

Pluggable Single Pole & Multi-pole Surge Protective Devices (SPDs)

Lightning and Overvoltage Protection

ProTec T1-LH Series

Special features:

- Type 1 SPD in low (T2) height – 70mm
- High discharge capacity – $I_{imp} = 12.5 \text{ kA}$
- Continuous Operating Voltage U_c 300V
- Back-up fuse up to 160A gG
- Short circuit current rating up to 50kA
- Vibration and shock withstand capability
- All modules, also N-PE, with operating state green-red
- Optional remote contact (RC) signaling



IEC 61643-11:2011

EN 61643-11:2012 +A11:2018

UL 1449 5th Edition



For installations where space is at a premium and would benefit from a slightly reduced module height, the Raycap ProTec LH series offers an alternative form factor with a shorter module height of 70 mm in the T2 product versions. With performance specifications similar to the ProTec T1 products, the "LH" model versions are excellent for installing in cabinets with extreme space depth restrictions. The ProTec T1-LH series offers basic protection as a Type 1 surge protective device that comes with continuous operating voltage of 300 V. Product offers Type 1 classification for installations between boundaries OA – 1 and higher in only 70 mm module height. The varistor based protection module features outstanding short-circuit currents up to 50kA without using a back up to a main fuse nominal current of 160A. All modules are equipped with state-of-the-art thermal disconnecter and life-status monitoring (green-red). Due to a unique vibration-proof locking mechanism design, these products are suitable for use in high vibration environments. An optional remote contact (RC) feature offers a three-pole remote signaling terminal to remotely monitor the operating state of the device.



More Product Information

RoHS
COMPLIANT



ProTec T1 1+0 LH**Class I • Class II • Type 1 • Type 2 • Type 4CA**

Location of Use: Main Distribution Boards
 Network Systems: TN-S, TN-C, TT (only L-N)
 Mode of Protection: L-PE, N-PE (only TN-S), L-PEN, L-N
 IEC/EN 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 T1-xxx-1+0-LH(-R)****300****IEC Electrical**

Nominal AC Voltage (50/60Hz)	U_o/U_n	240V
Maximum Continuous Operating Voltage (AC)	U_c	300V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA
Maximum Discharge Current (8/20 μ s)	I_{max}	40 kA
Impulse Discharge Current (10/350 μ s)	I_{imp}	12.5 kA
Specific Energy	W/R	39 kJ/ Ω
Charge	Q	6.25 As
Voltage Protection Level	U_p	1500V
Response Time	t_A	< 25 ns
Overvoltage Category		III
Maximum Backup fuse, if required		160 A gG
Short-Circuit Current Rating (AC)	I_{SCCR}	50 kA
TOV Withstand 5s	U_T	337V
TOV 120min	U_T	442V
	mode	Safe Fail
Number of Ports		1

UL Electrical

Maximum Continuous Operating Voltage (AC)	MCOV	300V
Measured Limiting Voltage	MLV	1200V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA

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

Residual Voltage at 5 kA (8/20 μ s)	U_{res}	700V
Minimum Backup fuse, if required		160 A gG

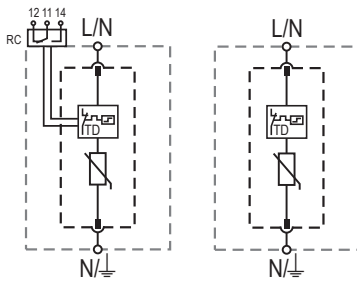
Mechanical & Environmental

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 (max)		13123 ft [4000m]
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)
Overvoltage Category		III

Internal Configuration

Legend

- L Line Conductor Terminal
- N Neutral Conductor Terminal
- PE Conductor Terminal
- RC Remote Contacts Terminal (Optional)
- TD Thermal Disconnecter

