

Highlights

- Small sensing head fits where other sensors can't
- Special models for glass and metals processing applications
- 1% accuracy across the whole temperature range
- 0/4 – 20 mA, 0 – 5 V, J or K thermocouple output
- Ambient head temperatures up to 85°C without cooling
- Interchangeable sensing heads
- Adjustable emissivity, transmissivity, peak hold, valley hold and averaging
- 5-digit backlit LCD user interface
- Accessories for cooling and air purging
- Optional RS-232 or RS-485 digital communications
- Multidrop Network (max. 32 sensors with RS-485)

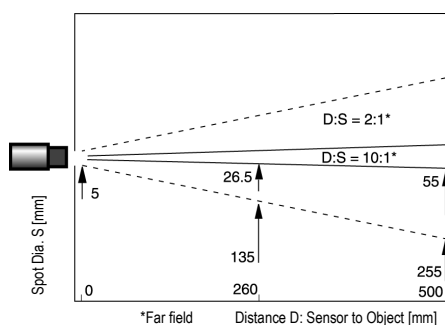
Electrical Specifications

Outputs	4 – 20 mA, 0 – 20 mA, 0 – 5 V (scaleable) J or K thermocouple, 10 mV / °C head ambient signal, Alarm relay (software controlled)
Inputs	Emissivity setting, background radiation compensation, trigger (software controlled)
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 – 24 VDC

Sensor Specifications

Environmental Rating	IP65 (NEMA-4)
Ambient Temperature	
Sensing head	0 to 85°C
With air cooling	up to 200°C
Electronics housing	0 to 65°C
Storage Temperature	-18 to 85°C
Relative Humidity	10 to 95%, non-condensing
EMI	IEC 801-3, Level 3 (max. cable length 3 m)
Weight	
Sensing head	50 g (with 1 m cable), Stainless steel
Electronics housing	270 g, Zinc, die-cast

Optical Specifications



Raytek Compact Series

MID

Datasheet



Measurement Specifications

Temperature Range	
LT (Low Temperature)	-40 to 600°C
G5 (Glass)	-25 to 600°C for J-thermocouple output
MTB (Medium Temperature)	150 to 850°C
	200 to 1200°C
Spectral Response	
LT	8 to 14 μm
G5	5 μm
MTB	3,5 to 4 μm
Optical Resolution¹	
LT	2:1 or 10:1
G5, MTB	10:1
System Accuracy²	
LT, G5, MTB	±1% or ±1°C ^{3,5}
Thermocouple output	-±1% or ±2,5°C ³
Repeatability	±0,5% or ±0,5°C ³
Temperature Coefficient	
MIC sensing head ⁴	±0,05°C / °C or ±0,05% / °C ³ (ambient temperature: 23 – 85°C)
MIC sensing head ⁴	±0,1°C / °C or ±0,1% / °C ³ (ambient temperature: 0 – 23°C)
MID sensing head	±0,15°C / °C or ±0,15% / °C ³ (ambient temperature: 0 – 85°C)
Electronics housing	±0,1°C / °C or ±0,1% / °C ³
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 with ISO Calibration Certificate, based on NIST/DKD certified probes

⁵ LT: ± 2°C for target temperatures < -20°C

Options

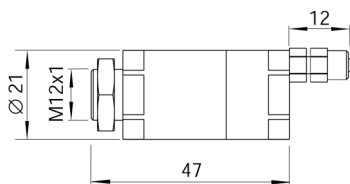
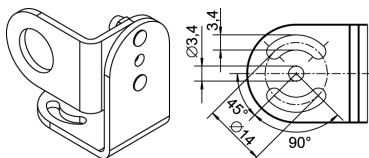
Options must be specified at time of order.

- Longer cable lengths: 3 m (...CB3), 8 m (...CB8), 15 m (...CB15)
- RS-232 serial interface (...2), for a single-point connection
- RS-232 PC connection kit (RAYMISCON)
- RS-485 serial interface (...4), for multidrop networks or long distances
- RS-485 PC connection kit including RS232/485 converter 110 VAC (RAYMISCON1), 230 VAC (RAYMISCON2)
- Box lid with view port (...V)

Accessories

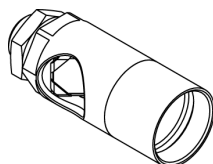
Each standard MID package includes a sensing head, one mounting nut, 1 m of cable, die-cast housing with pre-mounted electronics, and an operator's manual.

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

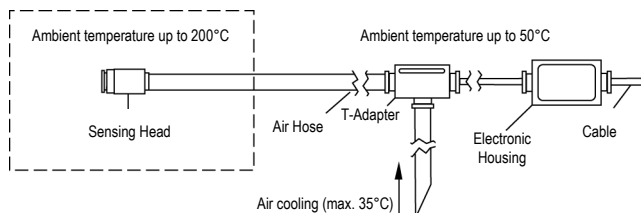


Air Purge Jacket with fitting,
no cooling (XXXMIACAJ)

Right Angle Mirror for Air Cooling
Jacket and Air Purge Jacket only
(XXXMIACRAJ)



Air Cooling Jacket and T-Adapter incl. 0.8 m air hose
and insulation (XXXMIACCJ)



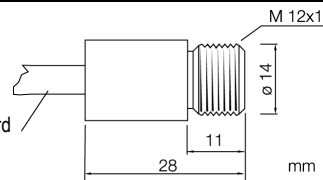
Box Lid with View Port
for post installation (XXXMIACV)



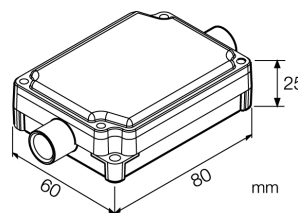
Dimensions

Sensing Head

Preinstalled cable, standard
cable length 1 m, Ø 5 mm



Electronics Housing



DataTemp® Multidrop Software



For use with RS-232 or RS-485 models, DataTemp Multidrop software allows access to the extended digital features of the MID with an easy-to-use interface. Compatible with WIN 95/98/NT/2000, DataTemp Multidrop provides for sensor setup, remote monitoring, and simple data logging for analysis or to meet quality record-keeping requirements.

Additional features configurable with optional RS-232 or optional RS-485 communications and DataTemp MultiDrop Software:

- 5V alarm signal triggered by target temperature or ambient head temperature
- Eight-position "recipe" table that can be easily interfaced to an external control system
- External reset signal input for signal processing
- External inputs for analog emissivity adjustment or background radiation compensation
- Remote digital communication and control of up to 32 sensors in an RS-485 multidrop configuration

www.raytek.com
for up-to-the-minute features

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