

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 RS484 (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.

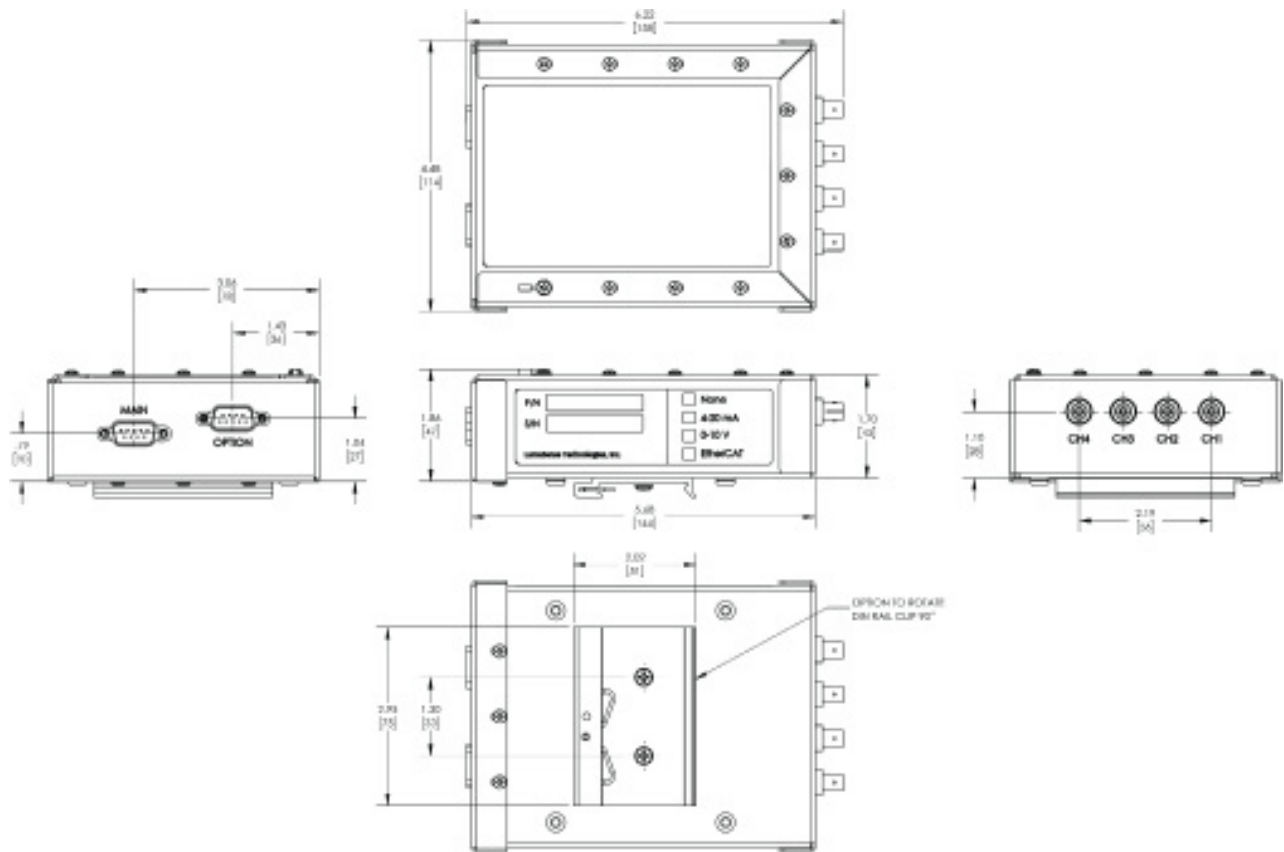
TECHNICAL DATA¹

| 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 | 0 to 60°C |
| Storage Temperature Range | -30 to 75°C |
| Relative Humidity | 80% RH (max) non-condensing |
| Overall Dimensions (H x W x L) (Main board and main board with analog outputs) | 23.7 x 100.6 x 134.4 mm |
| Enclosure Dimensions (H x W x L) | 47 x 114 x 144 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]



For international contact information,
visit advancedenergy.com.

sales.support@aei.com
+1 970 221 0108

ABOUT ADVANCED ENERGY

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

Our products enable customer innovation in complex applications for a wide range of industries including semiconductor equipment, industrial, manufacturing, telecommunications, data center computing, and medical. With deep applications know-how and responsive service and support across the globe, we build collaborative partnerships to meet rapid technological developments, propel growth for our customers, and innovate the future of power.

PRECISION | POWER | PERFORMANCE

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