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

2838775

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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	CL03
Product key	CL3121
GTIN	4017918480646
Weight per piece (including packing)	26.25 g
Weight per piece (excluding packing)	25.6 g
Customs tariff number	85363010
Country of origin	DE

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

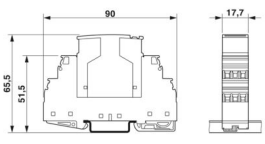
Electrical properties

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 mm² ... 2.5 mm²
Conductor cross-section rigid	0.2 mm² ... 4 mm²
Conductor cross-section AWG	24 ... 12

Dimensions

Dimensional drawing	
Width	17.7 mm

Height	45 mm
Depth	52 mm
Horizontal pitch	1 HP
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
Nominal voltage U_N	12 V DC
Maximum continuous operating voltage U_C	14 V DC
	9.8 V AC
Rated current	450 mA (45 °C)
Operating effective current I_C at U_C	≤ 5 µA
Protective conductor current I_{PE}	≤ 5 µA (with PT 2X2-BE)
	≤ 1 µA (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 Ian (10/1000) µs (line-line)	67 A
Output voltage limitation at 1 kV/µs (line-line) spike	≤ 55 V
Output voltage limitation at 1 kV/µs (line-earth) spike	≤ 55 V (with PT 2X2-BE)
	≤ 700 V (with PT 2X2+F-BE)
Output voltage limitation at 1 kV/µs (line-line) static	≤ 25 V
Output voltage limitation at 1 kV/µs (line-earth) static	≤ 25 V (with PT 2X2-BE)
	≤ 40 V (with PT 2X2+F-BE)
Residual voltage at I_n (conductor-conductor)	≤ 25 V
Residual voltage at I_n (conductor-ground)	≤ 40 V (with PT 2X2-BE)
Residual voltage at I_n (line-signal ground)	≤ 25 V (with PT 2X2-BE)
Residual voltage with Ian (10/1000) µs (line-line)	≤ 25 V

Residual voltage with Ian (10/1000) µs (line-signal ground)	≤ 25 V
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 fg (3 dB), sym. in 100 Ω system	typ. 60 MHz
Capacity (Core-Core)	typ. 30 pF
Resistance per path	2.2 Ω ±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

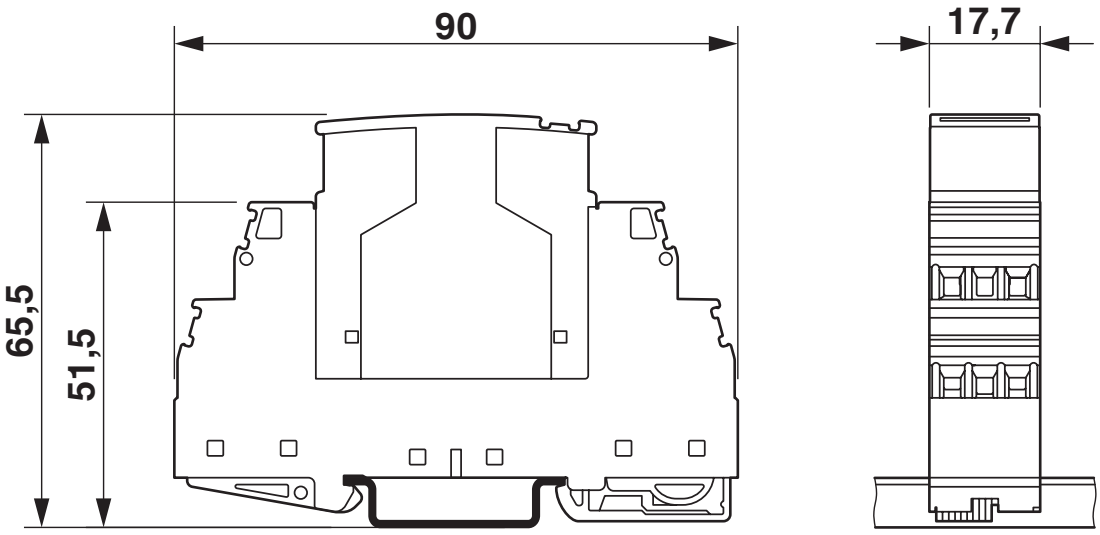
Note	A2:2013
Standards/specifications	IEC 61643-21
Note	A2:2012

