



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

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-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	25 kA	25 kA
Maximum Discharge Current (8/20 μ s)	I_{max}	65 kA	50 kA
Impulse Discharge Current (10/350 μ s)	I_{imp}	25 kA	25 kA
Specific Energy	W/R	156.2 kJ/ Ω	156.2 kJ/ Ω
Charge	Q	12.5 As	12.5 As
Voltage Protection Level	U_p	1500 V	2500 V
Response Time	t_A	< 100 ns	< 100 ns
Overcurrent Protection (max)		315 A gG	315 A gG / 250 A gG
Short-Circuit Current Rating (AC)	I_{SCCR}	50 kA	50 kA / 100 kA
Follow Current Interrupt Rating (AC)	I_{fi}	50 kA	50 kA / 100 kA
TOV 120min	U_T / mode	442 V / Withstand	762 V / Safe Fail
TOV Safe Fail 200ms	U_T	-	1640 V
Number of Ports		1	

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

Residual Voltage at 5 kA (8/20 μ s)	U_{res}	1400 V	1500 V
Overcurrent Protection (min)		250 A gG	250 A gG

Additional Electrical Parameters - Extended (Additionally tested by VDE)

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

Mechanical & Environmental

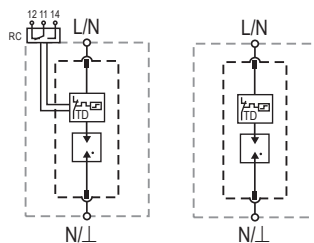
Operating Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]
Permissible Operating Humidity	RH	5%...95%
Altitude		6562 ft [2000 m]
Terminal Screw Torque	M_{max}	40 lbf-in [4.5 Nm]
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)
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: 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)

*No VDE Certification.

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-xxx-1+0(-R)

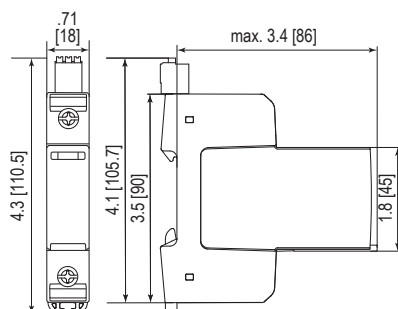
Order Information

Order Code	275	440*
ProTec T1S-xxx-1+0	59.0738	59.A517
ProTec T1S-xxx-1+0-R (with remote contacts)	59.0739	59.A518
ProTec T1S-xxx-P (plug)	59.0384	59.A515

*No VDE Certification.

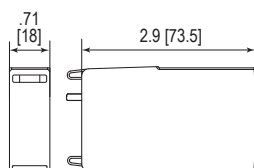
Dimensions & Packaging

inches [mm]



Complete Unit			
ProTec T1S-xxx-1+0	275	440*	
Weight	pounds [grams]	.381 [173]	.392 [178]
ProTec T1S-xxx-1+0-R	275	440*	
Weight	pounds [grams]	.396 [180]	.407 [185]
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	12 Units		

Spare Plug



Single Unit			
ProTec T1S-xxx-P	275	440*	
Weight	pounds [grams]	.231 [105]	.242 [110]
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		



Location of Use: Main Distribution Boards
 Network Systems: TN-S, IT (only 440)
 Mode of Protection: L-PE, 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-2+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	25 kA	25 kA
Maximum Discharge Current (8/20 μ s)	I_{max}	65 kA	50 kA
Impulse Discharge Current (10/350 μ s)	I_{imp}	25 kA	25 kA
Specific Energy	W/R	156.2 kJ/ Ω	156.2 kJ/ Ω
Charge	Q	12.5 As	12.5 As
Voltage Protection Level	U_p	1500 V	2500 V
Response Time	t_A	< 100 ns	< 100 ns
Overcurrent Protection (max)		315 A gG	315 A gG / 250 A gG
Short-Circuit Current Rating (AC)	I_{SCCR}	50 kA	50 kA / 100 kA
Follow Current Interrupt Rating (AC)	I_{fi}	50 kA	50 kA / 100 kA
TOV 120min	U_T / mode	442 V / Withstand	762 V / Safe Fail
TOV Safe Fail 200ms	U_T	-	1640 V
Number of Ports		1	

