

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



2856032

<https://www.phoenixcontact.com/us/products/2856032>

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 documentation. Our general terms of use for downloads are valid.



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

Your advantages

- Easy testing and documentation with CHECKMASTER 2 with pluggable protective modules
- Maximum ease of maintenance, thanks to the 2-piece design
- Easy selection for all possible demands in MCR applications with a complete product portfolio
- The signal is not influenced during maintenance work, thanks to the impedance-neutral insertion and removal of protective plugs

Commercial data

Item number	2856032
Packing unit	10 pc
Minimum order quantity	10 pc
Sales key	CL21
Product key	CL2111
Catalog page	Page 122 (C-4-2019)
GTIN	4017918599201
Weight per piece (including packing)	23.5 g
Weight per piece (excluding packing)	20 g
Customs tariff number	85363010
Country of origin	DE

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



2856032

<https://www.phoenixcontact.com/us/products/2856032>

Technical data

Notes

General

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

Product properties

IEC test classification	C1
	C2
	C3
	D1
Type	Male
Product type	Surge protection for MCR technology
Product family	PLUGTRAB PT
Arrester can be tested with CHECKMASTER from software version:	From SW rev. 1.00
Wire pairs per module	1

Insulation characteristics

Overvoltage category	III
Pollution degree	2

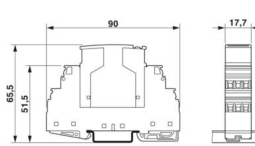
Electrical properties

Nominal voltage U_N	24 V DC
-----------------------	---------

Connection data

Connection method	Screw connection (in connection with the base element)
Screw thread	M3
Tightening torque	0.5 Nm
Conductor cross section flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross section rigid	0.2 mm ² ... 4 mm ²
Conductor cross section AWG	24 ... 12

Dimensions

Dimensional drawing	
Width	17.7 mm
Height	45 mm

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



2856032

<https://www.phoenixcontact.com/us/products/2856032>

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

Material specifications

Color	black (RAL 9005)
	Copper
Flammability rating according to UL 94	V-0
Housing material	PA 6.6

Mechanical properties

Mechanical data

Open side panel	No
-----------------	----

Protective circuit

Direction of action	Line-Line & Line-Signal Ground/Shield & optional Signal Ground/Shield-Earth Ground
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	$\leq 5 \mu\text{A}$
Residual current I_{PE}	$\leq 1 \mu\text{A}$ (with PT 1X2+F-BE)
	$\leq 2 \mu\text{A}$ (with PT 1X2-BE)
Nominal discharge current I_n (8/20) μs (line-line)	10 kA
Nominal discharge current I_n (8/20) μs (line-ground)	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)	30 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 1X2-BE)
	$\leq 1 \text{ kV}$ (with PT 1X2+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 1X2-BE)
	$\leq 50 \text{ V}$ (with PT 1X2+F-BE)
Residual voltage at I_n (conductor-conductor)	$\leq 40 \text{ V}$
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)
	$\leq 70 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 60 \text{ V}$ (C2 - 6 kV / 3 kA)
	$\leq 50 \text{ V}$ (C3 - 25 A)

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



2856032

<https://www.phoenixcontact.com/us/products/2856032>

Voltage protection level U_p (line-earth)	≤ 450 V (C1 - 1 kV / 500 A with PT 1X2-BE)
	≤ 550 V (C2 - 10 kV / 5 kA with PT 1X2-BE)
	≤ 1000 V (C2 - 10 kV / 5 kA with PT 1X2+F-BE)
	≤ 500 V (C2 - 6 kV / 3 kA with PT 1X2-BE)
Voltage protection level U_p static (line-line)	≤ 40 V (C2 - 10 kV / 5 kA)
Voltage protection level U_p static (line-earth)	≤ 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 t_A (line-line)	≤ 1 ns
Response time t_A (line-earth)	≤ 100 ns
Input attenuation aE, sym.	typ. 0.5 dB (≤ 1 MHz / 50 Ω)
	typ. 0.2 dB (≤ 400 kHz / 150 Ω)
	typ. 0.1 dB (≤ 70 kHz / 600 Ω)
Cut-off frequency f_g (3 dB), sym. in 50 Ω system	typ. 4.5 MHz
Cut-off frequency f_g (3 dB), sym. in 150 Ω system	typ. 1.5 MHz
Cut-off frequency f_g (3 dB), sym. in 600 Ω system	typ. 600 kHz
Capacity (Core-Core)	typ. 1.4 nF
Capacity (Core-Earth)	typ. 4 pF (with PT 1X2-BE)
	typ. 2 pF (with PT 1X2+F-BE)
Resistance per path	2.2 $\Omega \pm 10$ %
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

Environmental and real-life conditions

Ambient conditions

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

Standards and regulations

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

Mounting

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



2856032

<https://www.phoenixcontact.com/us/products/2856032>

Mounting type

on base element

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



2856032

<https://www.phoenixcontact.com/us/products/2856032>

Classifications

ECLASS

ECLASS-11.0	27130807
ECLASS-13.0	27171501

ETIM

ETIM 9.0	EC001625
----------	----------

UNSPSC

UNSPSC 21.0	39121600
-------------	----------

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



2856032

<https://www.phoenixcontact.com/us/products/2856032>

Environmental product compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

Phoenix Contact 2024 © - all rights reserved

<https://www.phoenixcontact.com>

Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com