

Pluggable Multi-Pole SPD for Photovoltaic Systems

ProTec T1-1500PV-3+0-S(-R)

Type 1 • Type 2 • Open Type 1 PV SPD Listed



Location of Use: String box, Inverter
 Mode of Protection: (+)-PE, (-)-PE, (+)-(-)
 EN/UL Category: Type 1, Type 2 /
 Open Type 1 PV SPD Listed
 Housing: Pluggable Design
 Compliance: IEC 61643-31:2018
 UL 1449 5th Edition

Technical Data

ProTec T1-xxxxPV-3+0-S(-R)

1500

EN Electrical

Maximum Continuous Operating DC Voltage	U_{CPV}	1500 V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA
Impulse Discharge Current (10/350 μ s)	I_{imp}	6.25 kA
Specific Energy	W/R	9.77 kJ/ Ω
Charge	Q	3.125As
Total Discharge Current (10/350 μ s)	I_{Total}	12.5 kA
Total Discharge Current (8/20 μ s)	I_{Total}	60 kA
Maximum Discharge Current (8/20 μ s)	I_{max}	60 kA
Voltage Protection Level	(+)-PE, (-)-PE U_p	4500 V
	(+)-(-) U_p	4500 V
Response Time	t_A	< 25 ns
Short-Circuit Current Rating	I_{SCP}	30 kA
Number of Ports		1

UL Electrical

Maximum Permitted DC Voltage	V_{pvdc}	1500V
Voltage Protection Rating	(+)-G, (-)-G VPR	3000V
	(+)-(-) VPR	3000V
Nominal Discharge Current (8/20 μ s)	I_n	20kA
Short-Circuit Current Rating	SCCR	100kA

Additional Electrical Parameters (Tests performed within Raycap testing laboratory only)

Residual Voltage at 5 kA (8/20 μ s)	U_{res}	3400 V
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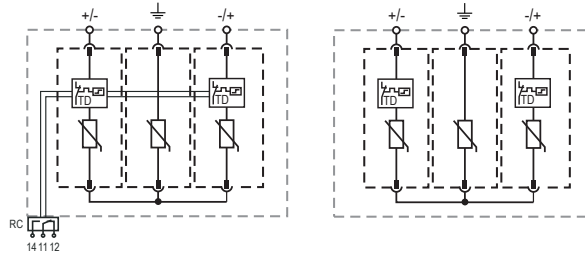
Mechanical & Environmental

Operating Temperature Range	T_a	-40 °F to +158 °F [185 °F per UL 1449]
		-40 °C to +70 °C [85 °C per UL 1449]
Permissible Operating Humidity	RH	5%...95%
Altitude (max)		13123 ft [4000 m]
Terminal Screw Torque	M_{max}	35 lbf-in per UL 1499 [4.5 Nm]
Conductor Cross Section (max)		6 AWG (Solid, Stranded) per UL 1449
		35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)
Mounting		35 mm DIN Rail, EN 60715
Degree Of Protection		IP 20 (built-in)
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0
Thermal Protection		Yes
Operating State / Fault Indication		Green Flag / Not Green Flag
Remote Contacts (RC)		Optional
RC Switching Capacity		AC: 250V/1A, 125V/1A; DC: 48V/0.5A, 24V/0.5A, 12V/0.5A
RC Conductor Cross Section (max)		10AWG (Solid, Stranded) per UL 1449 [1.5 mm ² (Solid)]

Internal Configuration

Legend

- +/-, -/+ Terminal for +/-, -/+ Conductor
- ⏏ Terminal for PE/G Conductor
- RC Remote Contacts Optional
- TD Thermal Disconnect



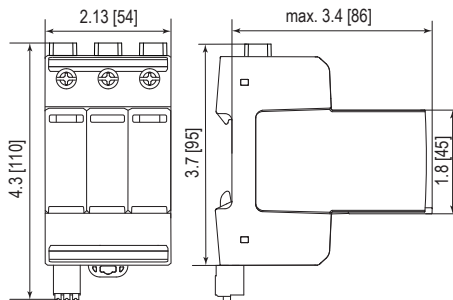
ProTec T1-xxxxPV-3+0-S(-R)

Order Information VDE Certified and Open Type 1 UL Listed Products

Order Code	1500
ProTec T1-xxxxPV-3+0-S	59.0917
ProTec T1-xxxxPV-3+0-S-R (with remote contacts)	59.0916
ProTec T1-750PV-S-P (middle plug)	59.0919
ProTec T1-750PV-S-M-P (side plug)	59.0918

Dimensions & Packaging

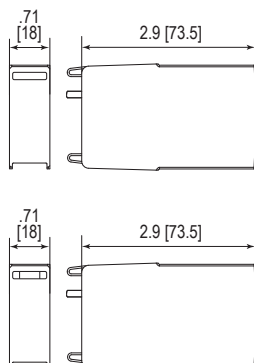
inches [mm]



Complete Unit

ProTec T1-xxxxPV-3+0-S		1500
Single Unit Weight	pounds	1.034
	grams	469
ProTec T1-xxxxPV-3+0-S-R		1500
Single Unit Weight	pounds	1.045
	grams	474
Single Unit DIN 43880 Dimension	3 TE / 2.13 [54]	
Packaging Dimensions (H x W x L)	4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]	
Standard Order Quantity	5 Units	

Spare Plug



Single Unit

ProTec T1-xxxPV-S-P		750
Single Unit Weight	pounds	.282
	grams	128
ProTec T1-xxxPV-S-M-P		750
Single Unit Weight	pounds	.196
	grams	89
Single Unit DIN 43880 Dimension	1 TE / .71 [18]	
Packaging Dimensions (H x W x L)	4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]	
Standard Order Quantity	28 Units	