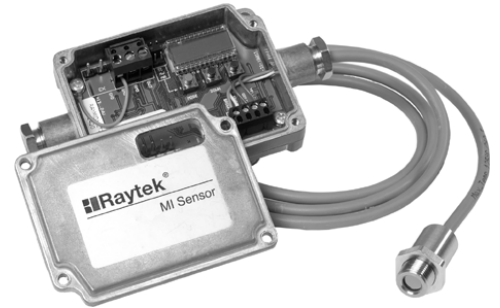


## Highlights

- Small sensing head fits where other sensors can't
- Ambient head temperatures up to 180°C without cooling
- Industrial rugged head cable: Silicone and Halogen free, resistant against oil, bases, and acids (MID/MIC)
- 1% accuracy across broad temperature range
- 0/4 – 20 mA, 0 – 5 V, J or K thermocouple output
- Interchangeable sensing heads
- Adjustable emissivity, transmissivity, peak hold, valley hold and averaging
- 5-digit backlit LCD user interface
- Accessories for mounting and air purging
- Interface: RS232 (standard) or RS485 (optional)
- Multidrop Network (max. 32 sensors with RS485)

# MI

## Datasheet



### Electrical Specifications

Outputs	4 – 20 mA, 0 – 20 mA, 0 – 5 V (scaleable) J or K thermocouple, 10 mV / °C head ambient signal, Alarm (software enabled)
Inputs	Emissivity setting, background radiation compensation, trigger (software enabled)
Cable Length	1 m standard
Output Impedance (T/C)	20 Ω
Minimum Load Impedance (mV)	100 kΩ
Maximum Loop Impedance (mA)	500 Ω with 24 VDC power supply
Current Draw	100 mA
Power Supply	12 – 26 VDC

### Sensor Specifications

<b>Environmental Rating</b>	IP65 (NEMA-4) <sup>1</sup>
<b>Ambient Temperature</b>	
MIH sensing head	0 to 180°C
MIC sensing head	0 to 125°C
MID sensing head	0 to 85°C
with air cooling	up to 200°C
Electronics housing	0 to 65°C
<b>Storage Temperature</b>	-10 to 85°C
<b>Relative Humidity</b>	10 to 95%, non-condensing
<b>EMC</b>	IEC 61326-1 (max. cable length 3 m)
<b>Weight</b>	
Sensing head	50 g (with 1 m cable), Stainless steel
Electronics housing	270 g, Zinc, die-cast

<sup>1</sup> not for sensing heads with optical resolution of 2:1

### Measurement Specifications

<b>Temperature Range</b>	
LT	-40 to 600°C -25 to 600°C for J-thermocouple output
G5	150 – 850°C
MTB	200 – 1200°C
<b>Spectral Response</b>	
LT	8 – 14 μm
G5	5 μm
MTB	3,5 – 4 μm
<b>Optical Resolution<sup>1</sup></b>	
MI20	22:1 typ., 21:1 guaranteed (MID, MIC, MIH)
M10	10:1 (MID, MIC, MIH)
M02	2:1 (MID, MIC)
<b>System Accuracy<sup>2</sup></b>	
LT, G5, MTB	±1% of reading or ±1°C <sup>3,5</sup>
Thermocouple output	-±1% of reading or ±2,5°C <sup>3</sup>
<b>Repeatability</b>	±0,5% of reading or ±0,5°C <sup>3</sup>
<b>Temperature Coefficient</b>	
Sensing head	±0,05°C / °C or ±0,05% / °C <sup>3,4</sup>
<b>Temperature Resolution</b>	
LT	0,1°C
G5	0,2°C
MTB	0,4°C
<b>System Response Time</b>	150 ms (95%)
<b>Emissivity</b>	0,100 to 1,100 digitally adjustable increments of 0,001
<b>Transmission</b>	0,100 to 1,000 digitally adjustable increments of 0,001
<b>Signal Processing</b>	Peak hold, valley hold, variable averaging filter, adjustable up to 998 s

<sup>1</sup> 90% energy  
<sup>2</sup> at ambient temperature 23°C ± 5°C

<sup>3</sup> whichever is greater

<sup>4</sup> except for MID model

<sup>5</sup> ± 2°C for target temperatures < 20°C

## Options

Options must be specified at time of order.

