

## 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).

### Product Features

- 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
Weight per Piece (excluding packing)	3480.0 GRM
Custom tariff number	85363010
Country of origin	Germany

### Technical data

#### Dimensions

Height	191 mm
Width	56 mm
Depth	280 mm

#### Ambient conditions

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## Technical data

### Ambient conditions

Degree of protection	IP20
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	$\leq 4000 \text{ m (NN)}$
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	25g
Vibration (operation)	5g (10 ... 500 Hz)

### General

IEC power supply system	TN-C
	IT
Housing material	Die-cast aluminum, salt water resistant
Inflammability class according to UL 94	V2
Standards for air and creepage distances	DIN EN 60664-1
	EN 61643-11
Mounting type	Screw mounting
Type	Mounting plate
Number of positions	1
Surge protection fault message	Optical, remote indicator contact
Direction of action	1L-PEN

### Protective circuit

IEC test classification	I / II
	T1 / T2
EN type	T1 / T2
Lightning protection class	I
Nominal voltage $U_N$	690 V AC
Maximum continuous operating voltage $U_C$ (L-PE)	800 V AC
$U_T$ (TOV-proof)	1500 V AC (5 sec.)
	1960 V AC (200 ms)
Nominal frequency $f_N$	50 Hz
	60 Hz
Rated load current $I_L$	150 A (Serial through wiring with $50 \text{ mm}^2$ )
Residual current $I_{PE}$	$\leq 20 \mu\text{A}$
Standby power consumption $P_C$	$\leq 16 \text{ mVA}$
Max. discharge current $I_{max}$ (8/20) $\mu\text{s}$ maximum (L-PE)	100 kA
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (L-PE)	35 kA

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#### Protective circuit

Impulse discharge current (10/350) $\mu$ s charge	17.5 As
Impulse discharge current (10/350) $\mu$ s, specific energy	305 kJ/ $\Omega$
Impulse discharge current (10/350) $\mu$ s, peak value $I_{imp}$	35 kA
Front of wave sparkover voltage at 6 kV (1.2/50) $\mu$ s (L-PE)	$\leq$ 4.5 kV
Voltage protection level $U_p$ (L-PE)	$\leq$ 4.5 kV
Residual voltage (L-PE)	$\leq$ 2.7 kV
	$\leq$ 2.5 kV (at 20 kA)
	$\leq$ 2.3 kV (at 10 kA)
	$\leq$ 2.2 kV (at 5 kA)
	$\leq$ 2.1 kV (at 3 kA)
Response time (L-PE)	$\leq$ 100 ns
Max. backup fuse with branch wiring	400 A (gG; 2 x 50 mm <sup>2</sup> )
	800 A (aR (only up to limp = 25 kA))
Max. backup fuse with V-type through wiring	125 A (gG; $\geq$ 35 mm <sup>2</sup> )
Short-circuit resistance $I_p$ with max. backup fuse (effective)	50 kA
Follow current quenching capacity $I_f$ (L-PEN)	50 kA

#### Connection, protective circuit

Connection name	Double terminal point
Connection method	Screw connection
Screw thread	M6
Tightening torque	8.5 Nm
	75 lb <sub>r</sub> -in. (UL)
Stripping length	24 mm
Conductor cross section stranded min.	16 mm <sup>2</sup>
Conductor cross section stranded max.	50 mm <sup>2</sup>
Conductor cross section solid min.	16 mm <sup>2</sup>
Conductor cross section solid max.	50 mm <sup>2</sup>
AWG conductor cross section	6 ... 1/0
	6 ... 1/0 (UL)
Connection name	PE conductor connection
Connection method	Ring cable lug
	M10 hexagonal head screw (ISO 4017/DIN 933)
Screw thread	M10
Tightening torque	20 Nm
	175 lb <sub>r</sub> -in. (UL)
Conductor cross section stranded min.	16 mm <sup>2</sup>

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## Technical data

### Connection, protective circuit

Conductor cross section stranded max.	95 mm <sup>2</sup>
Conductor cross section solid min.	16 mm <sup>2</sup>
Conductor cross section solid max.	95 mm <sup>2</sup>
AWG conductor cross section	6 ... 3/0
	3/0 (UL)

### Remote indicator contact

Connection name	Remote indicator contact
Switching function	N/C contact, 1-pos.
Screw thread	M3
Tightening torque	0.55 Nm
	7 lb <sub>f</sub> -in. ... 5 lb <sub>f</sub> -in. (UL)
Stripping length	7 mm
Conductor cross section stranded min.	0.2 mm <sup>2</sup>
Conductor cross section stranded max.	2.5 mm <sup>2</sup>
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
AWG conductor cross section	24 ... 12
	24 ... 12 (UL)
Maximum operating voltage U <sub>max</sub> AC	30 V AC
Maximum operating voltage U <sub>max</sub> DC	30 V DC
Max. operating current I <sub>max</sub>	1.5 A AC
	1.5 A DC

### Standards and Regulations

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

## Classifications

### eCl@ss

eCl@ss 4.0	27140201
eCl@ss 4.1	27140201
eCl@ss 5.0	27140201
eCl@ss 5.1	27140201
eCl@ss 6.0	27140201
eCl@ss 7.0	27140201
eCl@ss 8.0	27140201

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## Classifications

### 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

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#### Approvals

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

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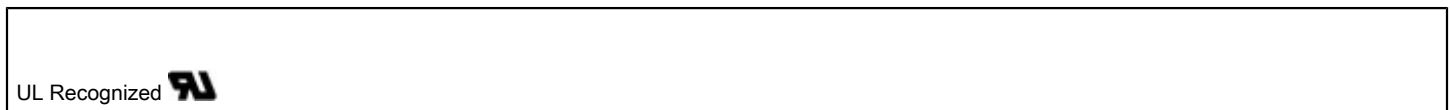
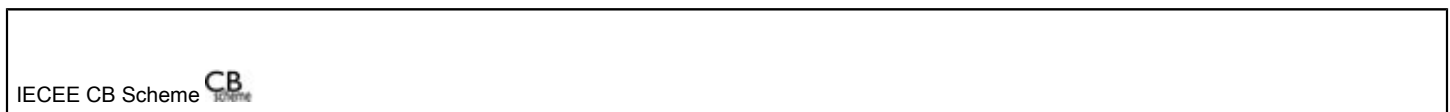
#### Ex Approvals

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#### Approvals submitted

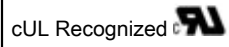
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## Approval details

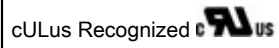


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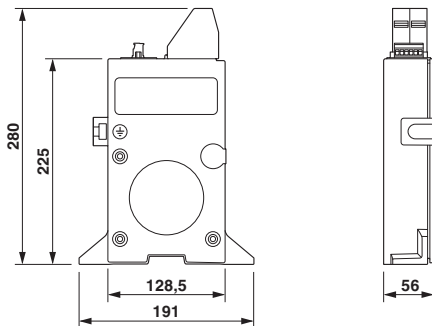


CCA



## Drawings

Dimensioned drawing



Circuit diagram

