

# VAL-US-48/40-P - Type 2 surge protection plug



2910333

<https://www.phoenixcontact.com/us/products/2910333>

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UL Recognized type 2 SPD and IEC type 2 surge protection plug with a varistor and thermal disconnect for use with VAL-US base elements, mechanical and visual fault warning

## Product description

Surge protective device replacement plug

## Your advantages

- Thermal disconnect device for each individual plug
- Optical, mechanical status indication for the individual arresters
- Pluggable
- Mechanical coding of all slots
- Consists of base element and plug

## Commercial data

Item number	2910333
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL18
Product key	CL1321
GTIN	4055626444468
Weight per piece (including packing)	35.1 g
Weight per piece (excluding packing)	29 g
Customs tariff number	85363030
Country of origin	DE

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## Technical data

### Notes

General	Used in:
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### Product properties

Product type	Replacement plug
Product family	VALVETRAB MS
IEC test classification	II
	T2
EN type	T2
IEC power supply system	DC
Type	Male
Number of positions	1
Surge protection fault message	optical

### Insulation characteristics

Overvoltage category	III
Pollution degree	2

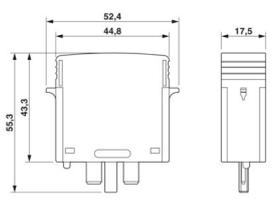
### Electrical properties

Nominal frequency $f_N$	50 Hz (60 Hz)
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### Connection data

Connection method	VALVETRAB plug-in system
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### Dimensions

Dimensional drawing	
Width	17.5 mm
Height	52.4 mm
Depth	55.3 mm
Horizontal pitch	1 Div.

### Material specifications

Color	black (RAL 9005)
Flammability rating according to UL 94	V-0
CTI value of material	600
Insulating material	PA 6.6/PBT
Material group	I

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Housing material	PA 6.6
	PBT

## Protective circuit

Direction of action	1L-N/PE
Nominal voltage $U_N$	60 V DC $\pm 10\%$
	-48 V DC $\pm 10\%$ (RRH)
Nominal frequency $f_N$	50 Hz (60 Hz)
Maximum continuous operating voltage $U_C$	100 V DC
	75 V AC
Protective conductor current $I_{PE}$	$\leq 450 \mu\text{A}$
Standby power consumption $P_C$	$\leq 35 \text{ mVA}$
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$	15 kA
Maximum discharge current $I_{max}$ (8/20) $\mu\text{s}$	40 kA
Short-circuit current rating $I_{SCCR}$	25 kA
Voltage protection level $U_p$	$\leq 0.55 \text{ kV}$
Residual voltage $U_{res}$	$\leq 0.55 \text{ kV}$ (at $I_n$ )
	$\leq 0.425 \text{ kV}$ (at 10 kA)
	$\leq 0.325 \text{ kV}$ (at 5 kA)
	$\leq 0.275 \text{ kV}$ (at 3 kA)
TOV behavior at $U_T$	100 V AC (5 s / withstand mode)
Max. backup fuse with branch wiring	100 A (gG)

## Additional technical data

Maximum discharge current $I_{max}$ (8/20) $\mu\text{s}$	40 kA
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## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 80 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Altitude	$\leq 2000 \text{ m}$ (amsl)
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	25g (Half-sine / 11 ms / 3x $\pm X$ , $\pm Y$ , $\pm Z$ )
Vibration (operation)	5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

## Approvals

### UL specifications

Maximum continuous operating voltage MCOV	100 V DC
UL type	type 4
Nominal discharge current $I_n$	20 kA
Maximum Surge Current per Phase	40 kA
Mode of protection	L-N
	L-G

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	N-G
Nominal voltage	60 V DC
Power distribution system	Single phase
Measured limiting voltage MLV	720 V
SPD Type	4CA

## Standards and regulations

### Air clearances and creepage distances

Standards/regulations	EN 60664-1 / EN 61643-11
Standards/specifications	IEC 61643-11
Note	2011
Standards/specifications	EN 61643-11
Note	2012

