

## HSA-275/1+1

- 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-275/1+1            |
|--|-------------|------------------------|
| Test class according to EN 61643-11:2012 (IEC 61643-11:2011) |             | T2, T3                 |
| System   |             | TN-S, TT               |
| Number of poles  |             | 2                      |
| Rated operating AC voltage                                   | $U_N$       | 230 V                  |
| Maximum continuous operating voltage AC                      | $U_C$       | 275 V                  |
| Maximum discharge current (8/20)                             | $I_{max}$   | 50 kA                  |
| Nominal discharge current for class II test (8/20)           | $I_n$       | 20 kA                  |
| Open circuit voltage of the combination wave generator       | $U_{OC}$    | 6 kV                   |
| Total discharge current (8/20) L+N->PE                       | $I_{Total}$ | 50 kA                  |
| Voltage protection level at $I_n$ (L/N)                      | $U_p$       | < 1.2 kV               |
| Voltage protection level at $I_n$ (L/PE)                     | $U_p$       | < 1.5 kV               |
| Voltage protection level at $I_n$ (N/PE)                     | $U_p$       | < 1.4 kV               |
| Voltage protection level at $U_{OC}$ (L/N)                   | $U_p$       | < 0.8 kV               |
| Impulse discharge current for class I test (10/350) N/PE     | $I_{imp}$   | 20 kA                  |
| Temporary overvoltage test (TOV) for $t_T = 5$ s (L/N)       | $U_T$       | 337 V                  |
| Temporary overvoltage test (TOV) for $t_T = 120$ min (L/N)   | $U_T$       | 440 V                  |
| Temporary overvoltage test (TOV) for $t_T = 0.2$ s (N/PE)    | $U_T$       | 1 200 V                |
| Response time (L/N)  | $t_A$       | < 25 ns                |
| Response time (N/PE)   | $t_A$       | < 100 ns               |
| Maximal back-up fuse   |             | 160 A gL/gG            |
| Residual current   | $I_{PE}$    | $\leq 5 \mu A$         |
| Short-circuit current rating at maximum back-up fuse         | $I_{SCCR}$  | 60 kA <sub>rms</sub>   |
| Follow current interrupt rating (N/PE)                       | $I_{fi}$    | 0.1 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  | $\theta$    | -40 ÷ 70 °C            |
| Humidity range   | RH          | 5 ÷ 95 %               |

| Type  |   | HSA-275/1+1   |
|---|---|---|
| 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  |
| Operating position  |   | Any   |
| Product placement environment   |   | Internal  |
| Signalling at the device  |   | Optic   |
| Importance of local signaling   |   | OK – clear target<br>FAULT – red target                   |
| Remote signalling   |   | No  |
| Modular design  |   | No  |
| 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 | 190 g   |
| Mass (including the packaging)  | m | 204 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  |   | 8590681115077   |
| <b>Art. number</b>  |   | <b>24 528</b>   |

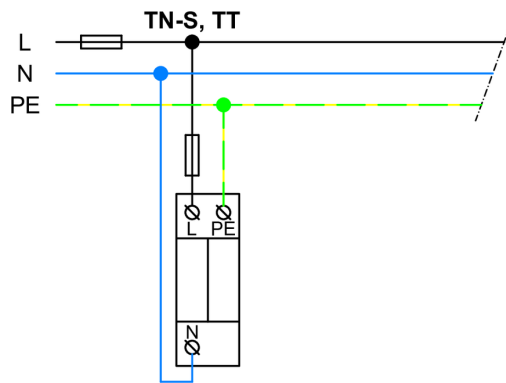


The link in the QR code leads to the online presentation of the HSA-275/1+1. There, in addition to the always up-to-date data sheet, you will also find all diagrams and drawings, declarations of conformity, or 2D or 3D models and other necessary materials. For more information, visit [www.hakil.com](http://www.hakil.com)



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**Application wiring diagram (installation)**



**Internal diagram**

