

Convir MLE Series Two-Piece Non-Contact Temperature Sensor with 4 to 20mA Output

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

MLE sensors are capable of measuring temperatures in the range 0°C to +500°C and provide a 4 to 20mA output which is linear with temperature.

The miniature sensing head measures just 18mm diameter x 44mm. 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 93mm x 39mm x 33mm. 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.

Each MLE sensor has a rapid response time of 200 ms (90% response) and provides accurate and repeatable readings.

There are three optical ranges to choose from. The MLE21A has a 2:1 field of view (the ratio of the target distance to the measurement spot size), the MLE101A has a 10:1 field of view and the MLE301A has a 30:1 field of view.

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GENERAL SPECIFICATIONS

	MLE21A	MLE101A	MLE301A	MLE101AHT	MLE301AHT
Temperature Range*	0°C to 250°C	0°C to 250°C	0°C to 250°C	0°C to 500°C	0°C to 500°C
Field-of-View	2:1	10:1	30:1	10:1	30:1

*other sub ranges to order

Output Accuracy	4 to 20 mA (linear with temp) ±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

MECHANICAL

Construction	Stainless Steel
Dimensions	18 mm diameter x 44 mm long
Thread Mounting	M16 x 1 mm pitch

SENSING HEAD

Construction	Stainless Steel
Dimensions	18 mm diameter x 44 mm long
Thread Mounting	M16 x 1 mm pitch

ELECTRONICS MODULE

Construction	Die-cast Aluminium
Dimensions	93mm x 39mm x 33mm

Cable Length	1 m
Weight with Cable	205 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 cable (5 m max.)
- ◆ Certificate of calibration

DIAMETER OF TARGET SPOT MEASURED VERSUS DISTANCE FROM SENSING HEAD

