OEM Style Industrial Non-Contact Infrared Thermometer/Transmitter with Local Display and Analog Output

OE OMEGA™

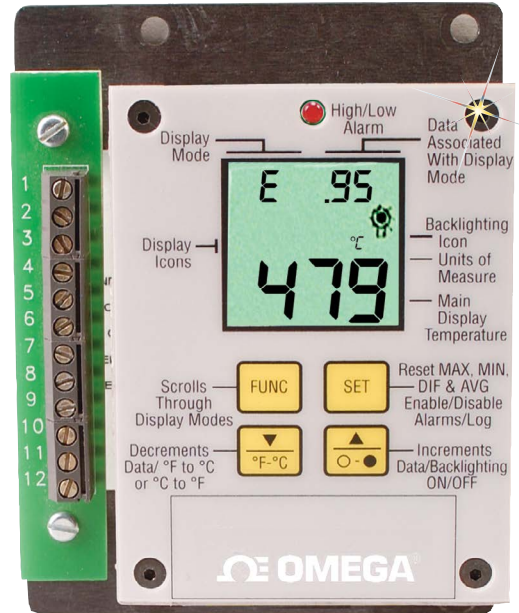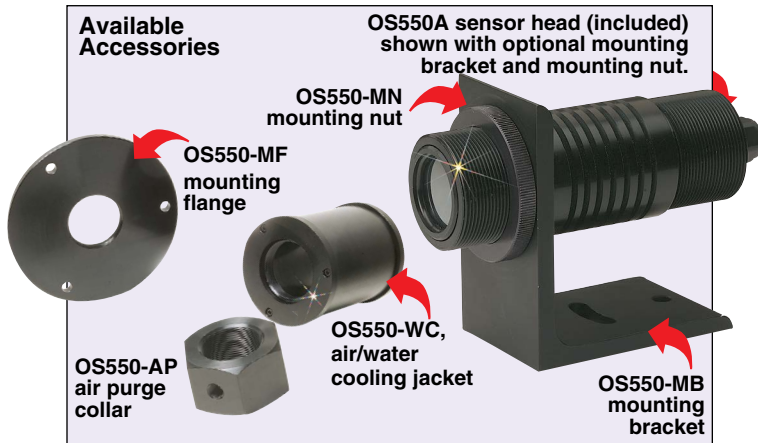### OS550A-BB Series

2 YEAR WARRANTY | **NIST** | **EMC SERVICES**
Optional

✔ **Visual and Audible High and Low Alarms with Red LED Indication**
✔ **Voltage Alarm Outputs Drive External Relays**
✔ **Fast 100 msec Response Time**
✔ **Two-Way RS232 Communications Available**
✔ **Wireless RS232 Communication Available**
✔ **Accuracy ±1% of Reading**
✔ **Models with Temperature Ranges Measuring Up to 1370°C (2500°F)**
✔ **Current, Voltage, or Millivolt Output**
✔ **Laser Sighting Optional**
✔ **°C/°F Keypad Selectable**
✔ **Local Backlit LCD Display Standard**
✔ **Dual Display Indicates Current plus Min, Max, Average, or Differential Temperatures on All Models**
✔ **Emissivity Adjustable from 1.00 to 0.1 in 0.01 Steps via the Programmable Keypad**
✔ **Windows® Based Data Logging Software**

The OMEGA™ OEM style OS550A-BB series industrial, high-performance, economical thermometer/transmitter offers a wide choice of temperature ranges, optical fields of view and 3 analog outputs (1 mV/deg, 4 to 20 mA, and 0 to 5 Vdc) to feed directly into panel meters, recorders, PLCs, temperature/ process controllers, data loggers, data acquisition systems, or other process instrumentation.

