

Lightning/surge arrester type 1/2 - PWT 35-800AC-FM - 2800419

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Lightning/surge arrester, according to type 1/2 / class I/II, for 1-phase power supply networks with combined PE and N installed in one conductor (L1, PEN).

Your advantages

- ✔ Use in harsh industrial environments
- ✔ Very high TOV resistance
- ✔ Universal solution for various network types
- ✔ Meets installation requirements according to CLC/TS 50539-22
- ✔ Meets Lightning Protection Level I
- ✔ Free of leakage current/no line follow current
- ✔ Encapsulated, non-extinguishing
- ✔ Local optical status indication
- ✔ Multi-stage status monitoring via remote indication contact
- ✔ Type 1/2 arrester based on a varistor



Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 556156
GTIN	4046356556156

Technical data

Dimensions

Height	191 mm
Width	56 mm
Depth	280 mm
Horizontal pitch	3 Div.

Ambient conditions

Degree of protection	IP20 (only when all terminal points are used)
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Technical data

Ambient conditions

Ambient temperature (operation)	-40 °C ... 80 °C
	-40 °C ... 55 °C (serial through wiring $\geq 35 \text{ mm}^2$)
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Altitude	$\leq 4000 \text{ m}$ (amsl (above mean sea level))
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	25g (Half-sine / 11 ms / 3x $\pm X$, $\pm Y$, $\pm Z$)
Vibration (operation)	5g (10 ... 150 Hz / 2.5 h / X, Y, Z)
	4g (5 ... 100 Hz / X, Y, Z - according to GL)

General

IEC test classification	I / II
	T1 / T2
	T1
	I
EN type	T1 / T2
	T1
IEC power supply system	TN-C
	IT
Mode of protection	L-PE
Mounting type	Screw mounting
Color	silver gray
Housing material	Die-cast aluminum, salt water resistant
Degree of pollution	3
Flammability rating according to UL 94	V-2
Type	Installation module
Number of positions	1
Surge protection fault message	Optical, remote indicator contact

Additional descriptions

Note	Assembling: Two 8 mm screws with 8 Nm on an isolated or grounded surface
	Long-wave surge current 2 ms in accordance with IEC 60099-4: 250 x 1.0 kA; 500 x 0.5 kA.

Protective circuit

Nominal voltage U_N	690 V AC
	554/960 V AC (TN-C)
	690 V AC (IT)
Nominal frequency f_N	50 Hz (60 Hz)
Maximum continuous operating voltage U_C (L-PE)	800 V AC
Rated load current I_L	150 A (Serial through wiring with 50 mm^2)
Residual current I_{PE}	$\leq 20 \mu\text{A}$
Standby power consumption P_C	$\leq 16 \text{ mVA}$

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Protective circuit

Nominal discharge current I_n (8/20) μ s (L-PE)	35 kA
Maximum discharge current I_{max} (8/20) μ s (L-PE)	100 kA
Impulse discharge current (10/350) μ s (L-PE), charge	17.5 As
Impulse discharge current (10/350) μ s (L-PE), specific energy	305 kJ/ Ω
Impulse discharge current (10/350) μ s (L-PE), peak current value I_{imp}	35 kA
Follow current interrupt rating I_{fi} (L-PE)	50 kA
Short-circuit current rating I_{SCCR}	50 kA
Voltage protection level U_p (L-PE)	≤ 4.5 kV
Residual voltage U_{res} (L-PE)	≤ 2.7 kV (at I_n)
	≤ 2.5 kV (at 20 kA)
	≤ 2.3 kV (at 10 kA)
	≤ 2.2 kV (at 5 kA)
	≤ 2.1 kV (at 3 kA)
TOV behavior at U_T (L-PE)	1960 V AC (200 ms / withstand mode)
	1500 V AC (5 s / withstand mode)
Response time t_A (L-PE)	≤ 100 ns
Max. backup fuse with V-type through wiring	125 A (gG at ≥ 35 mm ²)
Max. backup fuse with branch wiring	400 A (gG at 2x 50 mm ²)
	800 A (aR (only up to $I_{imp} = 25$ kA))

Indicator/remote signaling

Switching function	2x N/C contacts, 1-pos.
Operating voltage	30 V AC
	30 V DC
Operating current	1.5 A AC
	1.5 A DC
Screw thread	M3
Tightening torque	0.55 Nm
Stripping length	7 mm
Conductor cross section flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross section solid	0.2 mm ² ... 2.5 mm ²
Conductor cross section AWG	24 ... 12