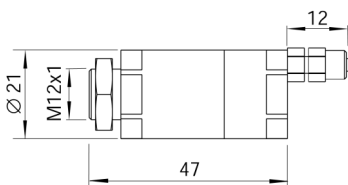
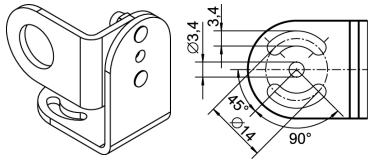
- Longer cable lengths: 3 m (...CB3), 8 m (...CB8), 15 m (...CB15)
- RS485 serial interface (...4), for multidrop networks or long distances
- Box lid with view port (...V)

## Accessories

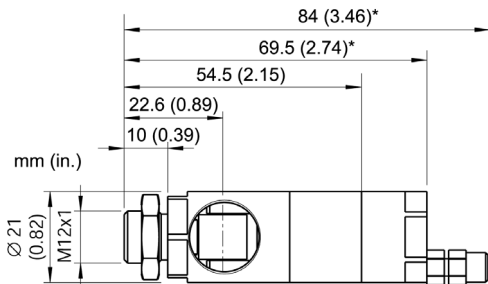
Each standard MI package includes a sensing head, one mounting nut, 1 m of cable, die-cast housing with pre-mounted electronics, and an operator's manual.

- PC connection kit for models with RS232, including DataTemp MultiDrop Software (RAYMISCON)
- PC connection kit for models with RS485, including DataTemp MultiDrop Software and RS232/485 converter: 110 VAC (RAYMINCONV1), 230 VAC (RAYMINCONV2)
- Air Cooling Jacket (XXXMIACCJ: 0,8 m, XXXMIACCJ1: 2,8 m) for ambient temperatures up to 200°C

**Adjustable Mounting Bracket**  
(XXXMIACAB),  
or fixed mounting bracket  
(XXXMIACFB)



**Air Purge Jacket with fitting,**  
no cooling (XXXMIACJ)



**Right Angle Mirror** (XXXMIACRAJ)  
\*with air purging (XXXMIACRAJ1)



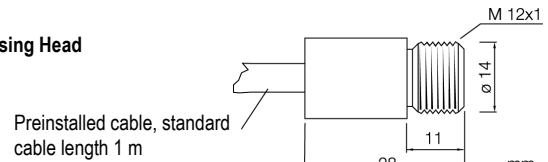
**Protective Window**  
(XXXMIACPW)



**Box Lid with View Port**  
for post installation (XXXMIACV)

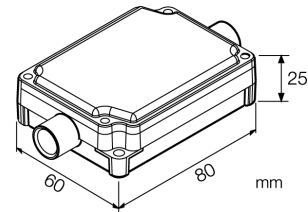
## Dimensions

### Sensing Head

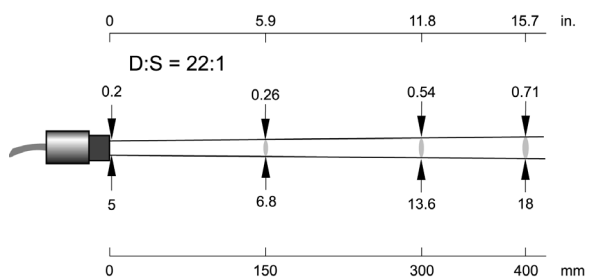
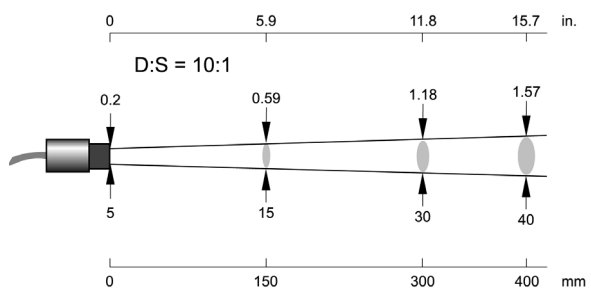
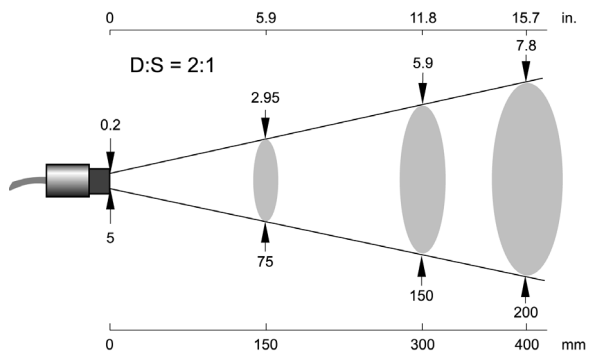


Preinstalled cable, standard  
cable length 1 m

### Electronics Housing



## Optical Specifications (90% energy)



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