Infrared Temperature Sensors

Selection guide P.1721—P.1730 ▶

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Non-contact infrared type

Multi-purpose type	**TS-D**	
Digital standard type	**TS-P**	

Selection guide   Infrared temperature sensors

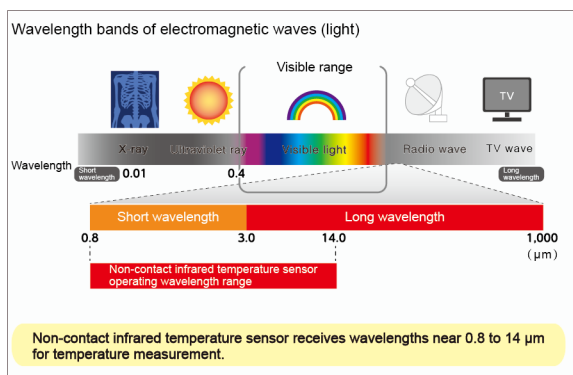## ▌ What is an infrared temperature sensor

Infrared temperature sensors are sensors that utilize the infrared principle to measure product temperature without contact.

▌ Infrared temperature sensor application

Infrared temperature sensors are mainly used for: non-contact temperature measurement, infrared radiation detection, temperature measurement of moving objects, continuous temperature control, etc.

About infrared light and wavelength

Infrared light belongs to a kind of electromagnetic wave, with wavelengths ranging from 0.8 to 1000 μm;
Different wavelengths have very different properties, and infrared temperature sensors utilize the differences in wavelengths for detection.

Wavelength bands of electromagnetic waves (light)

Visible range

TV

X-ray   Ultraviolet ray   Visible light   Radio wave   TV wave

Wavelength
Short wavelength   0.01   0.4   Long wavelength

Short wavelength   Long wavelength
0.8   3.0   14.0   1,000
(μm)

Non-contact infrared temperature sensor operating wavelength range

Non-contact infrared temperature sensor receives wavelengths near 0.8 to 14 μm for temperature measurement.

Material of the object vs. wavelength

All objects emit infrared rays of different wavelengths depending on their temperature.
A comparison table of the measured wavelengths for various materials is shown below:

1μm	1.6μm	2.3μm	8~14μm
High-temperature metal	Heat-treated metal	Smooth metal	Rubber-plastic
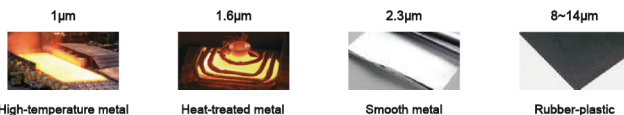
A suitable temperature sensor can be selected according to the wavelength of the object to be measured.

Product Category

Multi-purpose type

> Multi-purpose type
TS-D series

- Superb, standard type are available to meet different needs
- Up to 5ms response time for really fast temperature measurement

▶ P.1725

Digital standard type

> Digital standard type
TS-P series

- Measured temperature range: 0~500°C
- 6-digital LCD digital display, clearly visible

▶ P.1729

Select the model according to the operating wavelength

Operating wavelength		8~14μm		2.3μm	1.6μm	1μm
Measurement temperature	Celsius(℃)	0~500℃		100~600℃	300~1300℃	600~1600℃
	Fahrenheit(℉)	32~932℉		212~1112℉	572~2372℉	1112~2912℉
Model		TS-D500*	TS-P500A	TS-D600*	TS-D1300*	TS-D1600*
Appearance		▶ P.1726	▶ P.1730	▶ P.1726	▶ P.1726	▶ P.1726