

Combined Lightning Current and Surge Arrester

ProTec 60 T1H, T1, T2 and T2F Series

Special features:

- For TN-C, TT and TN-S network systems
- Plugs available with Type 1 or Type 2 surge protection; and Type 2 with integrated fuse
- Better overall voltage protection levels due to less wiring
- Visual status monitoring of SPD and fuse (T2F) available via remote signalization
- Can be used with a variety of busbar widths and thickness
- Reduces installation cost and space requirements
- Shorter wiring time and minimized complexity
- Pluggable concept enables fast & simplified installation
- Shorter connecting cables improve voltage protection level across installation points



IEC 61643-11:2011



EN 61643-11:2012 +A11:2018



The Raycap ProTec 60mm Busbar series reduces installation time and space requirements, and enables fast and simplified installation. Shorter connecting cables improve the overall voltage protection level, providing optimal electrical protection to the installation.



More Product Information



Combined Lightning Current and Surge Arrester

ProTec 60 T1H 3+0

Class I • Class II • Type 1 • Type 2



Location of Use: Main Distribution Boards,
60mm Busbar Systems

Network Systems: TN-C

Mode of Protection: L-PEN

IEC/EN: Class I+II / Type 1+2

Housing: Pluggable design

Compliance: IEC 61643-11:2011
EN 61643-11:2012 + A11:2018

Technical Data

ProTec 60 T1H-xxx-3+0(-R)

300

IEC Electrical

Nominal AC Voltage (50/60Hz)	U_o/U_n	240 V
Maximum Continuous Operating Voltage (AC)	U_c	300 V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA
Maximum Discharge Current (8/20 μ s)	I_{max}	65 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	< 25ns
Overcurrent Protection (max)		160 A gG
Short-Circuit Current Rating (AC)	I_{SCCR}	25 kA
TOV Withstand 5s	U_T	337 V
TOV Safe Fail 120min	U_T	442 V
Number of Ports		1

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}	PH2 / 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		60mm Busbar Systems Width: 12, 15, 20, 25, 30mm Thickness: 5mm, 10mm (with removed spacers)
Degree Of Protection		IP 20*
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0
Operating State / Fault Indication		Green Flag / Not Green Flag
Remote Contacts (RC)		Optional
RC Switching Capacity		AC: 250V/1 A, 125V/1 A; DC: 48V/0.5A, 24V/0.5A, 12V/0.5A
RC Conductor Cross Section (max)		16 AWG (Solid) / 1.5 mm ² (Solid)

Order Information

Order Code	300
ProTec 60 T1H-xxx-3+0	515 961
ProTec 60 T1H-xxx-3+0-R (with remote contacts)	515 962
ProTec T1H-xxx-P (plug)	59.C384

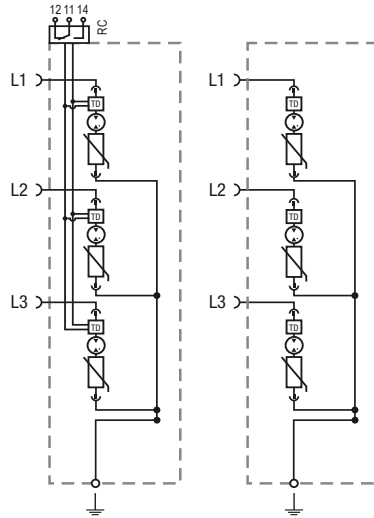
*IP 40 (in combination with cover)

ProTec 60 T1H 3+0

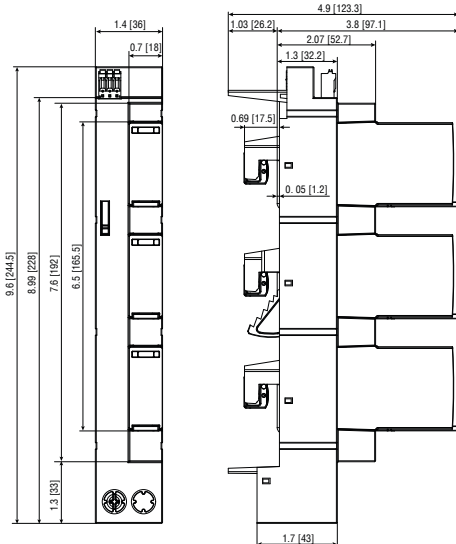
Internal Configuration

Legend

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



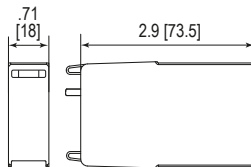
Complete Unit



Complete Unit Dimensions & Packaging

ProTec T1H-xxx-3+0		300
Weight	pounds [grams]	1.232 [559]
Packaging Dimensions (HxWxL)		270 × 375 × 395" [10.6 × 14.8 × 15.5]
ProTec T1H-xxx-3+0-R		300
Weight	pounds [grams]	1.250 [567]
Packaging Dimensions (HxWxL)		270 × 375 × 395" [10.6 × 14.8 × 15.5]
Standard Order Quantity		20 Units

Spare Unit



Single Unit

ProTec T1H-xxx-P		300
Weight	pounds [grams]	.223 [101]
DIN 43880 Dimension		1 TE / .71 [18]
Packaging Dimensions (HxWxL)		4.3 × 4.5 × 13.8" [109 × 115 × 352 mm]
Standard Order Quantity		28 Units

inches
[mm]

Information contained in this document is subject to change at any time without notice.



