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Surge protection plug - PT 1X2-12DC/FM-ST - 2920065

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Surge protection plug with integrated diagnostic and status indicator on the module and remote indication contact for a 2-wire floating signal circuit.

The figure shows version PT 1X2-24DC/FM-ST

Why buy this product

- Plugs can be checked with CHECKMASTER
- Maximum ease of maintenance thanks to the two-piece design
- Base element remains an integral part of the installation
- Consistent plug-in signal circuit protection
- With floating remote indication contact
- Permanent and independent monitoring by a diagnostics unit
- Optical status indication for the individual arresters
- Impedance-neutral disconnection of plug for test and maintenance purposes



Key Commercial Data

Packing unit	10 STK
GTIN	 4 046356 153980

Technical data

Dimensions

Height	45 mm
Width	17.7 mm
Depth	52 mm
Horizontal pitch	1 Div.
Complete module height	90 mm
Complete module width	17.7 mm
Complete module depth	65.5 mm

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Technical data

Ambient conditions

Ambient temperature (operation)	-40 °C ... 85 °C
Degree of protection	IP20

General

Housing material	PA 6.6
Flammability rating according to UL 94	V0
Color	black
Standards for clearances and creepage distances	VDE 0110-1
	IEC 60664-1
Mounting type	On base element
Type	DIN rail module, two-section, divisible
Direction of action	Line-Line & Line-Signal Ground/Shield & optional Signal Ground/Shield-Earth Ground

Protective circuit

IEC test classification	C1
	C2
	C3
	D1
VDE requirement class	C1
	C2
	C3
	D1
Nominal voltage U_N	12 V DC
Maximum continuous voltage U_C	13 V DC
	9 V AC
Maximum continuous voltage U_C (wire-wire)	13 V DC
	9 V AC
Nominal current I_N	450 mA (45°C)
Operating effective current I_C at U_C	$\leq 5 \mu\text{A}$
Residual current I_{PE}	$\leq 2 \mu\text{A}$ (Directly grounded)
	$\leq 1 \mu\text{A}$ (BE: 1x2+F)
Nominal discharge current I_n (8/20) μs (Core-Core)	10 kA
Nominal discharge current I_n (8/20) μs (Core-Earth)	10 kA
Total surge current (8/20) μs	20 kA
Max. discharge current I_{max} (8/20) μs maximum (Core-Core)	10 kA
Max. discharge current I_{max} (8/20) μs maximum (Core-Earth)	10 kA
Nominal pulse current I_{an} (10/1000) μs (Core-Core)	70 A (25°C / 1x)
	50 A (25 °C)
Impulse discharge current (10/350) μs , peak value I_{imp}	2.5 kA
Output voltage limitation at 1 kV/ μs (Core-Core) spike	$\leq 25 \text{ V}$

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Protective circuit

Output voltage limitation at 1 kV/μs (Core-Earth) spike	≤ 450 V
	≤ 1 kV (BE: 1x2+F)
Output voltage limitation at 1 kV/μs (Core-Core) static	≤ 19 V
Residual voltage at I _n (conductor-conductor)	≤ 18 V
Residual voltage with I _{an} (10/1000)μs (conductor-conductor)	≤ 23 V
Voltage protection level U _p (core-core)	≤ 19 V (C1 (500 V/250 A))
	≤ 19 V (C3 - 25 A)
Voltage protection level U _p (core-ground)	≤ 450 V (C2 - 10 kV/5 kA)
Response time t _A (Core-Core)	≤ 1 ns
Response time t _A (Core-Earth)	≤ 100 ns
Input attenuation aE, sym.	typ. 0.5 dB (≤ 600 kHz / 50 Ω)
	typ. 0.2 dB (≤ 200 kHz/150 Ω)
Cut-off frequency f _g (3 dB), sym. in 50 Ohm system	typ. 3 MHz
Cut-off frequency f _g (3 dB), sym. in 150 Ohm system	typ. 1 MHz
Capacity (Core-Core)	typ. 3 nF
Capacity (Core-Earth)	typ. 4 pF
Resistance in series	2.2 Ω ±10 % (7-8/11-12)
Max. required back-up fuse	500 mA (e.g. T (IEC 127-2/III))
Impulse durability (conductor-conductor)	C2 - 10 kV/5 kA
	C3 - 25 A
Impulse durability (conductor-ground)	C2 - 10 kV/5 kA
	D1 - 2,5 kA
	C3 - 100 A
Alternating current carrying capacity (conductor-ground)	5 A - 1 s

Connection data

Connection method	Screw connection (in connection with the base element)
Connection type IN	PLUGTRAB plug-in system
Connection type OUT	PLUGTRAB plug-in system
Screw thread	M3
Tightening torque	0.8 Nm
Stripping length	8 mm
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	2.5 mm ²
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	4 mm ²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	12

Standards and Regulations

Standards/regulations	IEC 61643-21
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Technical data

Standards and Regulations

	DIN EN 61643-21
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Classifications

eCl@ss

eCl@ss 4.0	27140201
eCl@ss 4.1	27130801
eCl@ss 5.0	27130801
eCl@ss 5.1	27130801
eCl@ss 6.0	27130807
eCl@ss 7.0	27130807
eCl@ss 8.0	27130807
eCl@ss 9.0	27130807

ETIM

ETIM 2.0	EC000943
ETIM 3.0	EC000943
ETIM 4.0	EC000943
ETIM 5.0	EC000943

UNSPSC

UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610
UNSPSC 11	39121610
UNSPSC 12.01	39121610
UNSPSC 13.2	39121620

Approvals

Approvals

Approvals

UL Listed / EAC

Ex Approvals

Approvals submitted

Approval details

Surge protection plug - PT 1X2-12DC/FM-ST - 2920065

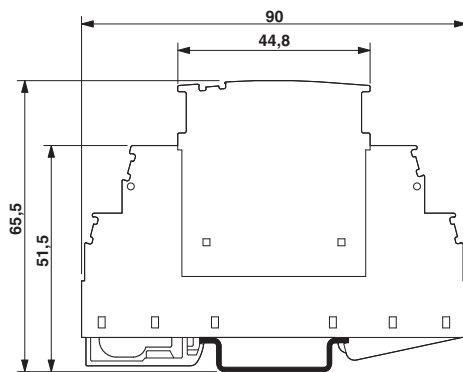
Approvals

UL Listed

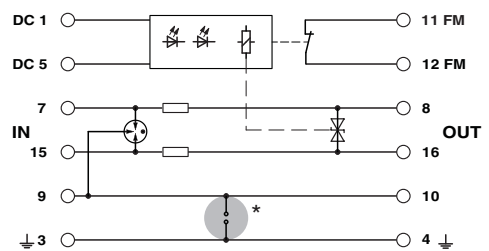
EAC

Drawings

Dimensional drawing



Circuit diagram



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

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