

HLSA6,5 PV 200 M

- Lightning impulse current and surge arresters type T1+T2 intended for photovoltaic systems (PV) at U or Y connection.
- The advantage of the Y connection versus the U connection is the resistance to the earth connection of the working conductors and zero residual (leakage) current through the PE conductor.
- Particular varistor sectors, connected between the terminals L+, L- and PE are equipped with internal disconnectors, which are activated when the varistors fail (overheat) and they are able to interrupt the DC current.
- Special construction of the internal disconnector allows installation without a back-up fuse.
- They are installed on the DC side in PV applications with external LPS, where a sufficient distance "s" is not observed.
- Suitable for level LPL III or IV.
- Ensure the equipotential bonding of plus and minus busbars of PV systems and the elimination of transient overvoltage resulting from the atmospheric discharges (including direct lightning strike to the PV system) or switching processes.
- **M** indication specifies a type of construction with removable module.
- **S** indication specifies a version with remote monitoring.

| Type | | HLSA6,5 PV 200 M |
|--|-------------|---|
| Test class according to EN 61643-11:2012 and EN 61643-31:2019 | | T1, T2 |
| System | | DC |
| PV system type | | Ungrounded |
| SPD connection type | | Y |
| Maximum continuous operating voltage (+/-) | U_{CPV} | 200 V DC |
| Maximum continuous operating voltage (\pm/PE) | U_{CPV} | 200 V DC |
| Max. voltage of PV generator $U_{OCSTC} \leq U_{CPV} / 1.2$ | U_{OCSTC} | 160 V |
| Short-circuit current rating | I_{SCPV} | 10 kA |
| Impulse discharge current for class I test (10/350) | I_{imp} | 6.5 kA |
| Charge | Q | 3.25 As |
| Specific energy for class I test | W/R | 10.56 kJ/ Ω |
| Total discharge current (10/350) $\pm \rightarrow PE$ | I_{Total} | 12.5 kA |
| Total discharge current (8/20) $\pm \rightarrow PE$ | I_{Total} | 40 kA |
| Maximum discharge current (8/20) | I_{max} | 40 kA |
| Nominal discharge current for class II test (8/20) | I_n | 20 kA |
| Voltage protection level at I_n (+/-) | U_p | < 1.1 kV |
| Voltage protection level at I_n (\pm/PE) | U_p | < 1.9 kV |
| Response time (+/-) | t_A | < 25 ns |
| Response time (\pm/PE) | t_A | < 100 ns |
| Housing material | | Polyamid PA6, UL94 V-0 |
| Degree of protection | | IP20 |
| Operating temperature | θ | -40 \div 70 °C |
| Humidity range | RH | 5 \div 95 % |
| Minimum cross-section of connected Cu conductors according to IEC 61643-32:2017 (doesn't apply to „V“ connection) for T1 | S | 6 mm ² (L+, L-) 16 mm ² (PE) |

| Type | | HLSA6,5 PV 200 M |
|--|---|--|
| Minimum cross-section of connected Cu conductors according to IEC 61643-32:2017 (doesn't apply to „V“ connection) for T2 | S | 2.5 mm ² (L+, L-) 6 mm ² (PE) |
| Clamp fastening range (solid conductor) | | 2.5 ÷ 35 mm ² |
| Clamp fastening range (stranded conductor) | | 2.5 ÷ 25 mm ² |
| Tightening moment | | 4 Nm |
| Installation | | On DIN rail 35 mm |
| Modular width | | 3 TE |
| Operating position | | Any |
| Product placement environment | | Internal |
| SPD failure mode | | OCFM |
| Signalling at the device | | Optic |
| Importance of local signalling | | OK – green target FAULT – red target |
| Remote signalling | | No |
| Modular design | | Yes |
| Article number of the varistor spare module | | 16 388 |
| Article number of the gas discharge tube spare module | | 30 073 |
| Lifetime | | > 100 000 h |
| Designed according to standards | | |
| Requirements and test methods for SPDs for photovoltaic installations | | IEC 61643-31:2018 |
| Safety of Flammability of Plastic Materials | | UL 94 |
| Application standards | | |
| Protection against lightning | | IEC 62305:2010 |
| Selection and application principles for SPDs connected to photovoltaic installations | | IEC 61643-32:2017 |
| Selection and application principles for SPDs connected to photovoltaic installations | | CLC/TS 51643-32:2020 |
| Low-voltage electrical installations – Photovoltaic (PV) systems | | HD 60364-7-712:2016 |
| Ordering, packaging and additional data | | |
| Mass | m | 364 g |
| Mass (including the packaging) | m | 383 g |
| Packaging dimensions (H x W x D) | | 60 x 111 x 87 mm |
| Packaging value | V | 0.58 dm ³ |
| ETIM group | | EG000021 |
| ETIM class | | EC001457 |
| Customs tariff no. | | 85363010 |
| EAN code | | 8590681187401 |
| Art. number | | 16 380 |

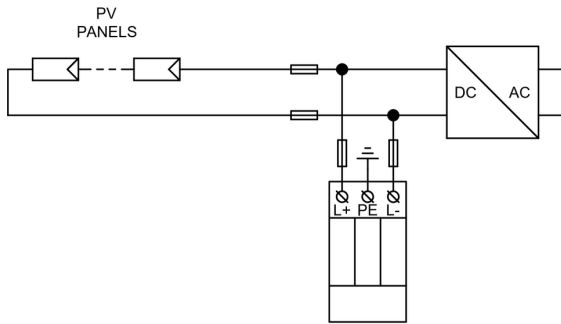


The link in the QR code leads to the online presentation of the **HLSA6,5 PV 200 M**. There, in addition to the always up-to-date data sheet, you will also find all diagrams and drawings, declarations of conformity, or 2D or 3D models and other necessary materials. For more information, visit www.hakil.com



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Application wiring diagram (installation)



Internal diagram