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

Residual Voltage at 5 kA (8/20 μ s)	U_{res}	1400 V	1500 V
Overcurrent Protection (min)		250 A gG	250 A gG

Additional Electrical Parameters - Extended (Additionally tested by VDE)

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

Mechanical & Environmental

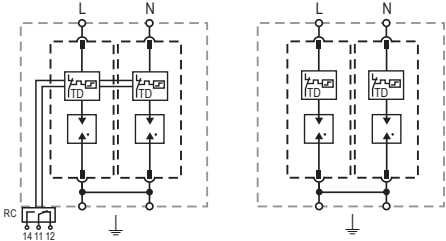
Operating Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]
Permissible Operating Humidity	RH	5%...95%
Altitude		6562 ft [2000 m]
Terminal Screw Torque	M_{max}	40 lbf-in [4.5 Nm]
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)
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)

*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



ProTec T1S-xxx-2+0(-R)

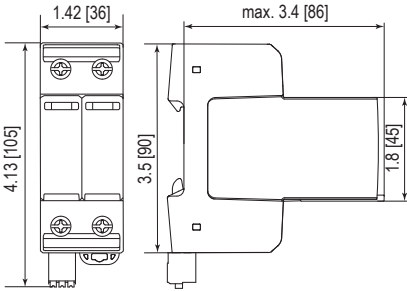
Order Information

Order Code	275	440*
ProTec T1S-xxx-2+0	59.0740	59.A519
ProTec T1S-xxx-2+0-R (with remote contacts)	59.0741	59.A520
ProTec T1S-xxx-P (plug)	59.0384	59.A515

*No VDE Certification.

Dimensions & Packaging

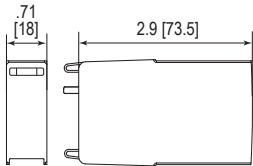
inches [mm]



Complete Unit

ProTec T1S-xxx-2+0	275	440*
Weight	pounds [grams]	.749 [340]
ProTec T1S-xxx-2+0-R	275	440*
Weight	pounds [grams]	.769 [349]
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]
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	



Location of Use: Main Distribution Boards
 Network Systems: TN-C, IT (only 440)
 Mode of Protection: L-PEN
 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-3+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	25 kA	25 kA
Maximum Discharge Current (8/20 μ s)	I_{max}	65 kA	50 kA
Impulse Discharge Current (10/350 μ s)	I_{imp}	25 kA	25 kA
Specific Energy	W/R	156.2 kJ/ Ω	156.2 kJ/ Ω
Charge	Q	12.5 As	12.5 As
Voltage Protection Level	U_p	1500 V	2500 V
Response Time	t_A	< 100 ns	< 100 ns
Overcurrent Protection (max)		315 A gG	315 A gG / 250 A gG
Short-Circuit Current Rating (AC)	I_{SCCR}	50 kA	50 kA / 100 kA
Follow Current Interrupt Rating (AC)	I_{fi}	50 kA	50 kA / 100 kA
TOV 120min	U_T / mode	442 V / Withstand	762 V / Safe Fail
TOV Safe Fail 200ms	U_T	-	1640 V
Number of Ports		1	

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

Residual Voltage at 5 kA (8/20 μ s)	U_{res}	1400 V	1500 V
Overcurrent Protection (min)		250 A gG	250 A gG

Additional Electrical Parameters - Extended (Additionally tested by VDE)

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

Mechanical & Environmental

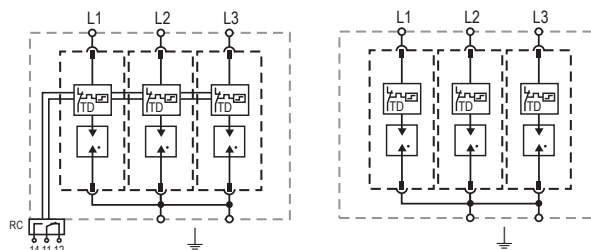
Operating Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]
Permissible Operating Humidity	RH	5%...95%
Altitude		6562 ft [2000 m]
Terminal Screw Torque	M_{max}	40 lbf-in [4.5 Nm]
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)
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)

*No VDE Certification.