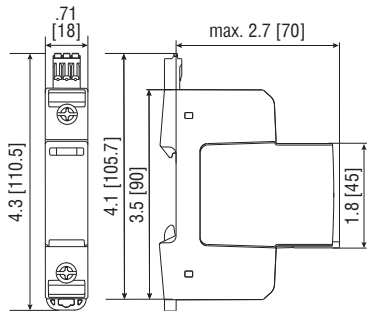


Order Information

Order Code	300
ProTec T1-xxx-1+0-LH	59.A371
ProTec T1-xxx-1+0-LH-R (with remote contacts)	59.A372
ProTec T1-xxx-LH-P (plug)	59.A383

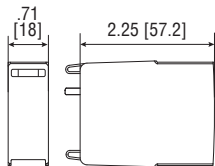
Dimensions & Packaging

inches [mm]



Complete Unit		
ProTec T1-xxx-1+0-LH		300
Weight	pounds [grams]	.414 [188]
ProTec T1-xxx-1+0-LH-R		
Weight	pounds [grams]	.421 [191]
DIN 43880 Dimension	1 TE / .71" [18 mm]	
Packaging Dimensions (HxWxL)	4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]	
Standard Order Quantity	12 Units	

Spare Plug



Single Unit		
ProTec T1-xxx-LH-P		300
Weight	pounds [grams]	.255 [116]
DIN 43880 Dimension	1 TE / .71" [18 mm]	
Packaging Dimensions (HxWxL)	4.3 x 4.5 x 13.8" [109 x 116 x 352 mm]	
Standard Order Quantity	24 Units	

ProTec T1 2+0 LH**Class I • Class II • Type 1 • Type 2 • Type 4CA**

Location of Use: Main Distribution Boards
 Network Systems: TN-S
 Mode of Protection: L-PE, N-PE
 IEC/EN 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 T1-xxx-2+0-LH(-R)****300****IEC Electrical**

Nominal AC Voltage (50/60Hz)	U_o/U_n	240V
Maximum Continuous Operating Voltage (AC)	U_c	300V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA
Maximum Discharge Current (8/20 μ s)	I_{max}	40 kA
Impulse Discharge Current (10/350 μ s)	I_{imp}	12.5 kA
Specific Energy	W/R	39 kJ/ Ω
Charge	Q	6.25 As
Voltage Protection Level	U_p	1500V
Response Time	t_A	< 25 ns
Overvoltage Category		III
Maximum Backup fuse, if required		160 A gG
Short-Circuit Current Rating (AC)	I_{SCCR}	50 kA
TOV Withstand 5s	U_T	337V
TOV 120min	U_T	442V
	mode	Safe Fail
Number of Ports		1

UL Electrical

Maximum Continuous Operating Voltage (AC)	MCOV	300V
Measured Limiting Voltage	MLV	1200V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA

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

Residual Voltage at 5 kA (8/20 μ s)	U_{res}	700V
Minimum Backup fuse, if required		160 A gG

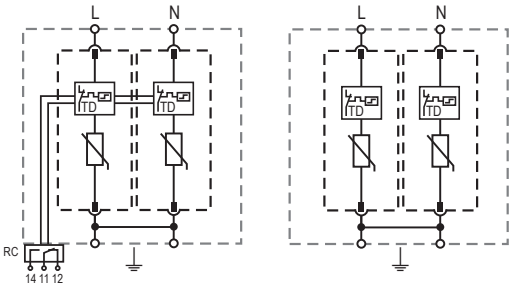
Mechanical & Environmental

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 (max)		13123 ft [4000m]
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)
Overvoltage Category		III

Internal Configuration

Legend

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

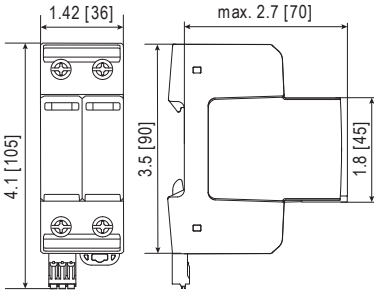


Order Information

Order Code	300
ProTec T1-xxx-2+0-LH	59.A373
ProTec T1-xxx-2+0-LH-R (with remote contacts)	59.A374
ProTec T1-xxx-LH-P (plug)	59.A383

Dimensions & Packaging

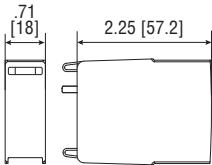
inches [mm]



