

Surge arrester

POLIM-C .. HD



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 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:

- Fixed installations in DC traction systems (A1)
- Equipment on rolling stock and locomotives (A1)
- Devices in DC installation

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-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}
Short circuit rating I_s	40 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-A with two impulses of the charge transfer capability Q_t (total 2 As).

Mechanical loads

Torque	50 Nm
Tensile strength axial	1000 N
Short term load SSL perpendicular to axis	550 Nm
Long term load SLL perpendicular to axis	315 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	125 A	250 A	500 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}
1.0	3.7	4.4	2.7	2.8	3.0	3.1	3.6	2.4	2.4	2.5
1.5	5.2	6.0	3.9	4.1	4.3	4.5	5.2	3.4	3.5	3.6
2.0	6.9	7.8	5.3	5.6	5.9	6.2	7.1	4.7	4.8	5.0
2.5	8.4	9.3	6.5	6.9	7.2	7.6	8.7	5.7	5.9	6.1
3.0	9.4	10.4	7.4	7.8	8.2	8.6	9.9	6.5	6.7	6.9
4.2	13.3	14.6	10.6	11.2	11.8	12.4	14.2	9.3	9.6	10.0
4.7	14.8	16.1	11.8	12.5	13.1	13.8	15.8	10.3	10.7	11.1

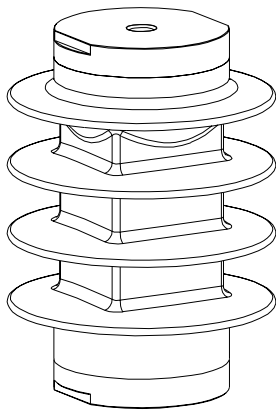
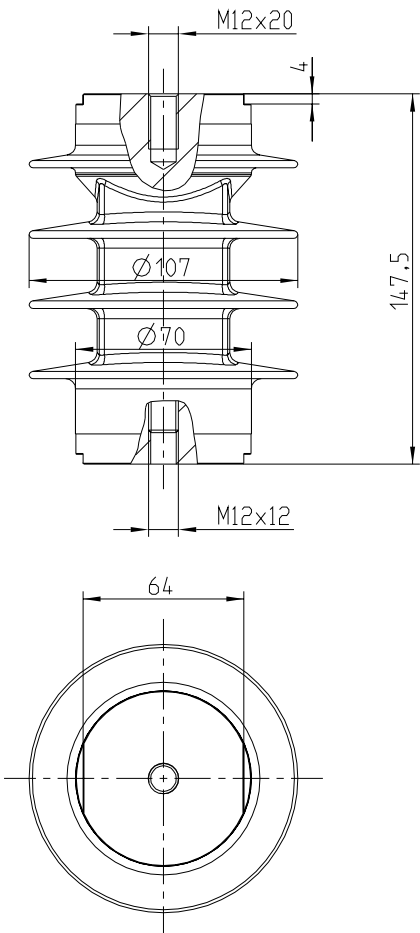
* The rated voltage U_r of the arrester coincides with the continuous operating voltage U_c .

Housing

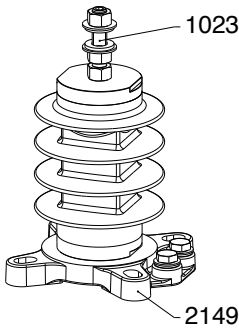
Continuous operating voltage U_c	Creepage distance	Flashover distance	Height	Weight	Insulation withstand voltage of empty housing			
					1.2/50 μ s		1 min wet	
					required values acc. to EN/IEC	guaranteed	required values acc. to EN/IEC	guaranteed
kV_{DC}	mm	mm	mm	kg	kV_{peak}	kV_{peak}	kV_{DC}	kV_{DC}
1.0	250	135	147.5	≤ 1.6	4.56	50	3.1	30
1.5	250	135	147.5	≤ 1.6	6.62	50	4.5	30
2.0	250	135	147.5	≤ 1.6	9.12	50	6.2	30
2.5	250	135	147.5	≤ 1.6	11.18	50	7.6	30
3.0	250	135	147.5	≤ 1.6	12.65	50	8.6	30
4.2	250	135	147.5	≤ 1.6	18.23	50	12.4	30
4.7	250	135	147.5	≤ 1.6	20.29	50	13.8	30

Dimensions

Dimensions according to outline drawing 2GHV006997
Outline drawings with accessories on request



