FLT-SEC-T1+T2-2S-350/25-FM - Type 1+2 special combined lightning current and surge arrester

2905468

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Plug-in lightning and surge arrester combination, in accordance with Type 1+2/Class I+II, for 2-phase power supply networks, with separate N and PE (L1, L2, PE, N).

Your advantages

- Surge protection family for universal use with optimum energy coordination from the lightning current arrester to the device protection
- Easy to maintain due to consistently pluggable protection modules
- Excellent level of information provided by mechanical/visual status indicator and remote indication contact
- Optimum protective effect in the event of high-energy lightning currents, thanks to spark gap technology with low residual voltage characteristic
- Maximum protection against dynamic overvoltages for sensitive devices, thanks to direct coordination with varistor arresters connected in parallel

Commercial data

Item number	2905468
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL01
Product key	CL1241
GTIN	4046356950619
Weight per piece (including packing)	1,012 g
Weight per piece (excluding packing)	909 g
Customs tariff number	85363030
Country of origin	DE

Technical data

Product properties

Product type	Arrester combination
Product family	SEC Family
IEC test classification	I + II
	I
	T1 + T2
	T1
EN type	T1 + T2
	T1
IEC power supply system	TN-S
	TT
Type	DIN rail module, two-section, divisible
Number of positions	3
Surge protection fault message	Optical, remote indicator contact
Number of ports	One

Insulation characteristics

Overvoltage category	III
Pollution degree	2

Electrical properties

Nominal frequency f_N	50 Hz (60 Hz)

Indicator/remote signaling

Connection name	Remote fault indicator contact
Switching function	Changeover contact
Operating voltage	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)

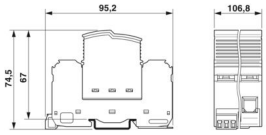
Connection data

Connection method	Screw terminal blocks
Screw thread	M5
Tightening torque	4.5 Nm
Stripping length	18 mm
Conductor cross-section flexible	2.5 mm² ... 35 mm²
Conductor cross-section rigid	2.5 mm² ... 35 mm²
Conductor cross-section AWG	13 ... 2
Connection method	Fork-type cable lug
Conductor cross-section flexible	1.5 mm² ... 16 mm²

Remote fault indicator contact

Connection method	Plug-in/screw connection via COMBICON
Screw thread	M2
Tightening torque	0.25 Nm
Stripping length	7 mm
Conductor cross-section flexible	0.14 mm² ... 1.5 mm²
Conductor cross-section rigid	0.14 mm² ... 1.5 mm²
Conductor cross-section AWG	28 ... 16

Dimensions

Dimensional drawing	
Width	106.8 mm
Height	95.2 mm
Depth	74.5 mm
Horizontal pitch	6 HP

Material specifications

Color (Male connector)	light gray (RAL 7035)
Color (Base element)	gray (RAL 7042)
Flammability rating according to UL 94	V-0
CTI value of material	600
Insulating material	PA6.6-FR 20% GF
	PBT-FR
Material group	I
Housing material	PA 6.6-FR 20 % GF
	PBT-FR

Mechanical properties

Mechanical data

Open side panel	No

Protective circuit

Mode of protection	L-N
	L-PE
	N-PE
Direction of action	2L-N & N-PE
Nominal voltage U_N	240/415 V AC (TN-S)
	240/415 V AC (TT)

