

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

Lightning and Overvoltage Protection

SafeBloc B(R) TCG



Special features:

- Leakage current free design
- High Energy MOV and GDT
- Compact design
- ÖVE-IEC Class I & II / EN Type 1+2 certified
- All modules including N-PE, with operating state fault indication green-red
- Optional remote contact signaling



Compliance	IEC 61643-11:2011	EN 61643-11:2012
SafeBloc B(R) Series	✓	✓

SafeBloc B offers basic protection as a Type 1 surge protective device that comes with a Maximum Continuous Operating Voltage (U_c) range from 150V to 275V. Due to its Type 1 classification SafeBloc can be installed between boundaries OA – 1 and higher. The high energy MOV and GDT protection modules feature outstanding short-circuit currents up to 50kA_{RMS} without using a back up to a main fuse nominal current of 315A. All modules are equipped with state of the art thermal disconnecter and life status monitoring (green-red). An optional remote contact (RC) features a three-pole remote signaling terminal to enable remote device monitoring.

Lightning and Overvoltage Protection
SafeBloc B(R) 25 (1+0) TCG
 Class I • Class II • Type 1 • Type 2

25 kA Series



Location of Use: Main Distribution Boards
 Network Systems: TN-S, TN-C
 Mode of Protection: L-PE, N-PE, L-PEN, L-N
 IEC/EN Category: Class I+II / Type 1+2
 Safety: High TOV Immunity
 Technology: Hybrid
 Leakage Current Free: Yes
 Housing: Compact Design
 Compliance: IEC 61643-11:2011
 EN 61643-11:2012

Technical Data

SafeBloc B(R) 25/xxx (1+0) TCG

		150	275 *
IEC Electrical			
Nominal AC Voltage (50/60 Hz)	U_o	120V	230V
Maximum Continuous Operating Voltage (AC)	U_c	150V	275V
Nominal Discharge Current (8/20 μ s)	I_n	25 kA	
Maximum Discharge Current (8/20 μ s)	I_{max}	100 kA	
Impulse Discharge Current (10/350 μ s)	I_{imp}	25 kA	
Specific Energy	W/R	156 kJ/ Ω	
Charge	Q	12.5 As	
Voltage Protection Level	U_p	< 1.2 kV	< 1.5 kV
Response Time	t_A	< 25 ns	
Overcurrent Protection (max)		250 A gG	
Short-Circuit Current Rating (AC)	I_{SCCR}	50 kA	
TOV Withstand 120min	U_T	229V	438V
Number of Ports		1	

Mechanical & Environmental

Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]	
Permissible Humidity	RH	5%...95%	
Terminal Screw Torque	M_{max}	26.5 lbf-in [3.0 Nm]	
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35mm ² (Solid, Stranded) / 25mm 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	
Fault Indication		Red Flag	
Remote Contacts (RC)		Optional	
RC Switching Capacity		AC: 250V/0.5A; 125V/3A	
RC Terminal Cross Section (max)		1.5mm ² (Solid) / 16 AWG (Solid)	
RC Terminal Screw Torque	M_{max}	2.2 lbf-in [0.25 Nm]	

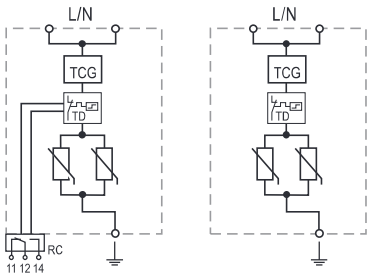
Order Information

Order Code	150	275 *
SafeBloc B 25/xxx (1+0) TCG	54.0537	54.0539
SafeBloc BR 25/xxx (1+0) TCG (with remote contacts)	54.0538	54.0540

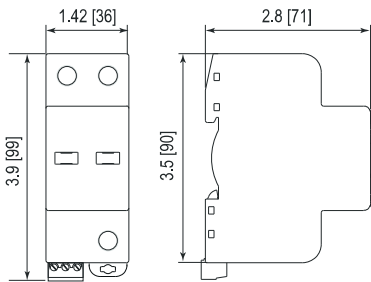
*OVE Certified

Internal Configuration

- Legend**
- L Line Conductor Terminal
 - N Neutral Conductor Terminal
 - PE PE Conductor Terminal
 - RC Remote Contacts Terminal (Optional)
 - TCG Thermal Control Function with No Leakage
 - TD Thermal Disconnect



Complete Unit



Single Unit Dimensions & Packaging

SafeBloc B 25/xxx (1+0) TCG		150	275*
Weight	pounds [grams]	.606 [275]	.716 [325]
DIN 43880 Dimension		2 TE / 1.42" [36]	
Packaging Dimensions (H x W x L)		3.1 x 4.4 x 11.7" [79 x 112 x 298 mm]	
Standard Order Quantity		7 Units	
SafeBloc BR 25/xxx (1+0) TCG		150	275*
Weight	pounds [grams]	.617 [280]	.727 [330]
DIN 43880 Dimension		2 TE / 1.42" [36]	
Packaging Dimensions (H x W x L)		3.1 x 4.4 x 11.7" [79 x 112 x 298 mm]	
Standard Order Quantity		7 Units	

inches
[mm]

Lightning and Overvoltage Protection
SafeBloc B(R) 75 (3+0) TCG
 Class I • Class II • Type 1 • Type 2

25 kA Series



Location of Use: Main Distribution Boards
 Network Systems: TN-C
 Mode of Protection: L - PEN
 IEC/EN Category: Class I+II / Type 1+2
 Safety: High TOV Immunity
 Technology: Hybrid
 Leakage Current Free: Yes
 Housing: Compact Design
 Compliance: IEC 61643-11:2011
 EN 61643-11:2012

Technical Data

SafeBloc B(R) 75/xxx (3+0) TCG

		150	275*
IEC Electrical			
Nominal AC Voltage (50/60 Hz)	U_o	120V	230V
Maximum Continuous Operating Voltage (AC)	U_c	150V	275V
Nominal Discharge Current (8/20 μ s)	I_n	25 kA	
Maximum Discharge Current (8/20 μ s)	I_{max}	100 kA	
Impulse Discharge Current (10/350 μ s)	I_{imp}	25 kA	
Total Discharge Current (10/350 μ s)	I_{total}	75 kA	
Specific Energy	W/R	156 kJ/ Ω	
Charge	Q	12.5 As	
Voltage Protection Level	U_p	< 1.2 kV	< 1.5 kV
Response Time	t_A	< 25 ns	
Overcurrent Protection (max)		250 A gG	
Short-Circuit Current Rating (AC)	I_{SCCR}	50 kA	
TOV Withstand 120min	U_T	229V	438V
Number of Ports		1	

