

MODEL MINI IRT - MINI INFRARED THERMOMETER

Brought to you by *IRCON*



- PROVIDES NON-CONTACT TEMPERATURE MEASUREMENT
- J OR K (T/C), 4-20 mA, VDC OUTPUTS
- PROGRAMMABLE EMISSIVITY, RESPONSE TIME, PEAK PICKER
- SMALL DIAMETER SENSOR
- WIDE TEMPERATURE RANGE
- HIGH ACCURACY AND REPEATABILITY
- NEMA 4 HOUSING AND HEAD



EMC COMPLIANT



NEMA 4/
IP65



ANALOG OUTPUT



FAX/WEB
DOC # 05018

Product Features

The IRCON Mini Infrared Thermometer is a rugged, economical, miniature infrared sensor. It measures the intensity of radiant energy and provides a corresponding J or K (T/C), 4 to 20 mA, 0 to 10 VDC or 0 to 1.5 VDC output. This output can be used with any meter or controller that accepts thermocouple or process signals.

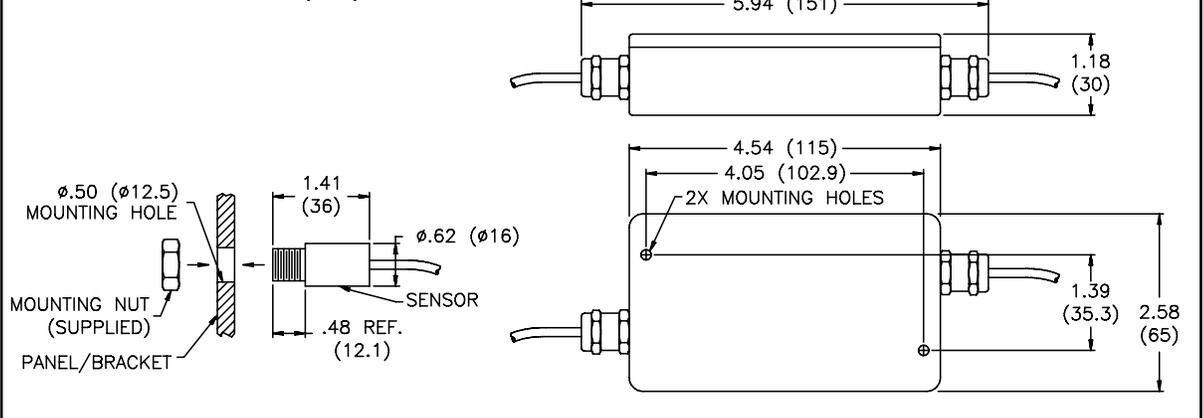
All features are field adjustable with simple push button programming. This allows the operator to quickly select the output type, response time, emissivity and peak picker necessary for the application. All setup parameters are stored in non-volatile memory during power down.

The sensor utilizes a stainless steel housing that is only 0.62" (16 mm) in diameter by 1.41" (36 mm) in length. The sensor has a ten foot cable that separates it from the electronics box. The different sensor models cover three spectral regions, two temperature ranges and two optical resolutions.

The electronics are encased in a NEMA 4/IP65 die-cast housing for use in rugged industrial applications. The electronics operate from a 12 to 24 VDC power supply.

All instruments are supplied with calibration certificates traceable to NIST.

DIMENSIONS "In inches (mm)"



General Specifications

- POWER:** 12 to 24 VDC @ 70 mA
- SENSOR INTERCONNECTING CABLE:** 3 meters (10 ft.)
- SPECTRAL RESPONSE:**
Model I440: 8.0 to 14.0 microns
Model I470: 4.8 to 5.2 microns
Model I480: 7.5 to 8.5 microns
- DETECTOR TYPE:** Thermopile
- OPTICAL RESOLUTIONS:**

SPOT SIZE vs. DISTANCE FOR D/10 INSTRUMENTS	
Distance in mm (inches)	Spot in mm (inches)
0 (0)	7 (0.27)
100 (4)	15 (0.6)
200 (8)	24 (0.94)
300 (12)	32 (1.27)
400 (16)	41 (1.6)
600 (24)	64 (2.54)
900 (36)	100 (3.94)

- THERMAL SHOCK:**
Model I440: 2°C (4°F) at $\Delta T = 25^\circ\text{C}$ (77°F) (20 min)
Model I470: 3.5°C (7°F) at $\Delta T = 25^\circ\text{C}$ (77°F) (20 min)
Model I480: 3.5°C (7°F) at $\Delta T = 25^\circ\text{C}$ (77°F) (20 min)
- EMISSIVITY:** 0.10 to 1.00 in 0.01 increments (adjustable)
- ENVIRONMENTAL CONDITIONS:**
Sensing Head Operating:
 0 to 85°C (32 to 185°F) (Ambient Range without cooling)
 0 to 200°C (32 to 392°F) (Ambient Range with cooling
 accessory available from IRCON)
Electronic Box: 0 to 50°C (32 to 122°F)
Relative Humidity: 10 to 95% non-condensing
- CERTIFICATIONS AND COMPLIANCES:**
SAFETY
 EN 61010-1, IEC 1010-1
ELECTROMAGNETIC COMPATIBILITY
 Immunity to EN 50082-2
 Emissions to EN 50081-2
- CONSTRUCTION:**
Electronic Box: NEMA 4/IP65 die-cast aluminum
Sensing Head: Stainless steel NEMA 4/IP65 rated
- WEIGHT:** 0.94 lb (0.43 Kg)

Output Specifications

- OUTPUTS:** 0 to 10 VDC, 0 to 1.5 VDC, 4 to 20 mA, T/C Types: J or K
- OUTPUT IMPEDANCE:** 50 Ohms (J & K Thermocouple)
- MINIMUM LOAD IMPEDANCE:** 500k Ohms (VDC Output)
- MAXIMUM LOOP IMPEDANCE:** 500 Ohms @ 24 VDC (mA Output)
- CALIBRATION ACCURACY:**
 $\pm 2\%$ of reading or 2°C (4°F) whichever is greater.
 $\pm 3\%$ of reading or 3°C (6°F) whichever is greater for J or K T/C output.
- REPEATABILITY:** $\pm 1\%$ of reading or 1°C (2°F) whichever is greater.
- RESPONSE TIME:** 0.150, 1.0 and 10.0 seconds plus 0.050 second delay (adjustable)
- PEAK PICKER:** On/Off, Decay Rate; 0.1, 1 and 10°C/°F (adjustable)

Ordering Information

MODEL NO.	DESCRIPTION	PART NUMBER
I440	8.0 - 14.0 microns, 0-600°C, D/10 resolution	I44006C3
	8.0 - 14.0 microns, 0-1000°F, D/10 resolution	I44010F3
I470	4.8 - 5.2 microns, 150-750°C, D/10 resolution	I47007C3
	4.8 - 5.2 microns, 300-1400°F, D/10 resolution	I47014F3
I480	7.5 - 8.5 microns, 50-300°C, D/10 resolution	I48003C3
	7.5 - 8.5 microns, 100-600°F, D/10 resolution	I48006F3