

Surge arrester

POLIM-X .. ND



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
- Very high energy absorption capacity
- 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)
- High speed trains
- Devices in DC installations

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)	20 kA _{peak}
Class	DC-C
High current impulse I_{hc} (4/10 μ s)	200 kA _{peak}
Switching current impulse I_{sw} (30/60 μ s)	2000 A _{peak}
Charge transfer capability Q_t	7.5 As
Energy withstand capability W	28 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-C with two impulses of the charge transfer capability Q_t (total 15 As).

Mechanical loads

Torque	100 Nm
Tensile strength axial	1500 N
Short term load SSL perpendicular to axis	2880 Nm
Long term load SLL perpendicular to axis	1440 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		
	10 kA	20 kA	2 kA	5 kA	10 kA	$I_n=20$ kA	40 kA	500 A	1000 A	2000 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	2.51	2.65	2.10	2.20	2.28	2.47	2.65	1.97	2.01	2.08
1.5	3.77	3.97	3.15	3.30	3.42	3.70	3.97	2.96	3.01	3.12
2.0	5.02	5.29	4.20	4.39	4.56	4.93	5.29	3.94	4.02	4.15
2.5	6.27	6.62	5.25	5.49	5.70	6.16	6.62	4.92	5.02	5.19
3.0	7.53	7.94	6.30	6.59	6.84	7.39	7.94	5.91	6.02	6.23
4.2	10.54	11.12	8.82	9.22	9.58	10.35	11.12	8.27	8.44	8.72
4.7	11.80	12.44	9.87	10.32	10.72	11.58	12.44	9.26	9.44	9.76

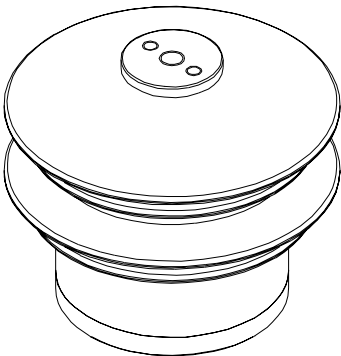
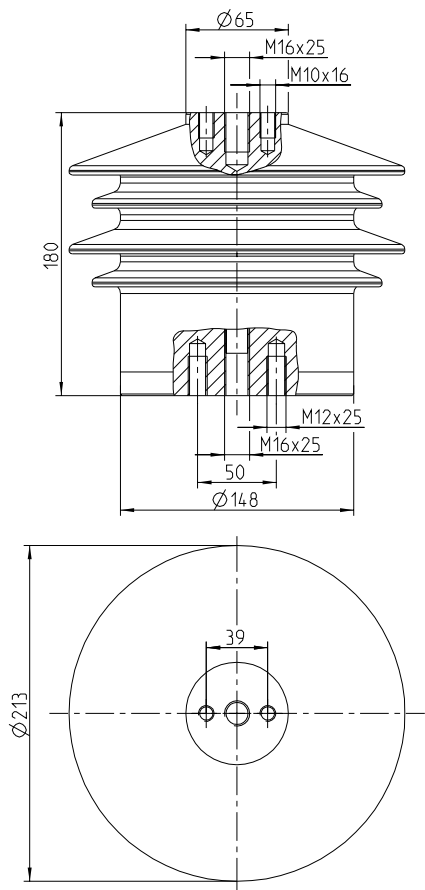
* The rated voltage U_r of the arrester coincides with the continuous operating voltage U_c .

Housing

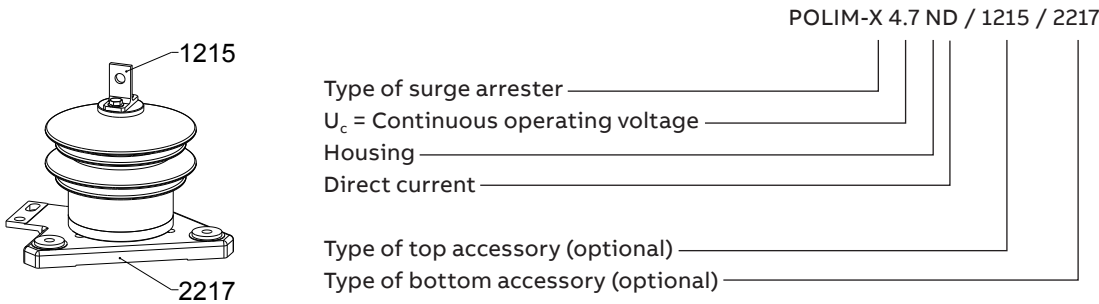
Continuous operating voltage U_c	Creepage distance	Flashover distance	Height	Weight	Insulation withstand voltage of empty housing			
					1.2/50 μ s		1 min wet	
					required values acc. to EN/IEC	guaranteed	required values acc. to EN/IEC	guaranteed
kV_{DC}	mm	mm	mm	kg	kV_{peak}	kV_{peak}	kV_{DC}	kV_{DC}
1.0	379	215	180	7.2	3.6	40	2.47	40
1.5	379	215	180	7.3	5.4	40	3.70	40
2.0	379	215	180	7.4	7.2	40	4.93	40
2.5	379	215	180	7.5	9.1	40	6.16	40
3.0	379	215	180	7.6	10.9	40	7.39	40
4.2	379	215	180	7.9	15.2	40	10.35	40
4.7	379	215	180	8.0	17.0	40	11.58	40

