

## Surge protection plug - PT 2X1-24AC/FM-ST - 2920146

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 two signal wires with common reference potential. Nominal voltage: 24 V AC

### Product Features

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



### Key commercial data

Packing unit	1 pc
Weight per Piece (excluding packing)	30.48 GRM
Custom tariff number	85369010
Country of origin	Germany

### Technical data

#### Dimensions

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

## Surge protection plug - PT 2X1-24AC/FM-ST - 2920146

### Technical data

#### Dimensions

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
Inflammability class according to UL 94	V0
Color	black
Standards for air 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 $U_N$	24 V AC
Maximum continuous operating voltage $U_C$	40 V DC
	28 V AC
Maximum continuous voltage $U_C$ (wire-ground)	40 V DC
	28 V AC
Nominal current $I_N$	300 mA (45°C)
Operating effective current $I_C$ at $U_C$	$\leq 5 \mu A$
Residual current $I_{PE}$	$\leq 1 \mu A$ (BE: 2x1+F)
	$\leq 10 \mu A$ (Directly grounded)
Nominal discharge current $I_n$ (8/20) $\mu s$ (Core-Earth)	10 kA
Total surge current (8/20) $\mu s$	20 kA
Max. discharge current $I_{max}$ (8/20) $\mu s$ maximum (Core-Earth)	10 kA

## Surge protection plug - PT 2X1-24AC/FM-ST - 2920146

### Technical data

#### Protective circuit

Nominal pulse current $I_{an}$ (10/1000) $\mu$ s (Core-Earth)	23 A (25 °C)
Impulse discharge current (10/350) $\mu$ s, peak value $I_{imp}$	2.5 kA (per path)
Output voltage limitation at 1 kV/ $\mu$ s (Core-Earth) spike	$\leq 70$ V
Output voltage limitation at 1 kV/ $\mu$ s (Core-GND) spike	$\leq 70$ V
Output voltage limitation at 1 kV/ $\mu$ s (Core-Earth) static	$\leq 55$ V
Output voltage limitation at 1 kV/ $\mu$ s (Core-GND) static	$\leq 55$ V
Residual voltage at $I_n$ , (conductor-ground)	$\leq 55$ V
Residual voltage with $I_{an}$ (10/1000) $\mu$ s (conductor-ground)	$\leq 65$ V
Voltage protection level $U_p$ (Core-Earth)	$\leq 55$ V (C1 - 500 V / 250 A)
	$\leq 55$ V (C3 - 25 A)
Voltage protection level $U_p$ (Core-GND)	$\leq 55$ V (C1 - 500 V / 250 A)
	$\leq 55$ V (C3 - 25 A)
Response time $t_A$ (Core-Earth)	$\leq 1$ ns
Input attenuation $a_E$ , asym.	typ. 0.5 dB ( $\leq 1.5$ MHz / 50 $\Omega$ )
	typ. 0.2 dB ( $\leq 500$ kHz / 150 $\Omega$ )
Cut-off frequency $f_g$ (3 dB), asym. (GND) in 50 Ohm system	typ. 8 MHz
Cut-off frequency $f_g$ (3 dB), asym. (GND) in 150 Ohm system	typ. 3 MHz
Resistance in series	4.7 $\Omega$ (7-8/11-12)
Max. required back-up fuse	315 mA (e.g. T ( IEC 127-2/III))
Surge current resistance (conductor-ground)	C2 - 10 kV/5 kA
	D1 - 2,5 kA
	C3 - 10 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 stranded min.	0.2 mm <sup>2</sup>
Conductor cross section stranded max.	2.5 mm <sup>2</sup>
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	4 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	12

# Surge protection plug - PT 2X1-24AC/FM-ST - 2920146

## Technical data

### Standards and Regulations

Standards/regulations	IEC 61643-21
	DIN EN 61643-21

## 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

### 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 / GOST

---

Ex Approvals

---

# Surge protection plug - PT 2X1-24AC/FM-ST - 2920146

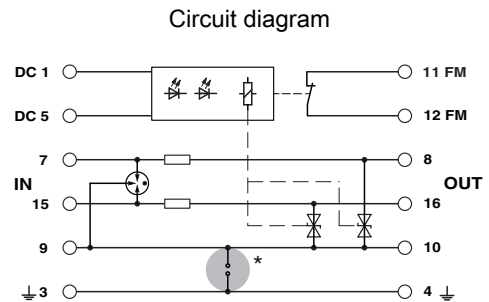
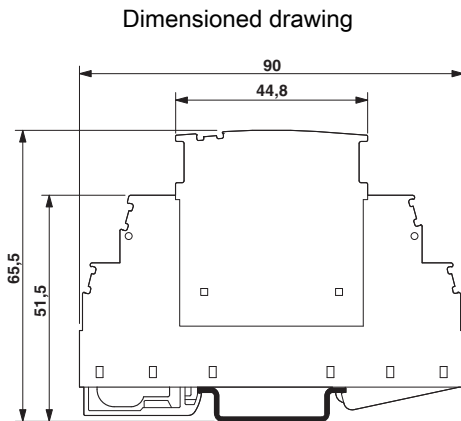
## Approvals

Approvals submitted

## Approval details



## Drawings



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

## Surge protection plug - PT 2X1-24AC/FM-ST - 2920146

Catalog photo

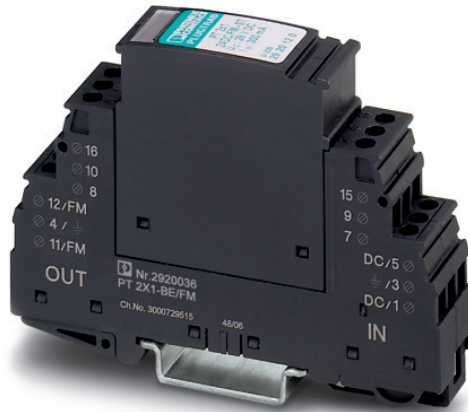


Figure may contain other products.

---

Phoenix Contact 2014 © - all rights reserved  
<http://www.phoenixcontact.com>