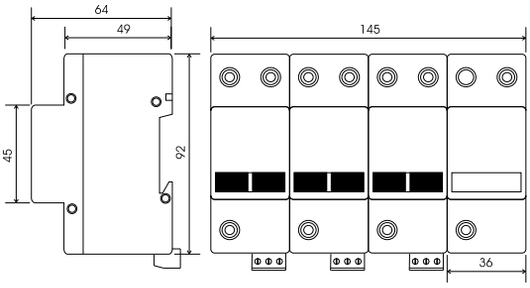
SPC3 (DS)



TN-S and TT system

SPC3.1 (DS)

TN-C system

SPC3∗

A compact range of surge protection devices of 1st and 2nd stage. The recommended use is in the Lightning Protection Zones Concept at the boundaries of LPZ $0_{A(B)}$ – 1 according to IEC 1312-1, IEC 62305 and EN 616 43-11 in low voltage power supply systems TNS, TNC and TT. SPC3 (Surge Protection Compact) is suitable for protection of electrical installation which is connected to supply system by cable lines or overhead line. They are produced in a compact range for max. discharge currents I_{max}(8/20) = 60, 90, 120, 150kA (L/N). The withstand capability against discharge current between the terminals N/PE are either I_{imp}(10/350)=20kA (for models SPC3) or I_{imp}(10/350)=80kA (for models SPC3.0).

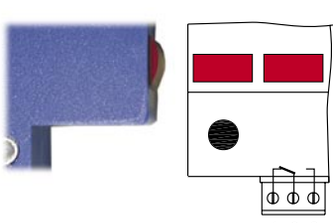
Type			SPC3 60 (DS) SPC3.0 60	SPC3 90 (DS) SPC3.0 90	SPC3 120 (DS) SPC3.0 120	SPC3 150 (DS) SPC3.0 150		SPC3.1 60 SPC3.1 60 DS	SPC3.1 90 SPC3.1 90 DS	SPC3.1 120 SPC3.1 120 DS	SPC3.1 150 SPC3.1 150 DS
Test class according to IEC 61643-1 and EN 61643-11			I+II/T1 +T2					I+II/T1+ T2			
Nominal voltage	U_N		3x400/230V/50(60)Hz					3x400/230V/50(60)Hz			
Maximum continuous operating voltage	U_c		3x480/275V/50(60)Hz					3x480/275V/50(60)Hz			
Max. lightning impulse current (10/350)	I_{imp}		8kA	12kA	16kA	20kA		8kA	12kA	16kA	20kA
- charge	Q	L/N	4As	6As	8As	10As		4As	6As	8As	10As
- specific energy	W/R		16kJ/Ω	36kJ/Ω	64kJ/Ω	100kJ/Ω	L/PEN	16kJ/Ω	36kJ/Ω	64kJ/Ω	100kJ/Ω
Max. lightning impulse current (10/350)	I_{imp}		20kA (SPC3), 80kA (SPC3.0)								
- charge	Q	N/PE	10As (SPC3), 40As (SPC3.0)								
- specific energy	W/R		100kJ/Ω (SPC3), 1600kJ/Ω (SPC3.0)								
Maximum discharge current (8/20)	I_{max}	L/N	60kA	90kA	120kA	150kA	L/PEN	60kA	90kA	120kA	150kA
Nominal discharge current (8/20)	I_n	L/N	30kA	50kA	65kA	80kA	L/PEN	30kA	50kA	65kA	80kA
Voltage protection level at I_{imp}	U_P	L/N	<1,3kV				L/PEN	<1,3kV			
Response time	t_A	L/N	<25ns				L/PEN	<25ns			
		N/PE	<100ns								
Recommended back-up fuse			315AgL/gG					315AgL/gG			
Recommended back-up fuse ("V" connection)			63AgL/gG					63AgL/gG			
Short-circuit withstand capability at max. back-up fuse	I_P		80kA_{rms}					80kA_{rms}			
Operating temperature range	ϑ		-40°C to +80°C					-40°C to +80°C			
Cross-section of the connected conductors			50mm^2 (solid)					50mm^2 (solid)			
(at tightening moment of clamps 4Nm)			35mm^2 (flexible)					35mm^2 (flexible)			
Protection type			IP 20					IP 20			
Mounting on			DIN rail 35mm					DIN rail 35mm			
Housing material			Silamid EFX					Silamid EFX			
Lifetime			min. 100,000hrs					min. 100,000hrs			
Weight	m		872g					788g			
Potential free signal contact (DS)			el.strength against surround. circuits			3750V_{rms}		el.strength against surround. circuits			3750V_{rms}
			el.strength against network circuits			3750V_{rms}		el.strength against network circuits			3750V_{rms}
			insulation resistance			2x10^7Ω		insulation resistance			2x10^7Ω
			max. switching current			~ 0,5A		max. switching current			~ 0,5A
			max. switching voltage			~ 250V		max. switching voltage			~ 250V
Article number			10 130 (10 030) 10 085	10 131 (10 031) 10 086	10 132 (10 032) 10 087	10 133 (10 033) 10 088		10 134 10 034	10 135 10 035	10 136 10 036	10 137 10 037

SPC3 ∗ consists of lightning arrester 1st stage and surge arrester 2nd stage according to IEC 61643-1 and EN 616 43-11 standard. By a special distribution of varistors we have been successful in decreasing the size, especially by saving space by leaving out the decoupling elements, which are usually placed between the 1st and 2nd stage cascade of surge protection. The SPC 3 compact protection products provide particularly effective power supply system protection against transverse and lengthwise surges in cooperation with recommended application of arresters of 3rd stage (class III). Particular varistor sections connected between terminals L/N comply to IEC 61643-1 and EN 616 43-11. They are provided with internal disconnecters which are activated when a failure of the varistors occurs. Indication of failure of these disconnecters is partly mechanical (by a red signalling target) and partly remote monitoring (by potential free switching signal contact).

