

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

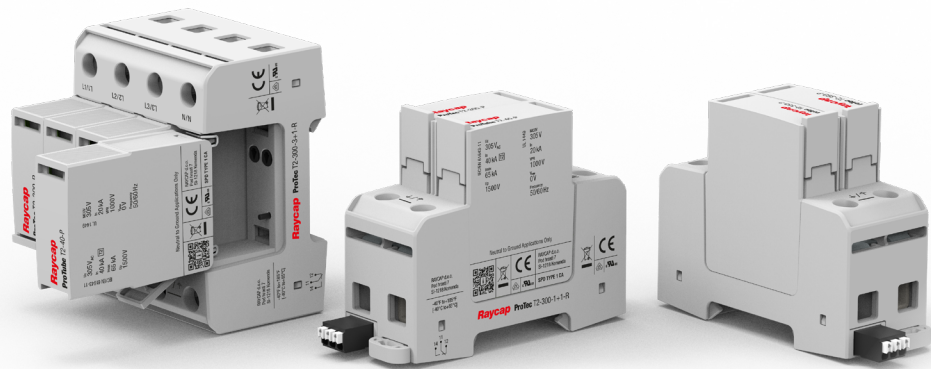


Overtoltage Protection

ProTec T2

Special features:

- Available in a wide variety of operating voltages 75 V to 750 V
- High Impulse Current capability using a single MOV
- Sensitive state-of-the-art thermal disconnecter
- Backup fuse up to 315 AgG
- Short-circuit current rating up to 100 kA*
- Vibration and shock withstand capability
- All modules including N-PE with operating state green-red
- Optional remote contact (RC) signaling



IEC 61643-11:2011

EN 61643-11:2012

UL 1449 5th Edition



ProTec T2 offers basic protection as a Type 2 surge protective device (SPD) that comes with an extended maximum continuous operating voltage (U_c) range that spans 75 V up to 750 V. With the Type 2 classification, ProTec T2 can be installed between boundaries Ob – 1 and higher. The varistor-based protection modules feature outstanding short-circuit currents up to 100 kA* without using a back-up to a main fuse nominal current of 315 A. All modules are equipped with a state-of-the-art thermal disconnecter and life-status green-red monitoring indicators. A unique vibration-proof locking mechanism enables secure use in high vibration environments. Besides the visual mechanical indicator, optional remote contacts (RC) feature a three-pole remote signaling terminal, which enables remote monitoring of the operating state of the device.

* VDE certified up to 50 kA, 100 kA additionally tested by VDE.



More Product Information

RoHS
COMPLIANT



Overvoltage Protection

ProTec T2 1+0

Class II • Type 2 • Type 1CA



Location of Use: Sub-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/UL Category: Class II / Type 2 / Type 1CA
 Housing: Pluggable Design
 Compliance: IEC 61643-11:2011
 EN 61643-11:2012+A11:2018
 UL 1449 5th Edition



Technical Data

ProTec T2-xxx-1+0 (-R)

		75	150	300	350	480	750
IEC Electrical							
Nominal AC Voltage (50/60Hz)	U_o/U_n	60V	120V	240V	277V	400V	600V
Maximum Continuous Operating Voltage (AC)	U_c	75V	150V	300V	350V	480V	750V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA	20 kA	20 kA	20 kA	20 kA	20 kA
Maximum Discharge Current (8/20 μ s)	I_{max}	50 kA	50 kA	50 kA	50 kA	50 kA	35 kA
Voltage Protection Level	U_p	800V	1250V	1500V	1750V	2300V	3400V
Response Time	t_A	< 25ns					
Overvoltage Category		III					
Overcurrent Protection (max)		315 A / 250 A gG					
Short-Circuit Current Rating (AC)	I_{SCCR}	25 kA / 50 kA					
TOV Withstand 5s	U_T	114V	229V	337V	403V	581V	871V
TOV 120min	U_T	114V	229V	442V	529V	762V	1143V
	mode	Withstand	Withstand	Safe Fail	Safe Fail	Safe Fail	Safe Fail
Number of Ports		1					

