

Surge protection connector - PT 1X2-12DC-ST - 2856029

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

The figure shows the PT
1x2-48DC-ST version

Product Features

- ✓ 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

package_quantity	10
GTIN	4017918599218

Technical data

Dimensions

Height	45 mm
Width	17.7 mm
Depth	52 mm
Pitch unit	1 Div.
Height	90 mm
Width	17.7 mm
Depth	65.5 mm

Ambient conditions

Ambient temperature (operation)	-40 °C ... 85 °C
Degree of protection	IP20

General

Housing material	PA 6.6
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Technical data

General

Inflammability class according to UL 94	V0
Color	black
Standards for air and creepage distances	VDE 0110-1
Standards for air and creepage distances	IEC 60664-1
Mounting type	On base element
Design	DIN rail module, two-section, divisible
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

Protective circuit

IEC test classification	C1
IEC test classification	C2
IEC test classification	C3
IEC test classification	D1
VDE requirement class	C1
VDE requirement class	C2
VDE requirement class	C3
VDE requirement class	D1
Nominal voltage U_N	12 V DC
Maximum continuous operating voltage U_C	13 V DC
Maximum continuous operating voltage U_C	9 V AC
Maximum continuous voltage U_C (wire-wire)	13 V DC
Maximum continuous voltage U_C (wire-ground)	9 V AC
Nominal current I_N	450 mA (45°C)
Operating effective current I_C at U_C	$\leq 5 \mu A$
Residual current I_{PE}	$\leq 2 \mu A$ (Directly grounded)
Residual current I_{PE}	$\leq 1 \mu A$ (BE: 1x2+F)
Nominal discharge current I_n (8/20) μs (Core-Core)	10 kA
Nominal discharge current I_n (8/20) μs (Core-Earth)	10 kA
Total surge current (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 I_{an} (10/1000) μs (Core-Core)	67 A
Impulse discharge current (10/350) μs , peak value I_{imp}	2.5 kA
Output voltage limitation at 1 kV/ μs (Core-Core) spike	$\leq 20 V$
Output voltage limitation at 1 kV/ μs (Core-Earth) spike	$\leq 450 V$
Output voltage limitation at 1 kV/ μs (Core-Earth) spike	$\leq 1 kV$ (BE: 1x2+F)
Output voltage limitation at 1 kV/ μs (Core-Core) static	$\leq 18 V$
Residual voltage at I_n , (conductor-conductor)	$\leq 18 V$
Residual voltage with I_{an} (10/1000) μs (conductor-conductor)	$\leq 23 V$

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Protective circuit

Voltage protection level U_p (Core-Core)	≤ 50 V
Voltage protection level U_p (Core-Earth)	≤ 450 V
Response time t_A (Core-Core)	≤ 1 ns
Response time t_A (Core-Earth)	≤ 100 ns
Input attenuation a_E , sym.	0.5 dB (≤ 600 kHz)
Cut-off frequency f_g (3 dB), sym. in 50 Ohm system	typ. 3 MHz
Capacity (Core-Core)	3 nF
Resistance in series	2.2 Ω (1-2/5-6/7-8/11-12)
Max. required back-up fuse	500 mA (e.g. T (IEC 127-2/III))
Surge carrying capacity in acc. with IEC 61643-21 (Core-Core)	C2 (10 kV/5 kA)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth)	C2 (10 kV/5 kA)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth)	D1 (2.5 kA)

Connection data

Connection method	Screw connection (in connection with the base element)
Connection type IN	PLUGTRAB plug-in system
Connection type OUT	PLUGTRAB plug-in system
Screw thread	M3
Tightening torque	0.8 Nm
Stripping length	8 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.	4 mm ²
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	12

Standards and Regulations

Standards/regulations	IEC 61643-21
Standards/regulations	DIN EN 61643-21
Standards/regulations	UL 497B

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

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classifications

ETIM

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

UNSPSC

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

approvals

UL Listed / cUL Listed / ATEX / cULus Listed / UL Listed / GOST / GL /

Approval details

UL Listed 

cUL Listed 
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ATEX 	
Nominal voltage UN	
Nominal current IN	
mm²/AWG/kcmil	

