

# SPD Class B

## SPD Class B

Impulse Current $I_{imp}$ (10/350) $\mu$ s	Type Designation	Article No.	Units per package
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SG50312



SPI-35/440

### Lightning current arresters SPI

- No decoupling necessary, if arrester class C with  $U_c = 460$  V are used for combination

Impulse Current $I_{imp}$ (10/350) $\mu$ s	Type Designation	Article No.	Units per package
35kA L - (PE)N	SPI-35/440	263137	6 / 120
50kA N - PE	SPI-50/NPE	263138	2 / 120
100kA N - PE	SPI-100/NPE	263139	1 / 60

### Lightning current arrester Sets, Lightning protection classes I, II, III, IV

Description	Type Designation	Article No.	Units per package
TN-C-Set 3-pole	SPI-35/440/3	267487	1 / 40
TN-S/TT-Set 3+1-pole	SPI-3+1	267488	1 / 20

SG50212



SPI-3+1

### Lead-through terminal for SPI

Type Designation	Article No.	Units per package
SPB-D-125	248145	2 / 120

## SPD Class B+C

Impulse Current $I_{imp}$ (10/350) $\mu$ s	Type Designation	Article No.	Units per package
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SG27112



SPBT12-280/1

### Lightning current arrester - surge arrester SPBT12

#### Complete

Impulse Current $I_{imp}$ (10/350) $\mu$ s	Type Designation	Article No.	Units per package
12.5kA L - (PE) N	SPBT12-280/1	158306	12 / 120
100kA N-PE	SPBT12-NPE100	158307	1 / 60

### Lightning current arrester - surge arrester SPBT12

#### Insert

Impulse Current $I_{imp}$ (10/350) $\mu$ s	Type Designation	Article No.	Units per package
12.5kA Insert	SPBT12-280	167341	4 / 120

## SPD Class B, Lightning Current Arrester SPI




- Field of application: For the protection of low voltage distribution systems against direct lightning stroke into the overhead power supply line or external lightning protection system (IEC 62305).
- Application according to IEC 60364-5-53 Clause 534
- Test class **I** in accordance with IEC 61643-1
- SPD-type **Ti** in accordance with EN 61643-1
- Capsuled version: during the discharge process, the device does not issue any hot ionised gases. Therefore, there is no need for keeping a safety distance to flammable materials.

### Practical Hint

Installation of lightning current arresters upstream of the meter is subject to co-ordination with the relevant power supply company.

Installation of an r.m.s.ective protection cascade (SPD classes B, C, D) requires co-ordinated application of the respective protective devices. This is ensured by a defined line length between protective devices. When using lightning current arresters of type SPI in connection with surge arresters SPC with a maximum continuous operating voltage  $U_c$  of 460 V AC, no specific line length or decoupling coils are required.

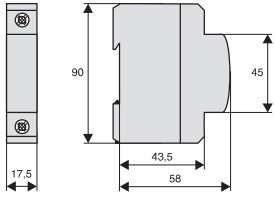
## Technical Data

	SPI-35/440	SPI-50/NPE	SPI-100/NPE
<b>Electrical</b>			
Design	capsuled	capsuled	capsuled
Responding time $t_r$	< 100 ns	< 100 ns	< 100 ns
Voltage protection level $U_p$	1.5 kV	1.5 kV	1.5 kV
Maximum continuous operating voltage $U_c$	440 VAC	260 VAC	260 VA
Temporary overvoltage test value $U_T$ (200 ms) (5 s)	– $U_T = U_c$	1200 VAC	1200 VAC
Rated frequency	50/60 Hz	50/60 Hz	50/60 Hz
Discharge current (8/20) $\mu s$ $I_{max}/I_n$	35 kA	50 kA	100 kA
Impulse current $I_{imp}$ (10/350) $\mu s$			
Peak current	35 kA	50 kA	100 kA
Charge Q	17.5 As	25 As	50 As
Specific energy	305 kJ/Ω	625 kJ/Ω	2500 kJ/Ω
Insulation resistance $R_{ISO}$	>10 MΩ	>10 MΩ	>10 MΩ
Follow current interrupt rating $I_{fi}$	3kA <sub>r.m.s</sub> /260V 1.5kA <sub>r.m.s</sub> /440V	500A <sub>r.m.s</sub> /260V	100A <sub>r.m.s</sub> /260V
Short-circuit current strength at max. back-up fuse	25kA <sub>r.m.s</sub>	–	–
Maximum back-up fuse	125 AgL	–	–
Connection diagram			
<b>Mechanical</b>			
Frame size	45 mm	45 mm	45 mm
Device height	90 mm	90 mm	90 mm
Device width	17.5 mm	17.5 mm	35 mm
Weight	174 g	178 g	320 g
Upper and lower lift terminal capacity			
rigid	0.5 - 35 mm <sup>2</sup>	0.5 - 35 mm <sup>2</sup>	10 - 50 mm <sup>2</sup>
flexible	0.5 - 25 mm <sup>2</sup>	0.5 - 25 mm <sup>2</sup>	16 - 35 mm <sup>2</sup>
Tightening torque of terminal screws	4 - 4.5 Nm	4 - 4.5 Nm	6 - 8 Nm
Mounting	quick fastening on DIN rail IEC/EN 60715		
Degree of protection acc. to IEC 60529 (installed)	IP20 (IP40)		
Accessories: busbars	Z-GV-U/		
Permitted relative air humidity	< 95%		
Permitted ambient temperature	-40°C to +85°C		

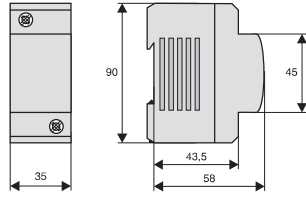
# SPD Class B

## Dimensions (mm)

SPI-35/440, SPI-50/NPE

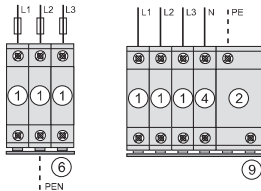


SPI-100/NPE



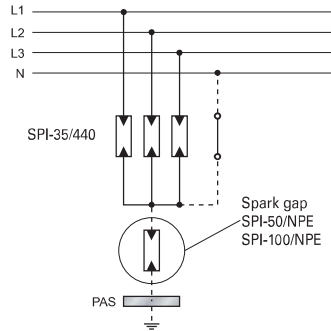
## Lightning Current Arrester Sets, Lightning Protection Classes I, II, III, IV

SPI-35/440/3 SPI-3+1



- ① ...SPI-35/440
- ② ...SPI-100/NPE
- ④ ...SPB-D-125
- ⑥ ...Z-GV-U/3
- ⑨ ...Z-GV-U/6

## Application Example



Attention!  
SPI-.../NPE should be used only as a N-PE spark gap in a e.g. TT-system (connection type 2 according to IEC 60364-5-534 Clause 534)

- SPI-50/NPE: for protection class III, IV according to IEC 62305
- SPI-100/NPE: for protection class I, II, III, IV according to IEC 62305

## SPD Class B+C, Lightning Current Arrester - Surge Arresters SPBT12

- 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** in accordance with IEC 61643-1
- SPD-type **T1**, **T2** in accordance with EN 61643-11
- Lightning protection classes III and IV in accordance with IEC 62305
- Busbars ZV-KSBI are available for all customary applications

Block Diagram



### Technical Data

	SPBT12-280...	SPBT12-NPE100
<b>Electrical</b>	per pole	
Responding time (rate of voltage rise 5 kV/μs)	< 25 ns	< 100 ns
Voltage protection level $U_p$	< 1.5kV	< 1.5kV
Voltage protection level at 5 kA (8/20) μs	950 V	-
Maximum continuous operating voltage $U_C$	280 VAC	255 VAC
Temporary overvoltage test value $U_T$	370 VAC (5 s)	1200 VAC (200 ms)
Rated frequency	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	100 kA
Maximum discharge current $I_{max}$	50 kA	100 kA
Impulse current $I_{imp}$ (10/350) μs		
Peak current	12.5 kA	100 kA
Charge Q	6.25 As	50 As
Specific energy	39,1 kJ/Ω	2500 kJ/Ω
Follow current interrupt rating $I_{fi}$	-	100 A <sub>r,m,s</sub>
Maximum back-up fuse	160 AgL/gG	-
Maximum short-circuit current	50 kA <sub>r,m,s</sub>	-

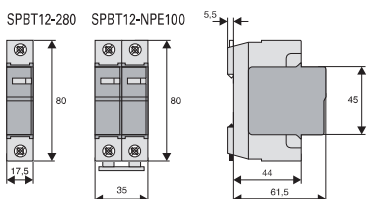
Connection diagram



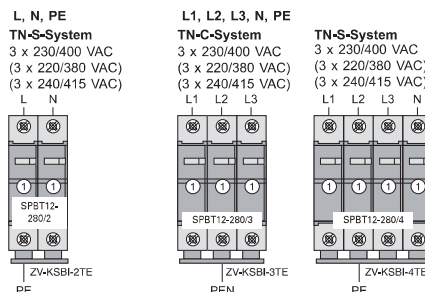
### Mechanical

Frame size	45 mm	45 mm
Device height	80 mm	80 mm
Device width	17,5 mm	35 mm
Weight	121 g	250 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	4 - 25 mm <sup>2</sup>	4 - 35 mm <sup>2</sup>
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 <sup>2</sup>	Type ZV-KSBI ...	Type ZV-KSBI ...

