

SURGE ARRESTER FOR DC SYSTEM VOLTAGE TYPE PROXAR-IVN DC IN SILICONE HOUSING

CATALOGUE CHART

APPLICATION

PROXAR-IVN DC surge arresters in silicone housing are designed to protect DC traction networks against multiple lightning, switching and temporary overvoltage's in power supply stations, locomotives, trams, and DC cables.

OPERATING CONDITIONS

Surge arresters adapted for outdoor and indoor installation in temperate and tropical climate. Possibility of installation in any working position. Dimension of surge arresters enable installation in switchgear in minimum pole distances 150 mm.

ADVANTAGE

- Low residual voltage
- High energy input capacity
- Stable U-I characteristics even after absorbing multiple surges
- Housing resistant to rough handling
- Explosion and shatter – resistant design
- Pollution resistant and UV
- Ability to install in any position (vertically or horizontally)
- Maintenance free
- Low weight, easy transportation and storage
- Ability to work in horizontal position
- Stable against shock and vibration

ADDITIONAL EQUIPMENT

Additional accessories include a base for mounting surge arresters, as well as line and grounding accessories (see: accessories for surge arresters).

ELECTRICAL DETAILS

Arrester classification according to EN 50526-1: 2012

Line discharge class according to IEC 60099-4: 2009

System voltage (U_{NDC})

Continuous operating voltage (U_{CDC})

Nominal discharge current I_n 8/20 μs

High current impulse I_{hc} 4/10 μs

Long duration current impulse resistance

Long duration impulse current at operating duty test

Energy absorption capability, 2 impulses

Energy absorption capability in operating duty test

Short circuit rating

Service conditions:

- temperature
- altitude up to

Mechanical strength:

- SLL specified long-term load
- SSL specified short-term load
- torque
- tensile

DC-B

4

0.6 - 3 kV

1.0 – 4.7 kV

20 kA

200 kA

1350 A

2000 μs

1000 A

2800 μs

1600 A

2800 μs

13.5 kJ/kV of U_c dc

10,5 kJ.kV of U_c dc

40 kA dc for 0.2s*

-40 °C do +60 °C**

1000 m**

1200 Nm

1800 Nm

650 Nm

20 kN

Mechanical shock resistance and vibration:

- according to PN-EN 60068-2-6:2008
- according to PN-EN 60068-2-27:2009
- according to PN-EN 661373:2011

3 g 10 ÷ 500 Hz

30 g

category 1, class B

* structure of surge arrester is resistant on 50 kA short circuit current according to Report no 8060/NBR/10 IEL

**for higher parameters please contact with manufacturer

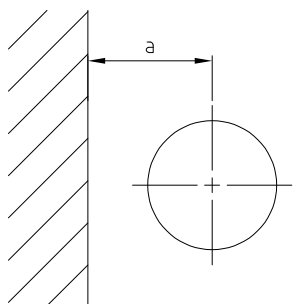
ELECTRICAL DATA

Type PROXAR-IVN DC	Continuous operating voltage Uc(DC) kV	Residual voltage in kV pk at a specified impulse current							
		Wave 1/... μs	Wave 8/20 μs				Wave 30/60 μs		
		20kA	5kA	10kA	20kA	40kA	500A	1kA	2kA
1.0	1.0	2.97	2.30	2.42	2.60	2.87	1.99	2.03	2.10
1.5	1.5	4.57	3.53	3.74	4.01	4.39	3.06	3.15	3.24
2.0	2.0	5.95	4.63	4.90	5.28	5.80	3.98	4.06	4.23
2.5	2.5	7.51	5.81	6.14	6.59	7.22	5.03	5.18	5.33
3.0	3.0	8.92	6.95	7.38	7.91	8.65	5.99	6.12	6.37
4.2	4.2	12.10	9.40	10.00	10.90	12.00	8.10	8.40	8.70
4.5	4.5	13.09	10.17	10.82	11.80	12.98	8.76	9.08	9.41
4.7	4.7	13.64	10.60	11.28	12.30	13.53	9.13	9.47	9.81

Note: It is possible to make PROXAR-IVN DC surge arrester with a different range of continuous operating voltage.

TECHNICAL DATA FOR HOUSING

Type	External insulation		Minimal distances	H	Creepage distance	Flash-over distance	Housing number	Weight
PROXAR-IVN DC	DC voltage wet (60s)	1.2/50 μs dry	Distance between arrester and the nearest return path structure „a”					
kV	kV	kV	mm	mm	mm	mm	No	kg
1.0	29.5	75	100	165	318	165	01	2.3
1.5			100					2.5
2.0			100					2.7
2.5			100					3.0
3.0			100					3.2
4.2			100					3.5
4.5			100					3.6
4.7			100					3.6