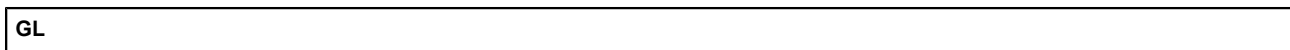
cULus Listed 
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Nominal voltage UN	12 V

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approvals

Nominal current IN	0.45 A
mm²/AWG/kcmil	



accessories

Marker pen

X-PEN 0,35 - 0811228



Terminal marking

ZBF 5:UNBEDRUCKT - 0808642



ZBF 5/WH-100:UNBEDRUCKT - 0808668



Labeled terminal marker

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accessories

ZBF 5,LGS:FORTL.ZAHLEN - 0808671



ZBF 5,LGS:GERADE ZAHLEN - 0810821



ZBF 5,LGS:UNGERADE ZAHLEN - 0810863



ZBF 5,QR:FORTL.ZAHLEN - 0808697



Device marking

ZBN 18:UNBEDRUCKT - 2809128



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accessories

ZBF 15:SO/CMS - 0814717



ZBF 5:SO/CMS - 0808707



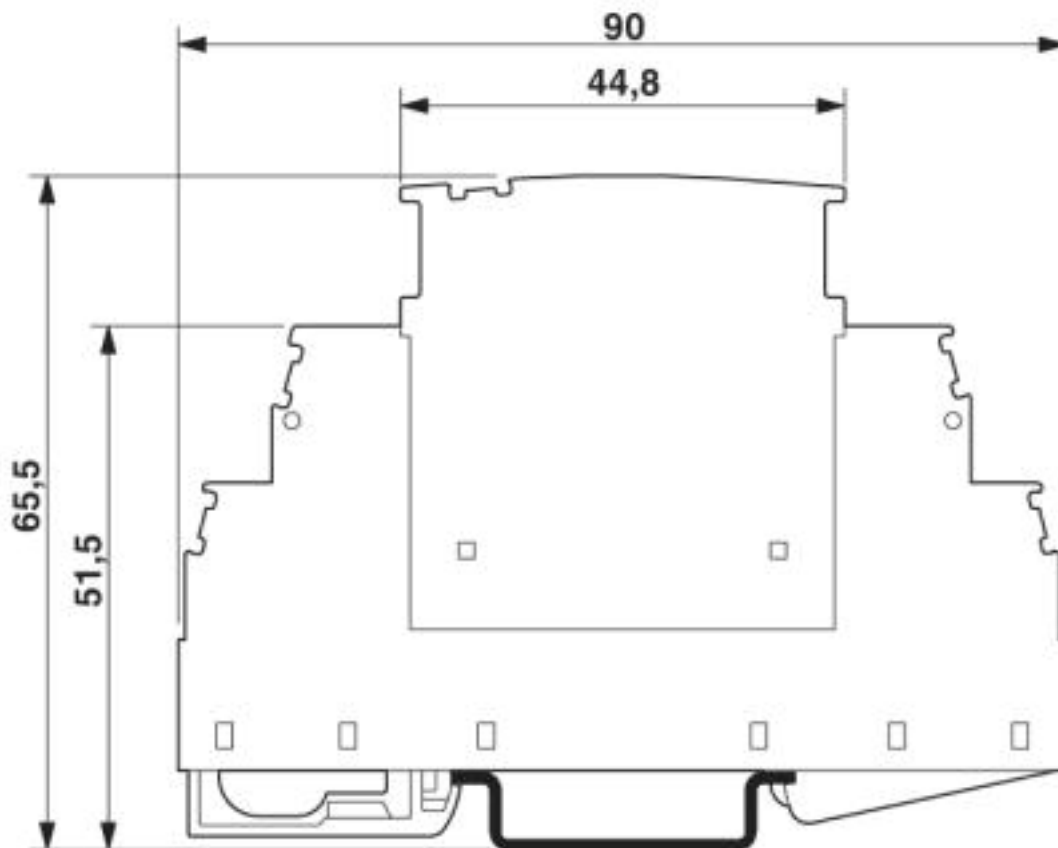
ZBN 18:SO/CMS - 0800763



Drawings

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Dimensioned drawing



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

Circuit diagram

