

# Surge arrester POLIM-H..N

## Protection of

- Transformers
- Motors
- Generators
- Cables
- Cable sheaths
- Rolling Stock & railroad installations
- Capacitor banks
- other medium voltage equipment

## Application

- AC
- Outdoor and Indoor



# Technical Data

Metal oxide surge arrester without spark gaps. Direct moulded silicone housing, grey color. Designed and tested according to IEC 60099-4

Nominal discharge current $I_n$ 8/20 $\mu$ s	20 kA (pk)
Line discharge class	4
High current impulse $I_{hc}$ 4/10 $\mu$ s	100 kA (pk)
Long duration current impulse	1350 A / 2000 $\mu$ s
Short circuit rating $I_s$ 50 Hz	63 kA (rms) for 0.2 s
Classification according to IEEE (ANSI) C62.11	station class high energy

The thermal stability of the MO-surge arrester is proved in the operating duty test according to LD4 which gives an energy input of 13.3 kJ/kV ( $U_c$ ).

Power frequency voltage versus time characteristic (TOV) with prior energy input.

$$t = 1 \text{ s } U_{\text{TOV}} = 1.375 \times U_c$$

$$t = 3 \text{ s } U_{\text{TOV}} = 1.341 \times U_c$$

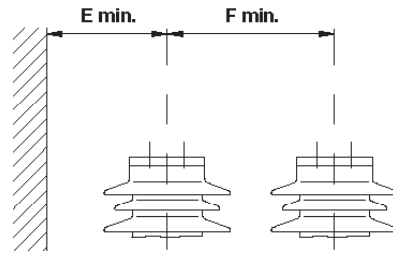
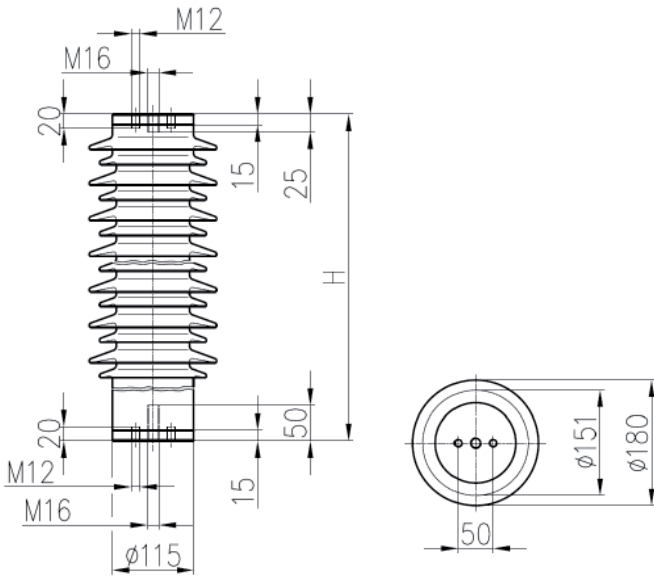
$$t = 10 \text{ s } U_{\text{TOV}} = 1.310 \times U_c$$

Ambient air temperature	-60 to +40 °C	(for higher values contact manufacturer)
Altitude	up to 1800 m	(for higher values contact manufacturer)
Frequency	50/60 Hz	
Weather ageing	tested according to series A (1000 h salt fog)	