Complete Unit

ProTec T1-xxx-2+0-LH	300
Weight	pounds [grams]
	.809 [367]
ProTec T1-xxx-2+0-LH-R	
Weight	pounds [grams]
	.820 [372]
DIN 43880 Dimension	2 TE / 1.42" [36 mm]
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 T1-xxx-LH-P	300
Weight	pounds [grams]
	.255 [116]
DIN 43880 Dimension	1 TE / .71" [18 mm]
Packaging Dimensions (HxWxL)	4.3 x 4.5 x 13.8" [109 x 116 x 352 mm]
Standard Order Quantity	24 Units

ProTec T1 3+0 LH**Class I • Class II • Type 1 • Type 2 • Type 4CA**

Location of Use: Main Distribution Boards
 Network Systems: TN-C
 Mode of Protection: L-PEN
 IEC/EN 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 T1-xxx-3+0-LH(-R)****300****IEC Electrical**

Nominal AC Voltage (50/60Hz)	U_o/U_n	240V
Maximum Continuous Operating Voltage (AC)	U_c	300V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA
Maximum Discharge Current (8/20 μ s)	I_{max}	40 kA
Impulse Discharge Current (10/350 μ s)	I_{imp}	12.5 kA
Specific Energy	W/R	39 kJ/ Ω
Charge	Q	6.25 As
Voltage Protection Level	U_p	1500V
Response Time	t_A	< 25 ns
Overvoltage Category		III
Maximum Backup fuse, if required		160 A gG
Short-Circuit Current Rating (AC)	I_{SCCR}	50 kA
TOV Withstand 5s	U_T	337V
TOV 120min	U_T	442V
	mode	Safe Fail
Number of Ports		1

UL Electrical

Maximum Continuous Operating Voltage (AC)	MCOV	300V
Measured Limiting Voltage	MLV	1200V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA

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

Residual Voltage at 5 kA (8/20 μ s)	U_{res}	700V
Minimum Backup fuse, if required		160 A gG

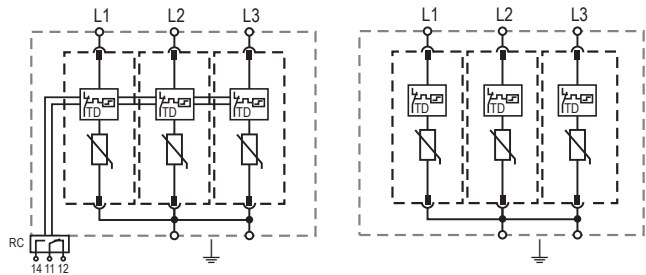
Mechanical & Environmental

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 (max)		13123 ft [4000m]
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)
Overvoltage Category		III

Internal Configuration

Legend

- L Line Conductor Terminal
- ⏏ PEN/G Conductor Terminal
- RC Remote Contacts Terminal (Optional)
- TD Thermal Disconnect

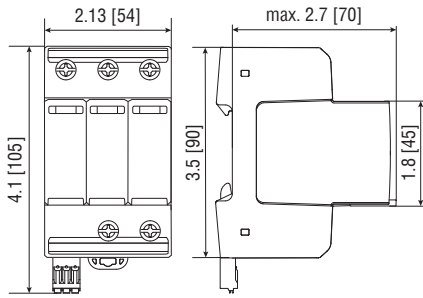


Order Information

Order Code	300
ProTec T1-xxx-3+0-LH	59.A375
ProTec T1-xxx-3+0-LH-R (with remote contacts)	59.A376
ProTec T1-xxx-LH-P (plug)	59.A383

Dimensions & Packaging

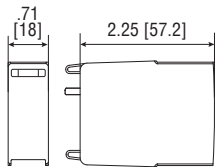
inches [mm]



Complete Unit

ProTec T1-xxx-3+0-LH	300
Weight	pounds [grams]
	1.177 [534]
ProTec T1-xxx-3+0-LH-R	
Weight	pounds [grams]
	1.190 [540]
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 Unit

