



Automatización Eléctrica
Especialistas en Automatización

At the end of this document you will find links to products related to this catalog. You can go directly to our shop by clicking HERE. [HERE](#)

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

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



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 STK
GTIN	 4 046356 570688

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

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

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
	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 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)

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

Technical data

Protective circuit

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}	≤ 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 limp = 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
	1.5 A
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

Connection data

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

Technical data

Connection data

Connection name	Double terminal point
Connection method	Screw connection
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
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 ² ... 95 mm ²
Conductor cross section solid	16 mm ² ... 95 mm ²
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-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
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
	1.5 A
Tightening torque	5 lb _f -in. ... 7 lb _f -in.
Conductor cross section AWG	24 ... 12

UL connection data

Connection name	Double terminal point
-----------------	-----------------------

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

Technical data

UL connection data

Conductor cross section AWG	1/0 ... 6
Tightening torque	75 lb _F -in.

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
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

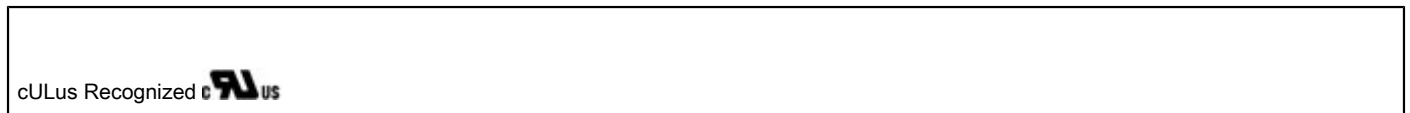
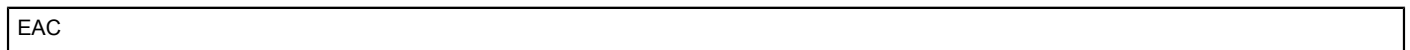
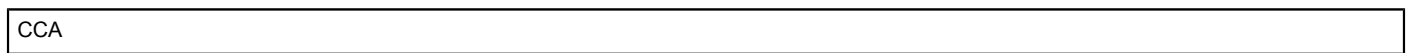
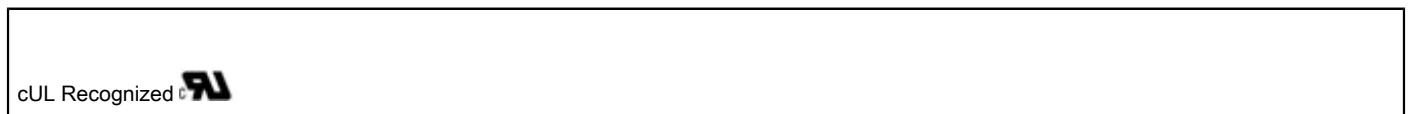
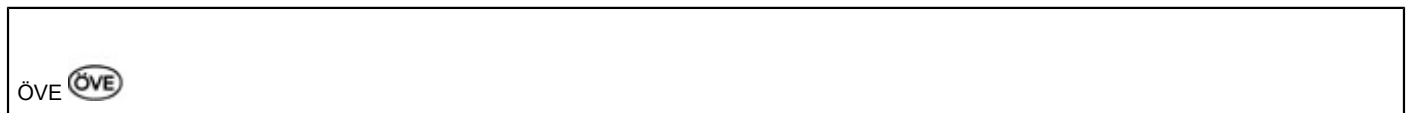
Ex Approvals

