

## FIBER OPTIC THERMOMETER FOTEMP T20

### KEY FEATURES

- Robust & durable industrial design
- DIN Rail or mounting brackets
- 4 to 16 measuring channels
- Measuring range:  $-200^{\circ}\text{C}$  to  $+300^{\circ}\text{C}$
- High accuracy:  $\pm 0.2^{\circ}\text{C}$
- Status LED and LCD display
- Analog Output option (first 8 Channels Only)
- 4 programmable control relays (standard)
- Built-in USB interface (first 8 Channels Only)
- RS485/ModbusRTU or Ethernet/ModbusTCP option
- Includes FOTEMP-ASSISTANT data logging software

### APPLICATIONS

- Multichannel test and process applications, including: medical, chemical, biomedical, microwave, food, semiconductor and downhole
- Monitoring temperature inside high voltage transformers, capacitors, and generators
- Temperature measurements on high voltage distribution power lines, gas insulated switchgears, power breakers, and power factor adjustment capacitors
- Economical multichannel solution

# FIBER OPTIC THERMOMETER

## FOTEMP T20

### DESCRIPTION

Weidmann's FOTEMP T20 offers a multichannel on-line monitoring solution for all manner of industrial applications, from process automation to research lab, down hole to medical MRI, from wind turbines to transformers.

In addition to measuring temperature, the FOTEMP T20 system incorporates 4 programmable relays for controlling external hardware during customer-defined emergency or overload conditions.

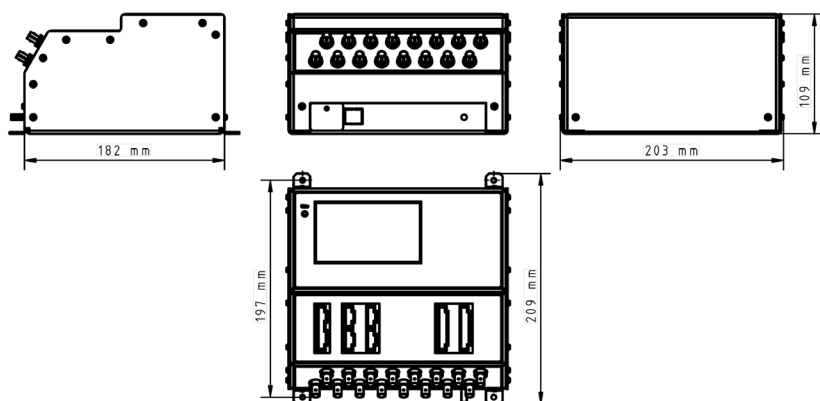
The drift-free, re-calibration free and maintenance-free FOTEMP T20 allows for optimum operation during normal and emergency conditions.

The temperature measurement is based on Gallium Arsenide sensor mounted on 200um all-silica fiber. The probe consists of a glass fiber with PTFE sheath,.

The sensor possesses a resilient construction and has dielectric resistant materials featuring complete immunity to EMI and RFI environments. The optical cable is specially designed for permanent installation in a harsh chemicals or liquid-immersed transformer. The various TS series sensor models are optimized for use in specific applications - general purpose, microwave ovens, harsh chemicals, and medical.

The FOTEMP T20 is supplied with FOTEMP-Assistant V2 configuration and data logging software. The PC-based software will recognize either USB or RS485/Modbus-RTU via (RS485-to-USB serial adapter) connections. For SCADA and other network applications, the system offers Modbus protocol communications via either serial RS485/Modbus RTU or Ethernet/Modbus TCP interface.

