

## T301- Rugged Fiber Optic Temperature Monitor



- Rugged, Compact Design
- 4 to 24 Channels, Expandable
- Plug and Play, No field calibration
- Best in class EMI, ESD Immunity
- 8 Programmable relays, Form - C
- Software designed to be interfaced with other testing platforms

**Rugged design, designed for reliability, multichannel fiber optic temperature monitor for Industrial and Laboratory applications.**

#### Drivers :



USB



LABVIEW



MATLAB



PYTHON

## Product Summary

The Rugged Monitoring T301 is a multi-channel fiber optic temperature monitor with precision measurement for Industrial and Laboratory applications. The T301 Fiber optic monitor combines compact form factor and user friendly interface in the monitor and software. It is designed to operate reliably in extreme EMI, RFI, Microwave and high voltage environments. The T301 has a measuring range from -271 °C to +300 °C. The system offers complete immunity to RFI, EMI, Chemical, microwave radiation, and high voltages making it an optimal choice for environments where the limitations of conventional temperature sensors / monitors impact usage in extreme conditions. The system is based on proven zero-drift GaAs technology and designed for Plug and Play operation.

The T301 is designed to collect data and to easily integrate into existing systems through serial communication like RS-485 or Gigabit Optical Ethernet. The T301 monitor comes with Rugged Connect software which is designed with the needs of Test Platform or Industrial Process monitoring integration needs. It has the data integration capability of multiple test platforms. Rugged Connect software is designed to collect data from 256 channels simultaneously. Plug and Play functionality provides the flexibility to interchange sensors without the inconvenience / concerns of calibration. Rugged Monitoring has a dedicated team for application specific customizations for fiber optic sensors, monitor configuration and software integration to simplify the data collection of testing and monitoring applications.

# Applications

- Transformer Hot Spot monitoring
- Industrial process control and monitoring
- Electric Vehicle and Battery Testing
- Medical Equipment testing (MRI, PETSCAN, NMR)
- Commercial Grade Microwave Radiation
- Food and Beverage Processes

## Benefits

- No shift over time, high stability
- Robust packaging
- Each Monitor comes with a complete NIST calibration Certificate
- Software designed for integration into test platforms
- Robust datalogging and Analytics
- Customizable according to customer specific applications
- Suitable for OEM-type applications.

## TECHNICAL SPECIFICATIONS

Measurement Range	-80 °C to +300 °C (cryogenic 4 °K range optional)
Measurement range ( <i>Optional Range extensions</i> )	Down to to 2 °K / Up to +300 °C
Resolution	0.1 °C
Accuracy	±1.0 °C (±0.2 °C in relative temperature)
Scan rate	200 ms / channel
Memory	MicroSD external memory slot (Up to 2 TB)
Logging	10 years at 10 sec interval rate (8 GB)
Serial Port	RS-485 with Modbus
Connectivity	Gigabit, Optical Ethernet
Analog Outputs	8 fully configurable 0-10 V / 4-20 mA optional module available
Max # of Channels	256 Channels, Daisy chain up to 32 units (with Modbus)
Memory	4 or 8 GB, Industrial Grade micro-SD
Relays	8 Programmable Form-C Relays (5A) plus 1 system fault relay
Operating temp	-40 to 72 °C
Storage temp	-40 to 85 °C
Number of Channels	4 - 24 channels
Dimensions	10.5" x 7.4" x 2.8" 26.7W x 18.7D x 7.2H cm
Humidity	95% Non Condensing

## ORDERING CODE



Number of Channels  
Ex: 08 = 8 Channels

T 3 0 1 -

Ethernet Protocols  
0 = No Ethernet  
1 = Ethernet Board RJ45  
2 = Ethernet Board RJ45 & SFP

Number of Analog Outputs  
0 = No Analog Outputs  
8 = 8 Analog Outputs

E A R M

Memory Size  
0 = None  
4 = 4 GB  
8 = 8 GB

Number of Relays  
0 = No Relays  
8 = 8 Relays



### Rugged Monitoring Services

Rugged Monitoring provides customization of sensors, monitors & software. In addition we offer on-site commissioning services, maintenance contracts and technical support to all customers worldwide.



### About Rugged Monitoring

Industry leading team of fiber optic experts with 100+ years of combined experience committed to delivering customizable solutions for challenging applications. We offer a range of reliable, high performance, customizable sensors and monitoring solutions that are immune to external influence.

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