Spare Plug



Single Unit

ProTec T1-xxx-LH-P	300
Weight	pounds [grams]
	.255 [116]
DIN 43880 Dimension	1 TE / .71" [18 mm]
Packaging Dimensions (HxWxL)	4.3 x 4.5 x 13.8" [109 x 116 x 352 mm]
Standard Order Quantity	24 Units

ProTec T1 4+0 LH**Class I • Class II • Type 1 • Type 2 • Type 4CA**

Location of Use: Main Distribution Boards
 Network Systems: TN-S
 Mode of Protection: L-PE, N-PE
 IEC/EN 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 T1-xxx-4+0-LH(-R)****300****IEC Electrical**

Nominal AC Voltage (50/60Hz)	U_o/U_n	240V
Maximum Continuous Operating Voltage (AC)	U_c	300V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA
Maximum Discharge Current (8/20 μ s)	I_{max}	40 kA
Impulse Discharge Current (10/350 μ s)	I_{imp}	12.5 kA
Specific Energy	W/R	39 kJ/ Ω
Charge	Q	6.25 As
Voltage Protection Level	U_p	1500V
Response Time	t_A	< 25 ns
Overvoltage Category		III
Maximum Backup fuse, if required		160 A gG
Short-Circuit Current Rating (AC)	I_{SCCR}	50 kA
TOV Withstand 5s	U_T	337V
TOV 120min	U_T	442V
	mode	Safe Fail
Number of Ports		1

UL Electrical

Maximum Continuous Operating Voltage (AC)	MCOV	300V
Measured Limiting Voltage	MLV	1200V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA

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

Residual Voltage at 5 kA (8/20 μ s)	U_{res}	700V
Minimum Backup fuse, if required		160 A gG

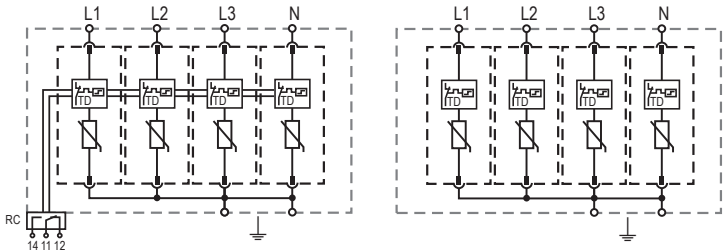
Mechanical & Environmental

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 (max)		13123 ft [4000m]
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)
Overvoltage Category		III

Internal Configuration

Legend

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

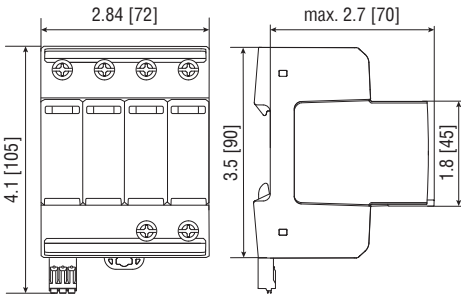


Order Information

Order Code	300
ProTec T1-xxx-4+0-LH	59.A377
ProTec T1-xxx-4+0-LH-R (with remote contacts)	59.A378
ProTec T1-xxx-LH-P (plug)	59.A383

Dimensions & Packaging

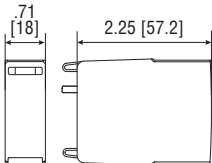
inches [mm]



Complete Unit

ProTec T1-xxx-4+0-LH	300
Weight pounds [grams]	1.558 [707]
ProTec T1-xxx-4+0-LH-R	
Weight pounds [grams]	1.576 [715]
DIN 43880 Dimension	4 TE / 2.84" [72 mm]
Packaging Dimensions (HxWxL)	4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]
Standard Order Quantity	4 Units

Spare Plug



Single Unit

ProTec T1-xxx-LH-P	300
Weight pounds [grams]	.255 [116]
DIN 43880 Dimension	1 TE / .71" [18 mm]
Packaging Dimensions (HxWxL)	4.3 x 4.5 x 13.8" [109 x 116 x 352 mm]
Standard Order Quantity	24 Units

