



INDOOR SURGE ARRESTER TYPE PROXAR-IIW AC IN SILICONE HOUSING

CATALOGUE CARD

APPLICATION

Surge arresters type **PROXAR-IIW AC** in silicone housing are intended for protection AC power engineering networks against multiple lightning and switching overvoltages in MV switchgear, vacuum circuit breakers, MV cables and HV cable sheaths, motors, transformers and capacitors banks. This surge arrester is destined to all special technical requirements as well.

OPERATING CONDITIONS

Surge arresters adapted for indoor installation and temperate and tropical climate up to 1000 m over the level sea. Dimension of surge arresters enables installation in MV switchgear in minimum pole pitch. Inside the connection boxes of MV electrical motor. Cross-bonding box - protection of the HV sheaths cables.

ADVANTAGES

- Low residual voltage
- High energy input capacity – high energy absorption capacity
- Stable U-I characteristics even after multiple strokes
- Housing resistant to rough handling
- High resistance to damage under atmospheric conditions
- High short circuit capability
- High durability and operating reliability under various environmental conditions
- Ability to install in any position (vertically or horizontally)
- Easy mounting and maintenance free
- Small dimensions and weight

ADDITIONAL EQUIPMENT

For customer's request manufacturer can deliver accessories accordingly to customer's requirements. Below figure 1 shows the surge arrester type PROXAR-IIW AC, figure 2 presents line and earth terminals.

ELECTRICAL DATA

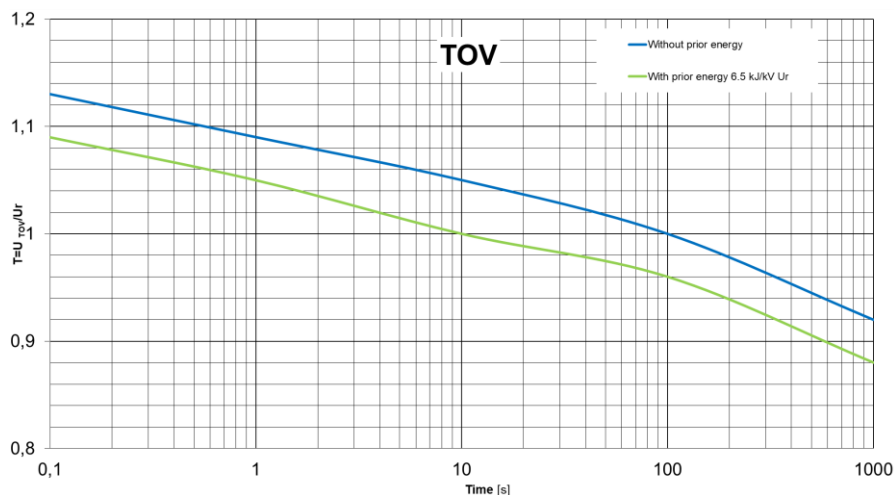
Arrester classification according to EN 60099-4:2014	SL (Station Low)
Line discharge class according to IEC 60099-4:2009	2
System voltage (Us)	1 – 52 kV
Rated voltage (Ur)	1.3 – 51 kV
Nominal discharge current In 8/20 μ s	10 kA
High current impulse Ihc 4/10 μ s	100 kA
Rated repetitive charge transfer rating Qrs	1,6 C
Rated thermal Energy Wth	7,0 kJ/kV Ur
Single impulse energy capability (impulse duration 2 ms – 4 ms)	3,5 kJ/kV Ur
Long duration current impulse withstand 2 ms (based on Qrs)	600 A
Short circuit rating	31.5 kA/0.2s
Service conditions:	
- ambient temperature	-45 °C do +60 °C*
- altitude up to	1000 m*
- frequency	48-62 Hz
Mechanical data:	
- specified long-term load (SLL)	350 Nm
- specified short-term load (SSL)	560 Nm
- torsional strength	100 Nm
- vertical load	1000 N

*) For the other values please contact with manufacturer.

