

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

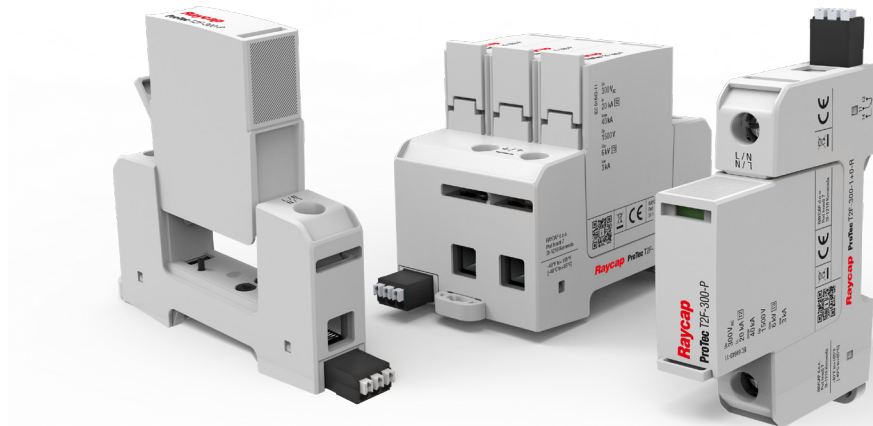


### Overvoltage Protection with Integrated Fuse **ProTec T2F**



#### Special features:

- Integrated back-up fuse – no external fuse needed
- Reduces design complexity and optimizes installation
- Better overall voltage protection levels due to less wiring
- High discharge capacity - I<sub>max</sub> up to 40 kA
- Short circuit current rating up to 100 kA
- Type 2 SPD, compliant to IEC 61643-11
- Shock and vibration tested



IEC 61643-11:2011

EN 61643-11:2012 +A11:2018



The pluggable ProTec T2F Type 2 arrester with integrated fuse saves space in the control cabinet and facilitates installation as well as maintenance. The Type 2 ProTec T2F has a protection level of 1,500V, a maximum discharge capacity of 40kA 8/20µs and a rated discharge current of 20kA 8/20µs. Thus, in addition to the proven Raycap ProTec T2 product technology, developed for use in systems with a rated current of up to 315A, without back-up fuse, this product can offer protection that is independent of the installed fuses in equipment in larger factories and industrial plants. By integrating the back-up fuse and eliminating the external fuse holder assembly, the ProTec T2F offers up to 50 percent less space requirement in the control cabinet compared to conventional Type 2 arresters with external back-up fuses. The combined device conforms to standard DIN Rail dimensions, making the overall installation faster and cost-effective.



More Product Information



# Overvoltage Protection with Integrated Fuse

## ProTec T2F 1+0

**Class II • Class III • Type 2 • Type 3**



Location of Use: Sub-Distribution Boards  
 Network Systems: TN-S, TN-C, TT (only L-N), IT\*(only 440V)  
 Mode of Protection: L-PE, N-PE (only TN-S), L-PEN, L-N  
 IEC/EN Category: Class II+III / Type 2+3  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11:2011  
 EN 61643-11:2012+A11:2018