Since the OS550A-BB 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 OEM design coupled with relatively small dimensions makes these sensors ideally suited for a wide variety of applications.
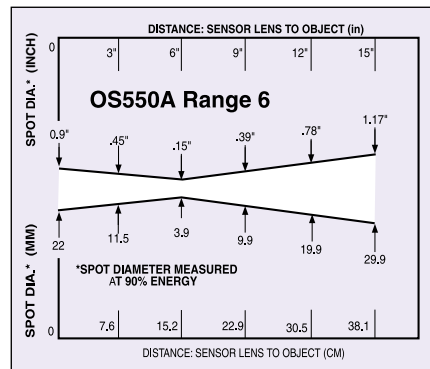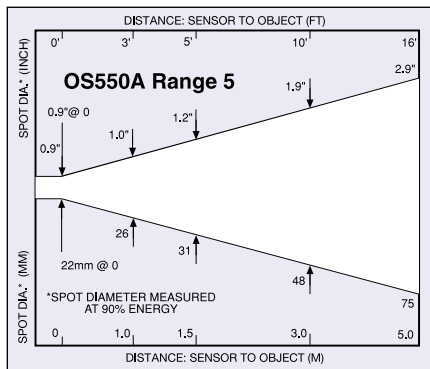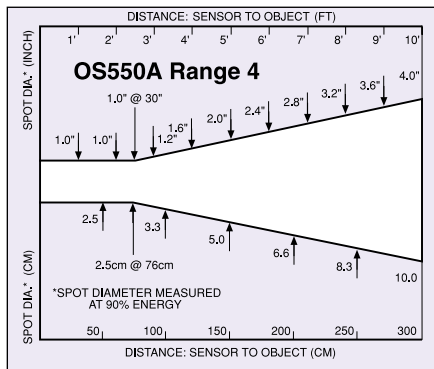

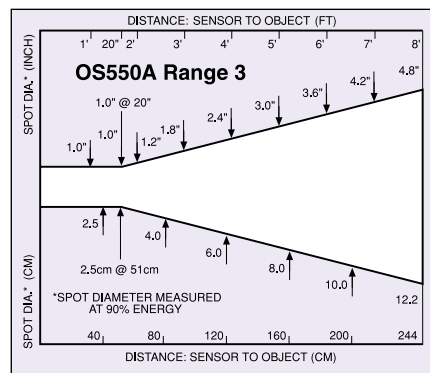**OS552A-MA-1-BB shown smaller than actual size.**
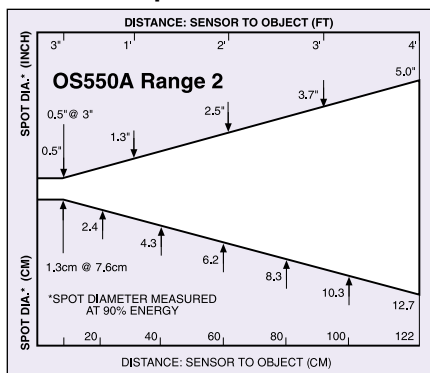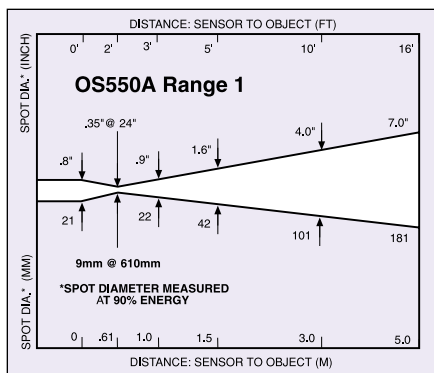
FREE data logging software included with models OS552A, 553A and 554A.

