

PT 5-HF-12 DC-ST - Surge protection plug



2838775

<https://www.phoenixcontact.com/gb/products/2838775>

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.



Protective plug PT with HF protective circuit for 4 signal wires. Nominal voltage: 12 V DC

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	2838775
Packing unit	10 pc
Minimum order quantity	1 pc
Sales key	CL3121
Product key	CL3121
Catalog page	Page 173 (C-4-2019)
GTIN	4017918480646
Weight per piece (including packing)	26.593 g
Weight per piece (excluding packing)	25.6 g
Customs tariff number	85363010
Country of origin	DE

PT 5-HF-12 DC-ST - Surge protection plug



2838775

<https://www.phoenixcontact.com/gb/products/2838775>

Technical data

Notes

General

Note	Technical data is valid in association with the following specified base elements:
	PT 2X2+F-BE 2839224
	PT 2X2-BE 2839208

Product properties

Product type	Surge protection for information technology
Product family	PLUGTRAB PT
IEC test classification	C1
	C2
	C3
	D1
Type	Male
Number of positions	5
Arrester can be tested with CHECKMASTER from software version:	From SW rev. 1.10
Wire pairs per module	2

Insulation characteristics

Overvoltage category	III
Pollution degree	2

Electrical properties

Nominal voltage U_N	12 V DC
-----------------------	---------

Connection data

Connection method	Screw connection (in connection with the base element)
Screw thread	M3
Tightening torque	0.8 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

PT 5-HF-12 DC-ST - Surge protection plug



2838775

<https://www.phoenixcontact.com/gb/products/2838775>

Height	45 mm
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 color
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	14 V DC
	9.8 V AC
Rated current	450 mA (45 °C)
Operating effective current I_C at U_C	$\leq 5 \mu A$
Residual current I_{PE}	$\leq 5 \mu A$ (with PT 2X2-BE)
	$\leq 1 \mu A$ (with PT 2X2+F-BE)
Nominal discharge current I_n (8/20) μs (line-line)	10 kA
Nominal discharge current I_n (8/20) μs (line-ground)	20 kA (in total)
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)	20 kA (in total)
Nominal pulse current I_{an} (10/1000) μs (line-line)	67 A
Output voltage limitation at 1 kV/ μs (line-line) spike	$\leq 55 V$
Output voltage limitation at 1 kV/ μs (line-earth) spike	$\leq 55 V$ (with PT 2X2-BE)
	$\leq 700 V$ (with PT 2X2+F-BE)
Output voltage limitation at 1 kV/ μs (line-line) static	$\leq 25 V$
Output voltage limitation at 1 kV/ μs (line-earth) static	$\leq 25 V$ (with PT 2X2-BE)
	$\leq 40 V$ (with PT 2X2+F-BE)
Residual voltage at I_n (conductor-conductor)	$\leq 25 V$
Residual voltage at I_n (conductor-ground)	$\leq 40 V$ (with PT 2X2-BE)
Residual voltage at I_n (line-signal ground)	$\leq 25 V$ (with PT 2X2-BE)
Residual voltage with I_{an} (10/1000) μs (line-line)	$\leq 25 V$
Residual voltage with I_{an} (10/1000) μs (line-signal ground)	$\leq 25 V$

PT 5-HF-12 DC-ST - Surge protection plug



2838775

<https://www.phoenixcontact.com/gb/products/2838775>

Voltage protection level U_p (line-line)	≤ 80 V (C1 - 1 kV / 500 A)
	≤ 100 V (C2 - 10 kV / 5 kA)
	≤ 50 V (C3 - 25 A)
	≤ 80 V (6 kV / 3 kA)
Voltage protection level U_p (line-earth)	≤ 85 V (C1 - 1 kV / 500 A with PT 2X2-BE)
	≤ 140 V (C2 - 10 kV / 5 kA with PT 2X2-BE)
	≤ 100 V (6 kV / 3 kA with PT 2X2-BE)
	≤ 50 V (C3 - 25 A with PT 2X2-BE)
Voltage protection level U_p (line-signal ground)	≤ 50 V (C3 - 25 A with PT 2X2-BE)
	≤ 140 V (C2 - 10 kV / 5 kA with PT 2X2-BE)
Voltage protection level U_p static (line-line)	≤ 25 V (C2 - 10 kV / 5 kA)
	≤ 27 V (C3 - 25 A)
Voltage protection level U_p static (line-earth)	≤ 45 V (C2 - 10 kV / 5 kA with PT 2X2-BE)
	≤ 27 V (C3 - 25 A with PT 2X2-BE)
Voltage protection level U_p static (line-signal ground)	≤ 25 V (C2 - 10 kV / 5 kA with PT 2X2-BE)
	≤ 27 V (C3 - 25 A)
Response time t_A	≤ 500 ns
Input attenuation aE, sym.	typ. 0.3 dB (≤ 5 MHz / 100 Ω)
Cut-off frequency f_g (3 dB), sym. in 100 Ω system	typ. 60 MHz
Capacity (Core-Core)	typ. 30 pF
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)	C2 - 10 kV / 5 kA
	C3 - 67 A
Impulse durability (line-earth)	C2 - 10 kV / 5 kA
	C3 - 67 A
	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	≤ 4000 m (amsl)

