

HSA-600/3+1 M

- 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-600/3+1 M |
|---|--------------------|---|
| Test class according to EN 61643-11:2012 (IEC 61643-11:2011) | | T2, T3 |
| System | | TN-S, TT |
| Number of poles | | 4 |
| Rated operating AC voltage | U_N | 500 V |
| Maximum continuous operating voltage AC | U _C | 600 V |
| Maximum discharge current (8/20) | I _{max} | 40 kA |
| Nominal discharge current for class II test (8/20) | In | 15 kA |
| Open circuit voltage of the combination wave generator | U _{oc} | 6 kV |
| Total discharge current (8/20) L1+L2+L3+N->PE | I _{Total} | 50 kA |
| Voltage protection level at I _n (L/N) | U_p | < 2.2 kV |
| Voltage protection level at In (N/PE) | U _p | < 1.3 kV |
| Voltage protection level at U _{OC} (L/N) | U_p | < 1.7 kV |
| Impulse discharge current for class I test (10/350) N/PE | l _{imp} | 20 kA |
| Temporary overvoltage test (TOV) for $t_T = 5 s (L/N)$ | U_T | 726 V |
| Temporary overvoltage test (TOV) for $t_T = 120 \text{ min (L/N)}$ | U _T | 953 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 (N/PE) | t _A | < 100 ns |
| Maximal back-up fuse | | 160 A gL/gG |
| Residual current | I _{PE} | ≤ 5 µA |
| Short-circuit current rating at maximum back-up fuse | I _{SCCR} | 60 kA _{rms} |
| Follow current interrupt rating (N/PE) | l _{fi} | 0.1 kA _{rms} |
| Lightning protection zone | | LPZ 1-2, LPZ 2-3 |
| Housing material | | Polyamid PA6, UL94 V-0 |
| Degree of protection | | IP20 |
| Operating temperature | Э | -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 ² (L, N) 6 mm ² (PE, PEN) |
| | | |



| Clamp fastening range (solid conductor) 1.5 ÷ 25 mm² Clamp fastening range (stranded conductor) 1.5 ÷ 16 mm² Tightening moment 3 Nm Installation On DIN rail 35 mm Modular width 4 TE Operating position Ary Product placement environment Internal Signalling at the device Optic Importance of local signaling OK - clear target FAULT - red target Remote signalling No Modular design Yes Article number of spare module 27 195 Lifetime > 100 000 h Designed according to standards IEC 61643-11:2011 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 IEC 61643-11:2011 Protection against lightning IEC 68205:2010 Selection and erection of electrical equipment – Switchgear and controlgear HD 60084-5-53:2022 Selection and application principles for SPDs connected to low-voltage power systems CLCTS 61643-12:2009 Ordering, packaging and additional data <th>Туре</th> <th></th> <th>HSA-600/3+1 M</th> | Туре | | HSA-600/3+1 M |
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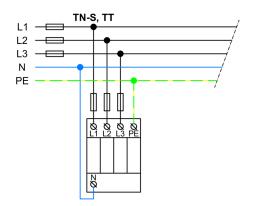


The link in the QR code leads to the online presentation of the **HSA-600/3+1 M**. There, in addition to the always up-to-date data sheet, you will also find all diagrams and drawings, declarations of conformity, or 2D or 3D models and other necessary materials. For more information, visit **www.hakel.com**





Application wiring diagram (installation)



Internal diagram

