DATASHEET

Pluggable Multi-Pole SPD for DC Systems

ProTec T2 DCB 3Y

Class II • Type 2 • DC SPD Type 1

Bipolar



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/EN/UL Category: Class II/Type 2/DC SPD Type 1
Housing: Pluggable Design
Compliance: IEC 61643-41:2025
EN IEC 61643-41:2025
UL 1449 5th Edition, Supplement SB

RoHS COMPLIANT

Technical Data

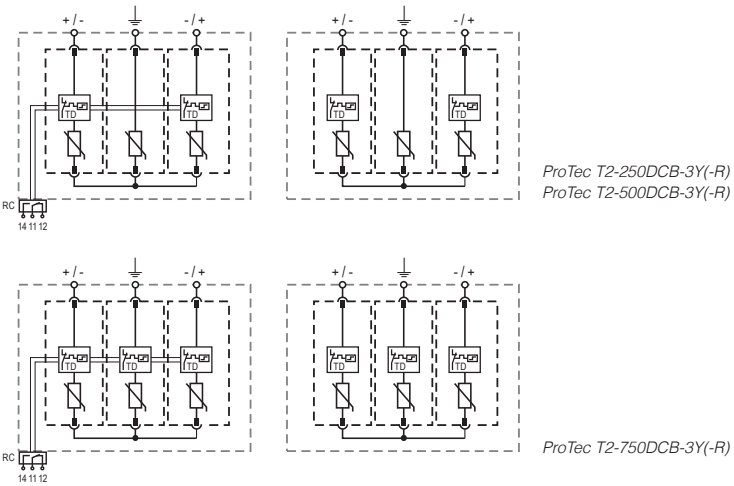
ProTec T2-xxxxDCB-3Y(-R)			250	500	750
IEC Electrical					
Nominal DC System Voltage	(+)/(-)-PE/M	U_n	250 V	500 V	750 V
Maximum Continuous Operating Voltage (DC)	(+)-(-)	U_c	500 V	1000 V	1500 V
	(+)/(-)-PE/M	U_c	250 V	500 V	750 V
Nominal Discharge Current (8/20 µs)		I_n	20 kA	20 kA	20 kA
Maximum Discharge Current		I_{max}	40 kA	40 kA	40 kA
Total Discharge Current (8/20 µs)		I_{Total}	70 kA	70 kA	55 kA
Voltage Protection Level		U_p	2400 V	3150 V	3700 V
Response Time		t_A		<25 ns	
Overvoltage Category				III	
Overcurrent Protection (max)			200 A gBat*	200 A gBat**	200 A gBat**
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	412 V	825 V	1238 V
TOV Withstand 120min (DC)	(+)/(-)-PE/M	U_T	550 V	1100 V	1650 V
TT-System Bipolar					
TOV Withstand 5s (DC)	(+)/(-)-PE	U_T	550 V	1100 V	1650 V
TOV Withstand 120min (DC)	(+)/(-)-PE	U_T	412 V	825 V	1238 V
TOV Withstand 5s (DC)	(+)/(-)-M	U_T	412 V	825 V	1238 V
TOV Withstand 120min (DC)	(+)/(-)-M	U_T	550 V	1100 V	1650 V
UL Electrical					
Maximum Permitted DC Voltage		V_{dcmcov}	500 V	1000 V	1500 V
Voltage Protection Rating		VPR	1800 V	2500 V	3000 V
Nominal Discharge Current (8/20 µs)		I_n		20 kA	
Short-Circuit Current Rating (DC)		SCCR		100 kA	
Additional Electrical Parameters *(Tests performed within Raycap testing laboratory only)*					
Residual Voltage at 5 kA (8/20 µs)		U_{res}	1800 V	2500 V	3000 V
Impulse Discharge Current (10/350 µs)		I_{imp}	5 kA	5 kA	2.8 kA
Total Discharge Current (10/350 µs)		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 [2000 m]		
Terminal Screw Torque		M_{max}	35 lbf-in per UL 1449 [4.5 Nm]		
Conductor Cross Section (max)			6 AWG (Solid, Stranded) per UL 1449		
			35 mm² (Solid, Stranded) / 25 mm² (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 mm² (Solid)		
Overvoltage Category			III		

**ETI NH1 BAT 200A/550V DC (004723266), **ETI NH1 BAT 200A/1500V DC (004110656)*

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Internal Configuration



ProTec T2-250DCB-3Y(-R)
ProTec T2-500DCB-3Y(-R)

ProTec T2-750DCB-3Y(-R)

Legend

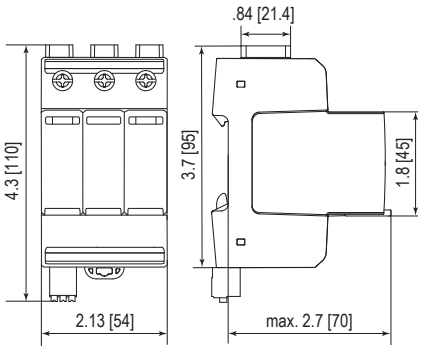
⏚	*PE/M/G Conductor Terminal*
RC	*Remote Contacts Terminal (Optional)*
TD	*Thermal Disconnector*

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

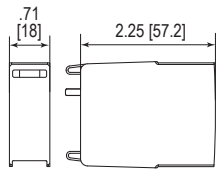
inches [mm]



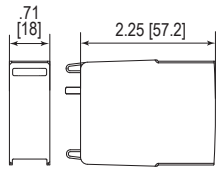
Complete Unit

ProTec T2-xxxDCB-3Y		**250**	**500**	**750**
Weight	pounds [grams]	.772 [350]	.831 [377]	.791 [359]
ProTec T2-xxxDCB-3Y-R				
Weight	pounds [grams]	.789 [358]	.849 [385]	.809 [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



ProTec T2-250DCB-M-P
ProTec T2-500DCB-M-P
ProTec T2-750DCB-M-P



ProTec T2-250DCB-P
ProTec T2-500DCB-P

Single Unit

ProTec T2-xxxDCB-M-P		**250**	**500**	**750**
Weight	pounds [grams]	.141 [64]	.161 [73]	.146 [66]
ProTec T2-xxxDCB-P				
Weight	pounds [grams]	.134 [61]	.157 [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		

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