

VAL-MS 400/3+0/VF-FM/32 - Type 2 surge arrester



2909828

<https://www.phoenixcontact.com/us/products/2909828>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



Surge protective device combination, 3-channel, for installation on NS 35/7,5, with remote indication contact (FM) as changeover contact, voltage 400 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
- Suitable for use in insulation-monitored systems due to combination of varistor and gas discharge tube free of leakage current
- Can be used in applications with increased insulation strength, e.g., railway technology

Commercial data

Item number	2909828
Packing unit	32 pc
Minimum order quantity	32 pc
Product key	CL1321
Catalog page	Page 64 (C-4-2019)
GTIN	4055626383484
Weight per piece (including packing)	390 g
Weight per piece (excluding packing)	385.55 g
Country of origin	DE

VAL-MS 400/3+0/VF-FM/32 - Type 2 surge arrester



2909828

<https://www.phoenixcontact.com/us/products/2909828>

Technical data

Notes

General

Note	Burst test up to 4 kV passed according to DIN EN 61000-4-4.
	Insulates against repetitive pulses up to 1.5 kV.
	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).
	At altitudes > 2000 m (amsl), a lateral distance of 2 mm must be maintained between live and grounded parts.

Product properties

IEC test classification	II
	T2
EN type	T2
IEC power supply system	IT
Type	DIN rail module, two-section, divisible
Product type	Surge arrester
Product family	VALVETRAB MS
Number of positions	4
Surge protection fault message	Optical, remote indicator contact

Insulation characteristics

Overvoltage category	III
Pollution degree	2

Electrical properties

Nominal frequency f_N	50 Hz (60 Hz)
-------------------------	---------------

Indicator/remote signaling

Connection name	Remote fault indicator contact
Switching function	Changeover contact
Operating voltage	5 V AC ... 250 V AC (Altitude \leq 2000 m (amsl))
	5 V AC ... 150 V AC (Altitude > 2000 m (amsl))
	30 V DC
Operating current	5 mA AC ... 750 mA AC
	1 A DC

Connection data

Connection method	Screw connection
Screw thread	M5

VAL-MS 400/3+0/VF-FM/32 - Type 2 surge arrester



2909828

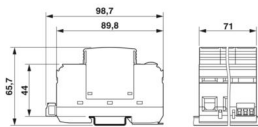
<https://www.phoenixcontact.com/us/products/2909828>

Tightening torque	3 Nm (1.5 mm ² ... 16 mm ²)
	4.5 Nm (25 mm ² ... 35 mm ²)
Stripping length	16 mm
Conductor cross section flexible	1.5 mm ² ... 25 mm ²
Conductor cross section rigid	1.5 mm ² ... 35 mm ²
Conductor cross section AWG	15 ... 2
Connection method	Fork-type cable lug
Conductor cross section flexible	1.5 mm ² ... 16 mm ²

Remote fault indicator contact

Connection method	Plug-in/screw connection via COMBICON
Screw thread	M2
Tightening torque	0.25 Nm
Stripping length	7 mm
Conductor cross section flexible	0.14 mm ² ... 1.5 mm ²
Conductor cross section rigid	0.14 mm ² ... 1.5 mm ²
Conductor cross section AWG	28 ... 16

Dimensions

Dimensional drawing	
Width	71 mm
Height	98.7 mm
Depth	65.7 mm (incl. DIN rail 7.5 mm)
Horizontal pitch	4 Div.

Material specifications

Color	black (RAL 9005)
	gray (RAL 7042)
Flammability rating according to UL 94	V-0
CTI value of material	600
Insulating material	PA 6.6/PBT
Material group	I
Housing material	PA 6.6
	PBT

Protective circuit

Mode of protection	L-PE
	L-L
Direction of action	3L-N/PE
Nominal voltage U _N	400 V AC (IT)

VAL-MS 400/3+0/VF-FM/32 - Type 2 surge arrester



2909828

<https://www.phoenixcontact.com/us/products/2909828>

Nominal frequency f_N	50 Hz (60 Hz)
Maximum continuous voltage U_C	440 V AC
Rated load current I_L	80 A
Residual current I_{PE}	$\leq 5 \mu A$
Standby power consumption P_C	$\leq 600.00 \text{ mVA}$
Nominal discharge current I_n (8/20) μs	20 kA
Maximum discharge current I_{max} (8/20) μs	40 kA
Short-circuit current rating I_{SCCR}	25 kA
Voltage protection level U_p (L-L)	$\leq 4 \text{ kV}$
Voltage protection level U_p (L-PE)	$\leq 3.5 \text{ kV}$
Residual voltage U_{res} (L-L)	$\leq 4 \text{ kV}$ (at I_n)
Residual voltage U_{res} (L-PE)	$\leq 2.3 \text{ kV}$ (at I_n)
Response time t_A (L-L)	$\leq 25 \text{ ns}$
Response time t_A (L-PE)	$\leq 100 \text{ ns}$
Max. backup fuse with V-type through wiring	80 A (gG)
Max. backup fuse with branch wiring	100 A (gG)

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20 (only when all terminal points are used)
Ambient temperature (operation)	-40 °C ... 80 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Altitude	$\leq 5000 \text{ m}$ (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)

Standards and regulations

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

Mounting

Mounting type	DIN rail: 35 mm
---------------	-----------------

VAL-MS 400/3+0/VF-FM/32 - Type 2 surge arrester



2909828

<https://www.phoenixcontact.com/us/products/2909828>

Classifications

ECLASS

ECLASS-11.0	27130805
ECLASS-13.0	27171202

ETIM

ETIM 9.0	EC000941
----------	----------

UNSPSC

UNSPSC 21.0	39121600
-------------	----------

VAL-MS 400/3+0/VF-FM/32 - Type 2 surge arrester



2909828

<https://www.phoenixcontact.com/us/products/2909828>

Environmental product compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

Phoenix Contact 2024 © - all rights reserved
<https://www.phoenixcontact.com>

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