### Dimensions (mm)



### Lightning Current Arrester - Surge Arrester Sets, Lightning Protection Classes III, IV



① ... SPBT12-280

# SPD Class B

## SPD Class B+C, Lightning Current Arrester - Surge Arresters SPBT12-280

- 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** in accordance with IEC 61643-1
- SPD-type **T1**, **T2** in accordance with EN 61643-11
- Lightning protection classes III and IV in accordance with IEC 62305
- Busbars ZV-KSBI are available for all customary applications

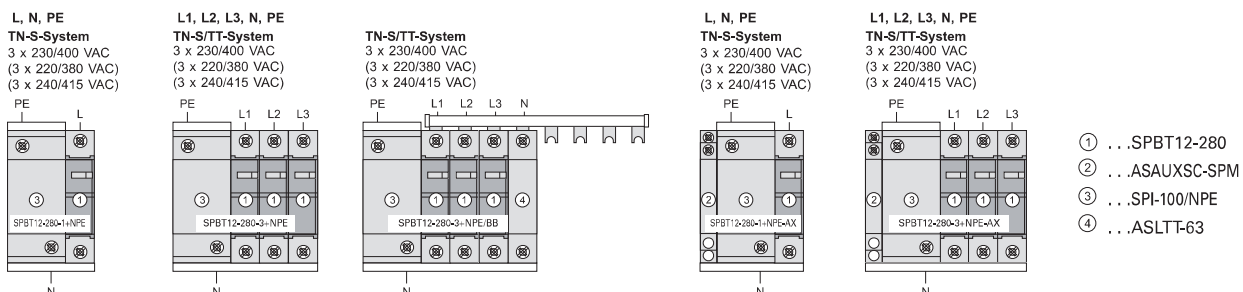
### Block Diagram



### Technical Data

		SPBT12-280-1+NPE	SPBT12-280-3+NPE
<b>Electrical</b>		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 $U_p$	L-N / L-PE / N-PE	< 1.5kV	< 1.5kV
Maximum continuous operating voltage $U_C$	L-N / N-PE	280 VAC / 255 VAC	280 VAC / 255 VAC
Temporary overvoltage 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 $I_n$	L-N / N-PE	25 kA / 100 kA	3x25 kA / 100 kA
Maximum discharge current $I_{max}$	L-N / N-PE	50 kA / 100 kA	3x50 kA / 100 kA
Impulse current $I_{imp}$ (10/350) μs			
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 $I_{fi}$	N-PE	100 A <sub>r.m.s</sub>	100 A <sub>r.m.s</sub>
Maximum back-up fuse		160 AgL/gG	160 AgL/gG
Maximum short-circuit current		50 kA <sub>r.m.s</sub>	50 kA <sub>r.m.s</sub>
Connection diagram			
<b>Mechanical</b>			
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 N, PE	4 - 25 mm <sup>2</sup> 4 - 35 mm <sup>2</sup>	4 - 25 mm <sup>2</sup> 4 - 35 mm <sup>2</sup>
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 <sup>2</sup>		Type ZV-KSBI ...	Type ZV-KSBI ...

### Lightning Current Arrester - Surge Arrester Sets, Lightning Protection Classes III, IV



## Lightning Current Arrester - Surge Arrester Sets, Lightning Protection Classes I, II, III, IV

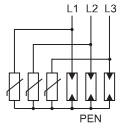
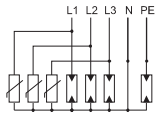
### SPD Class B+C, SP-B+C/

- Field of application: For the protection of low voltage distribution systems against direct lightning stroke into the overhead power supply line or external lightning protection system (IEC 62305) and against indirect lightning stroke and switching operations.
- Application according to IEC 60364-5-53 Clause 534
- Test class **I** and **II** in accordance with IEC 61643-1
- SPD-type **T1** and **T2** in accordance with EN 61643-11
- Capsuled version: during the discharge process, the device does not issue any hot ionised gases. Therefore, there is no need for keeping a safety distance to flammable materials.

### Practical Hint

Installation of lightning current arresters upstream of the meter is subject to co-ordination with the relevant power supply company.  
Installation of an r.m.s. active protection cascade (SPD classes B, C, D) requires co-ordinated application of the respective protective devices. This is ensured by a defined line length between protective devices. When using lightning current arresters of type SPI in connection with surge arresters SPC with a maximum continuous operating voltage  $U_c$  of 460 V AC, no specific line length or decoupling coils are required.

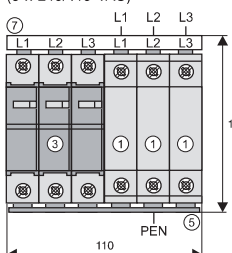
### Technical Data

	SP-B+C/3	SP-B+C/3+1
<b>Electrical</b>		
Design	capsuled	capsuled
Responding time $t_r$	< 25 ns	< 25 ns
Voltage protection level $U_p$	1.5 kV	1.5 kV
Maximum continuous operating voltage $U_c$	L-(PE)N / N-PE 440 VAC / -	440 VAC / 260 VAC
Temporary overvoltage test value $U_T$	L-(PE)N N-PE -	$U_T = U_c$ 1200 VAC (200 ms)
Rated frequency	50/60 Hz	50/60 Hz
Discharge current (8/20) $\mu s$ $I_{max}/I_n$	3x35 kA	100 kA
Impulse current $I_{imp}$ (10/350) $\mu s$		
Peak current	100 kA	100 kA
Charge Q	50 As	50 As
Specific energy	2500 kJ/ $\Omega$	2500 kJ/ $\Omega$
Follow current interrupt rating $I_{fi}$	L-(PE)N / N-PE	
at 260 V	3kA <sub>rms</sub> / -	3kA <sub>rms</sub> / 100A <sub>rms</sub>
at 440 V	1,5kA <sub>rms</sub> / -	1,5kA <sub>rms</sub> / -
Short-circuit current strength at max. back-up fuse	25kA <sub>rms</sub>	25kA <sub>rms</sub>
Maximum back-up fuse	125 AgL	125 AgL
Connection diagram		
<b>Mechanical</b>		
Frame size	45 mm	45 mm
Device height	90 mm	90 mm
Device width	110 mm	164 mm
Weight	1100 g	1420 g
Upper and lower lift terminal capacity		
rigid	L, N, PEN / PE	0.5 - 35 mm <sup>2</sup>
flexible	L, N, PEN / PE	0.5 - 25 mm <sup>2</sup>
Tightening torque of terminal screws	4 - 4.5 Nm	4 - 4.5 Nm / 6 - 8 Nm
Mounting		quick fastening on DIN rail IEC/EN 60715
Degree of protection acc. to IEC 60529 (installed)		IP20 (IP40)
Accessories: busbars		Z-GV-U/
Permitted relative air humidity		< 95%
Permitted ambient temperature		-40°C to +70°C

### Dimensions (mm)

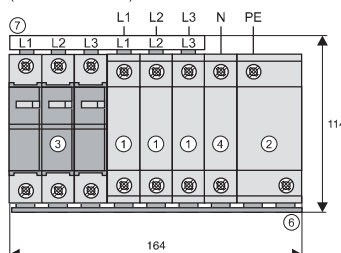
#### TN-C-System

3 x 230/400 VAC  
(3 x 220/380 VAC)  
(3 x 240/415 VAC)



#### TT-, TN-S-System

3 x 230/400 VAC  
(3 x 220/380 VAC)  
(3 x 240/415 VAC)



### Lightning current arrester - surge arrester

- ... SPI-35/440
- ... SPI-100/NPE for protection class I, II, III, IV
- ... SPC-S-20/460/3

