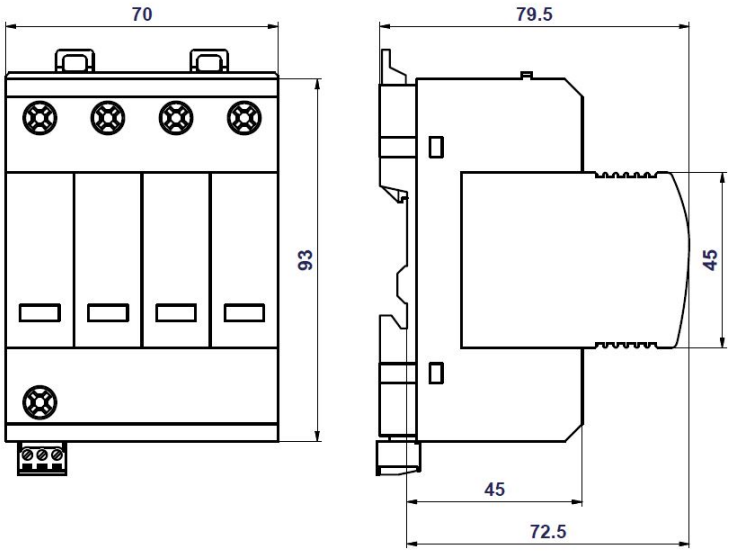
# Lightning and surge arresters – (TYP 1 +2)

TYP1+2, CLASS I+II






**PIVM PV 800 DS Vseries**

**PIVM PV 800 Vseries** is a lightning and surge arrester type 1+2 intended for photovoltaic systems (PV) according to EN 61643-31. It is installed as close as possible to the inverter on the DC side according to EN 62305 for equipotential bonding of positive and negative busbars of photovoltaic systems, which ensures the elimination of transient overvoltage that originates during the atmospheric discharges (including direct lightning strike to the PV system) or switching processes. Particular varistor sectors, connected between the terminals L+, L- and PE are equipped with internal disconnectors, which are activated when the varistors fail (overheat). Operational status indication of these disconnectors is partly visual (discoloration of the signal field) and partly remote monitoring (by potential free change over contacts–only DS types). The position of the applied HAKEL SPD can be horizontal, vertical, rotated by 90 or 180 degrees and this position does not affect the SPD function or the specified parameters.

The marking **M** specifies a type of construction with removable module.

| **Typ** | | **PIVM PV 800 DS Vseries** |
|---|---|---|
| Test class according to EN 61643-11:2012 and IEC 61643-11:2011 | | TYP1+2, CLASS I+II |
| Maximum continuous operating voltage | $U_C$ | 870 V DC |
| Max. voltage of PV generator | $U_{OCSTC}$ | U OCSTC < U CPV /1,2 = 730 V |
| Short-circuit current rating for PV application | $I_{SCPV}$ | 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 kJ/Ω |
| Application | | L+/L-, L+/PE, L-/PE |
| Maximum discharge current | $I_{max}$ | 40 kA |
| Nominal discharge current for class II test (8/20) | $I_n$ | 15 kA |
| Voltage protection level at $I_n$ (L+/L-) | $U_p$ | < 3,3 kV |
| Voltage protection level at $I_n$ (L/PE) | $U_p$ | < 1,65 kV |
| Response time | $t_A$ | < 25 ns |
| LPZ | | 0-1 and higher |
| Housing material | | Polyamid PA6, UL94 V-0 |
| Degree of protection of enclosure | | IP20 |

| | | |
|---|---|---|
| Operating temperature | ϑ | -40°C ... +70 °C |
| PIVM PV 800 DS Vseries | | T1: 6 mm² (L, N), 16 mm² (PE, PEN) T2: 2,5 mm² (L, N), 6 mm² (PE, PEN) |
| Range of clamps fastening | | 2,5 ÷ 35 mm² (solid) / 2,5 ÷ 25 mm² (wire) |
| Method of assembly | | DIN rail 35 mm |
| Failure signalisation (S) | | green - ok / red - failure |
| Potential free signal contact (DS) (recommended cross-section of remote monitoring max.1 mm$^2$) | | AC: 250 V / 1,5 A, DC: 250 V / 0,1 A |
| Weight | m | 390 g |
| Lifetime | | min.100 000 h |
| Article number | | |
| PIVM PV 800 DS Vseries | | **16 074** |

