

VAL-SEC-T2-120DC-P - Type 2 surge protection plug



2907878

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

Your advantages

- Surge protection family for universal use with optimum energy coordination from the lightning current arrester to the device protection
- Easy to maintain due to consistently pluggable protection modules
- Excellent level of information provided by mechanical/visual status indicator and remote indication contact
- Extremely narrow design, just 12 mm per position
- Varistor arrester with a low leakage current

Commercial data

Item number	2907878
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to order (non-returnable)
Sales key	CL01
Product key	CL1353
GTIN	4055626245034
Weight per piece (including packing)	53.2 g
Weight per piece (excluding packing)	53.2 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	100 V DC ... 120 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

Protective circuit

Mode of protection	(DC+) - (DC-) (DC+/DC-) - PE
Direction of action	(DC+/DC-) - PE
Nominal voltage U_N	100 V DC ... 120 V DC
Maximum continuous operating voltage U_C	150 V DC
Protective conductor current I_{PE}	$\leq 5 \mu\text{A DC}$
Nominal discharge current I_n (8/20) μs	20 kA
Maximum discharge current I_{max} (8/20) μs	40 kA
Impulse discharge current (10/350) μs , charge	0.5 As
Impulse discharge current (10/350) μs , specific energy	0.25 kJ/ Ω
Impulse discharge current (10/350) μs , peak value I_{imp}	1 kA
Short-circuit current rating I_{SCCR}	0.2 kA (without backup fuse) 6 kA (for 20 A gG/B backup fuse)
Voltage protection level U_p	$\leq 0.85 \text{ kV}$
Residual voltage U_{res}	$\leq 0.85 \text{ kV}$ (at I_n) $\leq 0.75 \text{ kV}$ (at 10 kA) $\leq 0.65 \text{ kV}$ (at 5 kA) $\leq 0.63 \text{ kV}$ (at 4 kA) $\leq 0.57 \text{ kV}$ (at 2 kA)
TOV behavior at U_T	174 V DC (5 s / withstand mode)
Response time t_A	$\leq 25 \text{ ns}$
Max. backup fuse with V-type through wiring	20 A (gG / B at $I_{SCCR} > 200 \text{ A}$)
Max. backup fuse with branch wiring	20 A (gG / B at $I_{SCCR} > 200 \text{ A}$)

Additional technical data

Maximum continuous operating voltage U_C	135 V AC (for operation in safety lighting systems)
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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	$\leq 6000 \text{ m}$ (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

UL specifications

Maximum continuous operating voltage MCOV	150 V DC
Short-circuit current rating (SCCR)	50 kA
Voltage protection rating VPR	700 V

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Nominal discharge current I_n	20 kA
Mode of protection	(DC+) - G
	(DC-) - G
Nominal voltage	120 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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Approvals

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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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