

# Surge arrester POLIM-C..HD



## 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
- 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 $\mu$ s)	10 kA <sub>peak</sub>
Class	DC-A
High current impulse $I_{hc}$ (4/10 $\mu$ s)	100 kA <sub>peak</sub>
Switching current impulse $I_{sw}$ (30/60 $\mu$ s)	500 A <sub>peak</sub>
Charge transfer capability $Q_t$	1 As
Energy withstand capability $W$	4.5 kJ/kV <sub>UC</sub>
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 manufacturer)



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# Electrical data

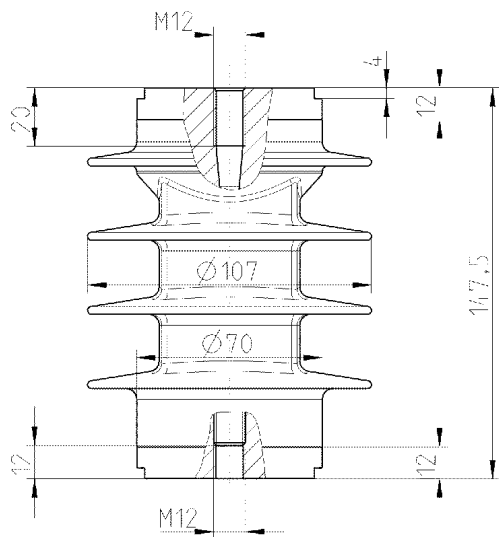
$U_c (= U_r)$ *	Residual voltage $U_{res}$ at specified impulse current									
Continuous operating voltage	Steep current impulse wave 1/... $\mu$ s		Lightning current impulse wave 8/20 $\mu$ s					Switching current impulse wave 30/60 $\mu$ s		
	5 kA	10 kA	1 kA	2 kA	5 kA	$I_n=10$ kA	20 kA	125 A	250 A	500 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	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

$U_c$ Continuous operating voltage  kV DC	Creepage distance  mm	Flashover distance  mm	Height  mm	Weight  kg	Insulation withstand voltage of empty housing			
					1.2/50 $\mu$ s		1 min wet	
					required values acc. to EN	guaranteed	required values acc. to EN	guaranteed
					kV <sub>peak</sub>	kV <sub>peak</sub>	kV DC	kV DC
1.0	250	135	148	≤1.6	4.56	50	3.1	30
1.5	250	135	148	≤1.6	6.62	50	4.5	30
2.0	250	135	148	≤1.6	9.12	50	6.2	30
2.5	250	135	148	≤1.6	11.18	50	7.6	30
3.0	250	135	148	≤1.6	12.65	50	8.6	30
4.2	250	135	148	≤1.6	18.23	50	12.4	30
4.7	250	135	148	≤1.6	20.29	50	13.8	30

## Dimensions (mm)



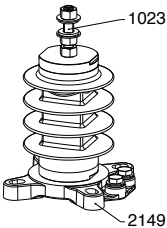
Dimensions according to outline drawing 2GHV006997  
Outline drawings with accessories on request

### Structure of type designation

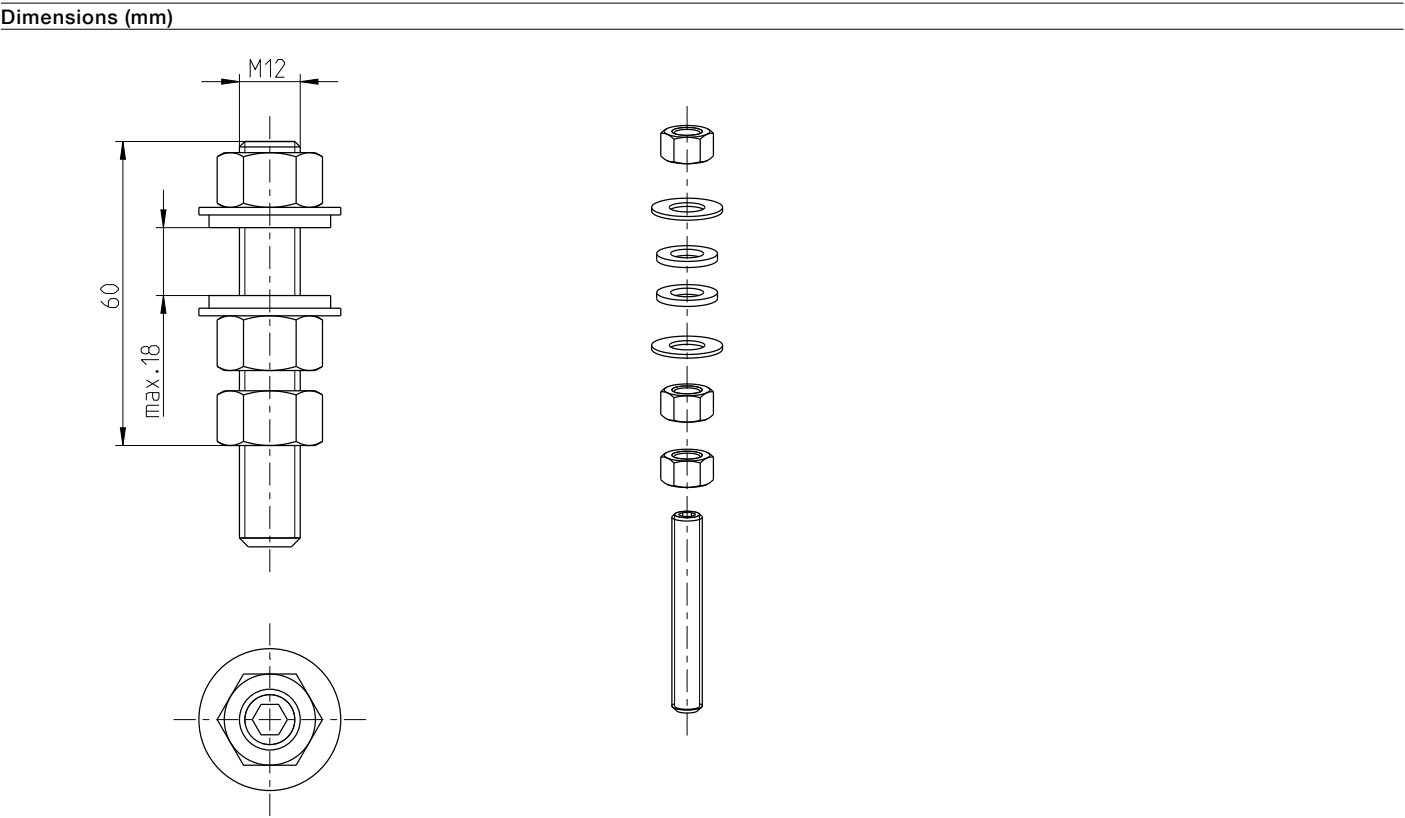
POLIM-C 2.0 HD  
Type of arrester \_\_\_\_\_  
 $U_c$  = Continuous operating voltage \_\_\_\_\_  
Housing \_\_\_\_\_  
Direct current \_\_\_\_\_