### Lead-through terminal

- ... SPB-D-125

### Busbar

- ... Z-GV-U/6
- ... Z-GV-U/9
- ... Z-GV-16/3P-3TE/6

## Busbar Connection Examples according to IEC 60364-5-53 Clause 534

SPD Class B **SPI B**

TN-C-System		TT-System 3 x 230 VAC	IT-System 3 x 230 VAC
3 x 240/415 V AC 3 x 230/400 V AC 3 x 220/380 V AC			
SPI-35/440/3 		SPI-35/440/3 	
4 wires		4 wires	3 wires
TN-S-System		TT-System	IT-System 3 x 230/400 VAC
3 x 240/415 V AC 3 x 230/400 V AC 3 x 220/380 V AC			
SPI-3+1 			
CT2		CT2	
5 wires		3 wires	
TN-S-System			
TN-S-System 			
CT1	CT1		
5 wires	3 wires		

### Lightning current arrester

- ① ...SPI-35/440
- ② ...SPI-100/NPE for protection class I, II, III, IV  
SPI-50/NPE for protection class III, IV

### Lead-through terminal

- ④ ...SPB-D-125

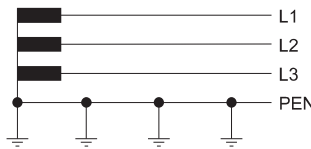
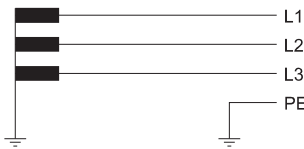
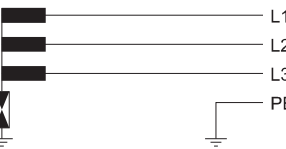
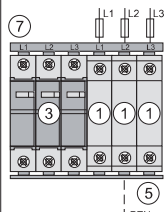
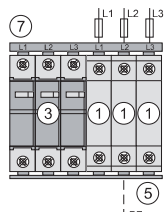
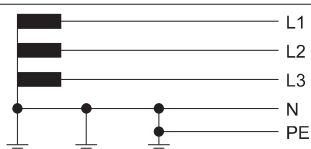


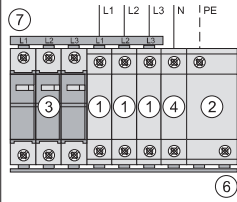
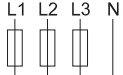
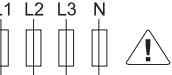
### Busbar

- ⑤ ...Z-GV-U/2
- ⑥ ...Z-GV-U/3
- ⑦ ...Z-GV-U/4
- ⑧ ...Z-GV-U/4 at SPI-100/NPE  
Z-GV-U/3 at SPI-50/NPE
- ⑨ ...Z-GV-U/6 (Z-GV-U/5 at SPI-50/NPE)

- CT1 ...Connection type 1
- CT2 ...Connection type 2

## Busbar Connection Examples according to IEC 60364-5-53 Clause 534

SPD Class B+C **SPI B SPC C**

<p>TN-C-System</p> <p>3 x 240/415 V AC 3 x 230/400 V AC 3 x 220/380 V AC</p> 	<p>TT-System 3 x 230 V AC</p> 	<p>IT-System 3 x 230 V AC</p> 
<p>SP-B+C/3</p>  <p>4 wires</p>	<p>SP-B+C/3</p>  <p>4 wires</p>	
<p>TN-S-System</p> <p>3 x 240/415 V AC 3 x 230/400 V AC 3 x 220/380 V AC</p> 	<p>TT-System</p> 	<p>IT-System 3 x 230/400 V AC</p> 
<p>SP-B+C/3+1</p>  <p>CT2</p> <p>5 wires</p>		

### Lightning current arrester

- ① ...SPI-35/440
- ② ...SPI-100/NPE for protection class I, II, III, IV  
SPI-50/NPE for protection class III, IV
- ③ ...SPCT2-460/3

### Lead-through terminal

- ④ ...SPB-D-125

### Busbar

- ⑤ ...Z-GV-U/6
- ⑥ ...Z-GV-U/9
- ⑦ ...Z-GV-16/3P-3TE/6

CT2 ...Connection type 2



# SPD Class B

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

### Lightning current arrester

- ① ...SPI-35/440
- ⑥ ...SPI-100/NPE
- ⑧ ...SPI-50/NPE

### Surge arrester

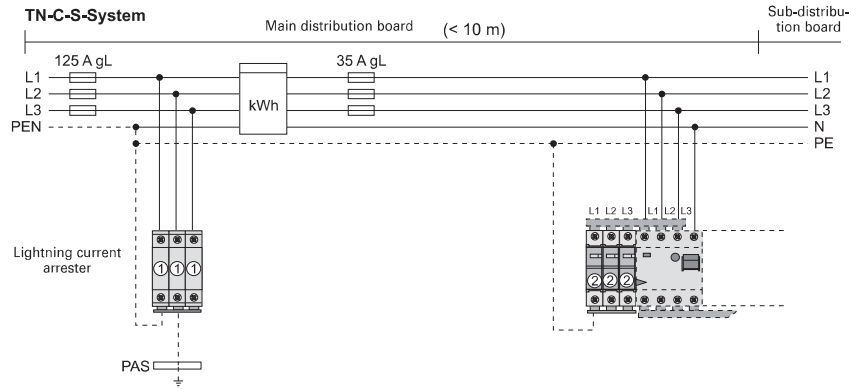
- ② ...SPCT2-460/3

### Lead-through terminal

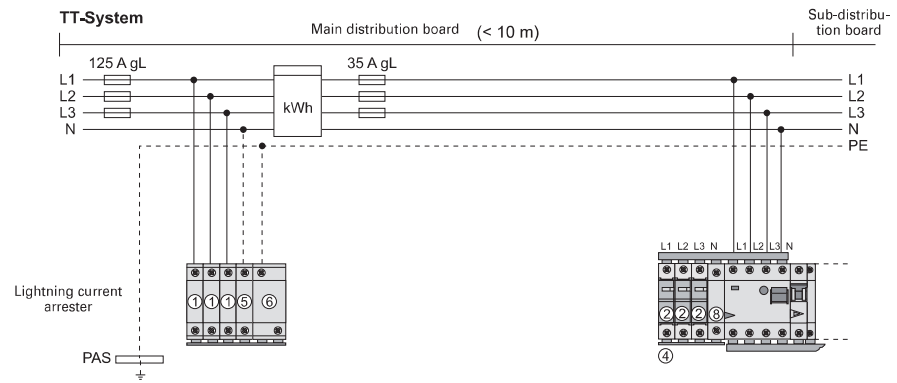
- ⑤ ...SPB-D-125
- ⑧ ...ASLTT-63

### Busbar

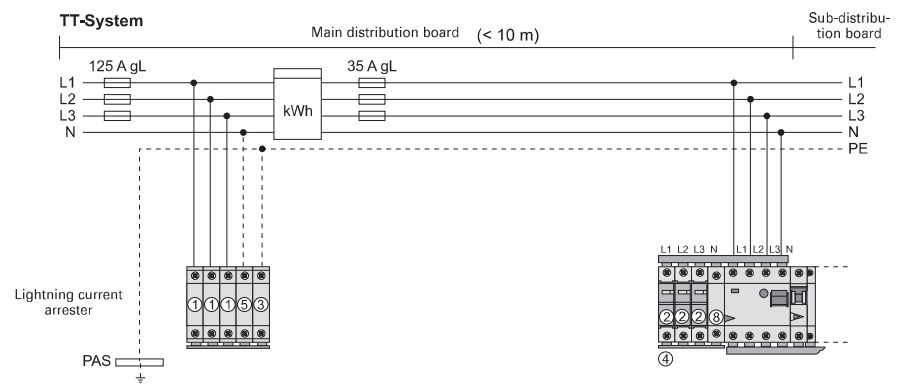
- ④ ...ZV-KSBI-4TE



## Protection Class I, II, III, IV



## Protection Class III, IV



## SPD Class C

U1302



SPC-E-280

PHASE OUT TYPE

Max. Cont. Op. Volt.  $U_C$   $I_n$  (8/20) $\mu$ s Type Designation Article No. Units per package

