

Consumer Unit Design 10 Time Delayed RCCB Incomer with SPD

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

The range of consumer units with a 100A rated current (InA) have been designed for installations where the upstream overcurrent protection device (OCPD) is rated at 100A or below.

Design 10 consumer unit is an entry level board designed for all applications and allows compliance with BS 7671:2018;

411.3.3 additional protection by means of a 30mA RCD, 314.1&2 segregation of circuits to avoid danger and minimise inconvenience in the event of a fault, 522.6.202 protection of wiring concealed in walls or partitions.

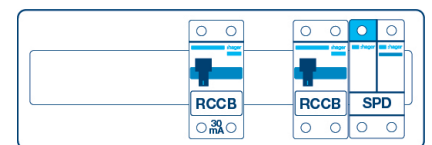
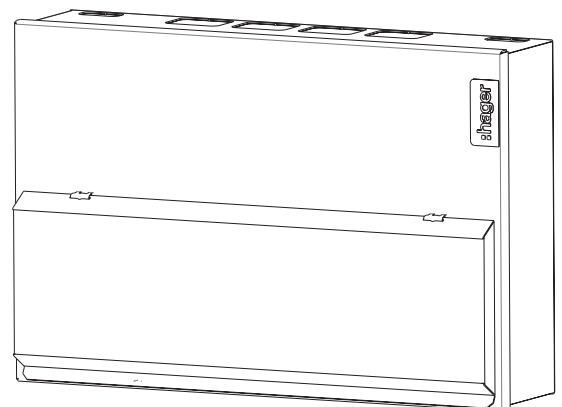
Metal enclosure manufactured to allow compliance with BS 7671 regulation 421.1.201

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 100A.

Time delayed RCCB incomer boards are designed for use on TT systems. The complete installation is protected with a time delayed 100mA RCCB, whilst each circuit has supplementary 30mA protection provided by either a 30mA RCCB or a 30mA RCBO.

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



VML910TGSPD

Description	Size	Cat ref.
10 Way Configurable 100A 100mA Type A Time Delay RCCB + 100A 30mA RCCB Type A	5	VML910TGSPD
10 Way 100A 100mA Type A Time Delay RCCB Incomer + 2x100A 30mA RCCB Type A	6	VML955TGSPD

Features & Benefits

- Cable clamp - Secures supply cables on entry to main incoming device preventing any movement being transmitted through metertails to device
- Square cable entry points top and bottom for use with cable trunking (references available with or without knockouts)
- Rear Knockouts for ease of cable entry – Cable protector plate provided
- Rigid top wall – Enhances rigidity to prevent distortion when removing knockouts
- Locate and hold cover - allows use of both hands whilst fixing cover
- Front cover retained screws – Prevents loss during installation
- Full metal DIN rail – Secure and stable attachment of devices
- Quick release clip on MCB/RCBO – Allows removal of MCB/RCBO with busbar still in place
- Optimised cabling space – DIN rail position allows maximum cabling space
- 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 so they're easily accessible by the electrician.
- Lockable front door via an accessory (see overleaf).
- 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})	100A
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
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	TT, 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	50mm ²
Incoming Earth Terminal	16mm ²

Warranty - Hager undertakes to replace or repair at its discretion products should they become inoperable within the time periods as stated. - 2 Years

Accessories

Cable protector plate	Provides protection for cables entering from the rear of the board	VM02CE
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

Devices

MCB 6kA 6A to 63A B Curve	MTN***
Single Pole, Single Mod RCBO 6kA, 40A - 45A Type A	ADA1**G
Single Pole, Single Mod Reduced Height RCBO 6kA, 6A - 32A Type A	ADA3**G

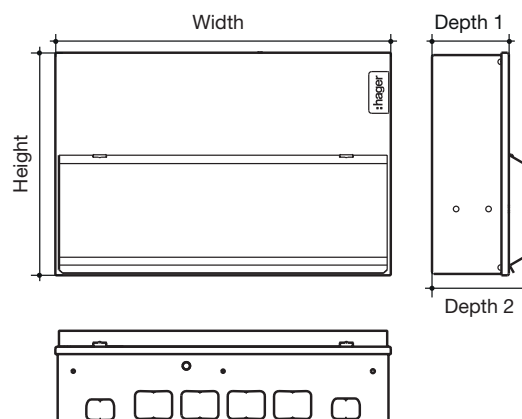
Design 10 Dimensions (mm)

