

Compact Multi-pole Surge Protective Devices (SPDs)



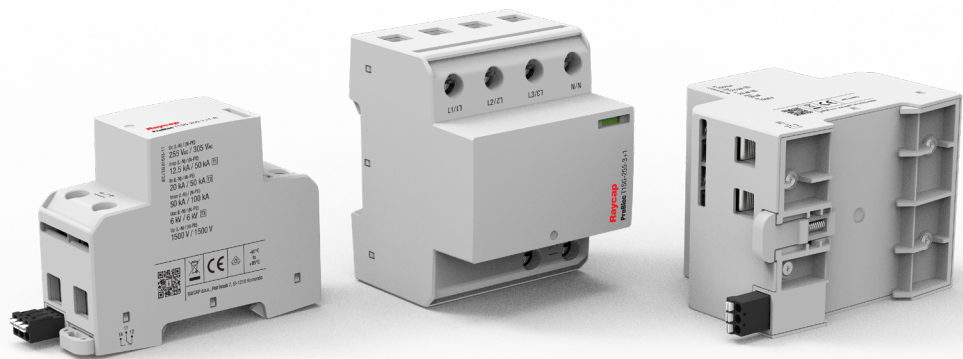
Overvoltage Protection (SG Technology)

ProBloc T1SG Series



Special features:

- Leakage-current free design
- Single-cell spark gap technology providing a very low clamping voltage, unmatched protection of downstream equipment and carefree coordination with downstream Type 2 and Type 3 SPDs
- Robust monobloc design endures the highest stresses and assures non-disruptive end-of-life disconnection
- Available configurations for TN-C, TN-S, TN-C-S, TT single and 3 phase systems



IEC 61643-11:2011

EN 61643-11:2012+A11:2018



The developed spark gap technology controls and limits the follow currents to negligible values with a patented inverted-plate design of the arc-extinguishing chamber. Negligible follow currents enhance SPD lifetime and minimize nuisance tripping of upstream overcurrent protection, ensuring uninterrupted power reliability. Due to the advantageous single-cell design, clamping voltages remain unaffected and at the lowest values. Low clamping voltage provides the ultimate equipment protection by suppressing the surge energy from propagating further downstream of the ProBloc T1SG SPD. The minimization of let-through energy provides worry free coordination with Type 2 and Type 3 SPDs. In contrast to classical spark gap technology which has difficulties meeting prospective short-circuit requirements, the ProBloc T1SG can be used in installations with prospective currents as high as 25 kA.



More Product Information



ProBloc T1SG 3+0**Class I • Class II • Class III • Type 1 • Type 2 • Type 3**

Location of Use: Main Distribution Boards
 Network Systems: TN-C
 Mode of Protection: L-PEN
 IEC/EN Category: Class I+II+III / Type 1+2+3
 Technology: Spark Gap
 Leakage Current Free: Yes
 Housing: Compact Design
 Compliance: IEC 61643-11:2011
 EN 61643-11:2012+A11:2018

**Technical Data****ProBloc T1SG-xxx-3+0(-R)****255****IEC Electrical**

Nominal AC Voltage (50/60Hz)	U_o / U_n	240 V
Maximum Continuous Operating Voltage (AC)	U_c	255 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
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 kA
Voltage Protection Level	U_p	1500 V
Response Time	t_A	< 100 ns
Overvoltage Category		III
Maximum Backup fuse, if required		250 A gG
Short-Circuit Current Rating (AC)	I_{SCCR}	25 kA
Follow Current Interrupt Rating (AC)	I_{fi}	25 kA
TOV Withstand 120min	U_T	442 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}	1200 V
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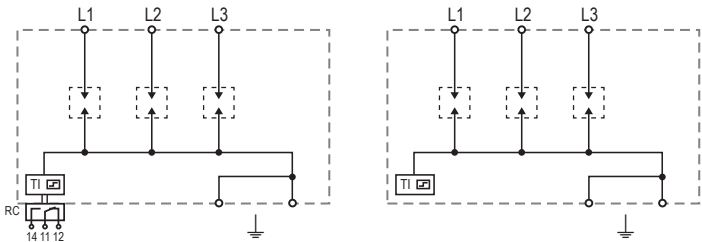
Mechanical & Environmental

Operating Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]
Permissible Operating Humidity	RH	5%...95%
Altitude (max)		13123 ft [4000 m]
Terminal Screw Torque	M_{max}	40 lbf-in [4.5 Nm]
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)
Mounting		35 mm DIN Rail, EN 60715
Degree of Protection		IP 20 (built-in)
Operating State / Fault Indication		Green Flag / Not Green Flag
Remote Contacts (RC)		Optional
RC Switching Capacity		AC: 250 V/0.5 A, 125 V/0.1 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
- ⏏ PEN Conductor Terminal
- RC Remote Contacts Terminal (Optional)
- TI Thermal Indicator



