Surge Protection

Powering Business Worldwide

SG05013


PE
L1
L2
L3
260VAC
335VAC
335VAC
335VAC
SPCT2-NPE60
SPCT2-335
SPCT2-335
SPCT2-335
N
N
N
N

Combined Surge Protective Device SPRT12-350

- incl. FM contact (change-over contact)
- for TN-C

sg04518_r

Poles	Max. Continous Operating Voltage U_C	Type Designation	Article No.	Units per package
3pole	350 VAC	SPRT12-350/3-AX	195235	1

- incl. FM contact (change-over contact)
- for TN-S/TT

sg04418_r

Poles	Max. Continous Operating Voltage U_C	Type Designation	Article No.	Units per package
3pole+NPE	350 VAC	SPRT12-350/3+NPE-AX	195236	1

Insert for SPRT12-350

sg04318_r

Range of protection	Max. Continous Operating Voltage U_C	Type Designation	Article No.	Units per package
L-N / L-PEN	350 VAC	SPRT12-350	195237	1
N-PE	350 VAC	SPRT12-350/NPE	195238	1

Description Surge Protective Class T1/T2

- Ready-to-connect Combined Surge Protection Device Type 1/2 on the basis of spark gaps
- Consisting of the base unit and plug-type modules

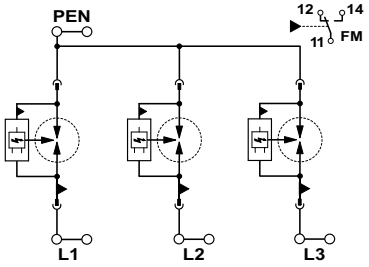
Technical Data

		SPRT12-350/3-AX	SPRT12-350/3+NPE-AX
General data			
Standards/regulations		IEC 61643-11, EN 61643-11	IEC 61643-11, EN 61643-11
IEC test classification		T1 / T2	T1 / T2
EN type		T1 / T2	T1 / T2
Number of ports		One	One
SPD design		Voltage-switching type	Voltage-switching type
Mode of protection		L-PEN	L-N, L-PE, N-PE
Mounting type		DIN rail 35 mm	DIN rail 35 mm
Surge protection fault message		Optical, remote indicator contact	Optical, remote indicator contact
Color		Light grey RAL 7035	Light grey RAL 7035
Insulating material		PBT-FR	PBT-FR
Housing material		PBT-FR	PBT-FR
Air clearances and creepage distances (according to EN 60664-1 and EN 61643-11)			
Degree of pollution		2	2
Overvoltage category		III	III
Material group		I	I
CTI value of material		≥ 600	≥ 600
U_{max}		< 2 kV	< 2 kV
Flammability rating according to UL 94		V-0	V-0
Degree of protection		IP20 (only when all terminal points are used)	IP20 (only when all terminal points are used)
Shock (operation)		30 g (Half-sine / 11 ms / 3x ±X, ±Y, ±Z)	30 g (Half-sine / 11 ms / 3x ±X, ±Y, ±Z)
Vibration (operation)		5 g (5 - 500 Hz/2.5 h/X, Y, Z)	5 g (5 - 500 Hz/2.5 h/X, Y, Z)
Ambient temperature (operation)		-40 °C ... 80 °C	-40 °C ... 80 °C
Ambient temperature (storage/transport)		-40 °C ... 80 °C	-40 °C ... 80 °C
Permissible humidity (operation)		5 % ... 95 %	5 % ... 95 %
Altitude		≤ 2000 m (amsl (above mean sea level))	≤ 2000 m (amsl (above mean sea level))
Width		106.8 mm	142.4 mm
Height		97 mm	95 mm
Depth		71.2 mm (incl. DIN rail 7.5 mm)	71.2 mm (incl. DIN rail 7.5 mm)
Horizontal pitch		6 Module units	8 Module units
Electrical data			
Nominal voltage	U_N	240/415 V AC (TN-C)	240/415 V AC (TN-S) 240/415 V AC (TT)
Nominal frequency	f_N	50 Hz (60 Hz)	50 Hz (60 Hz)
Maximum continuous operating voltage	U_C	350 V AC	350 V AC
Reference test voltage	U_{REF}	264 V AC	264 V AC
Rated load current	I_L	125 A (< 55 °C)	125 A (< 55 °C)
Nominal discharge current (8/20) µs	I_n		
(L-PEN)		25 kA	-
(L-N)		-	25 kA
(L-PE)		-	25 kA
(N-PE)		-	100 kA
Maximum discharge current (8/20) µs	I_{max}		
(L-PEN)		50 kA	-
(L-N)		-	50 kA
(L-PE)		-	50 kA
Impulse discharge current (10/350) µs			
Peak value	I_{imp}	25 kA (L-PEN)	25 kA (L-N)
Charge		12.5 As (L-PEN)	12.5 As (L-N)
Specific energy		160 kJ/Ω (L-PEN)	160 kJ/Ω (L-N)
Impulse discharge current (10/350) µs (L-PE)			
Peak value	I_{imp}	-	25 kA
Charge		-	12.5 As
Specific energy		-	160 kJ/Ω

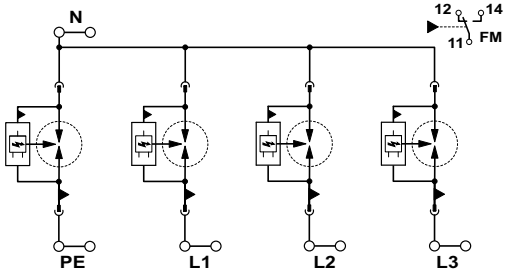
		SPRT12-350/3-AX	SPRT12-350/3+NPE-AX
Impulse discharge current (10/350) µs (N-PE)			
Peak value	I_{imp}	-	100 kA
Charge		-	50 As
Specific energy		-	2500 kJ/Ω
Total discharge current (10/350) µs	I_{total}	75 kA	100 kA
Follow current interrupt rating	I_{fi}		
(L-PEN)		50 kA	-
(L-N)		-	50 kA
(N-PE)		-	100 A
Short-circuit current rating	I_{SCCR}	50 kA	50 kA
Voltage protection level	U_p		
(L-PEN)		≤ 1.5 kV	-
(L-N)		-	≤ 1.5 kV
(L-PE)		-	≤ 2.5 kV
(N-PE)		-	≤ 1.5 kV
Residual voltage	U_{res}		
(L-PEN)		≤ 1.5 kV (at I_n)	-
(L-N)		-	≤ 1.5 kV (at I_n)
(L-PE)		-	≤ 2.5 kV (at I_n)
(N-PE)		-	≤ 1.5 kV (at I_n)
Front of wave sparkover voltage at 6 kV (1.2/50) µs			
(L-PEN)		≤ 1.5 kV	-
(L-N)		-	≤ 1.5 kV
(L-PE)		-	≤ 2.5 kV
(N-PE)		-	≤ 1.5 kV
TOV behavior at U_T			
(L-PEN)		415 V AC (5 s / withstand mode)	-
		457 V AC (120 min / withstand mode)	-
(L-N)		-	415 V AC (5 s / withstand mode)
			457 V AC (120 min / withstand mode)
(N-PE)		-	1200 V AC (200 ms / withstand mode)
Response time	t_A	≤ 100 ns	≤ 100 ns
Current tripping factor	k	1.6	1.6
Max. backup fuse with branch wiring		315 A (gG)	315 A (gG)
Max. backup fuse with V-type through wiring (at 35 mm²)		125 A (gG)	125 A (gG)
Additional technical data			
Follow current interrupt rating	I_{fi}	100 kA (264 V AC)	100 kA (264 V AC) (L-N)
Short-circuit current rating	I_{SCCR}	100 kA (264 V AC)	100 kA (264 V AC)
Remote signaling			
Connection name		Remote fault indicator contact	Remote fault indicator contact
Switching function		PDT contact	PDT contact
Connection method		Plug-in/screw connection via COMBICON	Plug-in/screw connection via COMBICON
Operating voltage		12 V AC ... 250 V AC	12 V AC ... 250 V AC
		125 V DC (200 mA DC)	125 V DC (200 mA DC)
Operating current		10 mA AC ... 1 A AC	10 mA AC ... 1 A AC
		1 A DC (30 V DC)	1 A DC (30 V DC)
Screw thread		M2	M2
Conductor cross section			
flexible		0.14 mm² ... 1.5 mm²	0.14 mm² ... 1.5 mm²
solid		0.14 mm² ... 1.5 mm²	0.14 mm² ... 1.5 mm²
AWG		28 ... 16	28 ... 16
Stripping length		7 mm	7 mm
Tightening torque		0.25 Nm	0.25 Nm
Connection data			
Connection method		**Screw terminal blocks**	**Screw terminal blocks**
Screw thread		M5	M5
Connection technology		Biconnect terminal block	Biconnect terminal block
Conductor cross section			
flexible, solid		2.5 mm² ... 35 mm²	2.5 mm² ... 35 mm²
AWG		13 ... 2	13 ... 2
Stripping length		18 mm	18 mm
Connection method		**Fork-type cable lug**	**Fork-type cable lug**
Diameter		5 mm	5 mm
Conductor cross section flexible		1.5 mm² ... 16 mm²	1.5 mm² ... 16 mm²
Tightening torque		4.5 Nm	4.5 Nm

Circuit diagrams

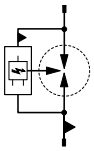
SPRT12-350/3-AX



SPRT12-350/3+NPE-AX

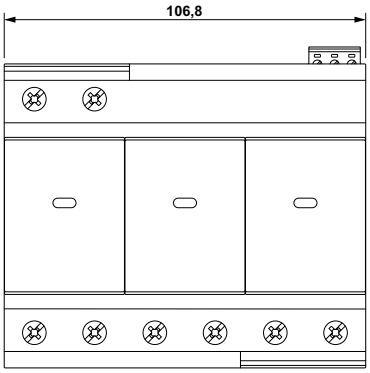


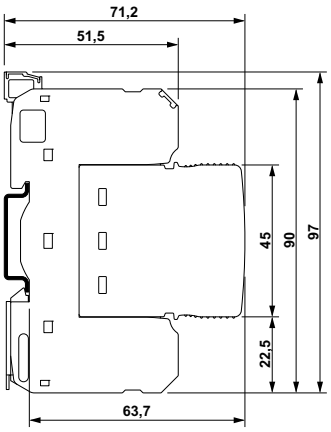
SPRT12-350, SPRT12-350/NPE



Dimensions (mm)