Specifications

Accuracy: ±1% of reading @ 25°C ambient or 3°F, whichever is greater
Repeatability: ±1% rdg ±1 digit
Spectral Response: 8 to 14 microns
Emissivity Range: 1.00 to 0.1 in 0.01 steps
Field of View (FOV): See diagrams
Display: Backlit LCD
Transmitter Outputs: 1 mV/ degree, 0 to 5 Vdc, or 4 to 20 mA
Power: 8 to 24 Vdc @ 80 mA
Environmental Ratings: NEMA 4 (IP65) Water-tight and dust-tight sensing head
Ambient Operating Range: Sensing head -18 to 85°C (-0.4 to 185°F) with OS550-WC; 0 to 50°C (32 to 122°F) without OS550-WC
RS232: Standard on OS552A, OS553A and OS554A models; two-way communication; PC-compatible software included
Connection: 4.5 m (15') sensor head cable Included
Dimensions:
  Sensing Head: 10.9 L x 4.1 cm D (4.30 x 1.63"), 1½-20 thread
  Electronics: 11.8 L x 9.1 W x 3.8 cm D (4.66 x 3.60 x 1.5")
Weight:
  Sensing Head: 0.45 kg (12 oz)
  Main Electronics: 1.13 kg (40 oz)
Response Time: 100 msec; 0 to 63% of final value

Available Accessories

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

OS550-MN mounting nut
OS550-MF mounting flange
OS550-AP air purge collar
OS550-WC, air/water cooling jacket
OS550-MB mounting bracket

LASER RADIATION DO NOT STARE INTO BEAM OR VIEW DIRECTLY WITH OPTICAL INSTRUMENTS. CLASS 2 LASER PRODUCT.
OE OMEGA™ CAUTION
AVOID EXPOSURE, LASER RADIATION IS EMITTED FROM THIS APERTURE
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

OS550A-BB Series Optical Field of View Diagrams

OS550A Range 1 — DISTANCE: SENSOR TO OBJECT (FT): 0' 2' 3' 5' 10' 16'; SPOT DIA.* (INCH): .8" .9" 1.6" 4.0" 7.0"; .35" @ 24"; SPOT DIA.* (MM): 21 22 42 101 181; 9mm @ 610mm; *SPOT DIAMETER MEASURED AT 90% ENERGY; DISTANCE: SENSOR TO OBJECT (M): 0 .61 1.0 1.5 3.0 5.0

OS550A Range 2 — DISTANCE: SENSOR TO OBJECT (FT): 3" 1' 2' 3' 4' 5.0"; 3.7"; 2.5"; 1.3"; 0.5"@ 3"; 0.5"; SPOT DIA.* (CM): 2.4 4.3 6.2 8.3 10.3 12.7; 1.3cm @ 7.6cm; *SPOT DIAMETER MEASURED AT 90% ENERGY; DISTANCE: SENSOR TO OBJECT (CM): 20 40 60 80 100 122

OS550A Range 3 — DISTANCE: SENSOR TO OBJECT (FT): 1' 20" 2' 3' 4' 5' 6' 7' 8'; 4.8"; 4.2"; 3.6"; 3.0"; 2.4"; 1.8"; 1.2"; 1.0"; 1.0" @ 20"; 1.0"; SPOT DIA.* (CM): 2.5 4.0 6.0 8.0 10.0 12.2; 2.5cm @ 51cm; *SPOT DIAMETER MEASURED AT 90% ENERGY; DISTANCE: SENSOR TO OBJECT (CM): 40 80 120 160 200 244

OS550A Range 4 — DISTANCE: SENSOR TO OBJECT (FT): 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'; 4.0"; 3.6"; 3.2"; 2.8"; 2.4"; 2.0"; 1.6"; 1.2"; 1.0" @ 30"; 1.0" 1.0"; SPOT DIA.* (CM): 2.5 3.3 5.0 6.6 8.3 10.0; 2.5cm @ 76cm; *SPOT DIAMETER MEASURED AT 90% ENERGY; DISTANCE: SENSOR TO OBJECT (CM): 50 100 150 200 250 300

