

## PI-3k16

- Two-stage 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 generated in LV power supply systems.
- Contain an improved thermal fuse, which ensures timely disconnection of HSAF\* S from the power grid during the MOV's overheating and thus prevents damage to the HSAF\* 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\* 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   |             | PI-3k16                |
|--|-------------|------------------------|
| Test class according to EN 61643-11:2012 (IEC 61643-11:2011)       |             | T3                     |
| System   |             | TN-C-S, TN-S           |
| Number of poles  |             | 4                      |
| Rated operating AC voltage   | $U_N$       | 230 V                  |
| Maximum continuous operating voltage AC                            | $U_C$       | 275 V                  |
| Rated load current   | $I_L$       | 16 A                   |
| Open circuit voltage of the combination wave generator (L/N, L/PE) | $U_{OC}$    | 6 kV                   |
| Open circuit voltage of the combination wave generator (N/PE)      | $U_{OC}$    | 10 kV                  |
| Voltage protection level at $U_{OC}$ (L/N)                         | $U_p$       | < 0.85 kV              |
| Voltage protection level at $U_{OC}$ (L/PE)                        | $U_p$       | < 1.5 kV               |
| Voltage protection level at $U_{OC}$ (N/PE)                        | $U_p$       | < 1.2 kV               |
| Nominal discharge current for class II test (8/20) L/N, L/PE       | $I_n$       | 3 kA                   |
| Nominal discharge current for class II test (8/20) N/PE            | $I_n$       | 5 kA                   |
| Total discharge current (8/20) L+N->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                |
| Temporary overvoltage test (TOV) for $t_T = 5$ s (L/N)             | $U_T$       | 337 V                  |
| Temporary overvoltage test (TOV) for $t_T = 120$ min (L/N)         | $U_T$       | 440 V                  |
| Temporary overvoltage test (TOV) for $t_T = 0.2$ s (N/PE)          | $U_T$       | 1 200 V                |
| Response time (L/N)  | $t_A$       | < 25 ns                |
| Response time (L/PE, N/PE)   | $t_A$       | < 100 ns               |
| Power dissipation  | $P_Z$       | < 7.5 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                   |

| Type   |    | PI-3k16  |
|--|----|--|
| 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)  |    | 0.5 ÷ 6 mm <sup>2</sup>                                  |
| Clamp fastening range (stranded conductor)   |    | 0.5 ÷ 4 mm <sup>2</sup>                                  |
| Tightening moment  |    | 0,5 Nm   |
| Installation   |    | On DIN rail 35 mm  |
| Modular width  |    | 9 TE   |
| Operating position   |    | Any  |
| Product placement environment  |    | Internal   |
| Signalling at the device   |    | Optic  |
| Importance of local signaling  |    | OK – red retracted target<br>FAULT – red extended target |
| Remote signalling  |    | Yes  |
| Potential free signal contact (S) (recommended cross-section of remote monitoring max. 1 mm <sup>2</sup> ) |    | AC: 250 V / 0.5 A, DC: 250 V / 0.1 A                     |
| 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  | 500 g  |
| Mass (including the packaging)   | m  | 544 g  |
| Packaging dimensions (H x W x D)   |    | 71 x 177 x 106 mm  |
| Packaging value  | V  | 1.33 dm <sup>3</sup>                                     |
| ETIM group   |    | EG000021   |
| ETIM class   |    | EC000942   |
| Customs tariff no.   |    | 85363010   |
| EAN code   |    | 8590681303009  |
| <b>Art. number</b>   |    | <b>30 300</b>  |



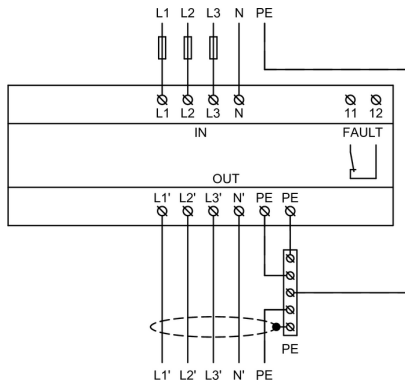
The link in the QR code leads to the online presentation of the **PI-3k16**.

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