ProTec T1 1+1 LH**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 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 T1-xxx-1+1-LH(-R)****300****IEC Electrical**

Nominal AC Voltage (50/60Hz)	U_o/U_n	240 V
Maximum Continuous Operating Voltage	(L-N)/(N-PE) U_c	300 V / 305 V
Nominal Discharge Current (8/20 μ s)	(L-N)/(N-PE) I_n	20 kA / 50 kA
Maximum Discharge Current (8/20 μ s)	(L-N)/(N-PE) I_{max}	40 kA / 100 kA
Impulse Discharge Current (10/350 μ s)	(L-N)/(N-PE) I_{imp}	12.5 kA / 50 kA
Specific Energy	(L-N)/(N-PE) W/R	39 kJ/ Ω / 625 kJ/ Ω
Charge	(L-N)/(N-PE) Q	6.25 As / 25 As
Voltage Protection Level	(L-N)/(N-PE) U_p	1500 V / 1500 V
Follow Current Interrupt Rating (AC)	(N-PE) I_{fi}	100 A
Response Time	(L-N)/(N-PE) t_A	< 25 ns / < 100 ns
Overvoltage Category		III
Maximum Backup fuse, if required		160 A gG
Short-Circuit Current Rating (AC)	(L-N) I_{SCCR}	50 kA
TOV Withstand 5s	(L-N) U_T	337 V
TOV 120min	(L-N) U_T	442 V
	mode	Safe Fail
TOV Withstand 200ms	(N-PE) U_T	1200 V
Number of Ports		1

UL Electrical

Maximum Continuous Operating Voltage (AC)	(L-N)/(N-G) MCOV	300 V / 305 V
Measured Limiting Voltage	(L-N)/(N-G) MLV	1200 V / 1500 V
Nominal Discharge Current (8/20 μ s)	(L-N)/(N-G) I_n	20 kA / 20 kA

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

Residual Voltage at 5 kA (8/20 μ s)	U_{res}	700 V / 305 V
Minimum Backup fuse, if required		160 A gG

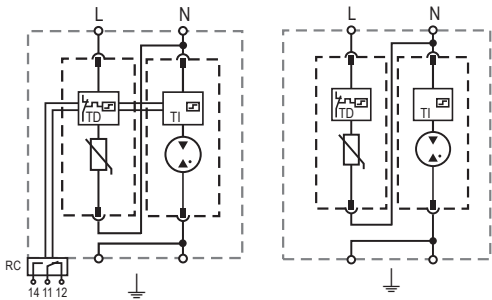
Mechanical & Environmental

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 (max)		13123 ft [4000m]
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)
Overvoltage Category		III

Internal Configuration

Legend

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

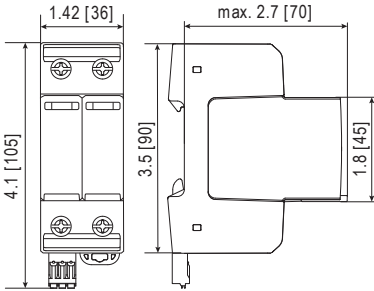


Order Information

Order Code	300
ProTec T1-xxx-1+1-LH	59.A379
ProTec T1-xxx-1+1-LH-R (with remote contacts)	59.A380
ProTec T1-xxx-LH-P (plug L-N)	59.A383
ProTube T1-50-LH-P (plug N-PE)	59.A385

Dimensions & Packaging

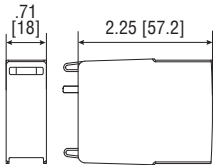
inches [mm]



Complete Unit

ProTec T1-xxx-1+1-LH	300
Weight	pounds [grams]
	.679 [308]
ProTec T1-xxx-1+1-LH-R	
Weight	pounds [grams]
	.687 [312]
DIN 43880 Dimension	2 TE / 1.42" [36 mm]
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 T1-xxx-LH-P	300
Weight	pounds [grams]
	.255 [116]
ProTube T1-50-LH-P	50
Weight	pounds [grams]
	.112 [51]
DIN 43880 Dimension	1 TE / .71" [18 mm]
Packaging Dimensions (HxWxL)	4.3 x 4.5 x 13.8" [109 x 116 x 352 mm]
Standard Order Quantity	24 Units

