

Convir MLE Series Two-Piece Non-Contact Temperature Sensor

The new MLE Series is a range of miniature infrared temperature sensors with separate electronics.

MLE sensors are capable of measuring temperatures in the range -20°C to 500°C and are available with either a current, voltage or thermocouple output.

Output	Model-X
4-20 mA	-0
0-50 mV	-1
0-100 mV	-2
J thermocouple	-3
K thermocouple	-4
1 mV/°C	-5
10 mV/°C	-6
0-5 V	-7

The miniature sensing head measures just 18 mm diameter x 45 mm. It is made of stainless steel, sealed to IP65, and will operate in ambient temperatures up to +70°C without additional cooling. This makes the MLE Series ideal for applications where there is only a small amount of room available to mount the sensor or the ambient temperature around the sensing head is higher than normal.

The electronics module measures 98 mm x 64 mm x 34 mm. It is made of die-cast aluminium, sealed to IP65, and will operate in ambient temperatures up to +50°C. It is powered from a 24 VDC (28 VDC max) power source.

The emissivity setting is fixed at 0.95, making the MLE Series suitable for the majority of applications where the target is made of a non-reflective material such as paper, plastic, rubber, cloth, food etc. or it can be used to measure metals that are painted, anodised or oxidised.

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GENERAL SPECIFICATIONS

		Temperature Range (other ranges to order)		
		-20°C to 100°C	0°C to 250°C	0°C to 500°C
Field-of-View	30:1	MLE21LT-X	MLE21MT-X	-
	10:1	MLE101LT-X	MLE101MT-X	MLE101HT-X
	2:1	MLE301LT-X	MLE301MT-X	MLE301HT-X

Output	See table
Accuracy	±1% of reading or ±1°C whichever is greater
Repeatability	±0.5% of reading or ±0.5°C whichever is greater
Emissivity	Fixed at 0.95
Response Time, t_{90}	200 ms (90% response)
Spectral Range	8 to 14 μ m
Power	24 V DC (28 V DC max)
Min. Sensor Voltage	9 V DC
Max. Loop Impedance	750 Ω (4-20 mA output)
Output Impedance	50 Ω (voltage/thermocouple output)

MECHANICAL

Construction
Dimensions
Thread Mounting

SENSING HEAD

Stainless Steel
18 mm diameter x 45 mm long
16 mm diameter x 1 mm pitch

ELECTRONICS MODULE

Die-cast Aluminium
98 mm x 64 mm x 34 mm

Cable Length 1 m
Weight with Cable 294 g

ENVIRONMENTAL

Environmental Rating IP65
Ambient Temperature Range 0°C to 70°C (sensing head), 0°C to 50°C (electronics module)
Relative Humidity 95% max. non-condensing

ACCESSORIES

- ◆ Fixed mounting bracket
- ◆ Adjustable mounting bracket
- ◆ Air purge collar
- ◆ Laser sighting tool
- ◆ Portable calibration checker

OPTIONS

- ◆ Longer sensor cable (5 m max.)
- ◆ Certificate of calibration
- ◆ Combined thermocouple extension/power cable

DIAMETER OF TARGET SPOT MEASURED VERSUS DISTANCE FROM SENSING HEAD