UL Electrical

Maximum Continuous Operating Voltage (AC)	MCOV	75V	150V	300V	350V	480V	750V
Voltage Protection Rating	VPR	330V	600V	900V	1000V	1500V	2500V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA	20 kA	20 kA	20 kA	20 kA	20 kA
Short-Circuit Current Rating (AC)	SCCR	100 kA	200 kA	150 kA	200 kA	200 kA	200 kA

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

Residual Voltage at 5 kA (8/20 μ s)	U_{res}	400V	750V	1000V	1300V	1500V	2500V
Minimum Backup fuse, if required		80 A gG					

Additional Electrical Parameters - Extended (Additionally tested by VDE)

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

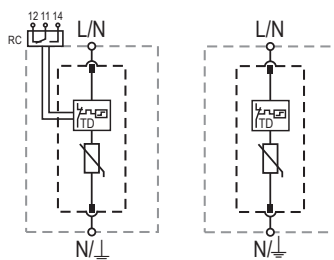
Mechanical & Environmental

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 (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)					
Overvoltage Category		III					

Internal Configuration

Legend

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

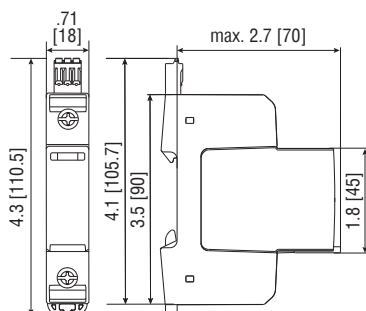


Order Information

Order Code	75	150	300	350	480	750
ProTec T2-xxx-1+0	59.0069	59.0071	59.0073	59.0075	59.0077	59.0079
ProTec T2-xxx-1+0-R (with remote contacts)	59.0070	59.0072	59.0074	59.0076	59.0078	59.0080
ProTec T2-xxx-P (plug)	59.0063	59.0064	59.0065	59.0066	59.0067	59.0068

Dimensions & Packaging

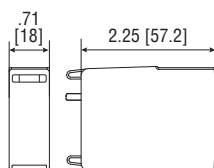
inches [mm]



Complete Unit

ProTec T2-xxx-1+0)		75	150	300	350	480	750
Weight	pounds	.259	.275	.281	.292	.306	.336
	grams	118	125	128	133	139	153
ProTec T2-xxx-1+0-R							
Weight	pounds	.275	.290	.297	.308	.321	.352
	grams	125	132	135	140	146	160
DIN 43880 Dimension		1 TE / .71" [18 mm]					
Packaging Dimensions (HxWxL)		4.3 × 4.5 × 13.8" [109 × 115 × 352 mm]					
Standard Order Quantity		12 Units					

Spare Plug



Single Unit

ProTec T2-xxx-P		75	150	300	350	480	750
Weight	pounds	.108	.123	.130	.141	.154	.185
	grams	49	56	59	64	70	84
DIN 43880 Dimension		1 TE / .71" [18 mm]					
Packaging Dimensions (HxWxL)		3.2 × 4.5 × 12" [83 × 116 × 305 mm]					
Standard Order Quantity		24 Units					

Overvoltage Protection

ProTec T2 2+0

Class II • Type 2 • Type 1CA



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



Technical Data

ProTec T2-xxx-2+0(-R)

