

FIBER OPTIC TEMPERATURE SENSOR

TS2p

Key Features

- Temperature range: -200°C to +300°C
 - Non-conductive
- Immunity to RFI, EMI, NMR and microwave radiation
- Resistance to high temperatures
 - High accuracy
- Stable and repeatable measurement
- GaAs-based temperature sensor

Applications

- EMI, RFI and microwave environments
 - High voltage environments
 - Process monitoring
- Medical applications (MRT)



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TS2p

TECHNICAL SPECIFICATION

| | |
|-------------------------|---|
| Name of sensor | TS2p, the plain one |
| Temperature range *2 | -200 °C to +300 °C |
| Standard deviation *1 | +/-0.2 °K |
| Response time | <= 2,0s |
| Fiber Ø | 200 µm |
| Measurement speed *3 | 19 °K/s |
| Sensor standard lengths | 2m and 10m (Other lengths on request) |
| Connector type | ST |
| Signal conditioner | Compatible with all Optocon and Weidmann fiber optic thermometers |

DESCRIPTION

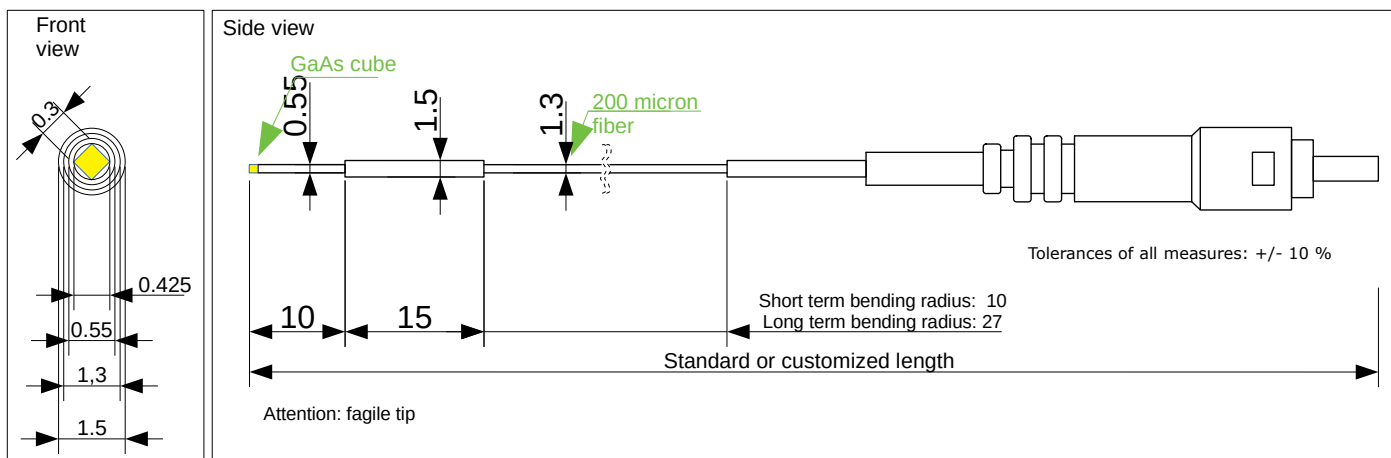
The fiber optic temperature probe TS2p is designed for fast measurements with direct contact to the heated element and offers immunity to RFI, EMI, NMR and microwave radiation. The standard temperature sensor TS2p has a measurement speed of up to 19°K/s. With a possible standard deviation* of +/-0.1°C it allows precise and repeatable measurements. The coating of TS2p temperature sensor is made of PTFE, the fiber tip has a quadratic edge length of 0.3 mm and has a ST-connector. For mechanical stability and applications e.g. in oil special protective coatings and hoses are available.

The fiber optic probe TS2p consists of a PTFE protected glass fiber and a plain GaAs-crystal cube (Galliumarsenid) at the sensor tip. It is totally free of metal and immune to RFI, EMI, NMR and microwave radiation – therefore TS2p probes are explicit suitable for the use in high temperature ranges (-200°C to +300°C) as well as in aggressive and rough test Environments.

All fiber optical temperature sensors can be connected to the fiber optic temperature measurement devices (FOTEMP), delivers accurate and complete reliable, stable and repeatable values. Starting at a light wave length of 850nm GaAs becomes optical translucent. Since the position of the band gap is temperature dependent, it shifts about 0.4nm/Kelvin. The sensor cable can be produced in different lengths without influencing the accuracy of the measurement result. Other sensor lengths and connector types are available upon request.

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.

DIMENSIONS



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

*2 Long-term temperature range -200°C up to +260°C, Short-term temperature range +260°C up to +300°C

*3 Measurement accuracy and standard deviation depend on calibration range and spreading of calibration points

mental temperature.