Combined Lightning Current and Surge Arrester

ProTec 60 T1H 3+1

Class I • Class II • Type 1 • Type 2



Location of Use: Main Distribution Boards,
60mm Busbar Systems

Network Systems: TT, TN-S

Mode of Protection: L-N, N-PE

IEC/EN: Class I+II / Type 1+2

Housing: Pluggable design

Compliance: IEC 61643-11:2011
EN 61643-11:2012 + A11:2018

Technical Data

ProTec 60 T1H-xxx-3+1(-R)

300

IEC Electrical

Nominal AC Voltage (50/60Hz)	U_o / U_n	240 V
Maximum Continuous Operating Voltage (AC)	(L-N) U_c	300 V
	(N-PE) U_c	305 V
Nominal Discharge Current (8/20 μ s)	(L-N)/(N-PE) I_n	20 kA / 80 kA
Maximum Discharge Current (8/20 μ s)	(L-N)/(N-PE) I_{max}	65 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 / 25As
Voltage Protection Level	(L-N)/(N-PE) U_p	1500V / 1500V
Follow Current Interrupt Rating	(N-PE) I_{fi}	100A
Response Time	(L-N)/(N-PE) t_A	< 25ns / < 100ns
Overcurrent Protection (max)		160 A gG
Short-Circuit Current Rating (AC)	I_{SCCR}	25 kA
TOV Withstand 5s	(L-N) U_T	337 V
TOV Safe Fail 120min	(L-N) U_T	442 V
TOV Withstand 200ms	(N-PE) U_T	1200 V
Number of Ports		1

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}	PH2 / 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		60mm Busbar Systems
		Width: 12, 15, 20, 25, 30mm
		Thickness: 5mm, 10mm (with removed spacers)
Degree Of Protection		IP 20*
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0
Operating State / Fault Indication		Green Flag / Not Green Flag
Remote Contacts (RC)		Optional
RC Switching Capacity		AC: 250V/1 A, 125V/1 A; DC: 48V/0.5 A, 24V/0.5 A, 12V/0.5 A
RC Conductor Cross Section (max)		16 AWG (Solid) / 1.5 mm ² (Solid)

Order Information

Order Code	300
ProTec 60 T1H-xxx-3+1	515 963
ProTec 60 T1H-xxx-3+1-R (with remote contacts)	515 964
ProTec T1H-xxx-P (plug)	59.C384

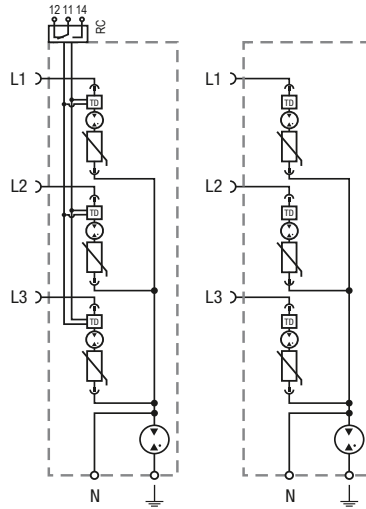
*IP 40 (in combination with cover)

ProTec 60 T1H 3+1

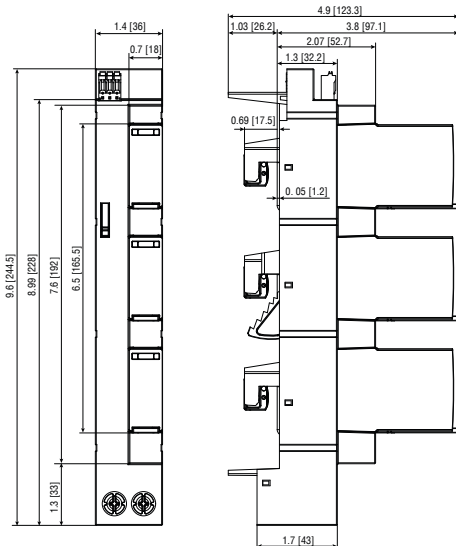
Internal Configuration

Legend

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



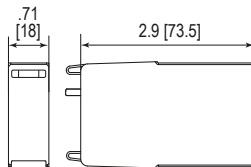
Complete Unit



Complete Unit Dimensions & Packaging

ProTec 60 T1H-xxx-3+1		300
Weight	pounds [grams]	1.325 [601]
Packaging Dimensions (HxWxL)		270 × 375 × 395" [10.6 × 14.8 × 15.5]
ProTec 60 T1H-xxx-3+1-R		300
Weight	pounds [grams]	1.340 [608]
Packaging Dimensions (HxWxL)		270 × 375 × 395" [10.6 × 14.8 × 15.5]
Standard Order Quantity		20 Units