Internal Configuration

Legend

L	Line Conductor Terminal
⏏	PE Conductor Terminal
RC	Remote Contacts Terminal (Optional)
TD	Thermal Disconnect



ProTec T1S-xxx-3+0(-R)

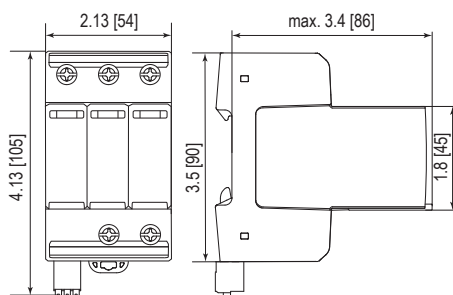
Order Information

Order Code	275	440*
ProTec T1S-xxx-3+0	59.0742	59.A521
ProTec T1S-xxx-3+0-R (with remote contacts)	59.0743	59.A522
ProTec T1S-xxx-P (plug)	59.0384	59.A515

*No VDE Certification.

Dimensions & Packaging

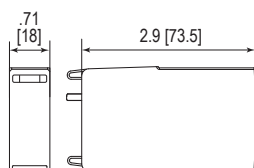
inches [mm]



Complete Unit

ProTec T1S-xxx-3+0		275	440*
Weight	pounds [grams]	1.100 [499]	1.133 [514]
ProTec T1S-xxx-3+0-R		275	440*
Weight	pounds [grams]	1.119 [508]	1.166 [529]
DIN 43880 Dimension		3 TE / 2.13 [54]	
Packaging Dimensions (HxWxL)		4.3 × 4.5 × 13.8" [109 × 115 × 352 mm]	
Standard Order Quantity		5 Units	

Spare Plug



Single Unit

ProTec T1S-xxx-P		275	440*
Weight	pounds [grams]	.231 [105]	.242 [110]
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	



Location of Use: Main Distribution Boards
 Network Systems: TN-S, IT (only 440)
 Mode of Protection: L-PE, 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-4+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	25 kA	25 kA
Maximum Discharge Current (8/20 μ s)	I_{max}	65 kA	50 kA
Impulse Discharge Current (10/350 μ s)	I_{imp}	25 kA	25 kA
Specific Energy	W/R	156.2 kJ/ Ω	156.2 kJ/ Ω
Charge	Q	12.5 As	12.5 As
Voltage Protection Level	U_p	1500 V	2500 V
Response Time	t_A	< 100 ns	< 100 ns
Overcurrent Protection (max)		315 A gG	315 A gG / 250 A gG
Short-Circuit Current Rating (AC)	I_{SCCR}	50 kA	50 kA / 100 kA
Follow Current Interrupt Rating (AC)	I_{fi}	50 kA	50 kA / 100 kA
TOV 120min	$U_T / mode$	442 V/Withstand	762 V / Safe Fail
TOV Safe Fail 200ms	U_T	-	1640 V
Number of Ports		1	

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

Residual Voltage at 5 kA (8/20 μ s)	U_{res}	1400 V	1500 V
Overcurrent Protection (min)		250 A gG	250 A gG

Additional Electrical Parameters - Extended (Additionally tested by VDE)

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

Mechanical & Environmental

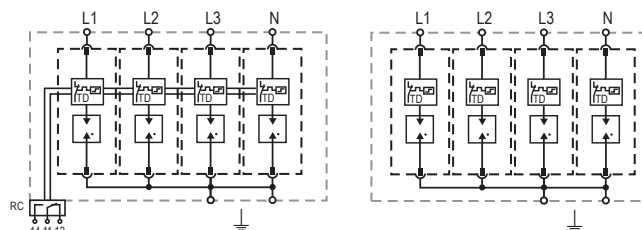
Operating Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]
Permissible Operating Humidity	RH	5%...95%
Altitude		6562 ft [2000 m]
Terminal Screw Torque	M_{max}	40 lbf-in [4.5 Nm]
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)
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)

*No VDE Certification.