ProTec T1 3+1 LH**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 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 T1-xxx-3+1-LH(-R)****300****IEC Electrical**

Nominal AC Voltage (50/60Hz)	U_o/U_n	240 V
Maximum Continuous Operating Voltage	(L-N)/(N-PE) U_c	300 V / 305 V
Nominal Discharge Current (8/20 μ s)	(L-N)/(N-PE) I_n	20 kA / 50 kA
Maximum Discharge Current (8/20 μ s)	(L-N)/(N-PE) I_{max}	40 kA / 100 kA
Impulse Discharge Current (10/350 μ s)	(L-N)/(N-PE) I_{imp}	12.5 kA / 50 kA
Specific Energy	(L-N)/(N-PE) W/R	39 kJ/ Ω / 625 kJ/ Ω
Charge	(L-N)/(N-PE) Q	6.25 As / 25 As
Voltage Protection Level	(L-N)/(N-PE) U_p	1500 V / 1500 V
Follow Current Interrupt Rating (AC)	(N-PE) I_{fi}	100 A
Response Time	(L-N)/(N-PE) t_A	< 25 ns / < 100 ns
Overvoltage Category		III
Maximum Backup fuse, if required		160 A gG
Short-Circuit Current Rating (AC)	(L-N) I_{SCCR}	50 kA
TOV Withstand 5s	(L-N) U_T	337 V
TOV 120min	(L-N) U_T	442 V
	mode	Safe Fail
TOV Withstand 200ms	(N-PE) U_T	1200 V
Number of Ports		1

UL Electrical

Maximum Continuous Operating Voltage (AC)	(L-N)/(N-G) MCOV	300 V / 305 V
Measured Limiting Voltage	(L-N)/(N-G) MLV	1200 V / 1500 V
Nominal Discharge Current (8/20 μ s)	(L-N)/(N-G) I_n	20 kA / 20 kA

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

Residual Voltage at 5 kA (8/20 μ s)	U_{res}	700 V / 305 V
Minimum Backup fuse, if required		160 A gG

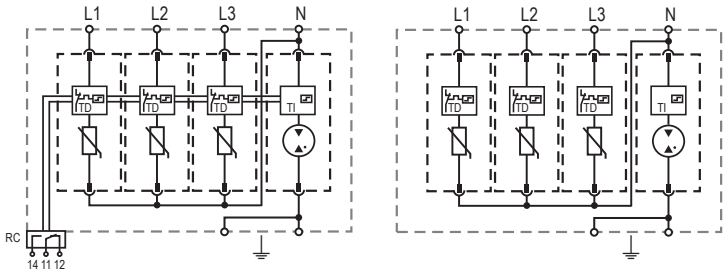
Mechanical & Environmental

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 (max)		13123 ft [4000m]
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: 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 mm ² (Solid)
Overvoltage Category		III

Internal Configuration

Legend

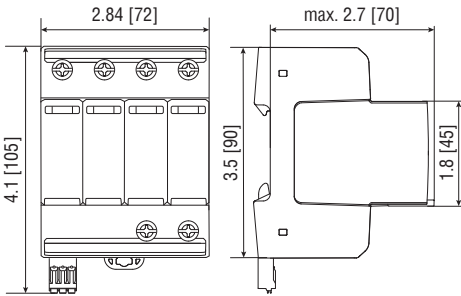
- L Line Conductor Terminal
- N Neutral Conductor Terminal
- PE/G Conductor Terminal
- RC Remote Contacts Terminal (Optional)
- TD Thermal Disconnect
- TI Thermal Indication



Order Information	
Order Code	300
ProTec T1-xxx-3+1-LH	59.A381
ProTec T1-xxx-3+1-LH-R (with remote contacts)	59.A382
ProTec T1-xxx-LH-P (plug L-N)	59.A383
ProTube T1-50-LH-P (plug N-PE)	59.A385

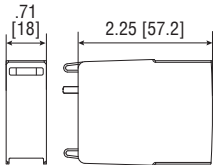
Dimensions & Packaging

inches [mm]