Spare Unit



Single Unit

ProTec T1H-xxx-P		300
Weight	pounds [grams]	.223 [101]
DIN 43880 Dimension		1 TE / .71 [18]
Packaging Dimensions (HxWxL)		4.3 × 4.5 × 13.8" [109 × 115 × 352 mm]
Standard Order Quantity		28 Units

inches
[mm]

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Combined Lightning Current and Surge Arrester

ProTec 60 T1 3+0

Class I • Class II • Type 1 • Type 2



Location of Use: Main Distribution Boards,
60 mm Busbar Systems

Network Systems: TN-C

Mode of Protection: L-PEN

IEC/EN: Class I+II / Type 1+2

Housing: Pluggable design

Compliance: IEC 61643-11:2011

EN 61643-11:2012 + A11:2018

Technical Data

ProTec 60 T1-xxx-3+0(-R)

300

IEC Electrical

Nominal AC Voltage (50/60Hz)	U_o/U_n	240 V
Maximum Continuous Operating Voltage (AC)	U_c	300 V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA
Maximum Discharge Current (8/20 μ s)	I_{max}	50 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	< 25ns
Overcurrent Protection (max)		160 A gG
Short-Circuit Current Rating (AC)	I_{SCCR}	25 kA
TOV Withstand 5s	U_T	337 V
TOV Safe Fail 120min	U_T	442 V
Number of Ports		1

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}	PH2 / 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		60 mm Busbar Systems Width: 12, 15, 20, 25, 30 mm Thickness: 5 mm, 10 mm (with removed spacers)
Degree Of Protection		IP 20*
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0
Operating State / Fault Indication		Green Flag / Not Green Flag
Remote Contacts (RC)		Optional
RC Switching Capacity		AC: 250V/1 A, 125V/1 A; DC: 48V/0.5A, 24V/0.5A, 12V/0.5A
RC Conductor Cross Section (max)		16 AWG (Solid) / 1.5 mm ² (Solid)

Order Information

Order Code	300
ProTec 60 T1-xxx-3+0	515 943
ProTec 60 T1-xxx-3+0-R (with remote contacts)	515 944
ProTec T1-xxx-P (plug)	59.C345

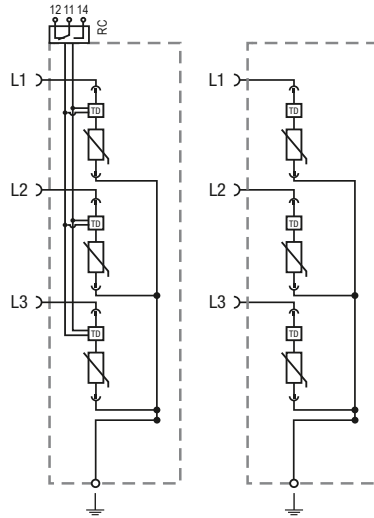
*IP 40 (in combination with cover)

ProTec 60 T1 3+0

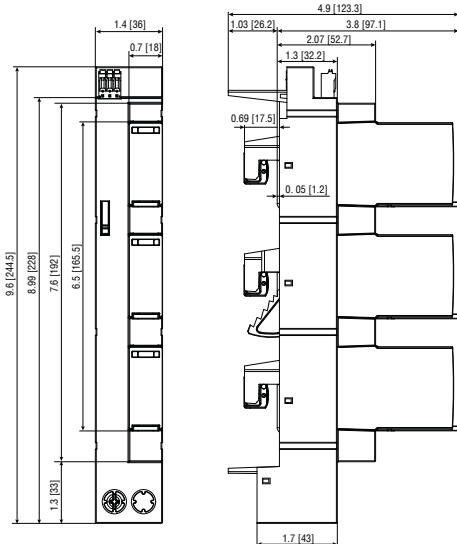
Internal Configuration

Legend

- L Line Busbar Terminal
- ⊥ PEN Conductor Terminal
- RC Remote Contacts Terminal (Optional)
- TD Thermal Disconnect