### Surge arrester SPC-E

75VAC	15kA	SPC-E-75	248148	12 / 120
130VAC	20kA	SPC-E-130	248149	12 / 120
175VAC	20kA	SPC-E-175	118920	12 / 120
280VAC	20kA	SPC-E-280	248150	12 / 120
335VAC	20kA	SPC-E-335	248151	12 / 120
385VAC	20kA	SPC-E-385	248152	12 / 120
460VAC	20kA	SPC-E-460	248153	12 / 120
580VAC	20kA	SPC-E-580	248154	12 / 120
N-PE 260VAC	30kA	SPC-E-N/PE	248157	12 / 120

PHASE OUT TYPE

### Plug-in surge arrester SPC-S

#### Insert 1-pole

Insert 75VAC	15kA	SPC-S-15/75	248158	4 / 120
Insert 130VAC	20kA	SPC-S-20/130	248159	4 / 120
Insert 175VAC	20kA	SPC-S-20/175	248160	4 / 120
Insert 280VAC	20kA	SPC-S-20/280	248161	4 / 120
Insert 335VAC	20kA	SPC-S-20/335	248162	4 / 120
Insert 385VAC	20kA	SPC-S-20/385	248163	4 / 120
Insert 460VAC	20kA	SPC-S-20/460	248164	4 / 120
Insert 580VAC	20kA	SPC-S-20/580	248165	4 / 120
Insert N-PE 260VAC	30kA	SPC-S-N/PE	248166	4 / 120

#### Base 1- to 4-pole

Base 1-pole		SPC-S-S1	248167	12 / 120
Base 1+1 2-pole		SPC-S-S2-1+1	248201	6 / 60
Base 2-pole		SPC-S-S2	248168	6 / 60
Base 3-pole		SPC-S-S3	248169	4 / 40
Base 4-pole		SPC-S-S4	248170	3 / 30
Base 3+1 4-pole		SPC-S-S4-3+1	248171	3 / 30

SG14802



SPC-S-S4-3+1

PHASE OUT TYPE

### Plug-in surge arrester SPC-S, 1- to 4-pole

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



1-pole	130VAC	1x20kA	SPC-S-20/130/1	248188	12 / 120
1-pole	175VAC	1x20kA	SPC-S-20/175/1	248189	12 / 120
2-pole	175VAC	2x20kA	SPC-S-20/175/2	248190	1 / 60
1-pole	280VAC	1x20kA	SPC-S-20/280/1	248172	12 / 120
2-pole	280VAC	2x20kA	SPC-S-20/280/2	248173	1 / 60
3-pole	280VAC	3x20kA	SPC-S-20/280/3	248174	1 / 40
4-pole	280VAC	4x20kA	SPC-S-20/280/4	248175	1 / 30
1-pole	335VAC	1x20kA	SPC-S-20/335/1	248176	12 / 120
2-pole	335VAC	2x20kA	SPC-S-20/335/2	248177	1 / 60
3-pole	335VAC	3x20kA	SPC-S-20/335/3	248178	1 / 40
4-pole	335VAC	4x20kA	SPC-S-20/335/4	248179	1 / 30
1-pole	385VAC	1x20kA	SPC-S-20/385/1	248180	12 / 120
2-pole	385VAC	2x20kA	SPC-S-20/385/2	248181	1 / 60
3-pole	385VAC	3x20kA	SPC-S-20/385/3	248182	1 / 40
4-pole	385VAC	4x20kA	SPC-S-20/385/4	248183	1 / 30
1-pole	460VAC	1x20kA	SPC-S-20/460/1	248184	12 / 120
2-pole	460VAC	2x20kA	SPC-S-20/460/2	248185	1 / 60
3-pole	460VAC	3x20kA	SPC-S-20/460/3	248186	1 / 40
4-pole	460VAC	4x20kA	SPC-S-20/460/4	248187	1 / 30
1-pole	580VAC	1x20kA	SPC-S-20/580/1	248191	12 / 120
1+1p	-	-	SPC-S-1+1	248192	1 / 60
3+1p	-	-	SPC-S-3+1	248193	1 / 30
3+1p	-	-	SPC-S-3+N/PE	115795	1 / 30

U1202



SPC-S-20/280/3

## SPD Class C (continued)

	Max. Cont. Op. Volt. $U_c$	$I_n$ (8/20) $\mu$ s	Type Designation	Article No.	Units per package	
 <p>SG13109</p> <p>SPCT2-280</p>	<b>NEW</b>					
	<b>Plug-in surge arrester SPCT2</b>					
	<b>Insert 1-pole</b>					
	Insert 75VAC	20kA	SPCT2-075	167577	4/120	
	Insert 130VAC	20kA	SPCT2-130	167582	4/120	
	Insert 175VAC	20kA	SPCT2-175	167587	4/120	
	Insert 280VAC	20kA	SPCT2-280	167592	4/120	
	Insert 335VAC	20kA	SPCT2-335	167597	4/120	
	Insert 385VAC	20kA	SPCT2-385	167602	4/120	
	Insert 460VAC	20kA	SPCT2-460	167607	4/120	
Insert 580VAC	20kA	SPCT2-580	167612	4/120		
Insert 260VAC	30kA	SPCT2-NPE60	167617	4/120		
 <p>SG50112</p> <p>SPCT2-280/3</p>	<b>NEW</b>					
	<b>Plug-in surge arrester SPCT2, 1- to 4-pole</b>					
	<b>Complete</b> (2- and multi-pole surge arresters are supplied with busbar)					
	1-pole	75VAC	20kA	SPCT2-075/1	167578	12/120
	1-pole	130VAC	20kA	SPCT2-130/1	167583	12/120
	1-pole	175VAC	20kA	SPCT2-175/1	167588	12/120
	1-pole	280VAC	20kA	SPCT2-280/1	167593	12/120
	1-pole	335VAC	20kA	SPCT2-335/1	167598	12/120
	1-pole	385VAC	20kA	SPCT2-385/1	167603	12/120
	1-pole	460VAC	20kA	SPCT2-460/1	167608	12/120
	1-pole	580VAC	20kA	SPCT2-580/1	167613	12/120
	1+N	260VAC	30kA	SPCT2-NPE60/1	167618	12/120
	2-pole	75VAC	2x20kA	SPCT2-075/2	167579	1/60
	2-pole	130VAC	2x20kA	SPCT2-130/2	167584	1/60
	2-pole	175VAC	2x20kA	SPCT2-175/2	167589	1/60
	2-pole	280VAC	2x20kA	SPCT2-280/2	167594	1/60
	2-pole	335VAC	2x20kA	SPCT2-335/2	167599	1/60
	2-pole	385VAC	2x20kA	SPCT2-385/2	167604	1/60
	2-pole	460VAC	2x20kA	SPCT2-460/2	167609	1/60
	2-pole	580VAC	2x20kA	SPCT2-580/2	167614	1/60
	3-pole	75VAC	3x20kA	SPCT2-075/3	167580	1/40
	3-pole	130VAC	3x20kA	SPCT2-130/3	167585	1/40
	3-pole	175VAC	3x20kA	SPCT2-175/3	167590	1/40
	3-pole	280VAC	3x20kA	SPCT2-280/3	167595	1/40
	3-pole	335VAC	3x20kA	SPCT2-335/3	167600	1/40
	3-pole	385VAC	3x20kA	SPCT2-385/3	167605	1/40
	3-pole	460VAC	3x20kA	SPCT2-460/3	167610	1/40
	3-pole	580VAC	3x20kA	SPCT2-580/3	167615	1/40
	4-pole	75VAC	4x20kA	SPCT2-075/4	167581	1/30
	4-pole	130VAC	4x20kA	SPCT2-130/4	167586	1/30
	4-pole	175VAC	4x20kA	SPCT2-175/4	167591	1/30
	4-pole	280VAC	4x20kA	SPCT2-280/4	167596	1/30
	4-pole	335VAC	4x20kA	SPCT2-335/4	167601	1/30
	4-pole	385VAC	4x20kA	SPCT2-385/4	167606	1/30
	4-pole	460VAC	4x20kA	SPCT2-460/4	167611	1/30
	4-pole	580VAC	4x20kA	SPCT2-580/4	167616	1/30
	1+N	280VAC	20kA	SPCT2-280-1+NPE	167619	1/60
	1+N	335VAC	20kA	SPCT2-335-1+NPE	167621	1/60
	1+N	385VAC	20kA	SPCT2-385-1+NPE	167623	1/60
	1+N	460VAC	20kA	SPCT2-460-1+NPE	167625	1/60
	1+N	580VAC	20kA	SPCT2-580-1+NPE	167627	1/60
	3+N	280VAC	20kA	SPCT2-280-3+NPE	167620	1/30
	3+N	335VAC	20kA	SPCT2-335-3+NPE	167622	1/30
	3+N	385VAC	20kA	SPCT2-385-3+NPE	167624	1/30
	3+N	460VAC	20kA	SPCT2-460-3+NPE	167626	1/30
	3+N	580VAC	20kA	SPCT2-580-3+NPE	167628	1/30
	3+N/BB	280VAC	3x20kA	SPCT2-280-3+NPE/BB	167629	1
3+N/BB	335VAC	3x20kA	SPCT2-335-3+NPE/BB	167630	1	
3+N/BB	385VAC	3x20kA	SPCT2-385-3+NPE/BB	167631	1	
3+N/BB	460VAC	3x20kA	SPCT2-460-3+NPE/BB	167632	1	

