

# Type 1+2 protective device combination - FLT-SEC-T1+T2-2S-350/25-FM - 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).

## Why buy this product

- ✓ Directly coordinated combination of type 1 spark gap without line follow current and type 2 varistor arrester
- ✓ Particularly suitable for maximum protection of sensitive devices in harsh environments
- ✓ High continuous voltage of 350 V AC for 230/400 V AC networks with high voltage fluctuations
- ✓ Pluggable
- ✓ Low voltage protection level of 1.5 kV
- ✓ Optical, mechanical status indicator
- ✓ With floating remote indication contact
- ✓ Plugs can be checked with CHECKMASTER 2



## Key Commercial Data

Packing unit	1 STK
GTIN	 4 046356 950619
GTIN	4046356950619
Weight per Piece (excluding packing)	1,180.000 g
Custom tariff number	85363030
Country of origin	Germany

## Technical data

### Dimensions

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## Technical data

### Dimensions

Height	95.2 mm
Width	106.8 mm
Depth	74.5 mm
Horizontal pitch	6 Div.

### 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 (above mean sea level))
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)

### General

IEC test classification	I + II
	T1 + T2
	T1
	I
EN type	T1 + T2
	T1
IEC power supply system	TN-S
	TT
Mode of protection	L-N
	L-PE
	N-PE
Mounting type	DIN rail: 35 mm
Color	light grey RAL 7035
	traffic grey A RAL 7042
Housing material	PA 6.6-FR 20% GF
	PBT-FR
Degree of pollution	2
Flammability rating according to UL 94	V-0
Type	DIN rail module, two-section, divisible
Number of positions	3
Surge protection fault message	Optical, remote indicator contact

### Protective circuit

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## Technical data

### Protective circuit

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 voltage $U_C$	350 V AC
Rated load current $I_L$	125 A (< 55 °C)
Residual current $I_{PE}$	$\leq 0.01$ mA
Nominal discharge current $I_n$ (8/20) $\mu$ s (L-N)	25 kA
Nominal discharge current $I_n$ (8/20) $\mu$ s (L-PE)	25 kA
Nominal discharge current $I_n$ (8/20) $\mu$ s (N-PE)	100 kA
Impulse discharge current (10/350) $\mu$ s (L-N), charge	12.5 As
Impulse discharge current (10/350) $\mu$ s (L-N), specific energy	160 kJ/ $\Omega$
Impulse discharge current (10/350) $\mu$ s (L-N), peak current value $I_{imp}$	25 kA
Impulse discharge current (10/350) $\mu$ s (L-PE), charge	12.5 As
Impulse discharge current (10/350) $\mu$ s (L-PE), specific energy	160 kJ/ $\Omega$
Impulse discharge current (10/350) $\mu$ s (L-PE), peak current value $I_{imp}$	25 kA
Impulse discharge current (10/350) $\mu$ s (N-PE), charge	50 As
Impulse discharge current (10/350) $\mu$ s (N-PE), specific energy	2500 kJ/ $\Omega$
Impulse discharge current (10/350) $\mu$ s (N-PE), peak current value $I_{imp}$	100 kA
Follow current interrupt rating $I_{fi}$ (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)	$\leq 1.5$ kV
Voltage protection level $U_p$ (L-PE)	$\leq 2.2$ kV
Voltage protection level $U_p$ (N-PE)	$\leq 1.5$ kV
Residual voltage $U_{res}$ (L-N)	$\leq 1.5$ kV (at $I_n$ )
	$\leq 1.2$ kV (at 10 kA)
	$\leq 1$ kV (at 5 kA)
	$\leq 0.9$ kV (at 3 kA)
Residual voltage $U_{res}$ (L-PE)	$\leq 2.2$ kV (at $I_n$ )
	$\leq 2$ kV (at 10 kA)
	$\leq 1.8$ kV (at 5 kA)
	$\leq 1.6$ kV (at 3 kA)
Residual voltage $U_{res}$ (N-PE)	$\leq 1.5$ kV (at $I_n$ )

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### Technical data

#### Protective circuit

	≤ 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) $\mu$ s (L-N)	50 kA
Maximum discharge current $I_{max}$ (8/20) $\mu$ s (L-PE)	50 kA
Maximum discharge current $I_{max}$ (8/20) $\mu$ s (N-PE)	100 kA

#### Indicator/remote signaling

Switching function	PDT 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 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 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section solid	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section AWG	28 ... 16

#### 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 mm <sup>2</sup> ... 35 mm <sup>2</sup>
Conductor cross section solid	2.5 mm <sup>2</sup> ... 35 mm <sup>2</sup>

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## Technical data

### Connection data

Conductor cross section AWG	13 ... 2
Connection method	Fork-type cable lug
Conductor cross section flexible	1.5 mm <sup>2</sup> ... 16 mm <sup>2</sup>

### UL specifications

SPD Type	4CA
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)	528 V AC
Maximum continuous operating voltage MCOV (N-G)	264 V AC
Nom. voltage	240/415 V AC
Mode of protection	L-L
	L-N
	L-G
	N-G
Power distribution system	3Y
Nominal frequency	50/60 Hz
Measured limiting voltage MLV (L-L)	2470 V
Measured limiting voltage MLV (L-N)	1340 V
Measured limiting voltage MLV (L-G)	1550 V
Measured limiting voltage MLV (N-G)	1080 V
Nominal discharge current I <sub>n</sub> (L-L)	20 kA
Nominal discharge current I <sub>n</sub> (L-N)	20 kA
Nominal discharge current I <sub>n</sub> (L-G)	20 kA
Nominal discharge current I <sub>n</sub> (N-G)	20 kA

### UL indicator/remote signaling

Operating voltage	125 V AC
Operating current	1 A AC
Tightening torque	4 lb <sub>F</sub> -in.
Conductor cross section AWG	30 ... 14

### UL connection data

Conductor cross section AWG	12 ... 2
Tightening torque	40 lb <sub>F</sub> -in.

