



R501

Most Versatile, Multi Channel and Rugged Fiber Optic Temperature Monitor

Robust | Reliable | Responsive



Rugged design and extensive multichannel system for various, fibre optic temperature sensors (GaAs, Fluro), RTD, pressure, current, voltage, etc.

Support for centralized and distributed installation makes it most viable option for variety of applications.

Applications	MRI Research & Testing	Testing Various Medical Components and Devices	Laser Ablation Machines	RF/ MW/HIFU Ablation Machines	Cryoablation Machines	OEM Board Embedded & Integrated Inside Incubator or MRI	CT Scan Machines	Animal Physiological Testing

Key Features of R501

- Supports Fiber Optic GaAs & Fiber Optic Fluro technologies for temperature monitoring
- Scalable and field upgradable from 02 channels to 256 channels with plug and play modules
- Intuitive software for real time data acquisition, visualization and analysis
- Expandable to add different analog or digital inputs and outputs
- Best in class EMI, ESD Immunity; range of communication options and protocol support
- Range of communication options for third party system integration

Wide Range Of Input / Output Modules

Designed To Cater For Variety Of Application Across All Industries

1. Range of Fiber Optic Temperature Module based on GaAs technology

- 2, 4, 6, 8 Fiber Optic channels per module
- Supports GaAs 62.5u - 200u Fiber Optic Sensors
- Internal sensor for self integrity check
- Built in LED indicators for power communication & channel status

2. Range of Fiber optic temperature monitor based on Fluorescence technology

- 2, 4, 6, 8 Fiber Optic channels per module
- Supports Fluro 62.5u - 200u Fiber Optic sensors
- Built in LED indicators for power communication & channel status



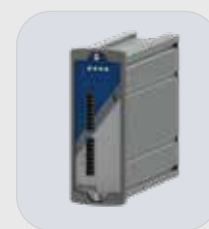
3. Analog Input Module

- 5, 10 Analog input channels per module
- Supports various sensors with a analog output (resistive, 4-20mA, current, voltage)
- Built-In LED indicators for Power, Communication, and all Channel status



4. Digital Input Module

- 8, 16 Digital input channels per module
- Supports connection from dry contact digital signal.
- Built-In LED indicators for Power, Communication, and Status



5. Analog Output Module

- 8, 16 channels Analog outputs per Module
- Current (4-20mA), Voltage (0-5V / 0-10V) outputs
- Built-In LED indicators for Current (4-20mA), Voltage (0-5V / 0-10V) outputs
- User customizable and configured



6. Relay Output Module

- 4, 8 Channels per module
- Form C relays (NO-C-NC)
- User customizable and configurable for different alarm conditions



Benefits of R501

- Improved asset reliability
- Access temperature data from anywhere
- One monitoring solution for multiple assets
- Highest return on investment
- Field upgradable with no device downtime

Technical Specifications

POWER SUPPLY	Input Power Requirement	24 - 48 V DC (Default), 120 W, and any other (upon request)
CPU MODULE	Data Storage Capacity	MicroSD external memory slot (up to 2 TB)
	Logging Rate	1 sec interval on USB
	Config port	USB (to use with Rugged connect windows software)
SYSTEM CAPACITY	Maximum number of Channels	Expandable to 256 Channels, Daisy chain up to 32 units (with Modbus, Canbus)
FIBER OPTIC MODULES	# of Channels	2, 4, 6 and 8 channels
	Measurement Range	-80 °C to +300 °C (cryogenic 4 °K range optional)
	Resolution	0.1 °C
	Accuracy	±1.0 °C (±0.2 °C in relative temperature)
	Scan Rate	200 ms / channel (Optional: Faster scanning rates available)
ANALOG INPUT MODULE	# of Input Channels	05 or 10 Channels
	AC Current Input	Clamp-on CT with different ranges: 5Amp, 10Amp, 20Amp, 100Amp and others available
	DC Current Input	4 - 20 mA
	Temperature Input	100 ohm platinum (Pt100)
	Potentiometer	up to 20,000 ohms
DIGITAL INPUT MODULE	# of Input Channels	08 or 16 Channels
	Dry Contact	Resistance between the contact < 100 Ω
	Powered Contact	75 - 250Vdc
ANALOG OUTPUT MODULE	# of Input Channels	08 or 16 Channels
	Output format	4-20 mA or 0-5V or 0-10V Configurable for any measured / calculated value
RELAY OUTPUT MODULE	# of Output Channels	04 or 08 Form C relays
COMMUNICATION OPTIONS	Ethernet Ports (RJ-45 & FO Ethernet)	Modbus, DNP3.0, IEC 60870-5-104, MQTT, IEC61850, PRP
	Serial Port	RS485 with Modbus support
	CANBUS Port	CANBUS Master/Slave support for Can Dataloggers
ENVIRONMENTAL AND MECHANICAL	Operating Temperature	-40 to 72 °C
	Operating Humidity	95% Non Condensing
	Storage Temperature	-40 to 85 °C
	Dimensions	W26.7 cm x H7.2 cm x D18.7 cm (10.5" x 2.8" x 7.4")
	Weight	App. 5Kg. (for complete filled Chassis)

Rugged Connect & Web Based Software

Key Features

The intuitive user interface of the software is designed to give quick access to the most relevant information with highest level of data security. The key features of rugged connect software are:

- Flexibility to compare and plot multiple parameters from modules for corelative analysis (or comparison) such as Temperature, Pressure, Vibration, Current etc.
- Real time data visualization and user configurable alarming
- Monitoring of signal strength for Fiber Optic signals for easy troubleshooting
- Easily customizable dashboards to meet different application requirements
- Flexibility to adjust data storage frequency and with user selectable summary feature (Minimum, Maximum and Average)
- Historic trending for user selectable duration
- Export of data into CSV, Excel, and JPEG format
- Flexibility to Enable / Disable Channels remotely using rugged connect software
- Support for multiple languages



Integration with third party systems

Rugged connect provides easy to configure protocols for integration with third party data logger and systems.



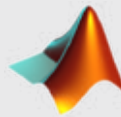
It supports the following protocols for data input and output:

- Serial Protocols: CANBUS, Profinet, Modbus, DNP3.0, IEC 60870-5-101
- Ethernet (TCP/IP) Protocols: Modbus, DNP3.0, IEC 60870-5-104, IEC61850

Third Party Drivers Available



LABVIEW



MATLAB



PYTHON

Distributed Modules have CANBUS / MODBUS data output for high resolution data logging such as CAN Dataloggers.

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's leading team of asset condition monitoring 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.

Our Presence Across the Globe

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