	Enclosure Size	
	5	6
Height	246	246
Width	364	406
Depth 1	83	83
Depth 2	100	100

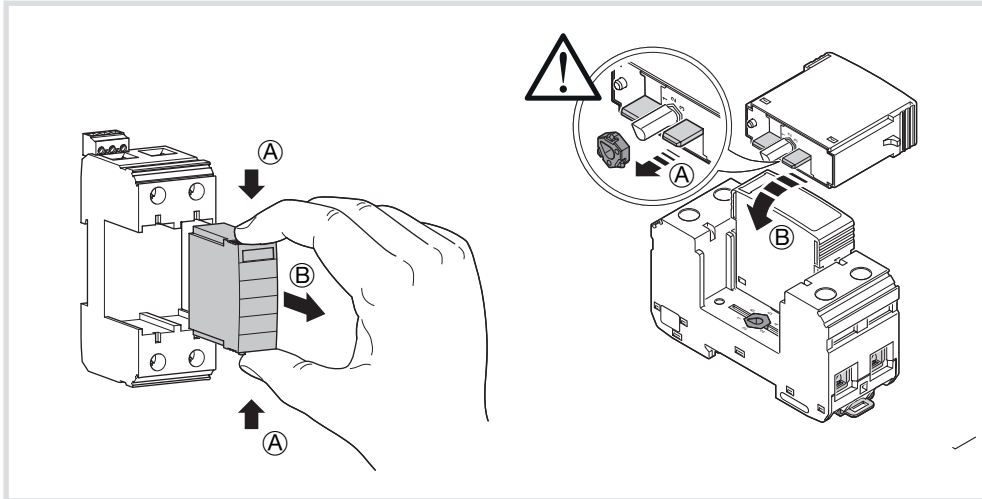
Number of Knockouts

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

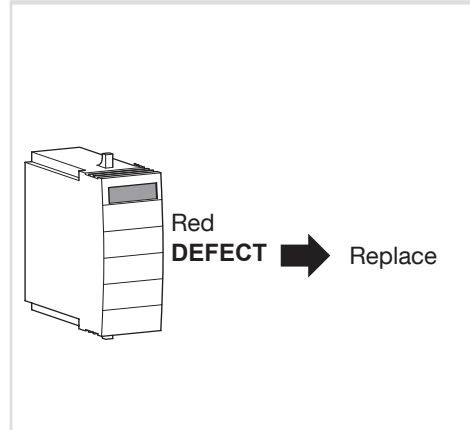
* References with a 'K' suffix feature top and bottom square knockouts.



SPB015, SPB015N



Fault indication



Key Specifications

- Power Supply System -TN / TT
- Requirement class -SPD class II acc. to IEC 61643-11; SPD Type 2 acc. to EN 61643-11
- Max. continuous operating voltage U_c -L-N: 275 V a.c. / N-PE: 260 V a.c.
- Nominal voltage U_n -230/400 V AC 50/60 Hz
- Nominal discharge current I_n (8/20) microseconds 20 kA
- Max. discharge current I_{max} (8/20) microseconds 40 kA
- Combination of high capacity voltage limiting varistors and N-PE spark gap
- Suitable for CT2 connection as per 534.4.3.2 BS7671 18th Edition
- Optical status indication for each cartridge
Clear = Healthy, Red/DEFECT = Replace
- Pluggable surge protection modules for ease of replacement
- Each cartridge incorporates its own thermal disconnect mechanism
- Cartridges are mechanically coded to prevent mis-connection
- Cartridges can be routinely checked and changed if required without interrupting supply to loads
- No secondary back-up protection required.

General Data

Standards/regulations	IEC 61643-11 2011 EN 61643-11 2012
IEC test classification	T2
EN type	T2
Mode of protection	L-N L-PE N-PE
Mounting type	DIN rail: 35 mm
Degree of pollution	2
Overvoltage category	III
Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 80 °C
Ambient temperature (storage/transport) Permissible humidity (operation)	-40 °C ... 80 °C

Electrical Data

Nominal voltage U_n	230 / 400 V AC (TN / TT)
Nominal frequency f_n	50 Hz (60 Hz)
Maximum continuous operating voltage U_c (L-N)	275 V AC
Maximum continuous operating voltage U_c (N-PE)	260 V AC
Residual current I_{PE}	$\leq 5 \mu A$
Standby power consumption P_c	$\leq 360 \text{ mVA}$
Nominal discharge current I_n (8/20) μs	20 kA
Maximum discharge current I_{max} (8/20) μs	40 kA
Follow current interrupt rating I_{fl} (N-PE)	100A
Short-circuit current rating I_{scR}	50kA
Voltage protection level U_p (L-N)	$\leq 1.5 \text{ kV}$
Voltage protection level U_p (L-PE)	$\leq 1.5 \text{ kV}$
Max. backup fuse	125 A (gG)