



FIBER OPTIC THERMOMETER FOTEMP1-4

KEY FEATURES

- Modern design
- 1-4 measuring channels
- 1-4 relay outputs freely assignable to any channel
- Temperature display in °C, F or K
- Integrated fold out stand
- Measuring range: -200°C to +300°C
- High accuracy: +/-0.2°C
- Large 7,1cm (2,8") LCD-TFT color display
- Easy and intuitive user interface
- Quick and easy temperature measurement
- Choice between 0-10V or 4-20mA analog output
- Status LED

APPLICATIONS

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

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DESCRIPTION

The new fiber-optic thermometer FOTEMP1-4 combines innovative design with user-friendly functionality. The modern design makes the temperature measurement even easier and offers complete immunity to RFI, EMI, NMR and microwave radiation.

The FOTEMP1-4 has an innovative appearance: It has a larger screen and a modern keyboard which makes the data acquisition and control of the device even easier. The user-friendly display supports high-precision measurements, while the color LCD display offers excellent readout of the measurement values even in low light conditions. The menu supports two languages, German and English. With its compact design, it fits perfectly into any environments. Various interfaces, analog and relay outputs make the device very versatile. The extensive software "Fotemp Assistent" allows a detailed evaluation via PC with direct export of data to an Excel spreadsheet.

The FOTEMP1-4 has a measuring range from -200°C to +300°C. It measures with the usual Optocon accuracy of $\pm 0.2^\circ\text{C}$. The fiber optic thermometer offers complete immunity to RFI, EMI and microwave radiation, making it ideal for environments where the use of conventional temperature measuring instruments is excluded due to extreme conditions. It is compatible with all our fiber optic temperature sensors and is ideal for any applications in the laboratory and in industry.

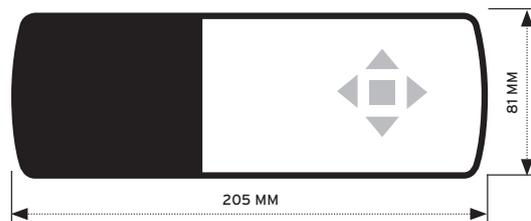
The outer jacket of the fiber optic temperature sensors is made out of teflon, at the sensor tip a GaAs crystal (gallium arsenide) is attached. The probe sensor is completely non-conductive. Optocon's fiber optic sensors offer complete immunity to RF and microwave radiation with high temperature operating capability, intrinsic safety, and non-invasive use. The probes are also designed to withstand harsh and corrosive environments.

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 measurement device contains a light source and a device for the spectral detection of the band gap. This guaranties fast, repeatable and reproducible measurements.

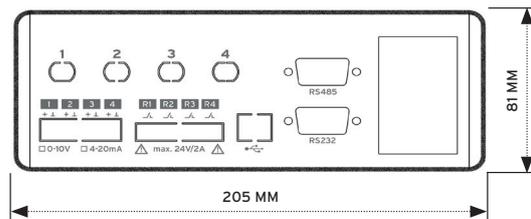
Over the entire life of the system calibration is not required to remain within the specifications.

DIMENSIONS

FRONT VIEW



BACK VIEW



TECHNICAL SPECIFICATIONS

Number of channels	1-4
Power supply	100-240VAC / 50-60Hz
Power consumption	> 10VA
Measuring range	- 200 °C to + 300 °C
Accuracy	+/- 0.2 °C
Resolution	0,1 °C
Sampling rate/Channel	250ms
Analog output	0-10V or 4-20mA
Interface	RS-232 or RS-485 or USB
Relay output	4
Datalogging	Log sequenz via Software
Display	7,1cm (2,8") LCD-TFT color display
Connector type	ST
Form factor	IP50
Storage temperature	-20°C to +70°C
Operating temperature	-20°C to +60°C
Weight	1,2 kg
Dimensions	205 x 267 x 81 mm
Material	ABS/PC in RAL9003
Software	FOTEMP-Assistent
Data export	Via interfaces
Warranty	2 years
Probes	All fiber optic temperature probes from Optocon AG can be connected.



**FIBER OPTIC
PROBES & SENSORS**
PRODUCT OVERVIEW

FIBER OPTIC PROBES & SENSORS



MODEL	TS2	TS3	TS4	TS5	TSMultipoint	TSNANO
Key Features	High accuracy, resistance to extreme temperatures, completely non-conductive	Immune to EMI/RFI and microwave emissions, completely non-conductive	High accuracy, completely PTFE coated	Flexible fiber optic cable, corrosion resistant, small and compact size, high accuracy	spatially resolved temperature measurement, multiple sensors in only one protective hose	Miniature size, robust, self assembly
Applications	Power transformer, Bus bar	Microwave and RF environments	Harsh chemical conditions, e.g. nuclear	Medical environments, catheter instrumentation	Medical environments	Process monitoring
Temperature range	- 200 °C to + 300 °C	- 200 °C to + 300 °C	- 200 °C to + 300 °C	- 200 °C to + 300 °C	- 200 °C to + 200 °C	- 200 °C to + 200 °C
Accuracy	+/- 1 °C	+/- 1 °C	+/- 1 °C	+/- 1 °C	+/- 1 °C	+/- 1 °C
Response time	≤ 2.0 s	≤ 2.0 s	≤ 2.0 s	≤ 2.0 s	≤ 2.0 s	≤ 10.0 s
Probe dimensions	D1: 1,0 mm D2: 1,7 mm D3: 1,3 mm	D1: 1,0 mm D2: 1,7 mm D3: 1,3 mm	D1: 2,0 mm D2: 2,0 mm D3: 1,3 mm	D1: 0,55 mm D2: 2,0 mm D3: 1,3 mm	D1: 0,5 mm D2: 1,5 mm D3: 1,3 mm	D1: 0,9 mm D2: 1,6 mm D3: 1,3 mm
Fiber optic cable dimensions Other lengths on request	L1: 10 mm L2: 10 mm L3: 1-20 m	L1: 10-130 mm L2: 30 mm L3: 1-20m	L1: 10 mm L2: 10 mm L3: 1-20 m	L1: 10-600 mm L2: 15 mm L3: 1-20 m	L1: 5 mm L2: L3: 1-20 m	L1: 30 mm L2: ≤ 1 m L3: 1-20 m
Cable coating	Teflon	Polyimid / Teflon	Teflon	Polyimid/Teflon	Polyimid/Teflon	Polyimid/Teflon
Connector type	ST	ST	ST	ST	ST	ST

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