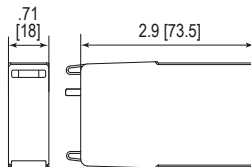
Complete Unit



Complete Unit Dimensions & Packaging

ProTec T1-xxx-3+0		300
Weight	pounds [grams]	1.252 [568]
Packaging Dimensions (HxWxL)		270 × 375 × 395" [10.6 × 14.8 × 15.5]
ProTec T1-xxx-3+0-R		300
Weight	pounds [grams]	1.270 [576]
Packaging Dimensions (HxWxL)		270 × 375 × 395" [10.6 × 14.8 × 15.5]
Standard Order Quantity		20 Units

Spare Unit



Single Unit

ProTec T1-xxx-P		300
Weight	pounds [grams]	.229 [104]
DIN 43880 Dimension		1 TE / .71 [18]
Packaging Dimensions (HxWxL)		4.3 × 4.5 × 13.8" [109 × 115 × 352 mm]
Standard Order Quantity		28 Units

inches
[mm]

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Combined Lightning Current and Surge Arrester

ProTec 60 T1 3+1

Class I • Class II • Type 1 • Type 2



Location of Use: Main Distribution Boards,
60mm Busbar Systems

Network Systems: TT, TN-S

Mode of Protection: L-N, N-PE

IEC/EN: Class I+II / Type 1+2

Housing: Pluggable design

Compliance: IEC 61643-11:2011

EN 61643-11:2012 + A11:2018

Technical Data

ProTec 60 T1-xxx-3+1(-R)

300

IEC Electrical

Nominal AC Voltage (50/60Hz)	U_o / U_n	240 V
Maximum Continuous Operating Voltage (AC)	(L-N) U_c	300 V
	(N-PE) U_c	305 V
Nominal Discharge Current (8/20 μ s)	(L-N)/(N-PE) I_n	20 kA / 80 kA
Maximum Discharge Current (8/20 μ s)	(L-N)/(N-PE) I_{max}	50 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 / 25As
Voltage Protection Level	(L-N)/(N-PE) U_p	1500V / 1500V
Follow Current Interrupt Rating	(N-PE) I_{fi}	100A
Response Time	(L-N)/(N-PE) t_A	< 25ns / < 100ns
Overcurrent Protection (max)		160 A gG
Short-Circuit Current Rating (AC)	I_{SCCR}	25 kA
TOV Withstand 5s	(L-N) U_T	337 V
TOV Safe Fail 120min	(L-N) U_T	442 V
TOV Withstand 200ms	(N-PE) U_T	1200 V
Number of Ports		1

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}	PH2 / 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		60mm Busbar Systems
		Width: 12, 15, 20, 25, 30mm
		Thickness: 5mm, 10mm (with removed spacers)
Degree Of Protection		IP 20*
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0
Operating State / Fault Indication		Green Flag / Not Green Flag
Remote Contacts (RC)		Optional
RC Switching Capacity		AC: 250V/1 A, 125V/1 A; DC: 48V/0.5 A, 24V/0.5 A, 12V/0.5 A
RC Conductor Cross Section (max)		16 AWG (Solid) / 1.5 mm ² (Solid)

Order Information

Order Code	300
ProTec 60 T1-xxx-3+1	515 949
ProTec 60 T1-xxx-3+1-R (with remote contacts)	515 950
ProTec T1-xxx-P (plug)	59.C345

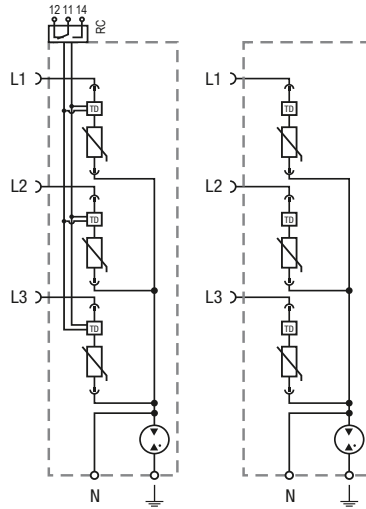
*IP 40 (in combination with cover)

ProTec 60 T1 3+1

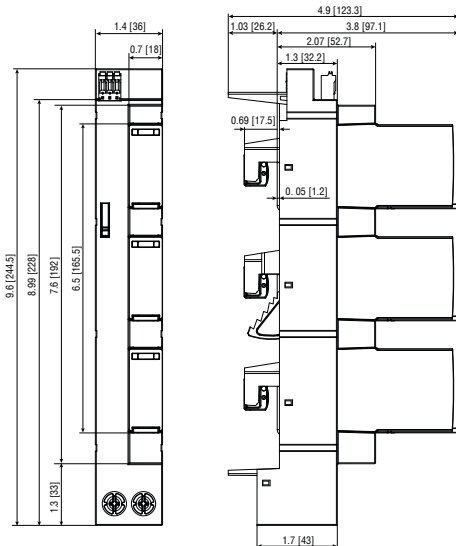
Internal Configuration

Legend

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



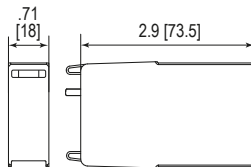
Complete Unit



Complete Unit Dimensions & Packaging

ProTec 60 T1-xxx-3+1		300
Weight	pounds [grams]	1.345 [610]
Packaging Dimensions (HxWxL)		270 × 375 × 395" [10.6 × 14.8 × 15.5]
ProTec 60 T1-xxx-3+1-R		300
Weight	pounds [grams]	1.360 [617]
Packaging Dimensions (HxWxL)		270 × 375 × 395" [10.6 × 14.8 × 15.5]
Standard Order Quantity		20 Units

