

Surge arrester POLIM-R..-1ND



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
- Secondary 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) | 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 manufacturer) |



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Electrical data

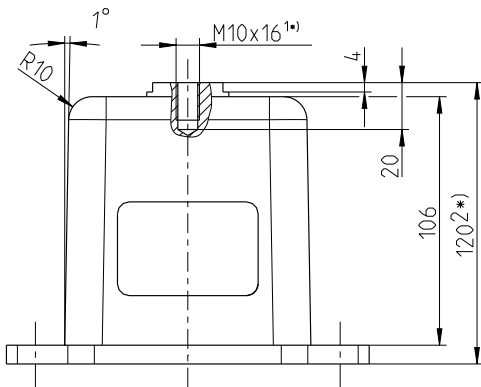
| Continuous operating voltage | Residual voltage U_{res} at specified impulse current | | | | | | | | | |
|------------------------------|---|--------------------|---|--------------------|--------------------|--------------------|--------------------|--|--------------------|--------------------|
| | Steep current impulse wave 1/... μ s | | Lightning current impulse wave 8/20 μ s | | | | | Switching current impulse wave 30/60 μ s | | |
| | 5 kA | 10 kA | 1 kA | 2 kA | 5 kA | $I_n=10$ kA | 20 kA | 250 A | 500 A | 1000 A |
| kV DC | 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 .

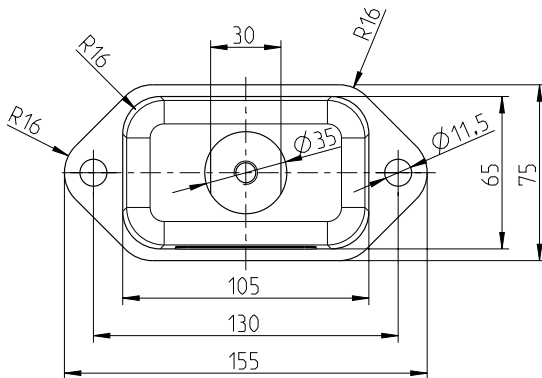
Housing

| 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 |
| 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 (mm)



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



Structure of type designation

POLIM-R 0.36-1 ND

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

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

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