

Surge protection plug - PT 2X2-24DC-ST - 2838228

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PT protective connector with protective circuit for two 2-wire floating signal circuits. 24 V DC nominal voltage. HART-compatible.

Your advantages

- ✓ Plugs can be checked with CHECKMASTER
- ✓ Installed in conjunction with the PT 2x2...-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 two separate floating signal circuits
- ✓ Impedance-neutral disconnection of plug for test and maintenance purposes



Key Commercial Data

Packing unit	1 pc
GTIN	 4 017918 182649
GTIN	4017918182649
Weight per Piece (excluding packing)	25.110 g
Custom tariff number	85363010
Country of origin	Germany

Technical data

Dimensions

Height	44.8 mm
Width	17.5 mm
Depth	51.7 mm

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Technical data

Dimensions

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
Overvoltage category	II
Degree of pollution	3
Mounting type	on base element
Type	Male
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 2X2+F-BE 2839224
	PT 2X2-BE 2839208

Protective circuit

IEC test classification	C1
	C2
	C3
	D1
Nominal voltage U_N	24 V DC
Maximum continuous voltage U_C	28 V DC
	20 V AC
Rated current	450 mA (45 °C)
Operating effective current I_C at U_C	≤ 5 μ A
Residual current I_{PE}	≤ 1 μ A (with PT 2X2+F-BE)

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Protective circuit

	$\leq 4 \mu\text{A}$ (with PT 2X2-BE)
Nominal discharge current I_n (8/20) μs (line-line)	10 kA
Nominal discharge current I_n (8/20) μs (line-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 (line-line)	10 kA
Max. discharge current I_{max} (8/20) μs maximum (line-earth)	10 kA
Nominal pulse current I_{an} (10/1000) μs (line-line)	25 A
Output voltage limitation at 1 kV/ μs (line-line) spike	$\leq 45 \text{ V}$
Output voltage limitation at 1 kV/ μs (line-earth) spike	$\leq 450 \text{ V}$ (with PT 2X2-BE)
	$\leq 1 \text{ kV}$ (with PT 2X2+F-BE)
Output voltage limitation at 1 kV/ μs (line-line) static	$\leq 40 \text{ V}$
Output voltage limitation at 1 kV/ μs (line-earth) static	$\leq 25 \text{ V}$ (with PT 2X2-BE)
	$\leq 50 \text{ V}$ (with PT 2X2+F-BE)
Residual voltage at I_n (line-line)	$\leq 40 \text{ V}$
Residual voltage at I_n (line-signalground)	$\leq 450 \text{ V}$
Residual voltage with I_{an} (10/1000) μs (line-line)	$\leq 50 \text{ V}$
Voltage protection level U_p (line-line)	$\leq 70 \text{ V}$ (C1 - 1 kV/500 A)
	$\leq 60 \text{ V}$ (C2 - 6 kV / 3 kA)
	$\leq 70 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 50 \text{ V}$ (C3 - 25 A)
Voltage protection level U_p (line-earth)	$\leq 450 \text{ V}$ (C1 - 1 kV / 500 A with PT 2X2-BE)
	$\leq 500 \text{ V}$ (C2 - 6 kV / 3 kA with PT 2X2-BE)
	$\leq 550 \text{ V}$ (C2 - 10 kV / 5 kA with PT 2X2-BE)
	$\leq 1000 \text{ V}$ (C2 - 10 kV / 5 kA with PT 2X2+F-BE)
Voltage protection level U_p static (line-line)	$\leq 40 \text{ V}$ (C2 - 10 kV / 5 kA)
Voltage protection level U_p static (line-earth)	$\leq 50 \text{ V}$ (C2 - 10 kV / 5 kA with PT 2X2-BE)
	$\leq 100 \text{ V}$ (C2 - 10 kV / 5 kA with PT 2X2+F-BE)
Response time t_A (line-line)	$\leq 1 \text{ ns}$
Response time t_A (line-earth)	$\leq 100 \text{ ns}$
Input attenuation aE, sym.	typ. 0.5 dB ($\leq 1 \text{ MHz}$ / 50 Ω)
	typ. 0.3 dB ($\leq 400 \text{ kHz}$ / 150 Ω)
	typ. 0.1 dB ($\leq 70 \text{ kHz}$ / 600 Ω)
Cut-off frequency f_g (3 dB), sym. in 50 Ohm system	typ. 4.5 MHz
Cut-off frequency f_g (3 dB), sym. in 150 Ohm system	typ. 1.5 MHz
Cut-off frequency f_g (3 dB), sym. in 600 Ohm system	typ. 600 kHz

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Protective circuit

Capacity (line-line)	typ. 1.4 nF
Capacity (line-earth)	typ. 8 pF (with PT 2X2-BE)
	typ. 2 pF (with PT 2X2+F-BE)
Resistance per path	2.2 Ω ±10 %
Surge protection fault message	none
Max. required back-up fuse	500 mA (T)
Impulse durability (line-line)	C1 - 1 kV / 500 A
	C2 - 6 kV / 3 kA
	C2 - 10 kV / 5 kA
	C3 - 25 A
Impulse durability (line-earth)	C1 - 1 kV / 500 A
	C2 - 6 kV / 3 kA
	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 mm ² ... 2.5 mm ²
Conductor cross section solid	0.2 mm ² ... 4 mm ²
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

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"