SPRT12-350/3-AX





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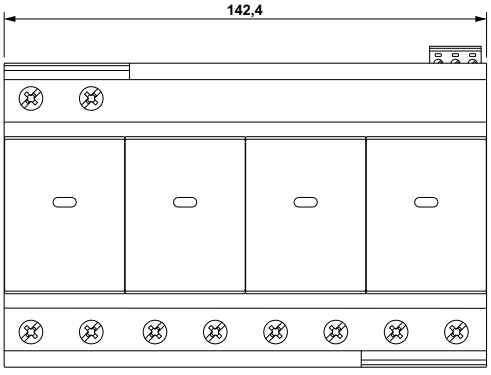
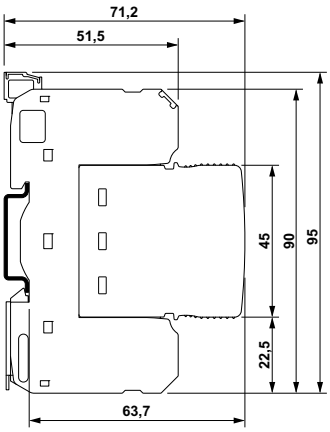
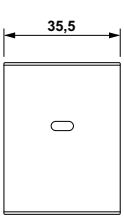
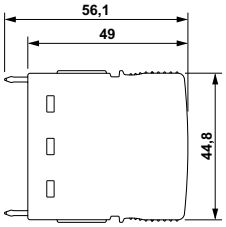




SPRT12-350, SPRT12-350/NPE





Surge Protective Class T1/T2 for busbar mounting (40 mm), SPST12(H)-255

Poles	Max. Continous Operating Voltage U_C	Type Designation	Article No.	Units per package
Combined Surge Protective Device SPST12(H)-255				
• for TT /TN-C-S				
3pole+NPE	255 VAC	SPST12-255/3+NPE	195603	1
		SPST12H-255/3+NPE	195605	1
• for TN-C				
3pole	255 VAC	SPST12-255/3	195602	1
		SPST12H-255/3	195604	1

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sg06318_r

Description Surge Protective Class T1/T2 for busbar mounting (40 mm), SPST12(H)-255

- Ready-to-connect Combined Surge Protection Device Type 1/2 on the basis of spark gaps
- For mounting on 40 mm busbars
- Scope of application:
  To protect consumer systems against transient overvoltages caused by direct and indirect lightning strikes, as well as switching operations
- Lightning protection class III and IV according to IEC 62305
- Meets all requirements for the installation of surge protection according to DIN VDE 0100-534
- For electrical system TN-C

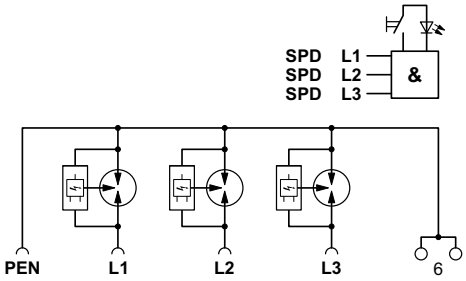
Technical Data

		SPST12-255/3	SPST12H-255/3
General data			
Standards/regulations		IEC 61643-11 2011, EN 61643-11 2012	IEC 61643-11 2011, EN 61643-11 2012
IEC test classification		T1 / T2	T1 / T2
EN type		T1 / T2	T1 / T2
Number of ports		One	One
SPD design		Voltage-switching type	Voltage-switching type
Mode of protection		L-PEN	L-PEN
Mounting type		Busbar 40 mm	Busbar 40 mm
Surge protection fault message		Optical	Optical
Color		Light grey RAL 7035	Light grey RAL 7035
Insulating material		PC	PC
Housing material		PA 6.6-FR, PC	PA 6.6-FR, PC
Air clearances and creepage distances (according to EN 60664-1 and EN 61643-11)			
Degree of pollution		2	2
Overvoltage category		IV	IV
Material group		IIIa	IIIa
CTI value of material		≥ 175	≥ 175
U_{max}		1.5 kV	1.5 kV
Flammability rating according to UL 94		V-0	V-0
Degree of protection		IP30 (installed)	IP30 (installed)
Ambient temperature (operation)		-40 °C ... 80 °C	-40 °C ... 80 °C
Ambient temperature (storage/transport)		-40 °C ... 80 °C	-40 °C ... 80 °C
Permissible humidity (operation)		5 % ... 95 %	5 % ... 95 %
Altitude		≤ 6000 m (amsl (above mean sea level))	≤ 6000 m (amsl (above mean sea level))
Width		47 mm	47 mm
Height		223.2 mm	223.2 mm
Depth		110.7 mm	110.7 mm
Horizontal pitch		2.6 Module units	2.6 Module units
Electrical data			
Nominal voltage	U_N	230/400 V AC (TN-C)	230/400 V AC (TN-C)
Nominal frequency	f_N	50 Hz (60 Hz)	50 Hz (60 Hz)
Maximum continuous operating voltage	U_C	255 V AC	255 V AC
Reference test voltage	U_{REF}	255 V AC	255 V AC
Nominal discharge current (8/20) µs	I_n	20 kA	20 kA
Impulse discharge current (10/350) µs			
Peak value	I_{imp}	7.5 kA	12.5 kA
Charge		3.75 As	6.25 As
Specific energy		15 kJ/Ω	39 kJ/Ω
Follow current interrupt rating	I_{fi}	25 kA	25 kA
Short-circuit current rating	I_{SCCR}	25 kA	25 kA
Voltage protection level	U_p	≤ 1.5 kV	≤ 1.5 kV
Front of wave sparkover voltage at 6 kV (1.2/50) µs		-	≤ 1.5 kV
TOV behavior at U_T		337 V AC (5 s / withstand mode) 442 V AC (120 min / safe failure mode)	337 V AC (5 s / withstand mode) 442 V AC (120 min / safe failure mode)
Response time	t_A	≤ 100 ns	≤ 100 ns
Insulation resistance	R_{iso}	> 5 MΩ (500 V DC)	> 5 MΩ (500 V DC)
Current tripping factor	k	1.6	1.6
Max. backup fuse with branch wiring		250 A (gG)	250 A (gG)

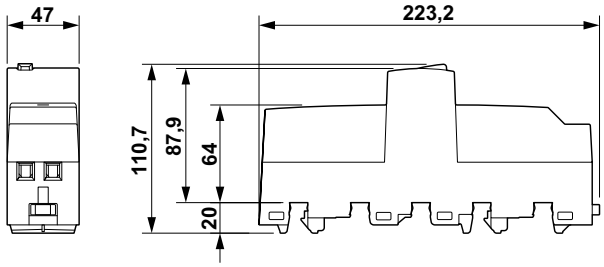
Surge Protective Class T1/T2 for busbar mounting (40 mm), SPST12(H)-255

	SPST12-255/3	SPST12H-255/3
Connection data		
Connection method	**Screw terminal blocks**	**Screw terminal blocks**
Screw thread	M5	M5
Conductor cross section		
flexible, solid	2.5 mm^2 ... 35 mm^2	2.5 mm^2 ... 35 mm^2
Stripping length	18 mm	18 mm
Tightening torque	4.5 Nm	4.5 Nm

Circuit diagram



Dimensions (mm)



Description Surge Protective Class T1/T2 for busbar mounting (40 mm), SPST12(H)-255/3+NPE

- Ready-to-connect Combined Surge Protection Device Type 1/2 on the basis of spark gaps
- For mounting on 40 mm busbars
- Scope of application:
  To protect consumer systems against transient overvoltages caused by direct and indirect lightning strikes, as well as switching operations
- Lightning protection class III and IV according to IEC 62305
- Meets all requirements for the installation of surge protection according to DIN VDE 0100-534
- For electrical system TT / TN-C-S

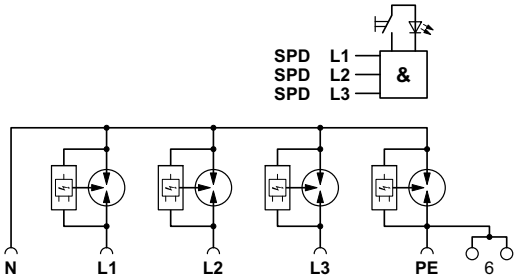
Technical Data

		SPST12-255/3+NPE	SPST12H-255/3+NPE
General data			
Standards/regulations		IEC 61643-11 2011, EN 61643-11 2012	IEC 61643-11 2011, EN 61643-11 2012
IEC test classification		T1 / T2	T1 / T2
EN type		T1 / T2	T1 / T2
Number of ports		One	One
SPD design		Voltage-switching type	Voltage-switching type
Mode of protection		L-N, L-PE, N-PE	L-N, L-PE, N-PE
Mounting type		Busbar 40 mm	Busbar 40 mm
Surge protection fault message		Optical	Optical
Color		Light grey RAL 7035	Light grey RAL 7035
Insulating material		PC	PC
Housing material		PA 6.6-FR, PC	PA 6.6-FR, PC
Air clearances and creepage distances (according to EN 60664-1 and EN 61643-11)			
Degree of pollution		2	2
Overvoltage category		IV	IV
Material group		IIIa	IIIa
CTI value of material		≥ 175	≥ 175
U_{max}		1.5 kV (L-N), 2 kV (L-PE), 1.5 kV (N-PE)	1.5 kV (L-N), 2 kV (L-PE), 1.5 kV (N-PE)
Flammability rating according to UL 94		V-0	V-0
Degree of protection		IP30 (installed)	IP30 (installed)
Ambient temperature (operation)		-40 °C ... 80 °C	-40 °C ... 80 °C
Ambient temperature (storage/transport)		-40 °C ... 80 °C	-40 °C ... 80 °C
Permissible humidity (operation)		5 % ... 95 %	5 % ... 95 %
Altitude		≤ 6000 m (amsl (above mean sea level))	≤ 6000 m (amsl (above mean sea level))
Width		47 mm	47 mm
Height		223.2 mm	223.2 mm
Depth		110.7 mm	110.7 mm
Horizontal pitch		2.6 Module units	2.6 Module units
Electrical data			
Nominal voltage	U_N	230/400 V AC (TN-S)	230/400 V AC (TN-S)
		230/400 V AC (TT)	230/400 V AC (TT)
Nominal frequency	f_N	50 Hz (60 Hz)	50 Hz (60 Hz)
Maximum continuous operating voltage	U_C	255 V AC	255 V AC
Reference test voltage	U_{REF}	255 V AC	255 V AC
Residual current	I_{PE}	≤ 5 µA	≤ 5 µA
Nominal discharge current (8/20) µs	I_n		
(L-N)		20 kA	20 kA
(L-PE)		20 kA	20 kA
(N-PE)		80 kA	80 kA
Impulse discharge current (10/350) µs (L-N)			
Peak value	I_{imp}	7.5 kA	12.5 kA
Charge		3.75 As	6.25 As
Specific energy		15 kJ/Ω	39 kJ/Ω
Impulse discharge current (10/350) µs (L-PE)			
Peak value	I_{imp}	7.5 kA	12.5 kA
Charge		3.75 As	6.25 As
Specific energy		15 kJ/Ω	39 kJ/Ω
Impulse discharge current (10/350) µs (N-PE)			
Peak value	I_{imp}	30 kA	50 kA
Charge		15 As	25 As
Specific energy		225 kJ/Ω	625 kJ/Ω

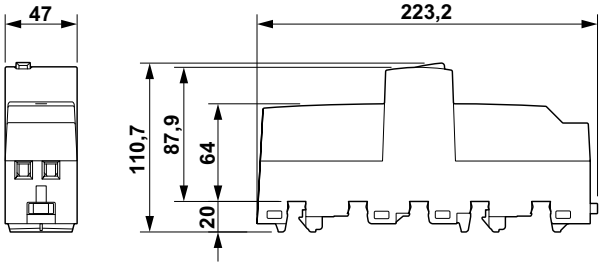
Surge Protective Class T1/T2 for busbar mounting (40 mm), SPST12(H)-255

