

## LUXTRON M924 OEM MODULE

Fiber optic temperature sensing for medical research, general research and development, and original equipment manufacturing (OEM) applications with a temperature range of -100 to 330°C



The Luxtron® m924 module uses Fluoroptic® technology, based on a temperature sensitive phosphorescent sensor attached to the end of an optical fiber. The complete m924 OEM solution consists of the electronics module assembly plus Luxtron probes and accessories. The system provides precise and repeatable in-situ temperature measurements for control of processes involving RF, EMI, magnetic fields and high voltages.

### PRODUCT HIGHLIGHTS

- 4 channels, expandable up to 64 with RS485 Modbus
- Custom probes for medical and general purpose applications
- Builds on proven design with thousands of systems installed worldwide
- Single PCB design with options for analog output and metal enclosure
- Probes are immune to electromagnetic interference such as high voltage, RF, plasma, and microwave

### TYPICAL APPLICATIONS

- MRI and RF medical treatment
- Pace makers and implantable device testing
- Temperature monitoring of critical military equipment and facilities
- Temperature control of microwave processes
- Monitoring of semiconductor wafer temperatures during RF and plasma applications

### AT A GLANCE

#### Temperature Range

-100 to 330°C

#### Probe Type

STB and STF

#### Accuracy after Calibration

Single Point  
±0.5°C, ±50°C of calibration point

Three Point  
±0.1°C over a 100°C range  
(probe dependent)

Custom  
±0.05°C over calibration range

#### Noise

< 0.1°C, (1-sigma STD @ 1 Hz)

#### Analog Output

4 to 20 mA or 0 to 10 V

#### Serial Communication

RS232 and RS485

OVERVIEW

The m924 Module is designed to replace the Luxtron m600 OEM Series module and FOT Lab Kit with better performance and a modern architecture.

**Safe, Non-Metallic Temperature Sensing**

The standard OEM Module is a single printed circuit board (PCB) with an optional DIN-rail mountable enclosure. The standard m924 Module has RS232 (ASCII) and RS485 (Modbus) digital communications, and optional analog output for easy OEM system integration.

**Compatible with Luxtron Probes and Custom Probes**

Non-metallic and electrically non-conductive, the Fluoroptic® temperature probes are immune to EMI and voltages that adversely affect conventional sensors,

such as thermocouples, RTDs and thermistors. By using material of minimal thermal conductance, these probes measure temperature on minute samples without perturbing or heat sinking the sample. We offer diverse medical, industrial, and process experience to develop custom probes to meet specific Lab and OEM requirements.

**Field Proven Fluoroptic Technology**

Luxtron pioneered the field of fiber optics in 1978 with our trusted Fluoroptic technology. Thousands of our OEM modules have been installed in various, challenging applications with reliable, repeatable performance.