### Structure of type designation with optional accessories (Example)

POLIM-C 2.0 HD / 1023 / 2149  
Type of surge arrester \_\_\_\_\_  
Type of top accessory (optional) \_\_\_\_\_  
Type of bottom accessory (optional) \_\_\_\_\_



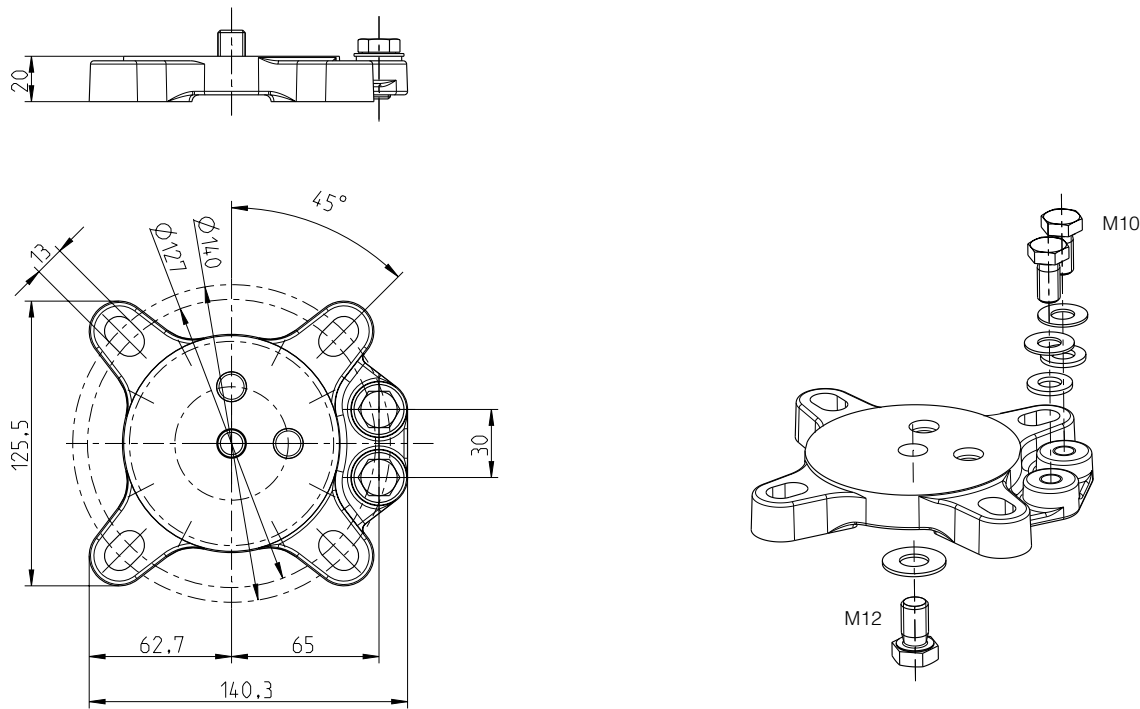
# Common Top Accessories (optional)



Type 1023 Connector M12 (stainless steel)

# Common Bottom Accessories (optional)

Dimensions (mm)



Type 2149 4-points reinforced base (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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