### Technical Data

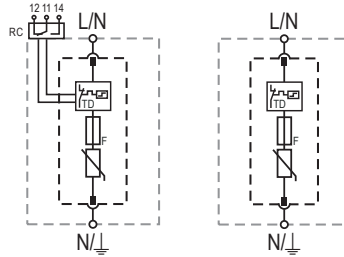
ProTec T2F-xxx-1+0(-R)		300	440
<b>IEC Electrical</b>			
Nominal AC Voltage (50/60Hz)	$U_o/U_n$	240V	240V
Maximum Continuous Operating Voltage (AC)	$U_c$	300V	440V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20 kA	15 kA
Maximum Discharge Current (8/20 $\mu$ s)	$I_{max}$	40 kA	30 kA
Open Circuit Voltage of Combination Wave Generator (1.2/50 $\mu$ s)	$U_{oc}$	6 kV	6 kV
Short Circuit Current of Combination Wave Generator (8/20 $\mu$ s)	$I_{cw}$	3 kA	3 kA
Voltage Protection Level	$U_p$	1500V	2000V
Response Time	$t_A$	< 25ns	< 25ns
Overcurrent Protection		Not Required	Not Required
Short-Circuit Current Rating (AC)	$I_{SCCR}$	100kA	100kA
TOV Withstand 5s	$U_T$	337V	580V
TOV 120min	$U_T$	442V	630V
	mode	Safe Fail	Safe Fail
Number of Ports			1
<b>Additional Electrical Parameters - Standard</b> (Tests performed within Raycap testing laboratory only)			
Residual Voltage at 5 kA (8/20 $\mu$ s)	$U_{res}$	1150V	1500V
Overcurrent Protection (min)		Not Required	Not Required
<b>Additional Electrical Parameters - Extended</b> (Additionally tested by VDE)			
Short-Circuit Current Rating (AC)	$I_{SCCR}$	100kA	100kA
<b>Mechanical &amp; Environmental</b>			
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 [4.5 Nm]	
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35 mm <sup>2</sup> (Solid, Stranded) / 25 mm <sup>2</sup> (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 <sup>2</sup> (Solid)	

\*Only applicable to IT power systems where the earth on the distribution transformer is interconnected with the earth on the consumer side (RE=RA in Figure 44.A1 of IEC 60364-4-44:2018).

## Internal Configuration

### Legend

- L Line Conductor Terminal
- N Neutral Conductor Terminal
- ⏏ PE/G Conductor Terminal
- RC Remote Contacts Terminal (Optional)
- TD Thermal Disconnect
- F Integrated Surge Adapted Backup Fuse



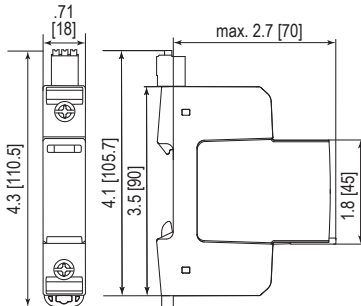
### ProTec T2F-xxx-1+0(-R)

#### Order Information

Order Code	300	440
ProTec T2F-xxx-1+0	59.A250	59.A942
ProTec T2F-xxx-1+0-R (with remote contacts)	59.A251	59.A943
ProTec T2F-xxx-P (plug)	59.A258	59.A950

## Dimensions & Packaging

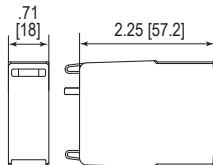
inches [mm]



#### Complete Unit

ProTec T2F-xxx-1+0		300	440
Weight	pounds	.320	.335
	grams	145	152
ProTec T2F-xxx-1+0-R			
Weight	pounds	.342	.357
	grams	155	162
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 T2F-xxx-P		300	440
Weight	pounds	.152	.167
	grams	69	76
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		



Location of Use: Sub-Distribution Boards  
 Network Systems: TN-S, IT\*(only 440V)  
 Mode of Protection: L-PE, N-PE  
 IEC/EN Category: Class II+III / Type 2+3  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11:2011  
 EN 61643-11:2012+A11:2018

