

Surge arrester

POLIM-C .. ND



Product description:

- Metal-oxide (MO) surge arrester without spark gap, designed and type tested according to EN 50526-1 and IEC 60099-4, with own ABB metal-oxide resistors since more than 30 years
- Direct molded silicone housing in patented loop design for best environmental robustness
- 100 % in house production – fully in charge of complete process
- High quality, safe and reliable, maintenance free
- For DC systems
- For indoor and outdoor installations

Especially recommended for overvoltage protection of:

- Devices in DC installation
- Power electronics
- Converter

Additional certification:

- Fire and smoke behavior tested and classified according to EN 45545-2

Technical data

Classification according to EN 50526-1

Nominal discharge current I_n (8/20 μ s)	10 kA _{peak}
Class	DC-A
High current impulse I_{hc} (4/10 μ s)	100 kA _{peak}
Switching current impulse I_{sw} (30/60 μ s)	500 A _{peak}
Charge transfer capability Q_t	1 As
Energy withstand capability W	4.5 kJ/kV _{UC}

The thermal stability of the MO surge arrester is proved in the operating duty test according to class DC-A with two impulses of the charge transfer capability Q_t (total 2 As).

Classification according to IEC 60099-4

Line discharge class (LD)	2
Short circuit rating I_s	20 kA _{rms} for 0.2 s

Mechanical loads

Torque	50 Nm
Tensile strength axial	1000 N
Short term load SSL perpendicular to axis	350 Nm
Long term load SLL perpendicular to axis	245 Nm

Service conditions

Ambient air temperature T_{amb}	–60 to +40 °C (for temperatures up to 80 °C consider instructions of application guidelines)
Altitude	up to 1800 m (for higher altitudes contact ABB)

Electrical data and Housing

Electrical data

Continuous operating voltage $U_c (=U_r) *$ kV_{DC}	Residual voltage U_{res} at specified impulse current								Switching current impulse wave 30/60 μs		
	Steep current impulse wave 1/... μs		Lightning current impulse wave 8/20 μs								
	5 kA kV_{peak}	10 kA kV_{peak}	1 kA kV_{peak}	2 kA kV_{peak}	5 kA kV_{peak}	$I_n=10$ kA kV_{peak}	20 kA kV_{peak}		125 A kV_{peak}	250 A kV_{peak}	500 A kV_{peak}
0.56	1.65	1.76	1.36	1.44	1.52	1.60	1.83		1.20	1.24	1.28
0.84	2.48	2.64	2.04	2.16	2.27	2.40	2.74		1.79	1.85	1.92
1.00	3.2	3.5	2.7	2.8	3.0	3.1	3.6		2.4	2.4	2.5
1.50	4.7	5.0	3.9	4.1	4.3	4.5	5.2		3.4	3.5	3.6
1.80	5.7	6.1	4.7	5.0	5.2	5.5	6.3		4.1	4.3	4.4
2.00	6.4	6.9	5.3	5.6	5.9	6.2	7.1		4.7	4.8	5.0
2.50	7.9	8.4	6.5	6.9	7.2	7.6	8.7		5.7	5.9	6.1
2.90	8.9	9.5	7.4	7.8	8.2	8.6	9.9		6.5	6.7	6.9
3.20	9.8	10.5	8.1	8.6	9.0	9.5	10.9		7.1	7.4	7.6
3.50	10.7	11.4	8.8	9.3	9.8	10.3	11.8		7.7	8.0	8.3
4.20	12.8	13.7	10.6	11.2	11.8	12.4	14.2		9.3	9.6	10.0
4.70	14.3	15.2	11.8	12.5	13.1	13.8	15.8		10.3	10.7	11.1