Mechanical & Environmental

Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]	
Permissible Humidity	RH	5%...95%	
Terminal Screw Torque	M_{max}	26.5 lbf-in [3.0 Nm]	
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible)	
		35mm ² (Solid, Stranded) / 25mm 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	
Fault Indication		Red Flag	
Remote Contacts (RC)		Optional	
RC Switching Capacity		AC: 250V/0.5A; 125V/3A	
RC Terminal Cross Section (max)		1.5mm ² (Solid) / 16 AWG (Solid)	
RC Terminal Screw Torque	M_{max}	2.2 lbf-in [0.25 Nm]	

Order Information

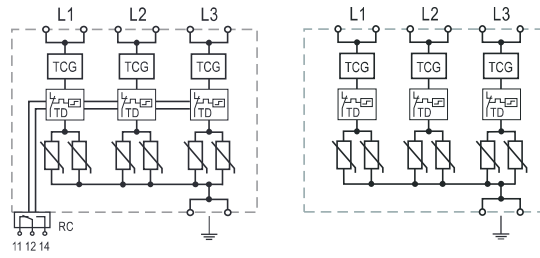
Order Code	150	275*
SafeBloc B 75/xxx (3+0) TCG	54.0550	54.0552
SafeBloc BR 75/xxx (3+0) TCG (with remote contacts)	54.0551	54.0553

*OVE Certified

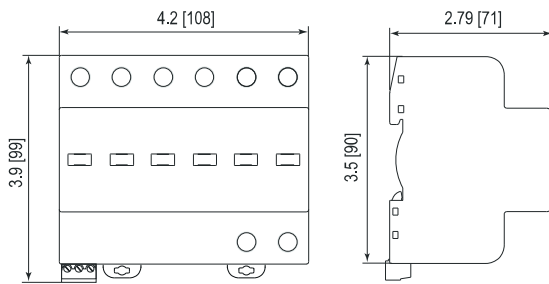
Internal Configuration

Legend

- L** Line Conductor Terminal
⏏ PEN/G Conductor Terminal
RC Remote Contacts Terminal (Optional)
TCG Thermal Control Function with No Leakage
TD Thermal Disconnect



Complete Unit



Single Unit Dimensions & Packaging

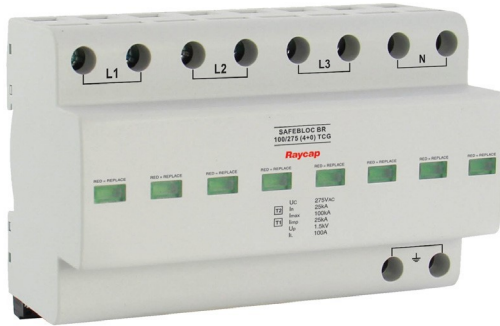
SafeBloc B 75/xxx (3+0) TCG		150	275*
Weight	pounds [grams]	1.719 [780]	2.050 [930]
DIN 43880 Dimension		6 TE / 4.25" [108]	
Packaging Dimensions (H×W×L)		3.1 × 4.4 × 11.7" [79 × 112 × 298 mm]	
Standard Order Quantity		2 Units	

SafeBloc BR 75/xxx (3+0) TCG		150	275*
Weight	pounds [grams]	1.741 [790]	2.072 [940]
DIN 43880 Dimension		6 TE / 4.25" [108]	
Packaging Dimensions (H×W×L)		3.1 × 4.4 × 11.7" [79 × 112 × 298 mm]	
Standard Order Quantity		2 Units	

inches
[mm]

Lightning and Overvoltage Protection
SafeBloc B(R) 100 (4+0) TCG
 Class I • Class II • Type 1 • Type 2

25 kA Series



Location of Use: Main Distribution Boards
 Network Systems: TN-S
 Mode of Protection: L-PE, N-PE
 IEC/EN Category: Class I+II / Type 1+2
 Safety: High TOV Immunity
 Technology: Hybrid
 Leakage Current Free: Yes
 Housing: Compact Design
 Compliance: IEC 61643-11:2011
 EN 61643-11:2012

Technical Data

SafeBloc B(R) 100/xxx (4+0) TCG

		150	275*
IEC Electrical			
Nominal AC Voltage (50/60 Hz)	U_o	120V	230V
Maximum Continuous Operating Voltage (AC)	U_c	150V	275V
Nominal Discharge Current (8/20 μ s)	I_n	25 kA	
Maximum Discharge Current (8/20 μ s)	I_{max}	100 kA	
Impulse Discharge Current (10/350 μ s)	I_{imp}	25 kA	
Total Discharge Current (10/350 μ s)	I_{total}	100 kA	
Specific Energy	W/R	156 kJ/ Ω	
Charge	Q	12.5 As	
Voltage Protection Level	U_p	< 1.2 kV	< 1.5 kV
Response Time	t_A	< 25 ns	
Overcurrent Protection (max)		250 A gG	
Short-Circuit Current Rating (AC)	I_{SCCR}	50 kA	
TOV Withstand 120min	U_T	229V	438V
Number of Ports		1	

Mechanical & Environmental

Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]	
Permissible Humidity	RH	5%...95%	
Terminal Screw Torque	M_{max}	26.5 lbf-in [3.0 Nm]	
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35mm ² (Solid, Stranded) / 25mm 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	
Fault Indication		Red Flag	
Remote Contacts (RC)		Optional	
RC Switching Capacity		AC: 250V/0.5A; 125V/3A	
RC Terminal Cross Section (max)		1.5mm ² (Solid) / 16 AWG (Solid)	
RC Terminal Screw Torque	M_{max}	2.2 lbf-in [0.25 Nm]	

Order Information

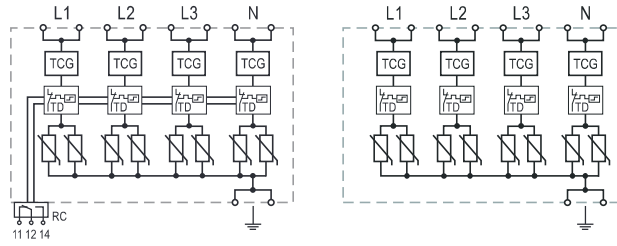
Order Code	150	275*
SafeBloc B 100/xxx (4+0) TCG	54.0556	54.0558
SafeBloc B(R) 100/xxx (4+0) TCG (with remote contacts)	54.0557	54.0559

