

# VAL-SEC-T2-48DC-P - Type 2 surge protection plug



2907877

<https://www.phoenixcontact.com/us/products/2907877>

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Replacement plug for surge protective devices from the VALVETRAB SEC product range for DC power sources.

## Commercial data

Item number	2907877
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to order (non-returnable)
Sales key	CL01
Product key	CL1353
GTIN	4055626245027
Weight per piece (including packing)	52.3 g
Weight per piece (excluding packing)	49.6 g
Customs tariff number	85363090
Country of origin	DE

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## Technical data

### Product properties

Product type	Replacement plug
Product family	SEC Family
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 voltage $U_N$	48 V DC ... 60 V DC
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### Connection data

Connection method	pluggable
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### Dimensions

Dimensional drawing	
Width	11.7 mm
Height	46.4 mm
Depth	59.4 mm
Horizontal pitch	0.6 Div.

### Material specifications

Color	light gray (RAL 7035)
Flammability rating according to UL 94	V-0
CTI value of material	600
Insulating material	PA6.6-FR 20% GF PBT-FR
Material group	I
Housing material	PA 6.6-FR 20 % GF PBT-FR

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## Protective circuit

Mode of protection	(DC+) - (DC-)
	(DC+) - PE
	(DC-) - PE
Direction of action	(DC+/DC-) - PE
Nominal voltage $U_N$	60 V AC (TN)
	48 V DC ... 60 V DC
Maximum continuous operating voltage $U_C$	75 V DC
	75 V AC
Protective conductor current $I_{PE}$	$\leq 50 \mu\text{A DC}$
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$	20 kA
Maximum discharge current $I_{max}$ (8/20) $\mu\text{s}$	40 kA
Impulse discharge current (10/350) $\mu\text{s}$ , charge	2 As
Impulse discharge current (10/350) $\mu\text{s}$ , specific energy	4 kJ/ $\Omega$
Impulse discharge current (10/350) $\mu\text{s}$ , peak value $I_{imp}$	4 kA
Short-circuit current rating $I_{SCCR}$	0.2 kA DC (without backup fuse)
	6 kA DC (for 20 A gG/B backup fuse)
	10 kA AC (C63 A miniature circuit breaker)
	25 kA AC (for a backup fuse of up to 315 A gG)
	50 kA AC (for a backup fuse of up to 200 A gG)
Voltage protection level $U_p$	$\leq 0.5 \text{ kV}$
Residual voltage $U_{res}$	$\leq 0.5 \text{ kV}$ (at $I_n$ )
	$\leq 0.4 \text{ kV}$ (at 10 kA)
	$\leq 0.35 \text{ kV}$ (at 5 kA)
	$\leq 0.3 \text{ kV}$ (at 2 kA)
TOV behavior at $U_T$	87 V DC (5 s / withstand mode)
	100 V AC (5 s / withstand mode)
Response time $t_A$	$\leq 25 \text{ ns}$
Max. backup fuse with V-type through wiring	20 A DC (gG / B at $I_{SCCR} > 200 \text{ A}$ )
Max. backup fuse with branch wiring	20 A DC (gG / B at $I_{SCCR} > 200 \text{ A}$ )
	315 A AC

## 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	$\leq 6000 \text{ m}$ (amsl)
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	30g (Half-sine / 11 ms / 3x $\pm X$ , $\pm Y$ , $\pm Z$ )
Vibration (operation)	5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

## Approvals

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## UL specifications

Maximum continuous operating voltage MCOV	75 V DC
Short-circuit current rating (SCCR)	50 kA
Voltage protection rating VPR	400 V
Nominal discharge current $I_n$	20 kA
Mode of protection	(DC+) - G (DC-) - G
Nominal voltage	48 V DC
Power distribution system	DC
SPD Type	1CA

## Standards and regulations

Standards/specifications	IEC 61643-11
Note	2011

## EN 61643-11

Standards/specifications	EN 61643-11
Note	2012

## Mounting

Mounting type	on base element
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## Drawings

Dimensional drawing



Circuit diagram



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



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

**UAE-RoHS**

Approval ID: 23-10-88707

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## Classifications

### ECLASS

ECLASS-13.0	27171292
ECLASS-15.0	27171292

### ETIM

ETIM 10.0	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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