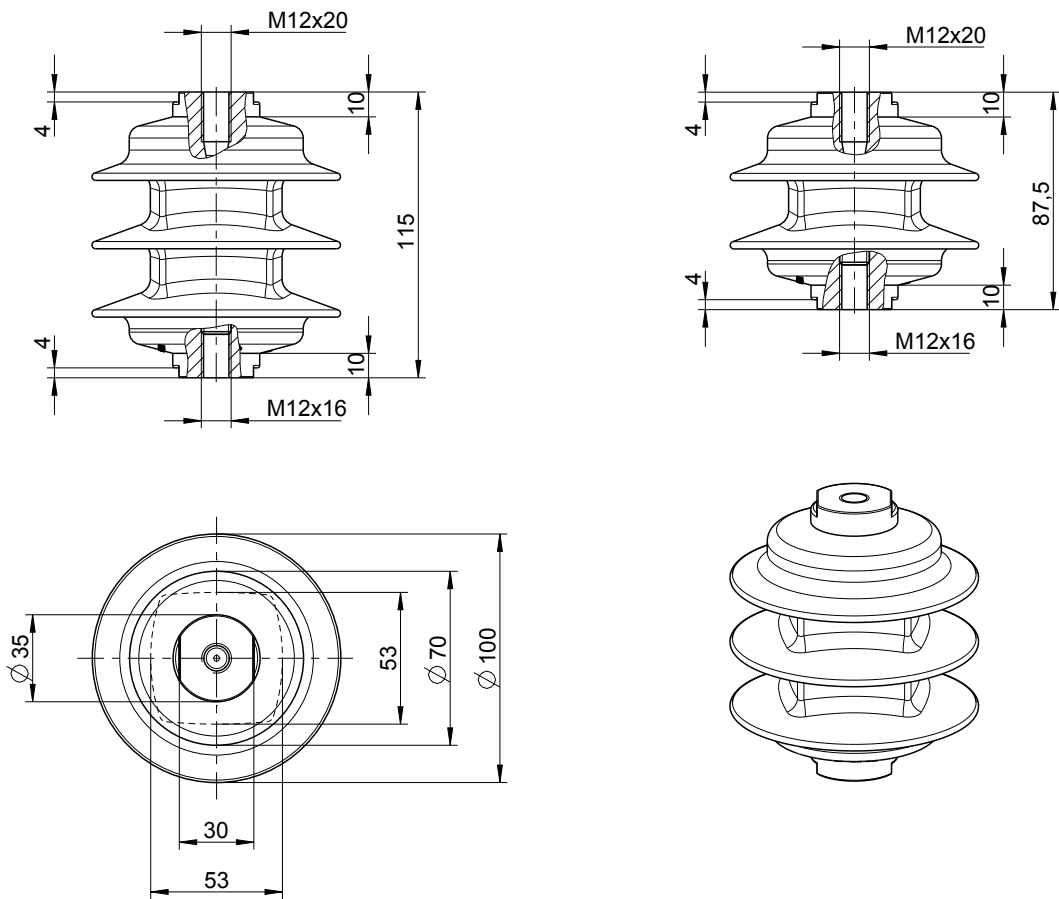
* The rated voltage U_r of the arrester coincides with the continuous operating voltage U_c .

Housing

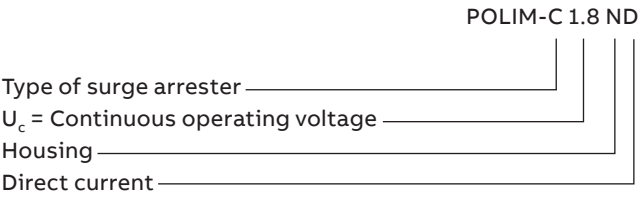
Continuous operating voltage U_c kV_{DC}	Creepage distance mm	Flashover distance mm	Height mm	Weight kg	Insulation withstand voltage of empty housing			
					1.2/50 μs		1 min wet	
					required values acc. to EN/IEC kV_{peak}	guaranteed kV_{peak}	required values acc. to EN/IEC kV_{DC}	guaranteed kV_{DC}
0.56	138	107	87.5	≤ 0.8	2.4	20	1.6	15
0.84	138	107	87.5	≤ 0.8	3.6	20	2.4	15
1.00	138	107	87.5	≤ 0.8	4.7	20	3.1	15
1.50	138	107	87.5	≤ 0.8	6.8	20	4.5	15
1.80	138	107	87.5	≤ 0.8	8.2	20	5.5	15
2.00	138	107	87.5	≤ 0.8	9.3	20	6.2	15
2.50	199	134	115	≤ 1.1	11.4	30	7.6	20
2.90	199	134	115	≤ 1.1	12.9	30	8.6	20
3.20	199	134	115	≤ 1.1	14.2	30	9.5	20
3.50	199	134	115	≤ 1.1	15.4	30	10.3	20
4.20	199	134	115	≤ 1.1	18.5	30	12.4	20
4.70	199	134	115	≤ 1.1	20.6	30	13.8	20

Dimensions

Dimensions according outline drawing 1HC0011758



Structure of type designation



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Note

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Our products are certified according ISO 9001, 14001, 18001 and IRIS

For detailed information for dimensioning of our products see following ABB documents:

- Application guidelines
 - Overvoltage protection
 - Metal oxide surge arresters in medium voltage systems
- Application guidelines
 - Overvoltage protection
 - Metal oxide surge arresters in railway facilities

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