*OVE Certified

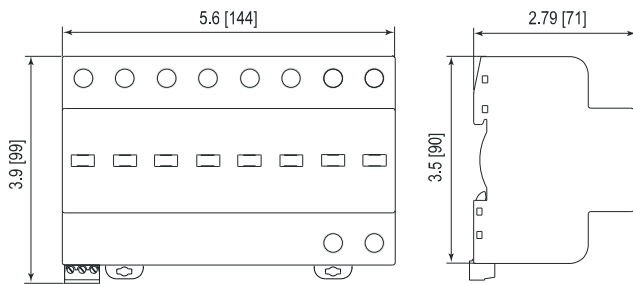
Internal Configuration

Legend

L	Line Conductor Terminal
N	Neutral Conductor Terminal
⏏	PE Conductor Terminal
RC	Remote Contacts Terminal (Optional)
TCG	Thermal Control Function with No Leakage
TD	Thermal Disconnect



Complete Unit



Single Unit Dimensions & Packaging

SafeBloc B 100/xxx (4+0) TCG	150	275*
Weight	pounds [grams]	2,292 [1040]
DIN 43880 Dimension	8 TE / 5.66" [144]	
Packaging Dimensions (H×W×L)	3.1 × 4.4 × 11.7" [79 × 112 × 298 mm]	
Standard Order Quantity	2 Units	

SafeBloc BR 100/xxx (4+0) TCG	150	275*
Weight	pounds [grams]	2,325 [1055]
DIN 43880 Dimension	8 TE / 5.66" [144]	
Packaging Dimensions (H×W×L)	3.1 × 4.4 × 11.7" [79 × 112 × 298 mm]	
Standard Order Quantity	2 Units	

inches
[mm]

Lightning and Overvoltage Protection
SafeBloc B(R) 100 (3+1) TCG
 Class I • Class II • Type 1 • Type 2

25 kA Series



Location of Use: Main Distribution Boards
 Network Systems: TT
 Mode of Protection: L-N, N-PE
 IEC/EN Category: Class I+II / Type 1+2
 Safety: High TOV Immunity
 Technology: Hybrid
 Leakage Current Free: Yes
 Housing: Compact Design
 Compliance: IEC 61643-11:2011
 EN 61643-11:2012

Technical Data

SafeBloc B(R) 100/xxx (3+1) TCG

275

IEC Electrical

Nominal AC Voltage (50/60 Hz)	U_o	230V
Maximum Continuous Operating Voltage (AC)	(L-N) U_c	275V
	(N-PE) U_c	255V
Nominal Discharge Current (8/20 μ s)	(L-N)/(N-PE) I_n	25 kA/100 kA
Maximum Discharge Current (8/20 μ s)	(L-N)/(N-PE) I_{max}	100 kA/100 kA
Impulse Discharge Current (10/350 μ s)	(L-N)/(N-PE) I_{imp}	25 kA/100 kA
Total Discharge Current (10/350 μ s)	I_{total}	100 kA
Specific Energy	(L-N)/(N-PE) W/R	156 kJ/ Ω /2.5 MJ/ Ω
Charge	(L-N)/(N-PE) Q	12.5 As/50 As
Voltage Protection Level	(L-N)/(N-PE) U_p	< 1.5 kV / < 1.5 kV
Follow Current Interrupt Rating	(N-PE) I_{fi}	100 A _{RMS}
Response Time	(L-N)/(N-PE) t_A	< 25 ns / < 100 ns
Overcurrent Protection (max)		250 A gG
Short-Circuit Current Rating (AC)	I_{SCCR}	50 kA
TOV Withstand 120min	(L-N) U_T	438V
TOV Withstand 200ms	(N-PE) U_T	1200V/300 A
Number of Ports		1

Mechanical & Environmental

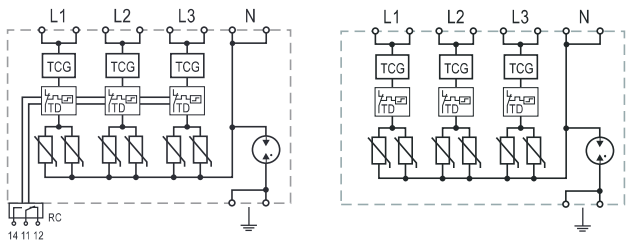
Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]
Permissible Humidity	RH	5%...95%
Terminal Screw Torque	M_{max}	26.5 lbf-in [3.0 Nm]
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35mm ² (Solid, Stranded) / 25mm ² (Flexible)
Mounting		35mm DIN Rail, EN 60715
Degree of Protection		IP 20 (built-in)
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0
Thermal Protection	(L-N)/(N-PE)	Yes/No
Fault Indication	(L-N)/(N-PE)	Red Flag/No
Remote Contacts (RC)		Optional
RC Switching Capacity		AC: 250V/0.5A; 125V/3A
RC Terminal Cross Section (max)		1.5mm ² (Solid) / 16 AWG (Solid)
RC Terminal Screw Torque	M_{max}	2.2 lbf-in [0.25 Nm]

Order Information

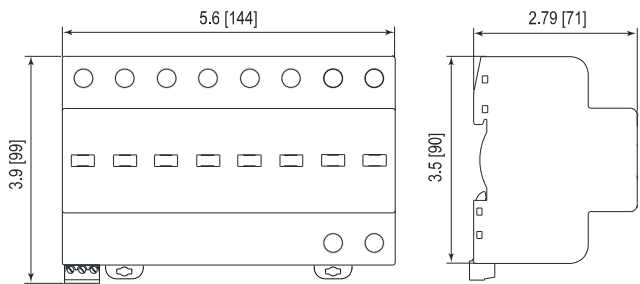
Order Code	275
SafeBloc B 100/xxx (3+1) TCG	54.0570
SafeBloc BR 100/xxx (3+1) TCG (with remote contacts)	54.0571

Internal Configuration

- Legend**
- L Line Conductor Terminal
 - N Neutral Conductor Terminal
 - PE PE Conductor Terminal
 - RC Remote Contacts Terminal (Optional)
 - TCG Thermal Control Function with No Leakage
 - TD Thermal Disconnect



