Kit

Characteristics:

- Allows MCBs, RCCBs and RCBOs to be locked in the off position.
- Will accept two padlocks with hasps of 4.75mm diameter max (supplied without padlock).

Description	Cat ref.
Padlockable Locking Kit for MCB, RCCB & RCBO (Padlock not Included)	MZN175
Padlock with 2 keys 3/4"	JK25A



MZN175



MTN106

MCBs - Single Pole, B Curve, 6kA

Characteristics:

- Protection and control of circuits against overloads and short circuits for use in domestic installations.
- Complies with BS EN 60898.
- Voltage rating: 230V
- Current rating: 6 - 63A
- Connection capacity: Rigid = 25mm², Flexible = 16mm²
- Calibration temperature: 30°C

Description	Width (1 Mod =17.5mm)	Cat ref.
6A	1 Mod	MTN106
10A	1 Mod	MTN110
16A	1 Mod	MTN116
20A	1 Mod	MTN120
25A	1 Mod	MTN125
32A	1 Mod	MTN132
40A	1 Mod	MTN140
50A	1 Mod	MTN150
63A	1 Mod	MTN163



MCN132

MCBs - Single Pole, C Curve, 6kA

Characteristics:

- Protection and control of circuits against overloads and short circuits for use in domestic installations.
- Complies with BS EN 60898.
- Voltage rating: 230V
- Current rating: 2 - 63A
- Connection capacity: Rigid = 25mm², Flexible = 16mm²
- Calibration temperature: 30°C

Description	Size	Cat ref.
2A	1 Mod	MCN102
3A	1 Mod	MCN103
6A	1 Mod	MCN106
10A	1 Mod	MCN110
16A	1 Mod	MCN116
20A	1 Mod	MCN120
25A	1 Mod	MCN125
32A	1 Mod	MCN132
40A	1 Mod	MCN140



ARR932U

1 mod Arc Fault Detection Devices

Characteristics:

- Protection device which combines an RCBO with an Arc Fault Detection device.
- Complies with BS EN 62606.
- Current rating 6A - 32A 6kA
- Available in B curve
- Connection Capacity - Rigid 25mm², Flexible 16mm²

Description	Size	Cat ref.
6A	1 Mod	ARR906U
10A	1 Mod	ARR910U
16A	1 Mod	ARR916U
20A	1 Mod	ARR920U
25A	1 Mod	ARR925U
32A	1 Mod	ARR932U



CDC225U

2 Pole RCCBs

Characteristics

- To open a circuit automatically in the event an earth fault between line and earth, and/or neutral and earth.

Technical Data

- Conforms to BS EN 61008, IEC1008

- Terminal capacities: 16-63A Rigid 25mm², Flexible 16mm² / 80 & 100A Rigid 50mm², Flexible 35mm²

Features

- Positive contact indication is provided by the rectangular flag indicator

- Red = Closed

- Green = Open

- Indication of trip is provided by the oval flag indicator

- Yellow = Tripped

- All RCCBs have trip free mechanisms and can be padlocked either on or off with the use of a **MZN175**.

Operating Voltage

- 2P 127- 230V a.c.



CDF525U



CDB525E

Sensitivity type A	2 Pole Type A Cat ref.	2 Pole Type F Cat ref.	2 Pole Type B Cat ref.
RCCBs Sensitivity 30mA			
RCCB 25A 30mA	CDA225U	CDF525U ★	CDB525E ★
RCCB 40A 30mA	CDA240U	CDF540U ★	CDB540E ★
RCCB 63A 30mA	CDA263U	CDF563U ★	-
RCCB 80A 30mA	CD283U	-	-
RCCB 100A 30mA	CD285U	-	-
RCCBs Sensitivity 100mA			
RCCB 25A 100mA	CEA225U	-	-
RCCB 40A 100mA	CEA240U	-	-
RCCB 63A 100mA	CEA263U	-	-
RCCB 80A 100mA	CEA580U ★	-	-
RCCB 100A 100mA	CEA584U ★	-	-
RCCBs Sensitivity 300mA			
RCCB 25A 300mA	CFA225U	-	-
RCCB 40A 300mA	CFA240U	-	-
RCCB 63A 300mA	CFA263U	-	-
RCCB 100A 300mA	CF285U	-	-
RCCBs Time Delayed			
RCCB 100A 100mA	CNA584U ★	-	-
RCCB 100A 300mA	CPA584U ★	-	-

2 mod Arc Fault Detection Devices

Characteristics:

- Protection device which combines an MCB with an Arc Fault Detection Device.

