



O201

Fiber Optic Temperature Monitoring
with Fluorescence Technology

O201

Fiber Optic Temperature Monitoring with The Most Beneficial Fluorescence Technology



RM's Fluorescence technology based O201 is designed with high accuracy, reliable for operation in extreme EMI, RFI, Microwave and high voltage environments. It is a multi-channel fiber optic temperature monitor with precision measurement for Original Equipment manufacturers. The O201 has a measuring range from -271 °C to +300 °C. The system is based on proven Fluorescence technology and designed for Plug and Play operation.

The system provides complete immunity to RFI, EMI, microwave radiation, and high-voltage interference, making it ideally suited for harsh and electrically noisy environments where conventional temperature sensors and monitors are unreliable or impractical.

The O201 is designed for efficient data acquisition and seamless integration into existing systems via serial communication interfaces such as RS-485, as well as analog outputs including 0–10 V and 4–20 mA. It supports Modbus protocols, includes a system fault relay, and allows custom application logic to address customer-specific requirements.

Engineered for monitoring, test platforms, and industrial process applications, the O201 enables data integration across multiple test systems. Industry-standard drivers ensure quick and straightforward connectivity with the most widely used laboratory and industrial software platforms. Its fluorescence-based fiber-optic temperature-sensing technology ensures reliable operation in complex environments, including those with strong electromagnetic fields and high-voltage conditions.

Rugged Monitoring designs and manufactures customized, state-of-the-art fiber optic sensor systems for precise measurement of temperature, strain, and other critical physical parameters, tailored to meet demanding industrial and research applications.

Our fiber optic temperature monitor with Fluorescence technology suits the requirement of measurements with difficult environmental conditions.

» Features

- Rugged, Compact Design
- 1 to 8 Channels, Expandable
- Plug and Play
- Best in class EMI, ESD Immunity
- Software designed to be interfaced with other testing platforms

» Applications

- Electric Vehicle and Battery Testing
- Medical Equipment testing (MRI, PETSCAN, NMR)
- Commercial Grade Microwave Radiation
- Industrial process control and monitoring applications
- Chemical and process Industries Food and Beverage Processes
- Wood drying industry

» Benefits

- Robust and Reliable
- Offers a low-cost interrogator
- Suitable for OEM-type applications
- Sensors do not require any recalibration
- No shift over time, high stability and repeatability
- 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

» Technical Specifications

Measurement Range	-271° to +300°C (cryogenic 4 °K range optional)
Measurement range (Optional Range extensions)	Down to 4 °K / Up to +300 °C
Resolution	0.1°C
Accuracy	±1.0 °C (+/- 0.2 °C in relative temperature)
Number of Channels	1 - 8 Channels
Logging	1 sec interval on USB / Micro SD card
Config port	USB (to use with Rugged connect windows software)
Max # of Channels	Expandable to 256 Channels, Daisy chain up to 32 units (with Modbus)
Communication Ports	RS-485 (RS-232 optional converter) with Modbus
Power	24 VDC
Memory	MicroSD external memory slot (up to 2 TB)
Analog output module	Fully configurable eight 0-10 V / 4-20 mA module (Optional)
Dimensions	4.72" x 6.34" x 1.89" 120 x 161 x 48 mm
Scan rate	200 ms / channel (Optional: Faster scanning rates available)
Operating temp	-40°C to 72 °C
Storage temp	-40°C to 85 °C
Humidity	95% Non-Condensing
Relay	System Fault relay (5A)

» Ordering Code

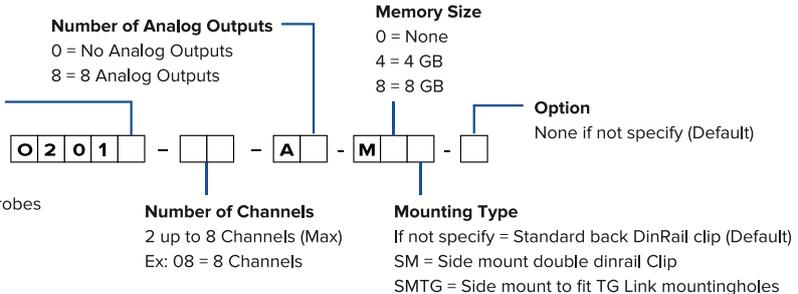
0201 = Transformer OEM module (Default)

Alternate Smart Part Number

O201LS = Transformer OEM module

62.5µm probes compatible

O201FL = Transformer OEM module Fluo probes



CERTIFICATIONS



ISO 9001



ISO 14001



OHSAS 18001

Canada

1415 Frank-Carrel, Sulte , 230, Quebec, QC-G1N , 4N7, CANADA

Asia Pacific | China | India | Middle East & Africa | Europe | North America | Latin America

+1-418-767-0111

info@ruggedmonitoring.com

www.ruggedmonitoring.com