Consumer Unit

Design 30 High Integrity 63 A (I_{nA})

For the distribution of power in a residential application, conforming to BS EN 61439-3 including Annex ZB (16kA rating).

The Design range of consumer units with a 63A rated current (I_{nA}) have been designed for any residential applications where the upstream overcurrent protective device such as a cut-out fuse is less than or equal to 63 A.

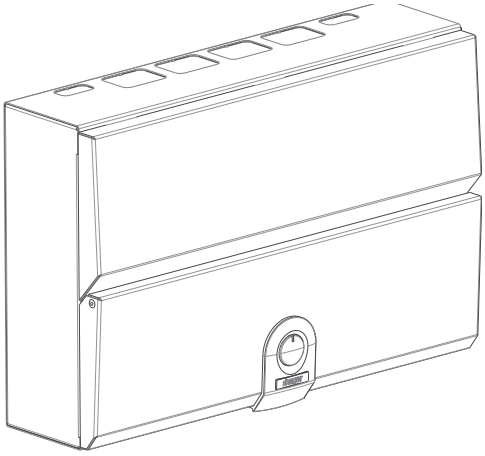
Design 30 is the enhanced board for use in applications where the consumer unit is located in a living area of the dwelling and allows compliance with BS 7671:2018;

Regulation 421.1.201 within domestic (household) applications consumer units and similar assemblies shall comply with BS EN 61439-3 and shall have their enclosure manufactured from a non-combustible material.

Regulation 411.3.3 additional protection by means of a 30mA RCD

Regulation 314.1&2 segregation of circuits to avoid danger and minimise any inconvenience in the event of a fault.

Regulation 531.3.2 Unwanted tripping (ii) in order to avoid unwanted tripping by protective conductor currents and/or earth leakage currents, the accumulation of such currents downstream of the RCD shall not be more than 30% of the rated residual operating current. High integrity boards allow circuits with high earth leakage currents to be individually protected by RCBOs, whilst the rest of the circuits are separated across the two RCCBs.

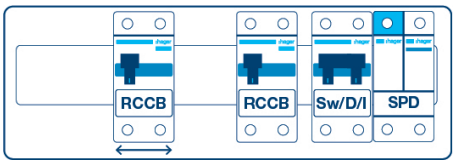


Regulation 522.6.202 protection of wiring concealed in walls or partitions with RCD 30mA.

Regulation 531.3.3 Selection of appropriate RCD. Type A RCCBs can detect and respond to both AC and pulsating DC components.

Regulation 536.4.3.2 & 536.4.202 overload protection of switches and RCCBs. For installations where the upstream overload protection is less than or equal to 63A.

Regulation 443.4 Protection against transient over voltages, provided by factory fitted type 2 SPD.



VM608CUSPD

Description	Size	Cat ref.	Cat ref. with Knockouts
8 Way HI Cf 63A Sw 2*63A 30mA Type A RCCB with SPD	5	**VM608CUSPD**	**VM608CUKSPD**
10 Way HI Cf 63A Sw 2*63A 30mA Type A RCCB with SPD	6	**VM610CUSPD**	**VM610CUKSPD**
14 Way HI Cf 63A Sw 2*63A 30mA Type A RCCB with SPD	7	**VM614CUSPD**	**VM614CUKSPD**
Dual Row HI Conf 6+10 Way 63A Sw 2*63A Type a RCCB with SPD	4(2)	**VM60610CUSPD**	**VM60610CUKSPD**
Dual Row HI Conf 10+14 Way 63A Sw 2*63A Type A RCCB with SPD	5(2)	**VM61014CUSPD**	**VM61014CUKSPD**
Dual Row HI Cf 16+20 Way 63A Sw 2*63A Type A RCCB with SPD	7(2)	**VM61620CUSPD**	**VM61620CUKSPD**

Features & Benefits

- Type A RCCBs for general purpose circuits and circuits containing equipment incorporating electronic components.
- Cable clamp – Secures supply cables on entry to main incoming device preventing any movement being transmitted through metertails to device.
- High integrity layout allows RCBOs to be fitted separate to the RCCBs for reduction of nuisance tripping on essential circuits and dividing earth leakage across multiple RCDs.
- Square cable entry points top and bottom for use with cable trunking.
- Meter tail cable entry plate (VM04CE) provided
- Rear knockouts for ease of cable entry – Cable protector plate (VM02CE) provided
- Rigid top wall – Enhances rigidity to prevent distortion when removing knockouts.
- Front cover retained screws – Prevents loss during installation
- Locate and hold cover – allows use of both hands whilst fitting cover.
- Full metal din rail – Secure and stable attachment of devices.
- Quick release clip on MCB/RCBO – Allows fitting and removal of device with busbar in place.
- Optimised cabling space – Din rail positioned to provide maximum space at top of board.
- Top mounted terminal rail makes the wiring of the neutral and earth connections neat and simple.
- Health and safety lock allows the door to be secured with circuits isolated during construction (via accessory see overleaf)
- Torque settings displayed inside front cover – easily accessible to electrician during installation and maintenance.
- Factory fitted type 2 surge protection

