

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).

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 570688
GTIN	4046356570688

Technical data

Dimensions

Height	191 mm
Width	176 mm
Depth	280 mm
Horizontal pitch	10 Div.

Ambient conditions

Degree of protection	IP20 (only when all terminal points are used)
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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
	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	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 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}	$\leq 20 \mu\text{A}$

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Protective circuit

Standby power consumption P_c	≤ 48 mVA
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
Total discharge current I_{total} (10/350) μ s	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)
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

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Technical data

Supply status indicator / remote signaling

Immunity to interference according to IEC 61000-4-5 (line-earth)	6 kV
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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-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	Wye
	Delta
Nominal frequency	60 Hz
Measured limiting voltage MLV (L-L)	8750 V
Measured limiting voltage MLV (L-G)	4370 V
Nominal discharge current I _n (L-L)	20 kA
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

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Technical data

UL connection data

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

Standards and Regulations

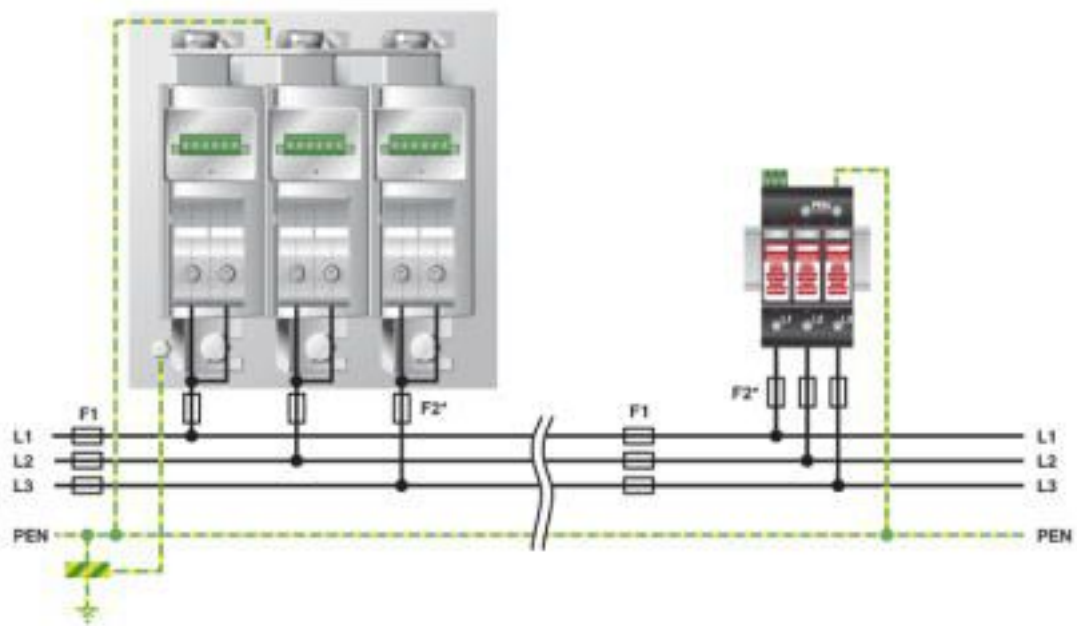
Standards/regulations	IEC 61643-11 2011
	EN 61643-11 2012

Environmental Product Compliance

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"

