Compact Series

MI3 Heads

Datasheet



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

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		

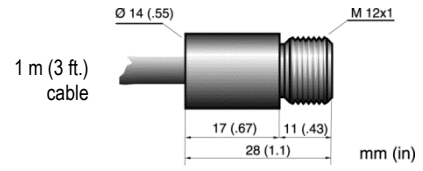
[1] 90% energy
[2] at ambient temperature 23°C ± 5°C (73°F ±9°F), ε = 1.0, and calibration geometry
[3] whichever is greater
[4] ± 2°C (± 4°F) for target temperatures < 20°C (68°F)
[5] 90% value

General Specifications

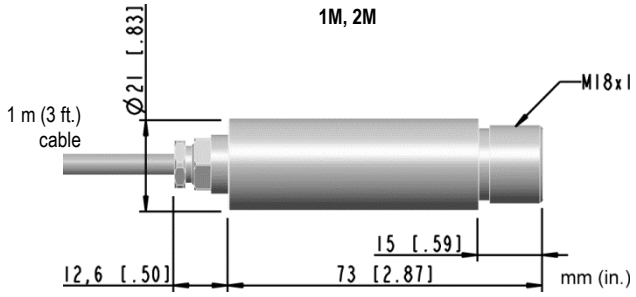
Ambient Temperature	
LTS, LTF, G5	-10 to 120°C (14 to 248°F)
LTH	-10 to 180°C (14 to 356°F)
1M, 2M	0 to 120°C (32 to 248°F)
Laser (1M, 2M)	automatic switch off at 65°C (149°F)
Storage Temperature	
LTH	-20 to 180°C (-4 to 356°F)
all other models	-20 to 120°C (-4 to 248°F)
Environmental Rating	IP65 (NEMA-4)
EMC	EN 61326-1:2006

Dimensions

LT, G5

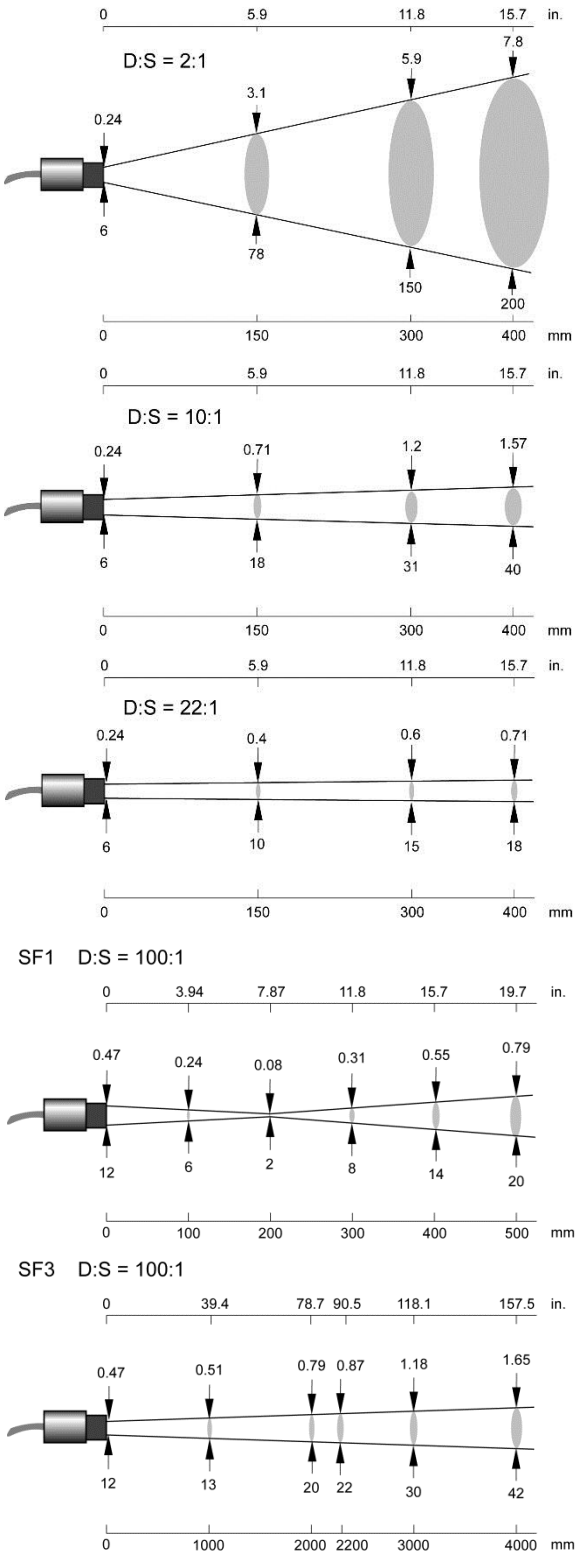


1M, 2M



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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 II 2D Ex ib IIIC T135°C Db	Ex ib IIC T4 Gb Ex ib IIIC 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 II 2D Ex ib IIIC T135°C/185°C Db	Ex ib IIC T4/T3 Gb Ex ib IIIC 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 II (2)D [Ex ib Db] IIIC	[Ex ib Gb] IIB [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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