Complete Unit



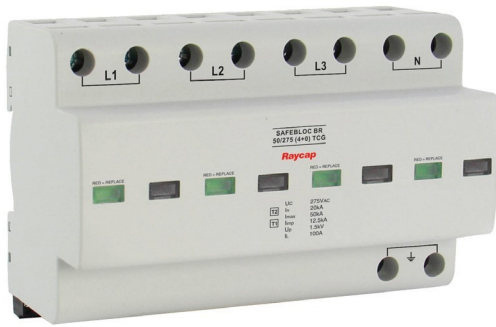
Single Unit Dimensions & Packaging

SafeBloc B 100/xxx (3+1) TCG		275
Weight	pounds [grams]	2.502 [1135]
DIN 43880 Dimension		8 TE / 5.66" [144]
Packaging Dimensions (H×W×L)		3.1 × 4.4 × 11.7" [79 × 112 × 298 mm]
Standard Order Quantity		2 Units
SafeBloc B(R) 100/xxx (3+1) TCG		275
Weight	pounds [grams]	2.535 [1150]
DIN 43880 Dimension		8 TE / 5.66" [144]
Packaging Dimensions (H×W×L)		3.1 × 4.4 × 11.7" [79 × 112 × 298 mm]
Standard Order Quantity		2 Units

inches
[mm]

Lightning and Overvoltage Protection
SafeBloc B(R) 50 (4+0) TCG
 Class I • Class II • Type 1 • Type 2

12.5 kA Series



Location of Use: Main Distribution Boards
 Network Systems: TN-S
 Mode of Protection: L-PE, N-PE
 IEC/EN Category: Class I+II / Type 1+2
 Safety: High TOV Immunity
 Technology: Hybrid
 Leakage Current Free: Yes
 Housing: Compact Design
 Compliance: IEC 61643-11:2011
 EN 61643-11:2012

Technical Data

SafeBloc B(R) 50/xxx (4+0) TCG

		150	275*
IEC Electrical			
Nominal AC Voltage (50/60 Hz)	U_o	120V	230V
Maximum Continuous Operating Voltage (AC)	U_c	150V	275V
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	
Total Discharge Current (10/350 μ s)	I_{total}	50 kA	
Specific Energy	W/R	39 kJ/ Ω	
Charge	Q	6.25 As	
Voltage Protection Level	U_p	< 1.2 kV	< 1.5 kV
Response Time	t_A	< 25 ns	
Overcurrent Protection (max)		250 A gG	
Short-Circuit Current Rating (AC)	I_{SCCR}	50 kA	
TOV Withstand 120min	U_T	229V	438V
Number of Ports		1	

Mechanical & Environmental

Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]	
Permissible Humidity	RH	5%...95%	
Terminal Screw Torque	M_{max}	26.5 lbf-in [3.0 Nm]	
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible)	
		35mm ² (Solid, Stranded) / 25mm 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	
Fault Indication		Red Flag	
Remote Contacts (RC)		Optional	
RC Switching Capacity		AC: 250V/0.5A; 125V/3A	
RC Terminal Cross Section (max)		1.5mm ² (Solid) / 16 AWG (Solid)	
RC Terminal Screw Torque	M_{max}	2.2 lbf-in [0.25 Nm]	


Order Information

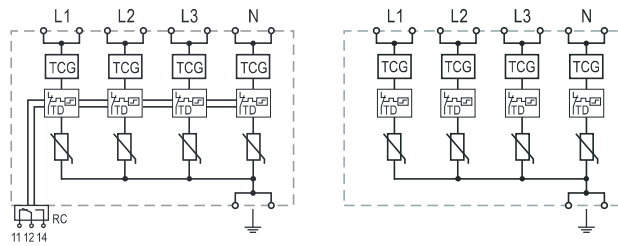
Order Code	150	275*
SafeBloc B 50/xxx (4+0) TCG	54.0519	54.0521
SafeBloc BR 50/xxx (4+0) TCG (with remote contacts)	54.0520	54.0522

*OVE Certified

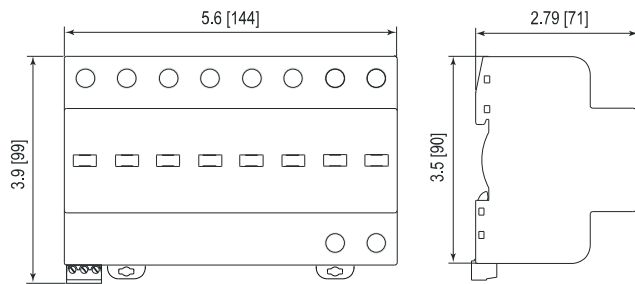
Internal Configuration

Legend

<i>L</i>	Line Conductor Terminal
<i>N</i>	Neutral Conductor Terminal
	PE Conductor Terminal
<i>RC</i>	Remote Contacts Terminal (Optional)
<i>TCG</i>	Thermal Control Function with No Leakage
<i>TD</i>	Thermal Disconnect



Complete Unit



Single Unit Dimensions & Packaging

SafeBloc B 50/xxx (4+0) TCG		150	275*
Weight	pounds [grams]	1.763 [800]	2.204 [1000]
DIN 43880 Dimension		8 TE / 5.66" [144]	
Packaging Dimensions (H×W×L)		3.1 × 4.4 × 11.7" [79 × 112 × 298 mm]	
Standard Order Quantity		2 Units	
SafeBloc BR 50/xxx (4+0) TCG		150	275*
Weight	pounds [grams]	1.796 [815]	2.237 [1015]
DIN 43880 Dimension		8 TE / 5.66" [144]	
Packaging Dimensions (H×W×L)		3.1 × 4.4 × 11.7" [79 × 112 × 298 mm]	
Standard Order Quantity		2 Units	

inches
[mm]

Lightning and Overvoltage Protection

SafeBloc B(R) 25 (1+1) TCG

Class I • Class II • Type 1 • Type 2

12.5kA Series



Location of Use: Main Distribution Boards
 Network Systems: TN-S, TT
 Mode of Protection: L-N, N-PE
 IEC/EN Category: Class I+II / Type 1+2
 Safety: High TOV Immunity
 Technology: Hybrid
 Leakage Current Free: Yes
 Housing: Compact Design
 Compliance: IEC 61643-11:2011
 EN 61643-11:2012

