

Surge Protection SPRT12



EATON

Powering Business Worldwide

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Description

- Combined class 1/2 tested SPD
- Suitable for critical infrastructure which is fitted with an external lightning protection system
- Integrated auxiliary contact to provide the status of the SPD
- Double terminal offers the possibility to connect the SPD in series to the installation

Types

SPR „AX“

- Base, insert and auxiliary contact in one device
- Iimp of 25 kA per phase
- Suitable for applications with external lightning protection system (LPS I/II/III/IV)

SPR „NPE“

- Suitable for TT and TN-S systems due to the 3+1 connection
- Galvanic separated SPD path between neutral and protective earth

Poles	Max. Continuous Operating Voltage U_c	Type Designation	Article No.	Units per package
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Combined Surge Protective Device SPRT12-350

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

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3pole	350 VAC	SPRT12-350/3-AX	195235	1
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- incl. FM contact (change-over contact)
- for TN-S/TT

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3pole+NPE	350 VAC	SPRT12-350/3+NPE-AX	195236	1
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Range of protection	Max. Continuous Operating Voltage U_c	Type Designation	Article No.	Units per package
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Insert for SPRT12-350

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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
- 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 I and II according to IEC 62305

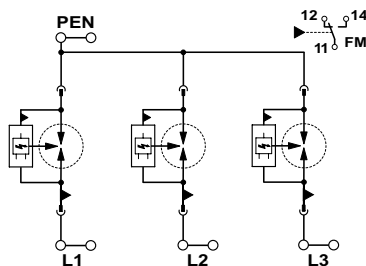
Technical Data

	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	50 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)
Impulse discharge current (10/350) μs (L-PE)		
Peak value	I_{imp} -	25 kA

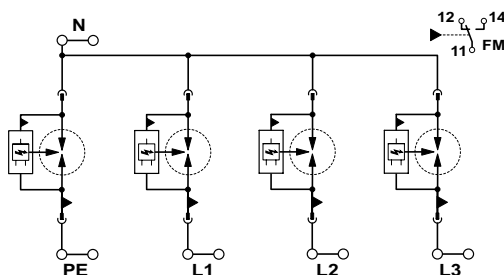
		SPRT12-350/3-AX	SPRT12-350/3+NPE-AX
Impulse discharge current (10/350) μ s (N-PE)			
Peak value	I_{imp}	-	100 kA
Total discharge current (10/350) μ s	I_{total}	75 kA	100 kA
Follow current interrupt rating	I_{fi}		
(L-PEN)		50 kA	-
(L-N)		-	50 kA
(N-PE)		-	100 A
Short-circuit current rating	I_{SCCR}	50 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) μ s			
(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 mm ²)		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 125 V DC (200 mA DC)	12 V AC ... 250 V AC 125 V DC (200 mA DC)
Operating current		10 mA AC ... 1 A AC 1 A DC (30 V DC)	10 mA AC ... 1 A AC 1 A DC (30 V DC)
Screw thread		M2	M2
Conductor cross section			
flexible		0.14 mm ² ... 1.5 mm ²	0.14 mm ² ... 1.5 mm ²
solid		0.14 mm ² ... 1.5 mm ²	0.14 mm ² ... 1.5 mm ²
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 mm ² ... 35 mm ²	2.5 mm ² ... 35 mm ²
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 mm ² ... 16 mm ²	1.5 mm ² ... 16 mm ²
Tightening torque		4.5 Nm	4.5 Nm

Circuit diagrams

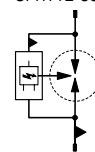
SPRT12-350/3-AX



SPRT12-350/3+NPE-AX

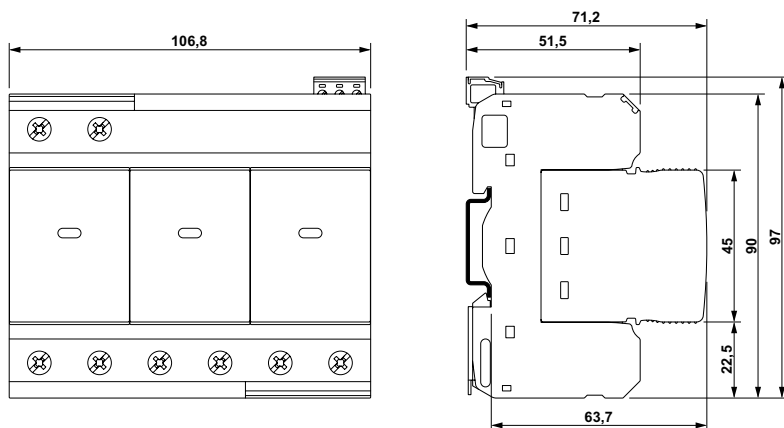


SPRT12-350, SPRT12-350/NPE

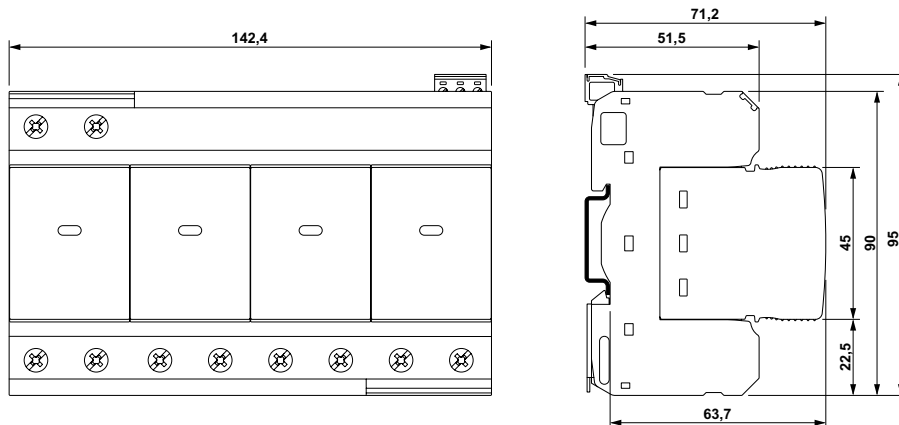


Dimensions (mm)

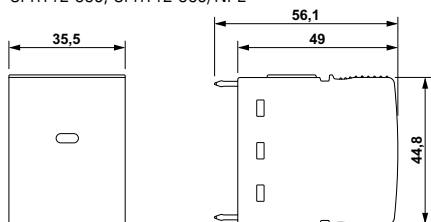
SPRT12-350/3-AX



SPRT12-350/3+NPE-AX



SPRT12-350, SPRT12-350/NPE



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