Industrial Infrared Thermometer
Non-Contact Temperature Measurement with Integral Display and Analog Output

OS550A Series

OS550A shown smaller than actual size.

Laptop not included.

- ✔ **4 Models for Temperature Measurements up to 1370°C (2500°F)**
- ✔ **±1% Rdg Accuracy**
- ✔ **Voltage/Current Analog Output**
- ✔ **Backlit LCD**
- ✔ **Dual Display Design Indicates Min/Max/Avg or ΔT Temperatures**
- ✔ **Adjustable Emissivity**
- ✔ **Data Storage and Logging**
- ✔ **High/Low Voltage Alarm Outputs with Red LED Indication (OS551A- High Alarm Only)**
- ✔ **Fast 100 ms Response Time**
- ✔ **Two-Way RS232 Communications Available**
- ✔ **Available with NEMA 4 Plastic or Aluminum Housing, or with No Case for OEM Applications**
- ✔ **Windows® Based PC Application Data Logging Software**

The new OMEGA® OS550A series infrared thermometers offer an industrial, high performance, economical transmitter package with a wide choice of temperature ranges, optical fields of view and analog outputs to feed directly to panel meters, recorders, temperature/process controllers, data loggers, data acquisition systems or other process instrumentation.

Since the OS550A Series infrared thermometers do not use chopper motors or vibrator mechanisms, they can be mounted in any position and in hostile environments without suffering any loss in performance.

This rugged design coupled with relatively small dimensions makes these sensors ideally suited for a wide variety of applications.

Specifications
General

Accuracy: ±1% rdg or 1.7°C (3°F), whichever is greater; 25°C ambient, 0.95 emissivity

Repeatability: ±(1% rdg + 1 digit)

Spectral Response: 8 to 14 microns

Emissivity: 0.10 to 1.00 in 0.01 steps

Response Time: 100 ms, 0 to 63.5% of final value

Display: Backlit LCD

Analog Output: 1 mV/degree, 0 to 5 Vdc or 4 to 20 mA

Alarms: High and low; red LED and audible indicators; two voltage outputs, 100 mA current to drive external relays

Power: 8 to 24 Vdc, 80 mA

PC Interface (OS552A/553A/554A Models Only): RS232, 2-way, PC user software included

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

Environmental

Rating: NEMA 4 (IP65); sensor head and plastic or aluminum electronics enclosure

Operating Ambient: 0 to 50°C (32 to 122°F) electronics and standard sensing head; 85°C (185°F) max temp for sensing head with OS550-WC water cooled jacket

Physical Dimensions:
   Sensing Head: 109 L x 41 OD mm (4.3 x 1.63"); 1.5-20 thread
   Electronics, Plastic Case: 120 H x 80 W x 51 mm L (4.75 x 3.15 x 2")
   Electronics, Aluminum Case: 115 H x 90 W x 56 mm L (4.5 x 3.5 x 2.2")

Connections: 4.5 m (15') sensor head and power/output cables included

Weight: 0.45 kg (12 oz) sensing head; 1.2 kg (42.3 oz) plastic case

Laser Sighting

Wavelength: 650 nm, red

Operating Distance: Up to 12 m (40')

Max Laser Power Output: Less than 1 mW

Classification: FDA Class II Laser product; European Class 2

Beam Diameter: 5 mm

Operating Ambient: 0 to 50°C (32 to 122°F)

Available Accessories

OS550-MF mounting flange.

OS550-MN mounting nut.

OS550A sensor head (included), shown with optional mounting bracket and mounting nut.

OS550-AP air purge collar.

OS550-WC air/water cooling jacket.

OS550-MB mounting bracket.

OS550-LS laser sighting with included battery pack.

Make it Wireless with Optional RS232 to USB Wireless Transceiver!

WRS232-USB wireless transceiver, sold separately. Shown smaller than actual size.

Make it Wireless!

The WRS232-USB transceiver can make the OS550A wireless! Simply attach the WRS232 transceiver to the RS232 port on the OS550A, and the WUSB transceiver to a USB port on your PC. Capable of full, two-way communications, the WRS232-USB operates transparently to the user. The WRS232-USB can extend the distance from your PC to your instrumentation, up to 40 m (130') in indoor/urban settings, or up to 120 m (400') outdoors/line of sight.

We make running changes when technical advances allow. Check at time of ordering for additional features.

LASER RADIATION DO NOT STARE INTO BEAM OR VIEW DIRECTLY WITH OPTICAL INSTRUMENTS. CLASS 2 LASER PRODUCT.