Internal Configuration

Legend

<i>L</i>	Line Conductor Terminal
<i>N</i>	Neutral Conductor Terminal
	PE Conductor Terminal
<i>RC</i>	Remote Contacts Terminal (Optional)
<i>TD</i>	Thermal Disconnecter



ProTec T1S-xxx-4+0(-R)

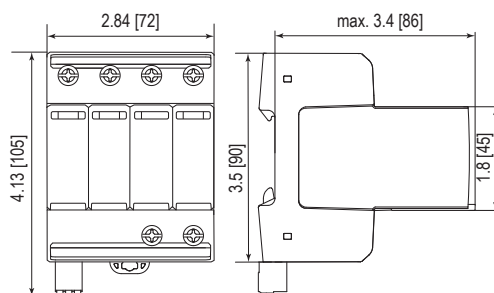
Order Information

Order Code	275	440*
ProTec T1S-xxx-4+0	59.0744	59.A523
ProTec T1S-xxx-4+0-R (with remote contacts)	59.0745	59.A524
ProTec T1S-xxx-P (plug)	59.0384	59.A515

*No VDE Certification.

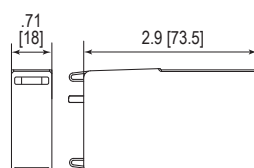
Dimensions & Packaging

inches [mm]



Complete Unit			
ProTec T1S-xxx-4+0	275	440*	
Weight	pounds [grams]	1.481 [672]	1.526 [692]
ProTec T1S-xxx-4+0-R	275	440*	
Weight	pounds [grams]	1.501 [681]	1.545 [701]
DIN 43880 Dimension	4 TE / 2.84 [72]		
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 T1S-xxx-P	275	440*	
Weight	pounds [grams]	.231 [105]	.242 [110]
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		

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

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}	1400 V / 305 V	1500 V / 305 V
Overcurrent Protection (min)		250 A gG	250 A gG

Additional Electrical Parameters - Extended (Additionally tested by VDE)

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

Mechanical & Environmental

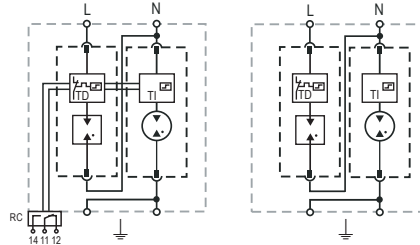
Operating Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]
Permissible Operating Humidity	RH	5%...95%
Altitude		6562 ft [2000 m]
Terminal Screw Torque	M_{max}	40 lbf-in [4.5 Nm]
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible)
		35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)
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: 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)

*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)

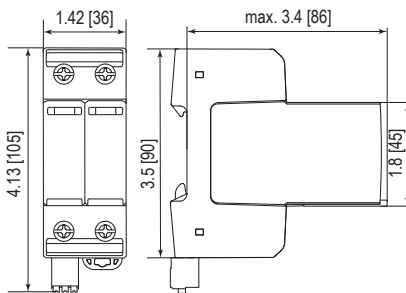
Order Information

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

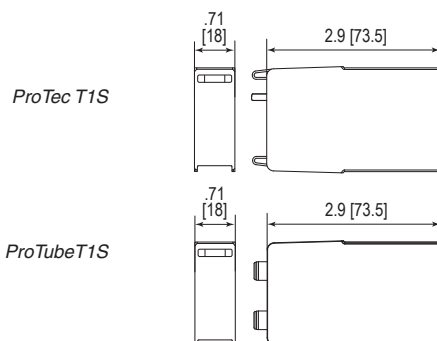
inches [mm]