		75	150	300	350	480	750
IEC Electrical							
Nominal AC Voltage (50/60Hz)	U_o/U_n	60V	120V	240V	277V	400V	600V
Maximum Continuous Operating Voltage (AC)	U_c	75V	150V	300V	350V	480V	750V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA	20 kA	20 kA	20 kA	20 kA	20 kA
Maximum Discharge Current (8/20 μ s)	I_{max}	50 kA	50 kA	50 kA	50 kA	50 kA	35 kA
Voltage Protection Level	U_p	800V	1250V	1500V	1750V	2300V	3400V
Response Time	t_A	< 25ns					
Overvoltage Category		III					
Overcurrent Protection (max)		315 A / 250 A gG					
Short-Circuit Current Rating (AC)	I_{SCCR}	25 kA / 50 kA					
TOV Withstand 5s	U_T	114V	229V	337V	403V	581V	871V
TOV 120min	U_T	114V	229V	442V	529V	762V	1143V
	mode	Withstand	Withstand	Safe Fail	Safe Fail	Safe Fail	Safe Fail
Number of Ports		1					

UL Electrical

Maximum Continuous Operating Voltage (AC)	MCOV	75V	150V	300V	350V	480V	750V
Voltage Protection Rating	VPR	330V	600V	900V	1000V	1500V	2500V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA	20 kA	20 kA	20 kA	20 kA	20 kA
Short-Circuit Current Rating (AC)	SCCR	100 kA	200 kA	150 kA	200 kA	200 kA	200 kA

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

Residual Voltage at 5 kA (8/20 μ s)	U_{res}	400V	750V	1000V	1300V	1500V	2500V
Minimum Backup fuse, if required		80 A gG					

Additional Electrical Parameters - Extended (Additionally tested by VDE)

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

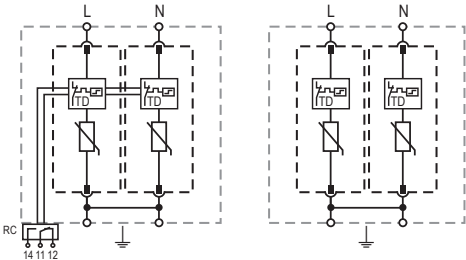
Mechanical & Environmental

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 (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)					
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

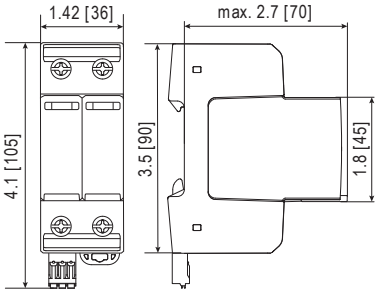


Order Information

Order Code	75	150	300	350	480	750
ProTec T2-xxx-2+0	59.0343	59.0081	59.0083	59.0085	59.0087	59.0089
ProTec T2-xxx-2+0-R (with remote contacts)	59.0344	59.0082	59.0084	59.0086	59.0088	59.0090
ProTec T2-xxx-P (plug)	59.0063	59.0064	59.0065	59.0066	59.0067	59.0068

Dimensions & Packaging

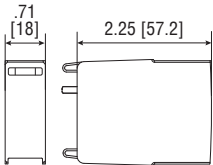
inches [mm]



Complete Unit

ProTec T2-xxx-2+0	75	150	300	350	480	750
Weight	pounds	.525	.556	.569	.591	.680
	grams	238	252	258	268	308
ProTec T2-xxx-2+0-R						
Weight	pounds	.545	.576	.619	.611	.699
	grams	247	261	267	272	317
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 T2-xxx-P	75	150	300	350	480	750
Weight	pounds	.108	.123	.130	.141	.185
	grams	49	56	59	64	84
DIN 43880 Dimension	1 TE / .71" [18 mm]					
Packaging Dimensions (HxWxL)	3.2 x 4.5 x 12" [83 x 116 x 305 mm]					
Standard Order Quantity	24 Units					

Overvoltage Protection

ProTec T2 3+0

Class II • Type 2 • Type 1CA



Location of Use: Sub-distribution Boards
 Network Systems: TN-C
 Mode of Protection: L-PEN
 IEC/EN/UL Category: Class II / Type 2 / Type 1CA
 Housing: Pluggable Design
 Compliance: IEC 61643-11:2011
 EN 61643-11:2012+A11:2018
 UL 1449 5th Edition