		SPST12-255/3+NPE	SPST12H-255/3+NPE
Follow current interrupt rating	I_{fi}		
(L-N)		25 kA	25 kA
(L-PE)		25 kA	25 kA
(N-PE)		100 A	100 A
Short-circuit current rating	I_{SCCR}	25 kA	25 kA
Voltage protection level	U_p		
(L-N)		≤ 1.5 kV	≤ 1.5 kV
(L-PE)		≤ 2 kV	≤ 2 kV
(N-PE)		≤ 1.5 kV	≤ 1.5 kV
Front of wave sparkover voltage at 6 kV (1.2/50) µs			
(L-N)		≤ 1.5 kV	≤ 1.5 kV
(L-PE)		≤ 2 kV	≤ 2 kV
(N-PE)		≤ 1.5 kV	≤ 1.5 kV
TOV behavior at U_T			
(L-N)		337 V AC (5 s / withstand mode)	337 V AC (5 s / withstand mode)
		442 V AC (120 min / safe failure mode)	442 V AC (120 min / safe failure mode)
(L-PE)		442 V AC (120 min / withstand mode)	442 V AC (120 min / withstand mode)
		1455 V AC (200 ms / withstand mode)	1455 V AC (200 ms / withstand mode)
(N-PE)		1200 V AC (200 ms / withstand mode)	1200 V AC (200 ms / withstand mode)
Response time	t_A	≤ 100 ns	≤ 100 ns
Insulation resistance	R_{iso}	> 5 MΩ (500 V DC)	> 5 MΩ (500 V DC)
Current tripping factor	k	1.6	1.6
Max. backup fuse with branch wiring		250 A (gG)	250 A (gG)
Connection data			
Connection method		**Screw terminal blocks**	**Screw terminal blocks**
Screw thread		M5	M5
Conductor cross section			
flexible, solid		2.5 mm² ... 35 mm²	2.5 mm² ... 35 mm²
Stripping length		18 mm	18 mm
Tightening torque		4.5 Nm	4.5 Nm

Circuit diagram



Dimensions (mm)



SG29612

SPBT12-280/3

Description	Type Designation	Article No.	Units per package
Lightning current arrester - surge arrester sets, Lightning protection classes III, IV			
Without remote indication			
TN-S/TT Set 1+N Set	SPBT12-280-1+NPE50	184752	1 / 30
TN-S-Set 2pole	SPBT12-280/2	158309	1 / 60
TN-C-Set 3pole	SPBT12-280/3	158330	1 / 40
TN-S-Set 4pole	SPBT12-280/4	158331	1 / 30
TN-S/TT Set 3+N Set	SPBT12-280-3+NPE50	184750	1 / 60
TN-S/TT Set 3+N Set with busbar	SPBT12-280-3+NPE50/BB	184751	1
TN-S/TT-Set 1+1pole	SPBT12-280-1+NPE	158308	1 / 40
TN-S/TT-Set 3+1pole	SPBT12-280-3+NPE	158332	1 / 20
TN-S/TT-Set 3+1pole	SPBT12-280-3+NPE/BB	158333	1

Accessories

Auxiliary switch for SPBT12-280	ASAUXSC-SPM	131785	4 / 120
Busbar	ZV-KSBI...		

SG27112

SPBT12-280/1

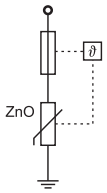
sg63312

Impulse current I_{imp} (10/350) µs	Type Designation	Article No.	Units per package
Lightning current arrester - surge arrester SPBT12			
Complete			
12.5 kA L - (PE) N	SPBT12-280/1	158306	12 / 120
50 kA N-PE	SPBT12-NPE50	184749	1 / 60
100 kA N-PE	SPBT12-NPE100	158307	1 / 60
Insert			
12.5 kA Insert	SPBT12-280	167341	4 / 120

Description Surge Protective Class T1&T2

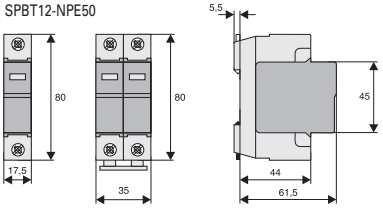
- Field of application:
  For the protection of low voltage distribution systems against transient overvoltage caused by direct and indirect lightning stroke and switching operations
- Application according to IEC 60364-5-53 Clause 534
- Test class I, II according to IEC 61643-1
- SPD-type T1, T2 according to EN 61643-11
- Lightning protection classes III and IV according to IEC 62305
- Busbars ZV-KSBI are available for all customary applications

Technical Data

		SPBT12-280...	SPBT12-NPE50	SPBT12-NPE100
Electrical	per pole			
Responding time (rate of voltage rise 5 kV/µs)		< 25 ns	< 100 ns	< 100 ns
Voltage protection level	U_p	< 1.5 kV	< 1.4 kV	< 1.5 kV
Voltage protection level at 5 kA (8/20) µs	U_p	950 V	–	–
Max. continuous operating voltage	U_C	280 VAC	260 VAC	255 VAC
TOV test value	U_T	370 VAC (5 s)	1200 VAC (200 ms)	1200 VAC (200 ms)
Rated frequency		50/60 Hz	50/60 Hz	50/60 Hz
Open circuit voltage	U_{oc}	10 kV	–	20 kV
Nominal discharge current (8/20) µs	I_n	25 kA	50 kA	100 kA
Max. discharge current	I_{max}	50 kA	100 kA	100 kA
Impulse current (10/350) µs	I_{imp}			
Peak current		12.5 kA	50 kA	100 kA
Charge Q		6.25 As	25 As	50 As
Specific energy		39,1 kJ/Ω	625 kJ/Ω	2500 kJ/Ω
Follow current interrupt rating	I_{fi}	–	100 $A_{r.m.s.}$	100 $A_{r.m.s.}$
Maximum back-up fuse		160 AgL/gG	–	–
Maximum short-circuit current		50 $A_{r.m.s.}$	–	–
Connection diagram				
Mechanical				
Frame size		45 mm	45 mm	45 mm
Device height		80 mm	80 mm	80 mm
Device width		17.5 mm	17.5 mm	35 mm
Weight		121 g	93 g	250 g
Permitted ambient temperature		-40°C to +70°C	-40°C to +70°C	-40°C to +70°C
Degree of protection (built-in)		IP40	IP40	IP40
Upper and lower lift terminal capacity		4 - 25 mm^2	top 4 - 50 mm^2. bottom 4 - 35 mm^2	4 - 35 mm^2
Upper and lower open mouthed terminals for busbar thickness up to		1.5 mm	top - / bottom 1.5 mm	1.5 mm
Tightening torque of terminal screws		2.4 - 3 Nm	2.4 - 3 Nm	2.4 - 3 Nm
Quick fastening on DIN rail according to		IEC/EN 60715	IEC/EN 60715	IEC/EN 60715
Accessories: busbars 16 mm^2		Type ZV-KSBI ...	Type ZV-KSBI ...	Type ZV-KSBI ...

Dimensions (mm)

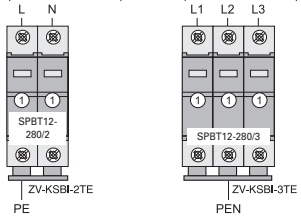
SPBT12-280 SPBT12-NPE100
SPBT12-NPE50



Lightning current arrester - surge arrester sets, Lightning protection classes III, IV

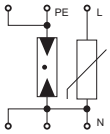
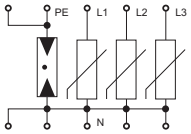
L, N, PE
TN-S-System
3 x 230/400 VAC
(3 x 220/380 VAC)
(3 x 240/415 VAC)

L1, L2, L3, N, PE
TN-C-System
3 x 230/400 VAC
(3 x 220/380 VAC)
(3 x 240/415 VAC)



①... SPBT12-280

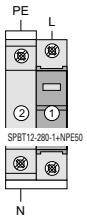
Technical Data

			SPBT12-280-1+NPE50	SPBT12-280-3+NPE50
Electrical		per pole		
Responding time (rate of voltage rise 5 kV/µs)	L-N / N-PE		< 25 ns / < 100 ns	< 25 ns / < 100 ns
Voltage protection level	L-N / L-PE / N-PE	U_p	< 1.5 kV	< 1.5 kV
Max. continuous operating voltage	L-N / N-PE	U_C	280 VAC / 260 VAC	280 VAC / 260 VAC
TOV test value		U_T		
5 s	L-N / L-PE		348 VAC / 370 VAC	348 VAC / 370 VAC
200 ms	N-PE		1200 VAC	1200 VAC
Rated frequency			50/60 Hz	50/60 Hz
Open circuit voltage		U_{oc}	10 kV	20 kV
Nominal discharge current (8/20) µs	L-N / N-PE	I_n	25 kA / 50 kA	3x25 kA / 50 kA
Max. discharge current	L-N / N-PE	I_{max}	50 kA / 100 kA	3x50 kA / 100 kA
Impulse current (10/350) µs		I_{imp}		
Peak current	L-N / N-PE		12.5 kA / 50 kA	3x12.5 kA / 50 kA
Charge Q			25 As	25 As
Specific energy			625 kJ/Ω	625 kJ/Ω
Follow current interrupt rating	N-PE	I_{fi}	100 $A_{r.m.s.}$	100 $A_{r.m.s.}$
Maximum back-up fuse			–	–
Maximum short-circuit current			–	–
Connection diagram				
Mechanical				
Frame size			45 mm	45 mm
Device height			80 mm	80 mm
Device width			35 mm	70 mm
Weight			218 g	470 g
Permitted ambient temperature			-40°C to +70°C	-40°C to +70°C
Degree of protection (built-in)			IP40	IP40
Upper and lower lift terminal capacity				
L, N			4 - 25 mm^2	4 - 25 mm^2
N, PE			4 - 50 mm^2	4 - 50 mm^2
Upper and lower open mouthed terminals for busbar thickness up to			1.5 mm	1.5 mm
Tightening torque of terminal screws			2.4 - 3 Nm	2.4 - 3 Nm
Quick fastening on DIN rail according to			IEC/EN 60715	IEC/EN 60715
Accessories: busbars 16 mm^2			Type ZV-KSBI ...	Type ZV-KSBI ...

