

VAL-MS-T1/T2 1000DCPV-UD-ST - Type 1/2 surge protection plug



2801231

<https://www.phoenixcontact.com/us/products/2801231>

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Replacement plug for PV arrester combinations from the VAL-MS-T1/T2 1000DC-PV-... product range

Commercial data

Item number	2801231
Packing unit	1 pc
Minimum order quantity	10 pc
Sales key	CL01
Product key	CL1324
Catalog page	Page 59 (C-6-2015)
GTIN	4046356749220
Weight per piece (including packing)	94.7 g
Weight per piece (excluding packing)	94.7 g
Customs tariff number	85363030
Country of origin	DE

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Technical data

Product properties

Product type	Replacement plug
Product family	VALVETRAB MS
IEC test classification	PV T1 PV T2
EN type	T1 / T2
IEC power supply system	DC
Type	Male
Number of positions	1
Installation location	Interior
Installation location of the disconnect device	Internal
Accessibility	Accessible
SPD failure behavior	OCFM (Open-Circuit Failure Mode)
Surge protection fault message	optical

Data management status

Article revision	06
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Insulation characteristics

Overvoltage category	III
Pollution degree	2

Electrical properties

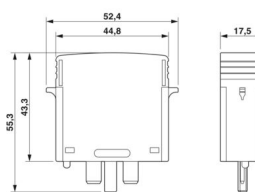
Indicator/remote signaling

Max. required back-up fuse	not required
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Connection data

Connection method	pluggable
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Dimensions

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

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Material specifications

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

Protective circuit

Direction of action	(L+)-PE & (L-)-PE & (L+)-(L-)
Standby power consumption P_C	≤ 25.00 mVA
Nominal discharge current I_n (8/20) μ s	15 kA
Maximum discharge current I_{max} (8/20) μ s	40 kA
Impulse discharge current (10/350) μ s, charge	2.5 As
Impulse discharge current (10/350) μ s, specific energy	6.25 kJ/ Ω
Impulse discharge current (10/350) μ s, peak value I_{imp}	5 kA
Voltage protection level U_p	≤ 1.8 kV
Residual voltage U_{res}	≤ 1.8 kV (at I_n)
	≤ 1.5 kV (at 5 kA)
	≤ 1.7 kV (at 10 kA)
	≤ 1.9 kV (at 20 kA)
	≤ 2.2 kV (at 30 kA)
	≤ 2.4 kV (at 40 kA)
Response time t_A	≤ 25 ns

Protective circuit DC voltage side (DC)

Open circuit voltage U_{OCSTC}	≤ 487.5 V DC
Maximum discharge current I_{max} (8/20) μ s	40 kA
Response time t_A	≤ 25 ns
Impulse discharge current (10/350) μ s, charge	2.5 As
Impulse discharge current (10/350) μ s, specific energy	6.25 kJ/ Ω
Impulse discharge current (10/350) μ s, peak value I_{imp}	5 kA
Insulation resistance R_{iso}	> 5 G Ω (at 500 V DC)
Nominal discharge current I_n (8/20) μ s	15 kA
Continuous operating current I_{CPV}	< 20 μ A
Maximum continuous operating voltage U_{CPV}	585 V DC
Short-circuit current rating I_{SCPV}	2000 A
Residual voltage U_{res}	≤ 1.8 kV (at I_n)
	≤ 1.5 kV (at 5 kA)
	≤ 1.7 kV (at 10 kA)
	≤ 1.9 kV (at 20 kA)
	≤ 2.2 kV (at 30 kA)

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	≤ 2.4 kV (at 40 kA)
Voltage protection level U_p	≤ 1.8 kV
Standby power consumption P_C	≤ 25.00 mVA

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	≤ 2000 m (amsl)
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	60g (Half-sine / 11 ms / 3x ±X, ±Y, ±Z)
Vibration (operation)	7.5g (5-500 Hz/2.5 h/XYZ)