Technical Data

ProTec T2-xxx-3+0(-R)

		150	300	350	480	750
IEC Electrical						
Nominal AC Voltage (50/60Hz)	U_o/U_n	120V	240V	277V	400V	600V
Maximum Continuous Operating Voltage (AC)	U_c	150V	300V	350V	480V	750V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA	20 kA	20 kA	20 kA	20 kA
Maximum Discharge Current (8/20 μ s)	I_{max}	50 kA	50 kA	50 kA	50 kA	35 kA
Voltage Protection Level	U_p	1250V	1500V	1750V	2300V	3400V
Response Time	t_A	< 25 ns				
Overvoltage Category		III				
Overcurrent Protection (max)		315 A / 250 A gG				
Short-Circuit Current Rating (AC)	I_{SCCR}	25 kA / 50 kA				
TOV Withstand 5s	U_T	229V	337V	403V	581V	871V
TOV 120min	U_T	229V	442V	529V	762V	1143V
	mode	Withstand	Safe Fail	Safe Fail	Safe Fail	Safe Fail
Number of Ports		1				

UL Electrical

Maximum Continuous Operating Voltage (AC)	MCOV	150V	300V	350V	480V	750V
Voltage Protection Rating	VPR	600V	900V	1000V	1500V	2500V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA	20 kA	20 kA	20 kA	20 kA
Short-Circuit Current Rating (AC)	SCCR	200 kA	150 kA	200 kA	200 kA	200 kA

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

Residual Voltage at 5 kA (8/20 μ s)	U_{res}	750V	1000V	1300V	1500V	2500V
Minimum Backup fuse, if required		80 A gG				

Additional Electrical Parameters - Extended (Additionally tested by VDE)

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

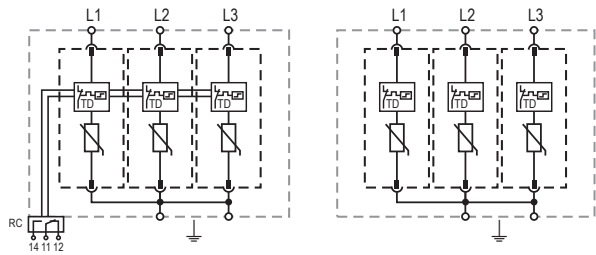
Mechanical & Environmental

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 (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

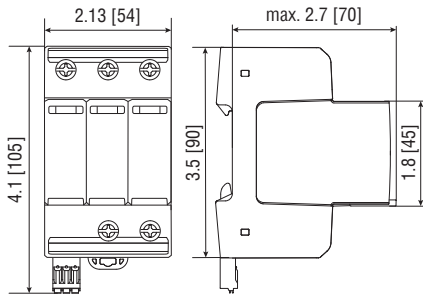


Order Information

Order Code	150	300	350	480	750
ProTec T2-xxx-3+0	59.0091	59.0093	59.0095	59.0097	59.0099
ProTec T2-xxx-3+0-R (with remote contacts)	59.0092	59.0094	59.0096	59.0098	59.0100
ProTec T2-xxx-P (plug)	59.0064	59.0065	59.0066	59.0067	59.0068

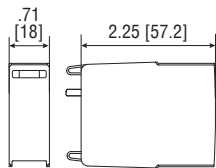
Dimensions & Packaging

inches [mm]



Complete Unit					
ProTec T2-xxx-3+0		150	300	350	480 750
Weight	pounds	.800	.820	.853	.893 .985
	grams	363	372	387	405 447
ProTec T2-xxx-3+0-R					
Weight	pounds	.820	.840	.873	.912 1.005
	grams	372	381	396	414 456
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 Units			

