

Highlights

- Multiple sensor design (up to 8 heads for 1 box)
- Plug & Play (automatic head detection from the box)
- High temperature resistance for the head up to 180°C (356°F) without cooling
- Multiple spectral ranges covered by one sensor model
- Extended temperature range for LT head up to 1000°C (1832°F)
- Dedicated 5 μm head for measuring of glass
- Laser sighting for 1M/2M sensing heads
- Spot sizes down to 0.5 mm (0.02 in) with Close Focus Lens
- Fast 10 ms response time
- Industrial rugged head cable (PUR): Silicone and Halogen free, resistant against oil, bases, and acids
- Networkable OEM head model (without a box)
- Intrinsically safe sensing heads with dedicated Ex-power supply

MI3 Heads

Datasheet



Measurement Specifications

Temperature Range	
02LTS, 10LTS, 10LTH	-40 to 600°C (-40 to 1112°F)
20LTS, LTF, 20LTH	0 to 1000°C (32 to 1832°F)
G5	250 to 1650°C (482 to 3002°F)
2M	250 to 1400°C (482 to 2552°F)
1M	500 to 1800°C (932 to 3272°F)

Spectral Response	
LTS, LTH, LTF	8 – 14 μm
G5	5 μm
2M	1.6 μm
1M	1 μm

Optical Resolution ¹	
LTS	2:1, 10:1, 22:1 typ. (21:1 guaranteed)
LTH	10:1, 22:1 typ. (21:1 guaranteed)
LTF	10:1
G5	10:1
1M, 2M	100:1
SF1 Optics	2 mm spot @ 200 mm distance 0.08 in spot @ 7.9 in distance
SF3 Optics	22 mm spot @ 2200 mm distance 0.87 in spot @ 87 in distance

Accuracy ²	
LTS, LTH, LTF, G5	± (1% of reading or 1°C) ^{3,4}
1M, 2M	± (0.5% of reading + 2°C)

Repeatability	
LTS, LTH, LTF, G5	± 0.5% of reading or ± 0.5°C ³
1M, 2M	± (0.25% of reading + 1°C)

Temperature Coefficient	
LTS, LTH, LTF, G5	± 0.05 K / K or ± 0.05% / K of reading ³
1M, 2M	± 0.01% / K of reading

Response Time ⁵	
LTS, LTH	130 ms
LTF	20 ms
G5	130 ms
1M, 2M	10 ms

Emissivity ε	
	0.100 to 1.100

Transmission	
	0.100 to 1.000

¹ 90% energy
² at ambient temperature 23°C ± 5°C (73°F ± 9°F), ε = 1.0, and calibration geometry
³ whichever is greater
⁴ ± 2°C (± 4°F) for target temperatures < 20°C (68°F)
⁵ 90% value

General Specifications

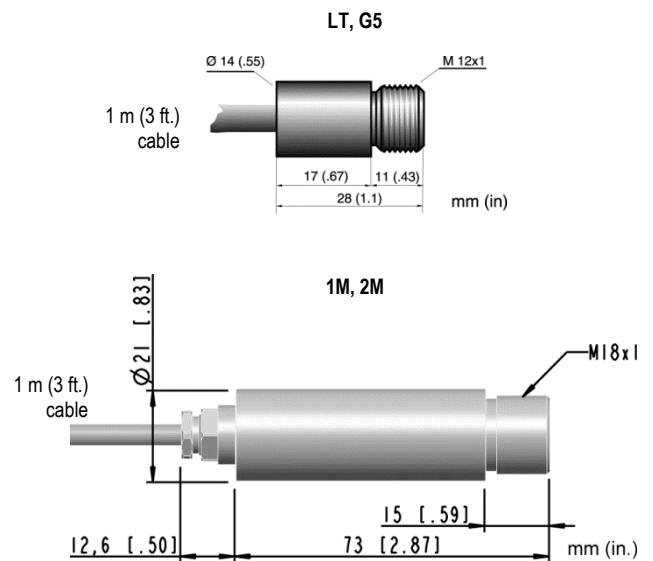
Ambient Temperature	
LTS, LTF, G5	-10 to 120°C (14 to 248°F)
LTH	-10 to 180°C (14 to 356°F)
1M, 2M	0 to 120°C (32 to 248°F)
Laser (1M, 2M)	automatic switch off at 65°C (149°F)

Storage Temperature	
LTH	-20 to 180°C (-4 to 356°F)
all other models	-20 to 120°C (-4 to 248°F)

