Surge protection plug - PT 1X2-24AC-ST - 2856058

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PT protective connector with protective circuit for a 2-wire floating signal circuit. HART-compatible.

Why buy this product

- Plugs can be checked with CHECKMASTER
- Installed in conjunction with the PT 1x2...-BE base element
- Maximum ease of maintenance thanks to the two-piece design
- Base element remains an integral part of the installation
- Consistent plug-in signal circuit protection
- Protection for a floating signal circuit
- Impedance-neutral disconnection of plug for test and maintenance purposes

Key Commercial Data

Packing unit	1 STK
GTIN	4 017918 599188
GTIN	4017918599188
Weight per Piece (excluding packing)	19.510 g
Custom tariff number	85363010
Country of origin	Germany

Technical data

Dimensions

Height	45 mm
Width	17.7 mm

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Technical data

Dimensions

Depth	52 mm
Horizontal pitch	1 Div.
Complete module height	90 mm
Complete module width	17.7 mm
Complete module depth	65.5 mm

Ambient conditions

Ambient temperature (operation)	-40 °C ... 85 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	≤ 2000 m (amsl (above mean sea level))
Degree of protection	IP20

General

Housing material	PA 6.6
Flammability rating according to UL 94	V-0
Color	jet black RAL 9005
Mounting type	on base element
Type	Male
Number of positions	2
Direction of action	Line-Line & Line-Signal Ground/Shield & optional Signal Ground/Shield-Earth Ground
Arrester can be tested with CHECKMASTER from software version:	From SW rev. 1.00

Additional descriptions

Note	Technical data is valid in association with the following specified base elements:
	PT 1X2+F-BE 2856126
	PT 1X2-BE 2856113

Protective circuit

IEC test classification	C1
	C2
	C3
	D1
Nominal voltage U_N	24 V AC
Maximum continuous voltage U_C	40 V DC
	28 V AC
Rated current	450 mA (45°C)
Operating effective current I_C at U_C	≤ 5 µA
Residual current I_{PE}	≤ 1 µA (with PT 1X2+F-BE)

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Technical data

Protective circuit

	≤ 2 µA (with PT 1X2-BE)
Nominal discharge current I_n (8/20) µs (Core-Core)	10 kA
Nominal discharge current I_n (8/20) µs (core-earth)	10 kA
Pulse discharge current I_{imp} (10/350) µs	2.5 kA
Total discharge current I_{total} (8/20) µs	20 kA
Max. discharge current I_{max} (8/20) µs maximum (Core-Core)	10 kA
Max. discharge current I_{max} (8/20) µs maximum (Core-Earth)	10 kA
Nominal pulse current Ian (10/1000) µs (Core-Core)	23 A
Output voltage limitation at 1 kV/µs (core-core) spike	≤ 55 V
Output voltage limitation at 1 kV/µs (core-earth) spike	≤ 450 V (with PT 1X2-BE)
	≤ 1 kV (with PT 1X2+F-BE)
Output voltage limitation at 1 kV/µs (core-core) static	≤ 55 V
Output voltage limitation at 1 kV/µs (core-earth) static	≤ 25 V (with PT 1X2-BE)
	≤ 50 V (with PT 1X2+F-BE)
Residual voltage at I_n (conductor-conductor)	≤ 55 V
Residual voltage with Ian (10/1000)µs (conductor-conductor)	≤ 65 V
Voltage protection level U_p (core-core)	≤ 80 V (C2 - 10 kV / 5 kA)
Voltage protection level U_p (core-ground)	≤ 450 V (C1 - 1 kV / 500 A with PT 1X2-BE)
	≤ 1000 V (C2 - 10 kV / 5 kA with PT 1X2+F-BE)
Voltage protection level U_p static (core-core)	≤ 50 V (C2 - 10 kV / 5 kA)
Voltage protection level U_p static (core-ground)	≤ 50 V (C2 - 10 kV / 5 kA with PT 1X2-BE)
	≤ 100 V (C2 - 10 kV / 5 kA with PT 1X2+F-BE)
Response time tA (core-core)	≤ 1 ns
Response time tA (core-earth)	≤ 100 ns
Input attenuation aE, sym.	typ. 0.5 dB (≤ 1.5 MHz / 50 Ω)
	typ. 0.2 dB (≤ 500 kHz / 150 Ω)
	typ. 0.1 dB (≤ 100 kHz / 600 Ω)
Cut-off frequency fg (3 dB), sym. in 50 Ohm system	typ. 8 MHz
Cut-off frequency fg (3 dB), sym. in 150 Ohm system	typ. 3 MHz
Cut-off frequency fg (3 dB), sym. in 600 Ohm system	typ. 800 kHz
Capacity (core-core)	typ. 1.1 nF
Capacity (core-earth)	typ. 4 pF (with PT 1X2-BE)
	typ. 2 pF (with PT 1X2+F-BE)
Resistance in series	2.2 Ω ±10 %
Surge protection fault message	none
Max. required back-up fuse	500 mA (T)
Impulse durability (conductor-conductor)	C2 - 10 kV/5 kA

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Technical data

Protective circuit

	C3 - 23 A
Impulse durability (conductor-ground)	C1 - 1 kV/500 A
	C2 - 10 kV/5 kA
	D1 - 2.5 kA