Spare Unit



Single Unit

ProTec T1-xxx-P		300
Weight	pounds [grams]	.229 [104]
DIN 43880 Dimension		1 TE / .71 [18]
Packaging Dimensions (HxWxL)		4.3 × 4.5 × 13.8" [109 × 115 × 352 mm]
Standard Order Quantity		28 Units

inches
[mm]

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Combined Lightning Current and Surge Arrester

ProTec 60 T2F 3+0

Class II • Class III • Type 2 • Type 3



Location of Use: Main Distribution Boards,
60 mm Busbar Systems

Network Systems: TN-C

Mode of Protection: L-PEN

IEC/EN: Class II+III / Type 2+3

Housing: Pluggable design

Compliance: IEC 61643-11:2011

EN 61643-11:2012 + A11:2018

Technical Data

ProTec 60 T2F-xxx-3+0-(R)

300

IEC Electrical

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

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}	PH2 / 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		60 mm Busbar Systems Width: 12, 15, 20, 25, 30 mm Thickness: 5 mm, 10 mm (with removed spacers)
Degree Of Protection		IP 20*
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0
Operating State / Fault Indication		Green Flag / Not Green Flag
Remote Contacts (RC)		Optional
RC Switching Capacity		AC: 250V/1 A, 125V/1 A; DC: 48V/0.5A, 24V/0.5A, 12V/0.5A
RC Conductor Cross Section (max)		16 AWG (Solid) / 1.5 mm ² (Solid)

Order Information

Order Code	300
ProTec 60 T2F-xxx-3+0	515 945
ProTec 60 T2F-xxx-3+0-R (with remote contacts)	515 946
ProTec T2F-xxx-P (plug)	59.C347

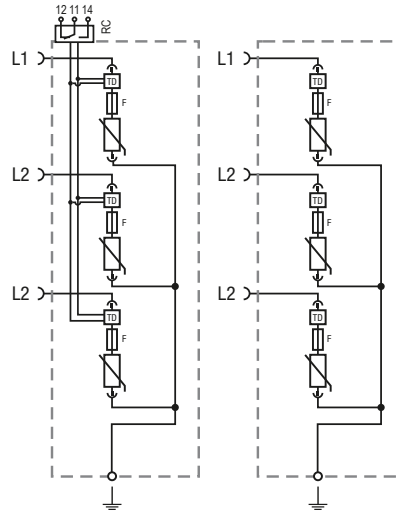
*IP 40 (in combination with cover)

ProTec 60 T2F 3+0

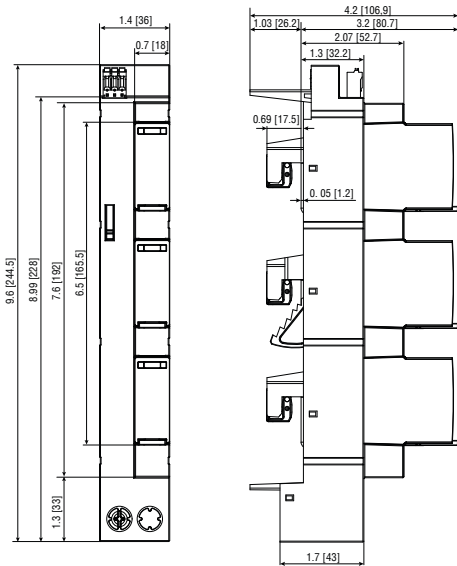
Internal Configuration

Legend

- L Line Busbar Terminal
- ⏚ PEN Conductor Terminal
- RC Remote Contacts Terminal (Optional)
- TD Thermal Disconnect
- F Integrated Surge Adapted Backup Fuse



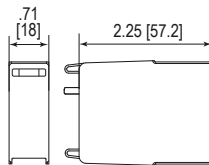
Complete Unit



Complete Unit Dimensions & Packaging

ProTec 60 T2F-xxx-3+0		300
Weight	pounds [grams]	1.021 [463]
Packaging Dimensions (HxWxL)		270 × 375 × 395" [10.6 × 14.8 × 15.5]
ProTec 60 T2F-xxx-3+0-R		300
Weight	pounds [grams]	1.038 [471]
Packaging Dimensions (HxWxL)		270 × 375 × 395" [10.6 × 14.8 × 15.5]
Standard Order Quantity		20 Units