Approvals

UL specifications

Maximum continuous operating voltage MCOV (L+) - G	1050 V DC
Nominal discharge current I_n (L+) - G	20 kA
Mode of protection	(L+) - G
Nominal voltage	875 V DC
Power distribution system	Single phase
Measured limiting voltage MLV (L+) - G	1900 V
SPD Type	4CA

Standards and regulations

Standards/specifications	EN 61643-31
Note	2019
Standards/specifications	IEC 61643-31
Note	2018

Mounting

Mounting type	on base element
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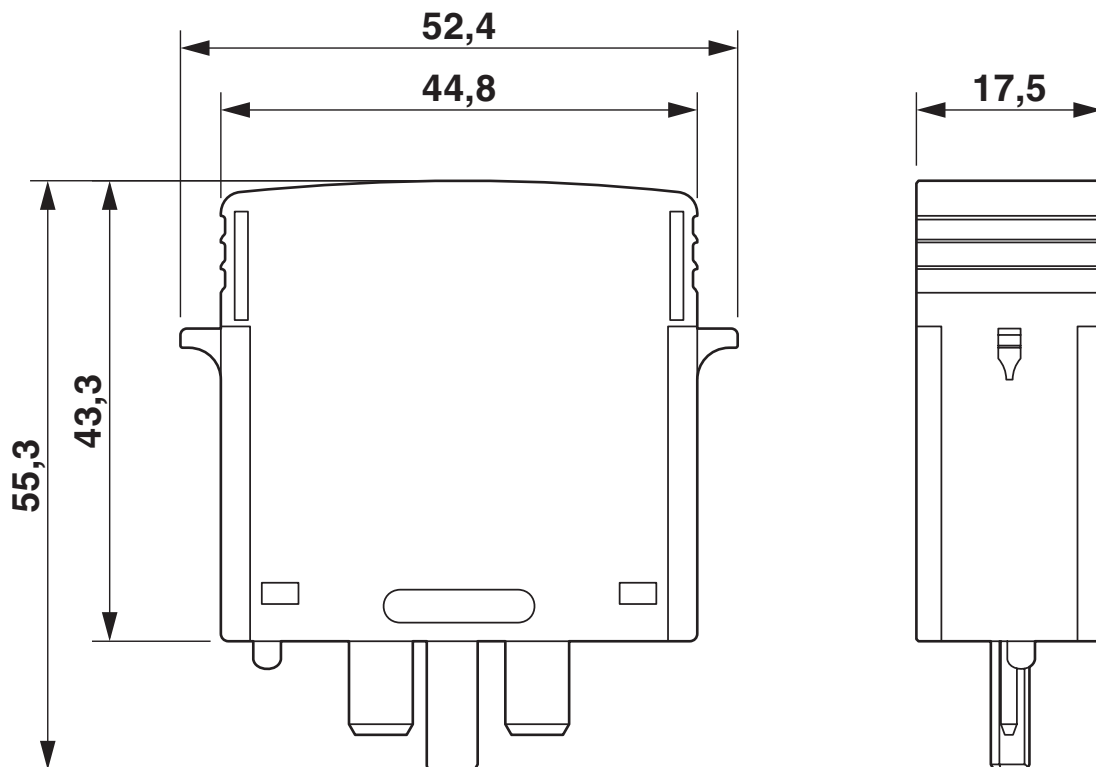
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Drawings

Circuit diagram



Dimensional drawing



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Approvals

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EAC

Approval ID: RU C-DE.*09.B.00169



KEMA-KEUR

Approval ID: 71-123544 REV.2



IECEE CB Scheme

Approval ID: NL-81006/A1

CCA

Approval ID: NTR-NL 7937

UAE-RoHS

Approval ID: 23-10-88705

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Classifications

ECLASS

ECLASS-11.0	27130890
ECLASS-13.0	27171492

ETIM

ETIM 9.0	EC002496
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UNSPSC

UNSPSC 21.0	39121620
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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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Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com