

Convir EL Series Low Cost Non-Contact Temperature Sensor

The EL Series is a range of high quality, low cost, miniature sensors which measure the temperature of inaccessible or moving objects and materials.

They measure temperatures from -20°C to 500°C accurately and consistently, with an outstanding response time of 200 ms. These sensors are available as either 2-wire units with a 4-20 mA output, or 4-wire units with voltage or thermocouple outputs. This choice of outputs makes the EL series compatible with almost any indicator, controller, recorder or data-logging instrument.

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 EL21 has 2:1 optics making it suitable for most applications where the sensor can be mounted close to the target. The EL101 is designed for small or distant targets and has an optical resolution of 10:1. The EL301 is designed for very small or distant targets and has an optical resolution of 30:1.

These compact sensors are small enough to fit almost anywhere and their rugged stainless steel housings make them ideal for applications where cleanliness and hygiene are paramount.

The EL Series Sensors are easy to install and will operate in ambient temperatures up to 50°C. For more hostile environments or difficult mounting conditions a wide range of accessories is available.

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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	2:1	EL21LT-X	EL21MT-X	—
	10:1	EL101LT-X	EL101MT-X	EL101HT-X
	30:1	EL301LT-X	EL301MT-X	EL301HT-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	Stainless Steel
Dimensions	18 mm diameter x 85 mm long
Thread Mounting	16 mm diameter x 1 mm pitch
Cable Length	1 m
Weight with Cable	95 g

ENVIRONMENTAL

Environmental Rating	IP65
Ambient Temperature Range	0°C to 50°C
Relative Humidity	95% max. non-condensing

ACCESSORIES

- ◆ Fixed mounting bracket
- ◆ Adjustable mounting bracket
- ◆ Air purge collar
- ◆ Air/water cooled housing
- ◆ 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

