



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 transformers
- Monitoring of "Hot-Spot" inside high voltage temperature
- Measurement in gas insulated power breakers
- Temperature measurement on large drives



WEIDMANN

FIBER OPTIC
TEMPERATURE SENSOR

TST

TECHNICAL SPECIFICATION

Name of sensor	TST
Measurement range	-40 °C to +200 °C
Inertia	Up to 3 K/s
Accuracy *1	+/- 0.2 K
Fiber Ø	200 µm
Sensor standard lengths	2 m up to 12 m
Connector type	ST with metallic ferrule (-40 to 85 °C)
Signal conditioner	Compatible with all Weidmann fiber optic thermometers

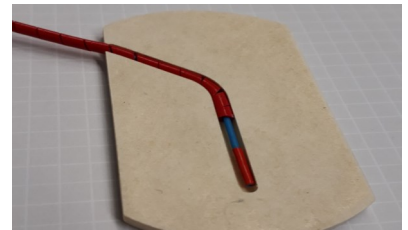
DESCRIPTION

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.

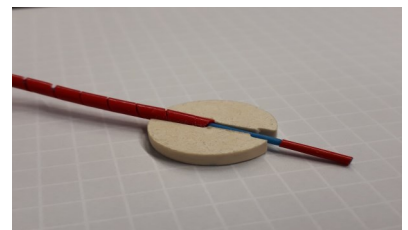
To ensure operational safety, critical factors such as temperature in generators and transformers must be monitored. The TST fiber optic sensor is a robust transmissive temperature sensor for use in oil-filled power transformers. It is particularly suitable for initial transformer manufacturing conditions 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. The fiber tip is equipped with a GaAs crystal (gallium arsenide) which enables an exact temperature measurement in seconds. The TST has a response time of 3 K/s with an accuracy*1 of +/- 0.2 K, enabling precise and repeatable measurements.

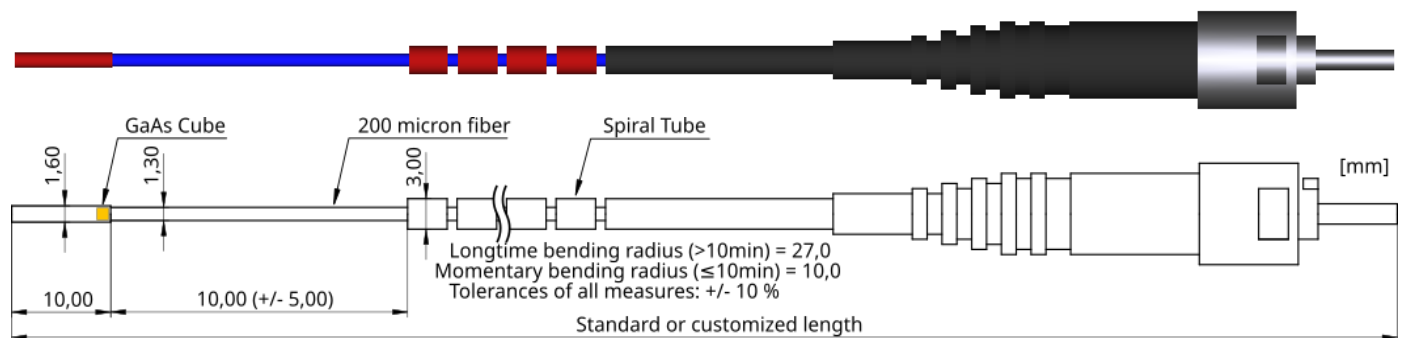


TST sensor in a J-Spacer



TST sensor with disk

DIMENSION



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

DISCLAIMER – PLEASE READ CAREFULLY

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