Type PROXAR-IIW AC	Rated voltage (AC) Ur	Max. continuous operating voltage (AC) Uc	Residual voltage in [kV] peak at a specified impulse current								
			Wave 1/... μs		Wave 8/20 μs				Wave 30/60 μs		
			5kA	10kA	2.5kA	5kA	10kA	20kA	0.25kA	0.5kA	1kA
	kV	kV	kV	kV	kV	kV	kV	kV	kV	kV	
1.3	1.3	1.0	3.5	3.9	3.0	3.1	3.4	3.8	2.6	2.7	2.8
1.7	1.7	1.3	4.2	4.7	3.6	3.8	4.1	4.6	3.1	3.2	3.4
2.0	2.0	1.6	6.1	6.8	5.2	5.4	5.9	6.5	4.5	4.6	4.8
2.3	2.3	1.8	6.6	7.4	5.6	5.9	6.4	7.1	4.9	5.0	5.2
2.5	2.5	2.0	6.7	7.5	5.7	5.9	6.5	7.2	4.9	5.1	5.3
3.1	3.1	2.5	8.0	9.0	6.9	7.1	7.8	8.7	5.9	6.1	6.4
3.4	3.4	2.75	8.9	9.9	7.6	7.9	8.6	9.5	6.5	6.7	7.1
3.8	3.8	3.0	10.8	12.1	9.2	9.6	10.5	11.7	8.0	8.2	8.6
4.5	4.5	3.6	12.4	13.8	10.6	11.0	12.0	13.3	9.1	9.4	9.8
5.0	5.0	4.0	13.1	14.6	11.2	11.6	12.7	14.1	9.7	9.9	10.4
6.0	6.0	4.8	15.9	17.7	13.6	14.1	15.4	17.1	11.7	12.0	12.6
6.3	6.3	5.0	16.2	18.1	13.8	14.4	15.7	17.4	11.9	12.2	12.9
7.0	7.0	5.6	17.7	19.8	15.1	15.7	17.2	19.1	13.1	13.4	14.1
8.0	8.0	6.4	20.2	22.6	17.3	18.0	19.7	21.8	14.9	15.3	16.1
9.0	9.0	7.2	22.8	25.4	19.5	20.2	22.1	24.5	16.8	17.2	18.1
10.0	10.0	8.0	25.3	28.2	21.6	22.5	24.6	27.3	18.7	19.2	20.1
11.0	11.0	8.8	27.8	31.1	23.8	24.7	27.0	30.0	20.5	21.1	22.2
11.3	11.3	9.0	28.6	31.9	24.4	25.4	27.8	30.8	21.1	21.7	22.8
12.0	12.0	9.6	30.4	33.9	25.9	27.0	29.5	32.7	22.4	23.0	24.2
13.0	13.0	10.4	32.9	36.7	28.1	29.2	31.9	35.4	24.3	24.9	26.2
14.0	14.0	11.2	35.4	39.5	30.3	31.5	34.4	38.2	26.1	26.8	28.2
15.0	15.0	12.0	38.0	42.4	32.4	33.7	36.8	40.9	28.0	28.7	30.2
16.0	16.0	12.8	40.5	45.2	34.6	36.0	39.3	43.6	29.9	30.7	32.2
17.0	17.0	13.6	43.0	48.0	36.7	38.2	41.8	46.4	31.7	32.6	34.2
18.0	18.0	14.4	45.5	50.8	38.9	40.5	44.2	49.1	33.6	34.5	36.3
19.0	19.0	15.2	48.1	53.7	41.1	42.7	46.7	51.8	35.5	36.4	38.3
20.0	20.0	16.0	50.6	56.5	43.2	45.0	49.1	54.5	37.3	38.3	40.3
21.0	21.0	16.8	53.1	59.3	45.4	47.2	51.6	57.3	39.2	40.2	42.3
22.0	22.0	17.6	55.7	62.1	47.6	49.4	54.0	60.0	41.1	42.2	44.3
23.0	23.0	18.4	58.2	65.0	49.7	51.7	56.5	62.7	42.9	44.1	46.3
24.0	24.0	19.2	60.7	67.8	51.9	53.9	59.0	65.4	44.8	46.0	48.3
25.0	25.0	20.0	63.3	70.6	54.0	56.2	61.4	68.2	46.7	47.9	50.4
26.0	26.0	20.8	65.8	73.4	56.2	58.4	63.9	70.9	48.5	49.8	52.4
27.0	27.0	21.6	68.3	76.3	58.4	60.7	66.3	73.6	50.4	51.7	54.4
28.0	28.0	22.4	70.8	79.1	60.5	62.9	68.8	76.3	52.3	53.6	56.4
29.0	29.0	23.2	73.4	81.9	62.7	65.2	71.2	79.1	54.1	55.6	58.4
30.0	30.0	24.0	75.9	84.7	64.9	67.4	73.7	81.8	56.0	57.5	60.4
33.0	33.0	26.4	83.5	93.2	71.3	74.2	81.1	90.0	61.6	63.2	66.5
36.0	36.0	28.8	91.1	101.7	77.8	80.9	88.4	98.2	67.2	69.0	72.5
39.0	39.0	31.2	98.7	110.2	84.3	87.7	95.8	106.3	72.8	74.7	78.6
42.0	42.0	33.6	106.3	118.6	90.8	94.4	103.2	114.5	78.4	80.5	84.6
45.0	45.0	36.0	113.9	127.1	97.3	101.1	110.5	122.7	84.0	86.2	90.6
48.0	48.0	38.4	121.4	135.6	103.8	107.9	117.9	130.9	89.6	92.0	96.7
51.0	51.0	40.8	129.0	144.1	110.2	114.6	125.3	139.1	95.2	97.7	102.7