Spare Plug



Single Unit					
ProTec T2-xxx-P		150	300	350	480 750
Weight	pounds	.123	.130	.141	.154 .185
	grams	56	59	64	70 84
DIN 43880 Dimension		1 TE / .71" [18 mm]			
Packaging Dimensions (HxWxL)		3.2 x 4.5 x 12" [83 x 116 x 305 mm]			
Standard Order Quantity		24 Units			

Overvoltage Protection

ProTec T2 4+0

Class II • Type 2 • Type 1CA



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



Technical Data

ProTec T2-xxx-4+0(-R)

		150	300	350	480
IEC Electrical					
Nominal AC Voltage (50/60Hz)	U_o / U_n	120V	240V	277V	400V
Maximum Continuous Operating Voltage (AC)	U_c	150V	300V	350V	480V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA	20 kA	20 kA	20 kA
Maximum Discharge Current (8/20 μ s)	I_{max}	50 kA	50 kA	50 kA	50 kA
Voltage Protection Level	U_p	1250V	1500V	1750V	2300V
Response Time	t_A	< 25 ns			
Overvoltage Category		III			
Overcurrent Protection (max)		315 A / 250 A gG			
Short-Circuit Current Rating (AC)	I_{SCCR}	25 kA / 50 kA			
TOV Withstand 5s	U_T	229V	337V	403V	581V
TOV 120min	U_T	229V	442V	529V	762V
	mode	Withstand	Safe Fail	Safe Fail	Safe Fail
Number of Ports		1			

UL Electrical

Maximum Continuous Operating Voltage (AC)	MCOV	150V	300V	350V	480V
Voltage Protection Rating	VPR	600V	900V	1000V	1500V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA	20 kA	20 kA	20 kA
Short-Circuit Current Rating (AC)	SCCR	200 kA	150 kA	200 kA	200 kA

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

Residual Voltage at 5 kA (8/20 μ s)	U_{res}	750V	1000V	1300V	1500V
Minimum Backup fuse, if required		80 A gG			

Additional Electrical Parameters - Extended (Additionally tested by VDE)

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

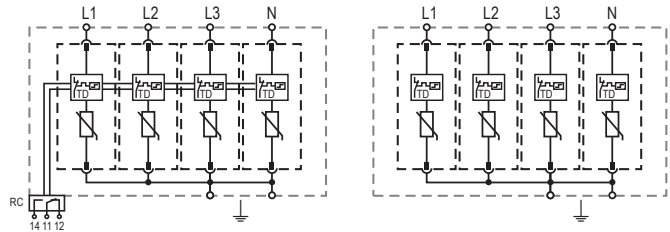
Mechanical & Environmental

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 (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

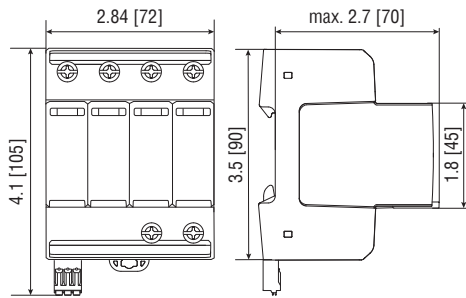


Order Information

Order Code	150	300	350	480
ProTec T2-xxx-4+0	59.0101	59.0103	59.0300	59.0105
ProTec T2-xxx-4+0-R (with remote contacts)	59.0102	59.0104	59.0301	59.0106
ProTec T2-xxx-P (plug)	59.0064	59.0065	59.0066	59.0067

Dimensions & Packaging

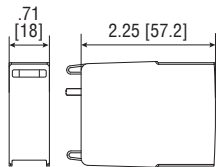
inches [mm]



Complete Unit

ProTec T2-xxx-4+0	150	300	350	480
Weight	pounds	1.009	1.035	1.079
	grams	457	469	489
ProTec T2-xxx-4+0-R				
Weight	pounds	1.028	1.055	1.099
	grams	466	478	498
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 T2-xxx-P	150	300	350	480
Weight	pounds	.123	.130	.141
	grams	56	59	64
DIN 43880 Dimension	1 TE / .71" [18 mm]			
Packaging Dimensions (HxWxL)	3.2 x 4.5 x 12" [83 x 116 x 305 mm]			
Standard Order Quantity	24 Units			