Technical Characteristics

Standards	BS EN 61439-3
Classification	Consumer Unit
Rated & Operational Voltage (U_n/U_e)	230V a.c 50 Hz
Rated Insulation Voltage (U_i)	320V a.c. 50Hz
Rated Frequency (fn)	50 Hz
Rated impulse withstand voltage (U_{imp})	4kV
Rated Current of the Assembly (I_{na})	63A
Rated Current of an Outgoing Circuit I_{nC}	MCB 6A-63A (Marked Rated Current on Device) RCBO **ADA1**G** - 40A - 45A (Marked Rated Current on Device) RCBO **ADA3**G** - 6A - 32A (Marked Rated Current on Device)
Rated Conditional Short Circuit of the Assembly (I_{cc})	Annex ZB: 16kA rms at 250V, power factor 0.6 with equipment and arrangements specified in Hager's technical documentation/catalogue
Rated Current of the Assembly Circuit	RCCB 63A (Marked Rated Current on Device)
Protection against electric shock	Consumer Unit shall be installed in an electrical system conforming to IEC 60364 / BS 7671
Rated Diversity Factor (RDF) / Values of assumed loading	10 Way and above - 0.5
Note: RDF only applies to continuously and simultaneously loaded circuits. In principle, this means adjacent circuit breakers having a load on time exceeding 30 minutes or where a load not exceeding 30 minutes has an 'off' time less than the 'on' time will need to have the rated diversity factor applied as indicated.	
Pollution Degree	2
Types of System Earthing for which the assembly is designed	TNC-S and TN-S when installed in an electrical system conforming to BS 7671
Intended locations	Indoor use only
Stationary assembly	
Degree of protection	IP2XC with door open / closed and full compliment of devices / blanks fitted. Note: Where cables are installed through the top wall of the enclosure, gaps of IP4X to be maintained.
Intended use	Intended for use in domestic (residential) or similar premises
Electromagnetic compatibility (EMC) classification	EMC environment B
External design	Wall mounted, surface type, enclosed assembly.
Mechanical impact protection	IK05
Type of construction	Fixed parts
Incoming Line/Neutral terminal	50mm²

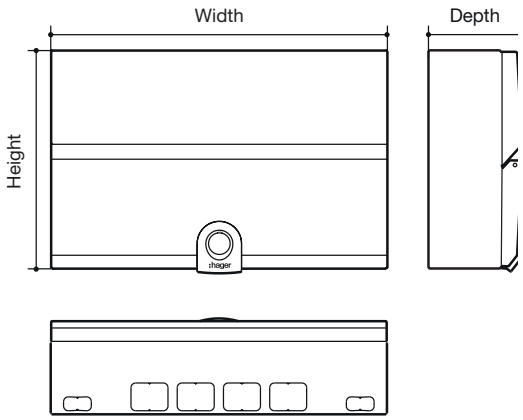
Accessories

Cable protector plate	Provides protection for cables entering from the rear of the board	**VM02CE**
Top wall cable entry plates	Provide more options for cable entry, when used with 50x50mm trunking IP ratings can be achieved	**VM03CE**
Blind cable entry plates	A blank plate for drilling which allows the installation of cable glands etc	**VM04CB, VM03CB**
Health and safety lock	Provides the ability to lock the consumer unit during the installation process	**VMHBL**
Design 30 door locking kit	Allows the board to be lockable	**VMLOCK**
Grommet strip	For protecting cables against damage when entering the board	**VM05GS**
Rear stand off plates	To stand consumer unit off wall allowing surface mounted cables to enter through rear of unit	**VM01SP**

Design 30 Dimensions (mm)

	Enclosure Size					
	5	**6**	**7**	**4(2)**	**5(2)**	**7(2)**
Height	240	240	240	480	480	480
Width	364	400	472	293	364	472
Depth	102.5	102.5	102.5	102.5	102.5	102.5

	Number of Knockouts					
*Top Face 30 x 25 (mm)	2	2	2	2	2	2
*Top Face 40 x 30 (mm)	4	6	6	4	4	6
Back 100 x 50 (mm)	3	3	3	4	6	6
*Bottom Face 30 x 25 (mm)	4	5	5	4	4	5

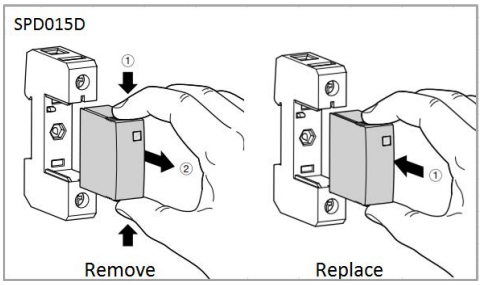


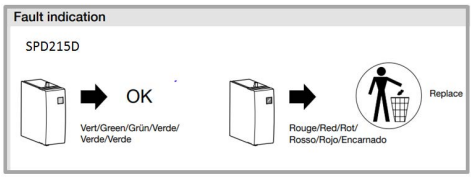
* References with a 'K' suffix feature top and bottom square knockouts.

Surge protection devices

Consumer units with SPD in the part reference come with a Type 2 (T2) surge protection device. All connections to and from the surge protection device are made at the factory. The phase is protected by a Metal Oxide Varistor (MOV) and the neutral by a spark gap device. The Metal Oxide Varistor will degrade each time it deals with high voltage or electromagnetic disturbances, when it is end of life the flag will turn red and the cartridge will require to be changed. At this point the cartridge will fail open circuit and the device will no longer provide surge protection. Simply remove the cartridge and replace with a new cartridge (SPD015D). The rest of the installation will remain unaffected.

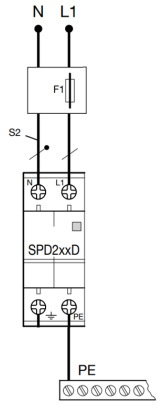
To remove a cartridge when the flag is red





Position of SPD in installation

TT/ TN-S/ TN-C-S



Overcurrent protection (F1) is provided by the upstream over current protection device (OCPD) which for a consumer unit is generally the service cut-out fuse.

SPD Characteristics

	I_n (8/20 µs)	I_{max} (8/20 µs)	U_p	U_c	F1 max	I_{pe}	I_{sccr}	
SPD215D	5 kA	15 kA	≤ 1 kV	275 V (50/60 Hz)	125 A gG	< 5 µA	10 kA_{rms}	SPD015D