Spare Unit



Single Unit

ProTec T2F-xxx-P		300
Weight	pounds [grams]	.152 [69]
DIN 43880 Dimension		1 TE / .71 [18]
Packaging Dimensions (HxWxL)		3.2 × 4.5 × 12" [83 × 116 × 305 mm]
Standard Order Quantity		24 Units

inches
[mm]

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Combined Lightning Current and Surge Arrester

ProTec 60 T2F 3+1

Class II • Class III • Type 2 • Type 3



Location of Use: Main Distribution Boards,
60mm Busbar Systems

Network Systems: TT, TN-S

Mode of Protection: L-N, N-PE

IEC/EN: Class II+III / Type 2+3

Housing: Pluggable design

Compliance: IEC 61643-11:2011
EN 61643-11:2012 + A11:2018

Technical Data

ProTec 60 T2F-xxx-3+1(-R)

300

IEC Electrical

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

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}	PH2 / 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		60mm Busbar Systems
		Width: 12, 15, 20, 25, 30 mm
		Thickness: 5 mm, 10 mm (with removed spacers)
Degree Of Protection		IP 20*
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0
Operating State / Fault Indication		Green Flag / Not Green Flag
Remote Contacts (RC)		Optional
RC Switching Capacity		AC: 250V/1 A, 125V/1 A; DC: 48V/0.5A, 24V/0.5A, 12V/0.5A
RC Conductor Cross Section (max)		16 AWG (Solid) / 1.5 mm ² (Solid)

Order Information

Order Code	300
ProTec 60 T2F-xxx-3+1	515 951
ProTec 60 T2F-xxx-3+1-R (with remote contacts)	515 952
ProTec T2F-xxx-P (plug)	59.C347

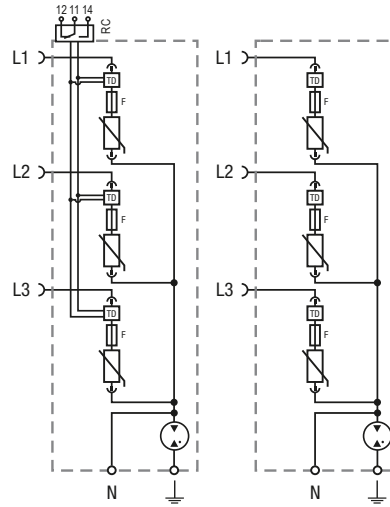
*IP 40 (in combination with cover)

ProTec 60 T2F 3+1

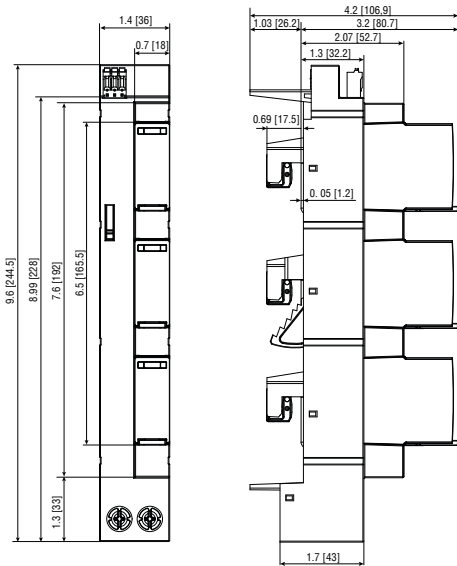
Internal Configuration

Legend

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



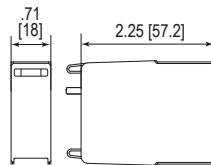
Complete Unit



Complete Unit Dimensions & Packaging

ProTec 60 T2F-xxx-3+1		300
Weight	pounds [grams]	1.100 [499]
Packaging Dimensions (HxWxL)		270 × 375 × 395" [10.6 × 14.8 × 15.5]
ProTec 60 T2F-xxx-3+1-R		300
Weight	pounds [grams]	1.118 [507]
Packaging Dimensions (HxWxL)		270 × 375 × 395" [10.6 × 14.8 × 15.5]
Standard Order Quantity		20 Units

Spare Unit



Single Unit

ProTec T2F-xxx-P		300
Weight	pounds [grams]	.152 [69]
DIN 43880 Dimension		1 TE / .71 [18]
Packaging Dimensions (HxWxL)		3.2 × 4.5 × 12" [83 × 116 × 305 mm]
Standard Order Quantity		24 Units

inches
[mm]

Information contained in this document is subject to change at any time without notice.

