

## HSA-385/2+0 M S

- Surge arresters type T2+T3 ensure the equipotential bonding and reduce switching, induced and residual overvoltage in LV power supply systems.
- The products consist of varistors with big discharge ability.
- Configurations 1+1 and 3+1 are additionally combined with a gas discharge tube which ensures zero leakage current through the PE conductor.
- Installed at the boundaries of LPZ 1 – LPZ 3 into subsidiary switchboards and control panels.
- If the product contains two PE (or PEN) terminals, it must not be used as a PE (PEN) bridge.
- **M** indication specifies a type of construction with removable module.
- **S** indication specifies a version with remote monitoring.

| Type  | HSA-385/2+0 M S |   |
|---|-----------------|---|
| Test class according to EN 61643-11:2012 (IEC 61643-11:2011)  |                 | T2, T3  |
| System  |                 | TN-S  |
| Number of poles   |                 | 2   |
| Rated operating AC voltage  | $U_N$           | 230 V   |
| Maximum continuous operating voltage AC   | $U_C$           | 385 V   |
| Maximum discharge current (8/20)  | $I_{max}$       | 40 kA   |
| Nominal discharge current for class II test (8/20)  | $I_n$           | 15 kA   |
| Open circuit voltage of the combination wave generator  | $U_{OC}$        | 6 kV  |
| Total discharge current (8/20) L+N->PE  | $I_{Total}$     | 80 kA   |
| Voltage protection level at $I_n$   | $U_p$           | < 1.55 kV   |
| Voltage protection level at $U_{OC}$  | $U_p$           | < 1.25 kV   |
| Temporary overvoltage test (TOV) for $t_T = 5$ s  | $U_T$           | 337 V   |
| Temporary overvoltage test (TOV) for $t_T = 120$ min  | $U_T$           | 440 V   |
| Response time   | $t_A$           | < 25 ns   |
| Maximal back-up fuse  |                 | 160 A gL/gG   |
| Residual current  | $I_{PE}$        | ≤ 450 μA  |
| Short-circuit current rating at maximum back-up fuse  | $I_{SCCR}$      | 60 kA <sub>rms</sub>                                      |
| Lightning protection zone   |                 | LPZ 1-2, LPZ 2-3  |
| Housing material  |                 | Polyamid PA6, UL94 V-0                                    |
| Degree of protection  |                 | IP20  |
| Operating temperature   | $\vartheta$     | -40 ÷ 70 °C   |
| Humidity range  | RH              | 5 ÷ 95 %  |
| Minimum cross-section of connected Cu conductors accord. to HD 60364-5-53:2022 (doesn't apply to „V“ connection) for T2 | S               | 2.5 mm <sup>2</sup> (L, N)<br>6 mm <sup>2</sup> (PE, PEN) |
| Clamp fastening range (solid conductor)   |                 | 1.5 ÷ 25 mm <sup>2</sup>                                  |
| Clamp fastening range (stranded conductor)  |                 | 1.5 ÷ 16 mm <sup>2</sup>                                  |
| Tightening moment   |                 | 3 Nm  |
| Installation  |                 | On DIN rail 35 mm   |
| Modular width   |                 | 2 TE  |

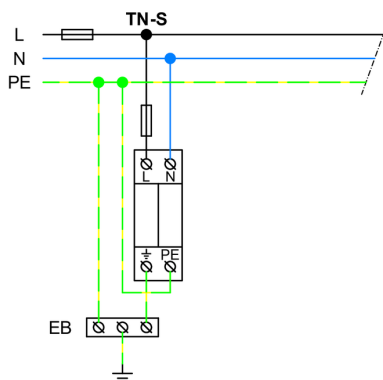
| Type   |   | HSA-385/2+0 M S                         |
|--|---|---|
| Operating position   |   | Any                                     |
| Product placement environment  |   | Internal                                |
| Signalling at the device   |   | Optic                                   |
| Importance of local signalling   |   | OK – clear target<br>FAULT – red target |
| Remote signalling  |   | Yes                                     |
| Potential free signal contact (S) (recommended cross-section of remote monitoring max. 1 mm <sup>2</sup> ) |   | AC: 250 V / 1.5 A, DC: 250 V / 0.1 A    |
| Modular design   |   | Yes                                     |
| Article number of spare module   |   | 27 193                                  |
| Lifetime   |   | > 100 000 h                             |
| <b>Designed according to standards</b>   |   |   |
| Requirements and test methods for SPDs connected to low-voltage power systems                              |   | IEC 61643-11:2011                       |
| Safety of Flammability of Plastic Materials  |   | UL 94                                   |
| <b>Application standards</b>   |   |   |
| Protection against lightning   |   | IEC 62305:2010                          |
| Selection and erection of electrical equipment – Switchgear and controlgear                                |   | HD 60364-5-53:2022                      |
| Selection and application principles for SPDs connected to low-voltage power systems                       |   | CLC/TS 61643-12:2009                    |
| <b>Ordering, packaging and additional data</b>   |   |   |
| Mass   | m | 224 g                                   |
| Mass (including the packaging)   | m | 238 g                                   |
| Packaging dimensions (H x W x D)   |   | 45 x 102 x 74 mm                        |
| Packaging value  | V | 0.34 dm <sup>3</sup>                    |
| ETIM group   |   | EG000021                                |
| ETIM class   |   | EC000941                                |
| Customs tariff no.   |   | 85363010                                |
| EAN code   |   | 8590681116616                           |
| <b>Art. number</b>   |   | <b>27 536</b>                           |



The link in the QR code leads to the online presentation of the HSA-385/2+0 M S. There, in addition to the always up-to-date data sheet, you will also find all diagrams and drawings, declarations of conformity, or 2D or 3D models and other necessary materials. For more information, visit [www.hakil.com](http://www.hakil.com)



### Application wiring diagram (installation)



### Internal diagram

