Non-Contact Infrared Temperature Sensor
With RS485 MODBUS® RTU Interface

NEW

OS210-C4 Series

2 YEAR WARRANTY   NIST   CE
Optional

OS211-C4 infrared temperature sensor with DP240 touch screen terminal shown smaller than actual size.

- ✔ **Wide Temperature Range from -20 to 500°C (-4 to 932°F)**
- ✔ **Built-In RS485 MODBUS RTU Interface**
- ✔ **Configurable Emissivity Setting and Signal Processing**
- ✔ **Max, Min Average and Instantaneous Readings; Peak or Valley Hold; Reflected Energy Compensation**
- ✔ **2:1, 15:1, 30:1 or Close Focus Optics**
- ✔ **Fast Response with High Stability**
- ✔ **Stainless Steel Housing, Sealed to IP65**
- ✔ **Quick and Easy Installation**
- ✔ **Optional Air/Water Cooled Housing, Air Purge Collar, Laser Sighting Tool and Mounting Brackets**
- ✔ **Optional DP240 Touch-Screen Terminal for Configuring and Displaying Data from Up to 8 IR Sensors**

The OS211 Series is a range of high quality, low cost, compact sensors which measure the temperature of inaccessible or moving objects and materials. They measure temperatures from -20 to 500°C (-4 to 935°F), accurately and consistently, with an outstanding response time of 240 ms. Two-way digital communications via a built-in RS485 MODBUS RTU interface enables the user to adjust the emissivity setting; compensate for reflected energy; apply filtering; select maximum and minimum, average

or instantaneous readings; and peak or valley hold processing. Up to 32 sensors can be installed on a single multidrop network. All the IR sensors are fitted with precision germanium lenses for accurate optics. These compact sensors are small enough to fit almost anywhere and their rugged stainless steel housings make them ideal for applications where cleanliness and hygiene are paramount.

The optional DP240 is a 320 x 240 pixel touch screen terminal with a 89 mm (3.5") color TFT display. It allows the user to display data from up to eight infrared sensors and configure each sensor individually. The configuration parameters include emissivity setting, signal averaging, peak or valley hold processing and reflected energy compensation. There are two versions available. Each one provides all of the features above, however, the enhanced DP240-AR also provides analogue transmission for up to 4 sensors, plus two adjustable alarm outputs per sensor for all 8 sensors.

Compact stainless steel IP65 housing.

Specifications (OS211)

Temperature Range: -20 to 500°C (-4 to 932°F)

Interface: RS485 MODBUS® RTU

Accuracy: ±1% of reading or ±1°C whichever is greater

Repeatability: ±0.5% of reading or ±0.5°C whichever is greater

Emissivity: 0.2 to 1.0

Response Time, t90: 240 ms (90% response)

Spectral Range: 8 to 14 µm

Supply Voltage: 12 Vdc nominal (6 to 13 Vdc)

Supply Current: 50 mA maximum

Baud Rate: 9600 baud*

Format: 8 data bits, no parity, 1 stop bit*

Mechanical

Construction: Stainless steel

Dimensions: 18 D x 103 mm L (0.70 x 4.05")

Thread Mounting: m16 x 1 mm pitch

Cable Length: 1 m (3.3') (longer lengths available to order)

Weight with Cable: 95 g (3.35 oz)

Environmental

Rating: IP65

Ambient Temperature: 0 to 70°C (32 to 158°F)

Relative Humidity: 95% max non-condensing

* Other configurations available upon request

Specifications (DP240)

Display: LCD type TFT 320 x 240, 3.5" touch screen resistive

Supply Voltage: 12 to 24 Vdc

Power Consumption: 8 W

Ambient Temperature Range: 0 to 45°C (32 to 113°F)