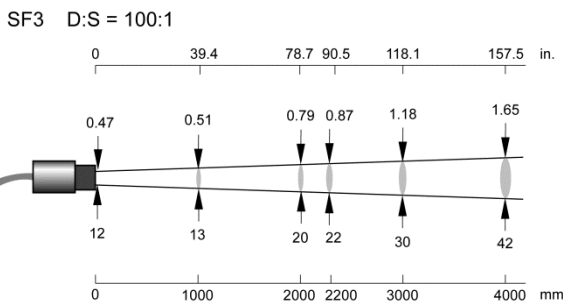
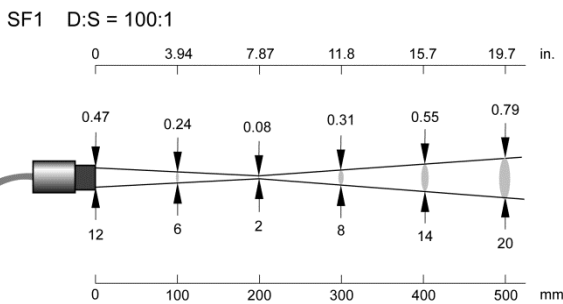
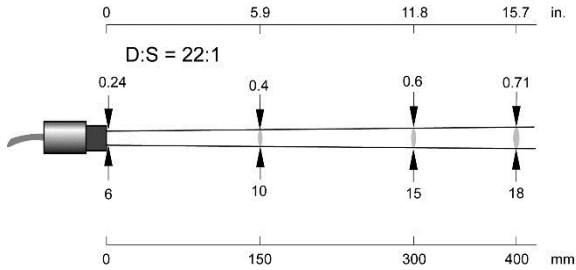
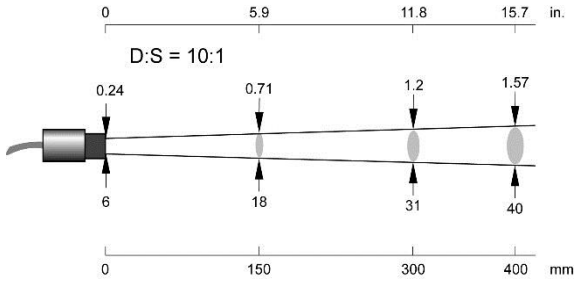
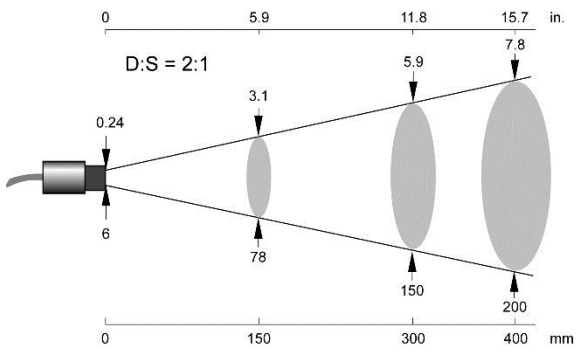
Environmental Rating	
	IP65 (NEMA-4)

EMC	
	EN 61326-1:2006

Dimensions



Optical Specifications (90% energy)



Options

Options must be specified at time of order.


- Longer head cable lengths: 3 m, 8 m, 15 m, 30 m (9.8, 26, 49, 98 ft.)
- Water cooled housing (1M, 2M heads)
- Networkable OEM sensing head without the need for a box

Water Cooled Housing (1M, 2M)




Intrinsic Safety Option


MI3/MI3100 intrinsically safe sensing heads (MI3xxxIS/MI3100xxxIS):

Certificate: BVS 12 ATEX E 140	IECEx BVS 15.0051
 II 2G Ex ib IIC T4 Gb	Ex ib IIC T4 Gb
II 2D Ex ib IIIC T135°C Db	Ex ib IIC T135°C Db

MI3-LTH intrinsically safe sensing heads (MI3xxLTHIS):

Certificate: BVS 12 ATEX E 140	IECEx BVS 15.0051
 II 2G Ex ib IIC T4/T3 Gb	Ex ib IIC T4/T3 Gb
II 2D Ex ib IIIC T135°C/185°C Db	Ex ib IIC T135°C/185°C Db

Ex-proof power supply (RAYMI3ACIS):

Certificate: BVS 14 ATEX E 168	IECEx BVS 15.0057
 II (2)G [Ex ib Gb] IIB	[Ex ib Gb] IIB
II (2)D [Ex ib Db] IIIC	[Ex ib Db] IIIC

Accessories

Accessories include items that may be ordered at any time and added on-site:

- Adjustable Bracket (LT, G5: XXXMIACAB / 1M, 2M: XXXMI3100ADJB)
- Fixed Bracket (LT, G5: XXXMIACFB / 1M, 2M: XXXMI3100FB)
- Isolation Kit for Fixed Bracket (1M, 2M: XXXMI3100ISOKIT)
- Air Purge (LT, G5: XXXMIACAJ / 1M, 2M: XXXMI3100AP)
- Air Cooling Jacket (XXXMIACCJ: 0.8 m/2.6 ft, XXXMIACCJ1: 2.8 m/9.2 ft) for ambient temperatures up to 200°C/392°F (LT, G5 only)
- Close Focus Lens (LT, G5: XXXMI3ACCFL)
- Protective Window (LT, G5: XXXMIACPW / 1M, 2M: XXXMI3100PW)

Air Purge Jacket



for LT, G5 heads
(XXXMIACAJ)



for 1M, 2M heads
(XXXMI3100AP)

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