

Infrared thermosensor

The cost-effective, contact-less way to temperature sensing!



Advanced Industrial Automation

Omron's ES1B is an infrared thermosensor that provides an accurate, stable and cost-effective way to measure the temperature of objects. It produces an output signal (in mV) that is proportional to the temperature of the object. The unit behaves just like a standard K type thermocouple, which enables it to operate with any temperature controller or alarm unit.



Compared to some passive IR sensors, Omron's ES1B is more sensitive. Despite the fact that the stated 'field of view' is the same (1:1), the ES1B can be mounted up to 40% further away from the measured object to generate the same output.

Four thermosensor models are available, each being calibrated for a specific temperature range: 10-70°C, 60-120°C, 115-165°C and 140-260°C. Each model gives reproducibility to within 1% of its range. Designed to Omron's high-quality standards, the ES1B has a silicon-based cable that is resistant to dust and water. This thermosensor is ideal for handling applications that include baking, packaging, sealing and laminating.

Cost-effective operation

The ES1B is an alternative replacement for standard thermocouples. While the operating principle of temperature measurement is similar for both, the ES1B has no contact with the object whose temperature it measures. Once the ES1B and instrument combination is calibrated, the reproducible signal is always available and not only provides stable, real time temperature measurement, it also reduces downtime of the machine. This is what makes the ES1B very cost effective.

Ideal for multiple applications!

The ES1B is very versatile. It can be used with proximity sensors (e.g. Omron's E2A) to indicate when to measure the temperature of moving objects on an assembly line. It can be used with panel indicators (e.g. Omron's K3MA) to identify an alarm condition. And it can be used with temperature controllers (e.g. Omron's E5CN) to control the temperature of a moving object. Other applications include:

Paper drying

In the paper, printing and textile production processes it's important to know at which point the product dries out to ensure consistent product quality and to conserve energy costs. The ES1B is ideal for measuring the location of this dry-out point.

Packaging sealing

In the food industry, packaging must be properly sealed. The ES1B is suitable for measuring the temperature at the point where the actual sealing takes place to ensure consistent quality and minimal production failures.

Monitoring high-tension electrical systems

By being able to detect excessive heat radiation in high-tension distribution boards or transformers, the ES1B can indicate where a fault lies in the system and so prevent further damage and costs.

Food industry

The ES1B can be used to measure the temperature of food items on a conveyor belt. This method of temperature measurement is both accurate and very hygienic, as there's no contact with the food. The unit's IP65 protection makes it very suitable for use in this industry.

List of models

Model	Specification (temperature range)	Appearance and sensing characteristic
ES1B	10-70°C	
	60-120°C	
	115-165°C	
	140-260°C	

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