

Miniature Industrial, Non-Contact IR Temperature Sensor/Transmitters With Built-In LED Display Option

OS100E Series
Starts at
\$195



Optional†

- ✓ -18 to 538°C (0 to 1000°F) Temperature Range
- ✓ Adjustable Emissivity from 0.10 to 1.0
- ✓ Fast, Accurate, Repeatable Readings
- ✓ Type K Thermocouple, 0 to 5 Vdc, 0 to 10 Vdc, 4 to 20 mA, or 1 mV/Deg Analog Output Models
- ✓ Built-In °C/°F-Switchable
- ✓ LED Display Model Available
- ✓ Rugged, Miniature Industrial Enclosure with Remote Sensor Head
- ✓ User-Adjustable High or Low Alarm Output
- ✓ PC Interface Standard on All Models
- ✓ OS100-SOFT Data Acquisition and Real-Time Temperature Display Software
- ✓ NEMA 4 (IP65) Rated Aluminum Housing
- ✓ Models with High-Temperature Sensor Head Available (See "To Order" Notes)

The OMEGA® OS100E Series miniature infrared transmitters measure a temperature range of -18 to 538°C (0 to 1000°F). They consist of a remotely mounted infrared sensor head connected to a high-performance, microprocessor-based signal conditioner. The miniature sensor head is ideal for measuring temperature in confined, hard-to-reach places and harsh environments. The sensor head is connected to the main electronics housing via a 1.8 m (6') shielded cable. The signal



Strain relief port for power and output leads.

OS102E-MV, \$270, shown smaller than actual size.

conditioner's main electronics are mounted in a rugged NEMA 4 (IP65) rated die-cast aluminum housing. Model OS102E includes a built-in LED display that is switchable between °C and °F. Standard features include adjustable emissivity, field-adjustable alarm output, and RS232 PC interface. The unit has analog outputs such as 4 to 20 mA, 0/5 Vdc, 0/10 Vdc, 1 mV/Deg, and Type K thermocouple.



OS101E-MV, \$195.

Specifications

- Temperature Range:** -18 to 538°C (0 to 1000°F)
- Accuracy @ 22°C (72°F) Ambient Temperature and Emissivity of 0.95 or Greater:** ±2% rdg or 2.2°C (4°F), whichever is greater
- Optical Field of View:** 6:1 (distance/spot size)
- Sensor Head Cable Extension:** Up to 15 m (50') total
- Repeatability:** ±1% rdg
- Spectral Response:** 5 to 14 microns
- Response Time:** 100 ms (0 to 63% of final value)
- Emissivity Range:** 0.1 to 1.00, adjustable
- Display Option (102E):** 4-digit LED, °C/°F switchable
- Operating Temperature:**
 - Main Transmitter:** 0 to 50°C (32 to 122°F)
 - Sensor Head:** 0 to 70°C (32 to 158°F)
 - Sensor Head (-HT Model):** 0 to 85°C (32 to 185°F)
- Sensor Head with OS100-WC (Water Cooling Jacket):** 0 to 200°C (32 to 392°F)
- Operating Relative Humidity:** Less than 95% RH, non-condensing
- Water Flow Rate for OS100-WC:** 0.25 GPM, room temperature
- Thermal Shock:** About 30 minutes for 25°C (77°F) abrupt ambient temperature change
- Warm-Up Period:** 3 minutes

Air Flow Rate for OS100-AP:

1 CFM (0.5 L/s)

Power: 12 to 24 Vdc @ 150 mA

PC Communications:

Serial RS232, 2-way

Analog Outputs:

- MV:** 1 mV/Deg
- K:** K Type thermocouple
- MA:** 4 to 20 mA
- V1:** 0 to 5 Vdc
- V2:** 0 to 10 Vdc

Output Load Requirements:

Min Load: 1 kΩ (0 to 5 Vdc), 2 kΩ (0 to 10 Vdc)

Max Load (4 to 20 mA):

(supply power - 4)/20 mA

Transmitter Housing:

NEMA 4 (IP65), die-cast aluminum

Sensor Head Housing:

NEMA 4 (IP65), aluminum

Alarm Output: Open drain, 100 mA

Alarm Setpoint: 0 to 100%, adjustable

Alarm Deadband: 5.5°C (10°F)

† Refer to accessories chart on next page for NIST calibration ordering information.



OMEGACARESM extended warranty program is available for models shown on this page. Ask your sales representative for full details when placing an order. OMEGACARESM covers parts, labor and equivalent loaners.

Available Accessories

OS100-LS laser sighting, \$175.



OS100-MB mounting bracket, \$20.

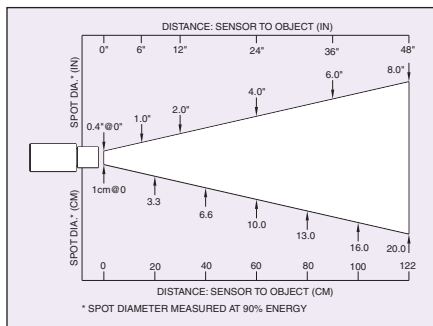
OS100-WC water cooling jacket.

