Surge arrester
POLIM-C .. ND

Product description:
• Metal-oxide (MO) surge arrester without spark gap, designed and type tested according to EN 50526-1 and IEC 60099-4, 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:
• Devices in DC installation
• Power electronics
• Converter

Additional certification:
• Fire and smoke behavior tested and classified according to EN 45545-2

Technical data

<table>
<thead>
<tr>
<th>Classification according to EN 50526-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal discharge current $I_n$ (8/20 µs)</td>
</tr>
<tr>
<td>Class</td>
</tr>
<tr>
<td>High current impulse $I_{hc}$ (4/10 µs)</td>
</tr>
<tr>
<td>Switching current impulse $I_{sw}$ (30/60 µs)</td>
</tr>
<tr>
<td>Charge transfer capability $Q_t$</td>
</tr>
<tr>
<td>Energy withstand capability $W$</td>
</tr>
</tbody>
</table>

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).

<table>
<thead>
<tr>
<th>Classification according to IEC 60099-4</th>
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<tbody>
<tr>
<td>Line discharge class (LD)</td>
</tr>
<tr>
<td>Short circuit rating $I_s$</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Mechanical loads</th>
</tr>
</thead>
<tbody>
<tr>
<td>Torque</td>
</tr>
<tr>
<td>Tensile strength axial</td>
</tr>
<tr>
<td>Short term load SSL perpendicular to axis</td>
</tr>
<tr>
<td>Long term load SLL perpendicular to axis</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Service conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient air temperature $T_{amb}$</td>
</tr>
<tr>
<td>Altitude</td>
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</table>
## Electrical data and Housing

### Electrical data

<table>
<thead>
<tr>
<th>Continuous operating voltage</th>
<th>Residual voltage $U_{res}$ at specified impulse current</th>
<th>Steep current impulse wave 1/…µs</th>
<th>Lightning current impulse wave 8/20 µs</th>
<th>Switching current impulse wave 30/60 µs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$kV_{peak}$</td>
<td>$kV_{peak}$</td>
<td>$kV_{peak}$</td>
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</tr>
<tr>
<td>$U_c$ (= $U_r$)</td>
<td>5 kA</td>
<td>10 kA</td>
<td>1 kA</td>
<td>2 kA</td>
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<tr>
<td>0.56</td>
<td>1.65</td>
<td>1.76</td>
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<td>0.84</td>
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<td>2.64</td>
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<td>2.7</td>
<td>2.8</td>
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<td>1.50</td>
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<td>3.9</td>
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<td>1.80</td>
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<td>6.1</td>
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<td>6.4</td>
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<td>5.3</td>
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<td>11.2</td>
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<tr>
<td>4.70</td>
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<td>12.5</td>
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* The rated voltage $U_r$ of the arrester coincides with the continuous operating voltage $U_c$.

### Housing

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<thead>
<tr>
<th>Continuous operating voltage $U_c$</th>
<th>Creepage distance</th>
<th>Flashover distance</th>
<th>Height</th>
<th>Weight</th>
<th>Insulation withstand voltage of empty housing 1.2/50 µs</th>
<th>1 min wet required values acc. to EN/IEC</th>
<th>guaranteed required values acc. to EN/IEC</th>
<th>Insulation withstand voltage of empty housing $U_c$ 1.2/50 µs</th>
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<tr>
<td>$kV_{DC}$</td>
<td>mm</td>
<td>mm</td>
<td>mm</td>
<td>kg</td>
<td>$kV_{peak}$</td>
<td>$kV_{peak}$</td>
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<tr>
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<td>107</td>
<td>87.5</td>
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Dimensions

Dimensions according outline drawing 1HC0011758

Structure of type designation

<table>
<thead>
<tr>
<th>POLIM-C 1.8 ND</th>
</tr>
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<tbody>
<tr>
<td>Type of surge arrester</td>
</tr>
<tr>
<td>Uc = Continuous operating voltage</td>
</tr>
<tr>
<td>Housing</td>
</tr>
<tr>
<td>Direct current</td>
</tr>
</tbody>
</table>

Dimensions (mm)
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](http://www.abb.com/arrestersonline)

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Our products are certified according ISO 9001, 14001, 18001 and IRIS

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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

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