

## HSA-320/2+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.

| Туре  |                    | HSA-320/2+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 <sub>c</sub>     | 320 V                             |
| Maximum discharge current (8/20)  | I <sub>max</sub>   | 50 kA                             |
| Nominal discharge current for class II test (8/20)  | l <sub>n</sub>     | 20 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> | 100 kA                            |
| Voltage protection level at I <sub>n</sub>  | $U_p$              | < 1.4 kV                          |
| Voltage protection level at U <sub>OC</sub>   | Up                 | < 0.95 kV                         |
| Temporary overvoltage test (TOV) for t <sub>T</sub> = 5 s   | U <sub>T</sub>     | 337 V                             |
| Temporary overvoltage test (TOV) for $t_T = 120 \text{ min}$  | U <sub>T</sub>     | 440 V                             |
| Response time   | t <sub>A</sub>     | < 25 ns                           |
| Maximal back-up fuse  |                    | 160 A gL/gG                       |
| Residual current  | I <sub>PE</sub>    | ≤ 400 μA                          |
| Short-circuit current rating at maximum back-up fuse  | I <sub>sccr</sub>  | 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   | 9                  | -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 mm² (L, N)<br>6 mm² (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                              |



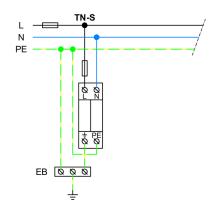
| Туре  |   | HSA-320/2+0 M S                         |
|---|---|---|
| Operating position  |   | Any                                     |
| Product placement environment   |   | Internal                                |
| Signalling at the device  |   | Optic                                   |
| Importance 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  |   | 27 192                                  |
| 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 | 238 g                                   |
| Mass (including the packaging)  | m | 252 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  |   | 8590681116517                           |
| Art. number   |   | 27 526                                  |



**The link in the QR code** leads to the online presentation of the **HSA-320/2+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.hakel.com** 



## Application wiring diagram (installation)



## Internal diagram

