

Close-Focus Adjustable Range IR Thermocouples

OS37/38-CF Series



OS37-CF
shown actual size.

- ✓ 30° or 1°(60:1) Field of View
- ✓ Built-In Air Purge
- ✓ Self-Powered
- ✓ Measurements to 2500°C (4500°F)

The OS37-CF/OS37-60CF Series infrared thermocouples for high-emissivity targets (non-metals and coated metals) and the OS38-CF/OS38-60CF Series for low-emissivity targets (clean metals) feature an internal screw that adjusts the 2% accuracy band anywhere within the overall temperature range. All of these units use a lens to produce a minimum spot at a focal point. Models with 30° optics produce a rectangular minimum spot size in the focal plane by using a masked detector. Models with 1° (60:1) optics produce a more conventional round minimum spot size at a focal point. All models feature a built-in air purge.

Specifications

Linear Range Selections:

J, K, T, E, R, or S; adjustable over entire sensing range

Output Impedance:

OS37: 6 to 13 kΩ

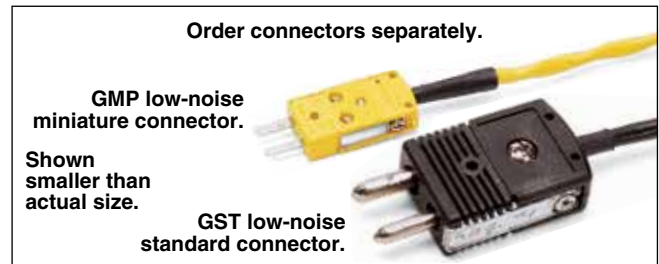
OS38: 9 to 18 kΩ

Operating Ambient Temperature Range:

-18 to 85°C (0 to 185°F)

Air Purge: Built-in

Ambient Temperature Compensation: With air flow of 1.1 SCFM (20 psig), maximum ambient is 204°C (400°F)



To Order	
Model No.	Field of View
High-Emissivity Models	
OS37-CF-(*)	30°
OS37-60CF-(***)	1°
Low-Emissivity Models	
OS38-CF-(**)	30°
OS38-60CF-(***)	1°

* Specify thermocouple Type J, K, E or T. ** Specify thermocouple Type J or K. *** Specify thermocouple Type R or S.

Comes complete with set of apertures and operator's manual.

Note: Stripped leads are standard. Order miniature GMP or standard GST connectors separately.

Ordering Examples: OS37-60CF-R, high-emissivity sensor, 1° field of view, Type R output.

OS37-CF-K, high emissivity sensor, 30° field of view, Type K output.

Model No.	Field of View	Min Spot Size mm (inch)	Spectral Response	Range† °C (°F)	Dimensions L x Dia./mm (inch)	Weight g (oz)
OS37-CF	30°	2 x 15 (0.1 x 0.6) @ 40 (1.6)	2 to 20 microns	-18 to 1370 (0 to 2500)	58.4 x 35 (2.3 x 1.375)	184 (6.5)
OS37-60CF	1°	6 (0.25) @ 305 (12)	2 to 20 microns	540 to 2200 (1000 to 4000)	213 x 35 (8.375 x 1.375)	570 (20)
OS38-CF	30°	2 x 15 (0.1 x 0.6) @ 40 (1.6)	0.1 to 5 microns	260 to 1370 (500 to 2500)	58.4 x 35 (2.3 x 1.375)	184 (6.5)
OS38-60CF	1°	6 (0.25) @ 305 (12)	0.1 to 5 microns	820 to 2500 (1500 to 4500)	213 x 35 (8.375 x 1.375)	570 (20)

† Measurement is practical beyond thermocouple table values by use of radiation laws. Polynomials available on request. Units must be adjusted for a narrow 2% accuracy range in field.

Adjustable-Range Infrared Thermocouples



OS37/OS38 Series



- ✓ 10:1, 20:1, or 100:1 Optics Available
- ✓ Built-In Air Purge
- ✓ J or K Thermocouple Output Signal; R Type for 100:1 Models
- ✓ Self-Powered
- ✓ Temperature Compensated
- ✓ Measurements to 2760°C (5000°F)



Shown with CN77000 MICROMEGA™ Series 1/16 DIN controller,



OS37-10-K shown smaller than actual size.

OS36-MB2 mounting bracket sold separately.

The OS37 Series infrared thermocouples for high-emissivity targets (non-metals and coated metals) and OS38 Series low-emissivity units (clean metals) feature an internal screw that adjusts the 2% accuracy band anywhere within the overall temperature range. Both series are available in 10:1, 20:1, or 100:1 optics. All models have a built-in air purge collar that conveniently and efficiently maintains optical cleanliness in harsh environments.

Specifications

Accuracy: 2%

Linear Range Selections: J, K or R; adjustable over entire sensing range

Spectral Response:

OS37: 2 to 20 microns

OS38: 0.1 to 5 microns

Output Impedance:

OS37: 6 to 13 kΩ

OS38: 9 to 18 kΩ

Operating Ambient Temperature

Range: -18 to 85°C (0 to 185°F)

Air Purge: Built-in

Ambient Temperature

Compensation: With air flow of

1.1 SCFM (20 psig), maximum ambient is 204°C (400°F)

Dimensions:

Length: 8.48 cm (3.34"), 10:1 optics; 10.54 cm (4.25"), 20:1 optics; 26.67 cm (10.5"), 100:1 optics

Diameter: 3.49 cm (1.375")

Weight: 184 g (6.5 oz), 10:1 optics; 230 g (8 oz), 20:1 optics; 570 g (20 oz), 100:1 optics

To Order	
Model No.	Field of View
High-Emissivity Models	
OS37-10-(*)	10:1
OS37-20-(*)	20:1
OS37-100-R	100:1
Low-Emissivity Models	
OS38-10-(*)	10:1
OS38-20-(*)	20:1
OS38-100-R	100:1
Accessory	
OS36-MB2	Mounting bracket

Model No.	Optics	Field of View	Min Spot Size: mm (inch)	Range† °C (°F)
OS37-10	10:1	6°	13 (0.5)	-45 to 1370 (-50 to 2500)
OS37-20	20:1	3°	6 (0.25)	260 to 1650 (500 to 3000)
OS37-100	100:1	0.6°	20 (0.8)	540 to 2760 (1000 to 5000)
OS38-10	10:1	6°	13 (0.5)	260 to 1370 (500 to 2500)
OS38-20	20:1	3°	6 (0.25)	540 to 1930 (1000 to 3500)
OS38-100	100:1	0.6°	20 (0.8)	820 to 2760 (1500 to 5000)

† Measurement is practical beyond thermocouple table values by use of radiation laws. Polynomials available on request. Units must be adjusted for a narrow 2% accuracy range in field.

* Specify thermocouple Type J or K.

Comes complete with set of apertures and operator's manual.

Note: Stripped leads are standard. Order miniature **GMP** or standard **GST** connectors separately.

Ordering Examples: OS38-10-K, low-emissivity sensor, 10:1 optics.

OS37-10-K, high-emissivity sensor, 10:1 optics, Type K.