

## Surge protection plug - PT 1X2-24DC/FM-ST - 2920078

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's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)




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

### 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
- ✓ With floating remote indication contact
- ✓ Permanent and independent monitoring by a diagnostics unit
- ✓ Consistent plug-in signal circuit protection
- ✓ Impedance-neutral disconnection of plug for test and maintenance purposes
- ✓ Optical status indication for the individual arresters



### Key Commercial Data

Packing unit	10 STK
GTIN	 4 046356 154000
GTIN	4046356154000

### Technical data

#### Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
-------------------------	---

#### Dimensions

Height	45 mm
Width	17.7 mm
Depth	52 mm
Horizontal pitch	1 Div.

# Surge protection plug - PT 1X2-24DC/FM-ST - 2920078

## Technical data

### Dimensions

Complete module height	90 mm
Complete module width	17.7 mm
Complete module depth	65.5 mm

### 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	V-0
Color	black
Standards for clearances and creepage distances	VDE 0110-1
	IEC 60664-1
Mounting type	on base element
Type	Male
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 $U_N$	24 V DC
Maximum continuous voltage $U_C$	28 V DC
	20 V AC
Rated current	450 mA (45°C)
Operating effective current $I_C$ at $U_C$	$\leq 5 \mu A$
Standby power consumption $P_C$	$\leq 1.78 VA$
Residual current $I_{PE}$	$\leq 2 \mu A$ (Directly grounded)
	$\leq 1 \mu A$ (with PT 1X2+F-BE)
Nominal discharge current $I_n$ (8/20) $\mu s$ (line-line)	10 kA
Nominal discharge current $I_n$ (8/20) $\mu s$ (line-earth)	10 kA
Pulse discharge current $I_{imp}$ (10/350) $\mu s$	2.5 kA
Total discharge current $I_{total}$ (8/20) $\mu s$	20 kA
Max. discharge current $I_{max}$ (8/20) $\mu s$ maximum (line-line)	10 kA
Max. discharge current $I_{max}$ (8/20) $\mu s$ maximum (line-earth)	10 kA

# Surge protection plug - PT 1X2-24DC/FM-ST - 2920078

## Technical data

### Protective circuit

Nominal pulse current $I_{an}$ (10/1000) $\mu$ s (line-line)	33 A (25 °C)
Output voltage limitation at 1 kV/ $\mu$ s (line-line) spike	$\leq$ 45 V
Output voltage limitation at 1 kV/ $\mu$ s (line-earth) spike	$\leq$ 450 V
	$\leq$ 1 kV (with PT 1X2+F-BE)
Output voltage limitation at 1 kV/ $\mu$ s (line-line) static	$\leq$ 40 V
Residual voltage at $I_n$ (line-line)	$\leq$ 40 V
Residual voltage with $I_{an}$ (10/1000) $\mu$ s (line-line)	$\leq$ 50 V
Voltage protection level $U_p$ (line-line)	$\leq$ 40 V (C1 - 500 V / 250 A)
	$\leq$ 40 V (C3 - 25 A)
Voltage protection level $U_p$ (line-earth)	$\leq$ 450 V (C2 - 10 kV / 5 kA)
Response time $t_A$ (line-line)	$\leq$ 1 ns
Response time $t_A$ (line-earth)	$\leq$ 100 ns
Input attenuation aE, sym.	typ. 0.5 dB ( $\leq$ 1 MHz / 50 $\Omega$ )
	typ. 0.2 dB ( $\leq$ 400 kHz / 150 $\Omega$ )
Cut-off frequency $f_g$ (3 dB), sym. in 50 Ohm system	typ. 6 MHz
Cut-off frequency $f_g$ (3 dB), sym. in 150 Ohm system	typ. 2.5 MHz
Capacity (line-line)	typ. 1.4 nF
Capacity (line-earth)	typ. 4 pF
Resistance in series	2.2 $\Omega$ $\pm$ 10 % (7-8/11-12)
Surge protection fault message	Optical, remote indicator contact
Max. required back-up fuse	500 mA (T)
Impulse durability (line-line)	C2 - 10 kV/5 kA
	C3 - 25 A
Impulse durability (line-earth)	C2 - 10 kV/5 kA
	D1 - 2.5 kA
	C3 - 100 A
Alternating current carrying capacity (line-earth)	5 A - 1 s

### Connection data

Connection method	Screw connection (in connection with the base element)
Screw thread	M3
Tightening torque	0.8 Nm
Stripping length	8 mm
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section solid	0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Conductor cross section AWG	24 ... 12

### Standards and Regulations

Standards/specifications	IEC 61643-21 2002
--------------------------	-------------------

### Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
------------	----------------

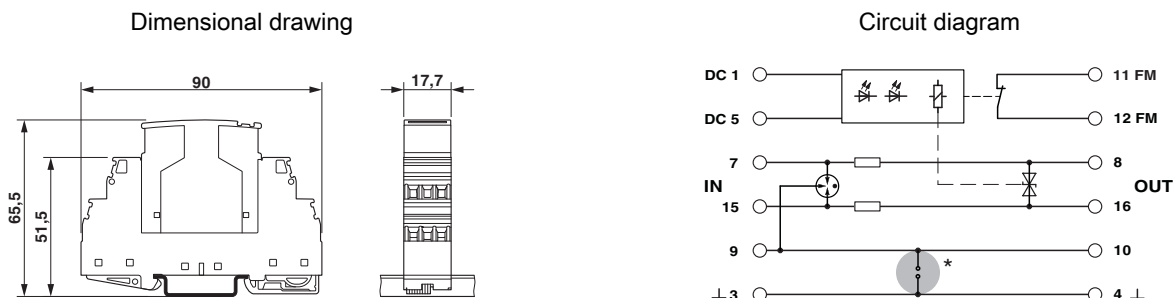
# Surge protection plug - PT 1X2-24DC/FM-ST - 2920078

## Technical data

### Environmental Product Compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

## Drawings



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

## Approvals

### Approvals

Approvals

UL Listed / EAC / EAC

Ex Approvals

### Approval details

UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 138168
-----------	--	---	---------------

EAC		EAC-Zulassung
-----	--	---------------

EAC		RU C- DE.A*30.B01561
-----	--	-------------------------

Phoenix Contact 2018 © - all rights reserved  
<http://www.phoenixcontact.com>

PHOENIX CONTACT GmbH & Co. KG  
Flachmarktstr. 8  
32825 Blomberg  
Germany  
Tel. +49 5235 300  
Fax +49 5235 3 41200  
<http://www.phoenixcontact.com>