

A-Z TRADERS

Designed and Manufactured in the EU



Switchboards for
Photovoltaics



Intelligent Control
Systems



Charging Stations for
Electric Vehicles



Safety Components

Surge Protectors



Monitoring Systems

A-Z ROOF SPD T1+T2 2+0 1010 VDC

DC-2-PLUG-AND-PLAY

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PRODUCT DESCRIPTION

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

The construction itself is made of aluminum alloy (the same material as the supporting profiles of the PV panels - there is no risk of electrochemical corrosion) with hermetically sealed internal circuits in polyurethane material with fire-suppressing internal filler, taking into account the weather conditions and the method of assembly.

With regard to easy implementation into a string, the unit is realized as pass-through - both poles of the string are connected to the unit and both of them also exit. The connection is made with classic MC4 connectors (at the input with an integrated fuse) and wires with cross-sections of 6 mm² (in some versions also 10 mm²) with double insulation and color resolution.

The connection of the PE conductor or the connection to the LPS elements is solved on the box's own chassis using an M10 (M8) screw through a crimped eye on a cabled conductor >16 mm² or directly via a T-screw by connecting to the support structure/LPS lead, or in combination.

The SPD unit itself is of class T1 + T2, where, due to the above-standard leakage resistance (12/25 kA), application is also possible to centers with less than 4 discharges (according to ČSN EN 51643-32).

Due to the specific design and location, it is necessary to measure the residual current at max. operating voltage.

If it is higher than the maximum value specified by the manufacturer, it is necessary to replace the entire SPD module. An indication of a fuse break is the absence of voltage on the string circuit behind the SPD module.

Property	Value
Maximum operating DC voltage between L+ and L- (L+- and PE)	1010 V
I_{in} (8/20 μ s)	L+ or L- /PE 20 kA L+- /PE 40 kA

Property	Value
I_{max} (8/20 μ s)	L+ or L- /PE 50 kA L+- /PE 100 kA
I_{mp} (10/350 μ 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 ² ; Connectors: MC4 male/female with integrated fuse
Location	Outdoor - mounting on the PV panel support system
Rated short-circuit current I_{scpv}	10kA
External disconnectors	fuse integrated in MC4 < 30 A at input
Indication of SPD impact	output voltage drop to 0 V
Residual current	max 50 μ 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}	10kA
Voltage protection level at In U_P	< 2.3 kV
Response time t_A	< 25 ns
Case material	Aluminum alloy
Enclosure protection level	IP67
Working temperature \varnothing	-40 \div 85 °C
Humidity range $_{RH}$	0 \div 100%
Connector wire cross-section	Cross section: 6 mm ² / 10 mm ² (depending on version)
Earth terminal tightening torque	According to the M8/10 screw used
Mounting method	FV Alu profile
Working position	Any
SPD failure mode	OCFM
Interchangeable design	NO
Lifespan	> 15 years