Attention: There is possibility to make surge arresters PROXAR-IIW AC in different nominal and continuous operating voltage.

TOV CHARACTERISTIC



TOV characteristic for PROXAR-IIW AC

Power frequency voltage versus time characteristic TOV without prior energy

U_{TOV} dla $t=1$ s $1.09 U_r = 1.363 U_c$
 U_{TOV} dla $t=3$ s $1.07 U_r = 1.338 U_c$
 U_{TOV} dla $t=10$ s $1.05 U_r = 1.313 U_c$

Power frequency voltage versus time characteristic TOV with prior energy.

U_{TOV} dla $t=1$ s $1.05 U_r = 1.313 U_c$
 U_{TOV} dla $t=3$ s $1.03 U_r = 1.288 U_c$
 U_{TOV} dla $t=10$ s $1.00 U_r = 1.250 U_c$

TECHNICAL DATA FOR HOUSING

Type PROXAR-IIW AC	Insulation withstand voltage		Minimal distances		Height H mm	Creepage distance L mm	Housing number	Weight kV
	50 Hz (60s)	1.2/50 μ s dry	Distance between arresters „b”	Distance between arrester and the nearest grounded structure „a”				
	kV	kV	mm	mm				
1.3	22	48	64	42	96	97	01	0.81
1.7			66	44				0.82
2.0			68	46				0.84
2.3			70	48				0.86
2.5			72	50				0.88
3.1			74	52				0.90
3.4			76	54				0.92
3.8			98	76				0.94
4.5			100	78				0.96
5.0			102	80				0.98
6.0			109	87				1.00
1.3			29	63				64
1.7	66	44			0.92			
2.0	68	46			0.94			
2.3	70	48			0.96			
2.5	72	50			0.98			
3.1	74	52			1.00			
3.4	76	54			1.01			
3.8	98	76			1.02			
4.5	100	78			1.03			
5.0	102	80			1.04			
6.0	109	87			1.05			
6.3	114	92			1.06			
7.0	31	69	124	102	137	132	03	1.10
8.0			129	107				1.15
9.0			134	112				1.20
10.0			139	117				1.25
11.0			141	119				1.30
12.0	143	121	1.35					
7.0	36	79	124	102	155	150	04	1.25
8.0			129	107				1.30
9.0			134	112				1.35
10.0			139	117				1.40
11.0	45	99	141	119	195	190	05	1.65
12.0			143	121				1.70
13.0			145	123				1.75
14.0			147	125				1.80
15.0			149	127				1.85
16.0	55	121	169	147	240	235	06	1.90
17.0			174	152				2.00
18.0			184	162				2.10
19.0			189	167				2.20
20.0			194	172				2.30
21.0			199	177				2.40
22.0			204	182				2.50
16.0	65	142	169	147	280	275	07	2.00
17.0			174	152				2.10
18.0			184	162				2.20
19.0			189	167				2.30
20.0			194	172				2.40
21.0			199	177				2.50
22.0			204	182				2.60
23.0			80	175				210
24.0	229	207			2.80			
25.0	239	217			2.85			
26.0	244	222			2.90			
27.0	249	227			3.00			
28.0	254	232			3.10			
29.0	259	237			3.20			
30.0	264	242	3.30					
33.0	89	195	309	287	386	381	09	3.45
36.0			316	294				3.60
39.0	108	236	334	312	466	461	10	4.50
42.0			349	327				4.65
45.0			360	338				4.80
48.0	126	276	379	357	546	541	11	5.00
51.0			394	372				5.15