$U_c$ Continuous operating voltage kV (rms)	$U_r$ Rated voltage kV (rms)	Residual voltage ( $U_{res}$ ) in kV (pk) at specified impulse current									
		wave 1/ ... $\mu$ s		wave 8/20 $\mu$ s					wave 30/60 $\mu$ s		
		10 kA (pk)	20 kA (pk)	2 kA (pk)	5 kA (pk)	10 kA (pk)	20 kA (pk)	40 kA (pk)	500 A (pk)	1 kA (pk)	2 kA (pk)
4	5.0	12.7	13.6	10.6	11.2	11.6	12.7	14.2	9.8	10.1	10.4
5	6.3	15.9	17.0	13.3	13.9	14.5	15.9	17.7	12.3	12.6	13.0
6	7.5	19.0	20.4	15.9	16.7	17.4	19.0	21.3	14.7	15.2	15.6
7	8.8	22.2	23.8	18.6	19.5	20.3	22.2	24.8	17.2	17.7	18.2
8	10.0	25.3	27.2	21.2	22.3	23.2	25.3	28.4	19.6	20.2	20.8
9	11.3	28.5	30.6	23.9	25.1	26.1	28.5	31.9	22.1	22.7	23.4
10	12.5	31.7	34.0	26.5	27.8	29.0	31.7	35.4	24.5	25.2	26.0
11	13.8	34.8	37.4	29.2	30.6	31.9	34.8	39.0	27.0	27.7	28.6
12	15.0	38.0	40.8	31.8	33.4	34.8	38.0	42.5	29.4	30.3	31.2
13	16.3	41.1	44.2	34.5	36.2	37.7	41.1	46.0	31.9	32.8	33.8
14	17.5	44.3	47.6	37.1	38.9	40.6	44.3	49.6	34.3	35.3	36.4
15	18.8	47.5	50.9	39.8	41.7	43.5	47.5	53.1	36.8	37.8	39.0
16	20.0	50.6	54.3	42.4	44.5	46.4	50.6	56.7	39.2	40.3	41.6
17	21.3	53.8	57.7	45.1	47.3	49.3	53.8	60.2	41.7	42.8	44.2
18	22.5	56.9	61.1	47.7	50.1	52.2	56.9	63.7	44.1	45.4	46.8
19	23.8	60.1	64.5	50.4	52.8	55.1	60.1	67.3	46.6	47.9	49.4
20	25.0	63.3	67.9	53.0	55.6	58.0	63.3	70.8	49.0	50.4	52.0
21	26.3	66.4	71.3	55.7	58.4	60.9	66.4	74.3	51.4	52.9	54.6
22	27.5	69.6	74.7	58.3	61.2	63.8	69.6	77.9	53.9	55.4	57.2
23	28.8	72.8	78.1	60.9	63.9	66.7	72.8	81.4	56.3	57.9	59.7
24	30.0	75.9	81.5	63.6	66.7	69.6	75.9	85.0	58.8	60.5	62.3
25	31.3	79.1	84.9	66.2	69.5	72.5	79.1	88.5	61.2	63.0	64.9
26	32.5	82.2	88.3	68.9	72.3	75.4	82.2	92.0	63.7	65.5	67.5
27	33.8	85.4	91.7	71.5	75.1	78.3	85.4	95.6	66.1	68.0	70.1
28	35.0	88.6	95.1	74.2	77.8	81.2	88.6	99.1	68.6	70.5	72.7
29	36.3	91.7	98.4	76.8	80.6	84.1	91.7	102.7	71.0	73.0	75.3
30	37.5	94.9	101.8	79.5	83.4	87.0	94.9	106.2	73.5	75.6	77.9
31	38.8	98.0	105.2	82.1	86.2	89.9	98.0	109.7	75.9	78.1	80.5
32	40.0	101.2	108.6	84.8	89.0	92.8	101.2	113.3	78.4	80.6	83.1
33	41.3	104.4	112.0	87.4	91.7	95.7	104.4	116.8	80.8	83.1	85.7
34	42.5	107.5	115.4	90.1	94.5	98.6	107.5	120.3	83.3	85.6	88.3
35	43.8	110.7	118.8	92.7	97.3	101.5	110.7	123.9	85.7	88.2	90.9
36	45.0	113.8	122.2	95.4	100.1	104.4	113.8	127.4	88.2	90.7	93.5
37	46.3	117.0	125.6	98.0	102.8	107.3	117.0	131.0	90.6	93.2	96.1
38	47.5	120.2	129.0	100.7	105.6	110.2	120.2	134.5	93.1	95.7	98.7
39	48.8	123.3	132.4	103.3	108.4	113.1	123.3	138.0	95.5	98.2	101.3
40	50.0	126.5	135.8	106.0	111.2	116.0	126.5	141.6	98.0	100.7	103.9
41	51.3	129.7	139.2	108.6	114.0	118.9	129.7	145.1	100.4	103.3	106.5
42	52.5	132.8	142.6	111.3	116.7	121.8	132.8	148.6	102.8	105.8	109.1
43	53.8	136.0	145.9	113.9	119.5	124.7	136.0	152.2	105.3	108.3	111.7
44	55.0	139.1	149.3	116.5	122.3	127.6	139.1	155.7	107.7	110.8	114.3

# Dimensions and Clearances

Dimensions (in mm)



### Mechanical loads:

Torque moment  
Tensile strength  
MPSL

100 Nm  
4000 N  
8000N

(MPSL is applied in the type test on the longest housing of the surge arrester)

$U_c$	Creepage distance mm	Flashover distance mm	Recommended clearances		Height H mm	Weight kg	Insulation withstand voltage of empty housing	
			E min. mm	F min. mm			1.2/50 $\mu$ s kV (pk)	50 Hz, 60 s wet kV (rms)
04	358	196	100	190	210	5.7	118	34
05	358	196	101	190	210	5.8	118	34
06	493	227	111	190	240	6.6	137	39
07	493	227	121	190	240	6.7	137	39
08	493	227	131	190	240	6.8	137	39
09	648	277	141	191	290	8.0	167	48
10	648	277	151	201	290	8.1	167	48
11	648	277	161	211	290	8.2	167	48
12	648	277	171	221	290	8.3	167	48
13	823	346	181	231	360	10.0	208	59
14	823	346	191	241	360	10.1	208	59
15	823	346	201	251	360	10.2	208	59
16	823	346	212	261	360	10.3	208	59
17	823	346	221	271	360	10.4	208	59
18	823	346	231	281	360	10.6	208	59
19	823	346	242	292	360	10.7	208	59
20	823	346	252	301	360	10.8	208	59
21	978	396	262	311	410	12.0	238	68
22	978	396	272	322	410	12.1	238	68
23	978	396	282	332	410	12.2	238	68
24	978	396	292	342	410	12.3	238	68
25	978	396	302	352	410	12.4	238	68
26	1133	446	312	362	460	13.7	268	76
27	1133	446	322	372	460	13.8	268	76
28	1133	446	332	382	460	13.9	268	76
29	1133	446	342	392	460	14.0	268	76
30	1423	527	352	402	540	16.0	317	90
31	1423	527	362	412	540	16.1	317	90
32	1423	527	372	422	540	16.2	317	90
33	1423	527	382	432	540	16.3	317	90
34	1423	527	392	442	540	16.4	317	90
35	1423	527	402	452	540	16.6	317	90
36	1423	527	412	462	540	16.7	317	90
37	1597	596	423	472	610	18.0	358	102
38	1597	596	432	482	610	18.1	358	102
39	1597	596	442	492	610	18.2	358	102
40	1597	596	453	502	610	18.3	358	102
41	1733	627	463	512	640	19.3	377	107
42	1733	627	473	522	640	19.4	377	107
43	1733	627	483	533	640	19.5	377	107
44	1733	627	493	543	640	19.6	377	107

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