Lightning current arrester - surge arrester sets, Lightning protection classes III, IV

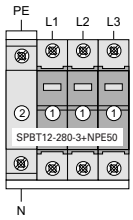
L, N, PE

TN-S-System
3 x 230/400 VAC
(3 x 220/380 VAC)
(3 x 240/415 VAC)

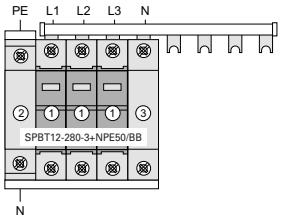


L1, L2, L3, N, PE

TN-S/TT-System
3 x 230/400 VAC
(3 x 220/380 VAC)
(3 x 240/415 VAC)

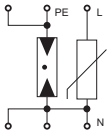
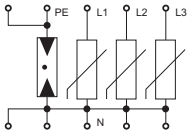


TN-S/TT-System
3 x 230/400 VAC
(3 x 220/380 VAC)
(3 x 240/415 VAC)



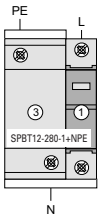
① . . . SPBT12-280
② . . . SPBT12-NPE50
③ . . . ASLTT-63

Technical Data

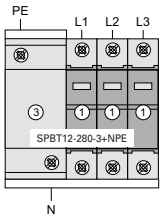
			SPBT12-280-1+NPE	SPBT12-280-3+NPE
Electrical		per pole		
Responding time (rate of voltage rise 5 kV/µs)	L-N / N-PE		< 25 ns / < 100 ns	< 25 ns / < 100 ns
Voltage protection level	L-N / L-PE / N-PE	U_p	< 1.5 kV	< 1.5 kV
Max. continuous operating voltage	L-N / N-PE	U_C	280 VAC / 255 VAC	280 VAC / 255 VAC
TOV test value		U_T		
5 s	L-N / L-PE		348 VAC / 370 VAC	348 VAC / 370 VAC
200 ms	N-PE		1200 VAC	1200 VAC
Rated frequency			50/60 Hz	50/60 Hz
Open circuit voltage		U_{oc}	10 kV	20 kV
Nominal discharge current (8/20) µs	L-N / N-PE	I_n	25 kA / 100 kA	3x25 kA / 100 kA
Max. discharge current	L-N / N-PE	I_{max}	50 kA / 100 kA	3x50 kA / 100 kA
Impulse current (10/350) µs		I_{imp}		
Peak current	L-N / N-PE		12.5 kA / 100 kA	3x12.5 kA / 100 kA
Charge Q			50 As	50 As
Specific energy			2500 kJ/Ω	2500 kJ/Ω
Follow current interrupt rating	N-PE	I_{fi}	100 $A_{r.m.s.}$	100 $A_{r.m.s.}$
Maximum back-up fuse			160 AgL/gG	160 AgL/gG
Maximum short-circuit current			50 $kA_{r.m.s.}$	50 $kA_{r.m.s.}$
Connection diagram				
Mechanical				
Frame size			45 mm	45 mm
Device height			80 mm	80 mm
Device width			52.5 mm	87.5 mm
Weight			375 g	626 g
Permitted ambient temperature			-40°C to +70°C	-40°C to +70°C
Degree of protection (built-in)			IP40	IP40
Upper and lower lift terminal capacity				
L, N			4 - 25 mm^2	4 - 25 mm^2
N, PE			4 - 35 mm^2	4 - 35 mm^2
Upper and lower open mouthed terminals for busbar thickness up to			1.5 mm	1.5 mm
Tightening torque of terminal screws			2.4 - 3 Nm	2.4 - 3 Nm
Quick fastening on DIN rail according to			IEC/EN 60715	IEC/EN 60715
Accessories: busbars 16 mm^2			Type ZV-KSBI ...	Type ZV-KSBI ...

Lightning current arrester - surge arrester sets, Lightning protection classes III, IV

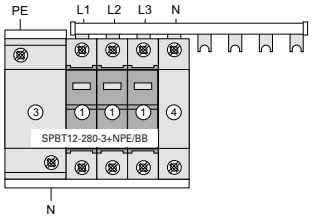
L, N, PE
TN-S-System
3 x 230/400 VAC
(3 x 220/380 VAC)
(3 x 240/415 VAC)



L1, L2, L3, N, PE
TN-S/TT-System
3 x 230/400 VAC
(3 x 220/380 VAC)
(3 x 240/415 VAC)



TN-S/TT-System
3 x 230/400 VAC
(3 x 220/380 VAC)
(3 x 240/415 VAC)



① . . . SPBT12-280
② . . . ASAUXSC-SPM
③ . . . SPBT12-NPE100
④ . . . ASLTT-63

SG04713

SPCT2-280/3

Plug-in surge arrester SPCT2. 1- to 4pole

Complete (2- and multi-pole surge arresters are supplied with busbar)

Poles	Max. Continous Operating Voltage U_C	I_n (8/20) µs	Type Designation	Article No.	Units per package
1pole	75 VAC	20 kA	SPCT2-075/1	167578	12/120
1pole	135 VAC	20 kA	SPCT2-135/1	167583	12/120
1pole	175 VAC	20 kA	SPCT2-175/1	167588	12/120
1pole	280 VAC	20 kA	SPCT2-280/1	167593	12/120
1pole	335 VAC	20 kA	SPCT2-335/1	167598	12/120
1pole	385 VAC	20 kA	SPCT2-385/1	167603	12/120
1pole	460 VAC	20 kA	SPCT2-460/1	167608	12/120
1pole	580 VAC	20 kA	SPCT2-580/1	167613	12/120
1pole	260 VAC	30 kA	SPCT2-NPE60/1	167618	12/120
2pole	75 VAC	2x20 kA	SPCT2-075/2	167579	1/60
2pole	135 VAC	2x20 kA	SPCT2-135/2	167584	1/60
2pole	175 VAC	2x20 kA	SPCT2-175/2	167589	1/60
2pole	280 VAC	2x20 kA	SPCT2-280/2	167594	1/60
2pole	335 VAC	2x20 kA	SPCT2-335/2	167599	1/60
2pole	385 VAC	2x20 kA	SPCT2-385/2	167604	1/60
2pole	460 VAC	2x20 kA	SPCT2-460/2	167609	1/60
2pole	580 VAC	2x20 kA	SPCT2-580/2	167614	1/60
3pole	75 VAC	3x20 kA	SPCT2-075/3	167580	1/40
3pole	135 VAC	3x20 kA	SPCT2-135/3	167585	1/40
3pole	175 VAC	3x20 kA	SPCT2-175/3	167590	1/40
3pole	280 VAC	3x20 kA	SPCT2-280/3	167595	1/40
3pole	335 VAC	3x20 kA	SPCT2-335/3	167600	1/40
3pole	385 VAC	3x20 kA	SPCT2-385/3	167605	1/40
3pole	460 VAC	3x20 kA	SPCT2-460/3	167610	1/40
3pole	580 VAC	3x20 kA	SPCT2-580/3	167615	1/40
4pole	75 VAC	4x20 kA	SPCT2-075/4	167581	1/30
4pole	135 VAC	4x20 kA	SPCT2-135/4	167586	1/30
4pole	175 VAC	4x20 kA	SPCT2-175/4	167591	1/30
4pole	280 VAC	4x20 kA	SPCT2-280/4	167596	1/30
4pole	335 VAC	4x20 kA	SPCT2-335/4	167601	1/30
4pole	385 VAC	4x20 kA	SPCT2-385/4	167606	1/30
4pole	460 VAC	4x20 kA	SPCT2-460/4	167611	1/30
4pole	580 VAC	4x20 kA	SPCT2-580/4	167616	1/30
1+N	280 VAC	20 kA	SPCT2-280-1+NPE	167619	1/60
1+N	335 VAC	20 kA	SPCT2-335-1+NPE	167621	1/60
1+N	385 VAC	20 kA	SPCT2-385-1+NPE	167623	1/60
1+N	460 VAC	20 kA	SPCT2-460-1+NPE	167625	1/60
1+N	580 VAC	20 kA	SPCT2-580-1+NPE	167627	1/60
3+N	280 VAC	20 kA	SPCT2-280-3+NPE	167620	1/30
3+N	335 VAC	20 kA	SPCT2-335-3+NPE	167622	1/30
3+N	385 VAC	20 kA	SPCT2-385-3+NPE	167624	1/30
3+N	460 VAC	20 kA	SPCT2-460-3+NPE	167626	1/30
3+N	580 VAC	20 kA	SPCT2-580-3+NPE	167628	1/30
3+N/BB	280 VAC	3x20 kA	SPCT2-280-3+NPE/BB	167629	1
3+N/BB	335 VAC	3x20 kA	SPCT2-335-3+NPE/BB	167630	1
3+N/BB	385 VAC	3x20 kA	SPCT2-385-3+NPE/BB	167631	1
3+N/BB	460 VAC	3x20 kA	SPCT2-460-3+NPE/BB	167632	1

Plug-in surge arrester SPCT2. Insert

sg08213

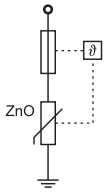
Insert 1pole

Insert	75 VAC	20 kA	SPCT2-075	167577	4/120
Insert	135 VAC	20 kA	SPCT2-135	167582	4/120
Insert	175 VAC	20 kA	SPCT2-175	167587	4/120
Insert	280 VAC	20 kA	SPCT2-280	167592	4/120
Insert	335 VAC	20 kA	SPCT2-335	167597	4/120
Insert	385 VAC	20 kA	SPCT2-385	167602	4/120
Insert	460 VAC	20 kA	SPCT2-460	167607	4/120
Insert	580 VAC	20 kA	SPCT2-580	167612	4/120
Insert	260 VAC	30 kA	SPCT2-NPE60	167617	4/120

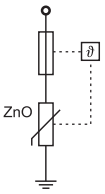
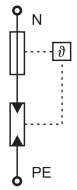
Description Surge Protective Class T2

- Field of application:
  For the protection of low voltage distribution systems against transient overvoltage caused by direct and indirect lightning stroke and switching operations
- Test class II according to IEC 61643-1+A1
- SPD-type T2, according to EN 61643-11
- Auxiliary switch ASAUXSC-SPM for remote message transmission can be mounted onto the device