OS550A Range 5 — DISTANCE: SENSOR TO OBJECT (FT): 0' 3' 5' 10' 16'; 2.9"; 1.9"; 1.2"; 1.0"; 0.9"@ 0; 0.9"; SPOT DIA.* (MM): 26 31 48 75; 22mm @ 0; *SPOT DIAMETER MEASURED AT 90% ENERGY; DISTANCE: SENSOR TO OBJECT (M): 0 1.0 1.5 3.0 5.0

OS550A Range 6 — DISTANCE: SENSOR LENS TO OBJECT (in): 3" 6" 9" 12" 15"; 0.9" .45" .15" .39" .78" 1.17"; SPOT DIA.* (MM): 22 11.5 3.9 9.9 19.9 29.9; *SPOT DIAMETER MEASURED AT 90% ENERGY; DISTANCE: SENSOR LENS TO OBJECT (CM): 7.6 15.2 22.9 30.5 38.1

To Order

Model No.	Output	Temperature Range	RS232	Free Data Logging PC Software
OS551A-MV-(*)-BB	1 mV/deg	-23 to 400°C (-10 to 750°F)	—	—
OS551A-MA-(*)-BB	4 to 20 mA	-23 to 400°C (-10 to 750°F)	—	—
OS551A-V1-(*)-BB	0 to 5 Vdc	-23 to 400°C (-10 to 750°F)	—	—
OS552A-MV-(*)-BB	1 mV/deg	-23 to 540°C (-10 to 1000°F)	Standard	Standard
OS552A-MA-(*)-BB	4 to 20 mA	-23 to 540°C (-10 to 1000°F)	Standard	Standard
OS552A-V1-(*)-BB	0 to 5 Vdc	-23 to 540°C (-10 to 1000°F)	Standard	Standard
OS553A-MV-(*)-BB	1 mV/deg	-23 to 870°C (-10 to 1600°F)	Standard	Standard
OS553A-MA-(*)-BB	4 to 20 mA	-23 to 870°C (-10 to 1600°F)	Standard	Standard
OS553A-V1-(*)-BB	0 to 5 Vdc	-23 to 870°C (-10 to 1600°F)	Standard	Standard
OS554A-MV-(*)-BB	1 mV/deg	-18 to 1370°C (0 to 2500°F)	Standard	Standard
OS554A-MA-(*)-BB	4 to 20 mA	-18 to 1370°C (0 to 2500°F)	Standard	Standard
OS554A-V1-(*)-BB	0 to 5 Vdc	-18 to 1370°C (0 to 2500°F)	Standard	Standard

✱ Insert optics code from table below (-2 field of view is not offered with OS554A).

Comes complete with sensor head, 4.6 m (15') sensor head cable, main electronics and operator's manual. The OS552A, OS553A, and OS554A also include RS232 cable, cable connector/adaptor and CD software.

Note: *Sensor head cable can be extended to a maximum of 15 m (50') **only** by the factory at time of purchase. Add suffix "-(†)FT" to the model number for an additional cost per foot over 4.6 m (15').*

† Insert desired sensor head cable length.

Ordering Examples: OS552A-MA-2-BB, *Infrared thermometer with -23 to 540°C (-10 to 1000°F) range, 4 to 20 mA output and spot size 0.5" at 3".*

OS552A-MA-2-BB-35FT, *OS552A with current output, 0.5 at 3" FOV, 35' sensor head cable.*

<div style="border:1px solid;">We make running changes when technical advances allow. Check at time of ordering for additional features.</div>

Accessories

Model No.	Description
OS550-AP	Air purge collar
OS550-WC	Air/water cooling jacket
OS550-MF	Mounting frame
OS550-MB	Right-angle mounting bracket
OS550-MN	Mounting nut
OS550-LS	Laser sighting (not shown)*
CAL-3-IR	NIST calibration certification
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 wire 30 m (100')
CAL-3-IR-X	NIST calibration (over 1000°F temperature)
WRS232-USB	Wireless RS232 transceiver

✱1 unit suitable for aligning many heads.

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")