

Miniature Low-Cost Non-Contact Infrared Temperature Sensor/Transmitter



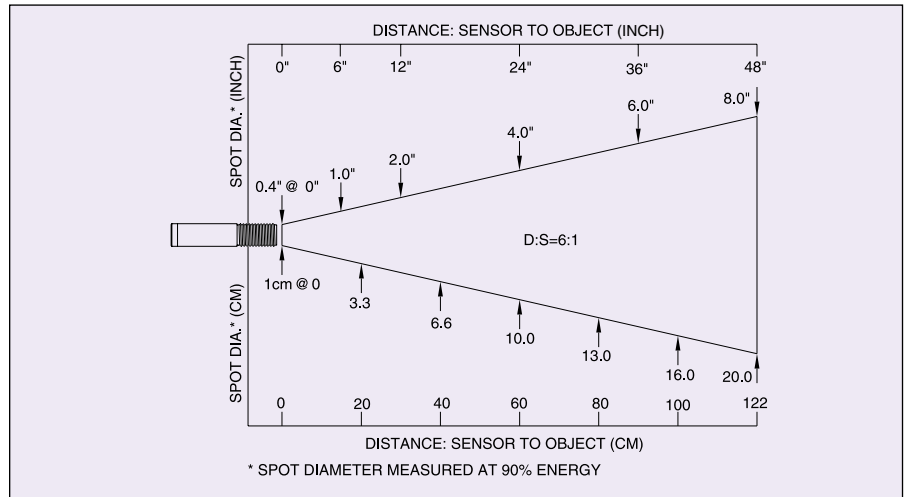
OS136 miniature stainless steel sensor/transmitter with NEMA 4 housing shown actual size.

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

OS136



- ✓ **2 Temperature Ranges Available:**
OS136-1: -18 to 202°C (0 to 400°F)
OS136-2: 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 miniature, low-cost, high-performance infrared sensor/transmitter model OS136 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 OS136 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.

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

Specifications

Temperature Range:

- OS136-1: -18 to 202°C (0 to 400°F)
- OS136-2: 149 to 538°C (300 to 1000°F)

Accuracy @ 22°C (72°F) Ambient:

- OS136-1: 3% of rdg or 4.4°C (8°F), whichever is greater
- OS136-2: 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

Operating Temperature:

0 to 50°C (32 to 122°F)

Operating Relative Humidity:

Less than 95% RH, non-condensing

Power Switch: On/off, slide switch
on the battery pack

Power Indicator: Red LED



Connect your OS136 to a precision controller CNI8DH, sold separately.
For additional meters see newportUS.com.

CNI8DH shown actual size.



Power: Battery pack, 3 Vdc (included)

Caution and Certification

Label: Located on the head sight
circumference

Identification Label: Located on the
head sight circumference

Aperture Label: Located on the head
sight circumference

Dimensions:

38 D x 50.8 mm L (1.5 x 2")

To Order Visit newportUS.com/os136 for Pricing and Details

| Model No. | Description |
|----------------|--|
| OS136-(*)-K | Infrared transmitter with Type K thermocouple output |
| OS136-(*)-MV-F | Infrared transmitter with 10 mV/°F output |
| OS136-(*)-MV-C | Infrared transmitter with 10 mV/°C output |
| OS136-(*)-MA | Infrared transmitter with 4 to 20 mA output |
| OS136-(*)-V1 | Infrared transmitter with 0 to 5 Vdc output |
| OS136-(*)-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: OS136-1-MA, infrared transmitter with temperature range of -18 to 202°C
(0 to 400°F) and 4 to 20 mA output.

OCW-3, extends standard 1-year warranty to a total of 4 years.

OS136-1-V1 and CNI8DH33, infrared transmitter with temperature range of -18 to 202°C
(0 to 400°F), 0 to 5 Vdc output, and 1/8 DIN temperature controller.

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 |
| CAL-3-IR† | NIST-traceable calibration |

†† OS136-LS laser sighting: 1 unit suitable for aligning multiple heads. Used during installation only.

Ordering Example: OS100-MB, mounting bracket.