

Lightning/surge arrester type 1/2 - PWT 100-800AC-FM - 2800531

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Lightning/surge arrester, according to type 1/2 / class I/II, for 3-phase power supply networks with combined PE and N installed in one conductor (L1, L2, L3, 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 pc
GTIN	 4 046356 570688
Weight per Piece (excluding packing)	9450.0 g
Custom tariff number	85363010
Country of origin	Germany

Technical data

Dimensions

Height	191 mm
Width	176 mm
Depth	280 mm

Ambient conditions

Degree of protection	IP20
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Ambient conditions

	IP20 (only when all terminal points are used)
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
Vibration (operation)	5g (10 ... 500 Hz)

General

Standards/specifications	IEC 61643-11 2011
	EN 61643-11 2012
IEC test classification	I / II
	T1 / T2
EN type	T1 / T2
IEC power supply system	TN-C
	IT
Lightning protection class	I
Number of ports	One
SPD design	Combination type
Mode of protection	L-PE
Mounting type	Screw mounting
Color	silver gray
	gray
Housing material	Die-cast aluminum, salt water resistant
Pollution degree	3
Inflammability class according to UL 94	V-2
Type	Mounting plate
Number of positions	3
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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Protective circuit

Rated load current I_L	150 A (Serial through wiring with 50 mm ²)
Residual current I_{PE}	≤ 20 μA
Standby power consumption P_C	≤ 48 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
Total discharge current I_{Total} (10/350) μs	100 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 ²)
	800 A (aR (only up to I_{imp} = 25 kA))
Max. backup fuse with V-type through wiring	125 A (gG; ≥ 35 mm ²)

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 AC
	1.5 A DC
Screw thread	M3
Tightening torque	0.55 Nm
	7 lb _f -in. ... 5 lb _f -in. (UL)
Stripping length	7 mm
Conductor cross section stranded min.	0.2 mm ²
Conductor cross section stranded max.	2.5 mm ²
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²

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Indicator/remote signaling

AWG conductor cross section	24 ... 12
	24 ... 12 (UL)
Max. required back-up fuse	1 A (e.g. T to IEC 127-2/III)

Connection data

Connection name	Double terminal point
Connection method	Screw connection
Conductor cross section stranded min.	16 mm ²
Conductor cross section stranded max.	50 mm ²
Conductor cross section solid min.	16 mm ²
Conductor cross section solid max.	50 mm ²
AWG conductor cross section	6 ... 1/0
	6 ... 1/0 (UL)
Screw thread	M6
Tightening torque	8.5 Nm
	75 lb _r -in. (UL)
Stripping length	24 mm
Connection name	PE conductor connection
Connection method	Ring cable lug
Conductor cross section stranded min.	16 mm ²
Conductor cross section stranded max.	95 mm ²
Conductor cross section solid min.	16 mm ²
Conductor cross section solid max.	95 mm ²
AWG conductor cross section	6 ... 3/0
	3/0 (UL)
Screw thread	M10
Tightening torque	20 Nm
	7 lb _r -in. ... 5 Nm (UL)

UL specifications

UL class	SPD type 4CA
Maximum continuous operating voltage MCOV (L-L)	800 V AC
Maximum continuous operating voltage MCOV (L-G)	800 V AC
Nom. voltage	690 V AC
	400 V AC
Mode of protection	L-L
	L-G
Power distribution system	3Y
	3D
Nominal frequency	60 Hz
Measured limiting voltage MLV (L-L)	8750 V
Measured limiting voltage MLV (L-G)	4370 V

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UL specifications

Nominal discharge current I _n (L-L)	20 kA
Nominal discharge current I _n (L-G)	20 kA

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	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