Technical Data

SafeBloc B(R) 25/xxx (1+1) TCG

		150	275*
IEC Electrical			
Nominal AC Voltage (50/60 Hz)	U_o	120V	230V
Maximum Continuous Operating Voltage (AC)	(L-N) U_c	150V	275V
	(N-PE) U_c		255V
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	
Total Discharge Current (10/350 μ s)	I_{total}	25 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	
Voltage Protection Level	(L-N)/(N-PE) U_p	< 1.2 kV / < 1.5 kV	< 1.5 kV / < 1.5 kV
Follow Current Interrupt Rating	(N-PE) I_{fi}	100 A _{RMS}	
Response Time	(L-N)/(N-PE) t_A	< 25 ns / < 100 ns	
Thermal Protection	(L-N)/(N-PE)	Yes / No	
Overcurrent Protection (max)		250 A gG	
Short-Circuit Current Rating (AC)	I_{SCCR}	50 kA	
TOV Withstand 120min	(L-N) U_T	229V	438V
TOV Withstand 200ms	(N-PE) U_T	1200V / 300A	
Number of Ports		1	

Mechanical & Environmental

Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]	
Permissible Humidity	RH	5%...95%	
Terminal Screw Torque	M_{max}	26.5 lbf-in [3.0 Nm]	
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible)	
		35mm ² (Solid, Stranded) / 25mm 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	
Fault Indication	(L-N)/(N-PE)	Red Flag / No	
Remote Contacts (RC)		Optional	
RC Switching Capacity		AC: 250V/0.5A; 125V/3A	
RC Terminal Cross Section (max)		1.5mm ² (Solid) / 16 AWG (Solid)	
RC Terminal Screw Torque	M_{max}	2.2 lbf-in [0.25 Nm]	


Order Information

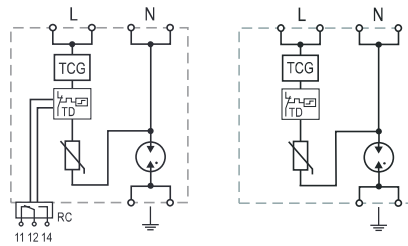
Order Code	150	275*
SafeBloc B 25/xxx (1+1) TCG	54.0525	54.0527
SafeBloc B(R) 25/xxx (1+1) TCG (with remote contacts)	54.0526	54.0528

*OVE Certified

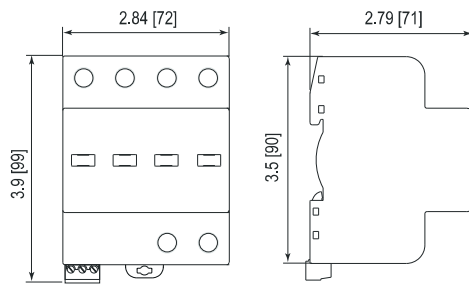
Internal Configuration

Legend

<i>L</i>	Line Conductor Terminal
<i>N</i>	Neutral Conductor Terminal
	PE Conductor Terminal
<i>RC</i>	Remote Contacts Terminal (Optional)
<i>TCG</i>	Thermal Control Function with No Leakage
<i>TD</i>	Thermal Disconnect



Complete Unit



Single Unit Dimensions & Packaging

SafeBloc B 25/xxx (1+1) TCG		150	275*
Weight	pounds [grams]	.617 [280]	.694 [315]
DIN 43880 Dimension		4 TE / 2.84" [72]	
Packaging Dimensions (H × W × L)		3.1 × 4.4 × 11.7" [79 × 112 × 298 mm]	
Standard Order Quantity		3 Units	
SafeBloc BR 25/xxx (1+1) TCG		150	275*
Weight	pounds [grams]	.628 [285]	.705 [320]
DIN 43880 Dimension		4 TE / 2.84" [72]	
Packaging Dimensions (H × W × L)		3.1 × 4.4 × 11.7" [79 × 112 × 298 mm]	
Standard Order Quantity		3 Units	

inches
[mm]

Lightning and Overvoltage Protection
SafeBloc B(R) 50 (3+1) TCG
 Class I • Class II • Type 1 • Type 2

12.5kA Series



Location of Use: Main Distribution Boards
 Network Systems: TN-S, TT
 Mode of Protection: L-N, N-PE
 IEC/EN Category: Class I+II / Type 1+2
 Safety: High TOV Immunity
 Technology: Hybrid
 Leakage Current Free: Yes
 Housing: Compact Design
 Compliance: IEC 61643-11:2011
 EN 61643-11:2012

Technical Data

SafeBloc B(R) 50/xxx (3+1) TCG

275

IEC Electrical

Nominal AC Voltage (50/60 Hz)	U_o	230V
Maximum Continuous Operating Voltage (AC)	(L-N) U_c	275V
	(N-PE) U_c	255V
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
Total Discharge Current (10/350 μ s)	I_{total}	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
Voltage Protection Level	(L-N)/(N-PE) U_p	< 1.5 kV / < 1.5 kV
Follow Current Interrupt Rating	(N-PE) I_{fi}	100 A _{RMS}
Response Time	(L-N)/(N-PE) t_A	< 25 ns / < 100 ns
Overcurrent Protection (max)		250 A gG
Short-Circuit Current Rating (AC)	I_{SCCR}	50 kA
TOV Withstand 120min	(L-N) U_T	438V
TOV Withstand 200ms	(N-PE) U_T	1200V / 300 A
Number of Ports		1

Mechanical & Environmental


Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]
Permissible Humidity	RH	5%...95%
Terminal Screw Torque	M_{max}	26.5 lbf-in [3.0 Nm]
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible)
		35mm ² (Solid, Stranded) / 25mm ² (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	(L-N)/(N-PE)	Yes/No
Fault Indication	(L-N)/(N-PE)	Red Flag/NO
Remote Contacts (RC)		Optional
RC Switching Capacity		AC: 250V/0.5A; 125V/3A
RC Terminal Cross Section (max)		1.5mm ² (Solid) / 16 AWG (Solid)
RC Terminal Screw Torque	M_{max}	2.2 lbf-in [0.25 Nm]

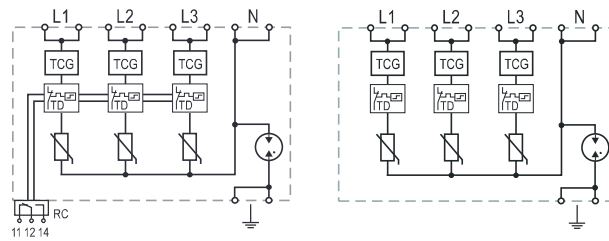
Order Information

Order Code	275
SafeBloc B 50/xxx (3+1) TCG	54.0533
SafeBloc B(R) 50/xxx (3+1) TCG (with remote contacts)	54.0534