Nominal frequency f_N	50 Hz (60 Hz)
Maximum continuous operating voltage U_C	350 V AC
Rated load current I_L	125 A (< 55 °C)
Protective conductor current I_{PE}	≤ 0.01 mA
Operating effective current I_C at U_N	≤ 0.01 mA
Nominal discharge current I_n (8/20) µs (L-N)	25 kA
Nominal discharge current I_n (8/20) µs (L-PE)	25 kA
Nominal discharge current I_n (8/20) µs (N-PE)	100 kA
Impulse discharge current (10/350) µs (L-N), charge	12.5 As
Impulse discharge current (10/350) µs (L-N), specific energy	160 kJ/Ω
Impulse discharge current (10/350) µs (L-N), peak current value I_{imp}	25 kA
Impulse discharge current (10/350) µs (L-PE), charge	12.5 As
Impulse discharge current (10/350) µs (L-PE), specific energy	160 kJ/Ω
Impulse discharge current (10/350) µs (L-PE), peak current value I_{imp}	25 kA
Impulse discharge current (10/350) µs (N-PE), charge	50 As
Impulse discharge current (10/350) µs (N-PE), specific energy	2500 kJ/Ω
Impulse discharge current (10/350) µs (N-PE), peak current value I_{imp}	100 kA
Follow current quenching capacity I_{fi} (L-N)	25 kA (264 V AC)
	3 kA (350 V AC)
Follow current interrupt rating I_{fi} (N-PE)	100 A (350 V AC)
Short-circuit current rating I_{SCCR}	25 kA (264 V AC)
	3 kA (350 V AC)
Voltage protection level U_p (L-N)	≤ 1.5 kV
Voltage protection level U_p (L-PE)	≤ 2.2 kV
Voltage protection level U_p (N-PE)	≤ 1.5 kV
Residual voltage U_{res} (L-N)	≤ 1.5 kV (at I_n)
	≤ 1.2 kV (at 10 kA)
	≤ 1 kV (at 5 kA)
	≤ 0.9 kV (at 3 kA)
Residual voltage U_{res} (L-PE)	≤ 2.2 kV (at I_n)
	≤ 2 kV (at 10 kA)
	≤ 1.8 kV (at 5 kA)
	≤ 1.6 kV (at 3 kA)
Residual voltage U_{res} (N-PE)	≤ 1.5 kV (at I_n)
	≤ 1 kV (at 10 kA)
	≤ 0.9 kV (at 5 kA)
	≤ 0.8 kV (at 3 kA)
TOV behavior at U_T (L-N)	415 V AC (5 s / withstand mode)
	457 V AC (120 min / safe failure mode)
TOV behavior at U_T (N-PE)	1200 V AC (200 ms / withstand mode)

Response time t_A (L-N)	≤ 25 ns
Response time t_A (N-PE)	≤ 100 ns
Max. backup fuse with V-type through wiring	125 A (gG)
Max. backup fuse with branch wiring	315 A (gG)

Additional technical data

Maximum discharge current I_{max} (8/20) µs	100 kA

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20 (only when all terminal points are used)
Ambient temperature (operation)	-40 °C ... 80 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Altitude	≤ 2000 m (amsl)
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	30g (Half-sine / 11 ms / 3x ±X, ±Y, ±Z)
Vibration (operation)	5g (5 - 500 Hz/2.5 h/X, Y, Z)

Approvals

UL specifications

Maximum continuous operating voltage MCOV (L-L)	528 V AC
Maximum continuous operating voltage MCOV (L-N)	264 V AC
Maximum continuous operating voltage MCOV (L-G)	264 V AC
Maximum continuous operating voltage MCOV (N-G)	350 V AC
Short-circuit current rating (SCCR)	50 kA
Voltage protection rating VPR (L-L)	2000 V
Voltage protection rating VPR (L-N)	1200 V
Voltage protection rating VPR (L-G)	1500 V
Voltage protection rating VPR (N-G)	1200 V
Nominal discharge current I_n	20 kA
Mode of protection	L-L
	L-N
	L-G
	N-G
Nominal voltage	240/415 V AC
	120/240 V AC
Rated load current I_L	50 A
Power distribution system	Wye
	Split phase
Nominal frequency	50/60 Hz
SPD Type	2CA

UL indicator/remote signaling

Operating voltage	125 V AC
AC operating current	1 A AC

UL connection data

Tightening torque	40 lb_f-in.
Conductor cross-section AWG	3 ... 2

Standards and regulations

Air clearances and creepage distances

Standards/regulations	DIN VDE 0110-1 / IEC 60664-1 / IEC 61643-11
Standards/specifications	IEC 61643-11
Note	2011