**Technical Data**

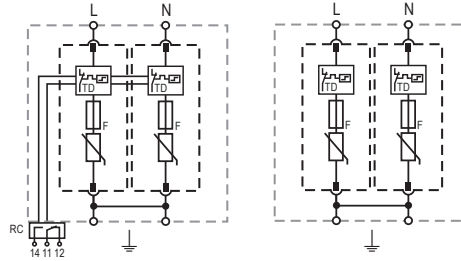
ProTec T2F-xxx-2+0(-R)		300	440
<b>IEC Electrical</b>			
Nominal AC Voltage (50/60Hz)	$U_o/U_n$	240V	240V
Maximum Continuous Operating Voltage (AC)	$U_c$	300V	440V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20 kA	15 kA
Maximum Discharge Current (8/20 $\mu$ s)	$I_{max}$	40 kA	30 kA
Open Circuit Voltage of Combination Wave Generator (1.2/50 $\mu$ s)	$U_{oc}$	6 kV	6 kV
Short Circuit Current of Combination Wave Generator (8/20 $\mu$ s)	$I_{cw}$	3 kA	3 kA
Voltage Protection Level	$U_p$	1500V	2000V
Response Time	$t_A$	< 25ns	< 25ns
Overcurrent Protection		Not Required	Not Required
Short-Circuit Current Rating (AC)	$I_{SCCR}$	100kA	100kA
TOV Withstand 5s	$U_T$	337V	580V
TOV 120min	$U_T$	442V	630V
	mode	Safe Fail	Safe Fail
Number of Ports			1
<b>Additional Electrical Parameters - Standard</b> (Tests performed within Raycap testing laboratory only)			
Residual Voltage at 5 kA (8/20 $\mu$ s)	$U_{res}$	1150V	1500V
Overcurrent Protection (min)		Not Required	Not Required
<b>Additional Electrical Parameters - Extended</b> (Additionally tested by VDE)			
Short-Circuit Current Rating (AC)	$I_{SCCR}$	100kA	100kA
<b>Mechanical &amp; Environmental</b>			
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 [4.5 Nm]	
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35 mm <sup>2</sup> (Solid, Stranded) / 25 mm <sup>2</sup> (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 <sup>2</sup> (Solid)	

\*Only applicable to IT power systems where the earth on the distribution transformer is interconnected with the earth on the consumer side (RE=RA in Figure 44.A1 of IEC 60364-4-44:2018).

## Internal Configuration

### Legend

- L Line Conductor Terminal
- N Neutral Conductor Terminal
- ⏚ PE/G Conductor Terminal
- RC Remote Contacts Terminal (Optional)
- TD Thermal Disconnect
- F Integrated Surge Adapted Backup Fuse



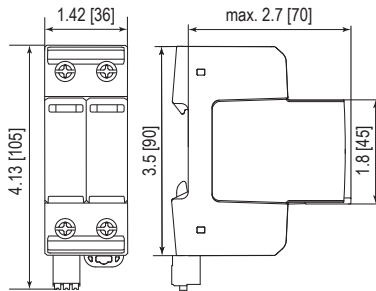
### ProTec T2F-xxx-2+0(-R)

#### Order Information

Order Code	300	440
ProTec T2F-xxx-2+0	59.A252	59.A944
ProTec T2F-xxx-2+0-R (with remote contacts)	59.A253	59.A945
ProTec T2F-xxx-P (plug)	59.A258	59.A950

## Dimensions & Packaging

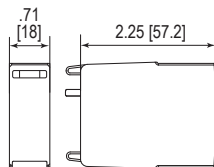
inches [mm]



#### Complete Unit

ProTec T2F-xxx-2+0	300	440	
Weight	pounds	.591	.606
	grams	268	275
<b>ProTec T2F-xxx-2+0-R</b>			
Weight	pounds	.613	.628
	grams	278	285
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 T2F-xxx-P	300	440	
Weight	pounds	.152	.167
	grams	69	76
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		



Location of Use: Sub-Distribution Boards  
 Network Systems: TN-C, IT\*(only 440V)  
 Mode of Protection: L-PEN  
 IEC/EN Category: Class II+III / Type 2+3  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11:2011  
 EN 61643-11:2012+A11:2018

