

HSA-385/4+0 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-385/4+0 S |
|---|-------------|---|
| Test class according to EN 61643-11:2012 (IEC 61643-11:2011) | | T2, T3 |
| System | | TN-S |
| Number of poles | | 4 |
| 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) L1+L2+L3+N->PE | I_{Total} | 160 kA |
| Voltage protection level at I_n | U_p | < 1.5 kV |
| Voltage protection level at U_{OC} | U_p | < 1.2 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} | $\leq 450 \mu A$ |
| Short-circuit current rating at maximum back-up fuse | I_{SCCR} | 60 kA _{rms} |
| Lightning protection zone | | LPZ 1-2, LPZ 2-3 |
| Housing material | | Polyamid PA6, UL94 V-0 |
| Degree of protection | | IP20 |
| Operating temperature | ϑ | -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 ² (L, N) 6 mm ² (PE, PEN) |
| Clamp fastening range (solid conductor) | | 1.5 ÷ 25 mm ² |
| Clamp fastening range (stranded conductor) | | 1.5 ÷ 16 mm ² |
| Tightening moment | | 3 Nm |
| Installation | | On DIN rail 35 mm |
| Modular width | | 4 TE |

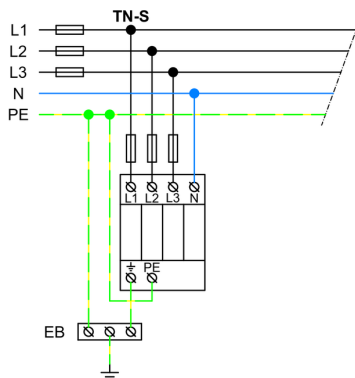
| Type | HSA-385/4+0 S | |
|--|---|----------------------|
| Operating position | Any | |
| Product placement environment | Internal | |
| Signalling at the device | Optic | |
| Importance of local signalling | OK – clear target FAULT – red target | |
| Remote signalling | Yes | |
| Potential free signal contact (S) (recommended cross-section of remote monitoring max. 1 mm ²) | AC: 250 V / 1.5 A, DC: 250 V / 0.1 A | |
| Modular design | No | |
| Lifetime | > 100 000 h | |
| Designed according to standards | | |
| Requirements and test methods for SPDs connected to low-voltage power systems | IEC 61643-11:2011 | |
| Safety of Flammability of Plastic Materials | UL 94 | |
| Application standards | | |
| 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 | |
| Ordering, packaging and additional data | | |
| Mass | m | 408 g |
| Mass (including the packaging) | m | 436 g |
| Packaging dimensions (H x W x D) | 74 x 112 x 73 mm | |
| Packaging value | V | 0.61 dm ³ |
| ETIM group | EG000021 | |
| ETIM class | EC000941 | |
| Customs tariff no. | 85363010 | |
| EAN code | 8590681115473 | |
| Art. number | 24 568 | |



The link in the QR code leads to the online presentation of the HSA-385/4+0 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.hakel.com



Application wiring diagram (installation)



Internal diagram