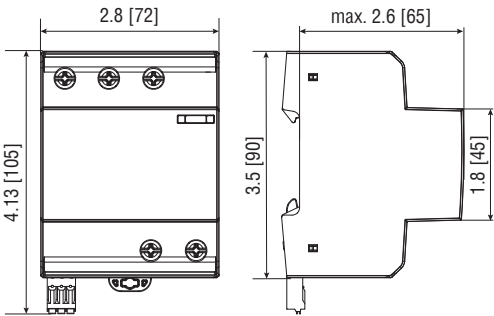
ProBloc T1SG-xxx-3+0(-R)

Order Information

Order Code	255
ProBloc T1SG-xxx-3+0	53.0005
ProBloc T1SG-xxx-3+0-R (with remote contacts)	53.0006

Dimensions & Packaging

inches [mm]



Complete Unit

ProBloc T1SG-xxx-3+0	255
Weight	pounds [grams]
	0.860 [390]
ProBloc T1SG-xxx-3+0-R	
Weight	pounds [grams]
	0.864 [392]
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

ProBloc T1SG 4+0

Class I • Class II • Class III • Type 1 • Type 2 • Type 3



Location of Use: Main Distribution Boards
 Network Systems: TN-S
 Mode of Protection: L-PE, N-PE
 IEC/EN Category: Class I+II+III / Type 1+2+3
 Technology: Spark Gap
 Leakage Current Free: Yes
 Housing: Compact Design
 Compliance: IEC 61643-11:2011
 EN 61643-11:2012+A11:2018



RoHS COMPLIANT

Technical Data**ProBloc T1SG-xxx-4+0(-R)****255****IEC Electrical**

Nominal AC Voltage (50/60Hz)	U_o / U_n	240 V
Maximum Continuous Operating Voltage (AC)	U_c	255 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
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 kA
Voltage Protection Level	U_p	1500 V
Response Time	t_A	< 100 ns
Overvoltage Category		III
Maximum Backup fuse, if required		250 A gG
Short-Circuit Current Rating (AC)	I_{SCCR}	25 kA
Follow Current Interrupt Rating (AC)	(L-PE) / (N-PE) I_{fi}	25 kA / 100 A
TOV Withstand 120min	(L-PE) U_T	442 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-PE) / (N-PE) U_{res}	1200 V / 255 V
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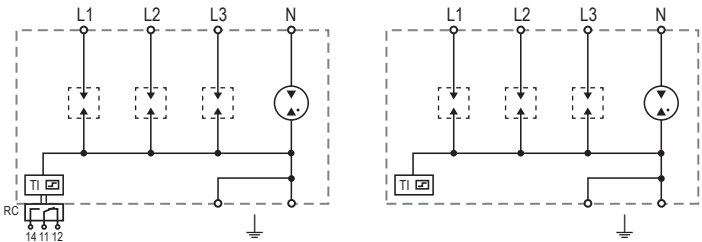
Mechanical & Environmental

Operating Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]
Permissible Operating Humidity	RH	5%...95%
Altitude (max)		13123 ft [4000 m]
Terminal Screw Torque	M_{max}	40 lbf-in [4.5 Nm]
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)
Mounting		35 mm DIN Rail, EN 60715
Degree of Protection		IP 20 (built-in)
Operating State / Fault Indication		Green Flag / Not Green Flag
Remote Contacts (RC)		Optional
RC Switching Capacity		AC: 250 V/0.5 A, 125 V/0.1 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 Conductor Terminal
- RC Remote Contacts Terminal (Optional)
- TI Thermal Indicator



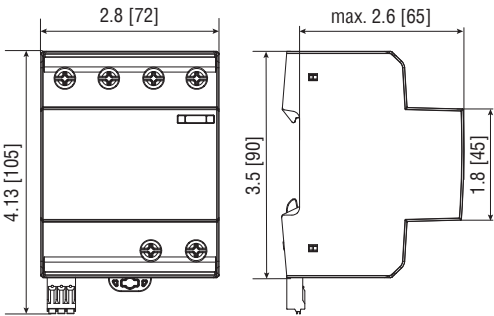
ProBloc T1SG-xxx-4+0(-R)

Order Information

Order Code	255
ProBloc T1SG-xxx-4+0	53.0009
ProBloc T1SG-xxx-4+0-R (with remote contacts)	53.0010

Dimensions & Packaging

inches [mm]

