



## Surge arrester

3-electrode arrester

**Series/Type:** T83-A90XF1  
**Ordering code:** B88069X8430B502  
Version/Date: Issue 03 / 2007-11-22

Features	Applications
<ul style="list-style-type: none"> <li>▪ Standard size</li> <li>▪ Fast response time</li> <li>▪ High current rating</li> <li>▪ Stable performance over life</li> <li>▪ Very low capacitance</li> <li>▪ High insulation resistance</li> <li>▪ Reliable failsafe device</li> <li>▪ RoHS-compatible</li> </ul>	<ul style="list-style-type: none"> <li>▪ Branch exchange (MDF)</li> <li>▪ Line protection</li> <li>▪ Station protection</li> </ul>

**Electrical specifications**

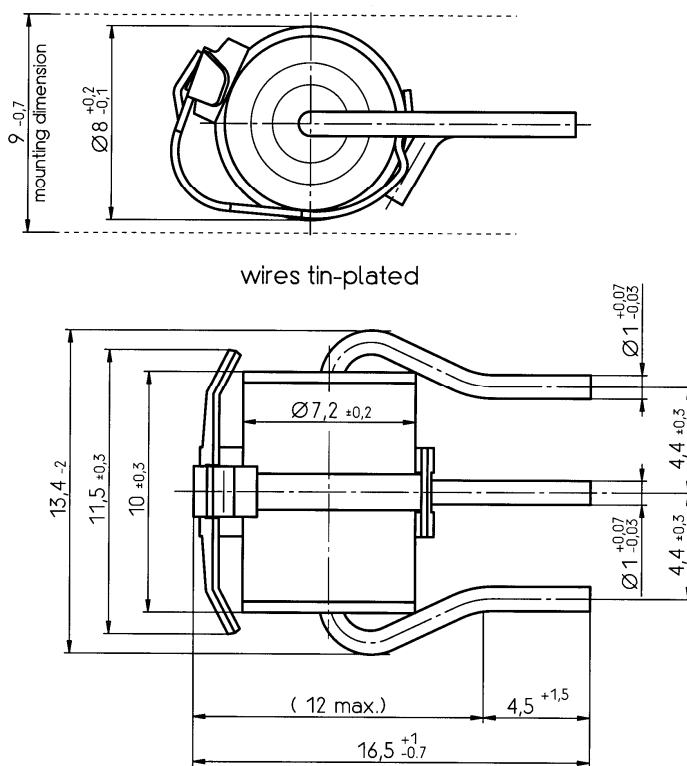
DC spark-over voltage <sup>1) 2) 4)</sup>	90 ± 20	V %
Impulse spark-over voltage <sup>4)</sup>		
at 100 V/μs - for 99 % of measured values - typical values of distribution	< 400 < 300	V V
at 1 kV/μs - for 99 % of measured values - typical values of distribution	< 450 < 350	V V
Service life		
10 operations                      50 Hz, 1 s <sup>5)</sup>	10	A
1 operation                        50 Hz, 0.18 s (9 cycles) <sup>5)</sup>	40	A
10 operations (5x (+) & 5x (-))    8/20 μs <sup>5)</sup>	10	kA
1 operation                        8/20 μs <sup>5)</sup>	15	kA
1 operation                        10/350 μs <sup>5)</sup>	5	kA
Insulation resistance at 50 V <sub>dc</sub> <sup>4)</sup>	> 10	GΩ
Capacitance at 1 MHz <sup>4)</sup>	< 1.5	pF
Transverse delay time <sup>3)</sup>	< 0.2	μs
Arc voltage at 1 A	~ 10	V
Glow to arc transition current	< 1	A
Glow voltage	~ 60	V
Weight	~ 2.2	g
Storage temperature	-40 ... +90	°C
Climatic category (IEC 60068-1)	40/ 90/ 21	
Marking, red negative	<b>EPCOS</b> <b>90 YY O</b> 90 - Nominal voltage YY - Year of production O - Non radioactive	

- 1) At delivery AQL 0.65 level II, DIN ISO 2859
- 2) In ionized mode
- 3) Test according to ITU-T Rec. K.12
- 4) Tip or ring electrode to center electrode
- 5) Total current through center electrode, half value through tip respectively ring electrode.

Terms in accordance with ITU-T Rec. K.12 and DIN 57845/VDE0845

The arrester failsafe mechanism contains a solder pellet with a melting temperature range from 193 to 203 °C.

### Dimensional Drawing



*Not to scale*

*Dimensions in mm*

*Non controlled document*

### Cautions and warnings

- The short-circuit spring does not trigger until 190 °C is reached depending on the material. Care must be taken to limit the thermal radiation onto adjacent parts to safe values.
- Depending on the incorporation position, the surge arrester may have to be additionally secured by mechanical means.
- Surge arresters must not be operated directly in power supply networks.
- Surge arresters may become hot in case of longer periods of current stress (danger of burning).
- Surge arresters may be used only within their specified values. In case of overload, the head contacts may fail or the component may be destroyed.
- Damaged surge arresters must not be re-used.
- Surge arrester with triggered short-circuit mechanisms must not be re-used.

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