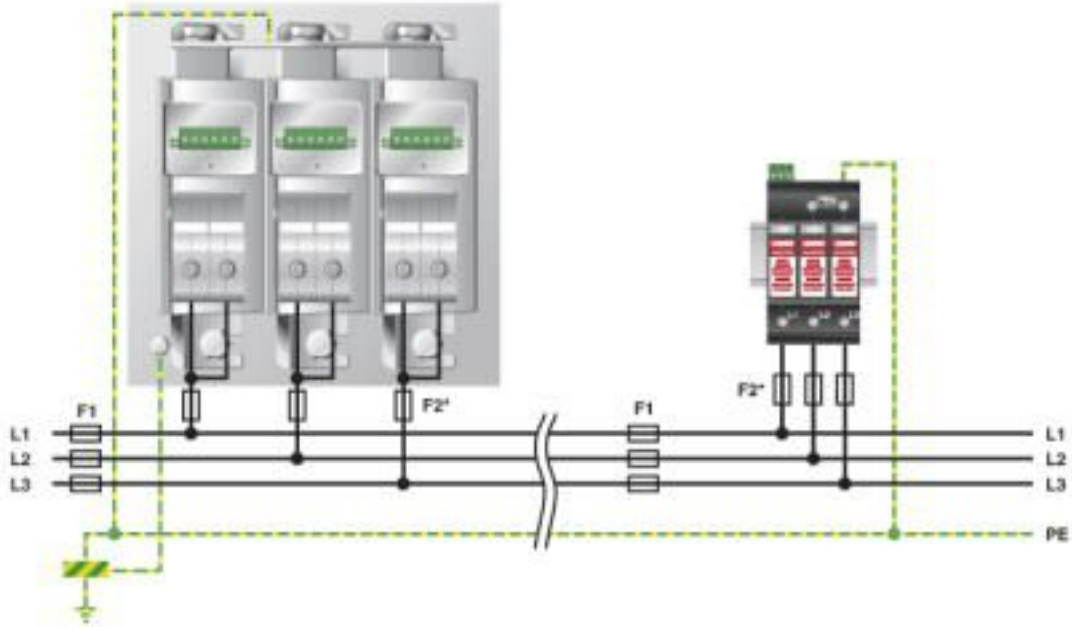
Drawings

Application drawing

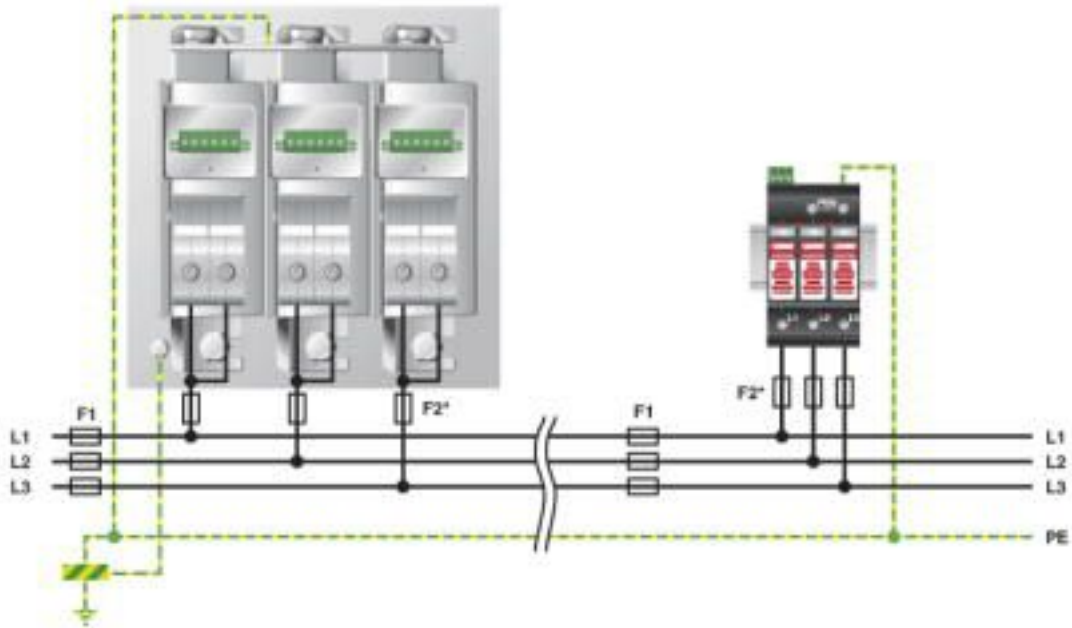


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Application drawing

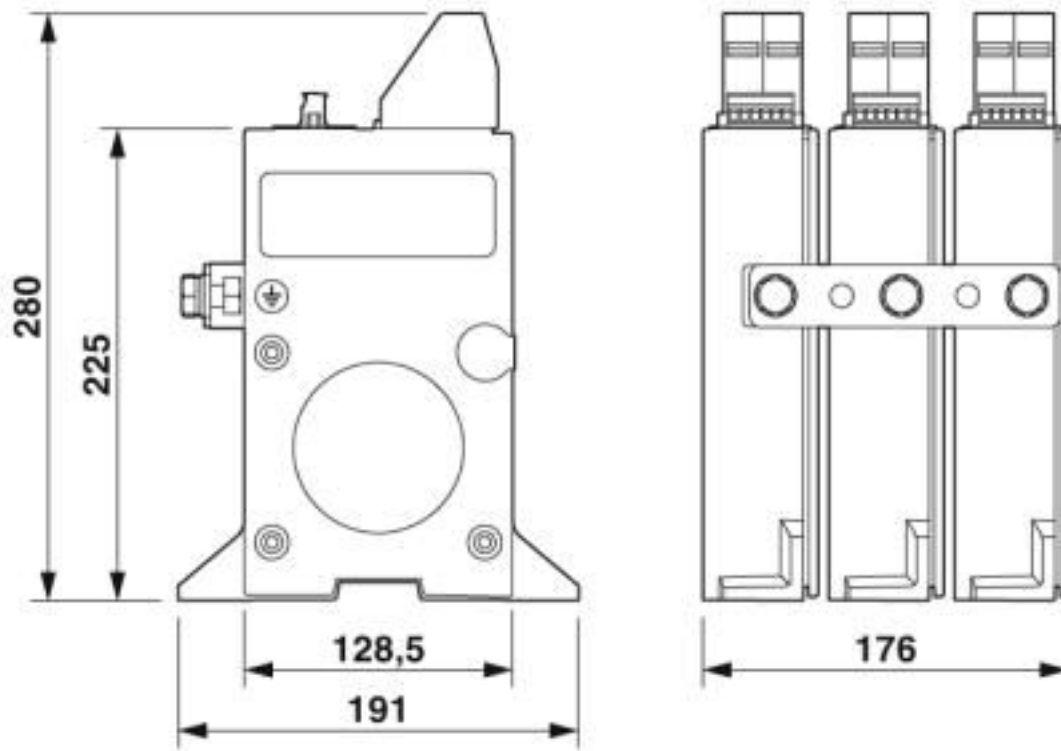


Application drawing

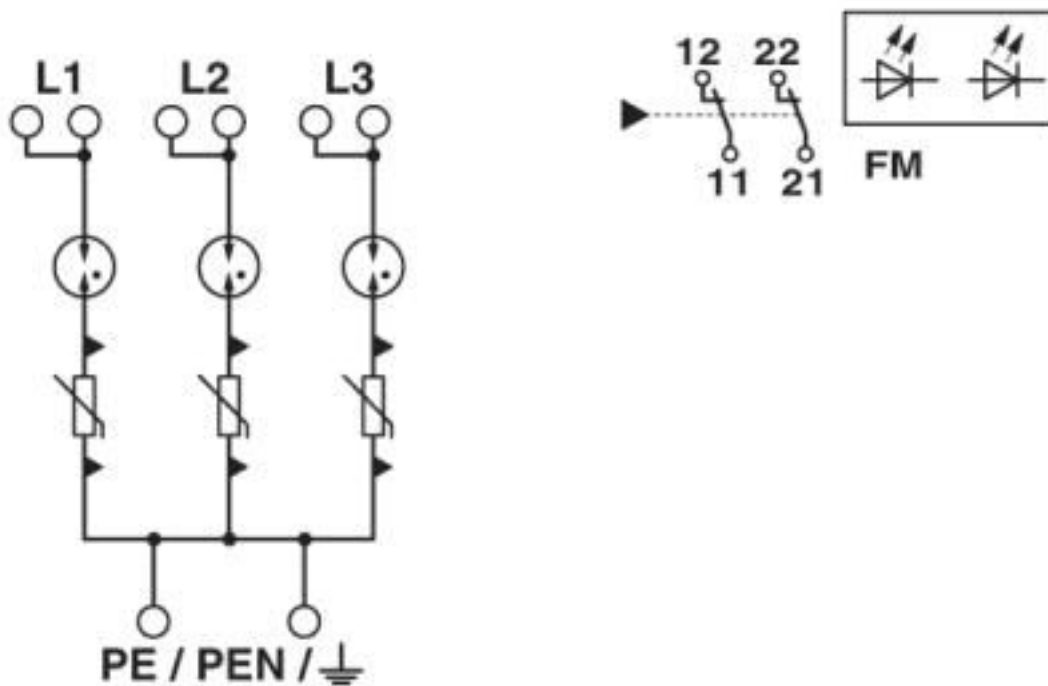


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Dimensional drawing



Circuit diagram



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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
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 / IECCEB Scheme / EAC / cULus Recognized

Ex Approvals

Approval details

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

Approvals

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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cULus Recognized			
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