Approvals submitted

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

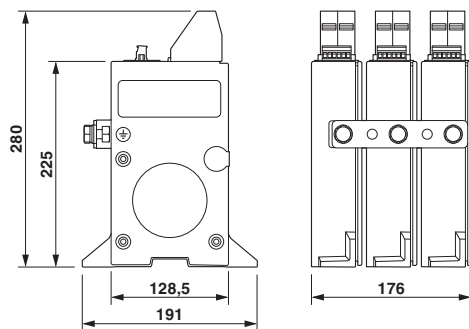
Approvals

Approval details

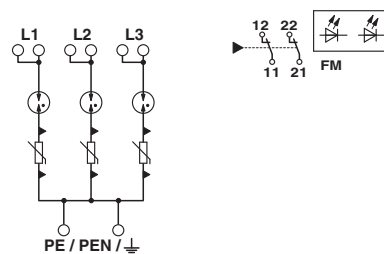


Drawings

Dimensional drawing

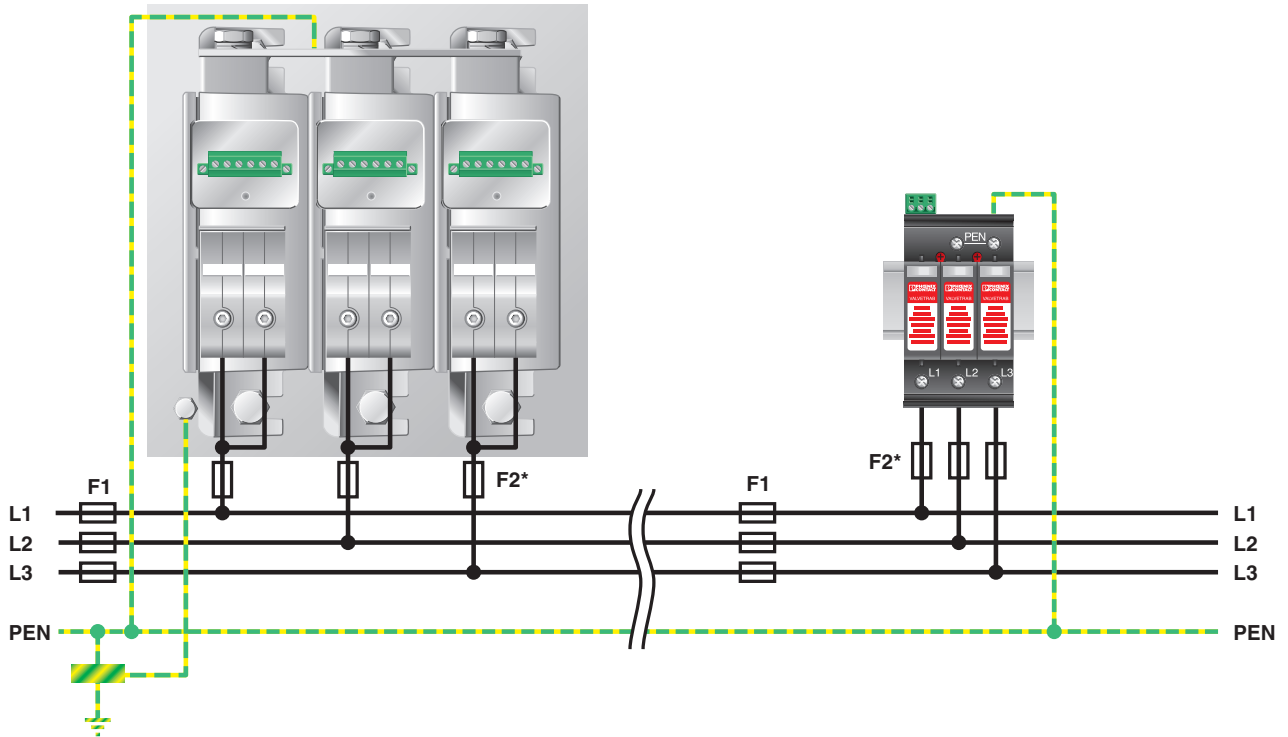


Circuit diagram



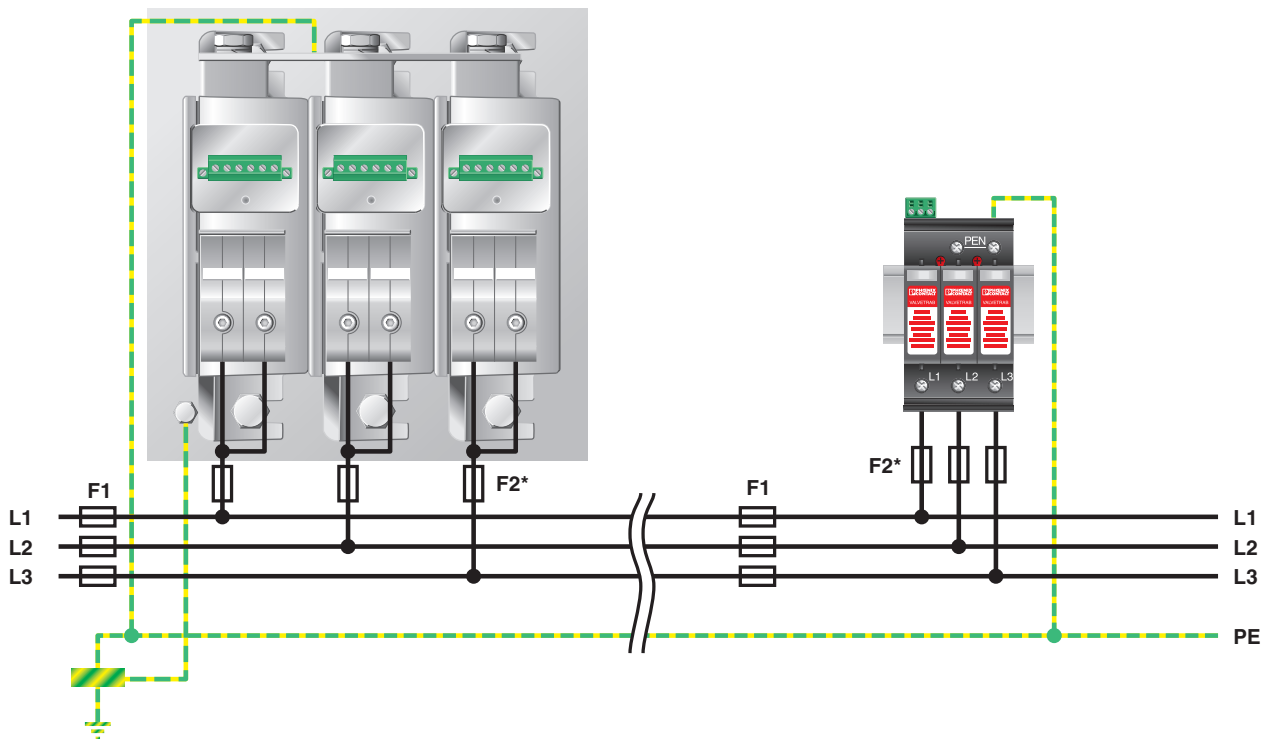
Lightning/surge arrester type 1/2 - PWT 100-800AC-FM - 2800531

Application drawing



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

Application drawing



Phoenix Contact 2016 © - all rights reserved
<http://www.phoenixcontact.com>

PHOENIX CONTACT GmbH & Co. KG
Flachsmarktstr. 8
32825 Blomberg
Germany
Tel. +49 5235 300
Fax +49 5235 3 41200
<http://www.phoenixcontact.com>



Automatización Eléctrica
Especialistas en Automatización

Below is a list of articles with direct links to our shop Electric Automation Network where you can see:

- Quote per purchase volume in real time.
- Online documentation and datasheets of all products.
- Estimated delivery time enquiry in real time.
- Logistics systems for the shipment of materials almost anywhere in the world.
- Purchasing management, order record and tracking of shipments.

To access the product, [click on the green button.](#)

Product	Code	Reference	Product link
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).	2800531	PWT 100-800AC- FM	Buy on EAN