LASER RADIATION - DO NOT STARE INTO BEAM MAX. OUTPUT <1mW, WAVELENGTH 630-670 nm, CLASS II (2) LASER PRODUCT. COMPLIES WITH FDA 21CFR 1040.10

CAUTION AVOID EXPOSURE. LASER RADIATION IS EMITTED FROM THIS APERTURE

Accessories

To Order *Visit omega.com/os550a for Pricing and Details*

Model No.	Description
WRS232-USB	Wireless RS232 transceiver
OS550-AP	Air purge collar
OS550-WC	Air/water cooling jacket
OS550-MF	Mounting flange
OS550-MB	Right-angle mounting bracket
OS550-MN	Mounting nut
OS550-LS	Laser sighting**
CAL-3-IR†	NIST calibration certification
CAL-3-IR-X††	NIST calibration for over 1000°F temp
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
TX8-100	Power/output extension cable 30 m (100')
OM-CONV-USB	RS232 to USB interface converter
OS550A-PCAB-15	Power/output cable connector 4.5 m (15')
OS550A-PCAB-100	Power/output cable connector 30 m (100')

** *1 unit suitable for aligning many sensor heads.*

OS550 Series Optical Field of View Diagrams

OS550A Range 1 — DISTANCE: SENSOR TO OBJECT (FT) / (M); SPOT DIA.* (INCH) / (MM). 9mm @ 610mm. .35"@ 24". *SPOT DIAMETER MEASURED AT 90% ENERGY

OS550A Range 2 — DISTANCE: SENSOR TO OBJECT (FT) / (CM); SPOT DIA.* (INCH) / (CM). 0.5"@ 3". 1.3cm @ 7.6cm. *SPOT DIAMETER MEASURED AT 90% ENERGY

OS550A Range 3 — DISTANCE: SENSOR TO OBJECT (FT) / (CM); SPOT DIA.* (INCH) / (CM). 1.0" @ 20". 2.5cm @ 51cm. *SPOT DIAMETER MEASURED AT 90% ENERGY

OS550A Range 4 — DISTANCE: SENSOR TO OBJECT (FT) / (CM); SPOT DIA.* (INCH) / (CM). 1.0" @ 30". 2.5cm @ 76cm. *SPOT DIAMETER MEASURED AT 90% ENERGY

OS550A Range 5 — DISTANCE: SENSOR TO OBJECT (FT) / (M); SPOT DIA.* (INCH) / (MM). 0.9"@ 0. 22mm @ 0. D:S = 60:1. *SPOT DIAMETER MEASURED AT 90% ENERGY

OS550A Range 6 — DISTANCE: SENSOR LENS TO OBJECT (in) / (CM); SPOT DIA.* (INCH) / (MM). *SPOT DIAMETER MEASURED AT 90% ENERGY

OMEGA CARE℠
Extended Warranty Program

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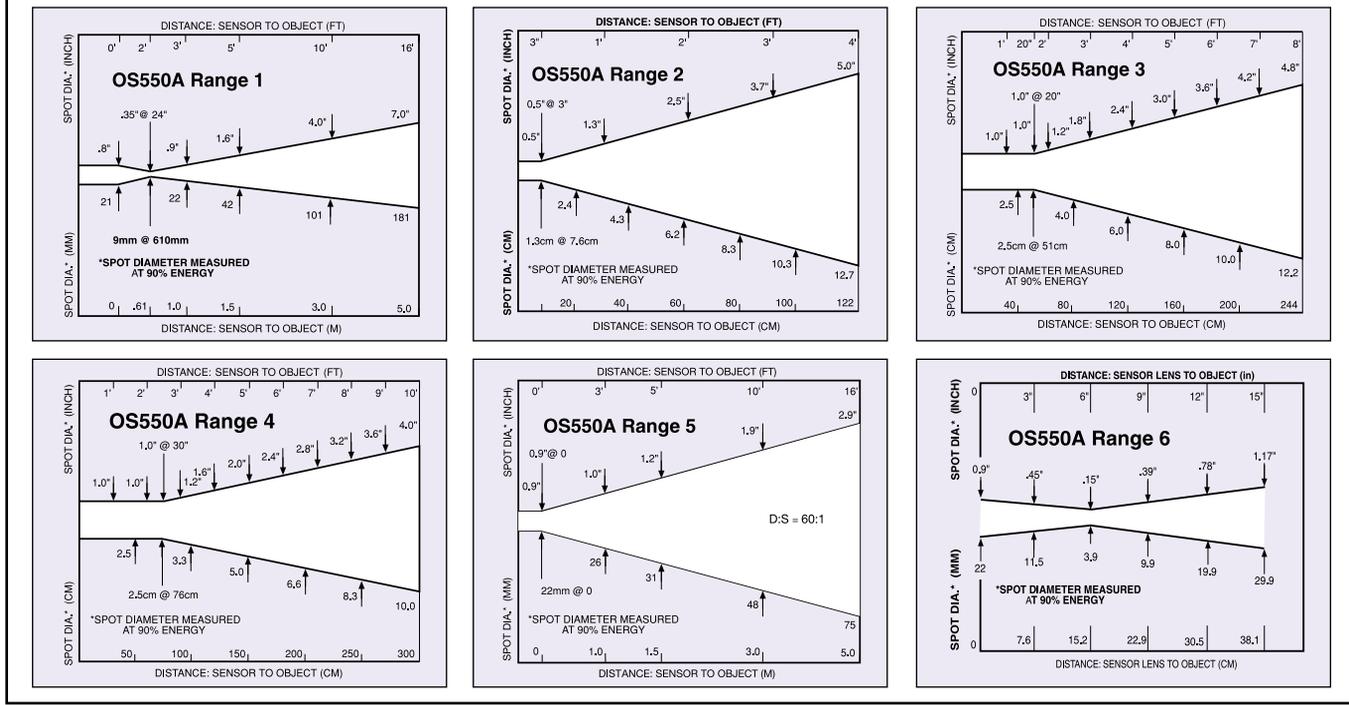

OS550AM infrared industrial thermometer in an aluminum case.

