DATASHEET

Lightning and Overvoltage Protection

ProTec T1S 1+0

Class I • Class II • Type 1 • Type 2

25 kA Series

Location of Use: Main Distribution Boards
Network Systems: TN-S, TN-C, TT (only L-N), IT (only 440)
Mode of Protection: L-PE, N-PE (only TN-S and IT), L-PEN, L-N
IEC/EN Category: Class I+II/Type 1+2
Housing: Pluggable Design
Compliance: IEC 61643-11:2011
EN 61643-11:2012+A11:2018

CE VDE RoHS COMPLIANT

Technical Data

ProTec T1S-xxx-1+0(-R)		275	440*
IEC Electrical			
Nominal AC Voltage (50/60Hz)	U_o/U_n	240 V	400 V
Maximum Continuous Operating Voltage (AC)	U_c	275 V	440 V
Nominal Discharge Current (8/20 µs)	I_n	25 kA	25 kA
Maximum Discharge Current (8/20 µs)	I_{max}	65 kA	50 kA
Impulse Discharge Current (10/350 µs)	I_{imp}	25 kA	25 kA
Specific Energy	W/R	156.2 kJ/Ω	156.2 kJ/Ω
Charge	Q	12.5 As	12.5 As
Voltage Protection Level	U_p	1500 V	2500 V
Response Time	t_A	< 100 ns	< 100 ns
Overvoltage Category		III	III
Overcurrent Protection (max)		315 A gG	315 A gG/250 A gG
Short-Circuit Current Rating (AC)	I_{SCCR}	50 kA	50 kA/100 kA
Follow Current Interrupt Rating (AC)	I_{fi}	50 kA	50 kA/100 kA
TOV 120 min	U_T/mode	442 V/Withstand	762 V/Safe Fail
TOV Safe Fail 200ms	U_T	-	1640 V
Number of Ports		1	
Additional Electrical Parameters - Standard *(Tests performed within Raycap testing laboratory only)*			
Residual Voltage at 5 kA (8/20 µs)	U_{res}	1400 V	1500 V
Minimum Backup fuse, if required		250 A gG	250 A gG
Additional Electrical Parameters - Extended *(Additionally tested by VDE)*			
Short-Circuit Current Rating (AC)	I_{SCCR}	100 kA	
Minimum Backup fuse, if required		315 A gG	250 A gG
Mechanical & Environmental			
Operating Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]	
Permissible Operating Humidity	RH	5%...95%	
Pollution Degree		2	
Altitude		6562 ft [2000 m]	
Terminal Screw Torque	M_{max}	40 lbf·in [4.5 Nm]	
Conductor Cross Section (max)		2 AWG (Solid, Stranded)/4 AWG (Flexible)	
		35 mm² (Solid, Stranded)/25 mm² (Flexible)	
Mounting		35 mm DIN Rail, EN 60715	
Degree of Protection		IP 20 (built-in)	
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0	
Operating State/Fault Indication		Green Flag/Not Green Flag	
Remote Contacts (RC)		Optional	
RC Switching Capacity		AC: 250 V/1 A, 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	

**No VDE Certification.*

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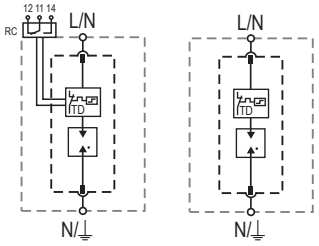
Internal Configuration

Legend

L	*Line Conductor Terminal*
N	*Neutral Conductor Terminal*
⏚	*PE Conductor Terminal*
RC	*Remote Contacts Terminal (Optional)*
TD	*Thermal Disconnector*

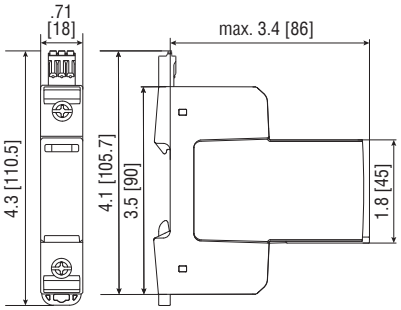


Order Information		
Order Code	**275**	**440***
ProTec T1S-xxx-1+0	59.0738	59.A517
ProTec T1S-xxx-1+0-R (with remote contacts)	59.0739	59.A518
ProTec T1S-xxx-P (plug)	59.0384	59.A515

**No VDE Certification.*

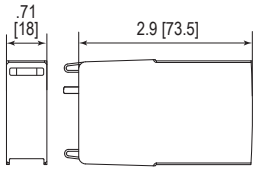
Dimensions & Packaging

inches [mm]



Complete Unit			
ProTec T1S-xxx-1+0		**275**	**440***
Weight	pounds [grams]	.381 [173]	.392 [178]
ProTec T1S-xxx-1+0-R			
Weight	pounds [grams]	.396 [180]	.407 [185]
DIN 43880 Dimension		1 TE / .71" [18 mm]	
Packaging Dimensions (H x W x L)		4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]	
Standard Order Quantity		12 Units	

Spare Plug



Single Unit			
ProTec T1S-xxx-P		**275**	**440***
Weight	pounds [grams]	.231 [105]	.242 [110]
DIN 43880 Dimension		1 TE / .71" [18 mm]	
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	

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