

Pluggable Multi-Pole SPD for DC Systems

ProTec T2 DCB 3Y

Class II • DC SPD Type 1



Location of Use: DC Systems, EV Chargers
 Network Systems: Bipolar grounded,
 TN-C, TN-C-S, TN-S
 Mode of Protection: (+) - PE/M/G, (-) - PE/M/G, (+) - (-)
 IEC/UL Category: Class II, DC SPD Type 1
 Housing: Pluggable Design
 Compliance: IEC 61643-41:2025
 UL 1449 5th Edition, Supplement SB



Technical Data

ProTec T2-xxxxDCB-3Y(-R)

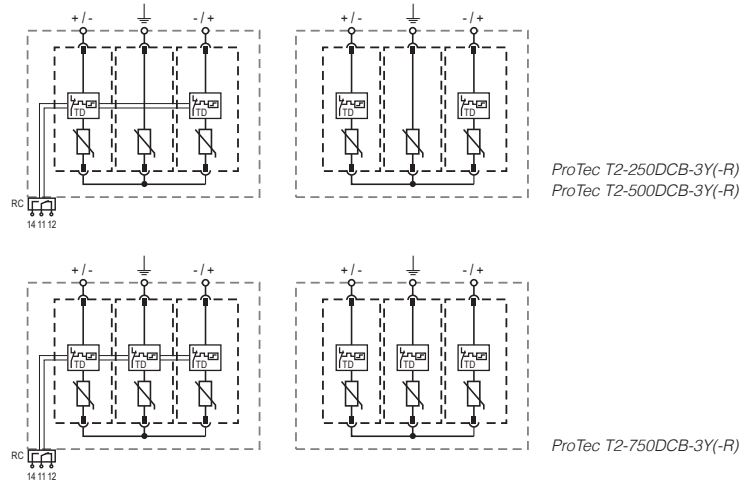
		250	500	750
IEC Electrical				
Nominal DC System Voltage	(+)/(-) - PE/M U_n	250V	500V	750V
Maximum Continuous Operating Voltage (DC)	(+) - (-) U_c	500V	1000V	1500V
	(+)/(-) - PE/M U_c	250V	500V	750V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA	20 kA	20 kA
Maximum Discharge Current	I_{max}	40 kA	40 kA	40 kA
Total Discharge Current (8/20 μ s)	I_{Total}	70 kA	70 kA	55 kA
Voltage Protection Level	U_p	2400V	3150V	3700V
Response Time	t_A		<25 ns	
Overvoltage Category			III	
Overcurrent Protection (max)		200 AgBat*	200 AgBat**	200 AgBat**
Short-Circuit Current Rating (DC)	I_{SCCR}		30 kA (L/R < 3 ms)	
Number of Ports			1	
TN-System Bipolar				
TOV Withstand 5s (DC)	(+)/(-) - PE/M U_T	412V	825V	1238V
TOV Withstand 120min (DC)	(+)/(-) - PE/M U_T	550V	1100V	1650V
TT-System Bipolar				
TOV Withstand 5s (DC)	(+)/(-) - PE U_T	550V	1100V	1650V
TOV Withstand 120min (DC)	(+)/(-) - PE U_T	412V	825V	1238V
TOV Withstand 5s (DC)	(+)/(-) - M U_T	412V	825V	1238V
TOV Withstand 120min (DC)	(+)/(-) - M U_T	550V	1100V	1650V
UL Electrical				
Maximum Permitted DC Voltage	V_{dcmcov}	500V	1000V	1500V
Voltage Protection Rating	VPR	1800V	2500V	3000V
Nominal Discharge Current (8/20 μ s)	I_n		20 kA	
Short-Circuit Current Rating (DC)	SCCR		100 kA	
Additional Electrical Parameters (Tests performed within Raycap testing laboratory only)				
Impulse Discharge Current (10/350 μ s)	I_{imp}	5 kA	5 kA	2.8 kA
Total Discharge Current (10/350 μ s)	I_{Total}	10 kA	10 kA	3 kA
Mechanical & Environmental				
Operating Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]		
Permissible Operating Humidity / Pollution Degree	RH	5%...95% / 2		
Altitude (max)		6562 ft [2000m]		
Terminal Screw Torque	M_{max}	35 lbf-in per UL 1449 [4.5Nm]		
Conductor Cross Section (max)		6 AWG (Solid, Stranded) per UL 1449		
		35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)		
		Cu Only per UL 1449		
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 / Operating State / Fault Indication		Yes / Green Flag / Not Green Flag		
Remote Contacts (RC)		Optional		
RC Switching Capacity		AC: 125 V / 1 A; DC: 48 V / 0.5 A, 24 V / 0.5 A, 12 V / 0.5 A		
RC Conductor Cross Section (max)		16 AWG (Solid) / 1.5 mm ² (Solid)		
Overvoltage Category		III		