**Technical Data**

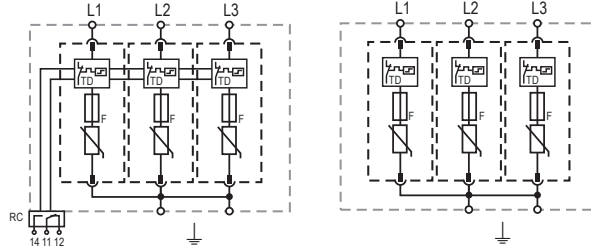
ProTec T2F-xxx-3+0(-R)		300	440
<b>IEC Electrical</b>			
Nominal AC Voltage (50/60Hz)	$U_o/U_n$	240V	240V
Maximum Continuous Operating Voltage (AC)	$U_c$	300V	440V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20 kA	15 kA
Maximum Discharge Current (8/20 $\mu$ s)	$I_{max}$	40 kA	30 kA
Open Circuit Voltage of Combination Wave Generator (1.2/50 $\mu$ s)	$U_{oc}$	6 kV	6 kV
Short Circuit Current of Combination Wave Generator (8/20 $\mu$ s)	$I_{cw}$	3 kA	3 kA
Voltage Protection Level	$U_p$	1500V	2000V
Response Time	$t_A$	< 25ns	< 25ns
Overcurrent Protection		Not Required	Not Required
Short-Circuit Current Rating (AC)	$I_{SCCR}$	100kA	100kA
TOV Withstand 5s	$U_T$	337V	580V
TOV 120min	$U_T$	442V	630V
	mode	Safe Fail	Safe Fail
Number of Ports			1
<b>Additional Electrical Parameters - Standard</b> (Tests performed within Raycap testing laboratory only)			
Residual Voltage at 5 kA (8/20 $\mu$ s)	$U_{res}$	1150V	1500V
Overcurrent Protection (min)		Not Required	Not Required
<b>Additional Electrical Parameters - Extended</b> (Additionally tested by VDE)			
Short-Circuit Current Rating (AC)	$I_{SCCR}$	100kA	100kA
<b>Mechanical &amp; Environmental</b>			
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 [4.5 Nm]	
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35 mm <sup>2</sup> (Solid, Stranded) / 25 mm <sup>2</sup> (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 <sup>2</sup> (Solid)	

\*Only applicable to IT power systems where the earth on the distribution transformer is interconnected with the earth on the consumer side (RE=RA in Figure 44.A1 of IEC 60364-4-44:2018).

## Internal Configuration

### Legend

- L Line Conductor Terminal
- ⏏ PE/G Conductor Terminal
- RC Remote Contacts Terminal (Optional)
- TD Thermal Disconnect
- F Integrated Surge Adapted Backup Fuse



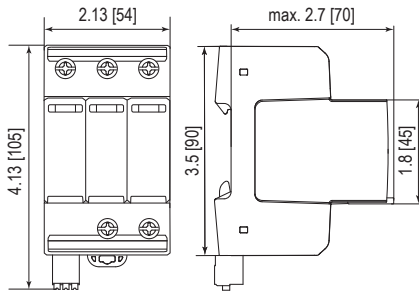
### ProTec T2F-xxx-3+0(-R)

#### Order Information

Order Code	300	440
ProTec T2F-xxx-3+0	59.A254	59.A946
ProTec T2F-xxx-3+0-R (with remote contacts)	59.A255	59.A947
ProTec T2F-xxx-P (plug)	59.A258	59.A950

## Dimensions & Packaging

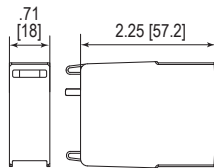
inches [mm]



#### Complete Unit

ProTec T2F-xxx-3+0		300	440
Weight	pounds	.875	.890
	grams	397	404
ProTec T2F-xxx-3+0-R			
Weight	pounds	.897	.912
	grams	407	414
DIN 43880 Dimension	3 TE / 2.13" [54]		
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 Dimensions & Packaging

ProTec T2F-xxx-P		300	440
Weight	pounds	.152	.167
	grams	69	76
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		

# Overvoltage Protection with Integrated Fuse

## ProTec T2F 4+0

Class II • Class III • Type 2 • Type 3



Location of Use: Sub-Distribution Boards  
 Network Systems: TN-S, IT\*(only 440V)  
 Mode of Protection: L-PE, N-PE  
 IEC/EN Category: Class II+III / Type 2+3  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11:2011  
 EN 61643-11:2012+A11:2018

