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# A-Z ROOF SPD2 T1+T2 2+3 1010 VDC



DC2-3+2

Due to the regulatory obligation to place class 1 surge arresters near the downfall of string wires into the building, we are introducing a new model line of SPD units for mounting on the supporting structure of the photovoltaic panels themselves. The actual construction, taking into account weather...

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## PRODUCT DESCRIPTION

Due to the regulatory obligation to place class 1 surge arresters near the downfall of string wires into the building, we are introducing a new model line of SPD units for mounting on the supporting structure of the photovoltaic panels themselves.

The actual construction, taking into account weather conditions and the method of assembly, is made of aluminum alloy (the same material as the supporting profiles of PV panels – there is no risk of electrochemical corrosion) with hermetically sealed internal circuits in polyurethane material with an inert filler that suppresses combustion.

The unit is designed as a through-type unit for easy implementation into a string – both poles of the string are connected to the unit and both of them also exit. The connection is made with classic MC4 connectors (with an integrated fuse at the input) and wires with a cross-section of 6 mm<sup>2</sup> (in some versions even 10 mm<sup>2</sup>) with double insulation and color coding.

The connection of the PE conductor or the connection with the LPS elements is solved on the box chassis itself using an M10 (M8) screw through a pressed-in eye on a stranded conductor >16 mm<sup>2</sup> or directly via a T-screw by connecting to the supporting structure/LPS downpipe, or in combination.

The SPD unit itself is of class T1 + T2, which means that due to the above-standard leakage resistance (12/25 kA), it can also be applied to centers with less than 4 down conductors (according to ČSN EN 51643-32).

Due to the specific design and location, it is necessary to measure the residual current at the maximum operating voltage after each interruption of the integrated fuse (due to the action of the SPD).

If the value is higher than the maximum value specified by the manufacturer, the entire SPD module must be replaced. An indication of a blown fuse is the absence of voltage on the string circuit after the SPD module.

Property	Value
Maximum operating DC voltage between L+ and L- (L+- and PE)	1010 V
I <sub>n</sub> (8/20 μs)	L+ or L- /PE 20 kA L+- /PE 40 kA
I <sub>max</sub> (8/20 μs)	L+ or L- /PE 50 kA L+- /PE 100 kA

Property	Value
$I_{mp}$ (10/350 $\mu$ s)	L+ or L- /PE 12.5 kA L+- /PE 25 kA
Dimensions	234x126x34.4mm
Connecting wires	Length: approx. 25 cm; Cross-section: 6/10 mm <sup>2</sup> ; Connectors: MC4 male/female with integrated fuse
Location	Outdoor – installation on the supporting system of PV panels
Rated short-circuit current $I_{scpv}$	10 kA
External disconnectors	fuse integrated in MC4 < 30 A at input
Indication of SPD effect	output voltage drop to 0 V
Residual current	max 50 $\mu$ A
Classification according to ČSN EN 61643-11 ed. 2 and ČSN EN 61643-31	T1+T2
Suitable for network	DC
Rated load current $I_L$	Type 1 – 30 A Type 2 – 30 A Type 3 – 80 A
Short circuit resistance $I_{SCPV}$	10 kA
Voltage protection level at In $U_p$	< 2.3 kV
Response time $t_A$	< 25 ns
Case material	Aluminum alloy
Degree of protection of the cover	IP67
Working temperature $\mu$	-40 ÷ 85 °C
Humidity range $R_H$	0 ÷ 100%
Cross section of the connector wire	Cross-section: 6 mm <sup>2</sup> / 10 mm <sup>2</sup> (according to design)
Earth terminal tightening torque	According to the M8/10 screw used
Method of assembly	FV Alu profile
Working position	Any
SPD fault mode	OCFM
Interchangeable design	NO
Service life	> 15 years