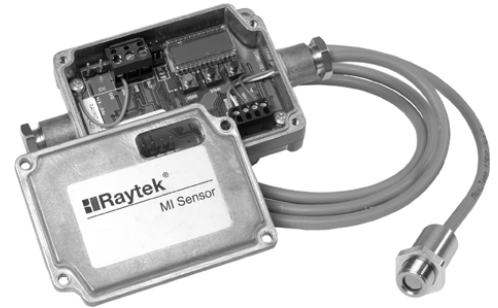


Highlights

- 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

Environmental Rating	IP65 (NEMA-4) ¹
Ambient Temperature	
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
Storage Temperature	-10 to 85°C
Relative Humidity	10 to 95%, non-condensing
EMC	IEC 61326-1 (max. cable length 3 m)
Weight	
Sensing head	50 g (with 1 m cable), Stainless steel
Electronics housing	270 g, Zinc, die-cast

¹ not for sensing heads with optical resolution of 2:1

Measurement Specifications

Temperature Range	
LT	-40 to 600°C -25 to 600°C for J-thermocouple output
G5	150 – 850°C
MTB	200 – 1200°C
Spectral Response	
LT	8 – 14 μm
G5	5 μm
MTB	3,5 – 4 μm
Optical Resolution¹	
MI20	22:1 typ., 21:1 guaranteed (MID, MIC, MIH)
M10	10:1 (MID, MIC, MIH)
M02	2:1 (MID, MIC)
System Accuracy²	
LT, G5, MTB	±1% of reading or ±1°C ^{3,5}
Thermocouple output	-±1% of reading or ±2,5°C ³
Repeatability	±0,5% of reading or ±0,5°C ³
Temperature Coefficient	
Sensing head	±0,05°C / °C or ±0,05% / °C ^{3,4}
Temperature Resolution	
LT	0,1°C
G5	0,2°C
MTB	0,4°C
System Response Time	150 ms (95%)
Emissivity	0,100 to 1,100 digitally adjustable increments of 0,001
Transmission	0,100 to 1,000 digitally adjustable increments of 0,001
Signal Processing	Peak hold, valley hold, variable averaging filter, adjustable up to 998 s

¹ 90% energy

² at ambient temperature 23°C ± 5°C

³ whichever is greater

⁴ except for MID model

⁵ ± 2°C for target temperatures < 20°C

Options

Options must be specified at time of order.

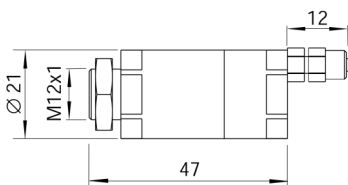
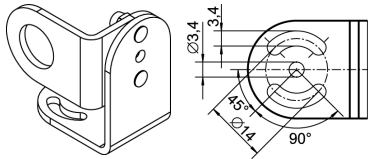
- Longer cable lengths: 3 m (...CB3), 8 m (...CB8), 15 m (...CB15)
- RS485 serial interface (...4), for multidrop networks or long distances
- Box lid with view port (...V)

Accessories

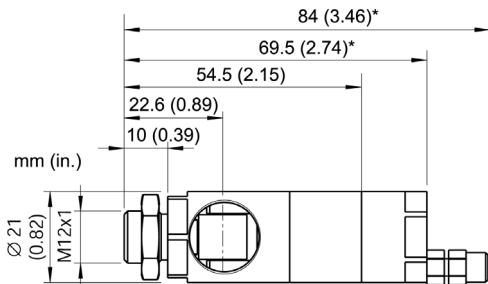
Each standard MI package includes a sensing head, one mounting nut, 1 m of cable, die-cast housing with pre-mounted electronics, and an operator's manual.

- 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)



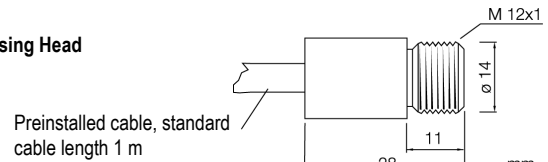
Protective Window
(XXXMIACPW)



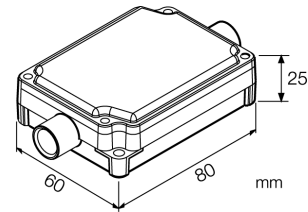
Box Lid with View Port
for post installation (XXXMIACV)

Dimensions

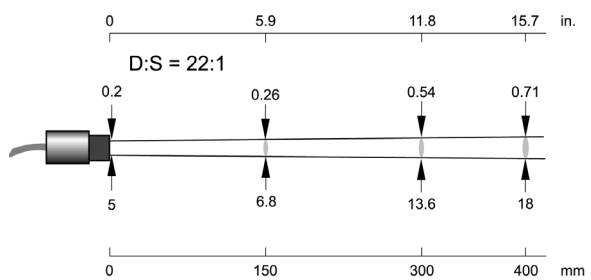
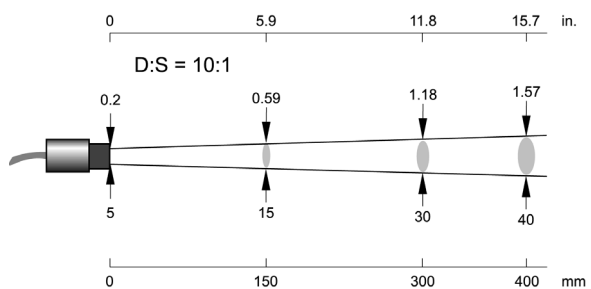
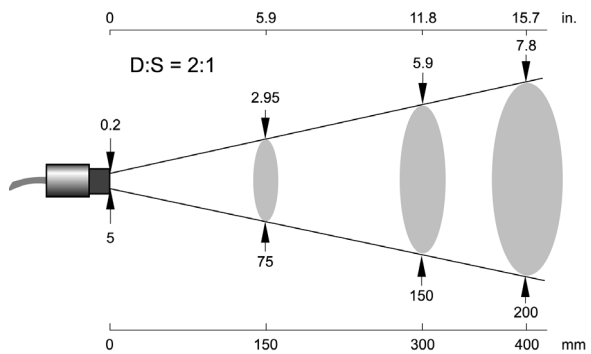
Sensing Head



Electronics Housing



Optical Specifications (90% energy)



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