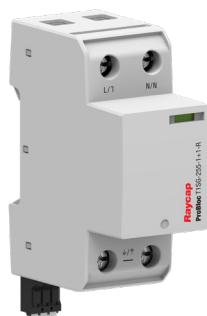


Complete Unit

ProBloc T1SG-xxx-4+0	255
Weight	pounds [grams]
	0.917 [416]
ProBloc T1SG-xxx-4+0-R	
Weight	pounds [grams]
	0.924 [419]
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

ProBloc T1SG 1+1

Class I • Class II • Class III • Type 1 • Type 2 • Type 3



Location of Use: Main Distribution Boards
 Network Systems: TT, TN-S
 Mode of Protection: L-N, N-PE
 IEC/EN Category: Class I+II+III / Type 1+2+3
 Technology: Spark Gap
 Leakage Current Free: Yes
 Housing: Compact Design
 Compliance: IEC 61643-11:2011
 EN 61643-11:2012+A11:2018



RoHS COMPLIANT

Technical Data

ProBloc T1SG-xxx-1+1(-R)

255

IEC Electrical

Nominal AC Voltage (50/60Hz)	U_o / U_n	240 V
Maximum Continuous Operating Voltage (AC)	(L-N) / (N-PE) U_c	255 V / 305 V
Nominal Discharge Current (8/20 μ s)	(L-N) / (N-PE) I_n	20 kA / 50 kA
Maximum Discharge Current (8/20 μ s)	(L-N) / (N-PE) I_{max}	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 / 25 As
Open Circuit Voltage of Combination Wave Generator (1.2/50 μ s) (L-N) / (N-PE)	U_{oc}	6 kV / 6 kV
Short Circuit Current of Combination Wave Generator (8/20 μ s) (L-N) / (N-PE)	I_{cw}	3 kA / 3 kA
Voltage Protection Level	(L-N) / (N-PE) U_p	1500 V / 1500 V
Response Time	(L-N) / (N-PE) t_A	< 100 ns / < 100 ns
Overvoltage Category		III
Maximum Backup fuse, if required		250 A gG
Short-Circuit Current Rating (AC)	(L-N) I_{SCCR}	25 kA
Follow Current Interrupt Rating (AC)	(L-N) / (N-PE) I_{fi}	25 kA / 100 A
TOV Withstand 120min	(L-N) U_T	442 V
TOV Withstand 200ms	(N-PE) U_T	1200 V
Number of Ports		1

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

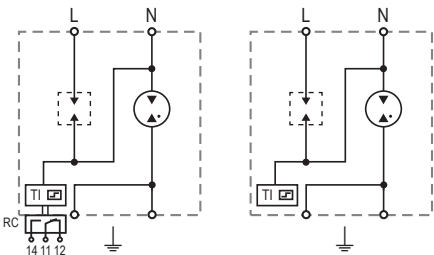
Residual Voltage at 5 kA (8/20 μ s)	(L-N) / (N-PE) U_{res}	1200 V / 305 V
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Mechanical & Environmental

Operating Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]
Permissible Operating Humidity	RH	5%...95%
Altitude (max)		13123 ft [4000 m]
Terminal Screw Torque	M_{max}	40 lbf-in [4.5 Nm]
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)
Mounting		35 mm DIN Rail, EN 60715
Degree of Protection		IP 20 (built-in)
Operating State / Fault Indication		Green Flag / Not Green Flag
Remote Contacts (RC)		Optional
RC Switching Capacity		AC: 250 V/0.5 A, 125 V/0.1 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 PE Conductor Terminal
 - RC Remote Contacts Terminal (Optional)
 - TI Thermal Indicator



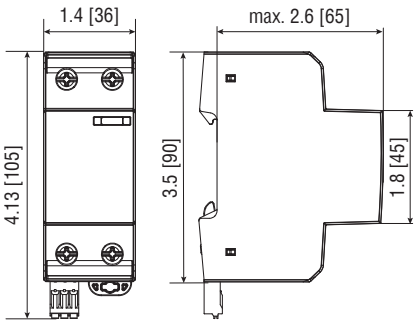
ProBloc T1SG-xxx-1+1(-R)

Order Information

Order Code	255
ProBloc T1SG-xxx-1+1	53.0003
ProBloc T1SG-xxx-1+1-R (with remote contacts)	53.0004

Dimensions & Packaging

inches [mm]



Complete Unit

ProBloc T1SG-xxx-1+1	255
Weight	pounds [grams] 0.503 [228]
ProBloc T1SG-xxx-1+1-R	
Weight	pounds [grams] 0.507 [230]
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