Supply status indicator / remote signaling

Operating voltage	19.2 V AC/DC ... 30 V AC/DC
Operating current	7 mA AC/DC ... 13 mA AC/DC
Rated current	10 mA AC/DC
Max. required back-up fuse	1 A (e.g. T to IEC 127-2/III)
Immunity to interference according to IEC 61000-4-5 (line-line)	1 kV
Immunity to interference according to IEC 61000-4-5 (line-earth)	6 kV

Connection data

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Technical data

Connection data

Connection name	Double terminal point
Connection method	Screw connection
Screw thread	M6
Tightening torque	8.5 Nm
Stripping length	24 mm
Conductor cross section flexible	16 mm ² ... 50 mm ²
Conductor cross section solid	16 mm ² ... 50 mm ²
Conductor cross section AWG	6 ... 1/0
Connection name	PE conductor connection
Connection method	Ring cable lug
Tightening torque	20 Nm
Conductor cross section flexible	16 mm ² ... 95 mm ²
Conductor cross section solid	16 mm ² ... 95 mm ²
Conductor cross section AWG	6 ... 3/0

UL specifications

SPD Type	4CA
Maximum continuous operating voltage MCOV (L-G)	800 V AC
Nom. voltage	690 V AC
Mode of protection	L-G
Power distribution system	Single phase
Nominal frequency	60 Hz
Measured limiting voltage MLV (L-G)	4370 V
Nominal discharge current I _n (L-G)	20 kA

UL indicator/remote signaling

Operating voltage	30 V AC
	30 V DC
Operating current	1.5 A AC
	1.5 A DC
Tightening torque	5 lb _f -in. ... 7 lb _f -in.
Conductor cross section AWG	24 ... 12

UL connection data

Connection name	Double terminal point
Conductor cross section AWG	1/0 ... 6
Tightening torque	75 lb _f -in.

Standards and Regulations

Standards/regulations	IEC 61643-11 2011
	EN 61643-11 2012

Environmental Product Compliance

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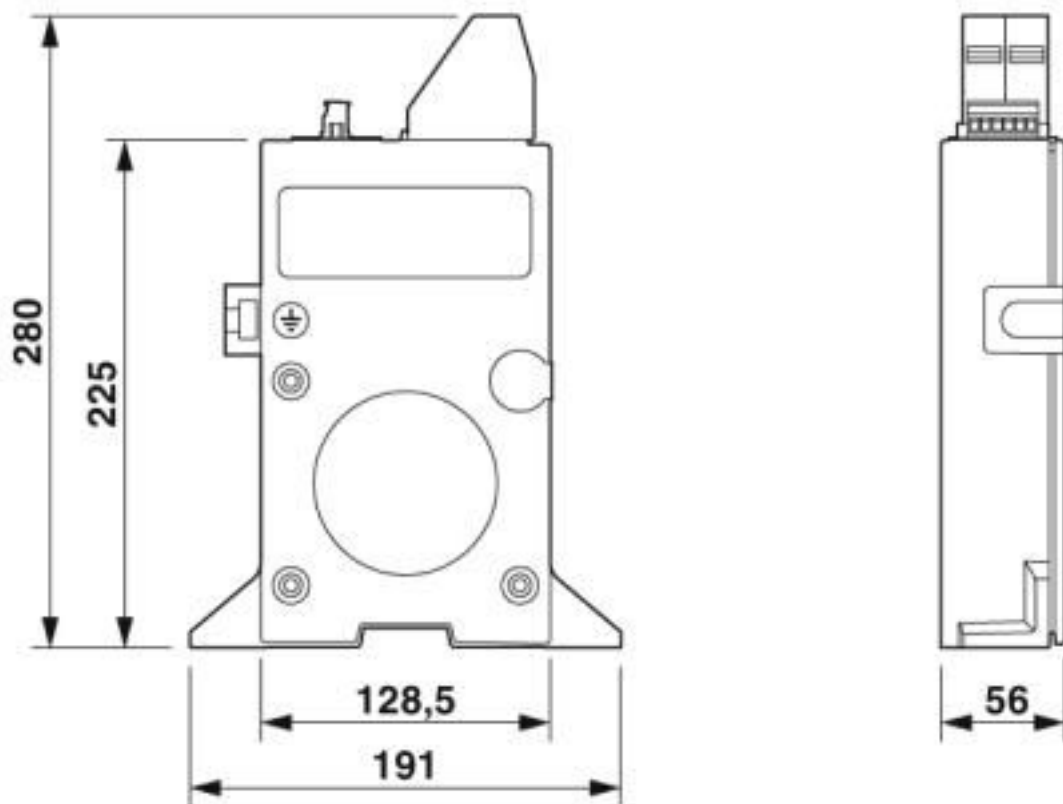
Technical data

