

Surge arrester

POLIM-R .. -1ND



Product description:

- Metal-oxide (MO) surge arrester without spark gap, designed and type tested according to EN 50526-1 and IEC 62848-1, with own ABB metal-oxide resistors since more than 30 years
- Direct molded silicone housing for best environmental robustness
- 100 % in house production – fully in charge of complete process
- High quality, safe and reliable, maintenance free
- For DC systems
- High energy absorption capacity
- For indoor and outdoor installations

Especially recommended for overvoltage protection of:

- Fixed installations in DC traction systems (A2)
- Equipment on rolling stock
- Secondary devices in DC installations
- Power electronics and solid state breakers

Additional certification:

- Shock and vibration tested according to IEC 61373
- Fire and smoke behavior tested and classified according to EN 45545-2

Technical data

Classification according to EN 50526-1 and IEC 62848-1

Nominal discharge current I_n (8/20 μ s)	10 kA _{peak}
Class	DC-B
High current impulse I_{hc} (4/10 μ s)	100 kA _{peak}
Switching current impulse I_{sw} (30/60 μ s)	1000 A _{peak}
Charge transfer capability Q_t	2.5 As
Energy withstand capability W	9.5 kJ/kV _{UC}
Short circuit rating I_s	20 kA _{DC} for 0.2 s

The thermal stability of the MO surge arrester is proved in the operating duty test according to class DC-B with two impulses of the charge transfer capability Q_t (total 5 As).

Mechanical loads

Torque	20 Nm
Short term load SSL perpendicular to axis	60 Nm
Long term load SLL perpendicular to axis	30 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	Residual voltage U_{res} at specified impulse current									
	Steep current impulse wave 1/...μs		Lightning current impulse wave 8/20 μs					Switching current impulse wave 30/60 μs		
	5 kA	10 kA	1 kA	2 kA	5 kA	$I_n=10$ kA	20 kA	250 A	500 A	1000 A
$U_c (=U_r) *$	kV_{peak}	kV_{peak}	kV_{peak}	kV_{peak}	kV_{peak}	kV_{peak}	kV_{peak}	kV_{peak}	kV_{peak}	kV_{peak}
0.14	0.35	0.38	0.30	0.32	0.33	0.34	0.38	0.28	0.29	0.30
0.29	0.72	0.77	0.61	0.64	0.68	0.70	0.77	0.58	0.60	0.61
0.36	0.88	0.94	0.75	0.79	0.83	0.86	0.94	0.71	0.73	0.75
0.49	1.20	1.28	1.02	1.07	1.13	1.17	1.28	0.96	0.99	1.02
0.56	1.37	1.47	1.17	1.23	1.29	1.34	1.47	1.10	1.14	1.17
0.85	2.08	2.22	1.77	1.86	1.95	2.03	2.22	1.67	1.72	1.77
1.00	2.43	2.60	2.08	2.18	2.29	2.38	2.60	1.96	2.01	2.07

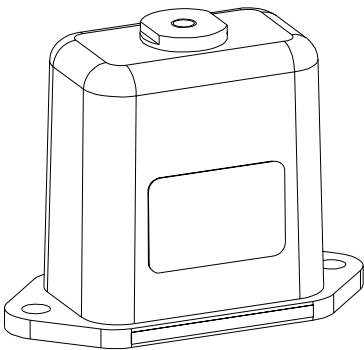
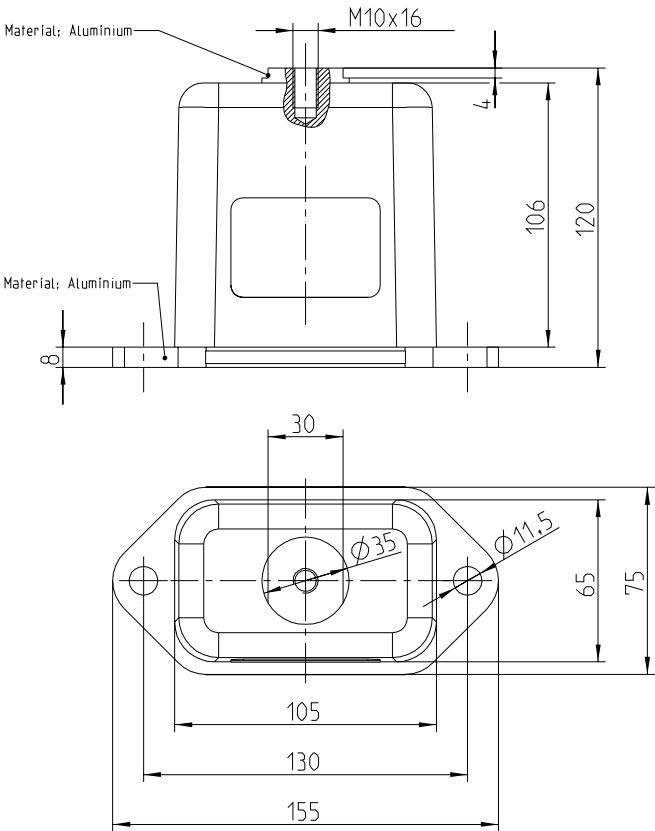
* The rated voltage U_r of the arrester coincides with the continuous operating voltage U_c .

Housing

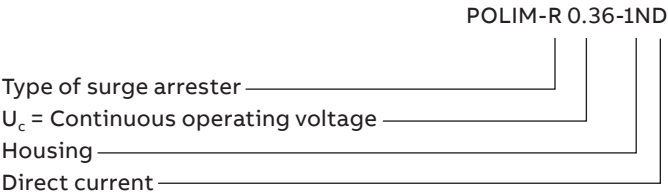
Continuous operating voltage U_c	Creepage distance	Flashover distance	Height	Weight	Insulation withstand voltage of empty housing			
					1.2/50 μ s		1 min wet	
					required values acc. to EN/IEC	guaranteed	required values acc. to EN/IEC	guaranteed
kV_{DC}	mm	mm	mm	kg	kV_{peak}	kV_{peak}	kV_{DC}	kV_{DC}
0.14	115	115	120	<1.5	0.50	20	0.34	10
0.29	115	115	120	<1.5	1.03	20	0.70	10
0.36	115	115	120	<1.5	1.27	20	0.86	10
0.49	115	115	120	<1.5	1.72	20	1.17	10
0.56	115	115	120	<1.5	1.97	20	1.34	10
0.85	115	115	120	<1.5	2.99	20	2.03	10
1.00	115	115	120	<1.5	3.50	20	2.38	10

Dimensions

Dimensions according to outline drawing 1HC0015765
Outline drawings with accessories on request



Structure of type designation



For more information please contact:

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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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