

Pluggable Multi-Pole SPD for Photovoltaic Systems

ProTec T1-PV 3+0

Type 1 • Type 2 • Type 1CA



Location of Use: String box, Inverter
 Mode of Protection: (+)-PE, (-)-PE, (+)-(-)
 Surge Ratings: I_{Total} = up to 12.5kA (10/350 μ s)
 I_{Total} = up to 50kA (8/20 μ s)
 EN/UL Category: Type 1+2 / Type 1CA
 Protective Elements: High Energy MOV
 Housing: Pluggable Design
 Compliance: EN 50539-11:2013+A1:2014
 UL 1449 4th Edition

ProTec T1-xxxxPV-3+0**1100****1500****IEC Electrical**

Maximum Continuous Operating DC Voltage	U_{CPV}	1100 V	1500 V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA	20 kA
Impulse Discharge Current (10/350 μ s)	I_{imp}	6.25kA	5kA
Specific Energy	W/R	9.77kJ/ Ω	6.25kJ/ Ω
Charge	Q	3.125As	2.5As
Total Discharge Current (10/350 μ s)	I_{Total}	12.5kA	10kA
Total Discharge Current (8/20 μ s)	I_{Total}	50kA	40kA
Maximum Discharge Current (8/20 μ s)	I_{max}	40kA	30kA
Voltage Protection Level	(+)-PE, (-)-PE U_p	3800 V	5000 V
	(+)-(-) U_p	3800 V	5000 V
Response Time	t_A	< 25 ns	
Short-Circuit Current Rating	I_{SCP}	11 kA	
Number of Ports		1	

UL Electrical

Maximum Permitted DC Voltage	V_{pVdc}	1100V	1500V
Voltage Protection Rating	(+)-PE, (-)-PE V_{PR}	2500V	4000V
	(+)-(-) V_{PR}	2500V	4000V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA	
Short-Circuit Current Rating	SCCR	50 kA	65 kA

Mechanical & Environmental

Operating Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]	
Permissible Operating Humidity	RH	5%...95%	
Altitude (max)		13123 ft [4000 m]	
Terminal Screw Torque	M_{max}	39.9 lbf-in [4.5 Nm]	
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible)	
		35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)	
Mounting		35 mm DIN Rail, EN 60715	
Degree Of Protection		IP 20	
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)		16 AWG (Solid) / 1.5 mm ² (Solid)	

Order Information

Order Code	1100	1500
ProTec T1-xxxxPV-3+0	59.0285	59.0289
ProTec T1-xxxxPV-3+0-R (with remote contacts)	59.0286	59.0290
ProTec T1-550PV-P	59.0283	-
ProTec T1-550PV-M-P	59.0284	-
ProTec T1-750PV-P	-	59.0287
ProTec T1-750PV-M-P	-	59.0288

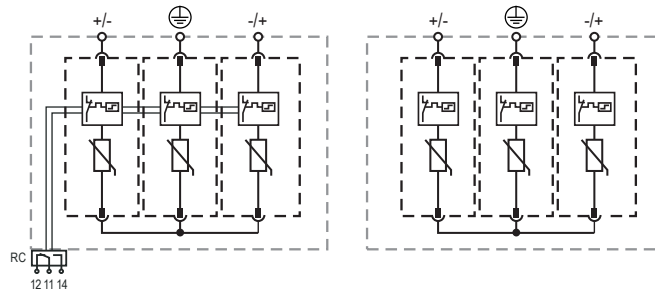
ProTec T1-PV-3+0

Internal Configuration

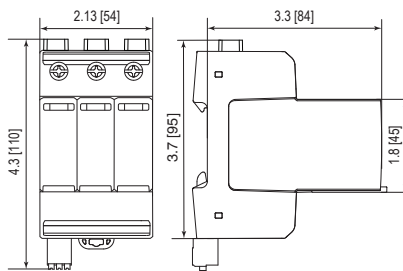
Legend

⊕ Ground

RC Remote Contacts Optional



Dimensions & Weights

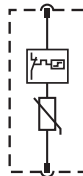


Weights

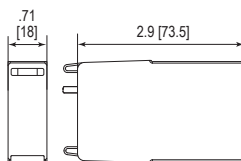
ProTec T1-xxxxxPV-3+0	1100	1500
Single Unit Weight pounds [grams]	.999 [453]	1076 [488]
ProTec T1-xxxxPV-3+0-R	1100	1500
Single Unit Weight pounds [grams]	1019 [462]	1096 [497]
Single Unit DIN 43880 Dimension	3 TE	
Packaging Dimensions (H x W x L)	4.30 x 3.03 x 4.48" [109 x 77 x 114 mm]	
Minimum Order Quantity	5 Units	

Plug Internal Configuration

ProTec T1-xxxPV-P
ProTec T1-xxxPV-M-P



Dimensions & Weights



Weights

ProTec T1-xxxPV-P	550	750
Single Unit Weight pounds [grams]	.280 [127]	.287 [130]
Single Unit DIN 43880 Dimension	1 TE	
Packaging Dimensions (H x W x L)	4.30" x 3.03" x 4.48" [109 x 77 x 114 mm]	
Minimum Order Quantity	28 Units	
ProTec T1-xxxPV-M-P	550	750
Single Unit Weight pounds [grams]	.157 [71]	.192 [87]
Single Unit DIN 43880 Dimension	1 TE	
Packaging Dimensions (H x W x L)	4.30 x 3.03 x 4.48" [109 x 77 x 114 mm]	
Minimum Order Quantity	28 Units	

inches
[mm]

Information contained in this document is subject to
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