

2800503 VAL-MS BE/SA GY

Base element for type 2 arresters of the VALVETRAB MS series of products. Design: 1-channel



Data sheet
83163835

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1 Product information

Type	VAL-MS BE/SA GY
Order No.	2800503
Project number	ACL140076
Document number	83163835

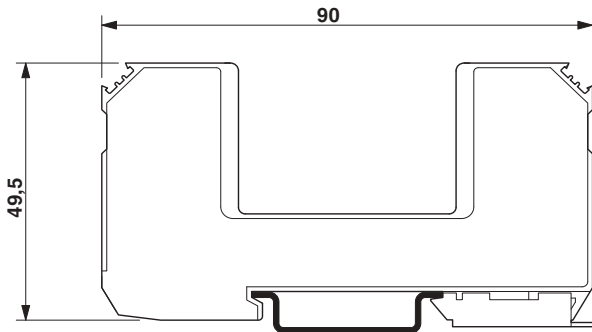
2 Change note

Comments	Name	Date	Revision
-	Chen	08.04.2011	00
Revision IEC 61643-11:2011-03	Dittert	30.10.2014	01

3 Technical data

General data	
Standards/regulations	IEC 61643-11 2011 EN 61643-11 2012
IEC test classification	T2
EN type	T2
Mounting type	DIN rail: 35 mm
Color	traffic grey A RAL 7042
Insulating material	PA 6.6
Housing material	PA 6.6
Air and creepage distances (according to EN 60664-1 and EN 61643-11)	
Pollution degree	2
Surge voltage category	III
Material group	I
CTI value of material	≥ 600
Inflammability class according to UL 94	V-0
Degree of protection	IP20 (only when all terminal points are used)
Shock (operation)	25g
Vibration (operation)	5g
Ambient temperature (operation)	-40 °C ... 80 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Permissible humidity (operation)	5 % ... 95 %
Altitude	≤ 2000 m (amsl (above mean sea level))
Width	17.6 mm
Height	90 mm
Depth	44 mm
Electrical data	
Maximum continuous operating voltage U_C	600 V AC
Rated load current I_L	80 A
Short-circuit current rating I_{SCCR}	25 kA
Current tripping factor k	1.6
Max. backup fuse with branch wiring	125 A AC (gG)
Max. backup fuse with V-type through wiring	80 A AC (gG)
Connection data	
Connection method	Screw connection
Conductor cross section stranded min.	1.5 mm ²
Conductor cross section stranded max.	25 mm ²
Conductor cross section solid min.	1.5 mm ²
Conductor cross section solid max.	35 mm ²
Cross section AWG	15 ... 2
Screw thread	M5
Tightening torque	4.5 Nm
Stripping length	16 mm
Additional descriptions	
Note	For installation into a touch protected cabinet. For applications with $U_C > 500$ V distances at the side and distances at the connection area must be minimum of 5 mm between different active parts including earthed parts.

4 Dimensional drawing



5 Circuit diagram



2800681 VAL-MS 320/40 ST GY

Surge protection connector type 2 with high-capacity varistor for VAL-MS base element, thermal monitoring, visual fault warning. Design: 320 V AC



Data sheet
00582044

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1 Product information

Type	VAL-MS 320/40 ST GY
Order No.	2800681
Project number	ACL140076
Document number	00582044

2 Change note

Comments	Name	Date	Revision
-	PxC-India	14.03.2011	01
Revision IEC 61643-11:2011-03	Jungermann	04.08.2014	02

3 Technical data

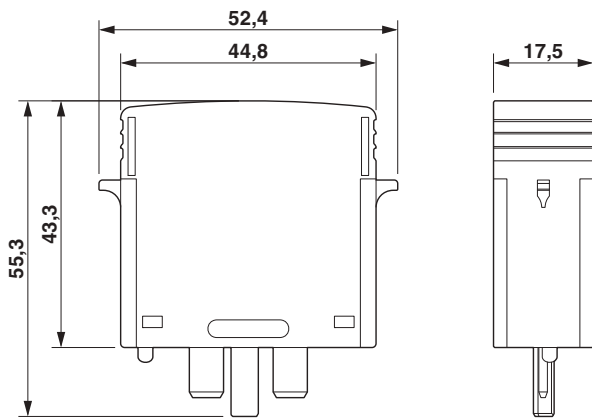
General data	
Standards/regulations	IEC 61643-11 2011 EN 61643-11 2012
IEC test classification	T2
EN type	T2
SPD design	Voltage-limiting type
Mode of protection	L-PEN L-N
Mounting type	On base element
Color	gray
Insulating material	PA 6.6
Housing material	PA 6.6
Air and creepage distances (according to EN 60664-1 and EN 61643-11)	
Pollution degree	2
Surge voltage category	III
Material group	I
CTI value of material	≥ 600
Inflammability class according to UL 94	V-0
Degree of protection	IP20
Shock (operation)	25g
Vibration (operation)	5g
Ambient temperature (operation)	-40 °C ... 80 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Permissible humidity (operation)	5 % ... 95 %
Altitude	≤ 2000 m (amsl (above mean sea level))
Width	17.5 mm
Height	52.4 mm
Depth	55.3 mm
Electrical data	
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
Reference test voltage U_{REF}	255 V AC
Residual 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. required backup fuse with branch wiring	125 A AC (gG)