Complete Unit

ProTec T1S-xxx-1+1	275	440*
Weight	pounds [grams]	.773 [351]
Weight	pounds [grams]	.785 [356]
ProTec T1S-xxx-1+1-R	275	440*
Weight	pounds [grams]	.787 [357]
Weight	pounds [grams]	.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



ProTec T1S

ProTubeT1S

Single Unit

ProTec T1S-xxx-P	275	440*
Weight	pounds [grams]	.231 [105]
Weight	pounds [grams]	.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	



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-3+1(-R)****275****440*****IEC Electrical**

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

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}	1400 V / 305 V	1500 V / 305 V
Overcurrent Protection (min)		250 A gG	250 A gG

Additional Electrical Parameters - Extended (Additionally tested by VDE)

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

Mechanical & Environmental

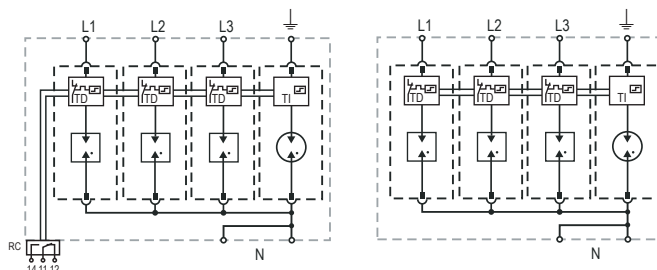
Operating Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]
Permissible Operating Humidity	RH	5%...95%
Altitude		6562 ft [2000 m]
Terminal Screw Torque	M_{max}	40 lbf-in [4.5 Nm]
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible)
		35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)
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: 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)

*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-3+1(-R)

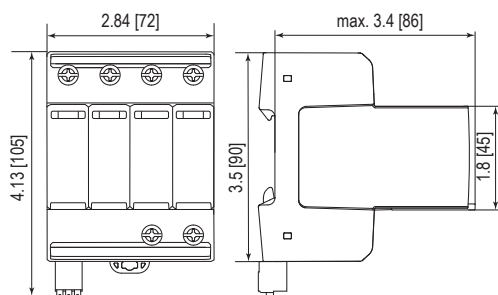
Order Information

Order Code	275	440*
ProTec T1S-xxx-3+1	59.0748	59.A527
ProTec T1S-xxx-3+1-R (with remote contacts)	59.0749	59.A528
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

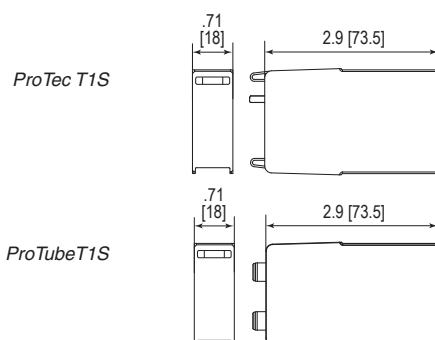
inches [mm]



Complete Unit

ProTec T1S-xxx-3+1	275	440*
Weight	pounds [grams]	1.503 [682]
ProTec T1S-xxx-3+1-R	275	440*
Weight	pounds [grams]	1.523 [691]
DIN 43880 Dimension	4 TE / 2.84 [72]	
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 T1S-xxx-P	275	440*
Weight	pounds [grams]	.231 [105]
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	



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-3+1-N(-R)****275****440*****IEC Electrical**