Approvals

Conformity/Approvals

UL, USA / Canada	Class I, Div. 2, Groups A, B, C, D T4A
------------------	--

Standards and regulations

Standards/specifications	EN 61643-21
Note	A2:2013

PT 5-HF-12 DC-ST - Surge protection plug



2838775

<https://www.phoenixcontact.com/gb/products/2838775>

Standards/specifications	IEC 61643-21
Note	A2:2012

Mounting

Mounting type	on base element
---------------	-----------------

PT 5-HF-12 DC-ST - Surge protection plug

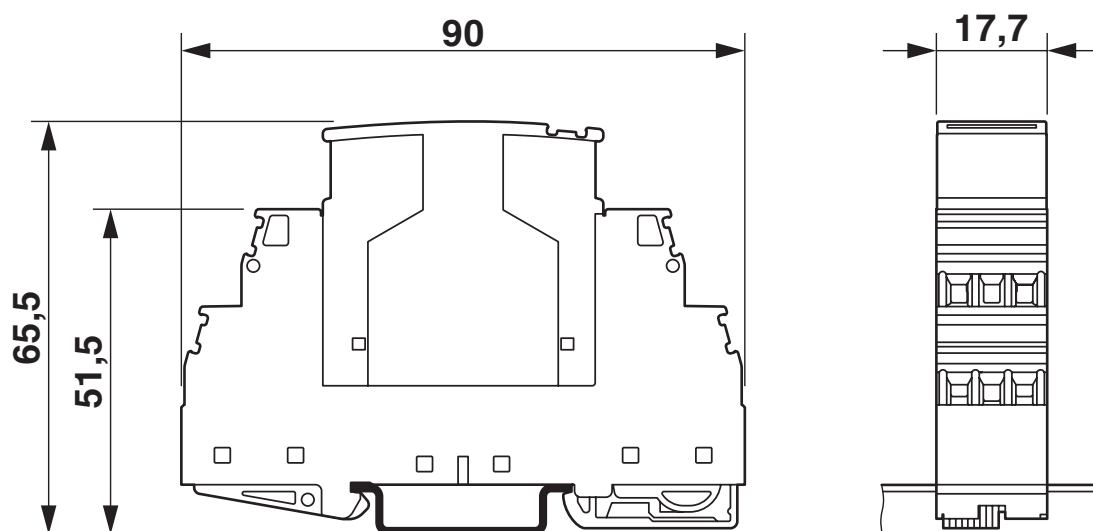
2838775

<https://www.phoenixcontact.com/gb/products/2838775>



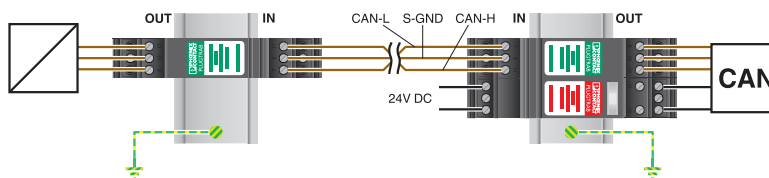
Drawings

Dimensional drawing

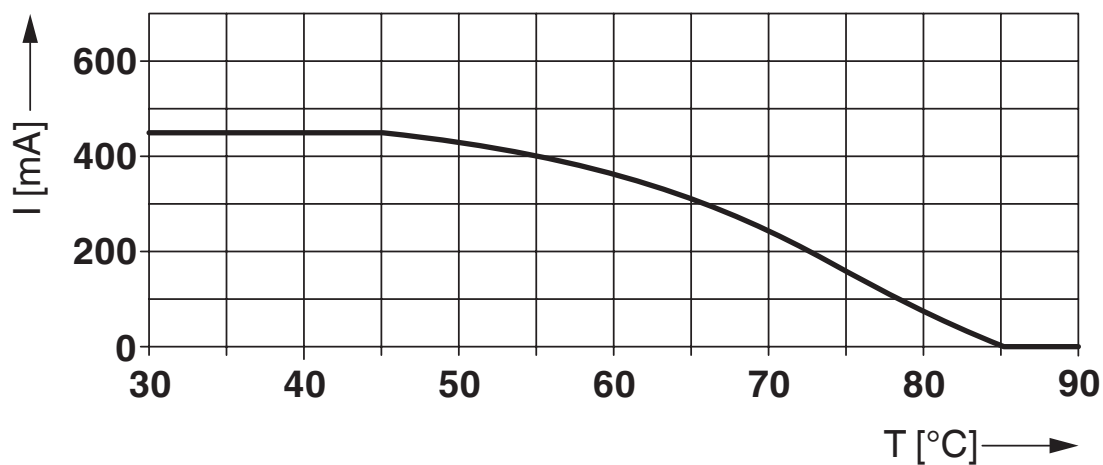


The figure shows the complete module consisting of a base element and connector

Application drawing



Diagram



The figure shows the derating curve in conjunction with PT 2X2-BE or PT 2X2-F-BE

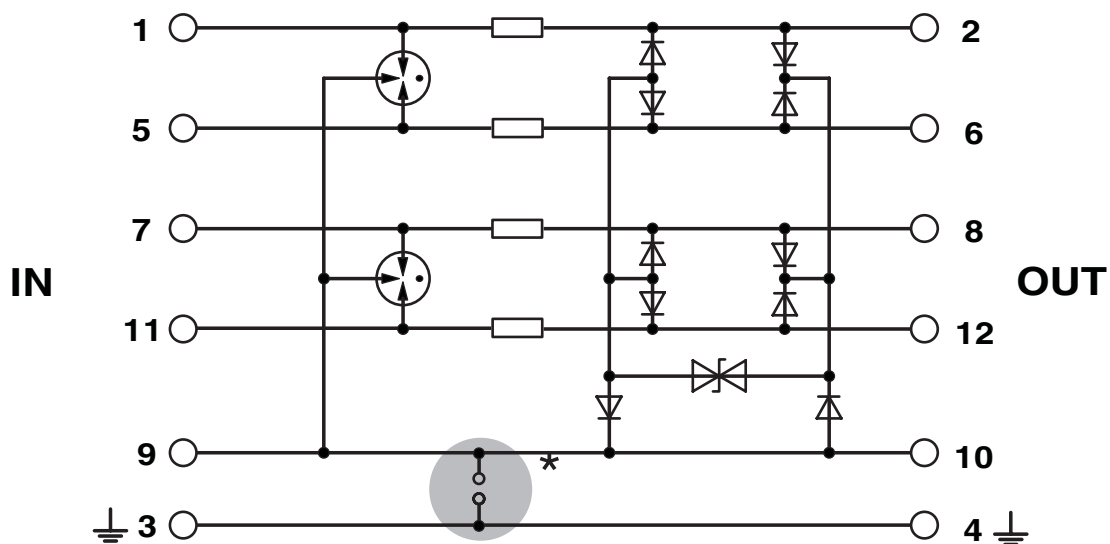
PT 5-HF-12 DC-ST - Surge protection plug

2838775

<https://www.phoenixcontact.com/gb/products/2838775>



Circuit diagram



PT 5-HF-12 DC-ST - Surge protection plug



2838775

<https://www.phoenixcontact.com/gb/products/2838775>

Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/gb/products/2838775>



EAC
Approval ID: EAC-Zulassung



DNV GL
Approval ID: TAE00001N6



EAC
Approval ID: RU C-DE.*09.B.00169

	UL Listed Approval ID: FILE E 138168			
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
	12 V	0.45 A	-	-



cUL Listed
Approval ID: FILE E 333250



UL Listed
Approval ID: FILE E 333250

PT 5-HF-12 DC-ST - Surge protection plug



2838775

<https://www.phoenixcontact.com/gb/products/2838775>

Classifications

ECLASS

ECLASS-13.0	27171503
-------------	----------

ETIM

ETIM 9.0	EC000943
----------	----------

UNSPSC

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

PT 5-HF-12 DC-ST - Surge protection plug



2838775

<https://www.phoenixcontact.com/gb/products/2838775>

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	02bf230d-de9c-4865-be0c-ca8763345478

Phoenix Contact 2025 © - all rights reserved

<https://www.phoenixcontact.com>

PHOENIX CONTACT Ltd
Halesfield 13, Telford
Shropshire, TF7 4PG
01952 681700
info@phoenixcontact.co.uk