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SC*

Surge arrester class II according to IEC 61643-1 and EN 61643-11 (2nd stage protection). To be placed into the secondary switchboards. Complete device consists of a base and pluggable module. These pluggable modules can be exchanged without disconnection of power supply. Models SC* contains a special ZnO varistors with I_{max}(8/20)=40 kA or I_{max} (8/20)=20kA.
They are manufactured in a compact range for nominal voltages of 60 V, 120 V, 230 V, 280 V, 400 V, 500 V and 720 V. The recommended use is in the Lightning Protection Zones Concept at the boundaries of LPZ 0_B-1 and more according to IEC 1312-1 and IEC 62305 in low voltage power supply systems TNC and TNS, but it can also be used in TT and IT systems. SC*S can be used in applications, where the remote monitoring of failure is required. This type has the same construction as SC*,but it also contains potential free contact for remote monitoring of failure.

Type		SC 60 SC 60(S)	SC 120 SC 120(S)	SC 230 SC 230(S)	SC 280 SC 280(S)
Surge arrester class II according to IEC 61643-1 and EN 61643-11 (2nd stage protection)		II / T2			
Nominal voltage / 50 (60) Hz	U_N	60 V	120 V	230 V	280 V
Max.continuous operating voltage /50 (60) Hz	U_C	75 V	144 V	275 V	320 V
Maximum discharge current (8/20)	I_{max}	40 kA			
Nom. discharge current (8/20)	I_n	15 kA	20 kA		
Voltage protection level at I_n	U_p	<350 V	<850 V	<1,3 kV	
Response time	t_A	<25 ns			
Recommended back-up fuse		160 AgL/gG			
Short-circuit withstand capability at max. back-up fuse	I_p	60 kA_{rms}			
Operating temperature range	ϑ	-40° to + 80°C			
Cross-section of the connected conductors (at tightening moment of clamps 3Nm)		6÷25 mm^2 (solid) 6÷16 mm^2 (flexible)			
Protection type		IP 20			
Mounting on		DIN rail 35mm			
Housing material		SLOVAMID 6FRC2			
Lifetime		min 100.000 hrs			
Potential free signal contact (S)		el.strength against surround. circuits: 3750 V_{rms} el.strength against network. circuits: 3750 V_{rms} insulation resistance: $2x10^7\Omega$ max.switching current: ~0,5 A max.switching voltage: ~250 V			
Weight	m	98 g			

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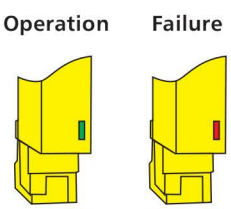
Type		SC 400 SC 400(S)	SC 500 SC 500(S)	SCMT 230 SCMT 230(S)	SCMT 280 SCMT 280(S)
Test class according to IEC 61643-1and EN 61643-11		II / T2			
Nominal voltage /50 (60) Hz	U_N	400 V	500 V	230 V	280 V
Max.continuous operating voltage /50 (60) Hz	U_C	480 V	600 V	275 V	320 V
Maximum discharge current (8/20)	I_{max}	40 kA		20 kA	
Nom. discharge current (8/20)	I_n	15 kA			
Voltage protection level at I_n	U_p	< 2 kV	< 2,5 kV	< 1,3 kV	
Response time	t_A	< 25 ns			
Recommended back-up fuse		160 AgL/gG		100 AgL/gG	
Short-circuit withstand capability at max. back-up fuse	I_p	60 kA_{rms}		30 kA_{rms}	
Operating temperature range	ϑ	-40° to + 80°C			
Cross-section of the connected conductors (at tightening moment of clamps 3Nm)		6 ÷ 25 mm^2 (solid) 6 ÷ 16 mm^2 (flexible)			
Protection type		IP 20			
Mounting on		DIN rail 35mm			
Housing material		SLOVAMID 6FRC2			
Lifetime		min 100.000 hrs			
Potential free signal contact (S)		el.strength against surround. circuits 3750 V_{rms} el.strength against network. circuits 3750 V_{rms} insulation resistance $2x10^7\Omega$ max.switching current ~0,5 A max.switching voltage ~250 V			
Weight	m	100 g	110 g	90 g	90 g

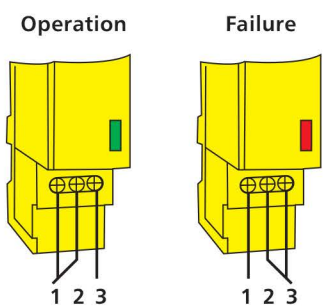
Mechanical Failure Indication

Is optically indicated by a red or green changeover field on front side of the device. The green field signals that the device is fully functional. The red field signals a damage of the protecting unit.



Connection of Remote Monitoring

As long as the unit SC* S is functional, the contacts 1-2 are connected. This applies if the unit is alive or also if there is absence of voltage. If there is a damaged varistor in the unit because of heat effect due to overload, the contacts 2-3 are connected.



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SSPUM PV*

A compact range of surge protection devices (class II) is designed for protection of positive and negative busbars of photovoltaic systems against the surge effects according to EN 61643-11 and IEC 61643-1. The recommended use is in the Lightning Protection Zones Concept at the boundaries of LPZ 0_B-1 and higher according to IEC 1312-1 and IEC 62305. SSPUM PV* consists of a base and pluggable modules. These pluggable modules can be exchanged without disconnection of power supply. Particular varistor sectors connected between terminals L+, L- and PE are equipped with fitted internal disconnectors, which are activated when varistors fail (overheat). Failure indication of these disconnectors is partly visual (discoloration of the signal field) and partly remote monitoring by potential free switching contacts (only SSPUM PV(S)* type).

Type		SSPUM PV200 SSPUM PV(S)200	SSPUM PV400 SSPUM PV(S)400	SSPUM PV600 SSPUM PV(S)600	SSPUM PV800 SSPUM PV(S)800	SSPUM PV1000 SSPUM PV(S)1000
Test class according to IEC 61643-1and EN 61643-11		II / T2				
Nominal voltage AC of plugable modules SC*	U_N	60 V	120 V	240 V	280 V	400 V
Max.continuous operating voltage DC(L+/L-,L+/PE,L-/PE)	U_C	200 V	400 V	600 V	800 V	1000 V
Max. discharge current at wave shape(8/20)	I_{max}	40 kA				
Nom. discharge current at wave shape (8/20)	I_n	15 kA	20 kA			15 kA
Voltage protection level at I_n	U_p	<950 V	<1,7 kV	<2,5 kV	<2,8 kV	<3,5 kV
Response time	t_A	<25ns				
Recommended back-up fuse		125 AgL/gG				
Operating temperature range	ϑ	-40° to + 80°C				
Recommended cross-section of connected conductors at tightening moment 3Nm		6÷25 mm² (solid) 6÷16 mm² (flexible)				
Protection type		IP 20				
Mounting on		DIN rail 35mm				
Housing material		SLOVAMID 6FRC2				
Potential free signal contact (S)		el.strength against surround. circuits el.strength against network circuits insulation resistance max.switching current max.switching voltage				3750 V_{rms} 3750 V_{rms} $2x10^7\Omega$ ~0,5 A ~250 V
Lifetime		100.000 hrs				
Weight	m	300 g				

Visual failure indication

Overloading and disconnection of varistor is indicated by discoloration of the signal field from green to red colour.

Operation Failure