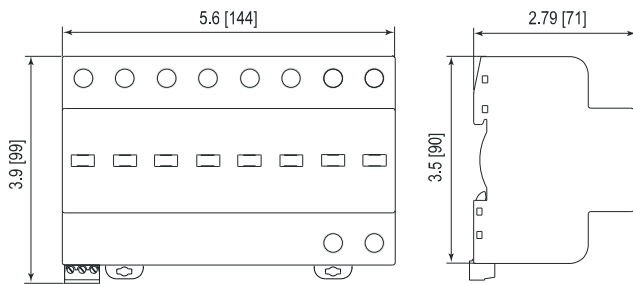
Internal Configuration

Legend

- L** Line Conductor Terminal
N Neutral Conductor Terminal
 PE Conductor Terminal
RC Remote Contacts Terminal (Optional)
TCG Thermal Control Function with No Leakage
TD Thermal Disconnecter



Complete Unit



Single Unit Dimensions & Packaging

SafeBloc B 50/xxx (3+1) TCG		275
Weight	pounds [grams]	1.984 [900]
DIN 43880 Dimension		8 TE / 5.66" [144]
Packaging Dimensions (H×W×L)		3.1 × 4.4 × 11.7" [79 × 112 × 298 mm]
Standard Order Quantity		2 Units
SafeBloc BR 50/xxx (3+1) TCG		275
Weight	pounds [grams]	2.006 [910]
DIN 43880 Dimension		8 TE / 5.66" [144]
Packaging Dimensions (H×W×L)		3.1 × 4.4 × 11.7" [79 × 112 × 298 mm]
Standard Order Quantity		2 Units

inches
[mm]

Lightning and Overvoltage Protection for Wind Turbine Systems

SafeBloc B(R) 12.5 (1+0) WT TCG

Class I • Class II • Type 1 • Type 2



Location of Use: Main Distribution Boards
 Network Systems: TN-S, TN-C
 Mode of Protection: L-PE, N-PE, L-PEN, L-N
 IEC/EN Category: Class I+II / Type 1+2
 Safety: High TOV Immunity
 Technology: Hybrid
 Leakage Current Free: Yes
 Housing: Compact Design
 Compliance: IEC 61643-11:2011
 EN 61643-11:2012

Technical Data

SafeBloc B(R) 12.5/xxx (1+0) WT TCG

750

IEC Electrical

Nominal AC Voltage (50/60 Hz)	U_o	600V
Maximum Continuous Operating Voltage (AC)	U_c	750V
Nominal Discharge Current (8/20 μ s)	I_n	12.5 kA
Maximum Discharge Current (8/20 μ s)	I_{max}	40 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	< 2.6 kV
Response Time	t_A	< 25 ns
Overcurrent Protection (max)		250 A gG
Short-Circuit Current Rating (AC)	I_{SCCR}	50 kA
TOV Withstand 120min	U_T	1000V
Number of Ports		1

Mechanical & Environmental


Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]
Permissible Humidity	RH	5%...95%
Terminal Screw Torque	M_{max}	26.5 lbf-in [3.0 Nm]
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35mm ² (Solid, Stranded) / 25mm 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
Fault Indication		Red Flag
Remote Contacts (RC)		Optional
RC Switching Capacity		AC: 250V/0.5A; 125V/3A
RC Terminal Cross Section (max)		1.5mm ² (Solid) / 16 AWG (Solid)
RC Terminal Screw Torque	M_{max}	2.2 lbf-in [0.25 Nm]

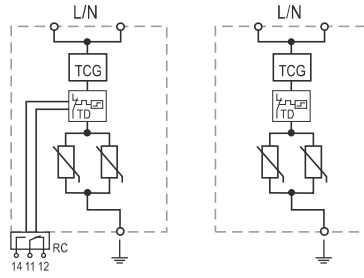
Order Information

Order Code	750
SAFELOC B 12.5/xxx (1+0) WT TCG	54.0590
SAFELOC BR 12.5/xxx (1+0) WT TCG (with remote contacts)	54.0591

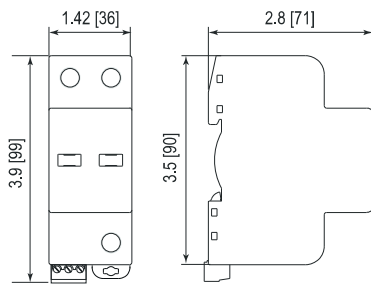
Internal Configuration

Legend

<i>L</i>	Line Conductor Terminal
<i>N</i>	Neutral Conductor Terminal
	PE Conductor Terminal
<i>RC</i>	Remote Contacts Terminal (Optional)
<i>TCG</i>	Thermal Control Function with No Leakage
<i>TD</i>	Thermal Disconnect



Complete Unit



Single Unit Dimensions & Packaging

SafeBloc B 12.5/xxx (1+0) WT TCG		750
Weight	pounds [grams]	.959 [435]
DIN 43880 Dimension		2 TE / 1.42" [36]
Packaging Dimensions (H x W x L)		3.1 x 4.4 x 11.7" [79 x 112 x 298 mm]
Standard Order Quantity		7 Units
SafeBloc BR 12.5/xxx (1+0) WT TCG		750
Weight	pounds [grams]	.970 [440]
DIN 43880 Dimension		2 TE / 1.42" [36]
Packaging Dimensions (H x W x L)		3.1 x 4.4 x 11.7" [79 x 112 x 298 mm]
Standard Order Quantity		7 Units

inches
[mm]

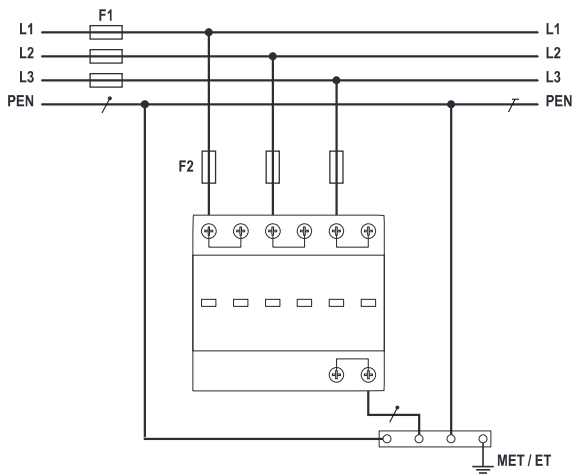
Compact Multi-pole SPD Connection Configurations