## Surge Arrester Set

SG14805

PHASE OUT TYPE



SPC-S-3+1-SET

Description	Type Designation	Article No.	Units per package
<b>SPD Class C, SPC</b>			
Surge arrester set	SPC-S-3+1-SET	248194	1

SG83311

NEW



**Auxiliary Switch**  
for SPCT2

AS AUXSC-SPM

131785

8 / 80

SG59511



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

# SPD Class C

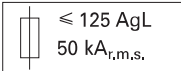
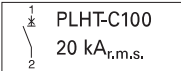
## SPD Class C, Surge Arresters SPC-E

- Field of application  
For the protection of low voltage distribution systems against transient overvoltage caused by 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

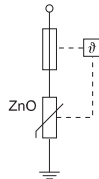
### Block Diagram



## Technical Data

	SPC-E-75	-130	-175	-280	-335	-385	-460	-580
<b>Electrical</b>								
Responding time (rate of voltage rise 5 kV/μs)	< 25 ns	< 25 ns	< 25 ns	< 25 ns	< 25 ns	< 25 ns	< 25 ns	< 25 ns
Voltage protection level at nominal discharge current	< 550 V	< 800 V	< 1kV	< 1.4kV	< 1.6kV	< 1.8kV	< 2.2kV	< 2.6kV
Voltage protection level at 5 kA (8/20) μs	400 V	550 V	700 V	1000 V	1200 V	1350 V	1700 V	2000 V
Maximum continuous operating voltage $U_c$	75 VAC	130 VAC	175 VAC	280 VAC	335 VAC	385 VAC	460 VAC	580 VAC
Temporary overvoltage test value $U_T$ (5 s)	$= U_c$	$= U_c$	$= U_c$	350 VAC	415 VAC	415 VAC	580 VAC	$= U_c$
Rated frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Nominal discharge current (8/20) μs $I_n$	15 kA	20 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	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	5.7 kJ/Ω
Maximum discharge current $I_{max}$	30 kA	40 kA	40 kA	40 kA	40 kA	40 kA	40 kA	40 kA
Permissible back-up fuse								
Maximum short-circuit current	50 kA <sub>r.m.s.</sub>		20 kA <sub>r.m.s.</sub>					

Connection diagram



## Mechanical

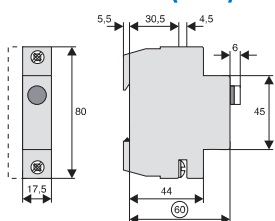
Frame size	45 mm
Device height	80 mm
Device width	17.5 mm
Weight	97 g
Permitted ambient temperature	-40°C to +70°C
Degree of protection (built-in)	IP40
Upper and lower lift terminal capacity	4 - 25 mm <sup>2</sup>
Upper and lower open mouthed terminals for busbar thickness up to	1.5 mm
Tightening torque of terminal screws	2.4 - 3 Nm
Quick fastening on DIN rail according to	IEC/EN 60715
Accessories: busbars 16 mm <sup>2</sup>	Type ZV-KSBI ...

## Technical Data

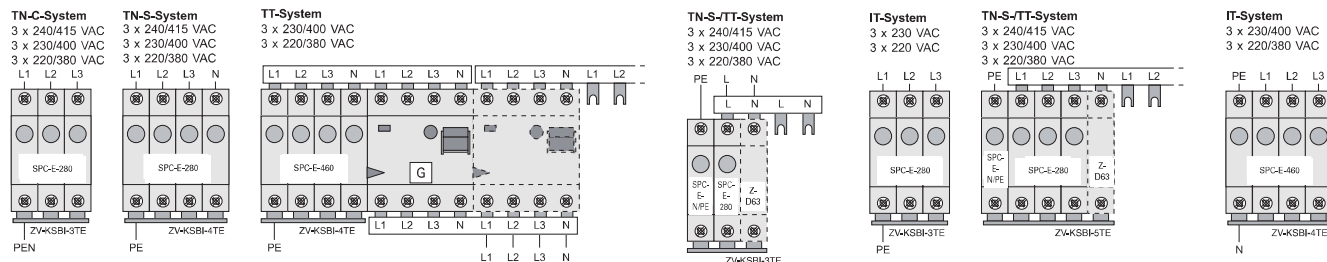
### SPC-E-N/PE

Electrical	
Responding time (rate of voltage rise 5 kV/μs)	< 100 ns
Voltage protection level at nominal discharge current	< 1.0 kV
Maximum continuous operating voltage $U_C$	260 VAC
Temporary overvoltage test value $U_T$ (200 ms)	1200 VAC
Rated frequency	50/60 Hz
Nominal discharge current (8/20) μs $I_n$	20 kA
Charge Q at $I_n$	0.57 As
Specific energy at $I_n$	5.7 kJ/Ω
Maximum discharge current $I_{max}$	40 kA
Follow current interrupt rating $I_{fi}$	100 A <sub>r.m.s</sub>
Maximum back-up fuse	-
Maximum short-circuit current	-
Connection diagram	
Mechanical	
Frame size	45 mm
Device height	80 mm
Device width	17.5 mm
Weight	97 g
Permitted ambient temperature	-40°C to +70°C
Degree of protection (built-in)	IP40
Upper and lower lift terminal capacity	4 - 25 mm <sup>2</sup>
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 <sup>2</sup>	Type ZV-KSBI ...

## Dimensions (mm)



## Application Examples SPC-E according to IEC 60364-5-53 Clause 534



# SPD Class C

## SPD Class C, Plug-in Surge Arresters SPCT2

- Field of application:  
For the protection of low voltage distribution systems against transient overvoltage caused by 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 SPC-S-HK for remote message transmission can be mounted onto the device
- Suitable for busbar connection to all Xtra Combinations switchgear
- Busbars ZV-KSBI are available for all customary applications

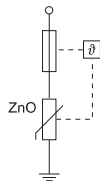
### Symbol



## Technical Data

Inserts	SPCT2-075	SPCT2-130	SPCT2-175	SPCT2-280	SPCT2-335	SPCT2-385	SPCT2-460
<b>Electrical</b>							
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 / $U_{oc}$ < 550 V	< 800 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	400 V	550 V	700 V	1000 V	1200 V	1350 V	1700 V
Maximum continuous operating voltage $U_c$	75 VAC	130 VAC	175 VAC	280 VAC	335 VAC	385 VAC	460 VAC
Temporary overvoltage test value $U_T$ (5 s)	= $U_c$	= $U_c$	= $U_c$	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	15 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
Maximum discharge current $I_{max}$	30 kA	40 kA	40 kA	40 kA	40 kA	40 kA	40 kA
Follow current interrupt rating $I_{fi}$	–	–	–	–	–	–	–
Permissible back-up fuse							
Maximum short-circuit current							



### Connection diagram



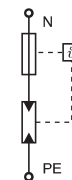
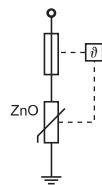
## Mechanical

Frame size	45 mm
Device height	80 mm
Device width	
1-pole	17.5 mm (1MU)
1+1-pole	35 mm (2MU)
2-pole	35 mm (2MU)
3-pole	52.5 mm (3MU)
3+1-pole	70 mm (4MU)
4-pole	70 mm (4MU)
Mechanical coding	
1-pole	x
1+1-pole	yx
2-pole	xx
3-pole	xxx
3+1-pole	yxxx
4-pole	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 <sup>2</sup>
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 <sup>2</sup>	Type ZV-KSBI ...