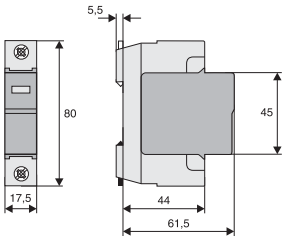
Technical Data

Inserts		SPCT2-075	SPCT2-135	SPCT2-175	SPCT2-280	SPCT2-335	SPCT2-385	SPCT2-460
Electrical								
Mechanical coding		x	x	x	x	x	x	x
Responding time (rate of voltage rise 5 kV/µs)		< 25 ns	< 25 ns	< 25 ns	< 25 ns	< 25 ns	< 25 ns	< 25 ns
Voltage protection level at nominal discharge current / U_{oc}	U_p	< 550 V	< 800 V	< 1.0 kV	< 1.4 kV	< 1.6 kV	< 1.8 kV	< 2.2 kV
Voltage protection level at 5 kA (8/20) µs	U_p	400 V	550 V	700 V	1000 V	1200 V	1350 V	1700 V
Max. continuous operating voltage	U_C	75 VAC	135 VAC	175 VAC	280 VAC	335 VAC	385 VAC	460 VAC
TOV test value (5 s)	U_T	= U_C	= U_C	= U_C	350 VAC	415 VAC	415 VAC	580 VAC
Rated frequency		50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Open circuit voltage	U_{oc}	–	–	–	10 kV	5 kV	–	–
Nominal discharge current (8/20) µs	I_n	15 kA	20 kA	20 kA	20 kA	20 kA	20 kA	20 kA
Charge Q at I_n		0.43 As	0.57 As	0.57 As	0.57 As	0.57 As	0.57 As	0.57 As
Specific energy at I_n		3.2 kJ/Ω	5.7 kJ/Ω	5.7 kJ/Ω	5.7 kJ/Ω	5.7 kJ/Ω	5.7 kJ/Ω	5.7 kJ/Ω
Max. discharge current	I_{max}	30 kA	40 kA	40 kA	40 kA	40 kA	40 kA	40 kA
Follow current interrupt rating	I_{fi}	–	–	–	–	–	–	–
Maximum back-up fuse Maximum short-circuit current		≤ 125 AgL 50 $kA_{r.m.s.}$		PLHT-C100 20 $kA_{r.m.s.}$				
Connection diagram								
Mechanical								
Frame size		45 mm						
Device height		80 mm						
Device width								
1pole		17.5 mm (1MU)						
1+1pole, 2pole		35 mm (2MU)						
3pole		52.5 mm (3TE)						
3+1pole, 4pole		70 mm (4TE)						
Mechanical coding								
1pole		x						
1+1pole		yx						
2pole		xx						
3pole		xxx						
3+1pole		yxxx						
4pole		xxxx						
Weight base 1P, 1+1P, 2P, 3P, 3+1P, 4P		53/120/120/180/240/240 g						
Weight complete devices 1P, 1+1P, 2P, 3P, 3+1P, 4P		110/201/220/330/412/440 g						
Permitted ambient temperature		-40°C to +70°C						
Degree of protection (built-in)		IP40						
Upper and lower lift terminal capacity		4 - 25 mm^2						
Upper and lower open mouthed terminals for busbar thickness up to		1.5 mm						
Tightening torque of terminal screws		2.4 - 3 Nm						
Quick fastening on DIN rail according to		IEC/EN 60715						
Accessories: busbars 16 mm^2		Type ZV-KSBI ...						

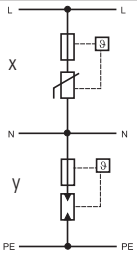
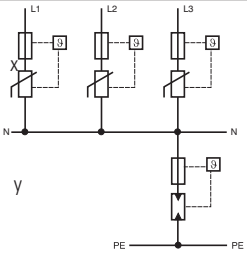
Technical Data

Inserts		SPCT2-580	SPCT2-NPE60
Electrical			
Mechanical coding		x	y
Responding time (rate of voltage rise 5 kV/µs)		< 25 ns	< 100 ns
Voltage protection level at nominal discharge current / U_{oc}	U_p	< 2.6 kV	< 1.0 kV
Voltage protection level at 5 kA (8/20) µs	U_p	2000 V	–
Max. continuous operating voltage	U_C	580 VAC	260 VAC
TOV test value	U_T	= U_C (5 s)	1200 VAC (200 ms)
Rated frequency		50/60 Hz	50/60 Hz
Open circuit voltage	U_{oc}	–	–
Nominal discharge current (8/20) µs	I_n	20 kA	30 kA
Charge Q at I_n		0.57 As	0.57 As
Specific energy at I_n		5.7 kJ/Ω	5.7 kJ/Ω
Max. discharge current	I_{max}	40 kA	60 kA
Follow current interrupt rating	I_{fi}	–	100 $A_{r.m.s.}$
Maximum back-up fuse Maximum short-circuit current		≤ 125 AgL 50 $kA_{r.m.s.}$	1 2 PLHT-C100 20 $kA_{r.m.s.}$
Connection diagram			
Mechanical			
Frame size		45 mm	
Device height		80 mm	
Device width			
1pole		17.5 mm (1MU)	
1+1pole, 2pole		35 mm (2MU)	
3pole		52.5 mm (3TE)	
3+1pole, 4pole		70 mm (4TE)	
Mechanical coding			
1pole		x	
1+1pole		yx	
2pole		xx	
3pole		xxx	
3+1pole		yxxx	
4pole		xxxx	
Weight base 1P, 1+1P, 2P, 3P, 3+1P, 4P		53/120/120/180/240/240 g	
Weight complete devices 1P, 1+1P, 2P, 3P, 3+1P, 4P		110/201/220/330/412/440 g	
Permitted ambient temperature		-40°C to +70°C	
Degree of protection (built-in)		IP40	
Upper and lower lift terminal capacity		4 - 25 mm^2	
Upper and lower open mouthed terminals for busbar thickness up to		1.5 mm	
Tightening torque of terminal screws		2.4 - 3 Nm	
Quick fastening on DIN rail according to		IEC/EN 60715	
Accessories: busbars 16 mm^2		Type ZV-KSBI ...	

Dimensions (mm)

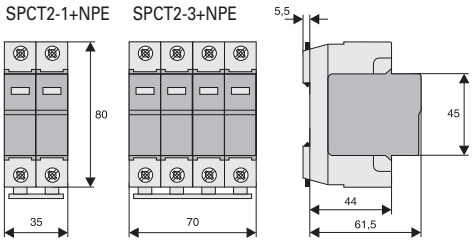


Technical Data

			SPCT2-1+NPE	SPCT2-3+NPE
Electrical				
Mechanical coding			yx	yxxx
Responding time (rate of voltage rise 5 kV/µs)	L-N/N-PE/L-PE		< 25ns/< 100ns/< 100ns	< 25ns/< 100ns/< 100ns
Max. continuous operating voltage	L-N/N-PE	U_C	335VAC/260VAC	280VAC/260VAC
TOV test value		U_T		
5 s	L-N		415 VAC	350 VAC
200 ms	N-PE		1200 VAC	1200 VAC
Rated frequency			50/60 Hz	50/60 Hz
Nominal discharge current (8/20) µs	L-N/N-PE/L-PE	I_n	20 kA	20 kA
Voltage protection level at I_n	L-N/N-PE/L-PE	U_p	≤1600V/≤1000V/≤1650V	≤1000V/≤1000V/≤1300V
Max. discharge current (8/20) µs	L-N/N-PE/L-PE	I_{max}	40 kA	40 kA
Follow current interrupt rating	N-PE	I_{fi}	100 $A_{r.m.s.}$	100 $A_{r.m.s.}$
Maximum back-up fuse Maximum short-circuit current			≤ 125 AgL 50 $kA_{r.m.s.}$	PLHT-C100 20 $kA_{r.m.s.}$
Connection diagram				
Mechanical				
Mechanical coding of base			yx	yxxx
Frame size			45 mm	45 mm
Device height			80 mm	80 mm
Device width			35 mm	70 mm
Weight			201 g	412 g
Permitted ambient temperature			-40°C to +70°C	-40°C to +70°C
Degree of protection (built-in)			IP40	IP40
Upper and lower lift terminal capacity			1 - 25 mm^2	1 - 25 mm^2
Upper and lower open mouthed terminals for busbar thickness up to			1.5 mm	1.5 mm
Tightening torque of terminal screws			2.4 - 3 Nm	2.4 - 3 Nm
Quick fastening on DIN rail according to			IEC/EN 60715	IEC/EN 60715
Accessories: busbars 16 mm^2			Type ZV-KSBI ...	Type ZV-KSBI ...

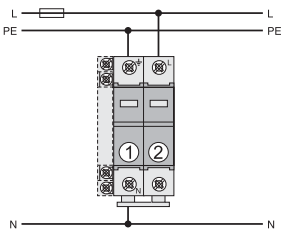
Dimensions (mm)

SPCT2-1+NPE SPCT2-3+NPE



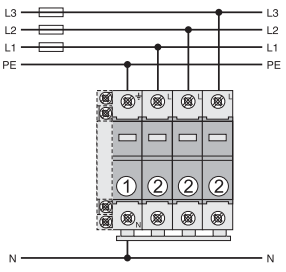
Application Examples

SPCT2-1+NPE
TN-, TT-System
3 x 230/400 VAC
3 x 240/415 VAC



① ... SPCT2-NPE
② ... SPCT2-335

SPCT2-3+NPE
TN-S-, TT-System
3 x 230/400 VAC
3 x 240/415 VAC



① ... SPCT2-NPE
② ... SPCT2-280

Surge arrester Sets

Surge Protective Class C, SPCT2

Surge Arrester Set SPCT2-335-3+NPE/BB

- The 3+1 circuit offers a universal solution for surge protection in low voltage distribution systems
- Suitable for TT- and TN-S-systems according to IEC 60364-5-53 Clause 534
- Remote message transmission is possibly by mounting auxiliary switch ASAUXSC-SPM
- Busbar connected, minimum installation work required

Content

SPCT2-335-3+NPE/BB	
- 1 unit SPCT2-335-3+NPE	Surge arrester
- 1 unit ASLTT-63	Lead-through terminal
- busbar included	

SG64212

SPET2-280/2

Poles	Max. Continous Operating Voltage U_C	I_n (8/20) µs	Type Designation	Article No.	Units per package
Surge arrester SPET2, 1- to 4pole					
Complete (2- and multi-pole surge arresters are supplied with busbar)					
1pole	280 VAC	10 kA	SPET2-280/1	168741	2/120
2pole	280 VAC	2x10 kA	SPET2-280/2	168742	1/60
3pole	280 VAC	3x10 kA	SPET2-280/3	168692	1/40
4pole	280 VAC	4x10 kA	SPET2-280/4	168693	1/30
1pole+N	280 VAC	10 kA	SPET2-280/1+NPE	168699	1/60
3pole+N	280 VAC	10 kA	SPET2-280/3+NPE	168700	1/30
1pole	335 VAC	10 kA	SPET2-335/1	168695	2/120
2pole	335 VAC	2x10 kA	SPET2-335/2	168696	1/60
3pole	335 VAC	3x10 kA	SPET2-335/3	168697	1/40
4pole	335 VAC	4x10 kA	SPET2-335/4	168698	1/30
1pole+N	335 VAC	10 kA	SPET2-335/1+NPE	168701	1/60
3pole+N	335 VAC	10 kA	SPET2-335/3+NPE	168702	1/30

sg63412

Surge arrester SPET2, Insert					
Insert 1pole					
Insert	280 VAC	10 kA	SPET2-280	168740	2/120
Insert	335 VAC	10 kA	SPET2-335	168694	2/120

SG83311

Accessories			
Auxiliary switch for SPBT12. SPCT2. SPET2. SPDT3	ASAUXSC-SPM	131785	8/80

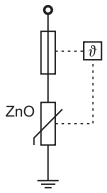
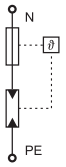
SG59511

Description	Type Designation	Article No.	Units per package
Lead-through terminal for SPB, ASLTT-63			
Lead-through terminal	ASLTT-63	131784	12/120

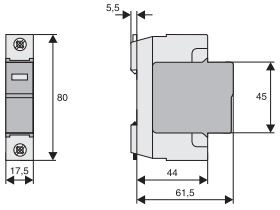
Description Surge arrester SPET2

- Field of application:
  For the protection of low voltage distribution systems against transient overvoltage caused by direct and indirect lightning stroke and switching operations
- Test class II according to IEC 61643-1+A1
- SPD-type T2, according to EN 61643-11
- Busbars ZV-KSBI are available for all customary applications
- Suitable for busbar connection to all Xtra Combinations switchgear

