

Highlights

- Wide temperature range from -40°C to 2250°C
- Optical resolution up to 70:1
- Spot sizes down to 1,1 mm
- Fast response time down to 60 ms
- Real time video monitoring and recording capability
- Through-the-lens sighting with video or laser aiming
- Digital RS485 communications (networkable)
- Real time ambient background radiation compensation
- Simultaneous analogue and digital outputs
- Programmable relay output
- Ambient temperatures to 315°C with ThermoJacket™
- Compact, rugged design, IP65 rated
- Marathon DataTemp® software for remote configuration and monitoring

Electrical Specifications

Outputs	
mA	0/4-20 mA
Relay	48 V, 300 mA, response time < 2 ms
RS485	2-wire or 4-wire, networkable to 32 sensors
Video	analog, NTSC, 510x492 pixel, FOV 8°
Inputs	Emissivity setting, background radiation compensation, trigger (software enabled)
Power Supply	24 VDC ±20%, 500 mA

General Specifications

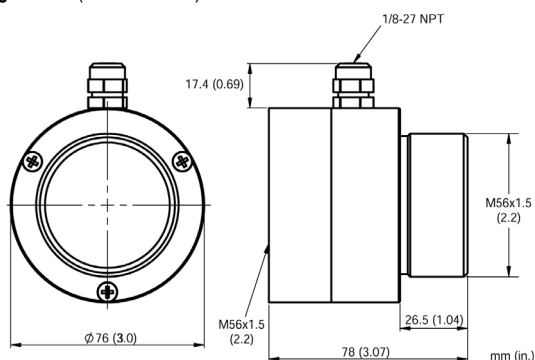
Environmental Rating	IP65 (IEC529)
Ambient Temperature	
without cooling	5 to 65°C (with video: max. 50°C)
with air cooling	up to 120°C
with water cooling	up to 175°C
with ThermoJacket	up to 315°C
Storage Temperature	-20 to 70°C
Relative Humidity	10 to 95%, non-condensing
Shock	IEC 68-2-27
Vibration	IEC 68-2-6
Weight	700 g

Options

Options must be specified at time of order.

- Laser sighting (...L) or Video sighting (...V)
- Water-Cooled Housing, incl. Air Purge Collar (...W)
- ISO Calibration Certificate, based on DKD certified probes (XXXMMCERT)

Air Purge Collar (XXXMMACAP)



Raytek Marathon Series

MM LT, G5, MT

Datasheet



Measurement Specifications

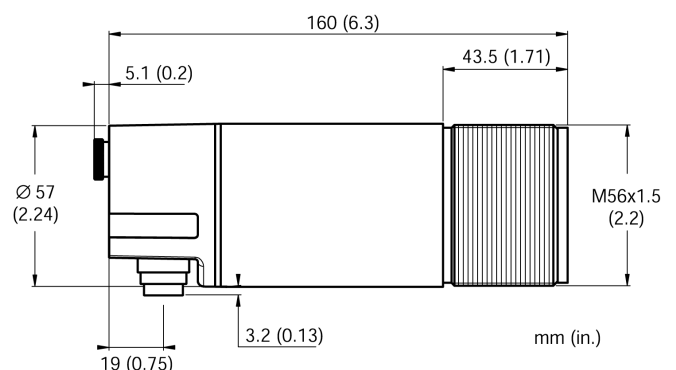
Temperature Range	
LT	-40 to 800°C
G5L	250 to 1650°C
G5H	450 to 2250°C
MT	250 to 1100°C
Spectral Response	
LT	8 to 14 µm
G5	5 µm
MT	3.9 µm
System Accuracy¹	
LT	± 1% of reading or ± 1°C for T _{meas} > 0°C ²
G5L, G5H	± 2°C for T _{meas} < 0°C
MT	± 1% of reading
	± 1% of reading for T _{meas} > 350°C
	± 2°C or ± 2% for T _{meas} < 350°C ²
Repeatability³	± 0.5% of reading or ± 0.5°C ²
Temperature Resolution (mA)	0.1 K
Response Time (95%)	
LT, MT	120 ms
G5	60 ms
Emissivity	0,100 to 1,150 in 0,001 increments
Signal Processing	Peak hold, valley hold, averaging, advanced peak hold, advanced valley hold, ambient background temperature compensation