**Technical Data**

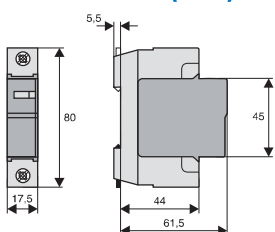
Inserts	SPCT2-580	SPCT2-NPE
<b>Electrical</b>		
Mechanical coding	x	y
Responding time (rate of voltage rise 5 kV/ $\mu$ s)	< 25 ns	< 100 ns
Voltage protection level at nominal discharge current / $U_{oc}$	< 2.6 kV	< 1.0 kV
Voltage protection level at 5 kA (8/20) $\mu$ s	2000 V	-
Maximum continuous operating voltage $U_c$	580 VAC	260 VAC
Temporary overvoltage test value $U_T$	= $U_c$ (5 s)	1200 VAC (200 ms)
Rated frequency	50/60 Hz	50/60 Hz
Nominal discharge current (8/20) $\mu$ s $I_n$	20 kA	20 kA
Charge Q at $I_n$	0.57 As	0.57 As
Specific energy at $I_n$	5.7 kJ/ $\Omega$	5.7 kJ/ $\Omega$
Maximum discharge current $I_{max}$	40 kA	40 kA
Follow current interrupt rating $I_{fi}$	-	100 $A_{r.m.s}$
Permissible back-up fuse	 $\leq 125$ AgL	 PLHT-C100
Maximum short-circuit current	$50$ kA $_{r.m.s.}$	$20$ kA $_{r.m.s.}$

Connection diagram



<b>Mechanical</b>		
Frame size	45 mm	
Device height	80 mm	
Device width		
1-pole	17.5 mm (1MU)	
1+1-pole	35 mm (2MU)	
2-pole	35 mm (2MU)	
3-pole	52.5 mm (3MU)	
3+1-pole	70 mm (4MU)	
4-pole	70 mm (4MU)	
<b>Mechanical coding</b>		
1-pole	x	
1+1-pole	yx	
2-pole	xx	
3-pole	xxx	
3+1-pole	yxxx	
4-pole	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 <sup>2</sup>	
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 <sup>2</sup>	Type ZV-KSBI ...	

**Dimensions (mm)**





# SPD Class C

## SPD Class C, Plug-in Surge Arresters SPC-S

- Field of application:  
For the protection of low voltage distribution systems against transient overvoltage caused by 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 SPC-S-HK for remote message transmission can be mounted onto the device
- Suitable for busbar connection to all Xtra Combinations switchgear
- Busbars ZV-KSBI are available for all customary applications

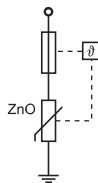
### Symbol



### Technical Data

Inserts	SPC-S-15/75	-20/130	-20/175	-20/280	-20/335	-20/385	-20/460
<b>Electrical</b>							
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 / $U_{oc} < 550$ 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	400 V	550 V	700 V	1000 V	1200 V	1350 V	1700 V
Maximum continuous operating voltage $U_c$	75 VAC	130 VAC	175 VAC	280 VAC	335 VAC	385 VAC	460 VAC
Temporary overvoltage test value $U_T$ (5 s)	= $U_c$	= $U_c$	= $U_c$	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	15 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
Maximum discharge current $I_{max}$	30 kA	40 kA	40 kA	40 kA	40 kA	40 kA	40 kA
Follow current interrupt rating $I_{fi}$	–	–	–	–	–	–	–
Permissible back-up fuse							
Maximum short-circuit current							

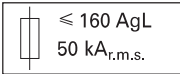
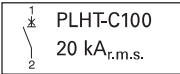
### Connection diagram



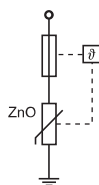
### Mechanical

Frame size	45 mm
Device height	80 mm
Device width	
1-pole	175 mm (1MU)
1+1-pole	35 mm (2MU)
2-pole	35 mm (2MU)
3-pole	52.5 mm (3MU)
3+1-pole	70 mm (4MU)
4-pole	70 mm (4MU)
Mechanical coding	
1-pole	x
1+1-pole	yx
2-pole	xx
3-pole	xxx
3+1-pole	yxxx
4-pole	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 <sup>2</sup>
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 <sup>2</sup>	Type ZV-KSBI ...

## Technical Data

Inserts	SPC-S-20/580	-N/PE
<b>Electrical</b>		
Mechanical coding	x	y
Responding time (rate of voltage rise 5 kV/μs)	< 25 ns	< 100 ns
Voltage protection level at nominal discharge current / $U_{oc}$	< 2.6 kV	< 1.0 kV
Voltage protection level at 5 kA (8/20) μs	2000 V	–
Maximum continuous operating voltage $U_c$	580 VAC	260 VAC
Temporary overvoltage test value $U_T$	= $U_c$ (5 s)	1200 VAC (200 ms)
Rated frequency	50/60 Hz	50/60 Hz
Nominal discharge current (8/20) μs $I_n$	20 kA	20 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
Maximum discharge current $I_{max}$	40 kA	40 kA
Follow current interrupt rating $I_{fi}$	–	100 A <sub>r.m.s</sub>
Permissible back-up fuse		
Maximum short-circuit current	50 kA <sub>r.m.s.</sub>	20 kA <sub>r.m.s.</sub>

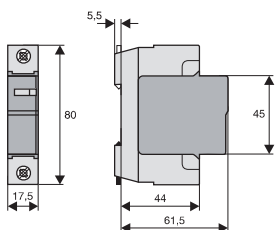
Connection diagram



## Mechanical

Frame size	45 mm
Device height	80 mm
Device width	
1-pole	17,5 mm (1MU)
1+1-pole	35 mm (2MU)
2-pole	35 mm (2MU)
3-pole	52,5 mm (3MU)
3+1-pole	70 mm (4MU)
4-pole	70 mm (4MU)
Mechanical coding	
1-pole	x
1+1-pole	yx
2-pole	xx
3-pole	xxx
3+1-pole	yxxx
4-pole	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 <sup>2</sup>
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 <sup>2</sup>	Type ZV-KSBI ...

## Dimensions (mm)

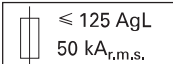
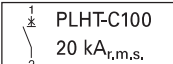
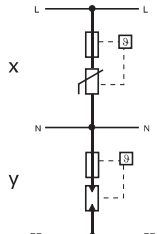
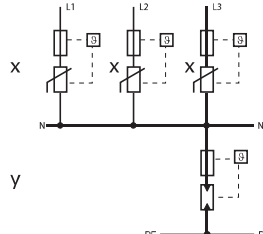


# SPD Class C

## SPD Class C, Surge Arresters SPCT2-1+NPE, SPCT2-3+NPE

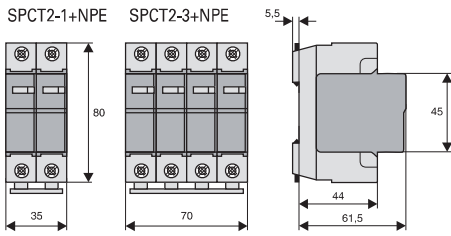
- Field of application:  
For the protection of low voltage distribution systems against transient overvoltage caused by indirect lightning stroke and switching operations.
- Test class **III** according to IEC 61643-1+A1
- SPD-type **T2** according to EN 61643-11
- Auxiliary switch SPC-S-HK for remote message transmission can be mounted onto the device
- Suitable for busbar connection to all Xtra Combinations switchgear
- Type **SPC-S-3+1**:  
consists of 1 base SPC-S-S4-3+1,  
1 insert SPC-S-N/PE and 3 inserts SPC-S-20/335
- Type **SPC-S-1+1**:  
consists of 1 base SPC-S-S2-1+1,  
1 insert SPC-S-N/PE and 1 insert SPC-S-20/335

## Technical Data

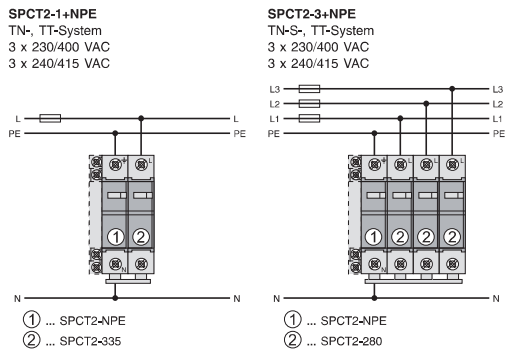
		SPCT2-1+NPE	SPCT2-3+NPE
<b>Electrical</b>			
Mechanical coding		yx	yxxx
Responding time (rate of voltage rise 5 kV/μs)	L-N/N-PE/L-PE	< 25ns/< 100ns/< 100ns	< 25ns/< 100ns/< 100ns
Maximum continuous operating voltage $U_C$	L-N/N-PE	335VAC/260VAC	280VAC/260VAC
Temporary overvoltage test value $U_T$ (5 s) (200 ms)	L-N	415 VAC	350 VAC
	N-PE	1200 VAC	1200 VAC
Rated frequency		50/60 Hz	50/60 Hz
Nominal discharge current $I_n$	L-N/N-PE/L-PE	20 kA (8/20)μs	20 kA (8/20)μs
Voltage protection level $U_p$ at $I_n$	L-N/N-PE/L-PE	≤1600V/≤1000V/≤1650V	≤1000V/≤1000V/≤1300V
Maximum discharge current $I_{max}$	L-N/N-PE/L-PE	40 kA (8/20)μs	40 kA (8/20)μs
Follow current interrupt rating $I_{fi}$	N-PE	100 A <sub>r.m.s.</sub>	100 A <sub>r.m.s.</sub>
Permissible back-up fuse		 ≤ 125 AgL	 PLHT-C100
Maximum short-circuit current		50 kA <sub>r.m.s.</sub>	20 kA <sub>r.m.s.</sub>
Connection diagram			

