

## 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 $\mu$ s)  
 $I_{Total}$  = up to 50kA (8/20 $\mu$ 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 4<sup>th</sup> 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 $\mu$ s)	$I_n$	20 kA	20 kA
Impulse Discharge Current (10/350 $\mu$ s)	$I_{imp}$	6.25kA	5kA
Specific Energy	W/R	9.77kJ/ $\Omega$	6.25kJ/ $\Omega$
Charge	Q	3.125As	2.5As
Total Discharge Current (10/350 $\mu$ s)	$I_{Total}$	12.5kA	10kA
Total Discharge Current (8/20 $\mu$ s)	$I_{Total}$	50kA	40kA
Maximum Discharge Current (8/20 $\mu$ 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 $\mu$ 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 <sup>2</sup> (Solid, Stranded) / 25 mm <sup>2</sup> (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 <sup>2</sup> (Solid)	

**Order Information**

Order Code	<b>1100</b>	<b>1500</b>
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

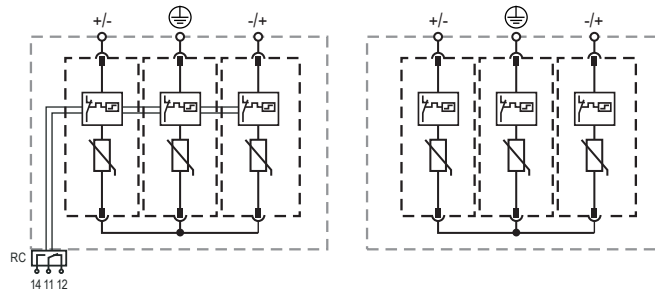
## ProTec T1-PV-3+0

### Internal Configuration

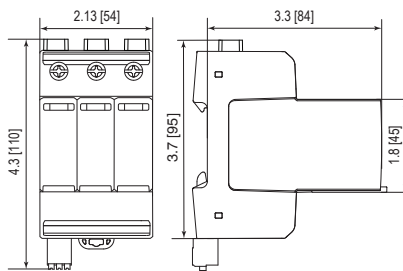
#### Legend

⊕ Ground

RC Remote Contacts Optional



### Dimensions & Weights

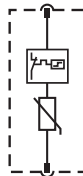


#### Weights

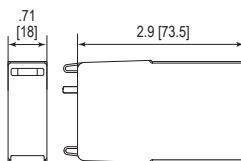
ProTec T1-xxxxxPV-3+0	1100	1500
Single Unit Weight pounds [grams]	.999 [453]	1.076 [488]
ProTec T1-xxxxPV-3+0-R	1100	1500
Single Unit Weight pounds [grams]	1.019 [462]	1.096 [497]
Single Unit DIN 43880 Dimension	3 TE	
Packaging Dimensions (H x W x L)	4.30 x 3.03 x 4.48" [109 x 77 x 114 mm]	
Minimum Order 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 change at any time without notice.



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