

Surge arrester POLIM-X..ND



Product description

Surge arrester with metal-oxide resistors without spark gaps (MO surge arrester), direct molded silicone housing, grey color, designed and tested according to EN 50526-1 and IEC 62848-1.

The metal-oxide resistors are from own production line.

Overvoltage protection of

- Traction systems – fixed installations
- Rolling stock and high speed trains
- Equipment in direct current installations

Application

- Systems with direct current (DC)
- Outdoor and indoor installations

Additional certification

- Shock and vibration tested according to IEC 61373
- Fire and smoke behaviour 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 twice as much as 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 manufacturer)



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Electrical data

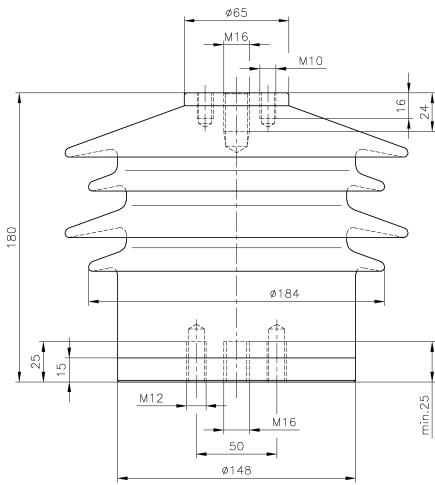
$U_c (= U_r)$ *	Residual voltage U_{res} at specified impulse current									
Continuous operating voltage	Steep current impulse wave 1/...μs		Lightning current impulse wave 8/20 μs					Switching current impulse wave 30/60 μs		
	10 kA	20 kA	2 kA	5 kA	10 kA	$I_n=20$ kA	40 kA	500 A	1000 A	2000 A
kV DC	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

U_c Continuous operating voltage kV DC	Creepage distance mm	Flashover distance mm	Height mm	Weight kg	Insulation withstand voltage of empty housing			
					1.2/50 μ s		1 min wet	
					required values acc. to EN	guaranteed	required values acc. to EN	guaranteed
					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 (mm)



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

Structure of type designation (Example)

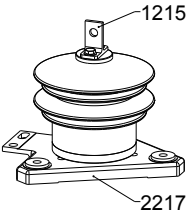
POLIM-X 4.7 ND

Type of arrester _____
 U_c = Continuous operating voltage _____
Housing _____
Direct current _____

Structure of type designation with optional accessories (Example)

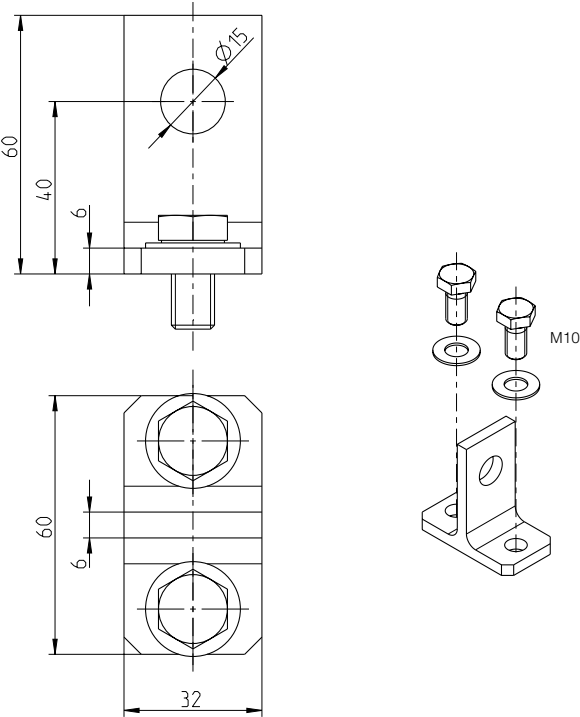
POLIM-X 4.7 ND / 1215 / 2217

Type of surge arrester _____
Type of top accessory (optional) _____
Type of bottom accessory (optional) _____



Common Top Accessories (optional)

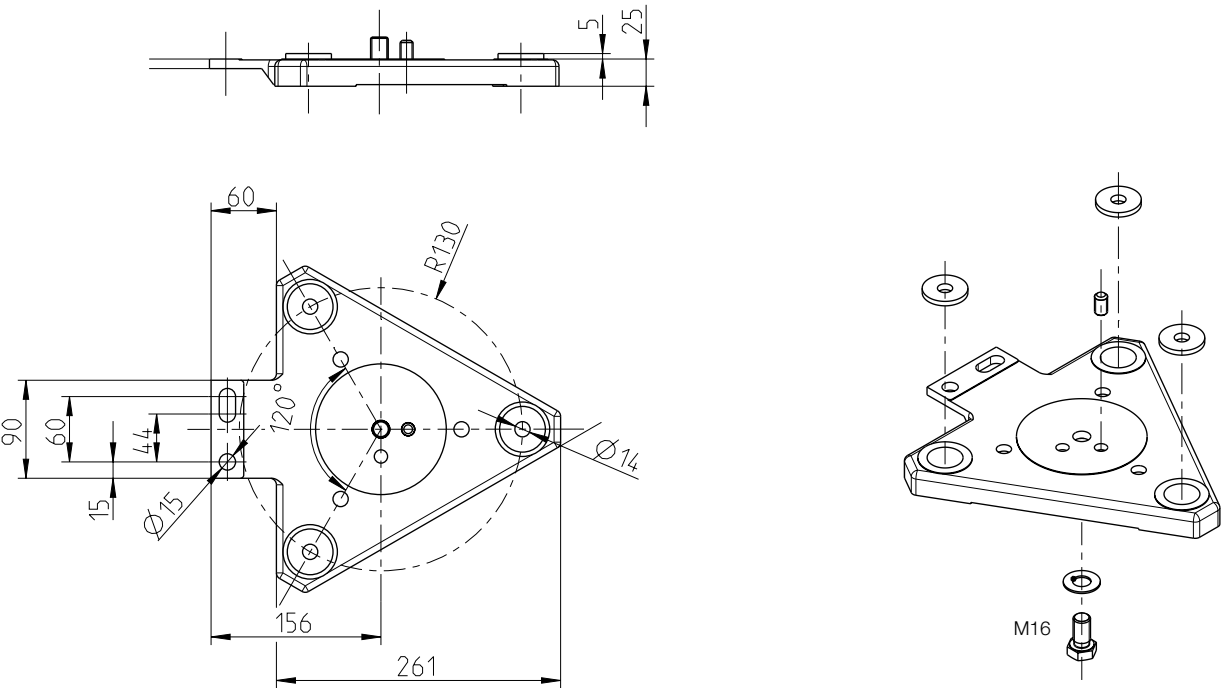
Dimensions (mm)



Type 1215 Flat terminal (aluminium alloy)

Common Bottom Accessories (optional)

Dimensions (mm)



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

For further information please contact:

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For detailed information regarding the dimensioning of our products see the 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:
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