*ETI NH1 BAT 200A/500V DC (004723266), **ETI NH1 BAT 200A/1500V DC (004110656)

Internal Configuration

Legend

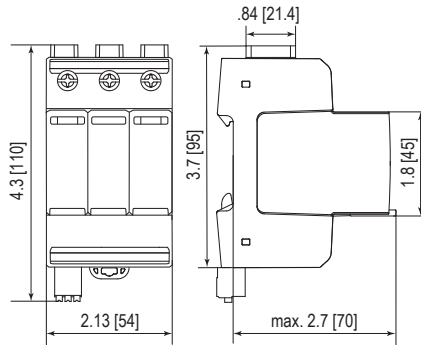
	PE/M/G Conductor Terminal
	Remote Contacts Terminal (Optional)
	Thermal Disconnect



Order Information

Order Code	250	500	750
ProTec T2-xxxDCB-3Y	59.A955	59.A957	59.A959
ProTec T2-xxxDCB-3Y-R (with remote contacts)	59.A956	59.A958	59.A960
ProTec T2-250DCB-M-P (side plug)	59.A961	-	-
ProTec T2-250DCB-P (middle plug)	59.A962	-	-
ProTec T2-500DCB-M-P (side plug)	-	59.A963	-
ProTec T2-500DCB-P (middle plug)	-	59.A964	-
ProTec T2-750DCB-M-P (plug)	-	-	59.A965

Dimensions & Packaging

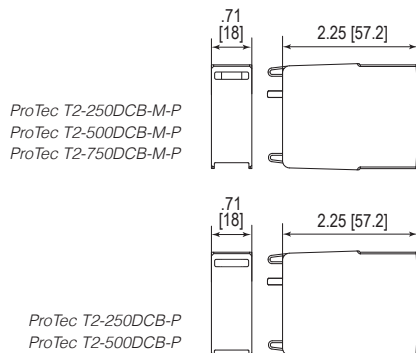


inches [mm]

Complete Unit

ProTec T2-xxxxDCB-3Y	250	500	750
Weight			
pounds	.772	.831	.791
grams	350	377	359
ProTec T2-xxxxDCB-3Y-R			
Weight			
pounds	.789	.849	.809
grams	358	385	367
DIN 43880 Dimension	3 TE / 2.13" [54 mm]		
Packaging Dimensions (HxWxL)	4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]		
Standard Order Quantity	5 Units		

Spare Plug



Single Unit

ProTec T2-xxxDCB-M-P	250	500	750
Weight			
pounds	.141	.161	.146
grams	64	73	66
ProTec T2-xxxDCB-P			
Weight			
pounds	.134	.157	-
grams	61	71	-
DIN 43880 Dimension	1 TE / .70" [18 mm]		
Packaging Dimensions (HxWxL)	3.2 x 4.5 x 12" [83 x 116 x 305 mm]		
Standard Order Quantity	24 Units		