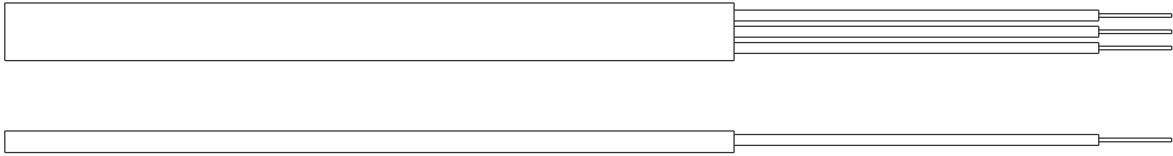


Slot resistance thermometers



General

Slot resistance thermometers (SRT) are electric temperature probes for temperature monitoring of the winding temperature of electric motors or generators.

Thanks to their long and narrow shape, these thermometers are ideal for installing into the slot of the stator/rotor directly in the winder.

An extremely wide range of different measurements can be produced. This allows the thermometer to be best adapted to the different slot sizes. Directly installing the thermometer into the slot makes it possible to achieve an almost optimal measuring accuracy.

In the case of long connecting leads, it is recommended to insert the thermometer into 3 or 4 wire circuits.

This compensates for the cable resistance and increases the measuring accuracy.

Our slot resistance thermometers are wound with a bifilar platinum wire, which measures the temperature along almost the entire active length of the probe. This then records the overall temperature distribution within the slot. The bifilar winding protects the probe from induction voltages caused by external electromagnetic fields.

In contrast, slot resistance thermometers with thin-film chip resistances are also manufactured. These generally display short temperature-sensitive lengths of just a few millimetres to make it possible to measure the temperature in only a very small area (points) .

Models

- Slot resistance thermometers can additionally be inserted into hard fibreglass boards for improved slot filling and mechanical protection
- For electrical protection it is also possible to inject the hard fibreglass boards with a special conductive varnish
- Alternatively the hard fibreglass boards can also be manufactured from conductive material
- The slot thermometer can also be fitted with two measurement windings, which are separate from one another
- ATEX-approved or extremely high-voltage-resistant sensors can be implemented

Application

The SRTs are built into the winding slots of electric motors and generators.

The thermometers are vacuum-pressure-impregnated resistant and high-voltage insulated and can be directly built into the stator/rotor assembly.

Certificated models can also be used in potentially explosive atmospheres.

Approvals:

ATEX Exe
ATEX Exi

Functional principle

The measurement winding is supplied with the lowest possible measuring current. The bifilar winding prevents induced voltages from arising, which could potentially lead to measurement errors. The resistance of the measurement winding depends on the temperature. Resistance increases linearly and becomes greater as the temperature rises.

Slot resistance thermometers with bifilar measuring windings do not record the temperature only at local points, as is the case with the SRTs so-called chip model, but instead record the temperature of the entire temperature-sensitive length. This temperature measurement with bifilar measurement winding is significantly more reliable and mechanically stable.