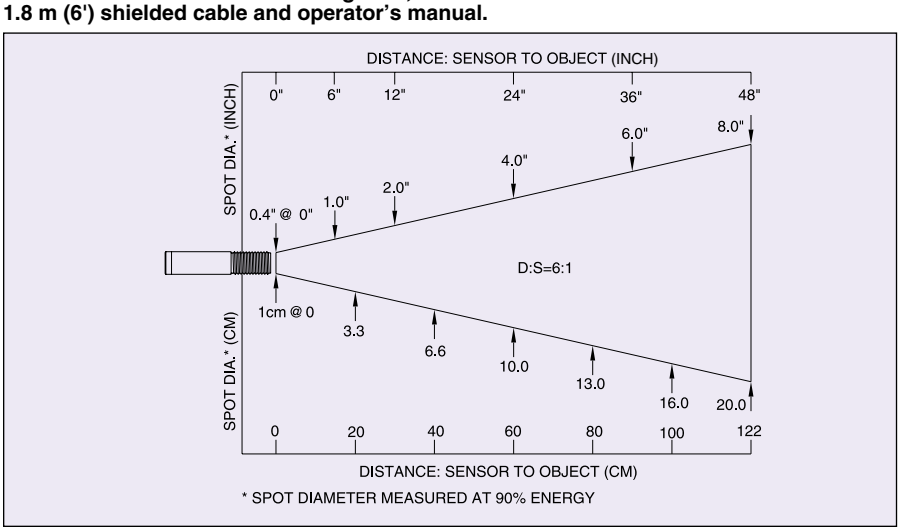
Miniature Low-Cost Non-Contact Infrared Temperature Sensor/Transmitter



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

1 YEAR WARRANTY NIST CE

Optional†

- **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 OMEGA® 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 omega.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")

OMEGACARE℠ 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.

To Order *Visit omega.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,** OMEGACARE℠ 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 ⅛ 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.*

Unikeyic Electronics

Global Electronic Components Distributor

Click to view pricing, inventory, delivery, and lifecycle information:

OMEGA Engineering:

1PT100KN1515CLA HPC-CH-S ITHX-SD-5 PX309-500GI SMTC-15M TT-T-30-SLE-500 HSRTD-3-100-A-40-E MSS-04 MTC-12-MC SHX-U-M 5TC-TT-T-30-36 PX119-1KGI MPJ-U-F NHXH-K-M TC-K-NPT-U-72 D8100 PX835-005GI WTJ-HD-72-S CF-000-RTD-2-60-1 KFH-3-120-C1-11L1M2R MSS-02 OS136A-1-MA P13R-005 LC201-300 PX409-005GI PX309-030GI PX309-100G5V PX409-100GUSBH SMPW-E-F USHX-K-M