

# VAL-US-277/80-P - Type 1 surge protection plug



2910331

<https://www.phoenixcontact.com/us/products/2910331>

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UL Recognized type 1 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

## Commercial data

Item number	2910331
Packing unit	1 pc
Sales key	CL18
Product key	CL1151
Catalog page	Page 93 (C-4-2019)
GTIN	4055626445311
Weight per piece (including packing)	89.5 g
Weight per piece (excluding packing)	83 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

IEC test classification	II
	T2
EN type	T2
Type	Male
Product type	Replacement plug
Product family	VALVETRAB MS
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	47 mm
Depth	67.3 mm
Horizontal pitch	1 Div.

### Material specifications

Flammability rating according to UL 94	V-0
CTI value of material	600
Insulating material	PA 6.6/PBT
Material group	I
Housing material	PA 6.6
	PBT

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## Protective circuit

Mode of protection	L-N
	L-PEN
	N-PE
Direction of action	L-N / L-PEN
Nominal voltage $U_N$	240/415 V AC
Nominal frequency $f_N$	50 Hz (60 Hz)
Maximum continuous voltage $U_C$	385 V AC
Residual current $I_{PE}$	$\leq 600 \mu A$
Standby power consumption $P_C$	$\leq 230 \text{ mVA}$
Nominal discharge current $I_n$ (8/20) $\mu s$	40 kA
Maximum discharge current $I_{max}$ (8/20) $\mu s$	80 kA
Short-circuit current rating $I_{SCCR}$	25 kA
Voltage protection level $U_p$	$\leq 2 \text{ kV}$
Residual voltage $U_{res}$	$\leq 2 \text{ kV}$ (at $I_n$ )
	$\leq 1.3 \text{ kV}$ (at 10 kA)
	$\leq 1.2 \text{ kV}$ (at 5 kA)
	$\leq 1.15 \text{ kV}$ (at 3 kA)
TOV behavior at $U_T$	480 V AC (5 s / withstand mode)
	457 V AC (120 min / withstand mode)
Max. backup fuse with branch wiring	125 A (gG)

## Additional technical data

Maximum discharge current $I_{max}$ (8/20) $\mu s$	80 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)	30g (Half-sine / 11 ms / 3x $\pm X$ , $\pm Y$ , $\pm Z$ )
Vibration (operation)	7.5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

## Approvals

### UL specifications

Maximum continuous operating voltage MCOV	385 V AC
Short-circuit current rating (SCCR)	200 kA
Voltage protection rating VPR	1500 V
UL type	type 1
Nominal discharge current $I_n$	20 kA
Maximum Surge Current per Phase	80 kA

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Mode of protection	L-N
	L-G
	N-G
Nominal voltage	277/480 V AC
Power distribution system	Single phase
Nominal frequency	50/60 Hz
SPD Type	1CA

## 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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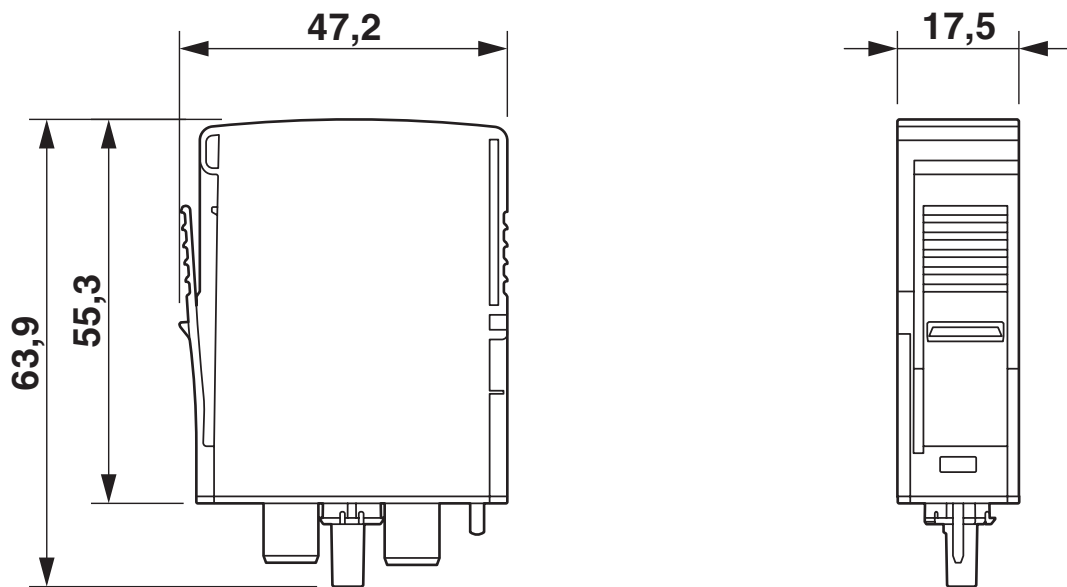
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## Drawings

Dimensional drawing



Circuit diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2910331>



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



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

**cULus Recognized**

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## Classifications

### ECLASS

ECLASS-11.0	27130890
ECLASS-13.0	27171292

### ETIM

ETIM 8.0	EC002496
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### UNSPSC

UNSPSC 21.0	39121600
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## Environmental product compliance

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



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## Accessories

### VAL-US-277/80/3+0-FM - Type 1 surge protection device

1075896

<https://www.phoenixcontact.com/us/products/1075896>



Surge protective device, three channel with remote indicator contact for 277/480 V AC, 4-wire.

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### VAL-US-277/80/1+0-FM - Type 1 surge protection device

2910377

<https://www.phoenixcontact.com/us/products/2910377>



Surge protective device, single channel with remote indicator contact for 277 V AC.

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## VAL-US-277/80/1+1V-FM - Type 1 surge protection device

2910378

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Surge protective device, two channel with remote indicator contact for 277 V AC, 2-wire plus ground.

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## VAL-US-277/80/3+1V-FM - Type 1 surge protection device

2910379

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Surge protective device, four channel with remote indicator contact for 277/480 V AC, 4-wire plus ground.

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## VAL-US-277/80/4+0-FM - Type 1 surge protection device

2910380

<https://www.phoenixcontact.com/us/products/2910380>



Surge protective device, four channel with remote indicator contact for 277/480 V AC, 4-wire plus ground.

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