ProBloc T1SG 3+1**Class I • Class II • Class III • Type 1 • Type 2 • Type 3**

Location of Use: Main Distribution Boards
 Network Systems: TT, TN-S
 Mode of Protection: L-N, N-PE
 IEC/EN Category: Class I+II+III / Type 1+2+3
 Technology: Spark Gap
 Leakage Current Free: Yes
 Housing: Compact Design
 Compliance: IEC 61643-11:2011
 EN 61643-11:2012+A11:2018



RoHS
COMPLIANT

Technical Data**ProBloc T1SG-xxx-3+1(-R)****255****IEC Electrical**

Nominal AC Voltage (50/60Hz)	U_o / U_n	240 V
Maximum Continuous Operating Voltage (AC)	(L-N) / (N-PE) U_c	255 V / 305 V
Nominal Discharge Current (8/20 μ s)	(L-N) / (N-PE) I_n	20 kA / 50 kA
Maximum Discharge Current (8/20 μ s)	(L-N) / (N-PE) I_{max}	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 / 25 As
Open Circuit Voltage of Combination Wave Generator (1.2/50 μ s) (L-N) / (N-PE)	U_{oc}	6 kV / 6 kV
Short Circuit Current of Combination Wave Generator (8/20 μ s) (L-N) / (N-PE)	I_{cw}	3 kA / 3 kA
Voltage Protection Level	(L-N) / (N-PE) U_p	1500 V / 1500 V
Response Time	(L-N) / (N-PE) t_A	< 100 ns / < 100 ns
Overvoltage Category		III
Maximum Backup fuse, if required		250 A gG
Short-Circuit Current Rating (AC)	(L-N) I_{SCCR}	25 kA
Follow Current Interrupt Rating (AC)	(L-N) / (N-PE) I_{fi}	25 kA / 100 A
TOV Withstand 120min	(L-N) U_T	442 V
TOV Withstand 200ms	(N-PE) U_T	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}	1200 V / 305 V
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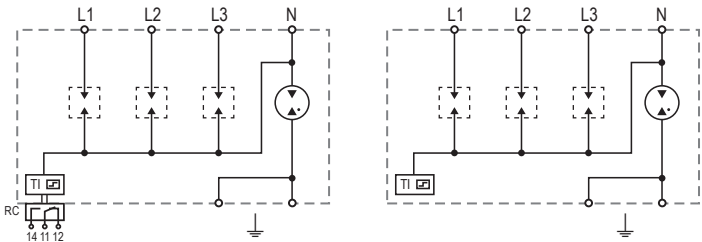
Mechanical & Environmental

Operating Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]
Permissible Operating Humidity	RH	5%...95%
Altitude (max)		13123 ft [4000 m]
Terminal Screw Torque	M_{max}	40 lbf-in [4.5 Nm]
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)
Mounting		35 mm DIN Rail, EN 60715
Degree of Protection		IP 20 (built-in)
Operating State / Fault Indication		Green Flag / Not Green Flag
Remote Contacts (RC)		Optional
RC Switching Capacity		AC: 250V/0.5A, 125V/0.1A; DC: 48V/0.5A, 24V/0.5A, 12V/0.5A
RC Conductor Cross Section (max)		16 AWG (Solid) / 1.5 mm ² (Solid)
Overvoltage Category		III

Internal Configuration

Legend

- L Line Conductor Terminal
- N Neutral Conductor Terminal
- PE Conductor Terminal
- RC Remote Contacts Terminal (Optional)
- TI Thermal Indicator



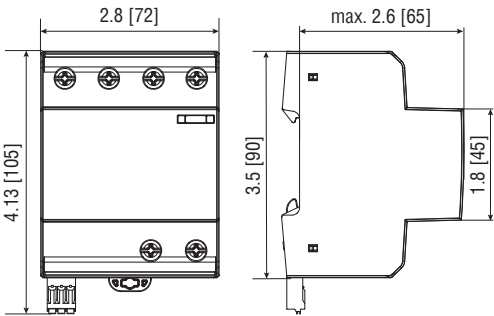
ProBloc T1SG-xxx-3+1(-R)

Order Information

Order Code	255
ProBloc T1SG-xxx-3+1	53.0007
ProBloc T1SG-xxx-3+1-R (with remote contacts)	53.0008

Dimensions & Packaging

inches [mm]



Complete Unit		
ProBloc T1SG-xxx-3+1		255
Weight	pounds [grams]	0.948 [430]
ProBloc T1SG-xxx-3+1-R		
Weight	pounds [grams]	0.952 [432]
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	



Extended Product Group

ProBloc T1SG E

The products are also available with an
Impulse discharge current [I_{imp}] of 7.5 kA.



Scan the QR code
for the datasheets.

