

Lightning and Overvoltage Protection
ProTec T1H 1+1
 Class I • Class II • Type 1 • Type 2 • Type 4CA



Location of Use: Main Distribution Boards
 Network Systems: TT, TN-S
 Mode of Protection: L-N, N-PE
 IEC/EN/UL Category: Class I+II / Type 1+2 / Type 4CA
 Housing: Pluggable Design
 Compliance: IEC 61643-11:2011
 EN 61643-11:2012+A11:2018
 UL 1449 5th Edition

Technical Data

ProTec T1H-xxx-1+1(-R)

300

IEC Electrical

Nominal AC Voltage (50/60Hz)	U_o / U_n	240V
Maximum Continuous Operating Voltage (AC)	(L-N) / (N-PE) U_c	300V / 305V
Nominal Discharge Current (8/20 μ s)	(L-N) / (N-PE) I_n	20kA / 50kA
Maximum Discharge Current (8/20 μ s)	(L-N) / (N-PE) I_{max}	65kA / 100kA
Impulse Discharge Current (10/350 μ s)	(L-N) / (N-PE) I_{imp}	12.5kA / 50kA
Specific Energy	(L-N) / (N-PE) W/R	39kJ/ Ω / 625kJ/ Ω
Charge	(L-N) / (N-PE) Q	6.25As / 25As
Voltage Protection Level	(L-N) / (N-PE) U_p	1500V / 1500V
Response Time	(L-N) / (N-PE) t_A	< 100ns / < 100ns
Overcurrent Protection (max)		315A / 250A gG
Short-Circuit Current Rating (AC)	(L-N) I_{SCCR}	25kA / 50kA
Follow Current Interrupt Rating (AC)	(N-PE) I_{fi}	100A
TOV Withstand 120min	(L-N) U_T	442V
TOV Withstand 200ms	(N-PE) U_T	1200V
Number of Ports		1

UL Electrical

Maximum Continuous Operating Voltage (AC)	(L-N) / (N-G) MCOV	300V / 305V
Measured Limiting Voltage	(L-N) / (N-G) MLV	1220V / 1800V
Nominal Discharge Current (8/20 μ s)	(L-N) / (N-G) I_n	20kA / 20kA

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

Residual Voltage at 5 kA (8/20 μ s)	(L-N) / (N-PE) U_{res}	800V / 305V
Overcurrent Protection (min)		160A gG

Additional Electrical Parameters - Extended (Additionally tested by VDE)

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

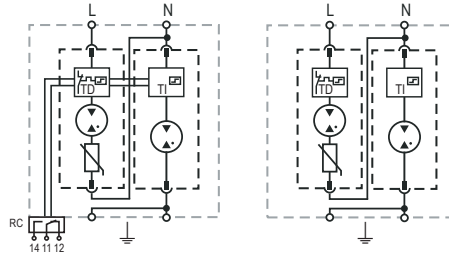
Mechanical & Environmental

Operating Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]
Permissible Operating Humidity	RH	5%...95%
Altitude (max)		13123 ft [4000m]
Terminal Screw Torque	M_{max}	40 lbf-in [4.5Nm]
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

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



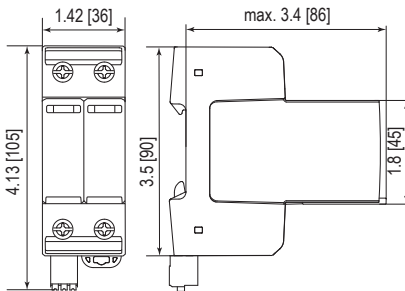
ProTec T1H-xxx-1+1(-R)

Order Information

Order Code	300
ProTec T1H-xxx-1+1	59.0318
ProTec T1H-xxx-1+1-R (with remote contacts)	59.0319
ProTec T1H-xxx-P (plug L-N)	59.0308
ProTube T1H-50-P (plug N-PE)	59.0309

Dimensions & Packaging

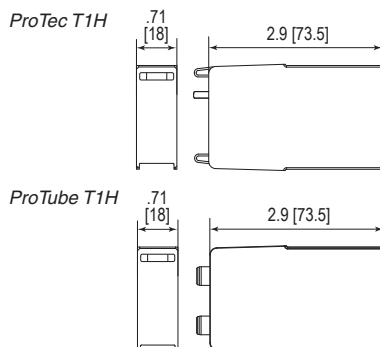
inches [mm]



Complete Unit

ProTec T1H-xxx-1+1		300
Weight	pounds [grams]	.730 [331]
ProTec T1H-xxx-1+1-R		300
Weight	pounds [grams]	.743 [337]
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 T1H-xxx-P		300
Weight	pounds [grams]	.223 [101]
ProTube T1H-50-P		50
Weight	pounds [grams]	.214 [97]
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