		240V	400V
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 (8/20 μ s)	(L-N) / (N-PE) I_n	25 kA / 100 kA	25 kA / 100 kA
Maximum Discharge Current (8/20 μ s)	(L-N) / (N-PE) I_{max}	65 kA / 150 kA	50 kA / 100 kA
Impulse Discharge Current (10/350 μ s)	(L-N) / (N-PE) I_{imp}	25 kA / 100 kA	25 kA / 100 kA
Specific Energy	(L-N) / (N-PE) W/R	156.2 kJ/ Ω / 2500 kJ/ Ω	156.2 kJ/ Ω / 2500 kJ/ Ω
Charge	(L-N) / (N-PE) Q	12.5 As / 50 As	12.5 As / 50 As
Voltage Protection Level	(L-N) / (N-PE) U_p	1700V / 1500V	2500V / 2500V
Response Time	(L-N) / (N-PE) t_A	< 100 ns / < 100 ns	< 100 ns / < 100 ns
Overcurrent Protection (max)		315 A gG	315 A gG / 250 A gG
Short-Circuit Current Rating (AC)	(L-N) I_{SCCR}	50 kA	50 kA / 100 kA
Follow Current Interrupt Rating (AC)	(L-N) I_{fi}	50 kA	50 kA / 100 A
	(N-PE)	100 A	100 A
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 μ s)	(L-N) / (N-PE) U_{res}	1400V / 305V	1500V / 305V
Overcurrent Protection (min)		250 A gG	250 A gG

Additional Electrical Parameters - Extended (Additionally tested by VDE)

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

Mechanical & Environmental

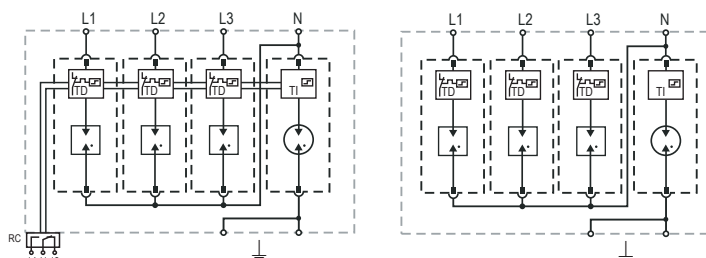
Operating Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]
Permissible Operating Humidity	RH	5%...95%
Altitude		6562 ft [2000m]
Terminal Screw Torque	M_{max}	40 lbf-in [4.5 Nm]
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible)
		35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)
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)

*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-3+1-N(-R)

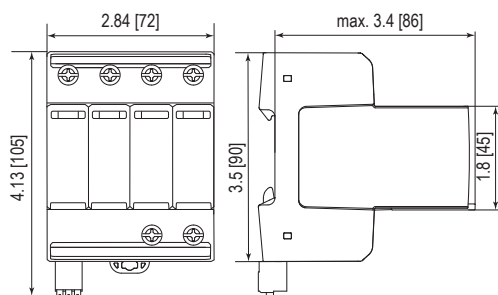
Order Information

Order Code	275	440*
ProTec T1S-xxx-3+1-N	59.0382	59.A657
ProTec T1S-xxx-3+1-N-R (with remote contacts)	59.0383	59.A658
ProTec T1S-xxx-N-P (plug L-N)	59.0385	-
ProTec T1S-xxx-P (plug L-N)	-	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

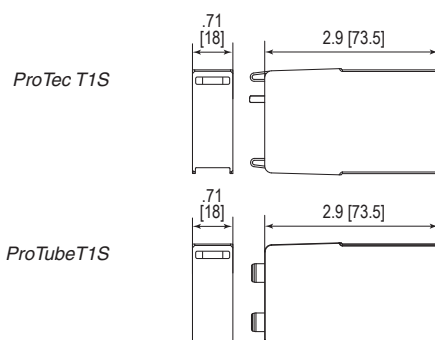
inches [mm]



Complete Unit

ProTec T1S-xxx-3+1-N	275	440*
Weight	pounds [grams]	1.503 [682]
ProTec T1S-xxx-3+1-N-R	275	440*
Weight	pounds [grams]	1.523 [691]
DIN 43880 Dimension	4 TE / 2.84 [72]	
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 T1S-xxx-P	275	440*
Weight	pounds [grams]	.231 [105]
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	

