



## HSA-720 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.
- **S** indication specifies a version with remote monitoring.

| Type                                                                                                                    | HSA-720 S                |                                                           |
|-------------------------------------------------------------------------------------------------------------------------|--------------------------|-----------------------------------------------------------|
| Test class according to EN 61643-11:2012 (IEC 61643-11:2011)                                                            | T2, T3                   |                                                           |
| System                                                                                                                  | TN                       |                                                           |
| Number of poles                                                                                                         | 1                        |                                                           |
| Rated operating AC voltage                                                                                              | $U_N$                    | 600 V                                                     |
| Maximum continuous operating voltage AC                                                                                 | $U_C$                    | 720 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                                                      |
| Voltage protection level at $I_n$                                                                                       | $U_p$                    | < 2.6 kV                                                  |
| Voltage protection level at $U_{OC}$                                                                                    | $U_p$                    | < 2 kV                                                    |
| Temporary overvoltage test (TOV) for $t_T = 5$ s                                                                        | $U_T$                    | 875 V                                                     |
| Temporary overvoltage test (TOV) for $t_T = 120$ min                                                                    | $U_T$                    | 1 143 V                                                   |
| Response time                                                                                                           | $t_A$                    | < 25 ns                                                   |
| Maximal back-up fuse                                                                                                    | 160 A gL/gG              |                                                           |
| Residual current                                                                                                        | $I_{PE}$                 | ≤ 600 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                                                                                                   | $\theta$                 | -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                                                                                                           | 1 TE                     |                                                           |
| Operating position                                                                                                      | Any                      |                                                           |

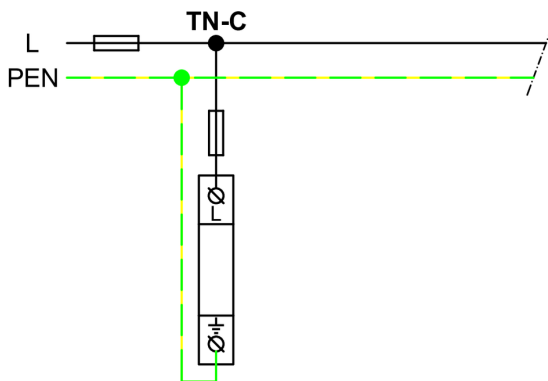
| Type                                                                                                       |   | HSA-720 S                               |
|------------------------------------------------------------------------------------------------------------|---|-----------------------------------------|
| 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                                                                                             |   | 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 | 115 g                                   |
| Mass (including the packaging)                                                                             | m | 126 g                                   |
| Packaging dimensions (H x W x D)                                                                           |   | 26 x 98 x 73 mm                         |
| Packaging value                                                                                            | V | 0.19 dm <sup>3</sup>                    |
| ETIM group                                                                                                 |   | EG000021                                |
| ETIM class                                                                                                 |   | EC000941                                |
| Customs tariff no.                                                                                         |   | 85363010                                |
| EAN code                                                                                                   |   | 8590681115787                           |
| <b>Art. number</b>                                                                                         |   | <b>24 607</b>                           |



The link in the QR code leads to the online presentation of the **HSA-720 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](http://www.hakel.com)



**Application wiring diagram (installation)**



**Internal diagram**