Structure of type designation with optional accessories (Example)

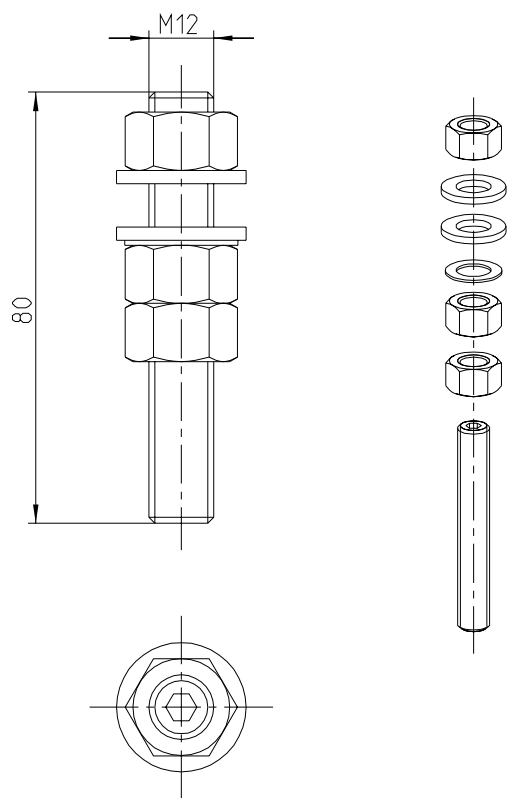


POLIM-C 2.0 HD / 1023 / 2149

Type of surge arrester _____
U_c = Continuous operating voltage _____
Housing _____
Direct current _____
Type of top accessory (optional) _____
Type of bottom accessory (optional) _____

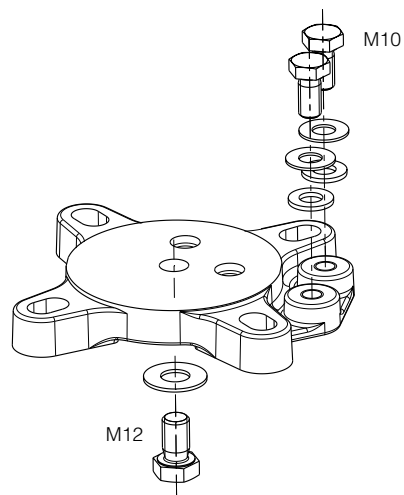
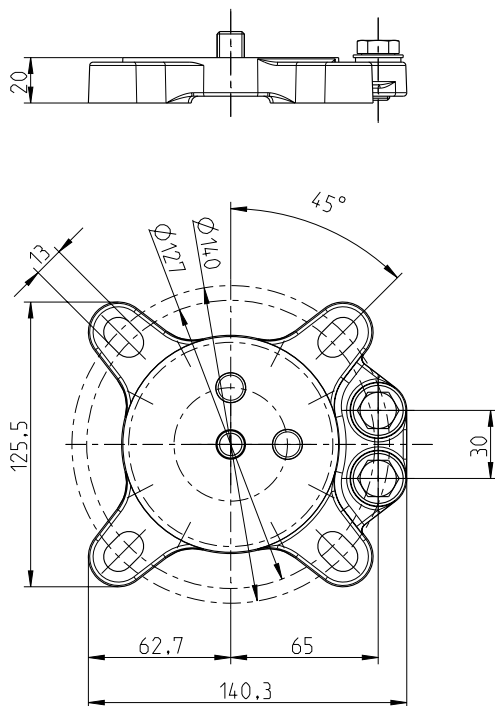
Common Top Accessories (optional)

Type 1023 Connector M12 (stainless steel)



Common Bottom Accessories (optional)

Type 2149 4-points reinforced base (aluminium alloy)



For more information please contact:

ABB Switzerland Ltd.

High Voltage Products

Surge Arresters

Jurastrasse 45

CH-5430 Wettingen

Phone: +41 58 585 29 11

Telefax: +41 58 585 55 70

E-Mail: sales.sa@ch.abb.com

www.abb.com/arrestersonline

Note

We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders the agreed particulars shall prevail. ABB does not accept any responsibility whatsoever for potential errors or possible lack of information in this document. We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents – in whole or in parts – is forbidden without prior written consent of ABB.

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

For pdf or print version please send E-mail to:
sales.sa@ch.abb.com