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

Ex Approvals

Approvals submitted

Approval details

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IECEE CB Scheme

UL Recognized

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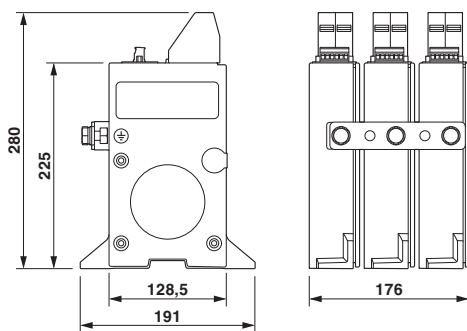
CCA

EAC

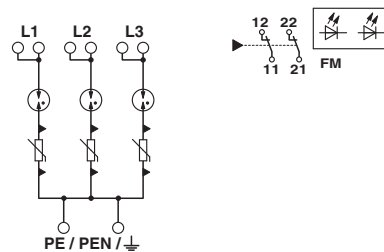
cULus Recognized

Drawings

Dimensioned drawing

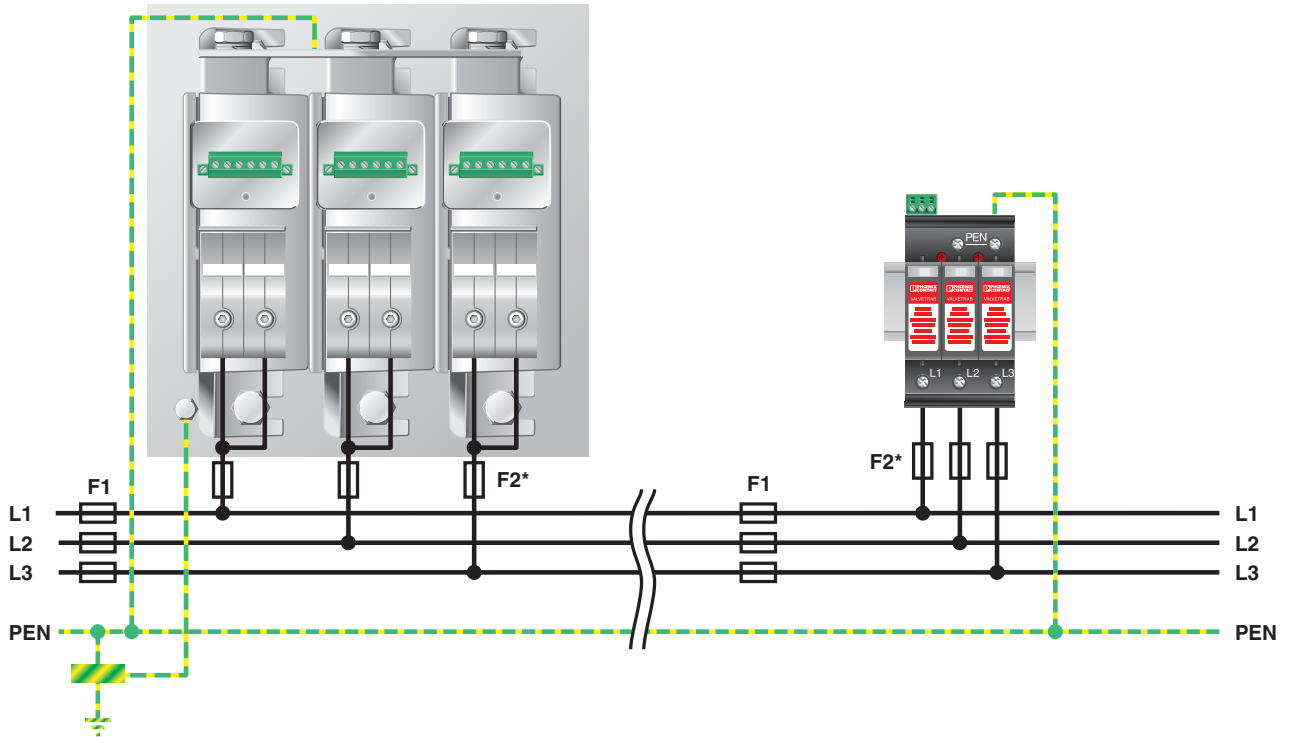


Circuit diagram



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Application drawing



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