- Complies with BS EN 62606

- Current rating 6A - 40A 6kA

- Available in B & C curve

- Connection capacity - Rigid=25mm², Flexible = 16mm²



ARC906U

Description	Width (1 Mod =17.5mm)	Cat ref. B Curve	Cat ref. C Curve
6A	2 Mod	ARC906U	ARC956U
10A	2 Mod	ARC910U	ARC960U
16A	2 Mod	ARC916U	ARC966U
20A	2 Mod	ARC920U	ARC970U
25A	2 Mod	ARC925U	ARC975U
32A	2 Mod	ARC932U	ARC982U
40A	2 Mod	ARC940U	ARC990U

RCBOs - Single Pole, B Curve, 6kA, 30mA, Type A

Characteristics

- Protection devices which combine the overcurrent functions of an MCB with the earth fault functions of an RCCB.
- Complies with BS EN 61009-1, BS IEC 1009-2-2
- Sensitivity: 30mA

- Connection capacity: Rigid = 16mm², Flexible = 10mm²
- Flying neutral lead: 300mm
- Single pole & solid neutral
- Type A (Pulsating DC Sensitive)
- Operational Voltage: 127-230V AC

Description	Width (1 Mod = 17.5mm)	Height	Cat ref.
6A	1 Mod	Reduced	ADA306G
10A	1 Mod	Reduced	ADA310G
16A	1 Mod	Reduced	ADA316G
20A	1 Mod	Reduced	ADA320G
25A	1 Mod	Reduced	ADA325G
32A	1 Mod	Reduced	ADA332G
40A	1 Mod	Full	ADA140G
45A	1 Mod	Full	ADA145G



ADA332G

RCBOs - Single Pole & Switched Neutral - 6kA B & C Curve Type A

Characteristics

- The device switches both the line and neutral conductors. All ratings have 30mA earth fault protection. The units feature indicators which show whether tripping is due to an overcurrent or earth fault.
- Conforms to EN 61009-1.

- Operating Voltage: 230V A.C. +10%/-15% 50Hz.
- Mechanical life: 20,000 operations.
- Connection Capacity: Rigid conductor 25mm², Flexible conductor 16mm²
- Neutral connection flying lead - 700mm.

Current rating	Width (1 Mod = 17.5mm)	B Curve Cat ref.	C Curve Cat ref.
6A RCBO SPSN 6kA	2 Mod	ADA906U	ADA956U
10A RCBO SPSN 6kA	2 Mod	ADA910U	ADA960U
16A RCBO SPSN 6kA	2 Mod	ADA916U	ADA966U
20A RCBO SPSN 6kA	2 Mod	ADA920U	ADA970U
25A RCBO SPSN 6kA	2 Mod	ADA925U	ADA975U
32A RCBO SPSN 6kA	2 Mod	ADA932U	ADA982U
40A RCBO SPSN 6kA	2 Mod	ADA940U	ADA990U



ADA990U

Consumer Unit Type 2 Surge Protection Kit

- Consists of: 6mm² neutral, line & earth cables, 1x double pole surge protection device with lifetime indicator.

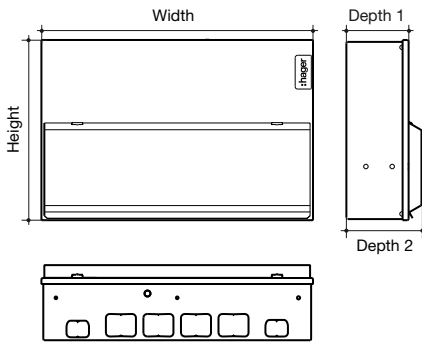
Poles	I _n kA L-N	I _n kA N-PE	U _p kV	Width (mm)	Cat ref.
2	5	15	≤ 1.2	35	VME02SPD

Replacement Cartridges

Description	Cat ref.
Line replacement for VME02SPD	SPB015
Neutral replacement for VME02SPD	SPB040N



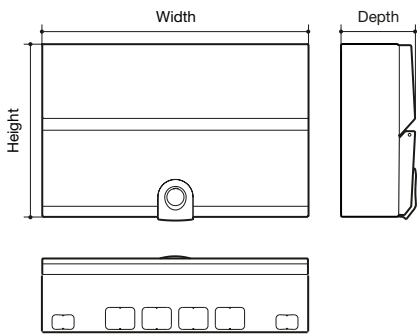
VME02SPD



Design 10 Dimensions (mm)

	Enclosure Size					
	2	3	4	5	6	7
Height	246	246	246	246	246	246
Width	155	227	299	370	406	478
Depth 1	83	83	83	83	83	83
Depth 2	100	100	100	100	100	100