Overvoltage Protection

ProTec T2 1+1

Class II • Type 2 • Type 1CA



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



Technical Data

ProTec T2-xxx-1+1(-R)

		75	150	300	350
IEC Electrical					
Nominal AC Voltage (50/60Hz)	U_o/U_n	60V	120V	240V	277V
Maximum Continuous Operating Voltage (AC)	(L-N)/(N-PE) U_c	75V / 305V	150V / 305V	300V / 305V	350V / 305V
Nominal Discharge Current (8/20µs)	(L-N)/(N-PE) I_n	20kA / 40kA	20kA / 40kA	20kA / 40kA	20kA / 40kA
Maximum Discharge Current (8/20µs)	(L-N)/(N-PE) I_{max}	50kA / 65kA	50kA / 65kA	50kA / 65kA	50kA / 65kA
Voltage Protection Level	(L-N)/(N-PE) U_p	800V / 1500V	1250V / 1500V	1500V / 1500V	1750V / 1500V
Follow Current Interrupt Rating	(N-PE) I_{fi}	100A			
Response Time	(L-N)/(N-PE) t_A	< 25 ns / < 100 ns			
Overvoltage Category		III			
Overcurrent Protection (max)		315A / 250A gG			
Short-Circuit Current Rating (AC)	(L-N) I_{SCCR}	25kA / 50kA			
TOV Withstand 5s	(L-N) U_T	114V	229V	337V	403V
TOV 120min	(L-N) U_T	114V	229V	442V	529V
	mode	Withstand	Withstand	Safe Fail	Safe Fail
TOV Withstand 200ms	(N-PE) U_T	1200V			
Number of Ports		1			

UL Electrical

Maximum Continuous Operating Voltage (AC)	(L-N)/(N-G) MCOV	75V / 305V	150V / 305V	300V / 305V	350V / 305V
Voltage Protection Rating	(L-N)/(N-G) VPR	330V / 1000V	600V / 1000V	900V / 1000V	1000V / 1000V
Nominal Discharge Current (8/20µs)	(L-N)/(N-G) I_n	20kA / 20kA			
Short-Circuit Current Rating (AC)	(L-N) SCCR	100kA	200kA	150kA	200kA

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

Residual Voltage at 5 kA (8/20 µs)	U_{res}	400V / 305V	750V / 305V	1000V / 305V	1300V / 305V
Minimum Backup fuse, if required		80A gG			

Additional Electrical Parameters - Extended (Additionally tested by VDE)

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

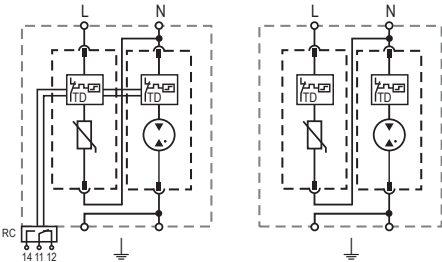
Mechanical & Environmental

Operating Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]			
Permissible Operating Humidity	RH	5%...95%			
Pollution Degree		2			
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) 35mm² (Solid, Stranded) / 25mm² (Flexible)			
Mounting		35mm 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) / 1.5mm² (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

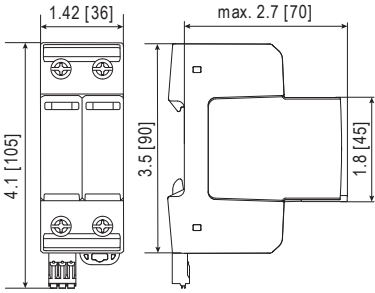


Order Information

Order Code	75	150	300	350
ProTec T2-xxx-1+1	59.0109	59.0111	59.0113	59.0115
ProTec T2-xxx-1+1-R (with remote contacts)	59.0110	59.0112	59.0114	59.0116
ProTec T2-xxx-P (plug L-N)	59.0063	59.0064	59.0065	59.0066
ProTube T2-40-P (plug N-PE)	59.0273	59.0273	59.0273	59.0273

