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	10 pc
Sales key	CL03
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

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

IEC test classification	C1
	C2
	C3
	D1
Type	Male
Product type	Surge protection for information technology
Product family	PLUGTRAB PT
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

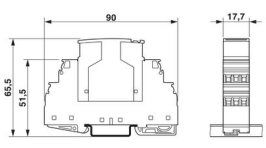
Electrical properties

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 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	14 V DC
	9.8 V AC
Rated current	450 mA (45 °C)
Operating effective current I_C at U_C	≤ 5 µA
Residual 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-signalground)	≤ 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-signalground)	≤ 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-signalground)	≤ 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-signalground)	≤ 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

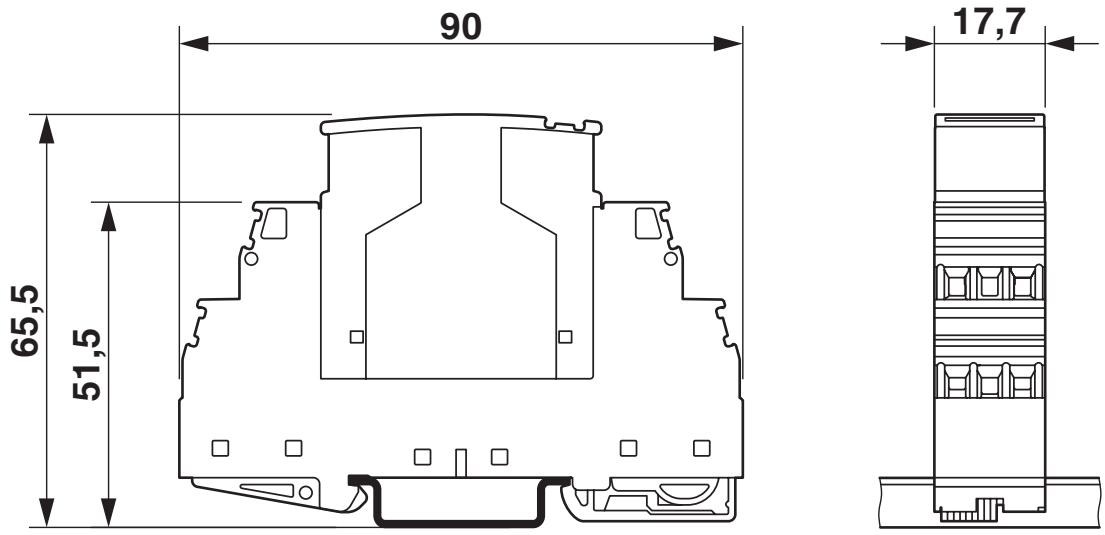
Standards/specifications	IEC 61643-21
Note	A2:2012

Mounting

Mounting type	on base element

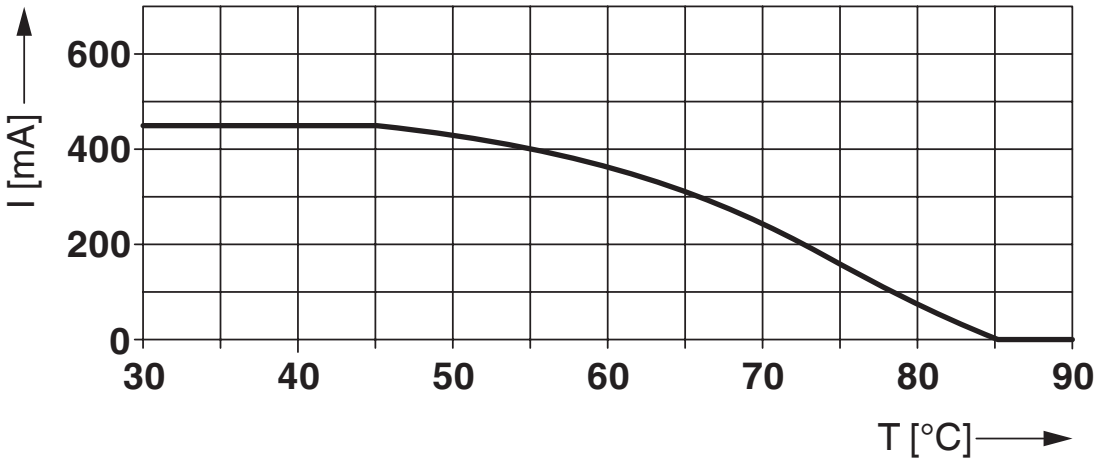
Drawings

Dimensional drawing



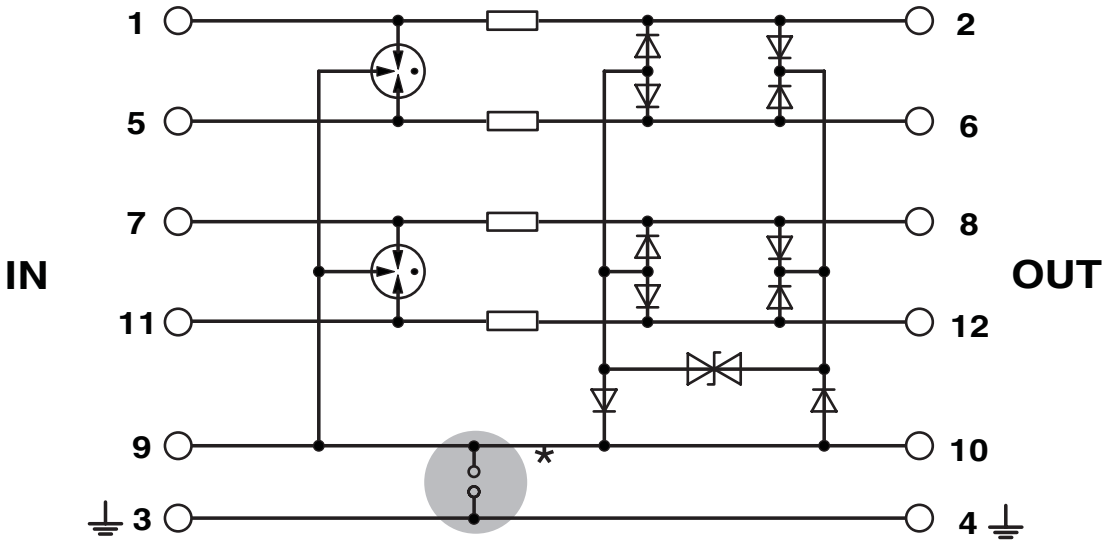
The figure shows the complete module consisting of a base element and connector

Diagram

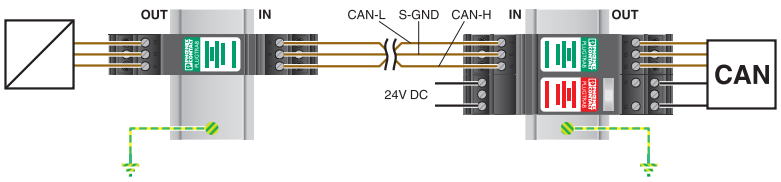


The figure shows the derating curve in conjunction with PT 2X2-BE or PT 2X2+F-BE

Circuit diagram



Application drawing



Approvals

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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

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Classifications

ECLASS

ECLASS-11.0	27130807
ECLASS-13.0	27171503

ETIM

ETIM 9.0	EC001466

UNSPSC

UNSPSC 21.0	39121600

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”

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