FIBER OPTIC
TEMPERATURE SENSOR

TST

Key Features

- Temperature range: -40 °C to +200 °C
- Electrically non-conductive
- Immunity to RFI, EMI, NMR and micro-wave radiation
- Long-term reliability
- Stable and repeatable measurements
- GaAs-based temperature sensor

Applications

- Generators
- Oil-filled tranformators
- Monitoring of "Hot-Spot" inside high voltage temperature
- Measurement in gas insolated power breakers
- Temperature measurement on large drives

WEIDMANN

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TECHNICAL SPECIFICATION

Name of sensor	TST
Measurement range	-40 °C to +200 °C
Inertia	Up to 19 K/s
Accuracy *1	+/- 0.2 K
Fiber Ø	200 um
Sensor standard lengths	2 m up to 20 m
Connector type	ST with metallic ferrule (-40 to 85 °C)
Signal conditioner	Compatible with all Weidmann fiber optic thermometers

DESCRIPTION

Due to the growing demand for energy, existing power plants are reaching their limits. High-power generators are often filled with hydrogen to cool them effectively. Oil is used to insulate the windings of a transformer. In addition to the highly contaminated electromagnetic environment, the risk of explosions is high.

To ensure operational safety, critical factors such as temperature in generators and transformers must be monitored. The TST fiber optic sensor is a robust transmissive temperature sensor for use in oil-filled power transformers. It is particularly suitable for initial transformer manufacturing conditions as well as long-term events such as oil immersion and vibration.

The probes can be inserted in a spacer with or without a disk, or mounted directly on the transformer windings. In addition, we offer special optical feedthroughs for installing the fiber optic sensor on tank walls and oil transformers.

The TST probe consists of a glass fiber with a slotted PTFE sheath, which is additionally protected by a PTFE spiral tube. This makes it perfectly impregnated against dielectric oils and other liquids. All our sensors are completely non-metallic and therefore intrinsically safe. They do not contain any components that could generate sparks and cause explosions. Therefore, they can be safely used in hazardous areas. They are also completely immune to RFI, EMI, NMR and microwave radiation.

The fiber tip is provided with a GaAs crystal (gallium arsenide). Starting at a light wave length of 850nm GaAs becomes optical translucent. This allows an exact temperature measurement in seconds. The fiber optic sensor TST has a response time of 2 s. With an accuracy*1 of +/- 0.2 K it allows precise and repeatable measurements.

The length of the sensor cable is completely variable, without affecting the accuracy of the measurement results.

We are always anxious to adjust our offer to your special needs. In case of any further questions about individual measurement problems, lengths of sensors or connector types, please contact us.

*1 *Statement only possible with analysis unit. See data sheet of the measurement device for information about technical data.*

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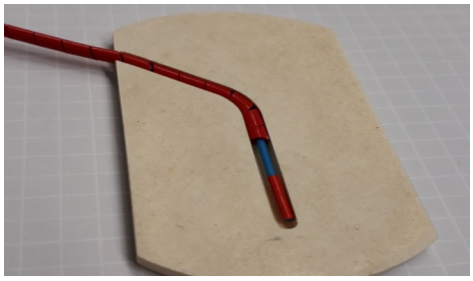
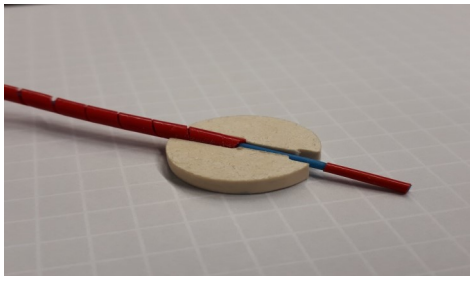
TEMPERATURE SENSOR

TST

OPTIONS For your order we need to know the sensor length and sensor type.

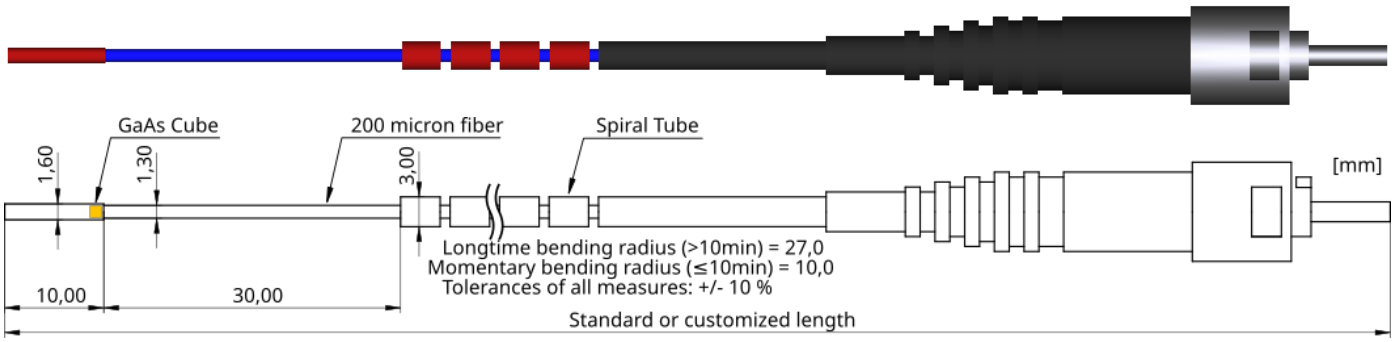


For using the sensors in a J-Spacer please order „TST2J“

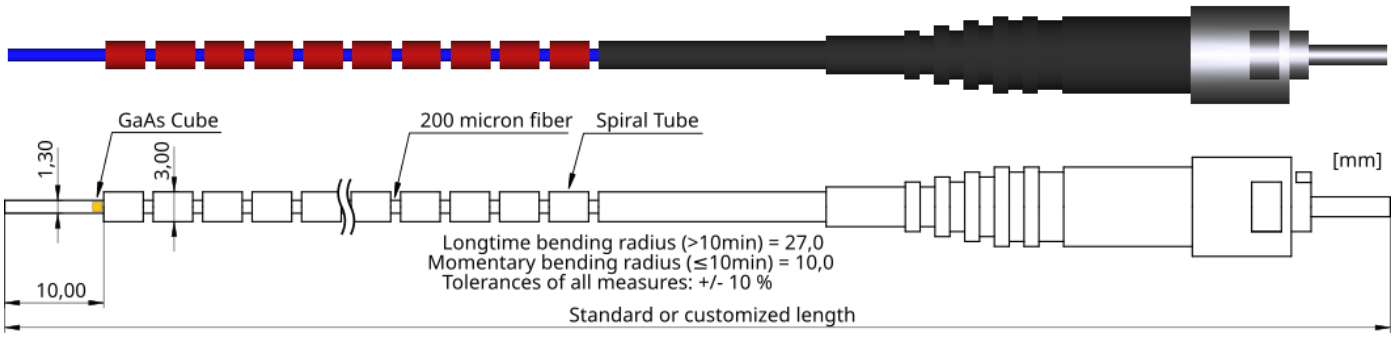


For using the sensor with disk, please order „TST2D“

DIMENSION TST2J



DIMENSION TST2D



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