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

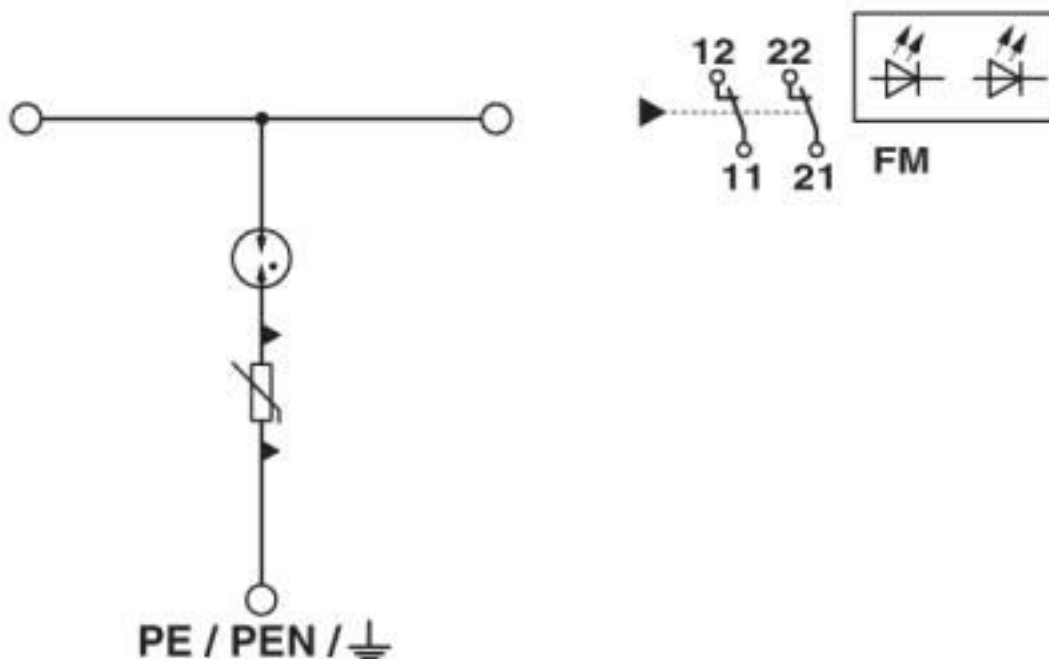
Drawings

Dimensional drawing



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Circuit diagram



Classifications

eCl@ss

eCl@ss 10.0.1	27130802
eCl@ss 4.0	27130800
eCl@ss 4.1	27130800
eCl@ss 5.0	27130800
eCl@ss 5.1	27130800
eCl@ss 6.0	27130800
eCl@ss 7.0	27130802
eCl@ss 8.0	27130802
eCl@ss 9.0	27130802

ETIM

ETIM 2.0	EC000381
ETIM 3.0	EC000381
ETIM 4.0	EC000381
ETIM 5.0	EC000381
ETIM 6.0	EC000381
ETIM 7.0	EC000381

UNSPSC

UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610

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Classifications

UNSPSC

UNSPSC 11	39121610
UNSPSC 12.01	39121610
UNSPSC 13.2	39121620
UNSPSC 18.0	39121620
UNSPSC 19.0	39121620
UNSPSC 20.0	39121620
UNSPSC 21.0	39121620

Approvals

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

Ex Approvals

Approval details

CCA	NTR-AT 1910
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UL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 330181
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KEMA-KEUR		http://www.dekra-certification.com	2162738-01
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cUL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 330181
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IECEE CB Scheme		http://www.iecee.org/	AT 2648
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EAC		RU C-DE.*09.B.00169
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Approvals

cULus Recognized



Accessories

Additional products

Mounting material - PWT CCT-SET - 2800532



Mounting set for connecting three lightning current arresters of type PWT 35-800AC-FM

Mounting material - PWT CCT-SET 4 - 2905613



Mounting set for connecting 4 lightning current arresters, type PWT 35-800AC-FM

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[2713175](#) [4B06B-EC1-150LF](#) [SRA6LC](#) [BPMA75D100LV](#) [CX06M](#) [CCTV1](#) [GUS13](#) [GUS14](#) [GUS5](#) [GUS6](#) [VAL-MS 320/3+0-FM](#) [VAL-US-](#)
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