### Technical Data

ProTec T2F-xxx-4+0(-R)		300	440
<b>IEC Electrical</b>			
Nominal AC Voltage (50/60Hz)	$U_o/U_n$	240V	240V
Maximum Continuous Operating Voltage (AC)	$U_c$	300V	440V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20 kA	15 kA
Maximum Discharge Current (8/20 $\mu$ s)	$I_{max}$	40 kA	30 kA
Open Circuit Voltage of Combination Wave Generator (1.2/50 $\mu$ s)	$U_{oc}$	6 kV	6 kV
Short Circuit Current of Combination Wave Generator (8/20 $\mu$ s)	$I_{cw}$	3 kA	3 kA
Voltage Protection Level	$U_p$	1500V	2000V
Response Time	$t_A$	< 25ns	< 25ns
Overcurrent Protection		Not Required	Not Required
Short-Circuit Current Rating (AC)	$I_{SCCR}$	100kA	100kA
TOV Withstand 5s	$U_T$	337V	580V
TOV 120min	$U_T$	442V	630V
	mode	Safe Fail	Safe Fail
Number of Ports		1	
<b>Additional Electrical Parameters - Standard</b> (Tests performed within Raycap testing laboratory only)			
Residual Voltage at 5 kA (8/20 $\mu$ s)	$U_{res}$	1150V	1500V
Overcurrent Protection (min)		Not Required	Not Required
<b>Additional Electrical Parameters - Extended</b> (Additionally tested by VDE)			
Short-Circuit Current Rating (AC)	$I_{SCCR}$	100kA	100kA
<b>Mechanical &amp; Environmental</b>			
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 [4.5 Nm]	
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35 mm <sup>2</sup> (Solid, Stranded) / 25 mm <sup>2</sup> (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 <sup>2</sup> (Solid)	

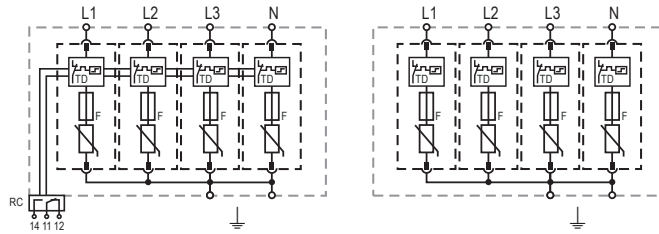
\*Only applicable to IT power systems where the earth on the distribution transformer is interconnected with the earth on the consumer side (RE=RA in Figure 44.A1 of IEC 60364-4-44:2018).



## Internal Configuration

### Legend

- L Line Conductor Terminal
- N Neutral Conductor Terminal
- PE/G Conductor Terminal
- RC Remote Contacts Terminal (Optional)
- TD Thermal Disconnect
- F Integrated Surge Adapted Backup Fuse



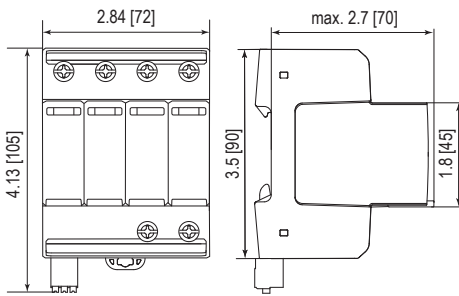
### ProTec T2F-xxx-4+0(-R)

#### Order Information

Order Code	300	440
ProTec T2F-xxx-4+0	59.A256	59.A948
ProTec T2F-xxx-4+0-R (with remote contacts)	59.A257	59.A949
ProTec T2F-xxx-P (plug)	59.A258	59.A950

## Dimensions & Packaging

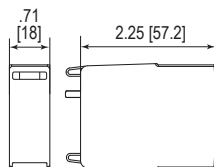
inches [mm]



#### Complete Unit

ProTec T2F-xxx-4+0		300	440
Weight	pounds	1.056	1.071
	grams	479	486
ProTec T2F-xxx-4+0-R			
Weight	pounds	1.078	1.093
	grams	489	496
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 Dimensions & Packaging

ProTec T2F-xxx-P		300	440
Weight	pounds	.152	.167
	grams	69	76
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		



Location of Use: Sub-Distribution Boards  
 Network Systems: TT, TN-S  
 Mode of Protection: L-N, N-PE  
 IEC/EN Category: Class II+III / Type 2+3  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11:2011  
 EN 61643-11:2012+A11:2018