Relative Humidity: 35 to 95%, non-condensing

Environmental Rating: IP54 front, IP30 housing

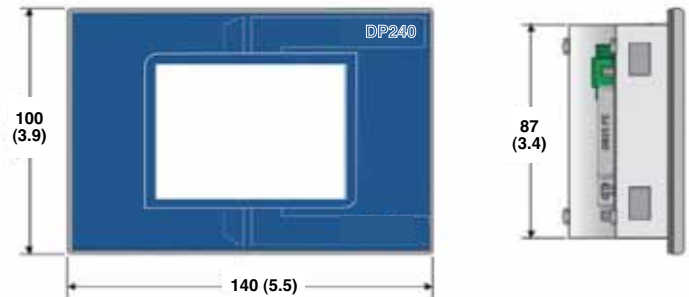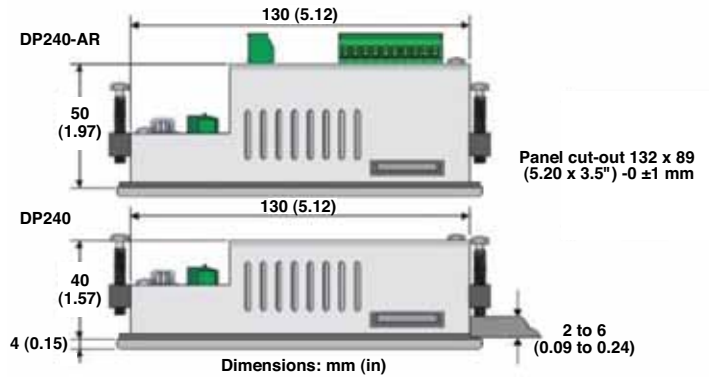
Dimensions:
DP240: 140 W x 100 T x 44 mm D
DP240-AR: 140 W x 100 T x 65 mm D

Outputs: (DP240-AR only) 4 analogue outputs, 0 to 10 Vdc, 16 programmable alarm outputs,12/24 Vdc, 700 mA, (3 a max per block of 8 outputs)
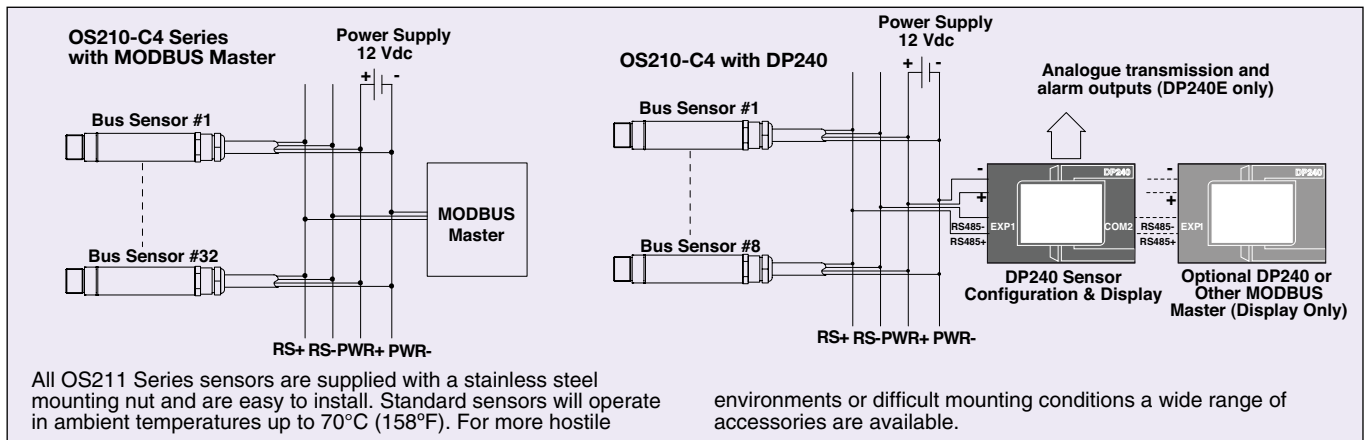
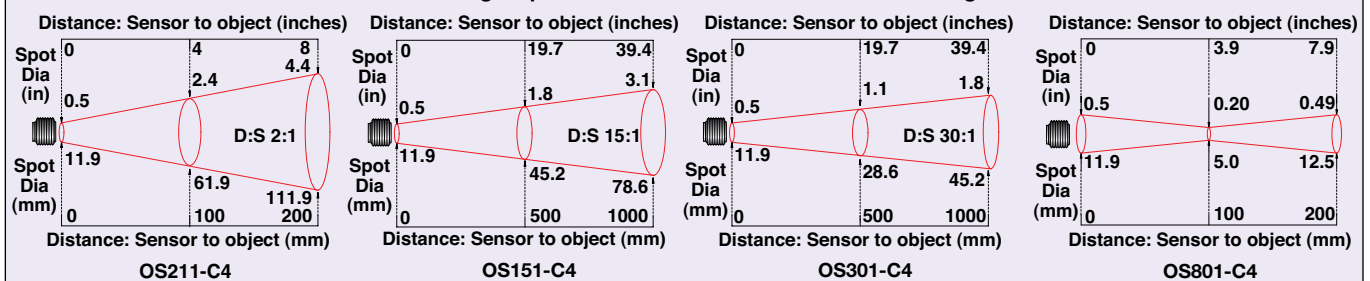**Hardware and Software Data Serial Port EXP1:** RS485 MODBUS RTU interface for infrared sensors

