Surge protection plug - PT 2X1-24AC-ST - 2856100

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Surge protection plug for the base element, coarse and fine protection for two signal wires with common reference potential, common mode voltage coarse protection to ground. Design: 24 V AC

Your advantages

- Easy testing and documentation with CHECKMASTER 2 with pluggable protective modules
- Maximum ease of maintenance thanks to the two-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

Key Commercial Data

Packing unit	1 pc
GTIN	4 017918 599140
GTIN	4017918599140
Weight per Piece (excluding packing)	20.740 g
Custom tariff number	85363010
Country of origin	Germany

Technical data

Dimensions

Height	44.8 mm
Width	17.5 mm
Depth	51.7 mm
Horizontal pitch	1 Div.
Complete module height	90 mm

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Technical data

Dimensions

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
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 2X1+F-BE 2856142
	PT 2X1-BE 2856139

Protective circuit

IEC test classification	C1
	C2
	C3
	D1
Nominal voltage U_N	24 V AC
Maximum continuous voltage U_C	40 V DC
	28 V AC
Rated current	300 mA (45 °C)
Operating effective current I_C at U_C	≤ 5 µA
Residual current I_{PE}	≤ 1 µA (with PT 2X1+F-BE)
	≤ 10 µA (with PT 2x1-BE)
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

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Protective circuit

Max. discharge current I_{max} (8/20) µs maximum (line-earth)	10 kA
Nominal pulse current In (10/1000) µs (line-earth)	23 A
Output voltage limitation at 1 kV/µs (line-earth) spike	≤ 60 V (with PT 2x1-BE)
	≤ 600 V (with PT 2X1+F-BE)
Output voltage limitation at 1 kV/µs (line-earth) static	≤ 55 V (with PT 2x1-BE)
	≤ 50 V (with PT 2X1+F-BE)
Residual voltage at I_n (line-earth)	≤ 55 V
Residual voltage with In (10/1000) µs (line-earth)	≤ 65 V
Voltage protection level U_p (line-earth)	≤ 100 V (C2 - 10 kV/5 kA with PT 2X1-BE)
	≤ 600 V (C2 - 10 kV/5 kA with PT 2x1+F-BE)
Voltage protection level U_p static (line-earth)	≤ 30 V (C2 - 10 kV/5 kA with PT 2X1-BE)
	≤ 50 V (C2 - 10 kV/5 kA with PT 2x1+F-BE)
Response time t_A (line-signalground)	≤ 1 ns (with PT 2X1+F-BE)
Response time t_A (line-earth)	≤ 1 ns (with PT 2x1-BE)
	≤ 100 ns (with PT 2X1+F-BE)
Input attenuation aE, asym.	typ. 0.5 dB (≤ 1.5 MHz / 50 Ω)
	typ. 0.2 dB (≤ 500 kHz / 150 Ω)
	typ. 0.1 dB (≤ 100 kHz / 600 Ω)
Cut-off frequency fg (3 dB), asym. (PE) in 50 Ω system	typ. 8 MHz
Cut-off frequency fg (3 dB), asym. (PE) in 150 Ω system	typ. 300 kHz
Cut-off frequency fg (3 dB), asym. (PE) in 600 Ω system	typ. 800 kHz
Capacity (line-earth)	typ. 0.6 nF (with PT 2x1-BE)
	typ. 2 nF (with PT 2X1+F-BE)
Resistance per path	4.7 Ω ±10 %
Surge protection fault message	none
Max. required back-up fuse	315 mA (T)
Impulse durability (line-earth)	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 mm² ... 2.5 mm²
Conductor cross section solid	0.2 mm² ... 4 mm²
Conductor cross section AWG	24 ... 12

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Technical data

Standards and Regulations

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

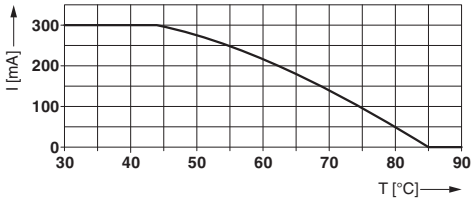
Environmental Product Compliance

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”

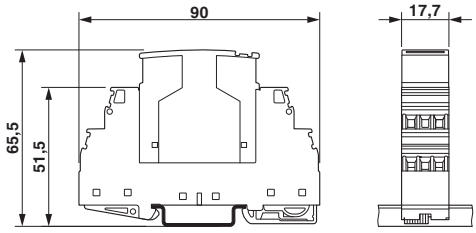
Drawings

Pictogram

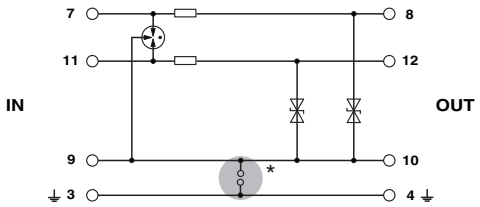
Diagram



Dimensional drawing



Circuit diagram



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

Classifications

eCl@ss

eCl@ss 10.0.1	27130807
eCl@ss 11.0	27130807
eCl@ss 4.0	27130800
eCl@ss 4.1	27130800
eCl@ss 5.0	27130800
eCl@ss 5.1	27130800

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Classifications

eCl@ss

eCl@ss 6.0	27130800
eCl@ss 7.0	27130807
eCl@ss 9.0	27130807

ETIM

ETIM 2.0	EC000943
ETIM 3.0	EC000943
ETIM 4.0	EC000943
ETIM 6.0	EC000943
ETIM 7.0	EC000943

UNSPSC

UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610
UNSPSC 11	39121610
UNSPSC 12.01	39121610
UNSPSC 13.2	39121620
UNSPSC 18.0	39121620
UNSPSC 19.0	39121620
UNSPSC 20.0	39121620
UNSPSC 21.0	39121620

Approvals

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Approvals

UL Listed / EAC

Ex Approvals

UL Listed / cUL Listed / cULus Listed

Approval details

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Approvals

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 138168

Nominal voltage UN	34 V
Nominal current IN	0.3 A

EAC		RU C-DE.*09.B.00169