

## HSAF16/120VDC

- 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   |             | HSAF16/120VDC           |
|--|-------------|-------------------------|
| Test class according to EN 61643-11:2012 (IEC 61643-11:2011)       |             | T3                      |
| System   |             | DC                      |
| Rated operating DC voltage   | $U_N$       | 120 V                   |
| Maximum continuous operating voltage DC                            | $U_C$       | 144 V                   |
| Rated load current   | $I_L$       | 16 A                    |
| Open circuit voltage of the combination wave generator (+/-, ±/PE) | $U_{OC}$    | 6 kV                    |
| Voltage protection level at $U_{OC}$ (+/-)                         | $U_p$       | < 0.9 kV                |
| Voltage protection level at $U_{OC}$ (±/PE)                        | $U_p$       | < 0.6 kV                |
| Nominal discharge current for class II test (8/20) +/-, ±/PE       | $I_n$       | 3 kA                    |
| Total discharge current (8/20) ±->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 (±/PE)   | $t_A$       | < 100 ns                |
| Power dissipation  | Pz          | < 3.5 W                 |
| Maximal back-up fuse   |             | 16 A gL/gG              |
| Residual current   | $I_{PE}$    | ≤ 1 800 μA              |
| 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  | θ           | -40 ÷ 55 °C             |
| Humidity range   | RH          | 5 ÷ 95 %                |
| Recommended cross-section of connected conductors                  | S           | 2.5 mm <sup>2</sup>     |
| Clamp fastening range (solid conductor)                            |             | 0.2 ÷ 6 mm <sup>2</sup> |
| Clamp fastening range (stranded conductor)                         |             | 0.2 ÷ 4 mm <sup>2</sup> |
| Tightening moment  |             | 0,5 Nm                  |
| Installation   |             | On DIN rail 35 mm       |

| Type   |   | HSAF16/120VDC                              |
|--|---|--|
| Modular width  |   | 3 TE                                       |
| Operating position   |   | Any  |
| Product placement environment  |   | Internal                                   |
| Signalling at the device   |   | Optic                                      |
| Importance of local signalling   |   | 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   |   | 8590681163719                              |
| <b>Art. number</b>   |   | <b>30 147</b>                              |

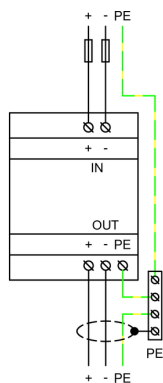


The link in the QR code leads to the online presentation of the HSAF16/120VDC. There, in addition to the always up-to-date data sheet, you will also find all diagrams and drawings, declarations of conformity, or 2D or 3D models and other necessary materials. For more information, visit [www.hakil.com](http://www.hakil.com)



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### Application wiring diagram (installation)



### Internal diagram