### Standards and Regulations

Standards/regulations	IEC 61643-11 2011
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# Type 1+2 protective device combination - FLT-SEC-T1+T2-2S-350/25-FM - 2905468

## Technical data

### Standards and Regulations

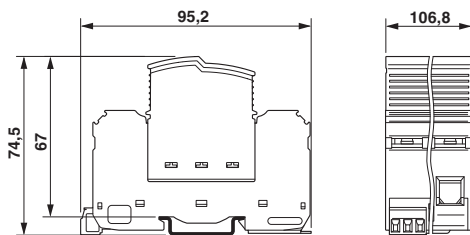
	EN 61643-11 2012
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### Environmental Product Compliance

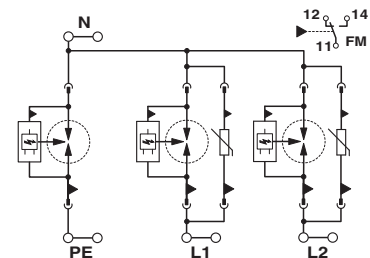
REACH SVHC	Lead 7439-92-1
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## Drawings

Dimensional drawing



Circuit diagram



## Classifications

### eCl@ss

eCl@ss 5.1	27140200
eCl@ss 6.0	27130800
eCl@ss 7.0	27130808
eCl@ss 8.0	27130808
eCl@ss 9.0	27130808

### ETIM

ETIM 5.0	EC001457
ETIM 6.0	EC001457

### UNSPSC

UNSPSC 13.2	39121620
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## Approvals

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UL Recognized / KEMA-KEUR / cUL Recognized / CCA / IECCE CB Scheme / GL / EAC / cULus Recognized

# Type 1+2 protective device combination - FLT-SEC-T1+T2-2S-350/25-FM - 2905468

## Approvals

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### Ex Approvals

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### Approval details

UL Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 330181
KEMA-KEUR		<a href="http://www.dekra-certification.com">http://www.dekra-certification.com</a>	2185820.01
cUL Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 330181
CCA			NTR-NL 7348
IECEE CB Scheme		<a href="http://www.iecee.org/">http://www.iecee.org/</a>	NL-34357
GL		<a href="http://exchange.dnv.com/tari/">http://exchange.dnv.com/tari/</a>	13946-15 HH
EAC			RU C- DE.A*30.B01561
cULus Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	

## Accessories

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## Type 1+2 protective device combination - FLT-SEC-T1+T2-2S-350/25-FM - 2905468

### Accessories

#### Device marking

Label - EML (20XE)R - 0803452



Label, Roll, white, unlabeled, can be labeled with: THERMOMARK ROLL 2, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, mounting type: adhesive, lettering field size: continuous x 20 mm

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Label - EML (20XE)R YE - 0803453



Label, Roll, yellow, unlabeled, can be labeled with: THERMOMARK ROLL 2, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, mounting type: adhesive, lettering field size: continuous x 20 mm

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Zack marker strip - ZBN 18:UNBEDRUCKT - 2809128



Zack marker strip, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snap into tall marker groove, for terminal block width: 18 mm, lettering field size: 18 x 5 mm

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Zack marker strip - ZBN 18:UNBEDRUCKT - 2809128



Zack marker strip, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snap into tall marker groove, for terminal block width: 18 mm, lettering field size: 18 x 5 mm

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#### End block



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### Accessories

End clamp - CLIPFIX 35 - 3022218



Quick mounting end clamp for NS 35/7,5 DIN rail or NS 35/15 DIN rail, with marking option, width: 9.5 mm, color: gray

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### Labeled device marker

Marker for terminal blocks - ZBN 18,LGS:L1-N,ERDE - 2749576



Marker for terminal blocks, Strip, white, labeled, Horizontal: L1, L2, L3, N, GND, mounting type: snap into tall marker groove, for terminal block width: 18 mm, lettering field size: 18 x 5 mm

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Marker for terminal blocks - ZBN 18,LGS:ERDE - 2749589



Marker for terminal blocks, Strip, white, labeled, Horizontal: Grounding symbol, mounting type: snap into tall marker groove, for terminal block width: 18 mm, lettering field size: 18 x 5 mm

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### Marker pen

Marker pen - X-PEN 0,35 - 0811228



Marker pen without ink cartridge, for manual labeling of markers, labeling extremely wipe-proof, line thickness 0.35 mm

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### Terminal marking

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### Accessories

Flat zack marker sheet - ZBFM 5/WH:UNBEDRUCKT - 0803595



Flat zack marker sheet, Sheet, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snap into flat marker groove, for terminal block width: 5.2 mm, lettering field size: 5 x 4.5 mm

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### Spare parts

Type 1/2 surge protection plug - FLT-SEC-T1-350/25-P - 2905471



Replacement plug for lightning and surge arresters from the FLASHTRAB SEC product range, for L-N and L-PEN paths.

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Type 2 surge protection plug - VAL-SEC-T2-350-P - 2905346



Replacement plug for surge arresters from the VALVETRAB SEC product range for L-N and L-PEN paths.

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Type 1 surge protection plug - FLT-SEC-P-T1-N/PE-350/100-P - 2905473



Replacement plug for lightning current arresters from the FLASHTRAB SEC product range, for the N-PE path.