

### Consumer Unit Design 30 High Integrity 100 (I<sub>nA</sub>)

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 100A rated current (I<sub>nA</sub>) 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 100A.

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.

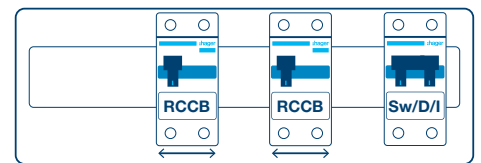
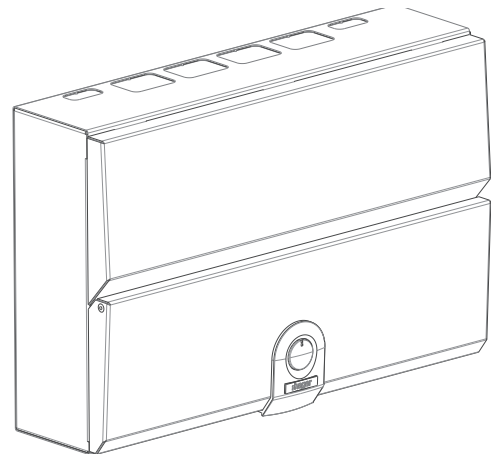
Regulation 531.3.2 Unwanted tripping (ii) in order to avoid unwanted tripping by protective conductor currents and/or earth leakage currents, the accumulation of such currents downstream of the RCD shall not be more than 30% of the rated residual operating current. High integrity boards allow circuits 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 100A.

#### Description



<sup>3</sup>a / S

|                                                                                | Size | Cat ref.  | Cat ref. with Knockouts |
|--------------------------------------------------------------------------------|------|-----------|-------------------------|
| 10 Way HI Cf 100A Sw 2*100A 30mA RCCB Type A                                   | 5    | VM910CU   | VM910CUK                |
| 12 Way HI Cf 100A Sw 2*100A 30mA RCCB Type A                                   | 6    | VM912CU   | VM912CUK                |
| 16 Way HI Cf 100A Sw 2*100A 30mA RCCB Type A                                   | 7    | VM916CU   | VM916CUK                |
| Dual Row HI Conf 8+10 Way 100A Sw 2*100A RCCB Type A                           | 4(2) | VM90810CU | VM90810CUK              |
| Dual Row HI Conf 12+14 Way 100A Sw 2*100A RCCB Type A                          | 5(2) | VM91214CU | VM91214CUK              |
| Dual Row HI Cf 18+20 Way 100A Sw 2*100A RCCB Type A                            | 7(2) | VM91820CU | VM91820CUK              |
| 12 Way Configurable 100A Switch 1 x 100A RCCB Type A (Remaining ways for RCBO) | 5    | VM512AC   | VM512ACK                |
| 18 Way Configurable 100A Switch 1 x 100A RCCB Type A (Remaining ways for RCBO) | 7    | VM518AC   | VM518ACK                |

### Features & Benefits

- 100A RCCBs allow the board to be installed with upstream overload protection offered by any rating of cut out fuse (60, 80, 100A) without the need to calculate the sum of the downstream devices to establish overload requirements.
- 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)
- Lockable front door via an accessory (see overleaf).
- Torque settings displayed inside front cover – easily accessible to electrician during installation and maintenance.

### 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)<br>RCBO <b>ADA1**G</b> - 40A - 45A (Marked Rated Current on Device)<br>RCBO <b>ADA3**G</b> - 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 100A (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.<br>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 <sup>2</sup>                                                                                                                                                                       |

### Accessories

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

### 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

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

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