Dimensions

Dimensions according outline drawing 1HC0029206
Outline drawings with accessories on request

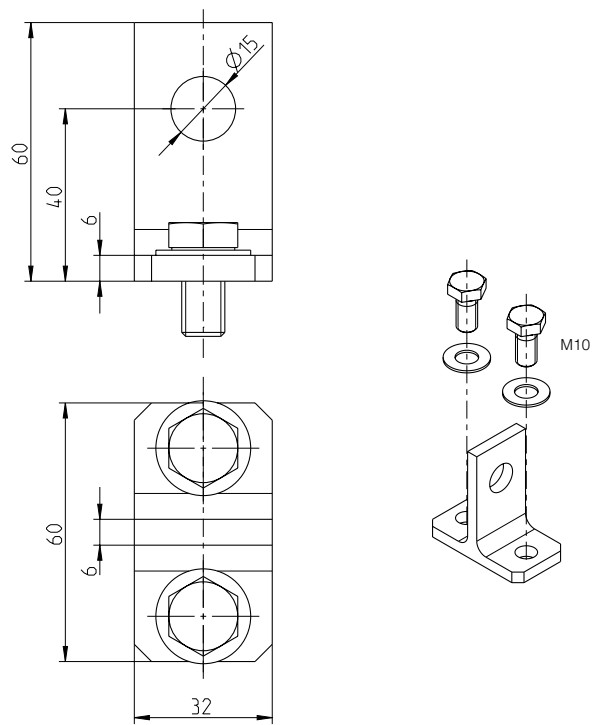


Structure of type designation with optional accessories (Example)



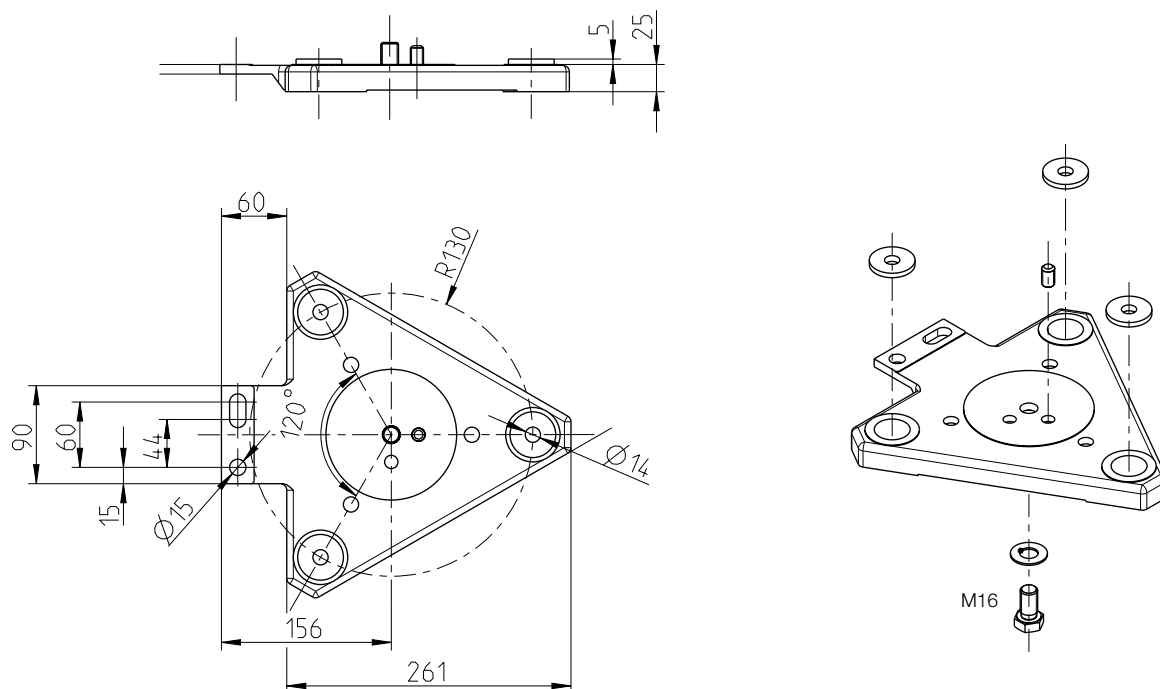
Common Top Accessories (optional)

Type 1215 Flat terminal (aluminium alloy)



Common Bottom Accessories (optional)

Type 2217 3-points reinforced base R = 130 – (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

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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

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