

Miniature Non-Contact Infrared Temperature Sensor/Transmitter



OS136A refer to dimensions for actual size

OS130A-Series



Optional

OS136A Models

- ✓ **2 Temperature Ranges Available:**
OS136A-1: -18 to 202°C (0 to 400°F)
OS136A-2: 149 to 538°C (300 to 1000°F)
- ✓ **Sensor and Transmitter Combined**
- ✓ **Packaged into a 19 mm (¾") OD by 89 mm (3.5") Long Stainless Steel Housing**
- ✓ **Optical Field of View: 6 to 1**
- ✓ **Fixed Emissivity of 0.95**
- ✓ **NEMA 4 (IP66) Rated Housing**
- ✓ **4 to 20 mA, 0 to 5 Vdc, 0 to 10 Vdc, Type K Thermocouple, 10 mV/Degree Analog Outputs Available**
- ✓ **Makes Fast and Accurate Measurements**

The Omega miniature, low-cost, high-performance infrared sensor/transmitter model OS136A features a 19 mm (¾") OD by 89 mm (3.5") long stainless steel NEMA 4 (IP66) housing. This mini transmitter is ideal for applications that require measuring temperature in hard-to-reach, confined, or harsh environments. The OS136A model comes with a 1.8 m (6') shielded cable for power and output connections. Models feature industry standard outputs that provide easy interfacing directly to all meters, controllers, data loggers, recorders, computer boards, and PLCs. The fixed emissivity of 0.95 allows for quick and easy measurement requiring no adjustment during installation and use.



Compact stainless steel NEMA 4 housing.

Specifications

Temperature Range:

OS136A-1: -18 to 202°C (0 to 400°F)

OS136A-2: 149 to 538°C (300 to 1000°F)

Accuracy @ 22°C (72°F) Ambient:

OS136A-1: 3% of rdg or 4.4°C (8°F), whichever is greater

OS136A-2: 3% of rdg or 5.5°C (10°F), whichever is greater from 185 to 510°C (365 to 950°F)

Repeatability:

1% of rdg
Optical Field of View: 6 to 1 (distance to spot size)

Spectral Response:

5 to 14 microns
Response Time: 150 msec, 0 to 63% of final value

Emissivity:

Fixed at 0.95

Analog Output:

MA: 4 to 20 mA

V1: 0 to 5 Vdc

V2: 0 to 10 Vdc

K: Type K thermocouple, compensated

MVC: 10 mV/°C

MVF: 10 mV/°F

Output Load Requirements:

- Min Load (0 to 5 Vdc): 1 kΩ
- Min Load (0 to 10 Vdc): 2 kΩ
- Max Load (4 to 20 mA):
(Power supply – 4) / 20 mA
- Min Load (10 mV/Deg): 10 kΩ
- Min Load (K T/C): 100 kΩ

Operating Ambient Temperature:

- No Water Cooling: 0 to 70°C
(32 to 158°F)
- With Water Cooling (OS136-WC):
0 to 200°C (32 to 392°F)
- With Air Cooling (OS136-WC):
0 to 110°C (32 to 230°F)

Operating Relative Humidity:

- Less than 95% RH, non-condensing
- Water Flow Rate for OS136-WC:
0.25 GPM, room temperature, minimum
- Air Flow Rate for OS136-WC: 5 CFM
(2.4 liters/sec)

Warm-Up Period: 1 to 2 minutes

Thermal Shock: About 30 minutes for 25°C abrupt ambient temperature change

Air Flow Rate for Air Purge Collar:

1 CFM (0.5 liters/sec)

Transmitter Housing:

- 316 SS, NEMA 4 (IP66) rated
- Power: 12 to 24 Vdc @ 50 mA
- Dimensions: 19 OD x 89 mm L
(0.75 x 3.5")
- Weight: 181 g (0.40 lb)

Laser Sight Accessory Specifications

Laser Wavelength (Color):

630 to 670 nm (red)

Operating Distance: Up to 9.1 m (30')

Max Laser Power Output:

Less than 1 mW @ 22°C ambient

Safety Classification:

Class 2 EN60825-1/11.2001

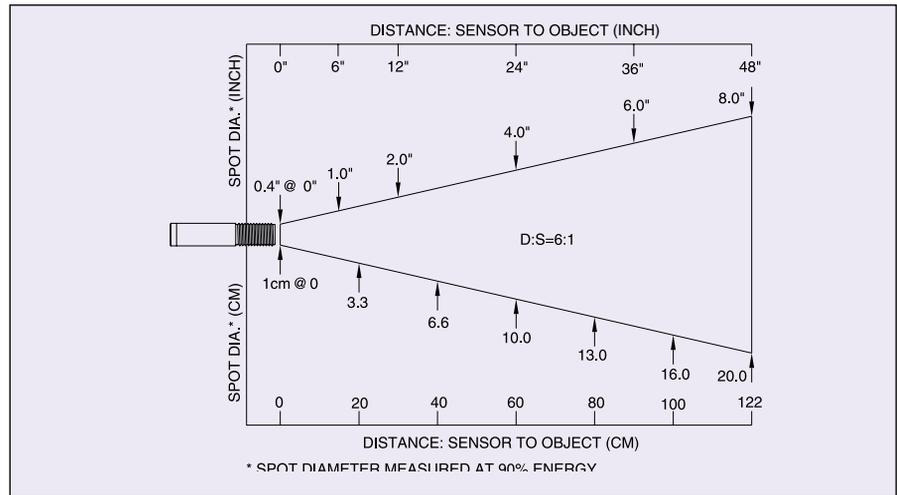
FDA Classification: Class II laser product; complies with 21 CFR 1040.10

Laser Beam Diameter:

Less than 5 mm (0.2")

Beam Divergence: Less than 2 mrad

Each unit includes 2 hex mounting nuts, 1.8 m (6') shielded cable and operator's manual.



To Order

Model No.	Description
OS136A-(*)-K	Infrared transmitter with Type K thermocouple output
OS136A-(*)-MV-F	Infrared transmitter with 10 mV/°F output
OS136A-(*)-MV-C	Infrared transmitter with 10 mV/°C output
OS136A-(*)-MA	Infrared transmitter with 4 to 20 mA output
OS136A-(*)-V1	Infrared transmitter with 0 to 5 Vdc output
OS136A-(*)-V2	Infrared transmitter with 0 to 10 Vdc output

Comes complete with 2 hex mounting nuts, 1.8 m (6') shielded cable and operator's manual.

* Insert "1" for -18 to 202°C (0 to 400°F); insert "2" for 149 to 538°C (300 to 1000°F).

Ordering Examples: OS136A-1-MA, infrared transmitter with temperature range of -18 to 202°C (0 to 400°F) and 4 to 20 mA output.



Accessories

Model No.	Description
OS100-MB	Mounting bracket
OS100-AP	Air purge collar
OS136-WC	Water/air cool jacket
OS100-LS†	Laser sighting
TX4W-50	4-conductor shielded high-temp cable, 15 m (50')
TX4-100	4-conductor shielded cable, 30 m (100')
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

†OS100-LS laser sighting: 1 unit suitable for aligning multiple heads. Used during installation only.

Ordering Example: OS100-MB, mounting bracket.

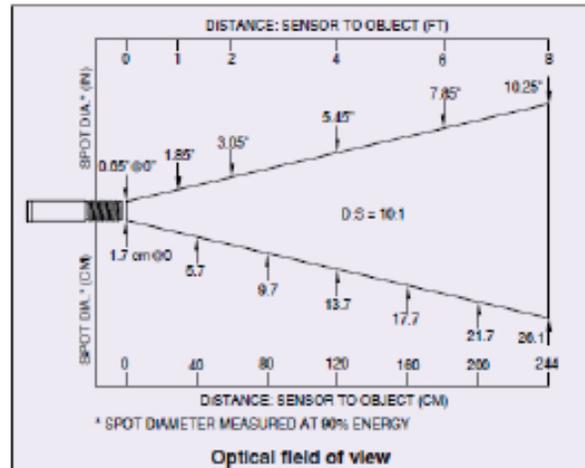
Miniature Non-Contact Infrared Temperature Sensor/Transmitter



OS137A
refer to dimensions
for actual size

OS137A Models

- 3 Temperature Ranges Available:
OS137A-1: 0 to 100°C (32 to 212°F)
OS137A-2: -18 to 260°C (0 to 500°F)
OS137A-3: -18 to 538°C (0 to 1000°F)
- Sensor and Transmitter Combined
- Adjustable Emissivity
- Adjustable Alarm Setpoint and Output
- Packaged in a 25 mm (1.0") OD by 127 mm (5.0") Long Stainless Steel NEMA 4 (IP65) Rated Housing
- 10:1 Optical Field of View
- 4 to 20 mA, 0 to 5 Vdc, 0 to 10 Vdc, 10 mV/Deg, and Type K Thermocouple Outputs Available



The Omega compact high performance industrial infrared sensor/transmitter model OS137A provides variety of features and options packaged into a small stainless steel housing. The standard features are adjustable emissivity, 10 to 1 optical field of view, adjustable alarm set point and voltage output to drive external relays, and 6 pre-selected analog outputs that can easily be interfaced to all meters, controllers, data loggers, recorders, computer boards, and PLCs. The unit comes with 2 hex nuts, 1.8 m (6') shielded cable for power and output connections, and operator's manual.



