

Compact Non-Contact Temperature Sensor With Controllable Emissivity Setting



OS212, OS152, OS302 and
OS802 Series



Optional†



OS212-LT,
shown with sensor
head (included),
shown actual size.

- ✓ Temperature Range -20 to 500°C (-4 to 932°F)
- ✓ 2-Wire 4 to 20 mA Output Proportional to Target Temperature
- ✓ 4 to 20 mA Input to Control Emissivity Setting
- ✓ Optional Manual Emissivity Adjuster
- ✓ Field of View: 2:1, 15:1, 30:1 or Close Focus
- ✓ Fast Response with High Stability
- ✓ Stainless Steel Housing, Sealed to IP65
- ✓ Quick and Easy Installation
- ✓ Optional Air/Water Cooled Housing, Air Purge Collar, Laser Sighting Tool and Mounting Brackets

The OMEGA® Infrared Series is a range of high quality, low cost, compact sensors which measure the temperature of inaccessible or moving objects and materials. They measure temperatures from -20 to 500°C (-4 to 932°F), accurately and consistently, with an outstanding response time of 240 mS. OMEGA sensors transmit the target temperature as a 4 to 20 mA output and offer a simple solution for most non-contact temperature measurement applications. The sensor's emissivity setting can be adjusted from 0.2 to 1.0 to cope with different target materials and is controlled by a 4 to 20 mA input. This gives the opportunity to adjust the emissivity setting automatically from a programmable logic controller (PLC). Alternatively the emissivity setting can be adjusted manually using the OS210-PT. If the 4 to 20 mA input is left open or short-circuit the emissivity setting defaults to 0.95.

† Refer to accessory chart on J-3 for NIST calibration ordering information.

Specifications

Infrared Sensor Output: 4 to 20 mA

Accuracy: $\pm 1\%$ of reading or $\pm 1^\circ\text{C}$ whichever is greater

Repeatability: $\pm 0.5\%$ of reading or $\pm 0.5^\circ\text{C}$ whichever is greater

Emissivity: 0.2 to 1.0 via 4 to 20 mA input

Response Time t_{90} : 240 mS (90% response)

Spectral Range: 8 to 14 μm

Supply Voltage: 24 Vdc (28 Vdc max)

Min Sensor Voltage: 6 Vdc

Max Loop Impedance: 900 Ω (4 to 20 mA output)

Input Impedance: 50 Ω

Mechanical

Construction: Stainless Steel

Dimensions: 103 L x 18 mm D (4.05 x 0.71")

Thread Mounting: M16 x 1 mm pitch

Cable Length: 1 m (3.3') longer lengths available to order

Weight: 95 g (3.4 oz) with cable

Environmental Rating: IP65

Ambient Temperature Range: 0 to 70°C (32 to 158°F)

Relative Humidity: 95% max non-condensing

Tune Emissivity Adjuster Specifications (OS210-PT)

Output: 4 to 20 mA

Supply Voltage: 24 Vdc (13V to 28 Vdc)

Display Format: 3.5 digit LCD

Display Units:

Emissivity: 0.2 to 1.0

Current: 4 to 20 mA

Adjustment: Pushbuttons (raise/lower/set)

Mechanical

Construction: Polycarbonate with gasket, transparent lid (PC) and quick release screws

Mounting: Surface

Dimensions: 65 H x 50 W x 35 mm D (2.56 x 1.97 x 1.38")

Weight: 72 g (2.5 oz)

