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# 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).

## Why buy this product

- 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 STK
GTIN	 4 046356 556156

## 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)
Ambient temperature (operation)	-40 °C ... 80 °C

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## Technical data

### Ambient conditions

	-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 sinus / 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

Standards/specifications	IEC 61643-11 2011
	EN 61643-11 2012
IEC test classification	I / II
	T1 / T2
	T1
	I
EN type	T1 / T2
	T1
IEC power supply system	TN-C
	IT
Number of ports	One
SPD design	Combination type
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 according to 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

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## Technical data

### Protective circuit

Rated load current $I_L$	150 A (Serial through wiring with 50 mm <sup>2</sup> )
Residual current $I_{PE}$	≤ 20 μA
Standby power consumption $P_C$	≤ 16 mVA
Nominal discharge current $I_n$ (8/20) μs (L-PE)	35 kA
Maximum discharge current $I_{max}$ (8/20) μs (L-PE)	100 kA
Impulse discharge current (10/350) μs (L-PE), charge	17.5 As
Impulse discharge current (10/350) μs (L-PE), specific energy	305 kJ/Ω
Impulse discharge current (10/350) μs (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)
Front of wave sparkover voltage at 6 kV (1.2/50) μs (L-PE)	≤ 4.5 kV
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 branch wiring	400 A (gG; 2 x 50 mm <sup>2</sup> )
	800 A (aR (only up to $I_{imp} = 25$ kA))
Max. backup fuse with V-type through wiring	125 A (gG; ≥ 35 mm <sup>2</sup> )

### Indicator/remote signaling

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

### Connection data

Connection name	Double terminal point
Connection method	Screw connection

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## Technical data

### Connection data

Conductor cross section flexible	16 mm <sup>2</sup> ... 50 mm <sup>2</sup>
Conductor cross section solid	16 mm <sup>2</sup> ... 50 mm <sup>2</sup>
Conductor cross section AWG	6 ... 1/0
Screw thread	M6
Tightening torque	8.5 Nm
Stripping length	24 mm
Connection name	PE conductor connection
Connection method	Ring cable lug
Conductor cross section flexible	16 mm <sup>2</sup> ... 95 mm <sup>2</sup>
Conductor cross section solid	16 mm <sup>2</sup> ... 95 mm <sup>2</sup>
Conductor cross section AWG	6 ... 3/0
Screw thread	M10
Tightening torque	20 Nm

### 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	1
Nominal frequency	60 Hz
Measured limiting voltage MLV (L-G)	4370 V
Nominal discharge current I <sub>n</sub> (L-G)	20 kA

### UL indicator/remote signaling

Operating voltage	30 V AC
	30 V DC
Operating current	1.5 A
	1.5 A
Tightening torque	5 lb <sub>F</sub> -in. ... 7 lb <sub>F</sub> -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 <sub>F</sub> -in.

## Classifications

### eCl@ss

eCl@ss 4.0	27140201
eCl@ss 4.1	27140201

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## Classifications

### eCl@ss

eCl@ss 5.0	27140201
eCl@ss 5.1	27140201
eCl@ss 6.0	27140201
eCl@ss 7.0	27140201
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

### UNSPSC

UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610
UNSPSC 11	39121610
UNSPSC 12.01	39121610
UNSPSC 13.2	39121620

## Approvals

### Approvals

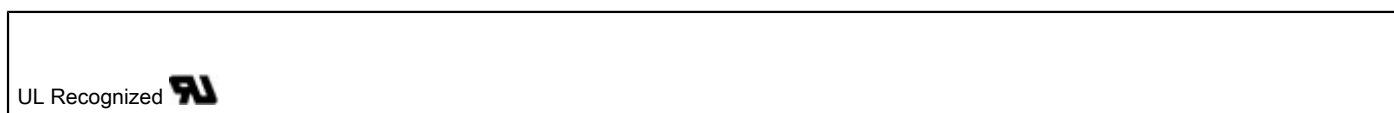
#### Approvals

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

#### Ex Approvals

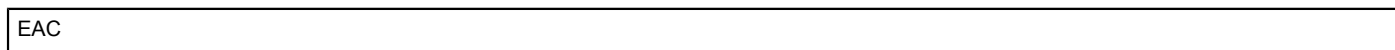
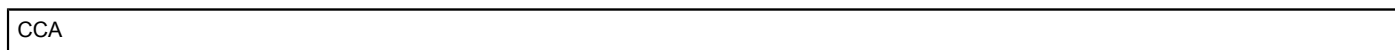
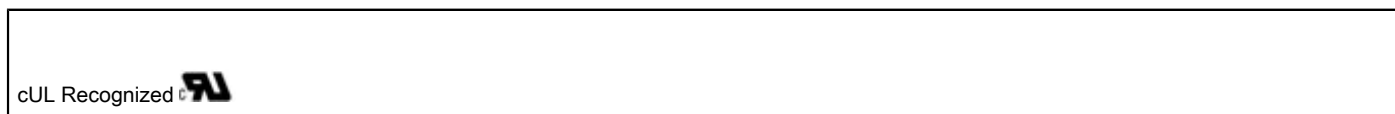
#### Approvals submitted

### Approval details



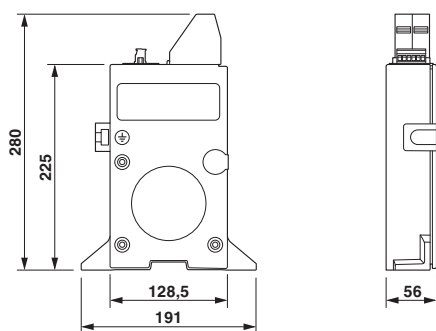
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## Approvals

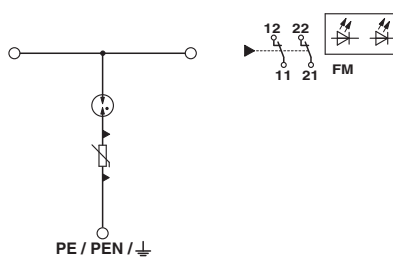


## Drawings

Dimensional drawing



Circuit diagram



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