Technical Data

		SPET2-280	SPET2-335	SPET2-NPE60
Electrical				
Responding time (rate of voltage rise 5 kV/µs)		< 25 ns	< 25 ns	< 100 ns
Voltage protection level at nominal discharge current	U_p	< 1.2kV	< 1.3kV	< 1.0 kV
Voltage protection level at 5 kA (8/20) µs	U_p	1000 V	1200 V	-
Max. continuous operating voltage	U_C	280 VAC	335 VAC	260 VAC
TOV test value (5 s)	U_T	335 VAC	400 VAC	1200 VAC
Rated frequency		50/60 Hz	50/60 Hz	50/60 Hz
Nominal discharge current (8/20) µs	I_n	10 kA	10 kA	20 kA
Charge Q at I_n		0.57 As	0.57 As	0.57 As
Specific energy at I_n		5.7 kJ/Ω	5.7 kJ/Ω	5.7 kJ/Ω
Max. discharge current	I_{max}	20 kA	20 kA	60 kA
Follow current interrupt rating	I_{fi}	–	–	100 $A_{r.m.s.}$
Maximum back-up fuse Maximum short-circuit current		≤ 100 AgL 50 $kA_{r.m.s.}$	≤ C63 10 $kA_{r.m.s.}$	
Connection diagram				
Mechanical				
Frame size		45 mm		
Device height		80 mm		
Device width		17.5 mm		
Weight		87 g		
Permitted ambient temperature		-40°C to +70°C		
Degree of protection (built-in)		IP40		
Upper and lower lift terminal capacity		4 - 25 mm²		
Upper and lower open mouthed terminals for busbar thickness up to		1.5 mm		
Tightening torque of terminal screws		2 - 2.5 Nm		
Quick fastening on DIN rail according to		IEC/EN 60715		
Accessories: busbars 16 mm²		Type ZV-KSBI ...		

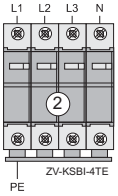
Dimensions (mm)



Application Examples SPET2 according to IEC 60364-5-53 Clause 534

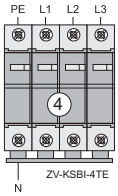
TN-C-System
3 x 230/400 VAC
(3 x 220/380 VAC)
(3 x 240/415 VAC)

TN-S-System
3 x 230/400 VAC
(3 x 220/380 VAC)
(3 x 240/415 VAC)

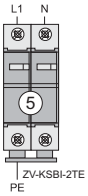


TT-System
3 x 230 VAC
(3 x 220 VAC)

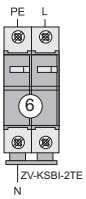
TN-S-/TT-System
3 x 230/400 VAC
(3 x 220/380 VAC)
(3 x 240/415 VAC)



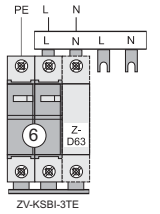
TN-S-System
1 x 230 VAC
(1 x 220 VAC)
(1 x 240 VAC)



TN-S-/TT-System
1 x 230 VAC
(1 x 220 VAC)
(1 x 240 VAC)

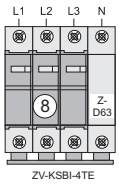


TN-S-/TT-System
1 x 230 VAC
(1 x 220 VAC) (1 x 240 VAC)



TN-S-/TT-System
230 VAC

TN-S-/TT-System
3 x 230/400 VAC



		1	2	3	4	
	IEC 60364-5-534 IEC 60364-5-53 Clause 534	SPET2-280/3	SPET2-280/4	---	SPET2-335/3+NPE	
A	ÖVE ÖNORM E8001-1	SPET2-335/3	SPET2-335/4	---	SPET2-335/3+NPE	
D	VDE V 0100-534	SPET2-280/3	SPET2-280/4	---	SPET2-335/3+NPE	
N		SPET2-280/3	SPET2-280/4	SPET2-280/3	---	

		5	6	7	8	
	IEC 60364-5-534 IEC 60364-5-53 Clause 534	SPET2-280/2	SPET2-335/1+NPE	---	---	
A	ÖVE ÖNORM E8001-1	SPET2-335/2	SPET2-335/1+NPE	---	---	
D	VDE V 0100-534	SPET2-280/2	SPET2-335/1+NPE	---	---	
F	UTE C 20-443	---	---	SPET2-280/1	SPET2-280/3	

Description Auxiliary switch for Surge arrester ASAUXSC-SPM

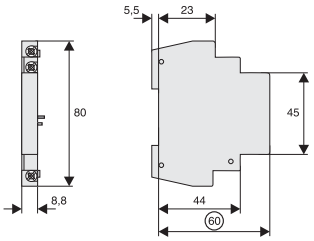
- Field of application:
  For mounting onto surge predective devices for external defect message transmission
- Design basically in accordance with IEC 60947-5-1
- Can be mounted subsequentlyr
- Suitable withSPBT12. SPCT2. SPET2. SPDT3. SP-B+C

Technical Data

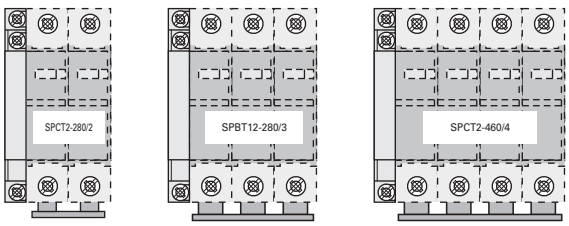
	ASAUXSC-SPM
Electrical	
Rated insulation voltage	250 V
Rated frequency	50/60 Hz
Switching contact	1 CO
Minimum voltage per contact	24 VAC
Rated operational current AC12	2 A / 250 VAC
Maximum back-up fuse	2 A gL
Overvoltage category	IV
Pollution degree	2
Mechanical	
Frame size	45 mm
Device height	80 mm
Device width	8.8 mm
Mounting	Screw-mounting
Degree of protection, built-in	IP40
Terminal protection	finger and hand touch safe according to DGUV VS3, EN 50274
Upper and lower terminals	lift terminals
Terminal capacity	2 x 2.5 mm^2
Tightening torque of terminal screws	0.8 - 1 Nm

Connection diagram

Dimensions (mm)



Application Examples



Description Lead-Through Terminal for Surge Protective Devices, SPD-type 2 (Surge Protective Class C), ASLTT-63

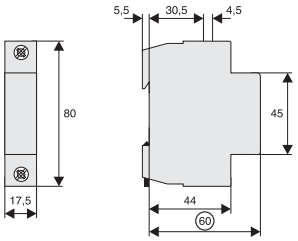
- The lead-through terminal permits orderly wiring of SPDs types 2 (Surge Protective Class C).
  It serves as lead-through terminal in circuits requiring vertical connections from the upper to the lower SPD connection level.
- 1pole
- Suitable for standard busbar connection to EATON switchgear

Technical Data

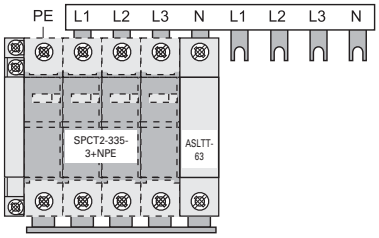
	ASLTT-63
Electrical	
Rated voltage	690 V AC/DC
Rated current	63 A
Rated frequency	50/60 Hz
Mechanical	
Frame size	45 mm
Device height	80 mm
Device width	17.5 mm
Mounting	quick fastening on DIN rail IEC/EN 60715
Degree of protection, built-in	IP40
Terminal protection	finger and hand touch safe according to DGUV VS3, EN 50274
Upper and lower terminals	Lift- and Maulklemme
Terminal capacity	1 - 25 mm^2
Busbar thickness	0.8 - 2 mm
Tightening torque of terminal screws	2.4 - 3 Nm

Connection diagram

Dimensions (mm)



Application Example / Connection type 2 according to IEC 60364-5-53 Clause 534



Poles	Max. Continous Operating Voltage U_C	Type Designation	Article No.	Units per package

Surge arrester SPDT3

SG03213

SPDT3-335-1+NPE

Complete (2-pole surge arresters are supplied with busbar)

1pole+N	335 VAC	SPDT3-335-1+NPE	170487	1/60
2pole	280 VAC	SPDT3-280/2	170485	1/60

Max. Continous Operating Voltage U_C	Type Designation	Article No.	Units per package

Surge arrester SPDT3, Insert

sg03413

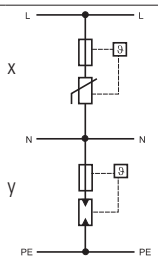
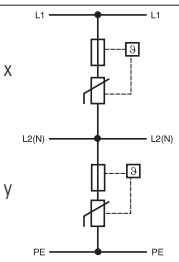
Insert 1pole

280 VAC	SPDT3-280	170484	2/120
335 VAC	SPDT3-335	170486	2/120

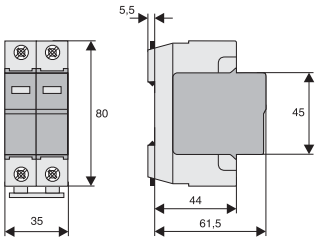
Description Surge Protective Class T3

- Field of application:
  For fine protection of user equipment against transient overvoltage
- For mounting on DIN rails in distribution boxes for electrical installation
- No decoupling from upstream surge protection in the low voltage distribution system required
- Test class III according to IEC 61643-1+A1
- SPD-type T3 according to EN 61643-11
- Suitable for high back-up fuse 63 A gL / C 63
- Auxiliary switch ASAUXSC-SPM for remote message transmission can be mounted onto the device

Technical Data

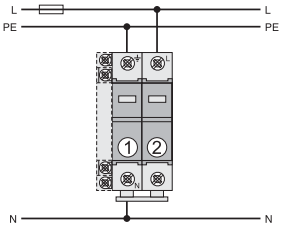
			SPDT3-335-1+NPE		SPDT3-280/2
Electrical					
Mechanical coding			yx		xx
Responding time (rate of voltage rise 5 kV/µs)		L-N/N-PE/L-PE	< 25ns/< 100ns/< 100ns	L1-L2(N)/L2(N)-PE/L1-PE	< 25ns
Max. continuous operating voltage	U_C	L-N/N-PE	335VAC/260VAC	L1-L2(N)/L2(N)-PE	280VAC
TOV test value	U_T				
5 s		L-N/L-PE	350VAC/416VAC	L-N/L-PE	350VAC/416VAC
200 ms		N-PE	1200VAC	N-PE	1200VAC
Rated frequency			50/60 Hz		50/60 Hz
Open circuit voltage	U_{OC}	L-N/N-PE/L-PE	6kV	L1-L2(N)/L2(N)-PE/L1-PE	6kV
Voltage protection level at UOC	U_p	L-N/N-PE/L-PE	≤900V/≤1500V/≤900V	L1-L2(N)/L2(N)-PE	≤900V
Nominal discharge current (8/20) µs	I_n	L-N/N-PE/L-PE	2.5kA	L1-L2(N)/L2(N)-PE	5kA
Voltage protection level at I_n	U_p	L-N/N-PE/L-PE	≤1000V/≤1500V/≤1000V	L1-L2(N)/L2(N)-PE	≤950V
Max. discharge current (8/20) µs	I_{max}	L-N/N-PE/L-PE	10kA	L1-L2(N)/L2(N)-PE/L1-PE	10kA
Follow current interrupt rating	I_{fi}	N-PE	100 $A_{r.m.s.}$		–
Maximum back-up fuse Maximum short-circuit current			≤ 125 AgL 50 $kA_{r.m.s.}$		≤ C63 10 $kA_{r.m.s.}$
Connection diagram					
Mechanical					
Mechanical coding of base			yx		xx
Frame size			45 mm		45 mm
Device height			80 mm		80 mm
Device width			35 mm		35 mm
Weight			220 g		220 g
Permitted ambient temperature			-40°C to +70°C		-40°C to +70°C
Degree of protection (built-in)			IP40		IP40
Upper and lower lift terminal capacity			1 - 25 mm^2		1 - 25 mm^2
Upper and lower open mouthed terminals for busbar thickness up to			1.5 mm		1.5 mm
Tightening torque of terminal screws			2.4 - 3 Nm		2.4 - 3 Nm
Quick fastening on DIN rail according to			IEC/EN 60715		IEC/EN 60715