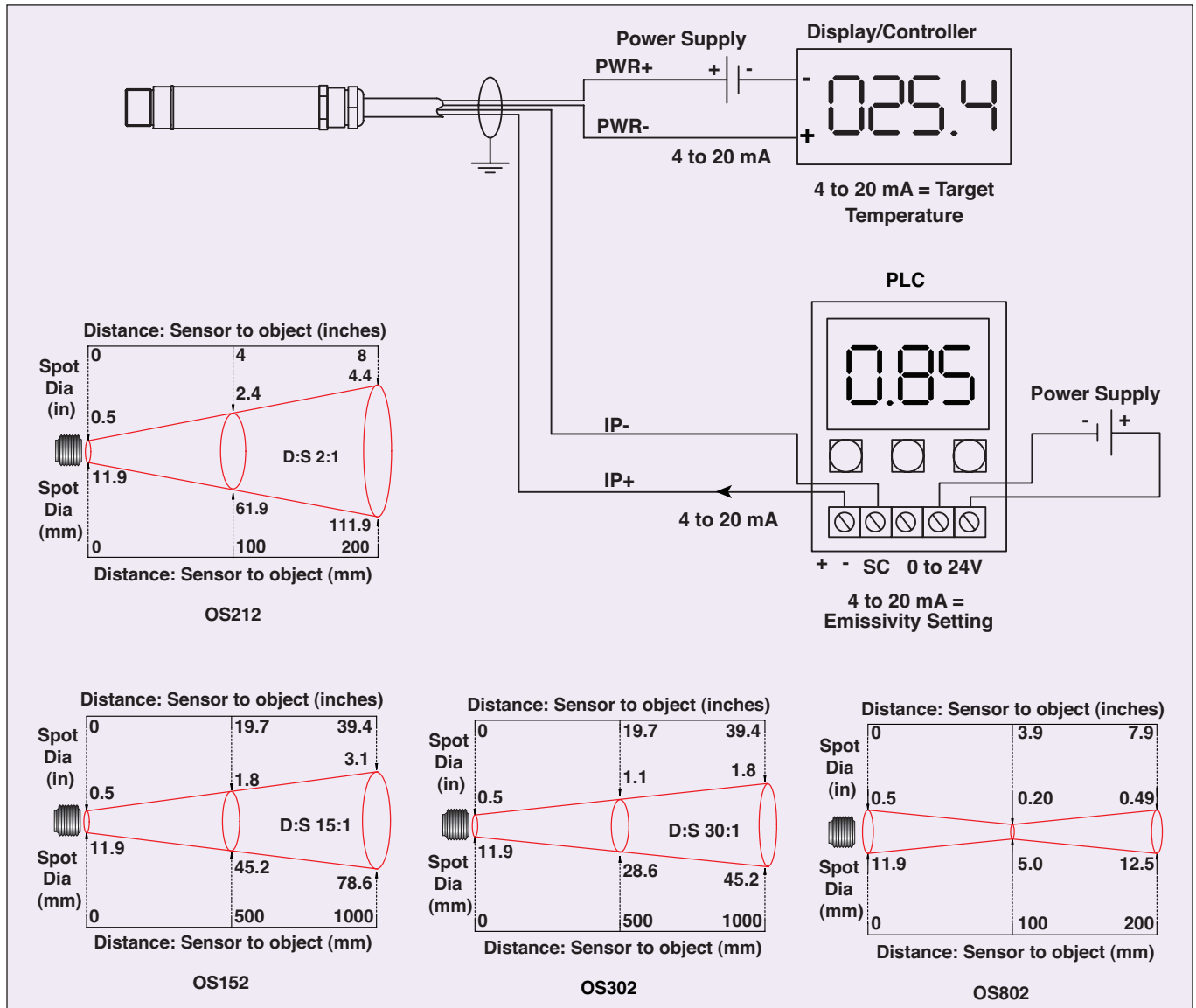
Environmental

Rating: IP65

Ambient Temperature Range: 0 to 70°C (312 to 158°F)

Relative Humidity: 95% max non-condensing

Wiring Diagram and Distance: Spot Ratios





☐ **MOST POPULAR MODELS HIGHLIGHTED!**

To Order (Specify Model Number)				
Model No.		Optics	Temperature Range	Output with Adjustable Emissivity
OS212-LT		2:1	-20 to 100°C (-4 to 212°F)	4 to 20 mA
OS212-MT		2:1	0 to 250°C (32 to 482°F)	4 to 20 mA
OS152-LT		15:1	-20 to 100°C (-4 to 212°F)	4 to 20 mA
OS152-MT		15:1	0 to 250°C (32 to 482°F)	4 to 20 mA
OS152-HT		15:1	0 to 500°C (32 to 932°F)	4 to 20 mA
OS302-LT		30:1	-20 to 100°C (-4 to 212°F)	4 to 20 mA
OS302-MT		30:1	0 to 250°C (32 to 482°F)	4 to 20 mA
OS302-HT		30:1	0 to 500°C (32 to 932°F)	4 to 20 mA
OS802-LT		Close-focus	-20 to 100°C (-4 to 212°F)	4 to 20 mA
OS802-MT		Close-focus	0 to 250°C (32 to 482°F)	4 to 20 mA
OS802-HT		Close-focus	0 to 500°C (32 to 932°F)	4 to 20 mA

Comes complete with sensor head, 1 m (3.3') cable and operator's manual.

Ordering Examples: OS212-MT, 2:1 optics, 0 to 250°C (32 to 482°F) temperature range, 4 to 20 mA output, adjustable emissivity.

OS302-HT, 30:1 optics, 0 to 500°C (32 to 932°F) temperature range, 4 to 20 mA output, adjustable emissivity. **OCW-3, OMEGACARESM** extends standard 2-year warranty to a total of 5 years.

Options (Not Field Installable)

Suffix		Description
-WC		For air/water cooled jacket (includes air purge collar) must be ordered with sensor; cannot be retrofitted
-CE(*)		Cable extended, for uncooled PE sensor, 30 m (98') max total cable length
-CEHT(*)		Cable extended, high temperature, for cooled PE sensor, 30 m (98') max total cable length

* 1 m (3.3') cable is included as standard on every sensor. Extended cable is added to that length, add suffix to model number. Insert cable length in meters.

Accessories

Model No.		Description
OS210-PT		Tune emissivity adjuster, 24 Vdc input, 4 to 20 mA output
OS210-FBS		Fixed bracket for compact sensors
OS210-ABS		Adjustable bracket for compact sensors
OS210-APSW		Air purge collar for compact 2:1 sensors
OS210-APSN		Air purge collar for compact 15:1, 30:1 and close-focus sensors
OS210-LSTS		Laser sighting tool for compact sensors
CAL-3-IRT†		NIST-traceable calibration

Power Supplies

AVAILABLE FOR FAST DELIVERY!

Model No.		Description
PSR-24S		Regulated power supply, US plug, 90 to 264 Vac input, 24 Vdc output, 400 mA, screw terminals, UL
PSR-24L		Regulated power supply, US plug, 90 to 264 Vac input, 24 Vdc output, 400 mA, stripped leads, UL
PSR-24L-230		Regulated power supply, european plug, 230 Vac input, 24 Vdc output, 400 mA, stripped leads, CE
TX8-100		Power/output cable, 30 m (100')



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• Flow and Level

Air Velocity Indicators, Doppler Flowmeters, Level Measurement, Magnetic Flowmeters, Mass Flowmeters, Pitot Tubes, Pumps, Rotameters, Turbine and Paddle Wheel Flowmeters, Ultrasonic Flowmeters, Valves, Variable Area Flowmeters, Vortex Shedding Flowmeters

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