

Surge Protection SPBT12



Powering Business Worldwide

Description	Type Designation	Article No.	Units per package
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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...		

SG29612



SPBT12-280/3

Impulse current I_{imp} (10/350) μ s	Type Designation	Article No.	Units per package
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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

SG27112



SPBT12-280/1

Insert

12.5 kA Insert	SPBT12-280	167341	2/120
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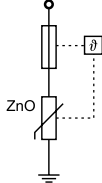


sg63312



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

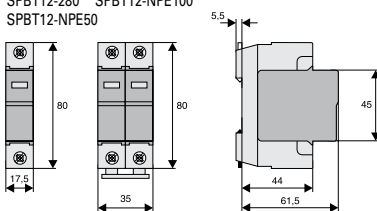
		SPBT12-280...	SPBT12-NPE50	SPBT12-NPE100
Electrical	per pole			
Responding time (rate of voltage rise 5 kV/μs)		< 25 ns	< 100 ns	< 100 ns
Voltage protection level	U_p	< 1.5 kV	< 1.4 kV	< 1.5 kV
Voltage protection level at 5 kA (8/20) μs	U_p	950 V	—	—
Max. continuous operating voltage	U_c	280 VAC	260 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

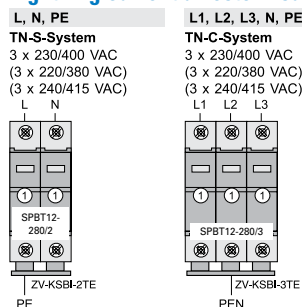
Frame size	45 mm	45 mm	45 mm
Device height	80 mm	80 mm	80 mm
Device width	17.5 mm	17.5 mm	35 mm
Weight	121 g	93 g	250 g
Permitted ambient temperature	-40°C to +70°C	-40°C to +70°C	-40°C to +70°C
Degree of protection (built-in)	IP40	IP40	IP40
Upper and lower lift terminal capacity	4 - 25 mm ²	top 4 - 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

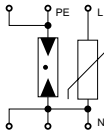
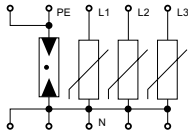


Lightning current arrester - surge arrester sets, Lightning protection classes III, IV



① ... SPBT12-280

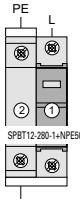
Technical Data

		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

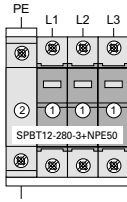
TN-S-System
 3 x 230/400 VAC
 (3 x 220/380 VAC)
 (3 x 240/415 VAC)



SPBT12-280-1+NPE50

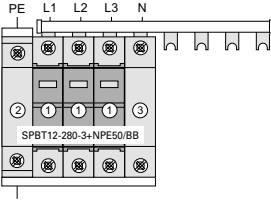
L1, L2, L3, N, PE

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



SPBT12-280-3+NPE50

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



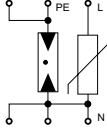
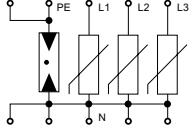
SPBT12-280-3+NPE50/BB

① ... SPBT12-280

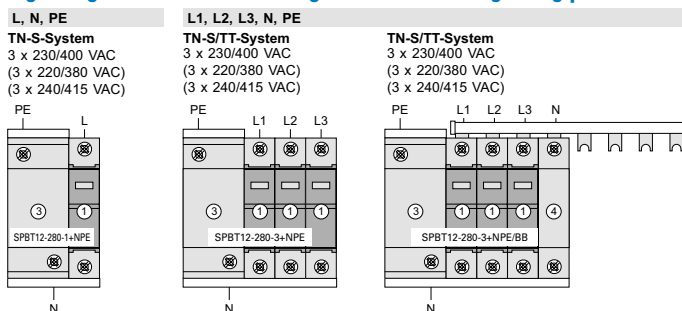
② ... SPBT12-NPE50

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



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

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Printed in Austria
Publication No. CA010002EN
Article number 301974-MK
April 2021
Graphics: SRA, Schrems

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