EN 61643-11

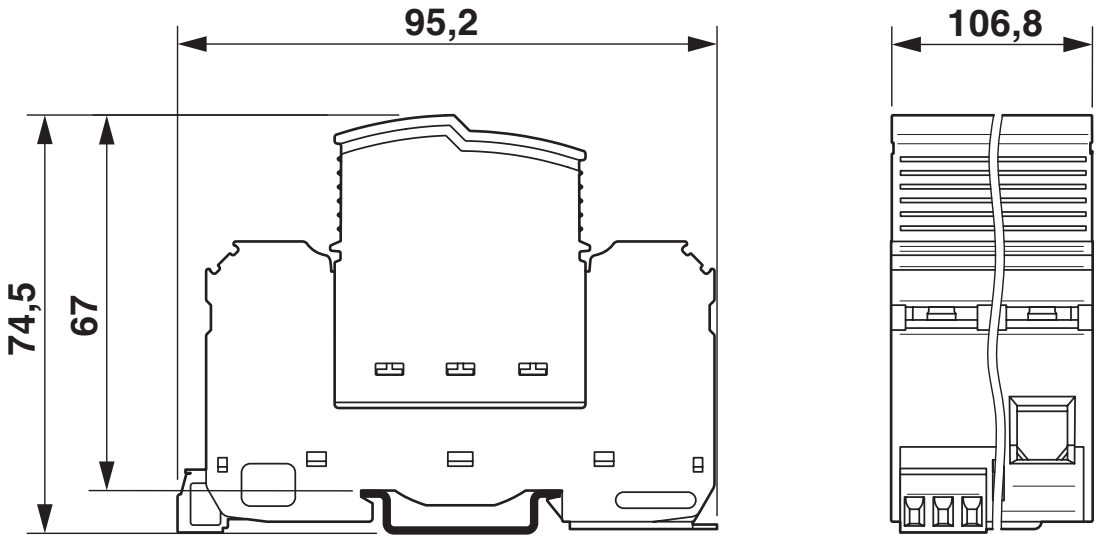
Standards/specifications	EN 61643-11
Note	2012

Mounting

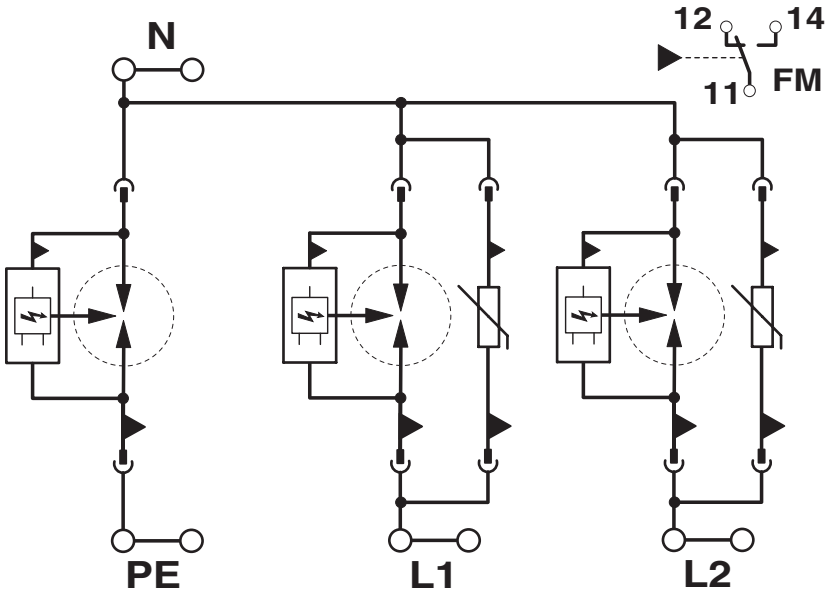
Mounting type	DIN rail: 35 mm

Drawings

Dimensional drawing



Circuit diagram



Approvals

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cUL Recognized
Approval ID: FILE E 330181

UL Recognized
Approval ID: FILE E 330181

IECEE CB Scheme
Approval ID: NL-58252

CCA
Approval ID: NTR-NL 7736

UAE-RoHS
Approval ID: 23-10-88887

Classifications

ECLASS

ECLASS-13.0	27171204
ECLASS-15.0	27171204

ETIM

ETIM 10.0	EC001457

UNSPSC

UNSPSC 21.0	39121600

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(c)

China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	207231de-ad8e-49e6-84e8-7cd8b4924759

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