OS100-AP air purge collar, \$30.



All models shown smaller than actual size.

MOST POPULAR MODELS HIGHLIGHTED!



Optical Field of View

Dimensions:

Sensor Head:
25.4 OD x 63.5 mm L (1 x 2.5")

Main Housing:
65.5 W x 30.5 D x 115.3 mm L
(2.58 x 1.2 x 4.54")

Weight: 272 g (0.6 lb)

LASER SIGHT ACCESSORY (OS100-LS)

Wavelength (Color):

630 to 670 nm (red)

Operating Distance (Laser Dot):

Up to 9.1 m (30')

Max Output Optical Power:

Less than 1 mW @ 25°C (77°F) ambient temperature

European Classification: Class 2, EN60825-1/11.2001

Max Operating Current:

25 mA @ 3 Vdc

FDA Classification: Complies with 21 CFR 1040.10, Class II Laser Product

Beam Diameter: 5 mm

Beam Divergence: <2 mrad

Operating Temperature:

0 to 50°C (32 to 122°F)

Operating Relative Humidity: Less than 95% RH, non-condensing

Power Switch: On/off slide switch on the battery pack

Power Indicator: Red LED

Power: Battery pack, 3 Vdc (consists of two 1.5 Vdc "AA" lithium batteries)

Dimensions:

38 Dia. x 50.8 mm L (1.5 x 2")

Software (Included):

Requires Windows 98 or newer Windows operating system

To Order (Specify Model Number)

Model Number	Price	Description
OS101E-MV	\$195	Transmitter with 1 mV/°C or °F output
OS101E-V1	195	Transmitter with 0 to 5 Vdc output
OS101E-V2	195	Transmitter with 0 to 10 Vdc output
OS101E-MA	245	Transmitter with 4 to 20 mA output
OS101E-K	195	Transmitter with Type K T/C output
Models with High-Temperature Sensing Head		
OS101E-MV-HT	\$295	Transmitter with 1 mV/°C or °F output
OS101E-V1-HT	295	Transmitter with 0 to 5 Vdc output
OS101E-V2-HT	295	Transmitter with 0 to 10 Vdc output
OS101E-MA-HT	345	Transmitter with 4 to 20 mA output
OS101E-K-HT	295	Transmitter with Type K T/C output

Models with Built-In LED Display

Model Number	Price	Description
OS102E-MV	\$270	Transmitter with 1 mV/°C or °F output and LED display
OS102E-V1	270	Transmitter with 0 to 5 Vdc output and LED display
OS102E-V2	270	Transmitter with 0 to 10 Vdc output and LED display
OS102E-MA	320	Transmitter with 4 to 20 mA output and LED display
OS102E-K	270	Transmitter with Type K output and LED display
Models with High-Temperature Sensing Head		
OS102E-MV-HT	\$370	Transmitter with 1 mV/°C or °F output and LED display
OS102E-V1-HT	370	Transmitter with 0 to 5 Vdc output and LED display
OS102E-V2-HT	370	Transmitter with 0 to 10 Vdc output and LED display
OS102E-MA-HT	420	Transmitter with 4 to 20 mA output and LED display
OS102E-K-HT	370	Transmitter with Type K output and LED display

Comes complete with sensor head and 1.8 m (6") cable, sensor head mounting nut, main electronics housing, user software and operator's manual.

Ordering Examples: OS101E-MA + OS100-LS + OS100-CA15FT, transmitter with 4 to 20 mA output, laser sighting accessory and 4.6 m (15') sensor head extension cable, \$245 + 175 + 35 = \$455.

OCW-3, OMEGACARE™ extends standard 1-year warranty to a total of 4 years (\$61), \$455 + 61 = \$516.

Accessories

Model Number	Price	Description
OS100-MB	\$20	Mounting bracket
OS100-DR	25	DIN rail mounting adaptor
OS100-AP	30	Air purge collar
OS100-WC	175	Water cooling jacket, up to 200°C
OS100-LS	175	Laser sighting accessory
OS100-CA15FT	35	Sensor head extension cable, 4.6 m (15')
OS100-CA25FT	45	Sensor head extension cable, 7.6 m (25')
TX8-100	95	Power/output cable, 30 m (100')
PSR-24S	60	Regulated power supply, US plug, 90 to 264 Vac input, 24 Vdc output, 400 mA, screw terminals, UL
PSR-24L	60	Regulated power supply, US plug, 90 to 264 Vac input, 24 Vdc output, 400 mA, stripped leads, UL
PSR-24L-230	60	Regulated power supply, European plug, 230 Vac input, 24 Vdc output, 400 mA, stripped leads, CE
PSU-93	40	Unregulated power supply, 16 to 23 Vdc, 300 mA max, screw terminal
CAL-3-IR†	125	NIST-traceable calibration



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