SafeBloc B(R) TCG 12.5kA & 25kA Series

SafeBloc B(R) 25kA Series

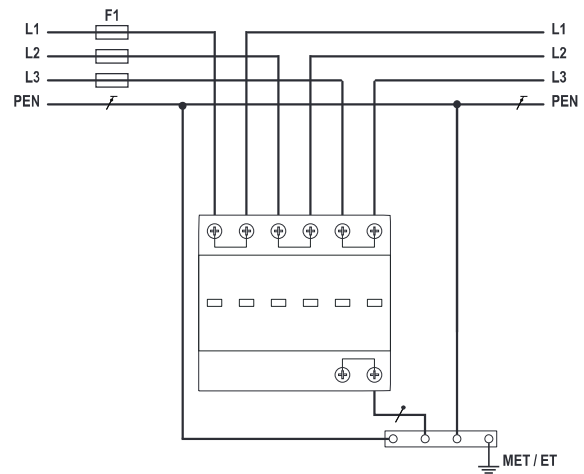
TN-C (Three-phase, 3+0)

T Connection



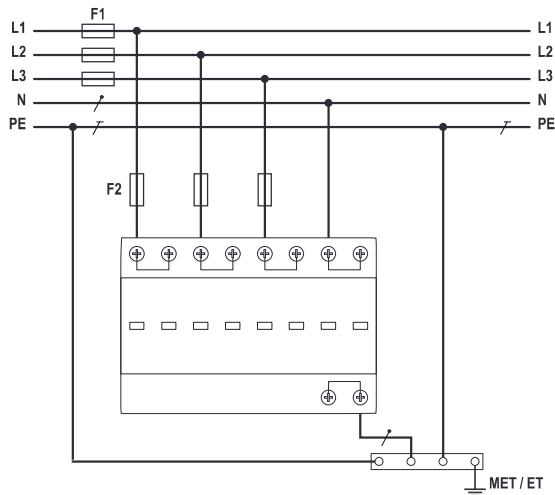
TN-C (Three-phase, 3+0)

V Connection



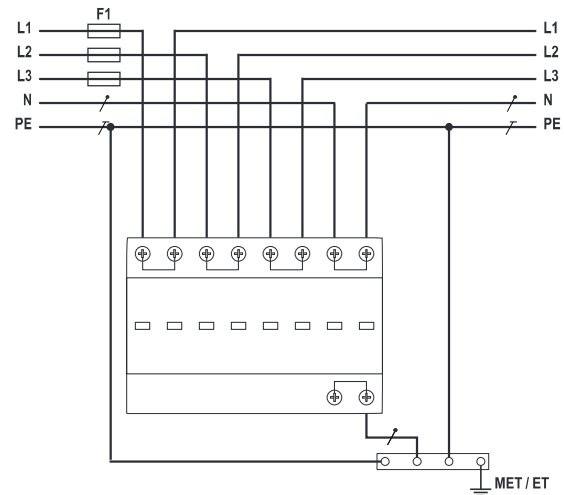
TN-S (Three-phase, 4+0, 3+1)

T Connection



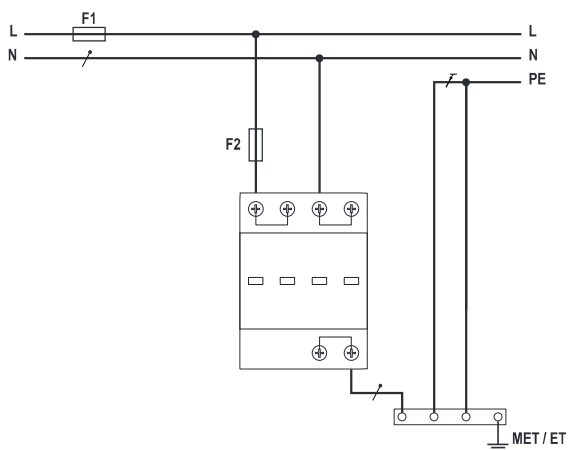
TN-S (Three-phase, 4+0, 3+1)

V Connection



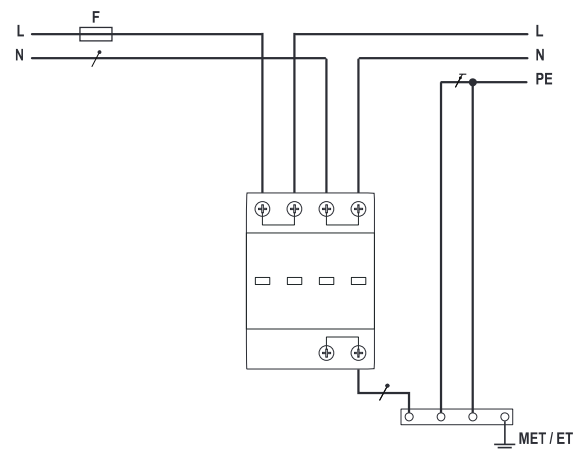
TT (Single-phase, 1+1)

T Connection



TT (Single-phase, 1+1)

