

# Fast-Response Infrared Fiber Optic Thermometer/Transmitter With Local Display and Analog Output

NEMA 4  
electronics  
housing.

OS1592 Series



Fiber optic cable, included.

OS1592  
shown smaller than  
actual size.



Style L1 remote  
optical head shown.  
Transmitter price includes  
sensor head with 1.5 m (5')  
fiber optic cable.

- ✓ Fast 25 msec Time Constant (0 to 63% of Final Value)
- ✓ Well-Suited for Both Hard-to-Reach and Polymer Bolt Applications
- ✓ Accuracy: 1% of Reading
- ✓ Models with Temperature Ranges Measuring up to 2482°C (4500°F)
- ✓ Isolated Analog Output, mV, °C or °F, and Either Current, Voltage, Millivolt, or Thermocouple Output
- ✓ °C/°F Keypad Selectable
- ✓ Local Backlit LCD Display Standard
- ✓ Visual Alarm and Built-In Relay
- ✓ Dual Display Indicates Current Plus Min, Max, or Differential Temperatures
- ✓ Emissivity Adjustable from 0.05 to 1.00 in 0.01 Steps Via the Keypad
- ✓ Complete NEMA 4 System
- ✓ Dual Analog Outputs Isolated from Power Supply Input

OMEGA's CE marked low cost OS1590 Series infrared fiber optic thermometer/transmitter system measures temperature ranges up to 2482°C (4500°F) and provides dual analog outputs (4 to 20 mA, 0 to 5 Vdc, 0 to 10 Vdc, 1 mV/Deg, J, K T/C) electrically isolated from the DC power supply input. The main electronics is in a NEMA 4 (IP66) rated aluminum housing with a local backlit LCD, built-in relay, alarm LED, and a 4-position programmable keypad.



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

**Available Now!**

**iR2 SUPERMETER<sup>®</sup>**  
ULTRA HIGH PERFORMANCE  
2-COLOR RATIO FIBER OPTIC  
INFRARED TEMPERATURE  
MEASUREMENT AND  
CONTROL SYSTEM

- ✓ Temperature Range from 300 to 3000°C (572 to 5432°F)
- ✓ Ethernet and RS232/485 Options Available



**PATENTED**

Please see [omega.com](http://omega.com) for additional information.



## Specifications

### Temperature Range:

- R1: 260 to 538°C (500 to 1000°F)
- R2: 538 to 1093°C (1000 to 2000°F)
- R3: 1093 to 2482°C (2000 to 4500°F)

### Accuracy: 1% of rdg

### Repeatability: 0.75% of rdg

### Response Time: 25 msec (0 to 63% of final value)

### Emissivity: 0.05 to 1.00 adjustable, set via keypad

### Spectral Response: 0.8 to 1.8 microns

### Analog Output: 1 mV/deg, standard

### Second Analog Output: 0 to 5 Vdc, 0 to 10 Vdc, 4 to 20 mA, or Type J or K thermocouple

### Display: Backlit dual LCD

### Keypad: 4 position, tactile feedback membrane switch

### Calculated Temperature Values:

Maximum, minimum, differential

### High Alarm: Set via keypad

with built-in relay

### Relay Contact Rating:

5 A @ 28 Vdc

### Operating Ambient

#### Temperature:

0 to 50°C (32 to 122°F)

### Enclosure: Die-cast aluminum, NEMA 4 (IP66)

### Dimensions

#### Main Housing:

5.6 H x 8.9 W x 11.4 cm L  
(2.2 x 3.5 x 4.5")

### Optical Assembly:

**L1-Lens:** 2.5 Dia. x 15.9 cm (1 x 6.25")

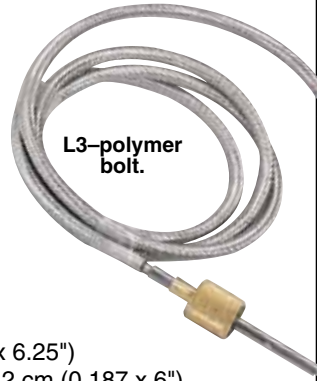
**L2-Ceramic Tip:** 0.47 Dia. x 15.2 cm (0.187 x 6")