Complete Unit	
ProTec T1-xxx-3+1-LH	300
Weight	pounds [grams] 1.419 [644]
ProTec T1-xxx-3+1-LH-R	
Weight	pounds [grams] 1.441 [654]
DIN 43880 Dimension	4 TE / 2.84" [72 mm]
Packaging Dimensions (HxWxL)	4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]
Standard Order Quantity	4 Units

Spare Plug



Single Unit	
ProTec T1-xxx-LH-P	300
Weight	pounds [grams] .255 [116]
ProTube T1-50-LH-P	50
Weight	pounds [grams] .112 [51]
DIN 43880 Dimension	1 TE / .71" [18 mm]
Packaging Dimensions (HxWxL)	4.3 x 4.5 x 13.8" [109 x 116 x 352 mm]
Standard Order Quantity	24 Units



Location of Use: Main Distribution Boards
 Network Systems: TT, TN-S
 Mode of Protection: N-PE
 IEC/EN 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****ProTube T1-xxx-0+1-LH(-R)****50****IEC Electrical**

Maximum Continuous Operating Voltage	U_c	305 V
Nominal Discharge Current (8/20 μ s)	I_n	50 kA
Maximum Discharge Current (8/20 μ s)	I_{max}	100 kA
Impulse Discharge Current (10/350 μ s)	I_{imp}	50 kA
Specific Energy	W/R	625 kJ/ Ω
Charge	Q	25 As
Voltage Protection Level	U_p	1500 V
Follow Current Interrupt Rating (AC)	I_{fi}	100 A
Response Time	t_A	< 100 ns
Overvoltage Category		III
TOV Withstand 200ms	U_T	1200 V
Number of Ports		1

UL Electrical

Maximum Continuous Operating Voltage (AC)	MCOV	305 V
Measured Limiting Voltage	MLV	1500 V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA

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

Residual Voltage at 5 kA (8/20 μ s)	U_{res}	305 V
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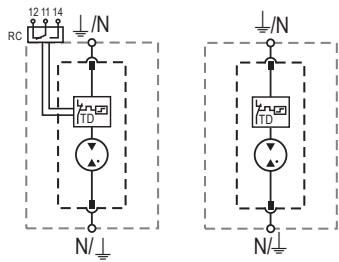
Mechanical & Environmental

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 (max)		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)
Overvoltage Category		III

Internal Configuration

Legend

- N Neutral Conductor Terminal
- PE/G Conductor Terminal
- TI Thermal Indication

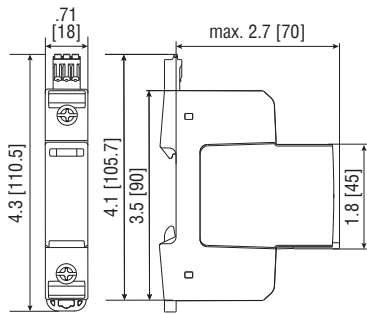


Order Information

Order Code	50
ProTube T1-xxx-0+1-LH	59.A384
ProTube T1-xxx-0+1-LH-R	59.A761
ProTube T1-50-LH-P (plug)	59.A385

Dimensions & Packaging

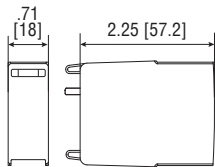
inches [mm]



Complete Unit

ProTube T1-xxx-0+1-LH	50
Weight	pounds [grams]
	.268 [122]
ProTube T1-xxx-0+1-LH-R	
Weight	pounds [grams]
	.276 [126]
DIN 43880 Dimension	1 TE / .71" [18 mm]
Packaging Dimensions (HxWxL)	4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]
Standard Order Quantity	12 Units

Spare Plug



Single Unit

ProTube T1-xxx-LH-P	50
Weight	pounds [grams]
	.112 [51]
DIN 43880 Dimension	1 TE / .71" [18 mm]
Packaging Dimensions (HxWxL)	4.3 x 4.5 x 13.8" [109 x 116 x 352 mm]
Standard Order Quantity	24 Units