The figure below shows the installation of surge arresters type PROXAR-IIW AC. Figure 1 shows a vertical installation. There is also a possibility to work / install surge arresters in a horizontal position. Completion of surge arresters to work in horizontal position is the same as for vertical installation.

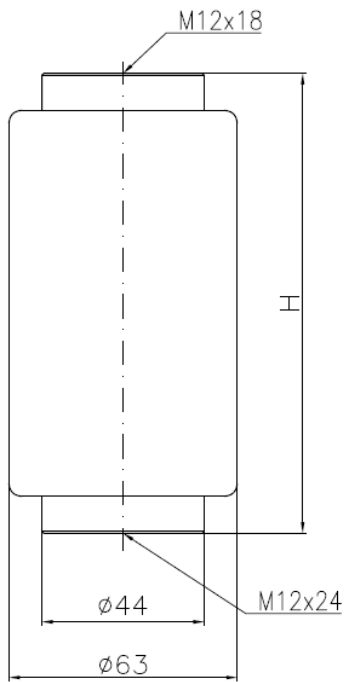


Fig. 1. Surge arrester type PROXAR-IIW AC

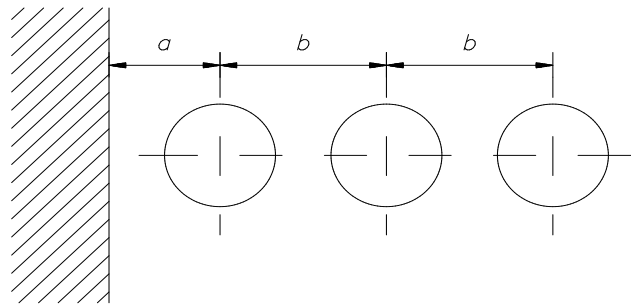


Fig. 2 Minimal mounting distances of surge arresters.

LINE ACCESSORIES	LINE TERMINAL 1	Weight: 0.12kg	LINE TERMINAL 2	Weight: 0.058kg
		Stainless steel		Stainless steel
EARTH ACCESSORIES	EARTH TERMINAL 1	Weight: 0.12kg	EARTH TERMINAL 2	Weight: 0.058kg
		Stainless steel		Stainless steel

Fig. 3. Equipment for surge arrester type PROXAR-IIW AC

Order configurator**:

I	II	III	IV	V	VI	VII	VIII
PROXAR-IIW		AC					

***) Empty fields to fill.

I. Type of product

PROXAR-IIW

II. Rated voltage Ur

See table – ELECTRICAL DATA

Ur

III. Voltage type

Alternating voltage (48 – 62 Hz)

AC

IV. Assembly (according fig. on page 4)

Vertical 1

1

Horizontal 2

2

V. Base (according fig. on page 4)

Without base

0

VI. Line terminal (according fig. on page 4)

Without line terminal

0

Line terminal 1

1

Line terminal 2

2

VII. Earth terminal (according fig. on page 4)

Without earth terminal

0

Earth terminal 1

1

Earth terminal 2

2

VIII. Housing number

See table – TECHNICAL DATA FOR HOUSING

Housing number

Order example:

I	II	III	IV	V	VI	VII	VIII
PROXAR-IIW	9	AC	1	0	1	1	0 4

PROXAR-IIW 9 AC 101104 – 3 pcs.

Description: Surge arrester type **PROXAR-IIW** of rated voltage **Ur=9.0** kV for **AC** system in vertical mounting version **-1** without base - **0**, line terminal - **1**, earth terminal – **1**, housing number – **04** .

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Note:

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

PROXAR® is a registered trademark newest family of surge arresters produced by Protektel