**L3-Polymer Bolt:** 0.95 Dia. x 10 cm (0.375 x 4")

### Power: 18 to 36 Vdc

*Note: Contact factory if a replacement probe is needed. Probe is calibrated with your transmitter at time of purchase and is not field replaceable.*

## OS1590 Series backlit display and programmable keypad.



### Available Probe Styles



Transmitter price includes 1 probe supplied with 1.5 m (5') fiber optic cable and sensor head.

## To Order

| Model No.           | Temperature Range               | Optical Assembly, Spot Size                  | Cable Length |
|---------------------|---------------------------------|--|--------------|
| OS1592-L1-R1-1-(* ) | 260 to 538°C (500 to 1000°F)    | Lens probe, 6.35 mm @ 203.2 mm (0.25" @ 8")  | 1.5 m (5')   |
| OS1592-L2-R1-1-(* ) | 260 to 538°C (500 to 1000°F)    | Ceramic tip, 152.4 mm (6") Probe             | 1.5 m (5')   |
| OS1592-L3-R1-1-(* ) | 260 to 538°C (500 to 1000°F)    | Polymer bolt, 101.6 mm (4") Probe            | 1.5 m (5')   |
| OS1592-L1-R2-1-(* ) | 538 to 1093°C (1000 to 2000°F)  | Lens probe, 6.35 mm @ 203.2 mm (0.25" @ 8")  | 1.5 m (5')   |
| OS1592-L1-R2-2-(* ) | 538 to 1093°C (1000 to 2000°F)  | Lens probe, 4.83 mm @ 508 mm (0.19" @ 20")   | 1.5 m (5')   |
| OS1592-L1-R2-3-(* ) | 538 to 1093°C (1000 to 2000°F)  | Lens probe, 1.93 mm @ 152.4 mm (0.076" @ 6") | 1.5 m (5')   |
| OS1592-L2-R2-1-(* ) | 538 to 1093°C (1000 to 2000°F)  | Ceramic tip, 152.4 mm (6") Probe             | 1.5 m (5')   |
| OS1592-L3-R2-1-(* ) | 538 to 1093°C (1000 to 2000°F)  | Polymer bolt, 101.6 mm (4") Probe            | 1.5 m (5')   |
| OS1592-L1-R3-2-(* ) | 1093 to 2482°C (2000 to 4500°F) | Lens probe, 4.83 mm @ 508 mm (0.19" @ 20")   | 1.5 m (5')   |
| OS1592-L1-R3-3-(* ) | 1093 to 2482°C (2000 to 4500°F) | Lens probe, 1.93 mm @ 152.4 mm (0.076" @ 6") | 1.5 m (5')   |

## Accessories

| Model No.   | Description  |
|-------------|--|
| OS1500-BLS  | Backlight source   |
| OS1500-BLF  | Backlight fiber assembly to use with OS1500-BLS  |
| OS1500-RC   | Replacement bulb for backlight source  |
| 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  |
| PSU-93      | Unregulated power supply, 16 to 23 Vdc, 300 mA max, screw terminal                               |
| TX8-100     | 8-conductor shielded cable, 30.5 m (100')  |

\* Specify second analog output: J = Thermocouple output, Type J (for R1 temp range only); K = Thermocouple output, Type K (for R1 and R2 temp range only); mA = 4 to 20 mA output; V1 = 0 to 5 Vdc output; V2 = 0 to 10 Vdc output. This unit provides two separate analog outputs.

The first is 1 mV/deg.

Ordering Examples: OS1592-L1-R1-1-MA, OS1592 transmitter with lens probe, 260 to 538°C (500 to 1000°F) temperature range, 1 mV/deg and 4 to 20 mA output.

OCW-3, OMEGACARE<sup>SM</sup> extends standard 2-year warranty to a total of 5 years.