Mounting

Mounting type	on base element

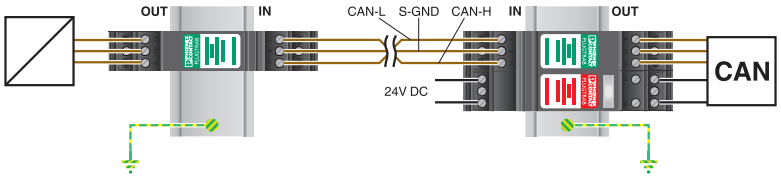
Drawings

Dimensional drawing

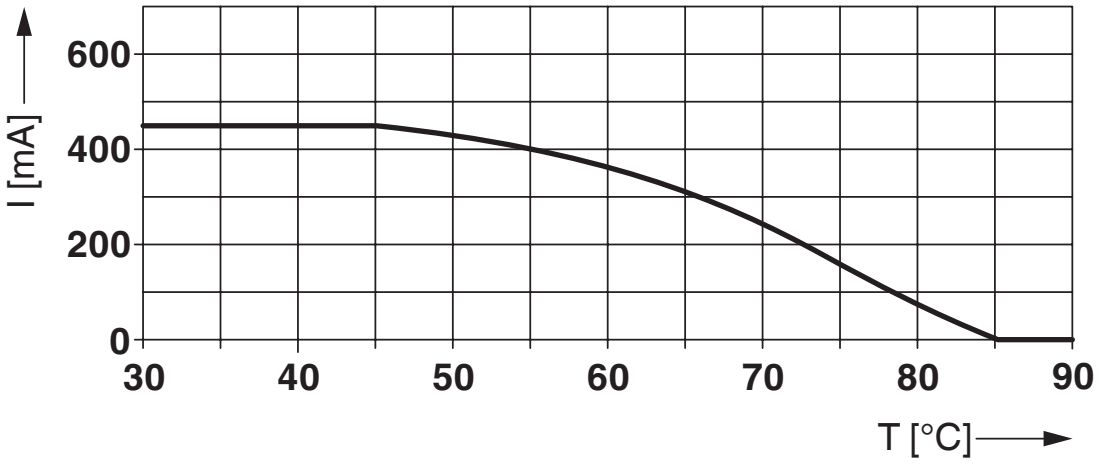


The figure shows the complete module consisting of a base element and connector

Application drawing

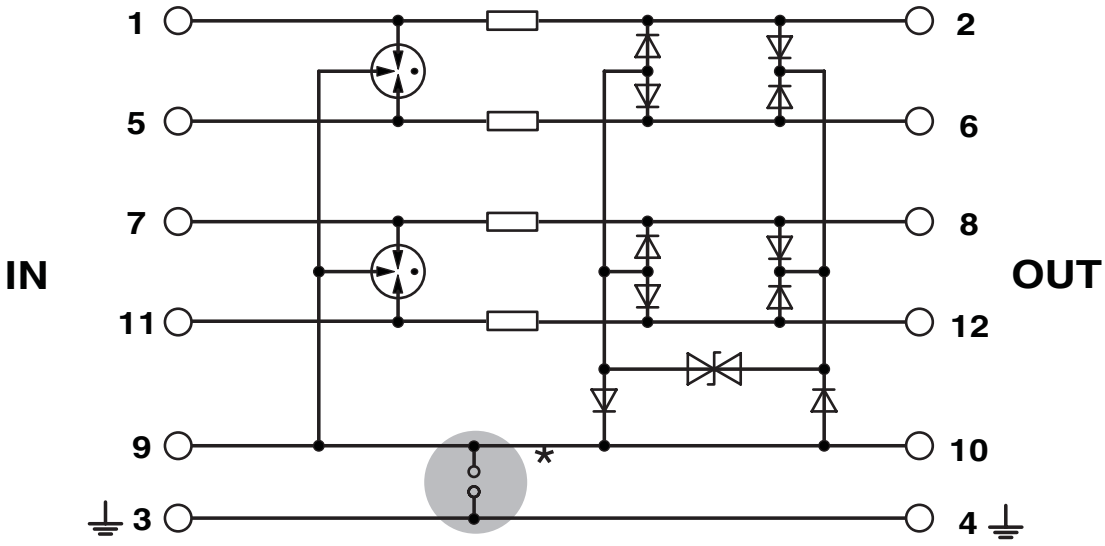


Diagram



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

Circuit diagram



Classifications

ECLASS

ECLASS-13.0	27171503
ECLASS-15.0	27171503

ETIM

ETIM 10.0	EC001466

UNSPSC

UNSPSC 21.0	39121600

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

EF3.1 Climate Change

CO2e kg	0.685 kg CO2e

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