		SPCT2-1+NPE	SPCT2-3+NPE
<b>Mechanical</b>			
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
Upper and lower lift terminal capacity		1 - 25 mm <sup>2</sup>	1 - 25 mm <sup>2</sup>
Open-mouthed terminals at both sides for busbar thickness up to		1.5 mm	1.5 mm
Tightening torque of terminal screws		2.4 - 3 Nm	2.4 - 3 Nm
Permitted ambient temperature		-40°C to +70°C	-40°C to +70°C
Mounting		quick fastening on DIN rail IEC/EN 60715	
Degree of protection (built-in)		IP40	IP40

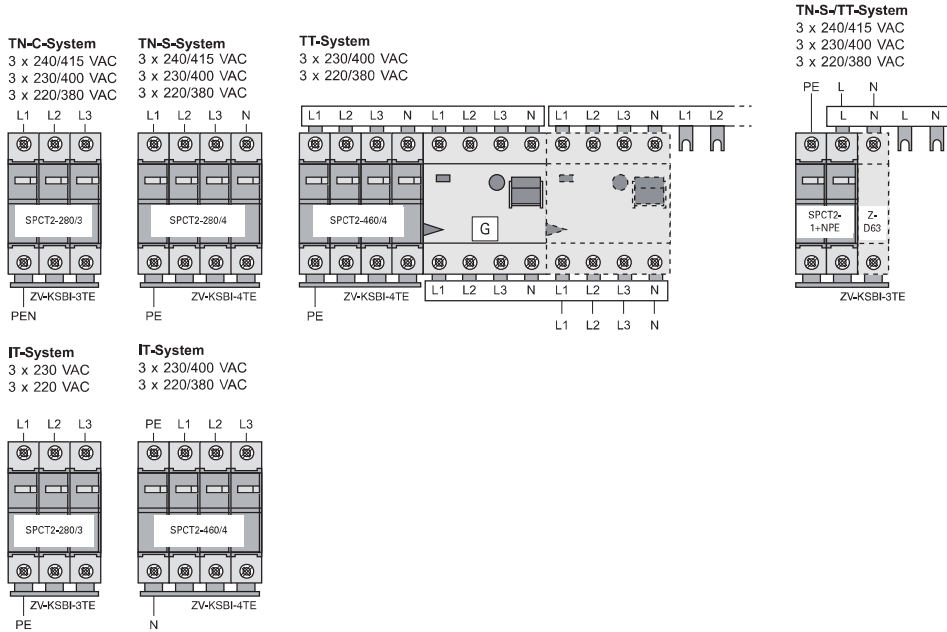
## Dimensions (mm)



## Application Examples



## Application Examples SPCT2 according to IEC 60364-5-53 Clause 534



# SPD Class C

## Surge Arrester Sets

SPD Class C, SPCT2

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### 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 possible by mounting auxiliary switch ASAXSC-SPM
- Busbar connected, minimum installation work required

---

### Content

#### SPCT2-335-3+NPE/BB

- 
- |          |           |                       |
|----------|-----------|-----------------------|
| - 1 unit | SPC-S-3+1 | surge arrester        |
| - 1 unit | ASLTT-63  | lead-through terminal |
| -        | busbar    | included              |
-

# Light Intensity Switch

## Light Intensity Switch SR...

SG84111



Switching contact / Light intensity	Type Designation	Article No.	Units per package
1NO 2-100 Lux	SRSD1NO	167375	1
1NO 2-2000 Lux	SRSW1NO	167376	1
1NO with timer	SRCD1CO	167377	1
1CO 2-50000 Lux	SRSD1COW	167378	1

## Light Intensity Switch for wall mounting DS-TA, DS-TD

SG1107



DS-TA/WA

SG11207

PHASE OUT TYPE



DS-TD/WA

Switching contact / Light intensity	Type Designation	Article No.	Units per package
1NO 5 - 200 Lux	DS-TA/WA	111454	1 / 40
1NO 2 - 2000 Lux	DS-TA/VWA	111455	1 / 40
1NO + watch 2 - 200 Lux	DS-TD/WA	111456	1 / 40

## Light Intensity Switch for support rail assembly DS-TA, DS-TD

SG11807



DS-TA/1S

SG11607

PHASE OUT TYPE



DS-TD/1W

Switching contact / Light intensity	Type Designation	Article No.	Units per package
1NO 2 - 100 Lux	DS-TA/1S	111451	1 / 40
1CO 2 - 2000 Lux	DS-TA/1W	111452	1 / 40
1CO + watch 2 - 2000 Lux	DS-TD/1W	111453	1 / 40

### Accessories

Spare Built-in Light Sensor	Z-DS/S-E	111457	1 / 40
Spare External Light Sensor	Z-DS/S-A	111458	1 / 40

SG47412



Z-DS/S-A

## Communication Center Z-CC/2CO

- Universal remote monitoring and controlling via SMS based on GSM

SG42612

PHASE OUT TYPE



Description	Type Designation	Article No.	Units per package
2 Change-over contacts	Z-CC/2CO	119383	1

### Accessories for Z-CC/2CO

Power supply unit (24V 0.2A)	EASYPOW200	229424	1
Temperature sensor	Z-CC/2CO-SE	119430	1
Patch cord 2.0 m	DNW-PX/0200/RJ45/RJ45/5E/CSUTP/GR/PV	237271	1

## Signalling Devices: Buzzer Z-SUM, Bell Z-GLO

SG27712

PHASE OUT TYPE



Function/Rated Voltage (V~)	Type Designation	Article No.	Units per package
Buzzer 230	Z-SUM230	270584	2 / 120
Buzzer 24	Z-SUM24	270583	2 / 120
Buzzer 12	Z-SUM12	271087	2 / 120
Bell 230	Z-GLO230	270586	2 / 120
Bell 24	Z-GLO24	270585	2 / 120
Bell 12	Z-GLO12	271088	2 / 120

## Signalling DevicesAS

wa\_sg04311



ASBELL230

Function/Rated Voltage (V~)	Type Designation	Article No.	Units per package
Bell 230V AC	ASBELL230	167393	1
Bell 12V AC	ASBELL12	167394	1
Buzzer 230V AC	ASBUZZ230	167395	1
Siren 24V AC/DC	ASSIR24	167396	1

## Transformers 230V, TR-G

### Bell-Transformers 230V, TR-G.

- Type -S with primary switch

SG82911



MU	Sec.-Volt. (V)	Sec.-Current (A)	Type Designation	Article No.	Units per package
2	8	1	TR-G/8	272480	1 / 28
2	4-8-12	1-1-0,67	TR-G3/8	272481	1 / 28
2	8	1	TR-G/8-S	272482	1 / 28
2	4-8-12	2-2-1,5	TR-G3/18	272483	1 / 28
3	12-24	2-1	TR-G2/24	272484	1 / 20

### Safety-Transformers 230V, TR-G./...-SF

- 100% ED

SG42512



5	12-24	5,2-2,6	TR-G2/63-SF	272485	1 / 12
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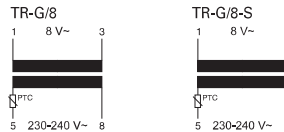


# Transformer

## Bell Transformers TR-G.

- Bell transformers with separate windings according to EN 61558
- Accessories: Surface Mounting Set (mounting plate, terminal covers)

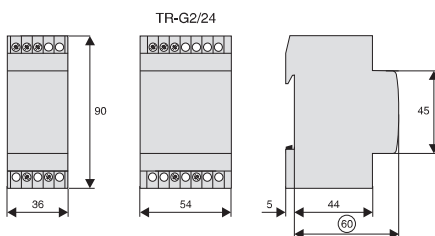
### Connection diagrams (e.g.)