Combined Lightning Current and Surge Arrester

ProTec 60 T2 3+0

Class II • Type 2



Location of Use: Main Distribution Boards,
60 mm Busbar Systems

Network Systems: TN-C

Mode of Protection: L-PEN

IEC/EN: Class II / Type 2

Housing: Pluggable design

Compliance: IEC 61643-11:2011
EN 61643-11:2012 + A11:2018

Technical Data

ProTec 60 T2-xxx-3+0(-R)

300

IEC Electrical

Nominal AC Voltage (50/60Hz)	U_o / U_n	240 V
Maximum Continuous Operating Voltage (AC)	U_c	300 V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA
Maximum Discharge Current (8/20 μ s)	I_{max}	50 kA
Voltage Protection Level	U_p	1500 V
Response Time	t_A	< 25 ns
Overcurrent Protection (max)		160 A gG
Short-Circuit Current Rating (AC)	I_{SCCR}	25 kA
TOV Withstand 5s	U_T	337 V
TOV Safe Fail 120min	U_T	442 V
Number of Ports		1

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}	PH2 / 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		60 mm Busbar Systems Width: 12, 15, 20, 25, 30 mm Thickness: 5 mm, 10 mm (with removed spacers)
Degree Of Protection		IP 20*
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0
Operating State / Fault Indication		Green Flag / Not Green Flag
Remote Contacts (RC)		Optional
RC Switching Capacity		AC: 250V/1 A, 125V/1 A; DC: 48V/0.5A, 24V/0.5A, 12V/0.5A
RC Conductor Cross Section (max)		16 AWG (Solid) / 1.5 mm ² (Solid)

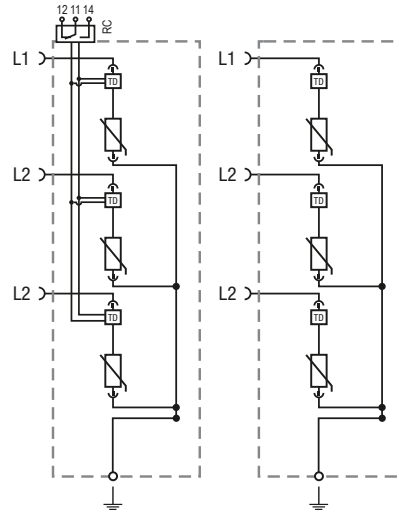
Order Information

Order Code	300
ProTec 60 T2-xxx-3+0	515 933
ProTec 60 T2-xxx-3+0-R (with remote contacts)	515 942
ProTec T2-xxx-P (plug)	59.C346

*IP 40 (in combination with cover)

ProTec 60 T2 3+0

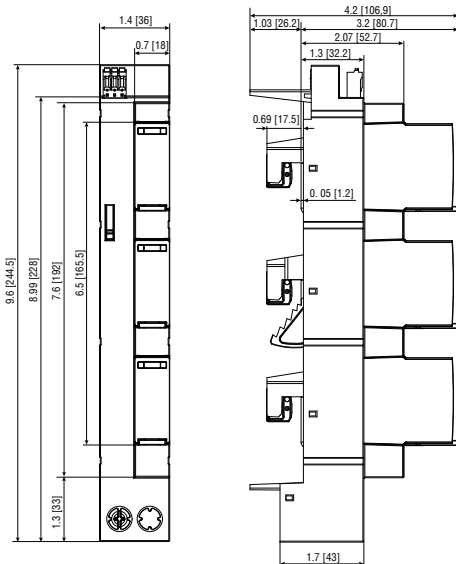
Internal Configuration



Legend

- L Line Busbar Terminal
- ⊥ PEN Conductor Terminal
- RC Remote Contacts Terminal (Optional)
- TD Thermal Disconnecter

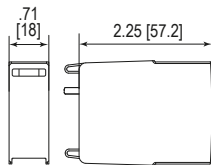
Complete Unit



Complete Unit Dimensions & Packaging

ProTec 60 T2-xxx-3+0		300
Weight	pounds [grams]	.955 [433]
Packaging Dimensions (HxWxL)		270 × 375 × 395" [10.6 × 14.8 × 15.5]
ProTec 60 T2-xxx-3+0-R		300
Weight	pounds [grams]	.972 [441]
Packaging Dimensions (HxWxL)		270 × 375 × 395" [10.6 × 14.8 × 15.5]
Standard Order Quantity		20 Units

Spare Unit



Single Unit

ProTec T2-xxx-P		300
Weight	pounds [grams]	.130 [59]
DIN 43880 Dimension		1 TE / .71 [18]
Packaging Dimensions (HxWxL)		3.2 × 4.5 × 12" [83 × 116 × 305 mm]
Standard Order Quantity		24 Units

inches
[mm]

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Combined Lightning Current and Surge Arrester