**Technical Data**

**ProTec T2F-xxx-1+1(-R)**

**300**

**IEC Electrical**

Nominal AC Voltage (50/60Hz)	$U_o/U_n$	240V
Maximum Continuous Operating Voltage (AC)	(L-N) $U_c$	300V
	(N-PE) $U_c$	305V
Nominal Discharge Current (8/20 $\mu$ s)	(L-N)/(N-PE) $I_n$	20kA / 40kA
Maximum Discharge Current (8/20 $\mu$ s)	(L-N)/(N-PE) $I_{max}$	40kA / 65kA
Voltage Protection Level	(L-N)/(N-PE) $U_p$	1500V / 1500V
Open Circuit Voltage of Combination Wave Generator (1.2/50 $\mu$ s)	(L-N)/(N-PE) $U_{oc}$	6kV / 6kV
Short Circuit Current of Combination Wave Generator (8/20 $\mu$ s)	(L-N)/(N-PE) $I_{cw}$	3kA / 3kA
Follow Current Interrupt Rating	(N-PE) $I_{fi}$	100A
Response Time	(L-N)/(N-PE) $t_A$	< 25 ns / < 100 ns
Overcurrent Protection		Not Required
Short-Circuit Current Rating (AC)	(L-N) $I_{SCCR}$	100kA
TOV Withstand 5s	(L-N) $U_T$	337V
TOV 120min	(L-N) $U_T$	442V
	mode	Safe Fail
TOV Withstand 200ms	(N-PE) $U_T$	1200V
Number of Ports		1

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

Residual Voltage at 5 kA (8/20 $\mu$ s)	$U_{res}$	1150V
Overcurrent Protection (min)		Not Required

**Additional Electrical Parameters - Extended** (Additionally tested by VDE)

Short-Circuit Current Rating (AC)	$I_{SCCR}$	100kA
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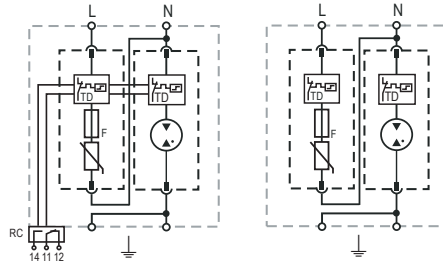
**Mechanical & Environmental**

Operating Temperature Range	$T_a$	-40 °F to +185 °F [-40 °C to +85 °C]
Permissible Operating Humidity	RH	5%...95%
Altitude (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 <sup>2</sup> (Solid, Stranded) / 25 mm <sup>2</sup> (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) / 1.5mm <sup>2</sup> (Solid)

## Internal Configuration

### Legend

- L Line Conductor Terminal
- N Neutral Conductor Terminal
- ⏚ PE/G Conductor Terminal
- RC Remote Contacts Terminal (Optional)
- TD Thermal Disconnecter
- F Integrated Surge Adapted Backup Fuse



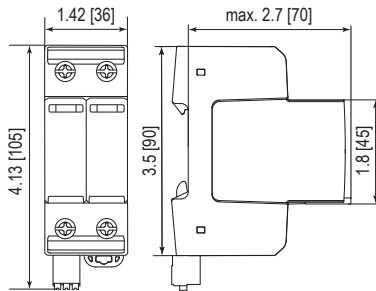
### ProTec T2F-xxx-1+1(-R)

#### Order Information

Order Code	300
ProTec T2F-xxx-1+1	59.A259
ProTec T2F-xxx-1+1-R (with remote contacts)	59.A260
ProTec T2F-xxx-P (plug L-N)	59.A258
ProTube T2F-40-P (plug N-PE)	59.A271

## Dimensions & Packaging

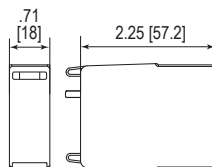
inches [mm]



#### Complete Unit

ProTec T2F-xxx-1+1		300
Weight	pounds	.565
	grams	256
ProTec T2F-xxx-1+1-R		
Weight	pounds	.586
	grams	266
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 Dimensions & Packaging

ProTec T2F-xxx-P		300
Weight	pounds	.152
	grams	69
ProTube T2F-40-P		40
Weight	pounds	.093
	grams	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	



Location of Use: Sub-Distribution Boards  
 Network Systems: TT, TN-S  
 Mode of Protection: L-N, N-PE  
 IEC/EN Category: Class II+III / Type 2+3  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11:2011  
 EN 61643-11:2012+A11:2018

