



## FIBER OPTIC THERMOMETER FOTEMP1-H

### KEY FEATURES

- Portable
- Rechargeable battery operated
- Measuring range: - 200 °C to + 300 °C
- Standard deviation\*: +/-0.2°C
- Large backlit LCD-Display
- RS-232

### 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

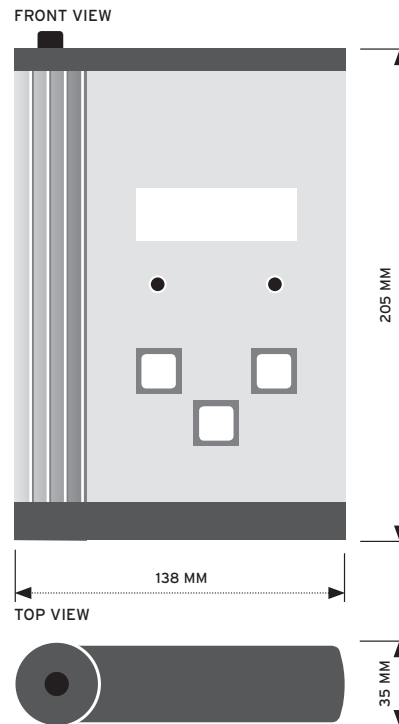
The fiber optic thermometer FOTEMP1-H is ideal for a huge variety of applications due to its portability. FOTEMP1-H offers a unique variety. Battery operated for maximum flexibility, the user can move easily from one measurement point to the next. The battery of the handset offers continuous operation for at least 5 hours of electricity and can additionally be loaded with a power supply.

The FOTEMP1-H, Single-channel handheld signal conditioner features a large LCD display with LED backlight and comes with an RS-232 communication port for real-time data acquisition. It can be controlled directly using the front-panel keypad or using the "FOTEMP Assistant" software. One installed LED shows the battery charging status and a second LED the operational readiness of the connected sensor. Temperature can be measured in high electromagnetic interfered environment, in microwave fields and other environments, where measurement with electric temperature sensors is not possible.

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 850 nm GaAs becomes optical translucent. Since the position of the band gap is temperature dependent, it shifts about 0.4 nm/ 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.

## DIMENSIONS



## TECHNICAL SPECIFICATIONS

<b>Number of channels</b>	1
<b>Power supply</b>	12 VDC, incl. power supply
<b>Power consumption</b>	350 mA
<b>Display range</b>	- 200 °C to + 300 °C
<b>Standard deviation*</b>	+/- 0.2 °C
<b>Resolution</b>	0,1 °C
<b>Measuring time/ Channel**</b>	250 ms
<b>Analog output</b>	none
<b>Communication</b>	RS-232 / RS-485
<b>Calibration</b>	One-point calibration via software
<b>Display</b>	LCD 1 x 8 digets, LED backlight
<b>Storage temperature</b>	- 20 °C to + 70 °C
<b>Operating temperature</b>	0 °C to + 50 °C
<b>Weight</b>	0,9 kg
<b>Dimensions</b>	205 x 138 x 35 mm
<b>Material</b>	Aluminium, Metallic
<b>Software</b>	e.g. FOTEMP Assistant 2 or ASCII-Protocol-Description
<b>Communication protocols</b>	ASCII over RS-232
<b>Warranty</b>	1 years
<b>Probes</b>	Compatible with all Optocon AG fiber optic temperature probes.

\*The "expanded uncertainty of measurement" is the product of the reported standard deviation and the coverage factor k=2. It corresponds to a normal distribution to a coverage probability of approximately 95%.

\*\*Mean value. This value depends on the used sensor and its environmental temperature.