### DIMENSIONS



### TECHNICAL SPECIFICATIONS

<b>Number of channels</b>	4, 8, 12, or 16
<b>Power supply</b>	24V, Max 40W
<b>Measuring range</b>	-200°C to +300°C, actual range depends on calibration option chosen: A1 Basic: -20°C to +150°C A2 Standard: -40°C to +200°C B High Temp: -40°C to +300°C C Extended: -200°C to +300°C
<b>Accuracy</b>	± 0.2°C (1σ)
<b>Resolution</b>	0.1°C
<b>Sampling rate/channel</b>	250ms per Active Channel (i.e. total for 4 Channels=1s, for 8 Channels=2s). Use supplied FOTEMP-ASSISTANT software to Disable channels for fastest update rate.
<b>Analog output</b>	Options: None, 4-20mA or 0-10V 14-bit resolution
<b>Relays</b>	4 Programmable limit settings, Contact Rating: 2A at 24 VDC, 2A at 120 VAC, Maximum 48W or 240 VA
<b>Interfaces</b>	Standard: USB (ASCII) Options: RS485/ModbusRTU (P1) or Ethernet/ModbusTCP (P2)
<b>Protocol</b>	ASCII and Modbus protocol information available to assist custom programming applications
<b>Data logging</b>	FOTEMP Assistant compatible with supplied FOTEMP-Assistant V2 data logging software, either USB or RS485/Modbus-RTU interface
<b>Optical Interface</b>	ST, compatible with all TS series probes
<b>Temperature</b>	Storage: -20°C to +70°C, Operating: -20°C to +60°C
<b>Dimensions/Weight/IP</b>	204 x 209 x 109 mm, 1.2 kg, IP20
<b>Materials</b>	Aluminum housing
<b>Mounting</b>	DIN Rail or mounting brackets
<b>Warranty</b>	2 years
<b>Calibration Interval</b>	Under normal use, the instrument does not require recalibration. When sensors and cables are changed, a One-Point Calibration is required. Recommended cal interval is 12 months for ISO quality systems.

Specifications subject to change without notice

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## FOTEMP T20

### Ordering Info

**F O T E M P - T 2 0 - 8 - P 2 - 0 - A**

**No. of Channels**

- 4** 4 Channels
- 8** 8 Channels
- 12** 12 Channels (P2 option not available)
- 16** 16 Channels (P2 option not available)

**Digital Interface Option**

- P1** USB + RS485/ModbusRTU
- P2** USB + Ethernet/ModbusTCP

**Analog Output Option**

- 0** None
- M** 4-20mA (limited to first 8 channels)
- V** 0-10V (limited to first 8 channels)

**Calibration Option**

- A1** Basic, -20°C to +150°C
- A2** Standard, -40°C to +200°C
- B** High Temperature, -40°C to +300°C
- C** Extended, -200°C to +300°C

### FOTEMP TS Series Temperature Probes



#### Quick Ship Models:

<b>FOTEMP-T2-8-P1-M-A2</b>	8 Channels, USB+RS485/Modbus RTU, 4-20mA, A2-Cal (-40°C to +200°C)
<b>FOTEMP-T2-8-P1-0-A2</b>	8 Channels, USB+RS485/Modbus RTU, No AO, A2-Cal (-40°C to +200°C)
<b>FOTEMP-T2-8-P2-0-A2</b>	8 Channels, USB+Ethernet/Modbus TCP, No AO, A2 Cal (-40°C to +200°C)
<b>FOTEMP-T2-16-P1-0-A2</b>	16 Channels, USB+RS485/Modbus RTU, No AO, A2 Cal (-40°C to +200°C)

#### Quick Ship TS Temperature Probes:

<b>TS2p-02</b>	General Purpose, L1 Length=15mm, Length=2m
<b>TS2p-05</b>	General Purpose, L1 Length=15mm, Length=5m
<b>TS3-15MM-02</b>	General Purpose, L1 Length=15mm, Length=2m
<b>TS3-15MM-05</b>	General Purpose, L1 Length=15mm, Length=5m
<b>TS4-20MM-02</b>	For Harsh Chemicals and Radiation, Length=2m
<b>TS4-20MM-05</b>	For Harsh Chemicals and Radiation, Length=5m
<b>TS5-20MM-02</b>	For Medical, L1=20mm, Length=2m
<b>TS5-20MM-06</b>	For Medical, L1=20mm, Length=6m
<b>TS5-50MM-02</b>	For Medical, L1=50mm, Length=2m
<b>TS5-50MM-06</b>	For Medical, L1=50mm, Length=6m
<b>TST2J-05</b>	For Transformer Hot Spot Monitoring with Smart J-Spacer, Length=5m
<b>TST2D-05</b>	For Transformer Hot Spot Monitoring with Smart Disk, Length=5m

#### Quick Ship DIST series Fiber Optic Extension Cables:

<b>DIST-C900-03</b>	Industrial Grade, Length=3m
<b>DIST-C900-05</b>	Industrial Grade, Length=5m
<b>DIST-C900-10</b>	Industrial Grade, Length=10m

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