Connection data

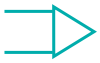
Connection method	Screw connection (in connection with the base element)
Screw thread	M3
Tightening torque	0.5 Nm
Stripping length	8 mm
Conductor cross section flexible	0.2 mm² ... 2.5 mm²
Conductor cross section solid	0.2 mm² ... 4 mm²
Conductor cross section AWG	24 ... 12

Standards and Regulations

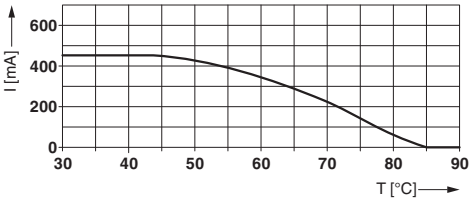
Standards/specifications	IEC 61643-21 2000 + corrigendum 2001 + A1:2008, modified + A2:2012
	EN 61643-21 2001 + A1:2009 + A2:2013

Drawings

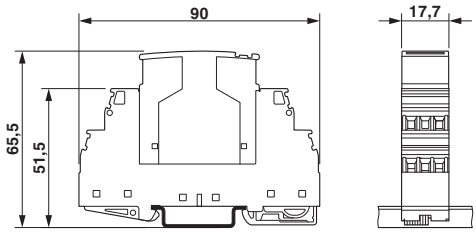
Pictogram



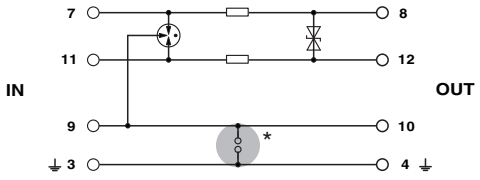
Diagram



Dimensional drawing



Circuit diagram



The figure shows the complete module consisting of a base element and connector

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Classifications

eCl@ss

eCl@ss 4.0	27140201
eCl@ss 4.1	27130801
eCl@ss 5.0	27130801
eCl@ss 5.1	27130801
eCl@ss 6.0	27130807
eCl@ss 7.0	27130807
eCl@ss 8.0	27130807
eCl@ss 9.0	27130807

ETIM

ETIM 2.0	EC000943
ETIM 3.0	EC000943
ETIM 4.0	EC000943
ETIM 5.0	EC000943
ETIM 6.0	EC000943

UNSPSC

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

Approvals

Approvals

Approvals

UL Listed / EAC

Ex Approvals

UL Listed / cUL Listed / ATEX / cULus Listed

Approval details

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Approvals

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 138168

Nominal current IN	0.45 A
Nominal voltage UN	34 V

EAC		RU C-DE.A*30.B01561

Accessories

Accessories

Device marking

Zack marker strip - ZBN 18:UNBEDRUCKT - 2809128

Zack marker strip, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snap into tall marker groove, for terminal block width: 18 mm, lettering field size: 18 x 5 mm

Labeled terminal marker

Zack Marker strip, flat - ZBF 5,LGS:FORTL.ZAHLEN - 0808671

Zack Marker strip, flat, Strip, white, labeled, printed horizontally: consecutive numbers 1 - 10, 11 - 20, etc. up to 491 - 500, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm

Zack Marker strip, flat - ZBF 5,LGS:GERADE ZAHLEN - 0810821

Zack Marker strip, flat, Strip, white, labeled, printed horizontally: consecutive numbers 2 - 20, 22 - 40, etc. up to 82 - 100, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm

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Accessories

Zack Marker strip, flat - ZBF 5,LGS:UNGERADE ZAHLEN - 0810863

Zack Marker strip, flat, Strip, white, labeled, printed horizontally: Odd numbers 1 - 19, 21 - 39, etc. up to 81 - 99, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm

Zack Marker strip, flat - ZBF 5,QR:FORTL.ZAHLEN - 0808697

Zack Marker strip, flat, Strip, white, labeled, Printed vertically: consecutive numbers 1 - 10, 11 - 20, etc. up to 91 - 100, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm

Marker pen

Marker pen - X-PEN 0,35 - 0811228

Marker pen without ink cartridge, for manual labeling of markers, labeling extremely wipe-proof, line thickness 0.35 mm

Terminal marking

Zack Marker strip, flat - ZBF 5:UNBEDRUCKT - 0808642

Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 5.1 x 5.2 mm

Zack Marker strip, flat - ZBF 5/WH-100:UNBEDRUCKT - 0808668

Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm

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Accessories

Necessary add-on products

Surge protection base element - PT 1X2-BE - 2856113

Base element for protective plug PT with protective circuit for a 2-core floating signal circuit. Mounting on NS 35/7.5 und NS 35/15, housing width: 17.5 mm.

Surge protection base element - PT 1X2+F-BE - 2856126

Base element for protective plug PT with protective circuit for a 2-core floating signal circuit. Integrated gas arrester as coarse protection between GND and PE. Mounting on NS 35/7.5 und NS 35/15, housing width: 17.5 mm.

Additional products

Shield connection - SSA 3-6 - 2839295

Shield fast connection for 3 ... 6 mm cable diameter. Potential connecting cable: 200 mm, 1 mm², color: black

Shield connection - SSA 5-10 - 2839512

Shield fast connection for 5 ... 10 mm cable diameter. Potential connecting cable: 200 mm, 1 mm², color: black

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