¹ at 23°C ±5°C, emissivity = 1.0, and time response 1.0 s

² whichever is greater

³ at 23°C ±5°C

Dimensions



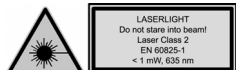
Raytek®

The models include through-the-lens sighting, mounting nut, fixed bracket, an operator's manual and DataTemp Multidrop Software.

- Sight Tube made from stainless steel up to 800°C (XXXTST12)
- Sight Tube made from ceramic up to 1500°C (XXXTSTC12)
- Pipe Thread Adapter (XXXMMACPA)
- Protective Window for LT, MT, G5 (XXXMMACTWL)
- RS232/485 interface converter with 220 VAC / 9 VDC adapter (XXX485CVT2)
- RS232/USB Converter (XXXUSBCV)
- Industrial Power Supply 110 / 220 VAC to 24 VDC, 1,1 A (XXX2CDCPSS)
- High Temp 12-Wire Cable (XXX2CCB...)
- Terminal Block (XXXMATB)
- Terminal Block including 24 VDC power supply (110 / 230 VAC input) and IP 65 rated housing (RAYMAPB)
- ThermoJacket enclosure for ambient temperatures to 315°C (RAYTXXTJ4), see also ThermoJacket datasheet

[illegible]

Technical drawing of the M56x1.5x210.5 (8.3) flange. The drawing shows a side view of the flange with dimensions in mm and inches. The overall length is 210.5 (8.3). The flange has a central bore of diameter 76 (3.0). There are two mounting holes with a diameter of 18.3 (0.72). The distance between the center of the mounting holes is 46.7 (1.84). The distance from the center of the mounting holes to the center of the central bore is 67.8 (2.67). The thickness of the flange is 26.5 (1.04). The flange is made of stainless steel 316L and has a maximum pressure rating of 10.0 MPa (145.03 PSI) at 350°C (662°F). The flange is used for connecting to a 1/8 27 NPT pipe.



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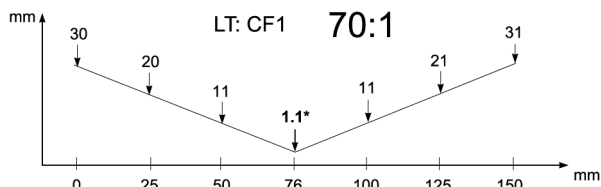
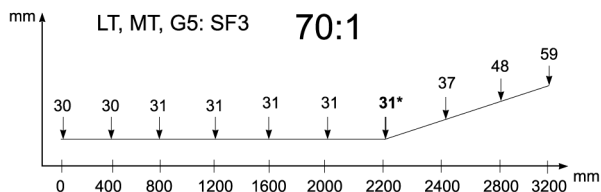
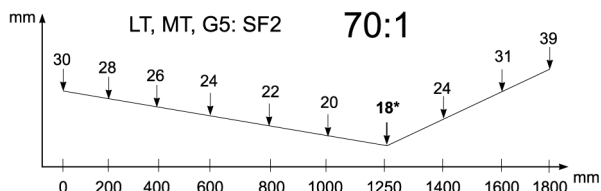
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Graph of the cross-section of the LT, MT, G5: SF1 70:1 composite. The y-axis is labeled 'mm' and the x-axis is labeled 'mm'. The profile is a V-shape with a minimum at 200 mm. Data points are: (0, 30), (75, 20), (150, 10), (200, 2.9*), (250, 11), (325, 23), (400, 36).



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