



## **Surge arrester**

### **3-electrode arrester**

**Series/Type:** T33-A230XF1  
**Ordering code:** B88069X9550B502  
**Version/Date:** Issue 08 / 2007-11-22

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Features	Applications
<ul style="list-style-type: none"> <li>▪ Very small size</li> <li>▪ Extremely fast response time</li> <li>▪ High current rating</li> <li>▪ Stable performance over life</li> <li>▪ Extremely 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>▪ Line protection</li> <li>▪ Station protection</li> <li>▪ Base stations</li> </ul>

**Electrical specifications**

DC spark-over voltage <sup>1) 2) 4)</sup>	230 ± 20	V %
Impulse spark-over voltage <sup>4)</sup>		
at 100 V/μs - for 99 % of measured values	< 400	V
- typical values of distribution	< 350	V
at 1 kV/μs - for 99 % of measured values	< 450	V
- typical values of distribution	< 420	V
Service life		
10 operations                      50 Hz; 1 s <sup>5) 6)</sup>	10	A
1 operation                        50 Hz; 0.18 s (9 cycles) <sup>5)</sup>	30	A
10 operations [5x (+) & 5x (-)]   8/20 μs <sup>5)</sup>	10	kA
1 operation                        8/20 μs <sup>5)</sup>	10	kA
1 operation                        10/350 μs <sup>5)</sup>	2	kA
Insulation resistance at 100 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	~ 30	V
Glow to arc transition current	~ 1	A
Glow voltage	~ 200	V
Weight	~ 1.4	g
Storage temperature	-40 ... +90	°C
Climatic category (IEC 60068-1)	40/ 90/ 21	
Marking, blue negative	<b>EPCOS</b> <b>230 YY O</b> 230 - Nominal voltage YY - Year of production O - Non radioactive	

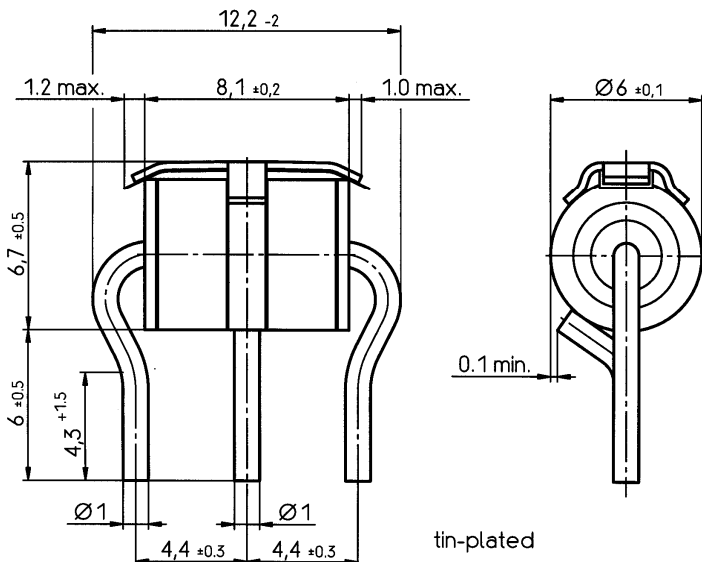
- 1) At delivery AQL 0.65 level II, DIN ISO 2859
- 2) In ionized mode
- 3) Test according to ITU-T Rec. K.12
- 4) Tip or ring electrode to center electrode
- 5) Total current through center electrode, half value through tip respectively ring electrode.
- 6) Voltage of the current source 230 V<sub>RMS</sub>

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

The arrester failsafe mechanism contains an insulating foil with a melting temperature of 260 °C.

Arrester failsafe works at temperatures > 260 °C. The arrester has to be fixed mechanically, if the arrester is contacted by soldering and if the solder temperature is less than 260 °C.

### Dimensional drawing



*Not to scale*

*Dimensions in mm*

*Non controlled document*

### Cautions and warnings

- The short-circuit spring does not trigger until 260 °C is reached depending on the sensor material. Care must be taken to limit the thermal radiation onto adjacent parts to safe values.
- If the contacts of the surge arresters are defective, current stress can lead to the formation of sparks and loud noises.
- 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.

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