Connection data

Connection method

VALVETRAB plug-in system

4 Dimensional drawing



5 Circuit diagram



2800688

F-MS 12 ST GY

Surge protection plug type 2, with N-PE total current spark gap for base element.



Data sheet
00581298

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1 Product information

Type	F-MS 12 ST GY
Order No.	2800688
Project number	ACL140076
Document number	00581298

2 Change note

Comments	Name	Date	Revision
-	Chen	14.03.2011	01
Revision IEC 61643-11:2011-03	Jungermann	04.08.2014	02

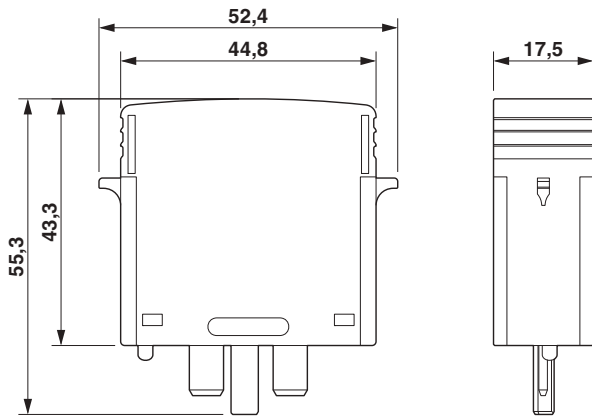
3 Technical data

General data	
Standards/regulations	IEC 61643-11 2011 EN 61643-11 2012
IEC test classification	T2
EN type	T2
SPD design	Voltage-switching type
Mode of protection	N-PE
Mounting type	On base element
Color	gray
Insulating material	PA 6.6
Housing material	PA 6.6
Air and creepage distances (according to EN 60664-1 and EN 61643-11)	
Pollution degree	2
Surge voltage category	III
Material group	I
CTI value of material	≥ 600
Inflammability class according to UL 94	V-0
Degree of protection	IP20
Shock (operation)	25g
Vibration (operation)	5g
Ambient temperature (operation)	-40 °C ... 80 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Permissible humidity (operation)	5 % ... 95 %
Altitude	≤ 2000 m (amsl (above mean sea level))
Width	17.5 mm
Height	52.4 mm
Depth	55.3 mm
Electrical data	
Nominal voltage U_N	240/415 V AC (TN - only N-PE) 240/415 V AC (TT - only N-PE)
Nominal frequency f_N	50 Hz (60 Hz)
Maximum continuous operating voltage U_C	260 V AC
Reference test voltage U_{REF}	255 V AC
Residual current I_{PE}	≤ 5 μA
Standby power consumption P_C	≤ 1.5 mVA
Nominal discharge current I_n (8/20) μs	20 kA
Maximum discharge current I_{max} (8/20) μs	40 kA
Follow current interrupt rating I_{fi}	100 A (260 V)
Voltage protection level U_p	≤ 1.5 kV
Residual voltage U_{res}	≤ 0.4 kV (at I_n) ≤ 0.25 kV (at 10 kA) ≤ 0.15 kV (at 5 kA) ≤ 0.1 kV (at 3 kA)
Front of wave sparkover voltage at 6 kV (1.2/50) μs	≤ 1.5 kV
TOV behavior at U_T	1200 V AC (200 ms / withstand mode)
Response time t_A	≤ 100 ns
Insulation resistance R_{ISO}	> 1 GΩ (100 V DC)

Connection data

Connection method

VALVETRAB plug-in system

4 Dimensional drawing**5 Circuit diagram**