Dimensions (mm)



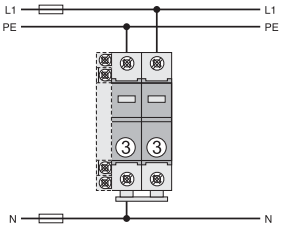
Application Examples

SPDT3-335-1+NPE
TN-, TT-System
3 x 230/400 VAC
3 x 240/415 VAC



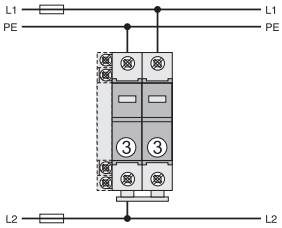
① ... SPCT2-NPE60
② ... SPDT3-335

SPDT3-280/2
IT-System
3 x 230/400 VAC

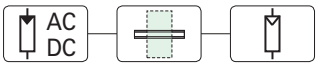


③ ... SPDT3-280/2

SPDT3-280/2
IT-, TT-System
3 x 133/230 VAC



③ ... SPDT3-280/2



Max. continuous operating voltage U_C	Type Designation	Article No.	Units per package

Plug-in Surge Arrester SPPVT2 for Photovoltaic application

- For insulationed and earthed systems

sg04914

600 V DC	SPPVT2-06-2+PE	176088	1 / 40
1000 V DC	SPPVT2-10-2+PE	176090	1 / 40

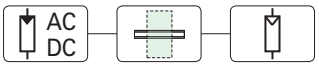
With auxiliary switch

600 V DC	SPPVT2-06-2+PE-AX	176087	1 / 40
1000 V DC	SPPVT2-10-2+PE-AX	176089	1 / 40

sg04714

Inserts for replacement

600 V DC	SPPVT2-06	176091	1 / 50
1000 V DC	SPPVT2-10	176092	1 / 50

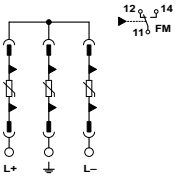


Description Plug-in Surge Arrester SPPVT2-...-2+PE(-AX)

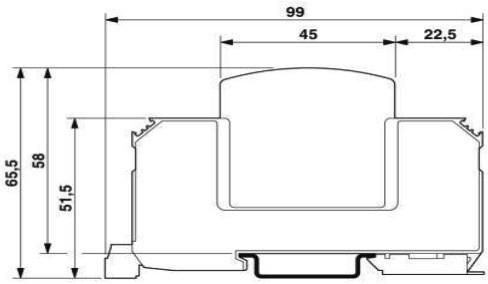
- Increased safety through compliance with the EN 50539-11 standard
- Safe contacting thanks to integrated redary bolts
- Easy to replace thanks to a plug-type arrester
- Optimal protection of the inverter thanks to a low protection level
- Selective replacement of defective connectors thanks to a visual status indicator
- Optimized planning of maintenance interventions thanks to remote signalling (Type -AX)
- No wrong connecting possible thanks to coded connectors and base elements

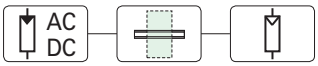
Connection diagram

SPPVT2(H)-...-2+PE(-AX)



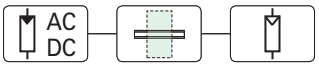
Dimensions (mm)





Technical Data

		SPPVT2-06-2+PE(-AX)	SPPVT2-10-2+PE(-AX)
Environmental condition			
Degree of protection		IP20	IP20
Ambient temperature of operation		-40 ... +80°C	-40 ... +80°C
Altitude		≤ 2000 m	≤ 2000 m
Allowed range of air humidity of operation		5 ... 95 %	5 ... 95 %
General			
Standards/regulations		EN 50539-11	EN 50539-11
EN Test class		PV T2	PV T2
SPD failure performance		OCM	OCM
Mounting		DIN rail 35 mm	DIN rail 35 mm
Material of the enclosure		PBT/PA	PBT/PA
Pollution degree		II	II
Flammabilty class according to UL 94		V0	V0
Signal for surge protection defective		visual, with remote signalling contact	visual, with remote signalling contact
Predective circuit on the direct current side (DC)			
Max. continuous operating voltage	U_{CPV}	800 V DC	1170 V DC
No-load output voltage	U_{OCSTC}	≤ 670 V DC	≤ 970 V DC
Short-circuit current strength	I_{SCPV}	2000 A	2000 A
Nominal load current	I_L	80 A DC	80 A DC
Predective conductor current	I_{PE}		
DC		≤ 20 µA	≤ 20 µA
AC		≤ 300 µA	≤ 250 µA
Standby power consumption	P_C	≤ 20 mVA	≤ 25 mVA
Nominal discharge current (8/20) µs		15 kA	15 kA
Maximum discharge current (8/20) µs	I_{max}	40 kA	40 kA
Total lightning discharge current (8/20) µs	I_{Total}	40 kA	40 kA
Voltage protection level (L+) - (L-)	U_p	≤ 2.7 kV	≤ 3.7 kV
Voltage protection level (L+/L-) - PE	U_p	≤ 2.7 kV	≤ 3.7 kV
Responding time	t_A	≤ 25 ns	≤ 25 ns
Size			
Hight		99 mm	99 mm
Width		53.4 mm	53.4 mm
Depth		65.5 mm	65.5 mm
Module units (MU)		3 MU	3 MU
Weight			
...+PE		gross 313 g / net 288 g	gross 337 g / net 311 g
...+PE-AX		gross 320 g / net 294 g	gross 343 g / net 317 g
Connection data			
Type of connection		**Screw connection**	**Screw connection**
Lift terminal capacity			
flexible		1.5-25 mm²	1.5-25 mm²
solid		1.5-35 mm²	1.5-35 mm²
Bolt thread		M5	M5
Tightening torque		4.5 Nm	4.5 Nm
Stripping length		16 mm	16 mm
Type of connection		**Biconnect-terminals**	**Biconnect-terminals**
Lift terminal capacity			
solid		1.5-16 mm²	1.5-16 mm²
Bolt thread		M6	M6
Tightening torque		30 lb in	30 lb in
Auxiliary Switch			
Switching function		CO, 1-pole	CO, 1-pole
Rated operational voltage		5 ... 250 V AC, 30 V DC	5 ... 250 V AC, 30 V DC
Rated operational current		5 mA ... 1.5 A AC, 1.5 A DC	5 mA ... 1.5 A AC, 1.5 A DC
Type of connection		MC 1.5/3	MC 1.5/3
Lift terminal capacity			
flexible		0.14-1.5 mm²	0.14-1.5 mm²
solid		0.14-1.5 mm²	0.14-1.5 mm²
Lift terminal capacity AWG/kcmil		30 ... 14	30 ... 14
Bolt thread		M2	M2
Tightening torque		0.25 Nm, 2 ... 4 lb in	0.25 Nm, 2 ... 4 lb in
Stripping length		7 mm	7 mm



Max. continuous operating voltage U_C	Type Designation	Article No.	Units per package

Plug-in Surge Arrester SPPVT12 for Photovoltaic application

- For insulationed and earthed systems

sg04914

600 V DC	SPPVT12-06-2+PE	177258	1 / 40
1000 V DC	SPPVT12-10-2+PE	177256	1 / 40

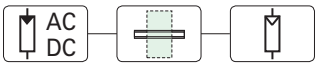
With auxiliary switch

600 V DC	SPPVT12-06-2+PE-AX	177257	1 / 40
1000 V DC	SPPVT12-10-2+PE-AX	177255	1 / 40

sg04714

Inserts for replacement

600 V DC	SPPVT12-06	177259	1 / 50
1000 V DC	SPPVT12-10	177260	1 / 50

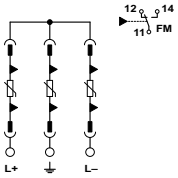


Description Plug-in Surge Arrester SPPVT12-...-2+PE(-AX)

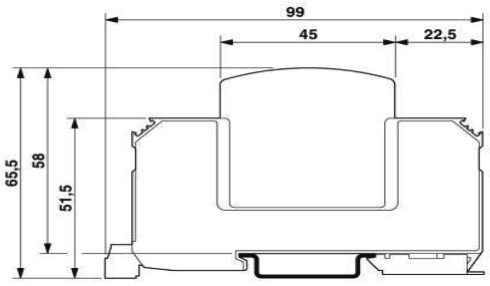
- Increased safety through compliance with the EN 50539-11 standard
- Safe contacting thanks to integrated redary bolts
- Easy to replace thanks to a plug-type arrester
- Optimal protection of the inverter thanks to a low protection level
- Selective replacement of defective connectors thanks to a visual status indicator
- Optimized planning of maintenance interventions thanks to remote signalling (Type -AX)
- No wrong connecting possible thanks to coded connectors and base elements
- Always the right arrester thanks to universal Type1/Type2 predective components

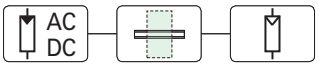
Connection diagram

SPPVT12-...-2+PE(-AX)



Dimensions (mm)





