

VAL-MS 500 ST - Type 2 surge protection plug



2807609

<https://www.phoenixcontact.com/us/products/2807609>

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Surge protection connector type 2 with high-capacity varistor for VAL-MS base element, thermal monitoring, visual fault warning. Design: 500 V AC

Your advantages

- Quality proven millions of times over in the widest range of applications
- Rapid installation with bridges, thanks to industry-standard overall width of 1 HP
- Easy testing and insulation measurement, thanks to pluggable protection modules
- Wide range of applications due to various nominal voltages
- High degree of modularity provides individual solutions for every application

Commercial data

Item number	2807609
Packing unit	10 pc
Minimum order quantity	1 pc
Sales key	CL18
Product key	CL1321
GTIN	4017918075293
Weight per piece (including packing)	61.63 g
Weight per piece (excluding packing)	60.34 g
Customs tariff number	85363010
Country of origin	DE

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Technical data

Notes

Order information:	Use in DC applications on request
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General

Note	Usable in all low-voltage systems between L-N or L-PEN. Only usable in IT Systems between L-PE, if the exposed-conductive-parts (bodies) of the equipment of the low-voltage installation is connected to the earthing arrangement of the transformer substation. (interconnected earthing arrangement of the HV-transformer substation with the bodies of the LV-installation. $R_E = R_A$ accordance to IEC 60364-4-442 / VDE 0100-442 Fig. 44D / Example a)
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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	TN
	IT
Type	DIN rail module, two-section, divisible
Distance between live and grounded parts	5 mm
Number of positions	1
Surge protection fault message	optical
Arrester can be tested with CHECKMASTER from software version:	From SW rev. 1.10

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	pluggable
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Dimensions

Dimensional drawing	
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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
Material group	I
Housing material	PA 6.6

Protective circuit

Mode of protection	L-PE
	L-PEN
Direction of action	1L-N/PE
Nominal voltage U_N	400/690 V AC (TN)
	500 V AC (IT)
Nominal frequency f_N	50 Hz (60 Hz)
Maximum continuous voltage U_C	600 V AC
Protective conductor current I_{PE}	≤ 0.45 mA
Standby power consumption P_C	≤ 250 mVA
Nominal discharge current I_n (8/20) μ s	15 kA
Maximum discharge current I_{max} (8/20) μ s	30 kA
Short-circuit current rating I_{SCCR}	25 kA
Voltage protection level U_p	≤ 2.7 kV
Residual voltage U_{res}	≤ 2.7 kV (at I_n)
	≤ 2.5 kV (at 10 kA)
	≤ 2.3 kV (at 5 kA)
	≤ 2.2 kV (at 3 kA)
TOV behavior at U_T	690 V AC (5 s / withstand mode)
	762 V AC (120 min / withstand mode)
Response time t_A	≤ 25 ns
Max. backup fuse with branch wiring	125 A (gG)

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)	25g (Half-sine / 11 ms / 3x $\pm$ X, $\pm$ Y, $\pm$ Z)

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Vibration (operation)	5g (10 ... 500 Hz / 2.5 h / X, Y, Z)
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Approvals

UL specifications

Maximum continuous operating voltage MCOV (L-N)	600 V AC
Nominal discharge current I_n (L-N)	10 kA
Mode of protection	L-N
Nominal voltage	500 V AC
Power distribution system	Single phase
Nominal frequency	50/60 Hz
Measured limiting voltage MLV (L-N)	2370 V
SPD Type	4CA

Standards and regulations

Standards/specifications	IEC 61643-11
Note	2011
Standards/specifications	EN 61643-11
Note	2012

Mounting

Mounting type	on base element
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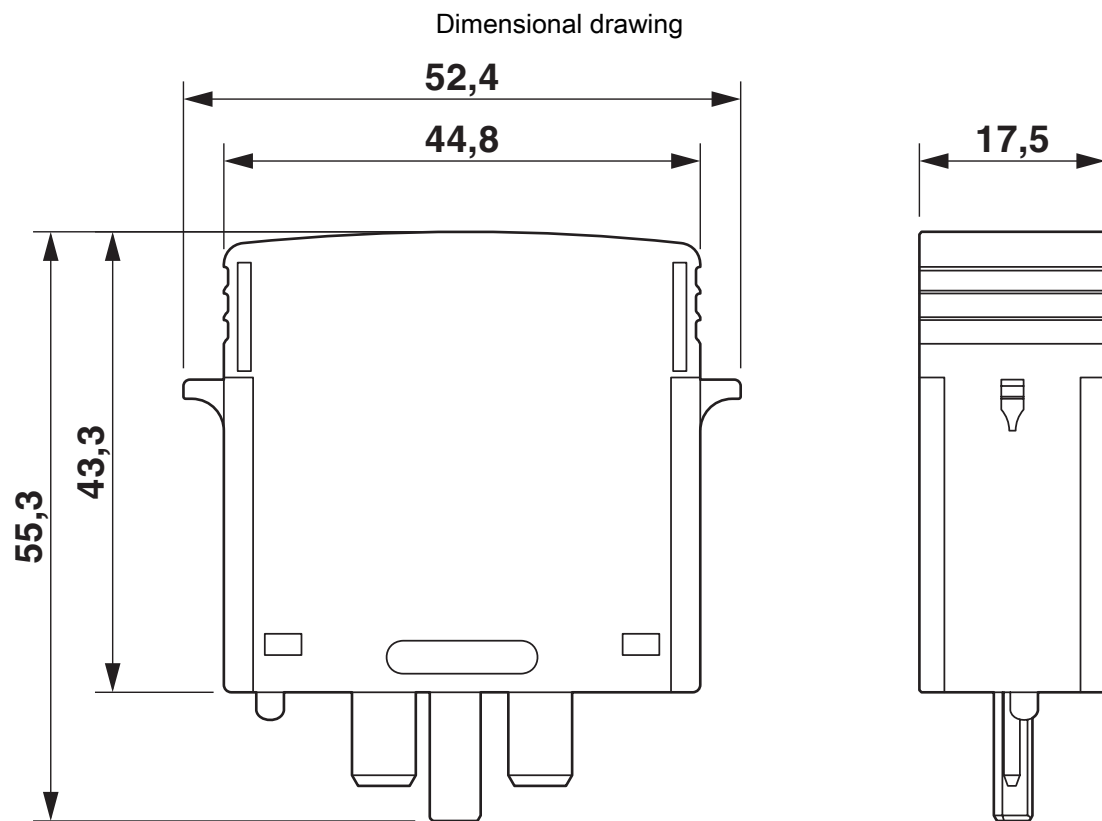
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Drawings



Circuit diagram



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Approvals

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cUL Recognized
Approval ID: FILE E 330181



UL Recognized
Approval ID: FILE E 330181



IECEE CB Scheme
Approval ID: AT 2905/M1



EAC
Approval ID: EAC-Zulassung

CCA

Approval ID: NTR-AT 1947-A



KEMA-KEUR
Approval ID: 71-148002



DNV GL
Approval ID: TAE000041M



CSA
Approval ID: 13631



ÖVE
Approval ID: 18583-001-17

UAE-RoHS

Approval ID: 22-09-51251

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Classifications

ECLASS

ECLASS-13.0	27171292
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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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EF3.0 Climate Change

CO2e kg	0.714 kg CO2e
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