

VAL-MS 320 ST - Type 2 surge protection plug



2838843

<https://www.phoenixcontact.com/us/products/2838843>

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Surge protection connector type 2 with high-capacity varistor for VAL-MS base element, thermal monitoring, visual fault warning. Design: 320 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	2838843
Packing unit	10 pc
Minimum order quantity	1 pc
Sales key	CL18
Product key	CL1321
GTIN	4017918170813
Weight per piece (including packing)	46.96 g
Weight per piece (excluding packing)	43.86 g
Customs tariff number	85363030
Country of origin	CN

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Technical data

Notes

Order information:	Use in DC applications on request
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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 TT
Type	DIN rail module, two-section, divisible
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

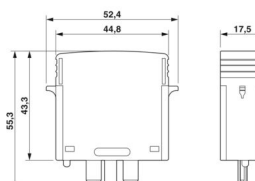
Electrical properties

Nominal frequency f_N	50 Hz (60 Hz)
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Connection data

Connection method	pluggable
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Dimensions

Dimensional drawing	
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

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CTI value of material	600
Insulating material	PA 6.6
Material group	I
Housing material	PA 6.6

Protective circuit

Mode of protection	L-N
	L-PEN
Direction of action	1L-N/PE
Nominal voltage U_N	240/415 V AC (TN)
	240/415 V AC (TT)
Nominal frequency f_N	50 Hz (60 Hz)
Maximum continuous operating voltage U_C	335 V AC
Protective conductor current I_{PE}	≤ 0.45 mA
Standby power consumption P_C	≤ 150 mVA
Nominal discharge current I_n (8/20) μ s	20 kA
Maximum discharge current I_{max} (8/20) μ s	40 kA
Short-circuit current rating I_{SCCR}	25 kA
Voltage protection level U_p	≤ 1.5 kV
Residual voltage U_{res}	≤ 1.5 kV (at I_n)
	≤ 1.3 kV (at 10 kA)
	≤ 1.2 kV (at 5 kA)
	≤ 1.1 kV (at 3 kA)
TOV behavior at U_T	415 V AC (5 s / withstand mode)
	440 V AC (120 min / safe failure 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)
Vibration (operation)	5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

Approvals

UL specifications

Maximum continuous operating voltage MCOV (L-N)	320 V AC
Nominal discharge current I_n (L-N)	20 kA
Mode of protection	L-N

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Nominal voltage	320 V AC
Power distribution system	Single phase
Nominal frequency	50/60 Hz
Measured limiting voltage MLV (L-N)	2030 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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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



IECEE CB Scheme

Approval ID: AT 2905/M1

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: 22-09-51250



ÖVE

Approval ID: 18583-001-18

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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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EF3.1 Climate Change

CO2e kg	2.226 kg CO2e
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