Connect your OS130A Series sensor to one of our reliable precision controller.
www.omega.com/c/controllers

Specifications



Temp Range:

- OS137A-1: 0 to 100°C (32 to 212°F)
- OS137A-2: -18 to 260°C (0 to 500°F)
- OS137A-3: -18 to 538°C (0 to 1000°F)

Accuracy:

- OS137A-1: 3% of Rdg or 4.4°C (8°F) whichever is greater
- OS137A-2: 3% of Rdg or 4.4°C (8°F) whichever is greater
- OS137A-3: 3% of Rdg or 5.5°C (10°F) whichever is greater

Repeatability: 1% rdg or 2°F (1°C)

Field of View: 10 to 1

Spectral Response: 5.5 to 14 microns

Emissivity: 0.5 to 1.0, adjustable via a single turn pot

Response Time: 150 msec, 0 to 63% of final value

Outputs:

- MA: 4 to 20 mA
- V1: 0 to 5 Vdc
- V2: 0 to 10 Vdc
- K: K thermocouple
- MV: 10 mV/°F
- MVC: 10 mV/°C

Alarm Output: Voltage, 100 mA drive

Alarm Set Point: 0 to 100 % adj, set via pot

Power: 12 to 24 Vdc @ 50 mA

Operating Temperature:

With No Cooling: 0 to 70°C

With Water Cooling: 0 to 200°C

With Air Cooling: 0 to 110°C

Operating Relative Humidity:

Less than 95% RH, non-condensing

Housing: Stainless steel,

NEMA 4 (IP65)

Dimensions: 25.4 OD x 127 mm L (1 x 5")

Weight: 226 g (0.5 lb)

LASER SIGHTING

Wavelength (Color): 630-670 nm (red)

Operating Distance: Up to 9.1 m (30')

Max Laser Power Output:

Less than 1 mW

European Classification:

Class 2, EN60825-1/11.2001

FDA Classification: Class II, complies with 21 CFR 1040.10

Laser Beam Diameter: Less than 5 mm

Beam Divergence: Less than 2 mrad

Power Switch: Slide switch on the battery pack

Power Indicator: Red LED

Caution and Certification Label:

Located on the head circumference

Aperture and Identification Label:

Located on the head circumference



To Order

Model No.	Description
OS137A-(*)-K	Infrared transmitter with K thermocouple output
OS137A-(*)-MV-F	Infrared transmitter with 10 mV/°F output
OS137A-(*)-MV-C	Infrared transmitter with 10 mV/°C output
OS137A-(*)-MA	Infrared transmitter with 4 to 20 mA output
OS137A-(*)-V1	Infrared transmitter with 0 to 5 Vdc output
OS137A-(*)-V2	Infrared transmitter with 0 to 10 Vdc output

* Insert "1" for 0 to 100°C (32 to 212°F); Insert "2" for -18 to 260°C (0 to 500°F); Insert "3" for -18 to 538°C (0 to 1000°F).

Comes complete with two mounting nuts and operator's manual.

To order with longer power/output cable, up to 30 m (100'), add suffix "-(**)FT" to model number, and add an additional cost for each additional foot over 1.8 m (6').

** Specify length in feet.

Ordering Examples: OS137A-1-MA, infrared transmitter with temperature range of 0 to 100°C (32 to 212°F) and 4 to 20 mA output.

OS137A-1-V1 and CNI8DH33, infrared transmitter with temperature range of 0 to 100°C (32 to 212°F) and 0 to 5 Vdc output, and 1/8 DIN temperature controller.

OS137A-1-V1-26FT, OS137A with 26 feet of power/output cable.

Accessories

Model No.	Description
OS137-MB	Mounting bracket
OS137-AP	Air purge collar
OS137-WC	Water/air cool jacket
OS137-LS†	Laser sighting
PSR-24S	Regulated power supply, 24 Vdc, 400 mA, screw terminal
PSR-24L	Regulated power supply, 24 Vdc, 400 mA, UL, stripped leads
PSR-24L-230	Regulated power supply, 24 Vdc, 400 mA, 6' cord with stripped leads, 230 Vac input, CE
PSU-93	Unregulated power supply, 16 to 23 Vdc, 300 mA max, screw terminal

† OS137-LS laser sighting: 1 unit suitable for aligning multiple heads. Used during installation only.

Ordering Example: OS137-MB, mounting bracket.