

Type 1+2 special combined lightning current and surge arrester - SYS-SET/ 2



2880451

<https://www.phoenixcontact.com/za/products/2880451>

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Plug-in lightning and surge arrester combination, in accordance with Type 1+2/Class I+II, for 3-phase power supply networks, with separate N and PE (L1, L2, L3, PE, N).

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Commercial Data

Item number	2880451
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	CL1
Product Key	CL1243
GTIN	4017918991166
Weight per Piece (including packing)	1 353,5 g
Weight per Piece (excluding packing)	1 176 g
Customs tariff number	85363030
Country of origin	DE

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Technical Data

Product properties

IEC test classification	I + II
	T1 + T2
	I
EN type	T1 + T2
IEC power supply system	TN-S
	TT
Type	DIN rail module, two-section, divisible
Product type	Arrester combination
Number of positions	4
Surge protection fault message	optical
Arrester can be tested with CHECKMASTER from software version:	From SW rev. 3.00

Insulation characteristics

Overvoltage category	III
Pollution degree	2

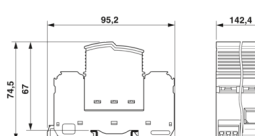
Electrical properties

Nominal frequency f_N	50 Hz (60 Hz)
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Connection data

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

Dimensions

Dimensional drawing	
Width	142.4 mm
Width	142.4 mm
Height	90 mm

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Height	90 mm
Depth	74.5 mm (incl. DIN rail 7.5 mm)
Depth	74.5 mm
Horizontal pitch	8 Div.

Material specifications

Color	light grey RAL 7035
	traffic grey A 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
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Protective circuit

Mode of protection	L-N
	L-PE
	N-PE
Direction of action	3L-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 voltage U_C	350 V AC
Rated load current I_L	125 A (< 55 °C)
Residual current I_{PE}	≤ 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

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Impulse discharge current (10/350) μ s (N-PE), specific energy	2500 kJ/ Ω
Impulse discharge current (10/350) μ s (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) μ s	100 kA
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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 (above mean sea level))
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	30g (Half-sine / 11 ms / 3x \pm X, \pm Y, \pm Z)
Vibration (operation)	5g (5 - 500 Hz/2.5 h/X, Y, Z)

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Approval data

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
Rated load current I_L	50 A
Power distribution system	Wye
Nominal frequency	50/60 Hz
SPD Type	2CA

UL connection data

Tightening torque	40 lb _F ·in.
Conductor cross section AWG	3 ... 2

Standards and regulations

Standards/specifications	IEC 61643-11
Standards/specifications	EN 61643-11

Mounting

Mounting type	DIN rail: 35 mm
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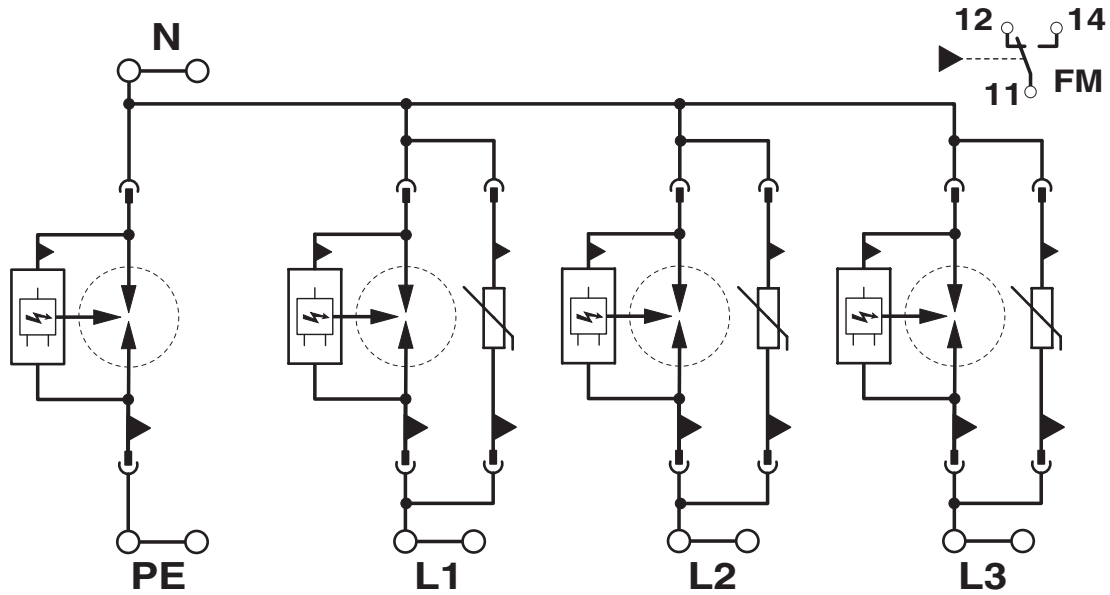
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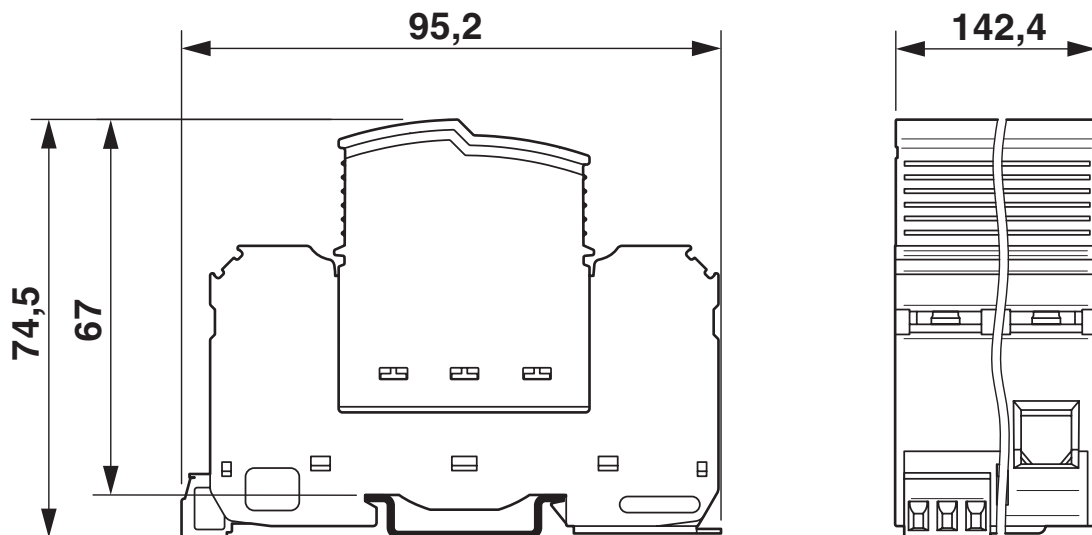
Drawings