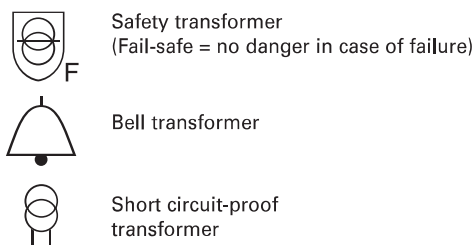
## Technical Data

	TR-G/8	TR-G3/8	TR-G/8-S	TR-G3/18	TR-G2/24
<b>Electrical</b>					
Rated output	8 VA	8 VA	8 VA	18 VA	24 VA
Rated supply voltage range	230-240 V AC	230-240 V AC	230-240 V AC	230-240 V AC	230-240 V AC
at terminals	5-8	5-8	5-8	5-8	5-8
Rated frequency	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz
No-load current	25 mA	26 mA	25 mA	36 mA	24 mA
Rated supply current	69 mA	58 mA	69 mA	72/124/138 mA	155/160 mA
Primary resistance	616 Ω	667 Ω	616 Ω	229 Ω	616 Ω
Rated output voltage	8 VAC	4/8/12 VAC	8 VAC	4/8/12 VAC	12/24 VAC
at terminals	1-3	2-3/1-2/1-3	1-3	2-3/1-2/1-3	1-2/1-3
No-load output voltage	13 V	4.9/12/16.8 V	13 V	5.9/12/17.8 V	16/31 V
Output voltage	8.4 V	3.8/7.9/12.2 V	8.4 V	4.3/8.4/12.7 V	12.2/23.2 V
at rated output current	1 A	1-1-0.67 A	1 A	2-2-1.5 A	2-1 A
Secondary resistance	2 Ω	0.9/1.9/2.8 Ω	2 Ω	0.4/1/1.3 Ω	1/3 Ω
Power loss in no-load operation	1.4 W	1.4 W	1.4 W	1.8 W	1.9 W
Total power loss at nominal load	7.1 W	6.2 W	7.1 W	11.6 W	11.9 W
Short circuit proof	PTC	PTC	PTC	PTC	PTC
Test voltage (primary-secondary)	5 kV	5 kV	5 kV	5 kV	5 kV
Pollution degree	P2	P2	P2	P2	P2
<b>Mechanical</b>					
Frame size	45 mm	45 mm	45 mm	45 mm	45 mm
Device height	90 mm	90 mm	90 mm	90 mm	90 mm
Device width	36 mm	36 mm	36 mm	36 mm	54 mm
Weight	236 g	253 g	236 g	354 g	612 g
Mounting	quick fastening on DIN rail IEC/EN 60715				
Degree of protection, built-in	IP20	IP20	IP20	IP20	IP20
Upper and lower terminals	lift terminals	lift terminals	lift terminals	lift terminals	lift terminals
Terminal capacity	1 - 3x2.5 mm <sup>2</sup>	1 - 3x2.5 mm <sup>2</sup>	1 - 3x2.5 mm <sup>2</sup>	1 - 3x2.5 mm <sup>2</sup>	1 - 3x2.5 mm <sup>2</sup>
Tightening torque of terminal screws	0.5 Nm	0.5 Nm	0.5 Nm	0.5 Nm	0.5 Nm
Permitted relative humidity	<95%	<95%	<95%	<95%	<95%
Rated ambient temperature	40°C	40°C	40°C	40°C	35°C
Temperature rise at intermittent duty (20 x 1min. 100% and 5min. 20%)	24 K	24 K	24 K	26 K	31 K
Insulation class	E	E	E	E	E
Glow wire-test	850°C	850°C	850°C	850°C	850°C

## Dimensions (mm)



## Practical Hint

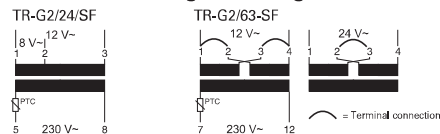


According to EN 61558

## Safety Transformers TR-G./.-SF

- Safety transformers with separate windings according to EN 61558
- Accessories: Surface Mounting Set (mounting plate, terminal covers)

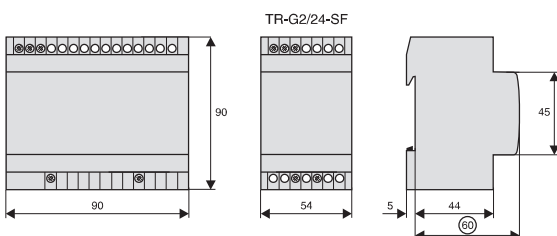
### Connection diagrams (e.g.)



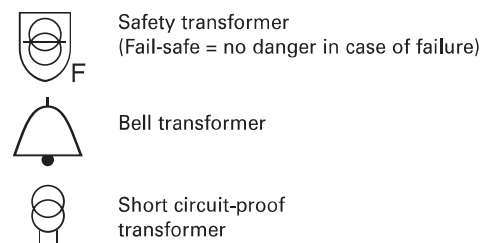
## Technical Data

	TR-G2/24-SF	TR-G2/24-SF2	TR-G2/63-SF
<b>Electrical</b>			
Rated output	24 VA	24 VA	63 VA
Rated supply voltage range at terminals	230-240 V AC 5-8	230-240 V AC 7-12	230-240 V AC 7-12
Rated frequency	50 Hz	50 Hz	50 Hz
No-load current	22 mA	58 mA	60 mA
Rated supply current	100/150 mA	140/135 mA	340 mA
Primary resistance	133 Ω	92 Ω	41 Ω
Rated output voltage at terminals	8/12 VAC 1-2/1-3	12/24 VAC 1-2/1-3	12/24 VAC 1-4/1-4 (terminal conn.)
No-load output voltage	9.9/15.6 V	13.3/26.8 V	13.6/27.3 V
Output voltage at rated output current	8.2/12.3 V 2-2 A	11.6/23.8 V 2-1 A	12/24.1 V 5.2-2.6 A
Secondary resistance	0.5/0.75 Ω	0.45/0.95 Ω	0.15/0.6 Ω
Power loss in no-load operation	1.8 W	4.3 W	4.1 W
Total power loss at nominal load	10.4 W	6.3 W	19.6 W
Duty	100%	100%	100%
Short circuit proof	inherently (PTC)	inherently (PTC)	inherently (PTC)
Test voltage (primary-secondary)	5 kV	5 kV	5 kV
Pollution degree	P2	P2	P2
<b>Mechanical</b>			
Frame size	45 mm	45 mm	45 mm
Device height	90 mm	90 mm	90 mm
Device width	54 mm	90 mm	90 mm
Weight	604 g	1087 g	1256 g
Mounting	quick fastening on DIN rail IEC/EN 60715		
Degree of protection, built-in	IP40	IP40	IP40
Upper and lower terminals	lift terminals	lift terminals	lift terminals
Terminal capacity	1 - 3x2,5 mm <sup>2</sup>	1 - 3x2,5 mm <sup>2</sup>	1 - 3x2,5 mm <sup>2</sup>
Tightning torque of terminal screws	0,5 Nm	0,5 Nm	0,5 Nm
Permitted relative humidity	<95%	<95%	<95%
Rated ambient temperature	25°C	35°C	25°C
Temperature rise at uninterrupted duty	56 K	34 K	51 K
Insulation class	E	F	F
Glow wire-test	850°C	850°C	850°C

## Dimensions (mm)



## Practical Hint



According to EN 61558

Eaton's electrical business is a global leader with expertise in power distribution and circuit protection; backup power protection; control and automation; lighting and security; structural solutions and wiring devices; solutions for harsh and hazardous environments; and engineering services. Eaton is positioned through its global solutions to answer today's most critical electrical power management challenges.

Eaton is a diversified power management company providing energy-efficient solutions that help our customers effectively manage electrical, hydraulic and mechanical power. The company is a global technology leader in electrical products, systems and services for power quality, distribution and control, power transmission, lighting and wiring products; hydraulics components, systems and services for industrial and mobile equipment; aerospace fuel, hydraulics and pneumatic systems for commercial and military use; and truck and automotive drivetrain and powertrain systems for performance, fuel economy and safety. Eaton acquired Cooper Industries plc in 2012. Eaton has approximately 100,000 employees and sells products to customers in more than 150 countries. For more information, **visit [www.eaton.com/SEAsia](http://www.eaton.com/SEAsia)**



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