

Lightning and Overvoltage Protection  
**ProTec T1S 1+1**  
 Class I • Class II • Type 1 • Type 2



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

**Technical Data**

**ProTec T1S-xxx-1+1(-R)**

**275**

**440\***

**IEC Electrical**

		275	440*
Nominal AC Voltage (50/60Hz)	$U_o/U_n$	240V	400V
Maximum Continuous Operating Voltage (AC)	(L-N) / (N-PE) $U_c$	275V / 305V	440V / 440V
Nominal Discharge Current (8/20µs)	(L-N) / (N-PE) $I_n$	25kA / 100kA	25kA / 100kA
Maximum Discharge Current (8/20µs)	(L-N) / (N-PE) $I_{max}$	65kA / 150kA	50kA / 100kA
Impulse Discharge Current (10/350µs)	(L-N) / (N-PE) $I_{imp}$	25kA / 100kA	25kA / 100kA
Specific Energy	(L-N) / (N-PE) W/R	156.2kJ/Ω / 2500 kJ/Ω	156.2kJ/Ω / 2500 kJ/Ω
Charge	(L-N) / (N-PE) Q	12.5As / 50As	12.5As / 50As
Voltage Protection Level	(L-N) / (N-PE) $U_p$	1500V / 1500V	2500V / 2500V
Response Time	(L-N) / (N-PE) $t_A$	< 100ns / < 100ns	< 100ns / < 100ns
Overcurrent Protection (max)		315A gG	315A gG / 250A gG
Short-Circuit Current Rating (AC)	(L-N) $I_{SCCR}$	50kA	50kA / 100kA
Follow Current Interrupt Rating (AC)	(L-N) $I_{fi}$	50kA	50kA / 100A
	(N-PE)	100A	100A
TOV 120min	(L-N) $U_T$ / mode	442V/Withstand	762V / Safe Fail
TOV Withstand 200ms	(N-PE) $U_T$	1200V	1200V
Number of Ports			1

**Additional Electrical Parameters - Standard** (Tests performed within Raycap testing laboratory only)

Residual Voltage at 5 kA (8/20 µs)	(L-N) / (N-PE) $U_{res}$	1400V / 305V	1500V / 305V
Overcurrent Protection (min)		250A gG	250A gG

**Additional Electrical Parameters - Extended** (Additionally tested by VDE)

Short-Circuit Current Rating (AC)	$I_{SCCR}$		100kA
Overcurrent Protection (max)		315A gG	250A gG

**Mechanical & Environmental**

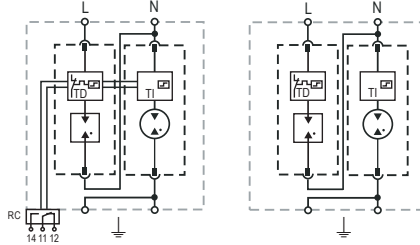
Operating Temperature Range	$T_a$	-40 °F to +185 °F [-40 °C to +85 °C]	
Permissible Operating Humidity	RH	5%...95%	
Altitude		6562 ft [2000m]	
Terminal Screw Torque	$M_{max}$	40 lbf-in [4.5Nm]	
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible)	
		35 mm <sup>2</sup> (Solid, Stranded) / 25 mm <sup>2</sup> (Flexible)	
Mounting		35 mm DIN Rail, EN 60715	
Degree of Protection		IP 20 (built-in)	
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)	

\*No VDE Certification.

## Internal Configuration

### Legend

- L Line Conductor Terminal
- N Neutral Conductor Terminal
- ⏚ PE Conductor Terminal
- RC Remote Contacts Terminal (Optional)
- TD Thermal Disconnect
- TI Thermal Indication



### ProTec T1S-xxx-1+1(-R)

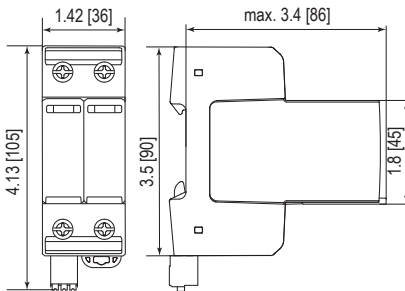
#### Order Information

Order Code	275	440*
ProTec T1S-xxx-1+1	59.0746	59.A525
ProTec T1S-xxx-1+1-R (with remote contacts)	59.0747	59.A526
ProTec T1S-xxx-P (plug L-N)	59.0384	59.A515
ProTube T1S-100-P (plug N-PE)	59.0386	
ProTube T1S-440-100-P (plug N-PE)		59.A516

\*No VDE Certification.

## Dimensions & Packaging

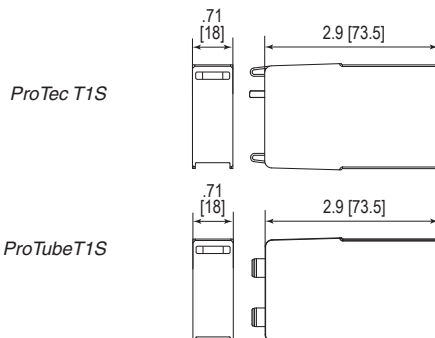
inches [mm]



#### Complete Unit

ProTec T1S-xxx-1+1	275	440*	
Weight	pounds [grams]	.773 [351]	.785 [356]
ProTec T1S-xxx-1+1-R	275	440*	
Weight	pounds [grams]	.787 [357]	.798 [362]
DIN 43880 Dimension	2 TE / 1.42 [36]		
Packaging Dimensions (HxWxL)	4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]		
Standard Order Quantity	7 Units		

## Spare Plug



#### Single Unit

ProTec T1S-xxx-P	275	440*	
Weight	pounds [grams]	.231 [105]	.242 [110]
ProTube T1S-100-P	100		
Weight	pounds [grams]	.253 [115]	
DIN 43880 Dimension	1 TE / .71 [18]		
Packaging Dimensions (HxWxL)	4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]		
Standard Order Quantity	28 Units		