

## HSAF16/125VDC

- Two-port surge arresters type T3 with high-frequency filters for serial connection.
- Intended for protection of electronic appliances against the effects of switching, induced and residual overvoltage in DC power supply systems.
- Contain an improved thermal fuse, which ensures timely disconnection of HSAF\*VDC S from the power grid during the MOV's overheating and thus prevents damage to the HSAF\*VDC S.
- Installed at the boundaries of LPZ 2 – LPZ 3, as close to the device to be protected as possible (no further than 5 m).
- In front of HSAF\*VDC S must be installed a lightning current and surge arrester T1 and T2 from HAKEL company.
- **S** indication specifies a version with remote monitoring.

| Type                                                                    |             | HSAF16/125VDC                |
|-------------------------------------------------------------------------|-------------|------------------------------|
| Test class according to EN 61643-11:2012 (IEC 61643-11:2011)            |             | T3                           |
| System                                                                  |             | DC                           |
| Rated operating DC voltage                                              | $U_N$       | 125 V                        |
| Maximum continuous operating voltage DC                                 | $U_C$       | 150 V                        |
| Rated load current                                                      | $I_L$       | 16 A                         |
| Open circuit voltage of the combination wave generator (+/-, $\pm/PE$ ) | $U_{OC}$    | 6 kV                         |
| Voltage protection level at $U_{OC}$ (+/-)                              | $U_p$       | < 0.9 kV                     |
| Voltage protection level at $U_{OC}$ ( $\pm/PE$ )                       | $U_p$       | < 0.6 kV                     |
| Nominal discharge current for class II test (8/20) +/-, $\pm/PE$        | $I_n$       | 3 kA                         |
| Total discharge current (8/20) $\pm \rightarrow PE$                     | $I_{Total}$ | 6 kA                         |
| Asymmetrical attenuation of filter at $f = 4$ MHz                       |             | > 80 dB                      |
| Asymmetrical attenuation of filter at $f = 0.15 \div 30$ MHz            |             | > 35 dB                      |
| Response time (+/-)                                                     | $t_A$       | < 25 ns                      |
| Response time ( $\pm/PE$ )                                              | $t_A$       | < 100 ns                     |
| Power dissipation                                                       | $P_Z$       | < 3.5 W                      |
| Maximal back-up fuse                                                    |             | 16 A gL/gG                   |
| Residual current                                                        | $I_{PE}$    | $\leq 1\,800 \mu A$          |
| Short-circuit current rating at maximum back-up fuse                    | $I_{SCCR}$  | 6 kA <sub>rms</sub>          |
| Lightning protection zone                                               |             | LPZ 2-3                      |
| Housing material                                                        |             | Polyamid PA6, UL94 V-0       |
| Degree of protection                                                    |             | IP20                         |
| Operating temperature                                                   | $\theta$    | -40 $\div$ 55 °C             |
| Humidity range                                                          | RH          | 5 $\div$ 95 %                |
| Recommended cross-section of connected conductors                       | S           | 2.5 mm <sup>2</sup>          |
| Clamp fastening range (solid conductor)                                 |             | 0.2 $\div$ 6 mm <sup>2</sup> |
| Clamp fastening range (stranded conductor)                              |             | 0.2 $\div$ 4 mm <sup>2</sup> |
| Tightening moment                                                       |             | 0,5 Nm                       |
| Installation                                                            |             | On DIN rail 35 mm            |

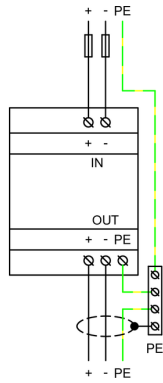
| Type                                                                                       |   | HSAF16/125VDC                              |
|--------------------------------------------------------------------------------------------|---|--------------------------------------------|
| Modular width                                                                              |   | 3 TE                                       |
| Operating position                                                                         |   | Any                                        |
| Product placement environment                                                              |   | Internal                                   |
| Signalling at the device                                                                   |   | Optic                                      |
| Importance of local signaling                                                              |   | OK – red light off<br>FAULT – red light on |
| Remote signalling                                                                          |   | No                                         |
| Includes EMI / EMC filter                                                                  |   | Yes                                        |
| 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                          |
| Methods of measurement of the suppression characteristics of passive EMC filtering devices |   | EN 55017:2011 / CISPR 17:2011              |
| 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 | 180 g                                      |
| Mass (including the packaging)                                                             | m | 204 g                                      |
| Packaging dimensions (H x W x D)                                                           |   | 60 x 113 x 73 mm                           |
| Packaging value                                                                            | V | 0.5 dm <sup>3</sup>                        |
| ETIM group                                                                                 |   | EG000021                                   |
| ETIM class                                                                                 |   | EC000942                                   |
| Customs tariff no.                                                                         |   | 85363010                                   |
| EAN code                                                                                   |   | 8590681161302                              |
| <b>Art. number</b>                                                                         |   | <b>30 332</b>                              |



The link in the QR code leads to the online presentation of the HSAF16/125VDC. 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)



Application wiring diagram (installation)



Internal diagram