**Technical Data**

**ProTec T2F-xxx-3+1(-R)**

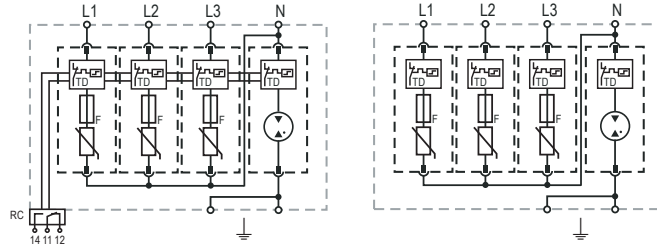
**300**

IEC Electrical		
Nominal AC Voltage (50/60Hz)	$U_o/U_n$	240V
Maximum Continuous Operating Voltage (AC)	(L-N) $U_c$	300V
	(N-PE) $U_c$	305V
Nominal Discharge Current (8/20 $\mu$ s)	(L-N)/(N-PE) $I_n$	20kA / 40kA
Maximum Discharge Current (8/20 $\mu$ s)	(L-N)/(N-PE) $I_{max}$	40kA / 65kA
Voltage Protection Level	(L-N)/(N-PE) $U_p$	1500V / 1500V
Open Circuit Voltage of Combination Wave Generator (1.2/50 $\mu$ s)	(L-N)/(N-PE) $U_{oc}$	6kV / 6kV
Short Circuit Current of Combination Wave Generator (8/20 $\mu$ s)	(L-N)/(N-PE) $I_{cw}$	3kA / 3kA
Follow Current Interrupt Rating	(N-PE) $I_{fi}$	100A
Response Time	(L-N)/(N-PE) $t_A$	< 25 ns / < 100 ns
Overcurrent Protection		Not Required
Short-Circuit Current Rating (AC)	(L-N) $I_{SCCR}$	100kA
TOV Withstand 5s	(L-N) $U_T$	337V
TOV 120min	(L-N) $U_T$	442V
	mode	Safe Fail
TOV Withstand 200ms	(N-PE) $U_T$	1200V
Number of Ports		1
Additional Electrical Parameters - Standard (Tests performed within Raycap testing laboratory only)		
Residual Voltage at 5 kA (8/20 $\mu$ s)	$U_{res}$	1150V
Overcurrent Protection (min)		Not Required
Additional Electrical Parameters - Extended (Additionally tested by VDE)		
Short-Circuit Current Rating (AC)	$I_{SCCR}$	100kA
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 <sup>2</sup> (Solid, Stranded) / 25 mm <sup>2</sup> (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) / 1.5mm <sup>2</sup> (Solid)

## Internal Configuration

### Legend

- L Line Conductor Terminal
- N Neutral Conductor Terminal
- ⏏ PE/G Conductor Terminal
- RC Remote Contacts Terminal (Optional)
- TD Thermal Disconnect
- F Integrated Surge Adapted Backup Fuse



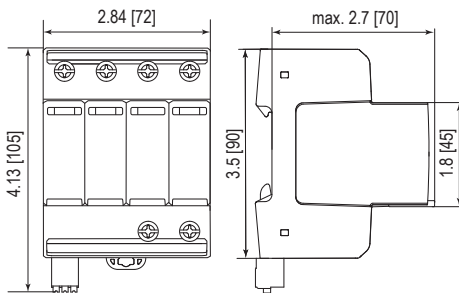
### ProTec T2F-xxx-3+1(-R)

#### Order Information

Order Code	300
ProTec T2F-xxx-3+1	59.A261
ProTec T2F-xxx-3+1-R (with remote contacts)	59.A262
ProTec T2F-xxx-P (plug L-N)	59.A258
ProTube T2F-40-P (plug N-PE)	59.A271

## Dimensions & Packaging

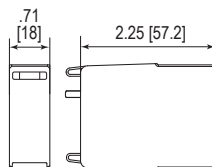
inches [mm]



#### Complete Unit

ProTec T2F-xxx-3+1		300
Weight	pounds	1.032
	grams	468
ProTec T2F-xxx-3+1-R		
Weight	pounds	1.054
	grams	478
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 Dimensions & Packaging

ProTec T2F-xxx-P		300
Weight	pounds	.152
	grams	69
ProTube T2F-40-P		40
Weight	pounds	.093
	grams	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	