

Raytek MID

Noncontact Infrared Temperature Sensor



Product Description

The MID™ is a two-piece infrared temperature measurement system with miniature sensing head and separate electronics. The sensor is small enough to be installed just about anywhere, yet it performs as well as much larger systems. And the MID electronics include a host of signal processing features which you won't normally find in systems in this price range, including Emissivity, Peak Hold, Valley Hold, and Averaging, all of which are adjustable on the 5-digit LCD interface.

Designed for applications where the target temperature is in the -40 to 600°C (-40 to 1112°F) range, the sensor is housed in a rugged stainless steel enclosure to ensure long term performance, even in harsh industrial environments with ambient temperatures up to 85°C (185°F) without cooling.

Although the MID is small in size, it still has the features you need, with 1% accuracy and a choice of 2:1 or 10:1 optics, with user selectable output signals. And the MID's response time is as fast or faster than many high-end systems.

The MID's miniature size and low cost make it ideal for installation at multiple points along your process. Accurate. Easy to install. Affordable. With the MID, precision infrared temperature measurement is now an economical alternative.

Highlights:

- Small sensing head fits where other sensors can't
- Ambient operating range to 85°C (185°F) without cooling
- 5-digit backlit LCD interface
- Adjustable emissivity, peak hold, valley hold and averaging
- 1% Accuracy from -40 to 600°C (-40 to 1112°F)
- Choice of 2:1 or 10:1 optics
- Powered by 12-24 VDC at ≤100 mA
- Accessories for cooling and air purging
- Remote electronics box
- User selectable output signals
- Optional RS232 or RS485 communication

Raytek®

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Measurement Specifications

Spectral Response:	8 to 14 microns
Optical Resolution:	2:1 or 10:1
Temperature Range:	-40 to 600°C (-40 to 1112°F); -25 to 600°C for J-thermocouple output
System Accuracy:	±1% of reading or ±1°C, whichever is greater @23°C±5°C (73°F±9°F). Thermocouple output accuracy ±1% of reading or ±2.5°C, whichever is greater @23°C±5°C
System Repeatability:	±0.5% of reading or ±0.5°C (1°F), whichever is greater
Temperature Coefficient:	0.15K per K or 0.15% per K, whichever is greater
Temperature Resolution:	0.3°C or 0.5°F
System Response Time:	150ms (95%)
Emissivity:	0.100 to 1.100 digitally adjustable increments of .001
Transmission:	0.100 to 1.100 digitally adjustable increments of .001
Signal Processing:	Peak Hold, Valley Hold, Variable Averaging Filter, adjustable up to 998 seconds

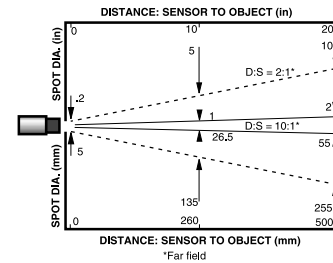
Electrical Specifications

Outputs:	Scalable 4-20mA, 0-20mA, 0-5V, J or K thermocouple 10mV/°C Head Ambient signal
Cable Length	1 m (3.2 ft) standard, 3m (9.8 ft.) optional
Output Impedance (T/C output)	20 ohm
Minimum Load Impedance (mV output)	100K ohms
Maximum Loop Impedance (mA output)	500 ohms with 24 VDC power supply
Current Draw:	100 mA
Power Supply	11-26 VDC

General Specifications

Environmental Rating	NEMA-4 (IP 65)
Ambient Temperature Range:	
Sensing head	0 to 85°C (32 to 185°F)
With air cooling	-18 to 200°C (0 to 392°F)
Electronics housing	0 to 65°C (32 to 150°F)
Storage Temperature	-18 to 85°C (0 to 185°F)
Relative Humidity	10 to 95%, non-condensing
Construction:	
Sensing head	Stainless steel
Electronics housing	Zinc, die-cast
Weight:	
Sensing head (w/1 m cable)	50 g (1.75 oz)
Electronics housing	270 g (9.5 oz)

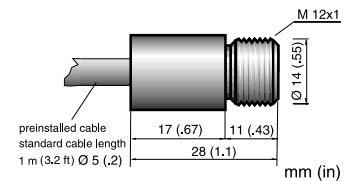
Nominal Optical Specifications



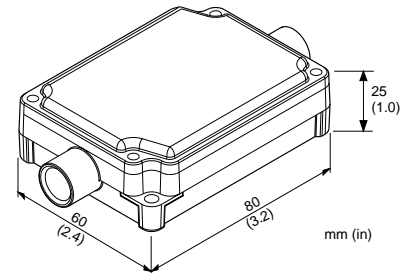
D:S is the optical resolution expressed as a ratio of the distance to the resolution spot divided by the diameter of the spot. Optical resolution for the MID is 2:1 and 10:1. Nominal spot size based on 90% energy.

General Dimensions

Sensing Head



Electronics Housing



Accessories / Options*

Each standard MID package includes a sensing head, one mounting nut, 1 m (3.2 ft) of cable, die-cast housing with premounted electronics, and an operator's manual

- Adjustable or fixed mounting bracket
- Air purge jacket
- Air cooling/purging system
- Longer cable: 3m (9.8 ft.)*
- Rs232 or RS485 communication*

*Must be specified at time of order

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