WUSB wireless receiver.

WRS232-USB wireless transceiver, sold separately.

Optical Table*

Optical Range Code	Field of View (FOV)
1	Spot size 8.9 @ 609 mm (0.35 @ 24")
2	Spot size 12.7 @ 76 mm (0.5 @ 3")
3	Spot size 25.4 @ 508 mm (1 @ 20")
4	Spot size 25.4 @ 762 mm (1 @ 30")
5	Spot size 25.4 @ 914 mm (1 @ 36")
6	Spot size 3.8 @ 152 mm (0.15 @ 6")

To Order *Visit omega.com/os550a for Pricing and Details*

NEMA 4 Rated Plastic Enclosure

Model No.	Range	Analog Output	RS232/PC Software
OS551A-MV-(*)	-23 to 400°C (-10 to 750°F)	1 mV/Deg	—
OS551A-MA-(*)	-23 to 400°C (-10 to 750°F)	4 to 20 mA	—
OS551A-V1-(*)	-23 to 400°C (-10 to 750°F)	0 to 5 Vdc	—
OS552A-MV-(*)	-23 to 538°C (-10 to 1000°F)	1 mV/Deg	Standard
OS552A-MA-(*)	-23 to 538°C (-10 to 1000°F)	4 to 20 mA	Standard
OS552A-V1-(*)	-23 to 538°C (-10 to 1000°F)	0 to 5 Vdc	Standard
OS553A-MV-(*)	-23 to 871°C (-10 to 1600°F)	1 mV/Deg	Standard
OS553A-MA-(*)	-23 to 871°C (-10 to 1600°F)	4 to 20 mA	Standard
OS553A-V1-(*)	-23 to 871°C (-10 to 1600°F)	0 to 5 Vdc	Standard
OS554A-MV-(*)	-18 to 1370°C (0 to 2500°F)	1 mV/Deg	Standard
OS554A-MA-(*)	-18 to 1370°C (0 to 2500°F)	4 to 20 mA	Standard
OS554A-V1-(*)	-18 to 1370°C (0 to 2500°F)	0 to 5 Vdc	Standard

NEMA 4 Rated Aluminum Enclosure

Model No.	Range	Analog Output	RS232/PC Software
OS551AM-MV-(*)	-23 to 400°C (-10 to 750°F)	1 mV/Deg	—
OS551AM-MA-(*)	-23 to 400°C (-10 to 750°F)	4 to 20 mA	—
OS551AM-V1-(*)	-23 to 400°C (-10 to 750°F)	0 to 5 Vdc	—
OS552AM-MV-(*)	-23 to 538°C (-10 to 1000°F)	1 mV/Deg	Standard
OS552AM-MA-(*)	-23 to 538°C (-10 to 1000°F)	4 to 20 mA	Standard
OS552AM-V1-(*)	-23 to 538°C (-10 to 1000°F)	0 to 5 Vdc	Standard
OS553AM-MV-(*)	-23 to 871°C (-10 to 1600°F)	1 mV/Deg	Standard
OS553AM-MA-(*)	-23 to 871°C (-10 to 1600°F)	4 to 20 mA	Standard
OS553AM-V1-(*)	-23 to 871°C (-10 to 1600°F)	0 to 5 Vdc	Standard
OS554AM-MV-(*)	-18 to 1370°C (0 to 2500°F)	1 mV/Deg	Standard
OS554AM-MA-(*)	-18 to 1370°C (0 to 2500°F)	4 to 20 mA	Standard
OS554AM-V1-(*)	-18 to 1370°C (0 to 2500°F)	0 to 5 Vdc	Standard

* Specify optical range code from optical table, above (-2 field of view is not offered with OS554A).

To order with longer sensor head cable, up to 15 m (50'), add suffix "-(†)FT" to model number for additional cost for each additional foot over 4.5 m (15').

† Specify length in feet.

Ordering Examples: OS552A-MA-2, *infrared thermometer with -23 to 538°C (-10 to 1000°F) range, 4 to 20 mA output and spot size 12.7 mm (0.5") at 76 mm (3").*

OS551A-MA-2-35FT, *OS551 with current output, 0.5 at 76 mm (3") FOV, 10.6 m (35') sensor head cable.*

OCW-3, *OMEGACARE℠ extends standard 2-year warranty to a total of 5 years.*