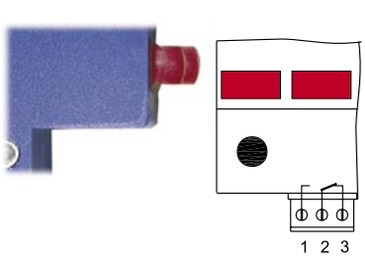
Note: It is possible to reguire SPC3.0 designed for IT-systems at U_N = 3x400V by the special demand entirely.

Connection of remote monitoring for SPC

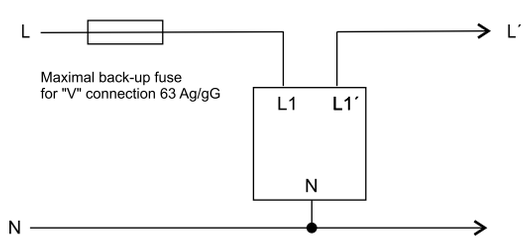
OPERATION



FAILURE

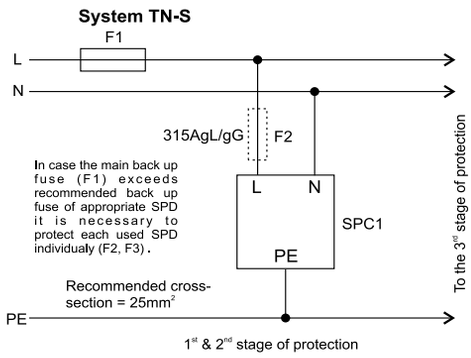


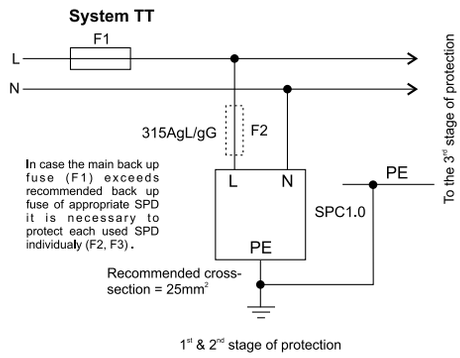
Recommended back-up fuse („V" connection)



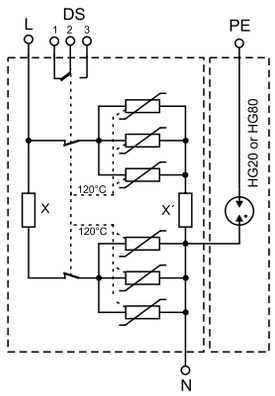
Maximal cross-section of connectet conductors 50 mm^2

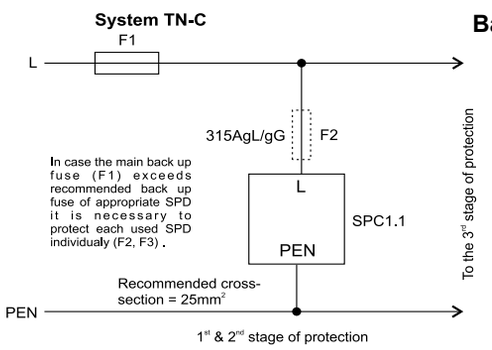
Recommended wiring of lightning arresters SPC1* type



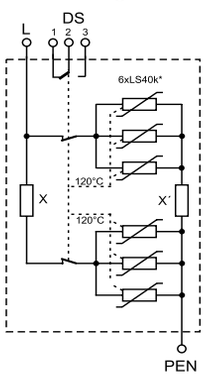


Basic circuit diagram of SPC1*

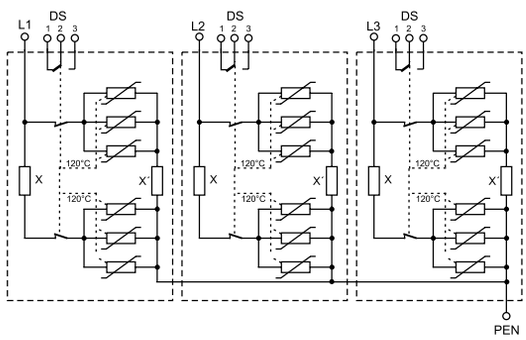




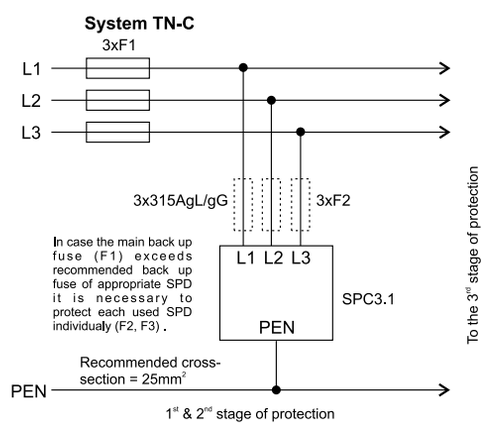
Basic circuit diagram of SPC1.1



Basic circuit diagram of SPC3.1



Recommended wiring of lightning arresters SPC3* type (DS)



Basic circuit diagram of SPC3