

## HSA-75/1+1 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.

| Туре   |                    | HSA-75/1+1 M S  |
|--|--------------------|---|
| 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   | $U_N$              | 60 V  |
| Maximum continuous operating voltage AC  | $U_{C}$            | 75 V  |
| Maximum discharge current (8/20)   | I <sub>max</sub>   | 40 kA   |
| Nominal discharge current for class II test (8/20)   | l <sub>n</sub>     | 15 kA   |
| Open circuit voltage of the combination wave generator   | $U_{oc}$           | 6 kV  |
| Total discharge current (8/20) L+N->PE   | I <sub>Total</sub> | 50 kA   |
| Voltage protection level at I <sub>n</sub> (L/N)   | $U_p$              | < 0.45 kV   |
| Voltage protection level at I <sub>n</sub> (N/PE)  | $U_p$              | < 1.3 kV  |
| Voltage protection level at U <sub>OC</sub> (L/N)  | $U_p$              | < 0.3 kV  |
| Impulse discharge current for class I test (10/350) N/PE   | I <sub>imp</sub>   | 20 kA   |
| Temporary overvoltage test (TOV) for $t_T = 5 \text{ s (L/N)}$   | $U_T$              | 91 V  |
| Temporary overvoltage test (TOV) for $t_T = 120 \text{ min (L/N)}$   | $U_{T}$            | 104 V   |
| Temporary overvoltage test (TOV) for $t_T = 0.2 s$ (N/PE)  | $U_T$              | 1 200 V   |
| Response time (L/N)  | t <sub>A</sub>     | < 25 ns   |
| Response time (N/PE)   | t <sub>A</sub>     | < 100 ns  |
| Maximal back-up fuse   |                    | 160 A gL/gG   |
| Residual current   | I <sub>PE</sub>    | ≤ 5 μA  |
| Short-circuit current rating at maximum back-up fuse   | I <sub>SCCR</sub>  | 60 kA <sub>rms</sub>                                      |
| Follow current interrupt rating (N/PE)   | I <sub>fi</sub>    | 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  | 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 <sup>2</sup> (L, N)<br>6 mm <sup>2</sup> (PE, PEN) |
|  |                    |   |



| Туре  |   | HSA-75/1+1 M S                          |
|---|---|---|
| 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   |   | Yes                                     |
| Potential free signal contact (S) (recommended cross-section of remote monitoring max. 1 mm²) |   | AC: 250 V / 1.5 A, DC: 250 V / 0.1 A    |
| Modular design  |   | Yes                                     |
| Article number of spare module  |   | 27 190                                  |
| 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 | 196 g                                   |
| Mass (including the packaging)  | m | 210 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  |   | 8590681116302                           |
| Art. number   |   | 27 505                                  |

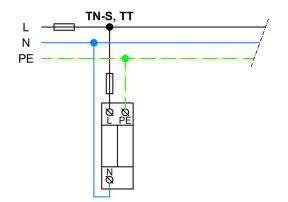


**The link in the QR code** leads to the online presentation of the **HSA-75/1+1 M S**. There, in addition to the always up-to-date data sheet, you will also find all diagrams and drawings, declarations of conformity, or 2D or 3D models and other necessary materials. For more information, visit **www.hakel.com** 





## Application wiring diagram (installation)



## Internal diagram

