



## FIBER OPTIC TEMPERATURE SENSOR TS3

### KEY FEATURES

- Temperature Range:  $-200^{\circ}\text{C}$  to  $+300^{\circ}\text{C}$
- Standard deviation\*:  $\pm 0.2^{\circ}\text{C}$
- Completely non-conductive
- Complete immunity to RFI, EMI, NMR and microwave radiation
- Resistance to extreme temperatures
- High accuracy
- Stable and repeatable measurement
- GaAs-based temperature sensor

### APPLICATIONS

- Microwave and RF environments
- Food pasteurization
- NMR analytical chemistry applications
- Food cooking and conditioning in microwave ovens
- Microwave assisted chemistry
- Pharmaceutical drying of powders, herbs and granulated mixtures

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# FIBER OPTIC TEMPERATURE SENSOR TS3

## DESCRIPTION

The fiber optic temperature probe TS3 stands for expanded flexibility with usual Optocon quality and is the best choice for application in RFI, EMI, NMR and microwave environments.

The fiber optic sensor TS3 guarantees exact temperature measurements within a range of -200°C to +300°C at a standard deviation\* of +/-0.2°C. The jacket of the TS3 temperature probe consists completely of PTFE and ensures immunity to RFI, EMI, NMR and microwave radiation.

Unlike the fiber optic sensor TS2, the T3 comes with the possibility of a customizable length of the probe tip from 10mm to 130mm.

Thanks to their fast response time of 2s and a maximum diameter of 1.7mm the TS3 temperature probe is small enough to fit in even the

thinnest openings inside a measurement environment to deliver reliable data in real time.

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.

Beyond that, Optocon AG provides suitable extensions with a variable length up to hundreds of meters and kilometers, without influencing the measurement data.

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.

## TECHNICAL SPECIFICATIONS

|                            |                    |
|----------------------------|--------------------|
| <b>Name of sensor</b>      | TS3, The flexible  |
| <b>Temperature range</b>   | - 200°C to + 300°C |
| <b>Standard deviation*</b> | +/- 0.2°C          |
| <b>Response time</b>       | ≤ 2,0s             |
| <b>Fiber Ø</b>             | 200µm              |

|                           |   |
|---------------------------|---|
| <b>Sensor length</b>      | 2m standard<br>(Other lengths on customer request)      |
| <b>Connector type</b>     | ST  |
| <b>Signal conditioner</b> | Compatible with all Optocon AG fiber optic thermometers |

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

## DIMENSIONS

All dimensions in mm.