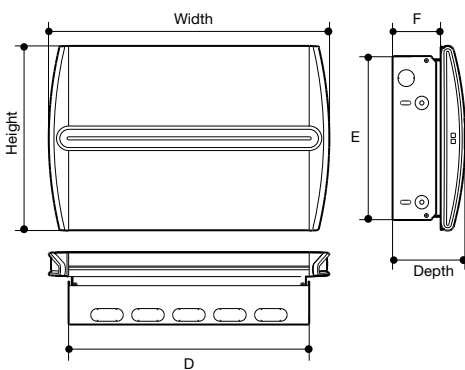
	Number of Knockouts					
	2	3	4	5	6	7
<input type="checkbox"/> Top Face 30 x 25 (mm)	2	2	2	2	2	2
<input type="checkbox"/> Top Face 40 x 30 (mm)	0	2	4	4	6	6
<input type="checkbox"/> Back 100 x 50 (mm)	1	1	1	3	3	3
<input type="checkbox"/> Bottom Face 30 x 25 (mm)	2	3	4	4	5	5



Design 30 Dimensions (mm)

	Enclosure Size					
	2	3	4	5	6	7
Height	240	240	240	240	240	240
Width	149	221	293	364	400	472
Depth	102.5	102.5	102.5	102.5	102.5	102.5

	Number of Knockouts					
	2	3	4	5	6	7
<input type="checkbox"/> Top Face 30 x 25 (mm)	2	2	2	2	2	2
<input type="checkbox"/> Top Face 40 x 30 (mm)	0	2	4	4	6	6
<input type="checkbox"/> Back 100 x 50 (mm)	1	1	1	3	3	3
<input type="checkbox"/> Bottom Face 30 x 25 (mm)	2	3	4	4	5	5



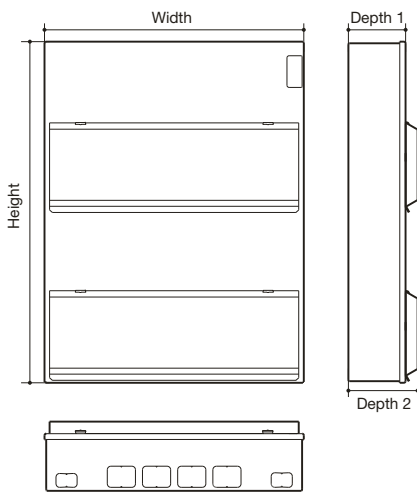
Design 50 Dimensions (mm)

	Enclosure Size			
	4	5	6	7
Height	284	284	284	284
Width	359	431	467	539
Depth	105	105	105	105
D	298	370	406	478
E	252	252	252	252
F	72	72	72	72

	Number of Knockouts			
	4	5	6	7
<input type="checkbox"/> Top Face 50 x 20 (mm)	4	5	6	7
<input type="checkbox"/> Bottom Face 50 x 20 (mm)	4	5	6	7
<input type="checkbox"/> Back 100 x 50 (mm)	2	2	2	3
<input type="checkbox"/> Left Face 20.8 (mm)	1	1	1	1

Adjustable Depth Base

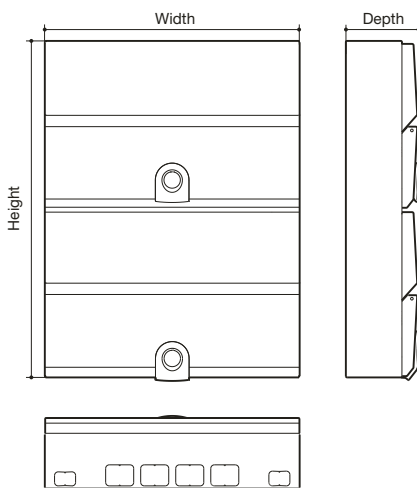
The base assembly is adjustable from 72mm to 92mm. At 72mm this allows for a 60mm studwork and 12mm of plasterboard.



Dual Row Design 10 Dimensions (mm)

	Enclosure Size				
	3 (2)	4 (2)	5 (2)	6 (2)	7 (2)
Height	486	486	486	486	486
Width	227	299	370	406	478
Depth 1	83	83	83	83	83
Depth 2	100	100	100	100	100

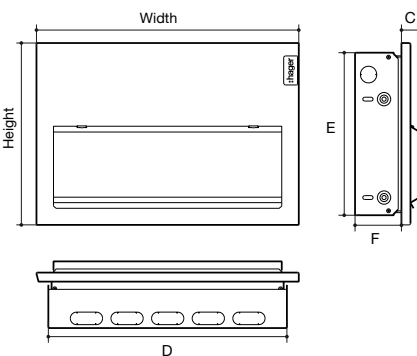
	Number of Knockouts				
	3 (2)	4 (2)	5 (2)	6 (2)	7 (2)
<input type="checkbox"/> Top Face 30 x 25 (mm)	2	2	2	2	2
<input type="checkbox"/> Top Face 40 x 30 (mm)	2	4	4	6	6
<input type="checkbox"/> Back 100 x 50 (mm)	2	2	6	6	6
<input type="checkbox"/> Bottom Face 30 x 25 (mm)	3	4	4	5	5