ProTec 60 T2 3+1

Class II • Type 2



Location of Use: Main Distribution Boards,
60mm Busbar Systems

Network Systems: TT, TN-S

Mode of Protection: L-N, N-PE

IEC/EN: Class II / Type 2

Housing: Pluggable design

Compliance: IEC 61643-11:2011
EN 61643-11:2012 + A11:2018

Technical Data

ProTec 60 T2-xxx-3+1(-R)

300

IEC Electrical

Nominal AC Voltage (50/60Hz)	U_o / U_n	240 V
Maximum Continuous Operating Voltage (AC)	(L-N) U_c	300 V
	(N-PE) U_c	305 V
Nominal Discharge Current (8/20 μ s)	(L-N)/(N-PE) I_n	20 kA / 40 kA
Maximum Discharge Current (8/20 μ s)	(L-N)/(N-PE) I_{max}	50 kA / 65 kA
Voltage Protection Level	(L-N)/(N-PE) U_p	1500 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
Overcurrent Protection (max)		160 A gG
Short-Circuit Current Rating (AC)	I_{SCCR}	25 kA
TOV Withstand 5s	(L-N) U_T	337 V
TOV Safe Fail 120min	(L-N) U_T	442 V
TOV Withstand 200ms	(N-PE) U_T	1200 V
Number of Ports		1

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}	PH2 / 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		60mm Busbar Systems
		Width: 12, 15, 20, 25, 30 mm
		Thickness: 5 mm, 10 mm (with removed spacers)
Degree Of Protection		IP 20*
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0
Operating State / Fault Indication		Green Flag / Not Green Flag
Remote Contacts (RC)		Optional
RC Switching Capacity		AC: 250V/1 A, 125V/1 A; DC: 48V/0.5A, 24V/0.5A, 12V/0.5A
RC Conductor Cross Section (max)		16 AWG (Solid) / 1.5 mm ² (Solid)

Order Information

Order Code	300
ProTec 60 T2-xxx-3+1	515 947
ProTec 60 T2-xxx-3+1-R (with remote contacts)	515 948
ProTec T2-xxx-P (plug)	59.C346

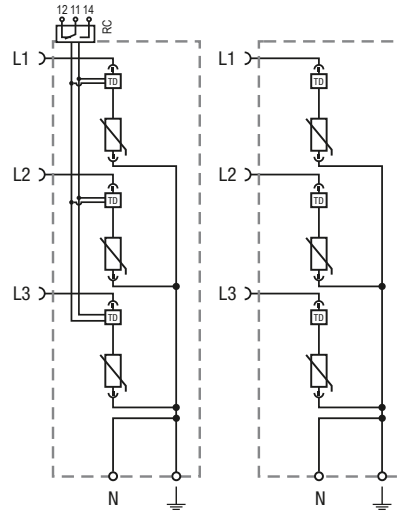
*IP 40 (in combination with cover)

ProTec 60 T2 3+1

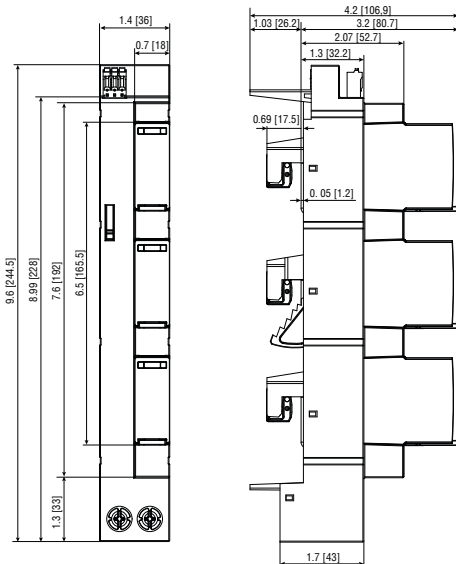
Internal Configuration

Legend

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



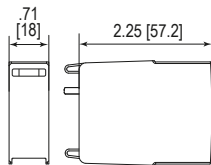
Complete Unit



Complete Unit Dimensions & Packaging

ProTec 60 T2-xxx-3+1		300
Weight	pounds [grams]	1.034 [469]
Packaging Dimensions (HxWxL)		270 × 375 × 395" [10.6 × 14.8 × 15.5]
ProTec 60 T2-xxx-3+1-R		300
Weight	pounds [grams]	1.052 [477]
Packaging Dimensions (HxWxL)		270 × 375 × 395" [10.6 × 14.8 × 15.5]
Standard Order Quantity		20 Units

Spare Unit



Single Unit

ProTec T2-xxx-P		300
Weight	pounds [grams]	.130 [59]
DIN 43880 Dimension		1 TE / .71 [18]
Packaging Dimensions (HxWxL)		3.2 × 4.5 × 12" [83 × 116 × 305 mm]
Standard Order Quantity		24 Units

inches
[mm]

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