

Lightning and Overvoltage Protection

ProTec T1S-35 1+0

Class I • Class II • Type 1 • Type 2



Location of Use: Main Distribution Boards
 Network Systems: TN-S, TN-C, TT (only L-N),
 IT (only 440V)

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

Technical Data

ProTec T1S-35-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 μ s)	I_n	35 kA	35 kA
Maximum Discharge Current (8/20 μ s)	I_{max}	50 kA	50 kA
Impulse Discharge Current (10/350 μ s)	I_{imp}	35 kA	35 kA
Specific Energy	W/R	306.25 kJ/ Ω	306.25 kJ/ Ω
Charge	Q	17.5 As	17.5 As
Voltage Protection Level	U_p	1500 V	2500 V
Rated Load Current	I_L	100 A	100 A
Response Time	t_A	< 100 ns	< 100 ns
Overcurrent Protection (max)		500 A gG	400 A gG
Short-Circuit Current Rating (AC)	I_{SCCR}	100 kA	100 kA
Follow Current Interrupt Rating (AC)	I_{fi}	100 kA	100 kA
TOV Withstand 120min	U_T	442 V	762 V
TOV Safe Fail 200ms	U_T	-	1640 V
Number of Ports		1	1

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

Residual Voltage at 5 kA (8/20 μ s)	U_{res}	1000 V	1500 V
Overcurrent Protection (min)		400 A gG	400 A gG

Additional Electrical Parameters - Extended (Additionally tested by VDE)

Short-Circuit Current Rating (AC)	I_{SCCR}	100 kA
Overcurrent Protection (max)		500 A gG 400 A gG

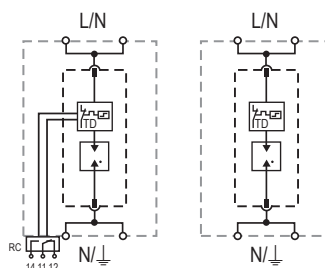
Mechanical & Environmental

Operating Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]
Permissible Operating Humidity	RH	5%...95%
Altitude		13123 ft [4000 m]
Terminal Screw Torque	M_{max}	40 lbf-in [4.5 Nm]
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35 mm ² (Solid, Stranded) / 25 mm ² (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 ² (Solid)

Internal Configuration

Legend

<i>L</i>	Line Conductor Terminal
<i>N</i>	Neutral Conductor Terminal
$\perp$	PE Conductor Terminal
<i>RC</i>	Remote Contacts Terminal (Optional)
<i>TD</i>	Thermal Disconnect



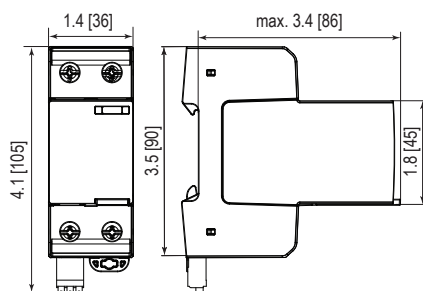
ProTec T1S-35-xxx-1+0(-R)

Order Information

Order Code	275	440
ProTec T1S-35-xxx-1+0	59.A530	59.A536
ProTec T1S-35-xxx-1+0-R (with remote contacts)	59.A531	59.A537
ProTec T1S-35-xxx-P (plug)	59.A532	59.A538

Dimensions & Packaging

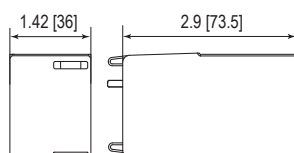
inches [mm]



Complete Unit

ProTec T1S-35-xxx-1+0		275	440
Weight	pounds [grams]	.623 [283]	.656 [298]
ProTec T1S-35-xxx-1+0-R		275	440
Weight	pounds [grams]	.643 [292]	.676 [307]
DIN 43880 Dimension		2 TE / 1.42 [36]	
Packaging Dimensions (HxWxL)		4.3 × 4.5 × 13.8" [109 × 115 × 352 mm]	
Standard Order Quantity		7 Units	

Spare Plug



Single Unit

ProTec T1S-35-xxx-P		275	440
Weight	pounds [grams]	.412 [187]	.445 [202]
DIN 43880 Dimension		2 TE / 1.42 [36]	
Packaging Dimensions (HxWxL)		4.3 × 4.5 × 13.8" [109 × 115 × 352 mm]	
Standard Order Quantity		16 Units	