Dimensions & Packaging

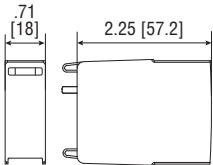
inches [mm]



Complete Unit

ProTec T2-xxx-1+1		75	150	300	350
Weight	pounds	.532	.547	.554	.565
	grams	241	248	251	256
ProTec T2-xxx-1+1-R					
Weight	pounds	.541	.556	.563	.574
	grams	245	253	255	260
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 T2-xxx-P		75	150	300	350
Weight	pounds	.108	.123	.130	.141
	grams	49	56	59	64
ProTube T2-40-P			40		
Weight	pounds	.093			
	grams	42			
DIN 43880 Dimension			1 TE / .71" [18 mm]		
Packaging Dimensions (HxWxL)			3.2 x 4.5 x 12" [83 x 116 x 305 mm]		
Standard Order Quantity			24 Units		

Overvoltage Protection

ProTec T2 3+1

Class II • Type 2 • Type 1CA



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



Technical Data

ProTec T2-xxx-3+1(-R)

300

350

IEC Electrical

Nominal AC Voltage (50/60Hz)	U_o/U_n	240 V	277 V
Maximum Continuous Operating Voltage (AC)	(L-N)/(N-PE) U_c	300 V / 305 V	350 V / 305 V
Nominal Discharge Current (8/20 μ s)	(L-N)/(N-PE) I_n	20 kA / 40 kA	20 kA / 40 kA
Maximum Discharge Current (8/20 μ s)	(L-N)/(N-PE) I_{max}	50 kA / 65 kA	50 kA / 65 kA
Voltage Protection Level	(L-N)/(N-PE) U_p	1500 V / 1500 V	1750 V / 1500 V
Follow Current Interrupt Rating	(N-PE) I_{fi}	100 A	
Response Time	(L-N)/(N-PE) t_A	< 25 ns / < 100 ns	
Overvoltage Category		III	
Overcurrent Protection (max)		315 A / 250 A gG	
Short-Circuit Current Rating (AC)	(L-N) I_{SCCR}	25 kA / 50 kA	
TOV Withstand 5s	(L-N) U_T	337 V	403 V
TOV 120min	(L-N) U_T	442 V	529 V
	mode	Safe Fail	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	350 V / 305 V
Voltage Protection Rating	(L-N)/(N-G) VPR	900 V / 1000 V	1000 V / 1000 V
Nominal Discharge Current (8/20 μ s)	(L-N)/(N-G) I_n	20 kA / 20 kA	
Short-Circuit Current Rating (AC)	(L-N) SCCR	150 kA	200 kA

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

Residual Voltage at 5 kA (8/20 μ s)	U_{res}	1000 V / 305 V	1300 V / 305 V
Minimum Backup fuse, if required		80 A gG	

Additional Electrical Parameters - Extended (Additionally tested by VDE)

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

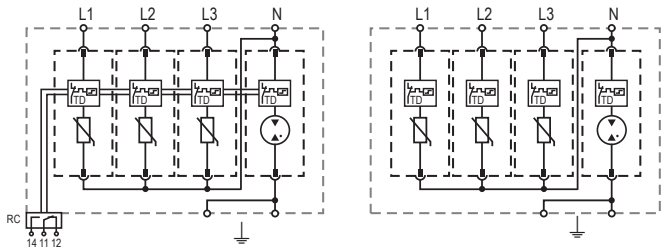
Mechanical & Environmental

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 (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