V Connection



Overcurrent Protection Rating for I_{SCCR}

— N Neutral

— PE Protective Earth

— PEN Protective Earth & Neutral

— F1 > 250A gG → — F2 = 250A gG

— F1 ≤ 250A gG → ~~— F2~~

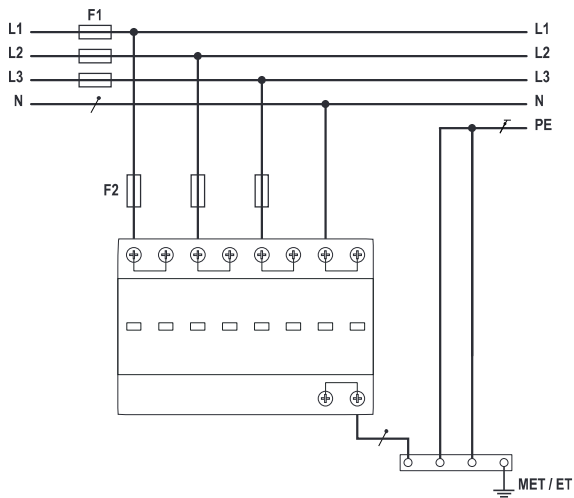
— F ≤ 100A gG

Compact Multi-pole SPD Connection Configurations

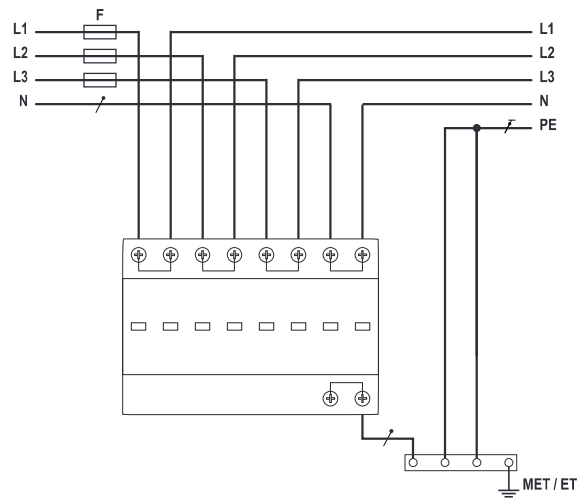
SafeBloc B(R) TCG 12.5kA & 25kA Series

SafeBloc B(R) 25kA Series

TT (Three-phase, 3+1)
T Connection



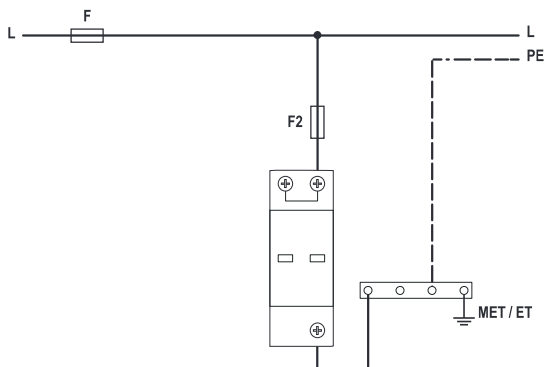
TT (Three-phase, 3+1)
V Connection



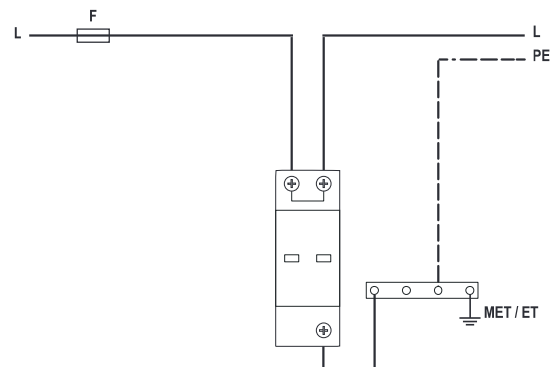
WT Compact Single Pole SPD Connection Configurations

SafeBloc B(R) WT TCG Series

SafeBloc B(R) 12.5 WT TCG
T Connection



V Connection



Lightning and Overvoltage Protection

SafeTube B 100

Class I • Class II • Type 1 • Type 2



Location of Use: Main Distribution Boards
 Network Systems: TN-S, TT
 Mode of Protection: N-PE
 IEC/EN Category: Class I+II / Type 1+2
 Housing: Compact Design
 Compliance: IEC 61643-11:2011
 EN 61643-11:2012

Technical Data

SafeTube B 100/xxx

255

IEC Electrical

Maximum Continuous Operating Voltage (AC)	U_c	255V
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	2.5 MJ/ Ω
Charge	Q	50 As
Voltage Protection Level	U_p	< 1.5 kV
Follow Current Interrupt Rating	I_{fi}	100 A _{RMS}
Response Time	t_A	< 100 ns
TOV Withstand 200ms	U_T	1200V/300 A
Number of Ports		1

Mechanical & Environmental

Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]
Permissible Humidity	RH	5%...95%
Terminal Screw Torque	M_{max}	26.5 lbf-in [3.0 Nm]
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35mm ² (Solid, Stranded) / 25mm 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

Order Information

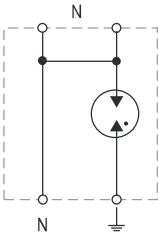
Order Code	255
SafeTube B 100/xxx	54.0543

SafeTube B 100

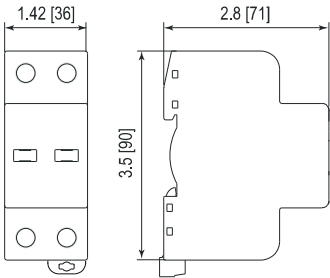
Internal Configuration

Legend

- N Neutral Conductor Terminal
- PE/G Conductor Terminal



Complete Unit



Single Unit Dimensions & Packaging

SafeTube B 100/xxx		255
Weight	pounds [grams]	.529 [240]
DIN 43880 Dimension		2 TE / 1.42" [36]
Packaging Dimensions (H x W x L)		3.1 x 4.4 x 11.7" [79 x 112 x 298 mm]
Standard Order Quantity		7 Units

inches
[mm]

Compact Single Pole SPD
SafeTube B 100/440
 Class I • Class II • Type 1 • Type 2



Location of Use: Main Distribution Boards
 Network Systems: TT
 Mode of Protection: N-PE
 IEC/EN Category: Class I+II / Type 1+2
 Housing: Compact Design
 Compliance: IEC 61643-11:2011
 EN 61643-11:2012

Technical Data

SafeTube B 100/xxx

440

IEC Electrical

Nominal AC Voltage (50/60 Hz)	U_o	400V
Maximum Continuous Operating Voltage (AC)	U_c	440V
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	2.5 MJ/ Ω
Charge	Q	50 As
Voltage Protection Level	U_p	< 2.5 kV
Follow Current Interrupt Rating	I_{fi}	100 A _{RMS}
Response Time	t_A	< 100 ns
TOV withstand 200ms	U_T	1200V/300 A
Number of Ports		1

Mechanical & Environmental

Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]
Permissible Humidity	RH	5%...95%
Terminal Screw Torque	M_{max}	26.5 lbf-in [3.0 Nm]
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35mm ² (Solid, Stranded) / 25mm 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

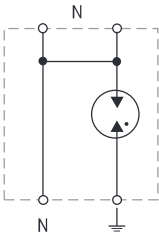
Order Information

Order Code	440
SafeTube B 100/xxx	54.0624

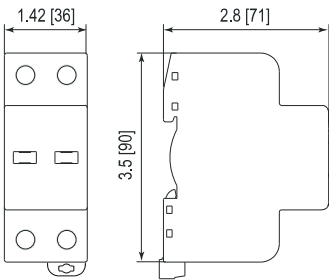
SafeTube B 100

Internal Configuration

Legend
N Neutral Conductor Terminal
PE PE Conductor Terminal



Complete Unit



Single Unit Dimensions & Packaging		
SafeTube B 100/xxx		440
Weight	pounds [grams]	.397 [180]
DIN 43880 Dimension		2 TE / 1.42" [36]
Packaging Dimensions (H x W x L)		3.1 x 4.4 x 11.7" [79 x 112 x 298 mm]
Standard Order Quantity		7 Units

inches
[mm]