

Surge protection plug - PT 1X2-24DC-ST - 2856032

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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

Packing unit	1 pc
Weight per Piece (excluding packing)	19.78 GRM
Custom tariff number	85363010
Country of origin	Germany

Technical data

Dimensions

Height	45 mm
Width	17.7 mm
Depth	52 mm
Horizontal pitch	1 Div.

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Technical data

Dimensions

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
Degree of protection	IP20

General

Housing material	PA 6.6
Inflammability class according to UL 94	V0
Color	black
Standards for air and creepage distances	EN 60664-1
	IEC 60664-1
Surge voltage category	2
Pollution degree	III
Mounting type	On base element
Type	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
	C2
	C3
	D1
VDE requirement class	C1
	C2
	C3
	D1
Nominal voltage U_N	24 V DC
Maximum continuous operating voltage U_C	28 V DC
	20 V AC
Maximum continuous voltage U_C (wire-wire)	28 V DC
Maximum continuous voltage U_C (wire-ground)	20 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)

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Protective circuit

	$\leq 1 \mu\text{A}$ (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)	30 A
Impulse discharge current (10/350) μs , peak value I_{imp}	2.5 kA
Output voltage limitation at 1 kV/ μs (Core-Core) spike	$\leq 45 \text{ V}$
Output voltage limitation at 1 kV/ μs (Core-Earth) spike	$\leq 450 \text{ V}$
	$\leq 1 \text{ kV}$ (BE: 1x2+F)
Output voltage limitation at 1 kV/ μs (Core-Core) static	$\leq 40 \text{ V}$
Residual voltage at I_n , (conductor-conductor)	$\leq 40 \text{ V}$
Residual voltage with I_{an} (10/1000) μs (conductor-conductor)	$\leq 50 \text{ V}$
Voltage protection level U_p (Core-Core)	$\leq 70 \text{ V}$ (C1 - 1 kV/500 A)
	$\leq 50 \text{ V}$ (C3 - 25 A)
	$\leq 70 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 60 \text{ V}$ (6 kV/3 kA)
Voltage protection level U_p (Core-Earth)	$\leq 450 \text{ V}$ (C1 - 1 kV/500 A)
	$\leq 550 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 500 \text{ V}$ (6 kV/3 kA)
Response time t_A (Core-Core)	$\leq 1 \text{ ns}$
Response time t_A (Core-Earth)	$\leq 100 \text{ ns}$
Input attenuation a_E , sym.	0.5 dB ($\leq 1 \text{ MHz}$)
	0.5 dB ($\leq 1 \text{ MHz} / 50 \Omega$)
	0.25 dB ($\leq 400 \text{ kHz} / 150 \Omega$)
Cut-off frequency f_g (3 dB), sym. in 50 Ohm system	typ. 4.5 MHz
Capacity (Core-Core)	typ. 1.4 nF
Resistance in series	2.2 Ω #10 % (7-8/11-12)
Surge protection fault message	None
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)
	C3 (25 A)
	C1 (1 kV / 500 A)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth)	C2 (10 kV/5 kA)
	D1 (2.5 kA)
	C1 (1 kV / 500 A)

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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

Connection, equipotential bonding

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

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

ETIM

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

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Classifications

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 / GOST / GL

Ex Approvals

UL Listed / cUL Listed / ATEX / cULus Listed

Approvals submitted

Approval details

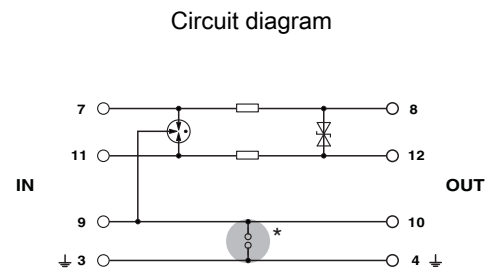
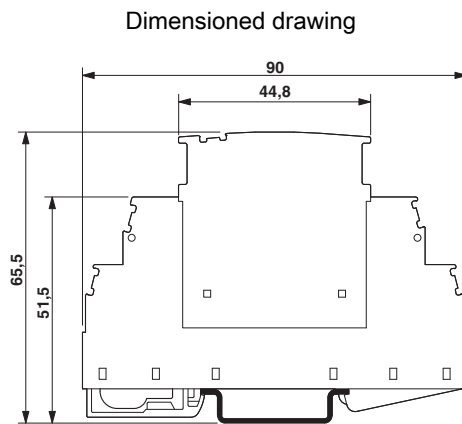
UL Listed 	
Nominal current I _N	0.45 A
Nominal voltage U _N	24 V

GOST 
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GL

Drawings

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