Minimal mounting distances for surge arresters

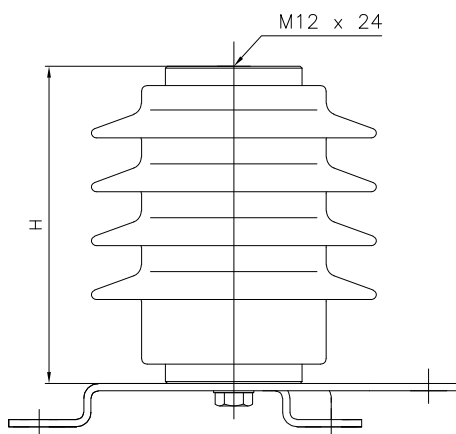


Fig.1

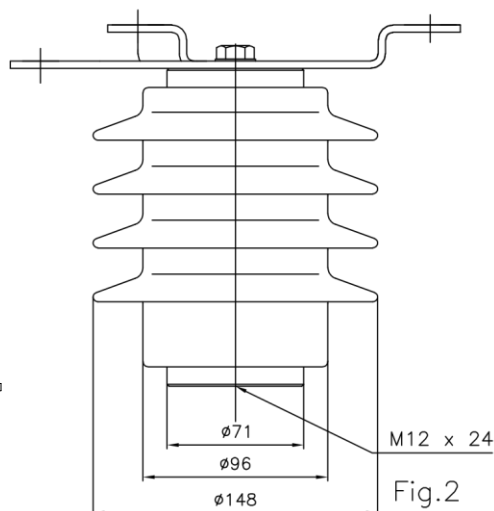


Fig.2

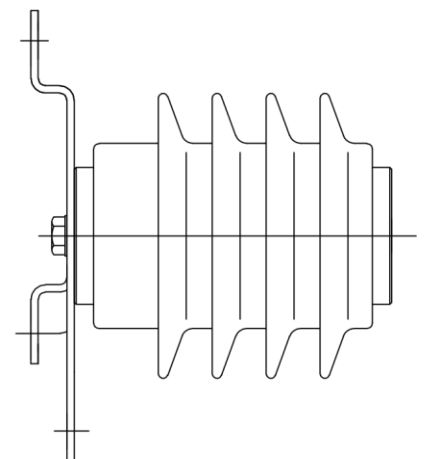


Fig.3

The above drawings show the configuration of the surge arresters in operation. Drawings No 1 presents vertical system of assembling. Drawings No 2 presents reverse system of assembling surge arrester. Drawings No 3 presents horizontal system of assembling. Below the figures are presenting different options line and earth accessories available for use in surge arrester type PROXAR-IVN DC For horizontal working configuration of surge arresters is this same option like for vertical working.

ATTENTION: The maximum bending moment for the insulating bracket is 50 Nm.

<div>LINE ACCESSORIES</div> <div> <div>LINE TERMINAL 1</div> <div>Weight: 0.23kg</div> <div>M12 Stainless steel</div> </div>	<div> <div>LINE TERMINAL 6</div> <div>Weight: 0.069kg</div> <div>M12 Stainless steel</div> </div>	
<div>EARTH ACCESSORIES</div> <div> <div>INSULATING BRACKET WITH DISCONNECTOR 1</div> <div>Weight: 0.44kg</div> <div>M12</div> </div>	<div> <div>EARTH TERMINAL 6</div> <div>Weight: 0.069kg</div> <div>M12 Stainless steel</div> </div>	
<div> <div>MOUNTING BASE 1</div> <div>Weight: 1.18kg</div> <div>Stainless steel</div> </div>	<div> <div>INSULATING BASE 2</div> <div>Weight: 2.06kg</div> <div>R135 Cycloaliphatic resin</div> </div>	<div> <div>MOUNTING BASE 3 (for traction pole)</div> <div>Weight: 4.54kg</div> <div>Traction pole Hot-dip galvanized</div> </div>
<div> <div>MOUNTING BASE 4 (for traction pole)</div> <div>Weight: 2.97kg</div> <div>Stainless steel</div> </div>	<div> <div>MOUNTING BASE 5 (for traction pole)</div> <div>Weight: 1.47kg</div> <div>Stainless steel</div> </div>	

Fig.4. Equipment for surge arresters type PROXAR-IVN DC

Order configurator***:

	1	2	3	4	5	6	7	8	9	10
PROXAR-IVN			DC							
***) Empty fields to fill.										
1. Type of product	PROXAR-IVN									
2. Continuous operating voltage U_c	See table – ELECTRICAL DATA Uc									
3. Voltage type	Direct voltage DC									
4. Mounting (according fig. 1; 2; 3)	Vertical 1 (Fig. 1) 1 Reversed installation (Fig. 2) 2 Horizontal (Fig. 3) 3									
5. Base (according fig. 4)	Without base 0 Mounting base 1 1 Insulating base 2 2									
6. Line terminal (according fig. 4)	Without line terminal 0 Line terminal 1 1 Line terminal 6 6									
7. Earth terminal (according fig. 4)	Without earth terminal 0 Insulating bracket with disconnector 1**** 1 Earth terminal 6 6									
8. Mounting base for traction pole (according fig. 4)	Without mounting base for traction pole 0 Mounting base 3 3 Mounting base 4 4 Mounting base 5 5									
9. Housing number	See table – TECHNICAL DATA FOR HOUSING Housing number									
10. Design	– standard 0 – non-standard (to be agreed with the manufacturer) X									

****) Before sending the order please contact with manufacturer

Order example:

1	2	3	4	5	6	7	8	9	10
PROXAR-IVN	4.5	DC	1	1	1	0	0	01	0

PROXAR-IVN 4.5 DC 11100010 – 3 pcs.

Description: Surge arrester type **PROXAR-IVN** with continuous operating voltage $U_c=4.5$ kV for **DC** system in vertical mounting version -**1**; with mounting base – **1**; line terminal – **1**; without earth terminal – **0**; without mounting base – **0**; housing number – **01**; in standard design **0**.

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Poland



Check out our [MV DC surge arresters](#)

ATTENTION

Note: The manufacturer reserves the right to change technical data or designee without prior notice.

PROXAR® is a registered trademark of the latest family of surge arresters made by Protektel.