Circuit diagram



The figure shows the variant with remote indication contact

Dimensional drawing



The figure shows the variant with remote indication contact

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Approvals



cUL Recognized



UL Recognized



IECEE CB Scheme



EAC

CCA



KEMA-KEUR

cULus Recognized

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Classifications

ECLASS

ECLASS-9.0	27130808
ECLASS-10.0.1	27130808
ECLASS-11.0	27130808

ETIM

ETIM 8.0	EC001457
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UNSPSC

UNSPSC 21.0	
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Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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Accessories

Marker pen

Marker pen - X-PEN 0,35 - 0811228

<https://www.phoenixcontact.com/za/products/0811228>



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

End clamp

End clamp - CLIPFIX 35 - 3022218

<https://www.phoenixcontact.com/za/products/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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Label

Label - EML (20XE)R - 0803452

<https://www.phoenixcontact.com/za/products/0803452>



Label, Roll, white, unlabeled, can be labeled with: THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, THERMOMARK ROLL X1, THERMOMARK ROLL 2.0, THERMOMARK ROLL, mounting type: adhesive

Label

Label - EML (20XE)R YE - 0803453

<https://www.phoenixcontact.com/za/products/0803453>



Label, Roll, yellow, unlabeled, can be labeled with: THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, THERMOMARK ROLL X1, THERMOMARK ROLL 2.0, THERMOMARK ROLL, mounting type: adhesive, lettering field size: continuous x 20 mm

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Flat zack marker sheet

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

<https://www.phoenixcontact.com/za/products/0803595>

Flat zack marker sheet, Sheet, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snap in, for terminal block width: 5.2 mm, lettering field size: 5 x 4.5 mm, Number of individual labels: 120



Zack marker strip

Zack marker strip - ZBN 18:UNBEDRUCKT - 2809128

<https://www.phoenixcontact.com/za/products/2809128>

Zack marker strip, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snap in, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5



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Marker for terminal blocks

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

<https://www.phoenixcontact.com/za/products/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, Number of individual labels: 5

Marker for terminal blocks

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

<https://www.phoenixcontact.com/za/products/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, Number of individual labels: 5

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Type 2 surge protection plug

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

<https://www.phoenixcontact.com/za/products/2905346>



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

Type 1/2 surge protection plug

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

<https://www.phoenixcontact.com/za/products/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 1 surge protection plug

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

<https://www.phoenixcontact.com/za/products/2905473>



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

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PHOENIX CONTACT (Pty) Ltd.
36 Lyn Road P.O. Box 916 ZA-Ferndale 2160

+27/11/801-8200
info@phoenixcontact.co.za