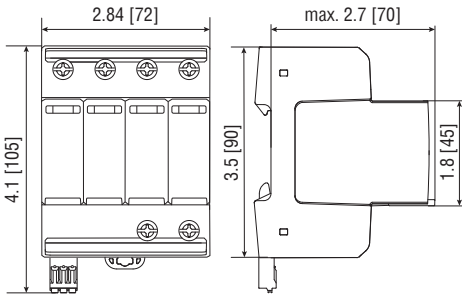


Order Information

Order Code	300	350
ProTec T2-xxx-3+1	59.0121	59.0123
ProTec T2-xxx-3+1-R (with remote contacts)	59.0122	59.0124
ProTec T2-xxx-P (plug L-N)	59.0065	59.0066
ProTube T2-40-P (plug N-PE)	59.0273	59.0273

Dimensions & Packaging

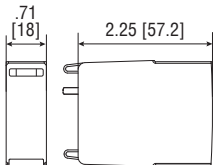
inches [mm]



Complete Unit

ProTec T2-xxx-3+1		300	350
Weight	pounds [grams]	1.020 [462]	1.053 [477]
ProTec T2-xxx-3+1-R			
Weight	pounds [grams]	1.031 [467]	1.064 [482]
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 T2-xxx-P		300	350
Weight	pounds [grams]	.130 [59]	.141 [64]
ProTube T2-40-P		40	
Weight	pounds [grams]	.093 [42]	
DIN 43880 Dimension		1 TE / .71" [18 mm]	
Packaging Dimensions (HxWxL)		3.2 x 4.5 x 12" [83 x 116 x 305 mm]	
Standard Order Quantity		24 Units	

Overvoltage Protection

ProTube T2 40 0+1

Class II • Type 2 • Type 1CA



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



Technical Data

ProTube T2-xxx-0+1(-R)

40

IEC Electrical

Maximum Continuous Operating Voltage	U_c	305V
Nominal Discharge Current (8/20 μ s)	I_n	40 kA
Maximum Discharge Current (8/20 μ s)	I_{max}	65 kA
Voltage Protection Level	U_p	1500V
Follow Current Interrupt Rating	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	305V
Voltage Protection Rating	VPR	1000V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA

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

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

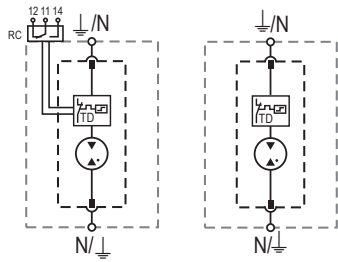
Legend

- N

Neutral Conductor Terminal
- PE/G Conductor Terminal
- RC

Remote Contacts Terminal (Optional)
- TD

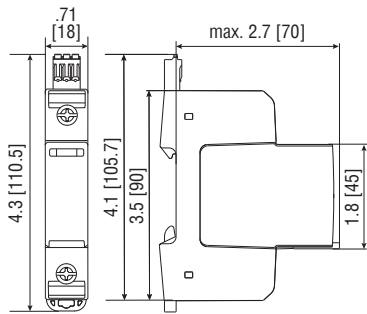
Thermal Disconnecter



Order Information	
Order Code	40
ProTube T2-xxx-0+1	59.0280
ProTube T2-xxx-0+1-R (with remote contacts)	59.0336
ProTube T2-40-P (plug)	59.0273

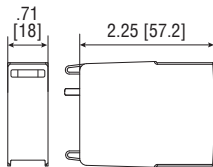
Dimensions & Packaging

inches [mm]



Complete Unit	
ProTube T2-xxx-0+1	40
Weight	pounds [grams] .244 [111]
ProTube T2-xxx-0+1-R	
Weight	pounds [grams] .259 [118]
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 T2-40-P	40
Weight	pounds [grams] .093 [42]
DIN 43880 Dimension	1 TE / .71" [18]
Packaging Dimensions (HxWxL)	3.2 x 4.5 x 12" [83 x 116 x 305 mm]
Standard Order Quantity	24 Units

Notes