## Mounting

Mounting type	on base element
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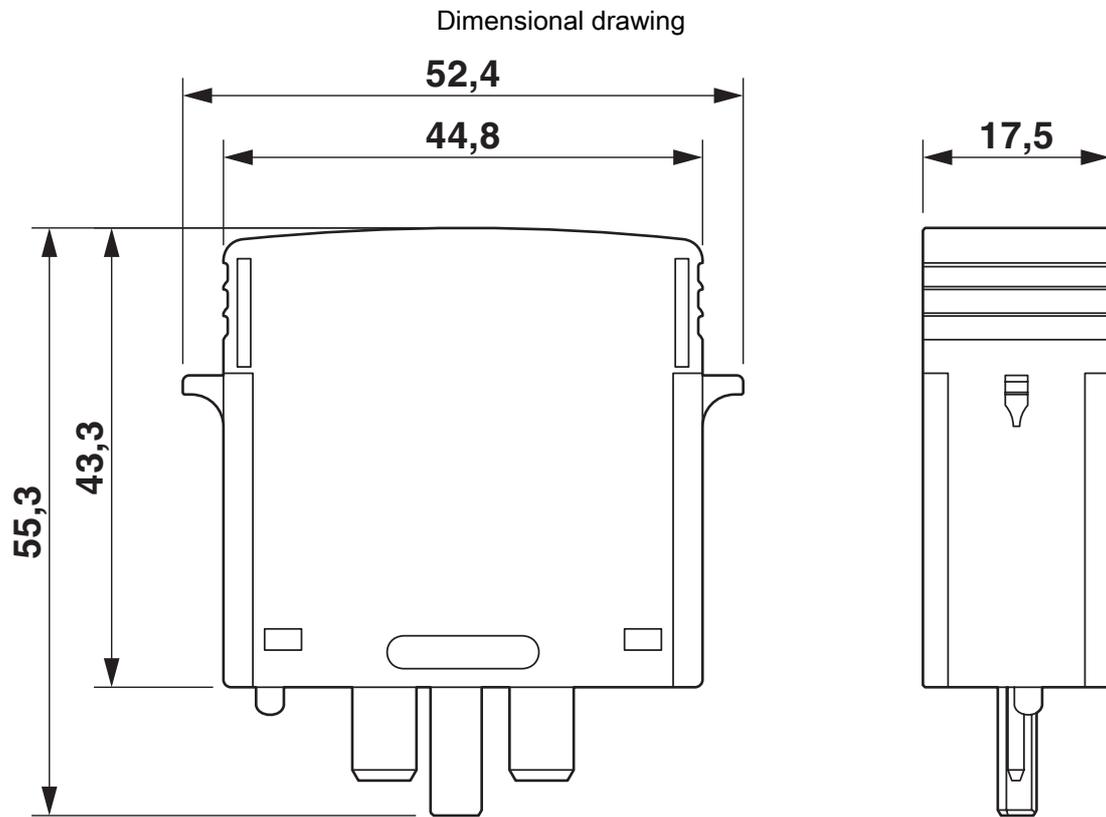
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## Drawings



Circuit diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2910333>



**cUL Recognized**  
Approval ID: FILE E 330181



**UL Recognized**  
Approval ID: FILE E 330181

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## Classifications

### ECLASS

ECLASS-13.0	27171292
ECLASS-15.0	27171292

### ETIM

ETIM 9.0	EC002496
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### UNSPSC

UNSPSC 21.0	39121600
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
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### China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

### EU REACH SVHC

REACH candidate substance (CAS No.)	No substance above 0.1 wt%
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## Accessories

### VAL-US-48/40/1+0-FM - Surge protection device

2910343

<https://www.phoenixcontact.com/us/products/2910343>



Surge protective device, single channel with remote indication contact for 48 V DC.

### VAL-US-48/40/1+1V-FM - Surge protection device

2910344

<https://www.phoenixcontact.com/us/products/2910344>



Surge protective device, two channels with remote indicator contact for 48 V DC, 2-wire plus ground

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