Lightning and Overvoltage Protection

ProTube T1S-100-0+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

ProTube T1S-xxx-0+1

100

IEC Electrical

Maximum Continuous Operating Voltage (AC)	U_c	305 V
Nominal Discharge Current (8/20 μ s)	I_n	100 kA
Maximum Discharge Current (8/20 μ s)	I_{max}	150 kA
Impulse Discharge Current (10/350 μ s)	I_{imp}	100 kA
Specific Energy	W/R	2500 kJ/ Ω
Charge	Q	50 As
Voltage Protection Level	U_p	2500 V
Response Time	t_A	< 100 ns
Follow Current Interrupt Rating (AC)	I_{fi}	100 A
TOV 200ms	U_T / mode	1200 V / Withstand
Number of Ports		1

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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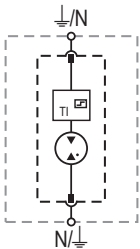
Mechanical & Environmental

Operating Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]
Permissible Operating Humidity	RH	5%...95%
Altitude		6562 ft [2000 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

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



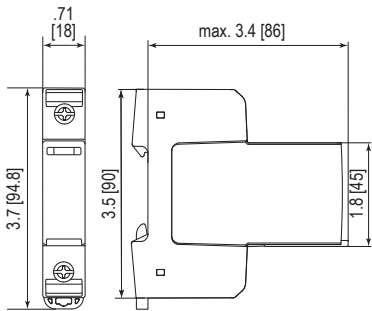
ProTube T1S-xxx-0+1

Order Information

Order Code	100
ProTube T1S-xxx-0+1	59.A744
ProTube T1S-100-P (plug)	59.0386

Dimensions & Packaging

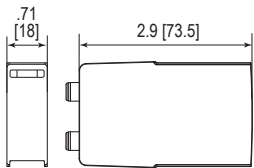
inches [mm]



Complete Unit

ProTube T1S-xxx-0+1	100
Weight pounds [grams]	1.503 [682]
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	12 Units

Spare Plug



Single Unit

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

Lightning and Overvoltage Protection

ProTube T1S-440-100-0+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

ProTube T1S-440-xxx-0+1

100

IEC Electrical

Maximum Continuous Operating Voltage (AC)	U_c	440 V
Nominal Discharge Current (8/20 μ s)	I_n	100 kA
Maximum Discharge Current (8/20 μ s)	I_{max}	100 kA
Impulse Discharge Current (10/350 μ s)	I_{imp}	100 kA
Specific Energy	W/R	2500 kJ/ Ω
Charge	Q	50 As
Voltage Protection Level	U_p	2500 V
Response Time	t_A	< 100 ns
Follow Current Interrupt Rating (AC)	I_{fi}	100 A
TOV 200ms	U_T / mode	1200 V / Withstand
Number of Ports		1

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

Residual Voltage at 5 kA (8/20 μ s)	U_{res}	440 V
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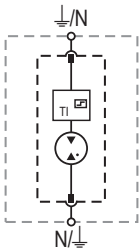
Mechanical & Environmental

Operating Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]
Permissible Operating Humidity	RH	5%...95%
Altitude		6562 ft [2000 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

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



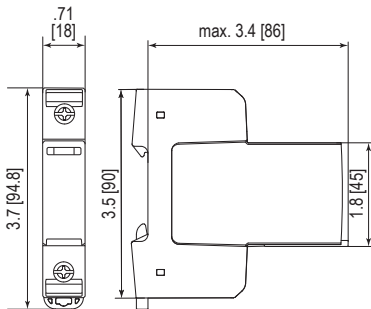
ProTube T1S-440-xxx-0+1

Order Information

Order Code	100
ProTube T1S-440-xxx-0+1	59.A529
ProTube T1S-440-100-P (plug)	59.A516

Dimensions & Packaging

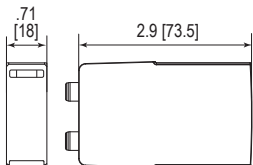
inches [mm]



Complete Unit

ProTube T1S-440-xxx-0+1	100
Weight pounds [grams]	.403 [183]
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	12 Units

Spare Plug



Single Unit

ProTube T1S-440-100-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