Dual Row Design 30 Dimensions (mm)

	Enclosure Size				
	3 (2)	4 (2)	5 (2)	6 (2)	7 (2)
Height	480	480	480	480	480
Width	221	293	364	400	472
Depth	102.5	102.5	102.5	102.5	102.5

	Number of Knockouts				
	3 (2)	4 (2)	5 (2)	6 (2)	7 (2)
<input type="checkbox"/> Top Face 30 x 25 (mm)	2	2	2	2	2
<input type="checkbox"/> Top Face 40 x 30 (mm)	2	4	4	6	6
<input type="checkbox"/> Back 100 x 50 (mm)	2	2	6	6	6
<input type="checkbox"/> Bottom Face 30 x 25 (mm)	3	4	4	5	5



Flush Design 10 Dimensions (mm)

	Enclosure Size			
	4	5	6	7
Height	282	282	282	282
Width	335	407	443	515
C	32	32	32	32
D	298	370	406	478
E	252	252	252	252
F	72	72	72	72

	Number of Knockouts			
	4	5	6	7
<input type="checkbox"/> Top Face 50 x 20 (mm)	4	5	6	7
<input type="checkbox"/> Bottom Face 50 x 20 (mm)	4	5	6	7
<input type="checkbox"/> Back 100 x 50 (mm)	2	2	2	3
<input type="checkbox"/> Left Face 20.8 (mm)	1	1	1	1

Consumer Unit

Maximum Unprotected Ways

	Enclosure Size					
	5	6	7	4(2)	5(2)	7(2)
Max Unprotected Ways	3	3	6	3	7	11

Torque Settings

	Pz No.	(mm)	Cables >1.5mm ² Tightening torque (N.m)		Cables ≤1.5mm ² Tightening torque (N.m)		Cable Stripping (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							
Switch Disconnectors / Surge	2	6.5	3.6	3.6	3.6	3.6	15
Circuit protection							
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
AFDD	2	2	2.1	2.1	2.1	2.1	13

MTN Electrical Characteristics.

Poles	Rated Operational Voltage U _e (V)	Nominal Current	Breaking Capacity (I _{cn}) to BS EN 60898	Breaking Capacity (I _{cs}) to BS EN 60898	Rated Insulation Voltage U _i (V)	Rated Impulse Voltage U _{imp} (kV)	Electrical Endurance	Connection of Auxiliaries
Single Pole	230	6 - 63A	6kA	6kA	500V	4kV	10,000 cycles	No

Power Loss

The power loss of MCB's is closely controlled by the standards and is calculated on the basis of the voltage drop across the main terminals measured at rated current. The power loss of hager circuit breakers is very much lower than that required by the British Standard, so in consequences run cooler and are less affected when mounted together.

The table below gives the watts loss per pole at rated current.

MCB Rated current (A)	6	10	16	20	25	32	40	50	63
Watts loss per pole	1.3	1.8	2.4	2.7	3.0	4.4	4.8	5.2	7.4

Connection

The circuit breaker can have the line/load connected to either the top or bottom terminals

Temperature Derating

MCBs are designed and calibrated to carry their rated current and to operate within their designated thermal time/current zone at 30°C. Testing is carried out with the breaker mounted singly in a vertical plane in a controlled environment. Therefore if the circuit breaker is required to operate in conditions which differ from the reference conditions, certain factors have to be applied to the standard data.

I _n (A)	-25°C	-20°C	-15°C	-10°C	-5°C	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C	55°C	60°C
6	8.64	8.4	8.16	7.92	7.68	7.44	7.2	6.96	6.72	6.48	6.24	6	5.76	5.52	5.28	5.04	4.8	4.56
10	14.4	14	13.6	13.2	12.8	12.4	12	11.6	11.2	10.8	10.4	10	9.6	9.2	8.8	8.4	8	7.6
16	23	22.4	21.8	21.1	20.5	19.8	19.2	18.6	17.9	17.3	16.6	16	15.4	14.7	14.1	13.4	12.8	12.2
20	28.8	28	27.2	26.4	25.6	24.8	24	23.2	22.4	21.6	20.8	20	19.2	18.4	17.6	16.8	16	15.2
25	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19
32	46.1	44.8	43.5	42.2	41	39.7	38.4	37.1	35.8	34.6	33.3	32	30.7	29.4	28.2	26.9	25.6	24.3
40	57.6	56	54.4	52.8	51.2	49.6	48	46.4	44.8	43.2	41.6	40	38.4	36.8	35.2	33.6	32	30.4
50	-	-	-	-	-	62	60	58	56	54	52	50	48	46	44	42	40	38
63	-	-	-	-	-	-	-	-	-	-	-	63	60.5	58	55.4	52.9	50.4	47.9



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