Technical Data

		SPPVT12-06-2+PE(-AX)	SPPVT12-10-2+PE(-AX)
Environmental condition			
Degree of protection		IP20	IP20
Ambient temperature of operation		-40 ... +80°C	-40 ... +80°C
Altitude		≤ 2000 m	≤ 2000 m
Allowed range of air humidity of operation		5 ... 95 %	5 ... 95 %
General			
Standards/regulations		EN 50539-11	EN 50539-11
EN Test class		PV T1/PV T2	PV T1/PV T2
SPD failure performance		OCM	OCM
Mounting		DIN rail 35 mm	DIN rail 35 mm
Material of the enclosure		PBT/PA	PBT/PA
Pollution degree		II	II
Flammabilty class according to UL 94		V0	V0
Signal for surge protection defective		visual, with remote signalling contact	visual, with remote signalling contact
Predective circuit on the direct current side (DC)			
Max. continuous operating voltage	U_{CPV}	720 V DC	1050 V DC
No-load output voltage	U_{OCSTC}	≤ 600 V DC	≤ 875 V DC
Short-circuit current strength	I_{SCPV}	2000 A	2000 A
Nominal load current	I_L	80 A DC	80 A DC
Predective conductor current	I_{PE}		
DC		≤ 20 µA	≤ 20 µA
AC		≤ 350 µA	≤ 350 µA
Standby power consumption	P_C	≤ 20 mVA	≤ 25 mVA
Nominal discharge current (8/20) µs		15 kA	15 kA
Maximum discharge current (8/20) µs	I_{max}	40 kA	40 kA
Lightning test current (10/350) µs, Peak current	I_{imp}	5 kA	5 kA
Total lightning discharge current (8/20) µs	I_{Total}	7 kA	5 kA
Voltage protection level (L+) - (L-)	U_p	≤ 2.6 kV	≤ 357 kV
Voltage protection level (L+/L-) - PE	U_p	≤ 2.6 kV	≤ 3.5 kV
Responding time	t_A	≤ 25 ns	≤ 25 ns
Required max. back-up fuse with stub-line wiring		not neccessary	not neccessary
Size			
Hight		99 mm	99 mm
Width		53.4 mm	53.4 mm
Depth		65.5 mm	65.5 mm
Module units (MU)		3 MU	3 MU
Weight			
...+PE		gross 407 g / net 379 g	gross 407 g / net 379 g
...+PE-AX		gross 414 g / net 386 g	gross 414 g / net 386 g
Connection data			
Type of connection		**Screw connection**	**Screw connection**
Lift terminal capacity			
flexible		1.5-25 mm²	1.5-25 mm²
solid		1.5-35 mm²	1.5-35 mm²
Bolt thread		M5	M5
Tightening torque		4.5 Nm	4.5 Nm
Stripping length		16 mm	16 mm
Type of connection		**Biconnect-terminals**	**Biconnect-terminals**
Lift terminal capacity			
solid		1.5-16 mm²	1.5-16 mm²
Bolt thread		M6	M6
Tightening torque		30 lb in	30 lb in
Auxiliary Switch			
Switching function		CO, 1-pole	CO, 1-pole
Rated operational voltage		5 ... 250 V AC, 30 V DC	5 ... 250 V AC, 30 V DC
Rated operational current		5 mA ... 1.5 A AC, 1.5 A DC	5 mA ... 1.5 A AC, 1.5 A DC
Type of connection		MC 1.5/3	MC 1.5/3
Lift terminal capacity			
flexible		0.14-1.5 mm²	0.14-1.5 mm²
solid		0.14-1.5 mm²	0.14-1.5 mm²
Lift terminal capacity AWG/kcmil		30 ... 14	30 ... 14
Bolt thread		M2	M2
Tightening torque		0.25 Nm, 2 ... 4 lb in	0.25 Nm, 2 ... 4 lb in
Stripping length		7 mm	7 mm

Z-GV-U/9

Poles	Type Designation	Article No.	Units per package
Busbar Z-GV-U/ for SPI, SP-B+C			
2	Z-GV-U/2	272588	20 / 1200
3	Z-GV-U/3	272589	20 / 1200
4	Z-GV-U/4	274080	20 / 1200
5	Z-GV-U/5	274081	20 / 1200
6	Z-GV-U/6	274082	20 / 400
8	Z-GV-U/8	274083	20 / 200
9	Z-GV-U/9	274084	20 / 200

Description busbar Z-GV-U/

- Busbars Z-GV-U/ permit to implement customary SPD combinations
- Suitable for SPI-..., SPB-D-125
- The rated cross-section of Z-GV-U/ is 16 mm²
- The busbars must be cut to length in some cases

Technical Data

	Z-GV-U/
Electrical	
Rated voltage	230/400 V, 50/60 Hz
Rated current	63 A
Mechanical	
Busbar cross section	16 mm² Cu

Design

Z-GV-U/2

Z-GV-U/3

Z-GV-U/4

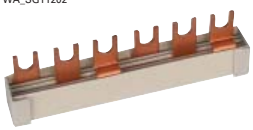
Z-GV-U/5

Z-GV-U/6

Z-GV-U/8

Z-GV-U/9

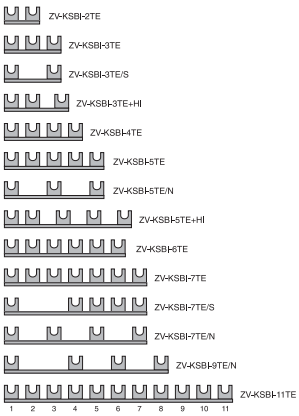
WA_SG11202



Used for	Type Designation	Article No.	Units per package
Busbar Z-GV-16/3P-3TE/6			
for SPI and SPC	Z-GV-16/3P-3TE/6	267511	12 / 240

Busbar ZV-KSBI for SPC

Poles	Type Designation	Article No.	Units per package
2MU	ZV-KSBI-2MU	263961	10 / 600
3MU	ZV-KSBI-3TE	263962	10 / 600
3MU	ZV-KSBI-3TE/S	263963	10 / 600
2MU+1.5MU	ZV-KSBI-3TE+HI	112370	50 / 150
4MU	ZV-KSBI-4TE	263964	10 / 600
5MU	ZV-KSBI-5TE	263965	10 / 200
5MU	ZV-KSBI-5TE/N	263966	10 / 200
2MU+3x1.5MU	ZV-KSBI-5TE+HI	112371	50 / 150
6MU	ZV-KSBI-6TE	113118	50 / 500
7MU	ZV-KSBI-7TE	263967	50 / 500
7MU	ZV-KSBI-7TE/S	263968	10 / 100
7MU	ZV-KSBI-7TE/N	263969	10 / 100
9MU	ZV-KSBI-9TE/N	266874	50 / 500
11MU	ZV-KSBI-11MU	263970	50 / 500



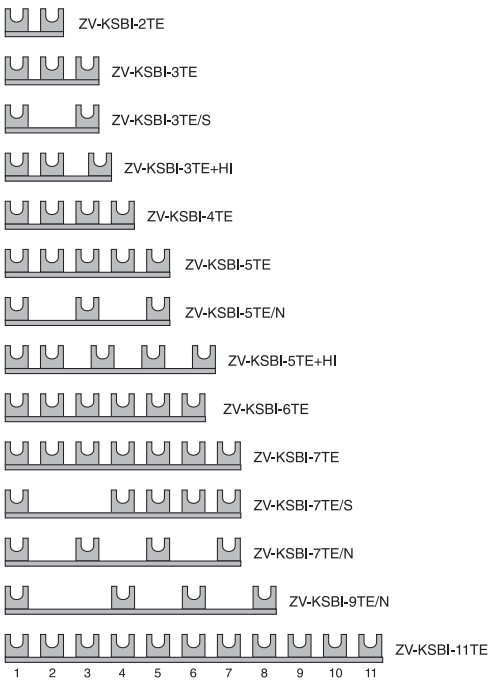
Description busbar ZV-KSBI

- With the ZV KSBI busbar bracket you can realize the common combinations of arrestors.
- Used for SPB-..., SPC-..., Z-D63
- The rated cross-section of the ZV-KSBI bridge metals is 16 mm^2
- The busbar mounting bracket can be shortened

Technical Data

	Z-GV-U/
Electrical	
Rated voltage	230/400 V, 50/60 Hz
Rated current	63 A
Mechanical	
Busbar cross section	16 mm^2 Cu

Design



19" Multiple Outlet Strips NWS-STL/19/7F

N00411

Description	Type Designation	Article No.	Units per package
7outlets, DIN	NWS-STL/19/7F	255398	1
7outlets plus switch, DIN	NWS-STL/19/7F/S/BL	255399	1
7outlets, UTE	NWS-STL/19/7F/UTE	290031	1

Description 19" Multiple Outlet Strips NWS-STL/19/7F

- Installation onto 19" rails
- Installation height: 1U
- Diagonally arranged socket outlets with earthing contact according to DIN 49440 or NF-C61314 (UTE), 16 A / 250 V AC
- Connection cable of 2.5 m H05VV-F 3G 1.5 mm² with an angled connector
- Max. power consumption: 3680 W
- Degree of protection: IP20
- Temperature range: -5 to +40 °C
- Dimensions: 482.6x44x44.45 mm (WxDxH)
- Material: Enclosure made of aluminium, front cover made of plastic similar to RAL 7035
- Weight: approx. 0.9 kg
- Scope of delivery: 1 Outlet strip incl. 19" fixing bracket, different fixing material

19" Multiple Outlet Strips with Surge Protection SPD-STL/19/7F-S/BL

wa_nt06613

7outlets plus switch,, DIN	SPD-STL/19/7F-S/BL	283449	1
7outlets, UTE	SPD-STL/19/7F-S/BL/UTE	290032	1

Description 19" Multiple Outlet Strips with Surge Protection SPD-STL/19/7F-S/BL

- Can be mounted on 19" rails
- Installation height: 1U
- Diagonally arranged socket outlets with earthing contact according to DIN 49440 or NF-C61314 (UTE), 16 A / 250 V AC
- Connection cable of 2.5 m H05VV-F 3G 1.5 mm² with an angled connector
- On/Off switch, 2-pole, lit
- Max. power consumption: 3680 W
- Degree of protection: IP20
- Temperature range: -5 up to +40 °C
- Surge protection tested according to IEC 61643-1 (Class: SPD Type 3)
- Response time: < 25 ns
- Dimensions: 482.6x44x44.45 mm (WxDxH)
- Material: Enclosure made of aluminium, front cover made of plastic similar to RAL 7035
- Weight: approx. 0.9 kg
- Scope of delivery: 1 Outlet strip incl. 19" fixing bracket, different fixing material

Description	Type Designation	Article No.	Units per package
Surge Protection Multiple Outlet Strips with High-Range Filter and Energy Absorption for full Equipment Protection SPD-STL/6F-S			
6outlets plus switch, DIN	SPD-STL/6F-S (68583)	130000	1
6outlets plus switch, DIN+ISDN	SPD-STL/6F-S/ISDN (68585)	147795	1
19" fixing bracket for SPD-STL/6F-S (1U)	NWS-HW/19/SPD-STL/6F-S	166364	1

Description Surge Protection Multiple Outlet Strips with High-Range Filter and Energy Absorption for full Equipment Protection SPD-STL/6F-S

- Suitable for wall-mounting in indoor areas
- A 19" fixing bracket is available as an option for mounting the strip in a cabinet
- Diagonally arranged socket outlets with earthing contact according to DIN 49440, 10 A / 250 V AC
- Connection cable of 1.0 m H05VV-F 3G 1.0 m^{m2} with an angled connector
- On/Off switch with MCB that can be reset
- Max. power consumption: 2500 W
- Degree of protection: IP20
- Temperature range: -15 to +70 °C
- Surge protection tested according to IEC 61643-1 (Class: SPD Type 3)
- Response time: < 1 ns
- Dimensions: 390x42x52 mm (WxDxH)
- Material: Enclosure made of plastic similar to RAL 7021
- Weight: approx. 0.4 kg
- Scope of delivery: 1 Multiple outlet strip

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