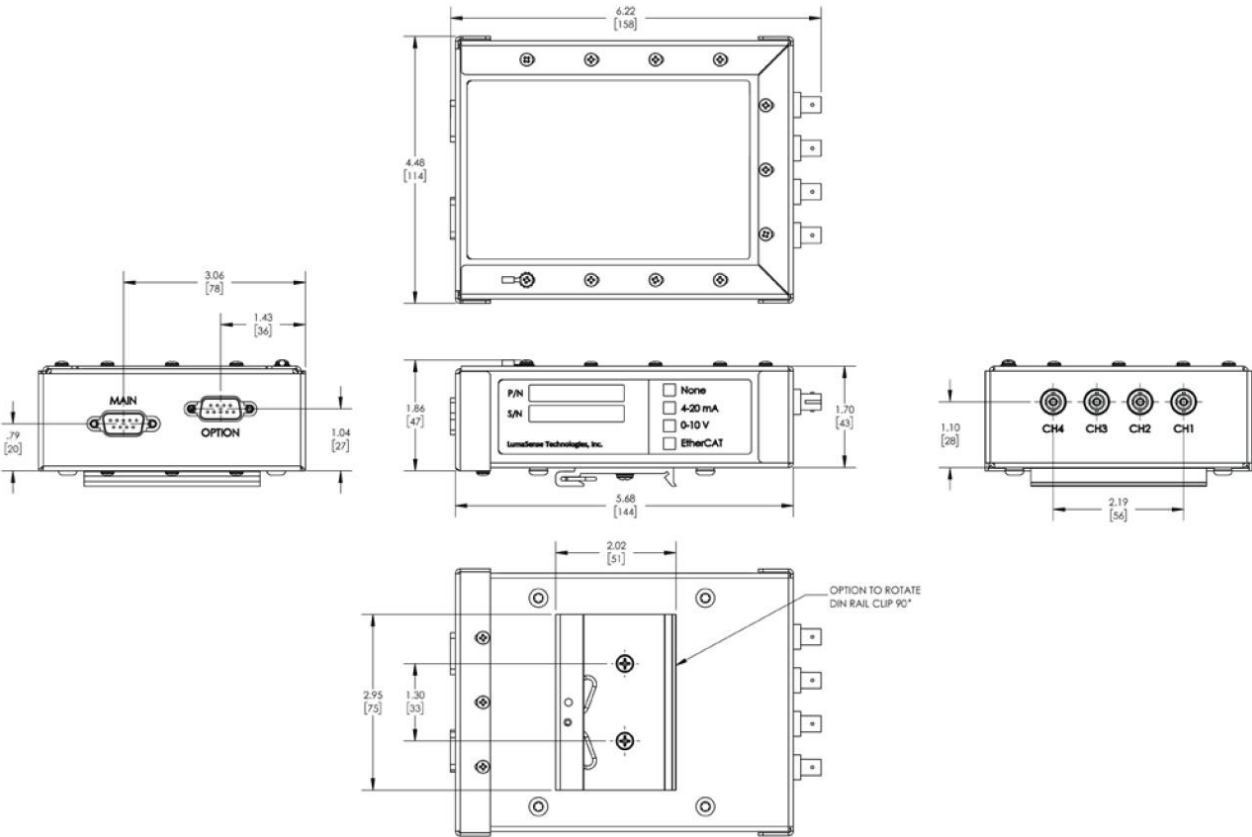
TECHNICAL DATA<sup>1</sup>

Measurement Specifications		
Temperature Range	-100 to 330°C	
Sampling Rate	Up to 50 Hz per channel	
Channels	4 or up to 64 with RS485 Modbus	
Probe Type	STB and STF	
Accuracy after Calibration	Single Point Calibration	±0.5°C, ±50°C of calibration point
	Three Point Calibration	±0.1°C over a 100°C range (probe dependent)
	Custom Calibration	±0.05°C over complete calibration range
Noise	< 0.1°C, (1-sigma STD @ 1 Hz)	
Measurement Resolution (Digital Output)	0.01°C	
Input Voltage	5 to 24 VDC + 5%	

Environmental Specifications	
Operating Temperature Range	-40 to 85°C
Storage Temperature Range	-30 to 75°C
Relative Humidity	80% RH (max) non-condensing
Overall Dimensions (Main board and main board with analog outputs)	23.7 (H) x 100.6 (W) x 134.4 (L) mm
Enclosure Dimensions	47 (H) x 114 (W) x 144 (L) mm

Communication	
Analog Output	4 to 20 mA or 0 to 10 V
Serial Communication	RS232 and RS485
Protocol	ASCII (RS232) & Modbus (RS485)

**DIMENSIONS**



Dimensions in inches [mm]



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## ABOUT ADVANCED ENERGY

Advanced Energy (AE) has devoted more than three decades to perfecting power for its global customers. AE designs and manufactures highly engineered, precision power conversion, measurement and control solutions for mission-critical applications and processes.

AE's power solutions enable customer innovation in complex semiconductor and industrial thin film plasma manufacturing processes, demanding high and low voltage applications, and temperature-critical thermal processes.

With deep applications know-how and responsive service and support across the globe, AE builds collaborative partnerships to meet rapid technological developments, propel growth for its customers and power the future of technology.

PRECISION | POWER | PERFORMANCE

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