Serial Port COM2: RS485/RS232 interface for second display (read only)

Dimensions: mm (in)

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

All OS211 Series sensors are supplied with a stainless steel mounting nut and are easy to install. Standard sensors will operate in ambient temperatures up to 70°C (158°F). For more hostile environments or difficult mounting conditions a wide range of accessories are available.

Diameter of target spot measured versus distance from sensing head.

OS210-FBL.

OS210-ABL.

Fixed Mounting Bracket
The L-shaped fixed mounting bracket offers a rigid support for the sensor and allows fine adjustment in a single plane.

Adjustable Mounting Bracket
The adjustable mounting bracket consists of a fixed mounting bracket plus another L-shaped bracket. When assembled as shown the adjustable mounting bracket offers a rigid support for the sensor and allows fine adjustment in two planes.

OS210-APL.

All models shown smaller than actual size.

OS210-LSTL.

Air Purge Collar
The air purge collar is used to keep dust, fumes, moisture and other contaminants away from the lens. Air flows into the fitting on the side and out of the aperture at the front.

Laser Sighting Tool
The laser sighting tool screws onto the front of the sensor during installation and indicates precisely where the sensor is aiming. Once the sensor has been aimed at the centre of the target and locked in position the laser sighting tool can be removed. The laser is activated by means of a push button on the front of the tool which has a latching mechanism.

To Order

Model No.	Description	Optics	Interface
OS211-C4	Configurable infrared temperature sensor	2:1	RS485 MODBUS® RTU interface
OS151-C4	Configurable infrared temperature sensor	15:1	
OS301-C4	Configurable infrared temperature sensor	30:1	
OS801-C4	Configurable infrared temperature sensor	Close-focus	
DP240	Touch-screen terminal for up to 8 IR sensors from list above		
DP240-AR	Touch-screen terminal for up to 8 IR sensors from list above. Includes 4 analog outputs (0 to 10 Vdc) and 16 alarm outputs		

Comes complete with sensor head, 1 m (3.3') cable, USB cable, software, and operator's manual.
***Ordering Examples: OS151-C4,** configurable infrared temperature sensor with 15:1 optics and RS485 MODBUS® RTU interface.*
***OS211-C4-CE(3),** configurable infrared temperature sensor with 2:1 optics and RS485 MODBUS® RTU interface and 3 m (9.8') of additional extension cable. **OCW-3,** OMEGACARE℠ extends standard 2 year warranty to a total 5 years.*

Options (Not Field Installable)

Suffix	Description
-WC	For air/water cooled jacket, add suffix to model number (includes air purge collar), must be ordered with sensor; cannot be retrofitted
-CE(*)	Cable extended, for uncooled IR USB series, 30 m (98') maximum total cable length
-CEHT(*)	Cable extended, high temperature, for cooled IR USB series, 30 m (98') maximum total cable length

* *1 m (3.3') cable is included as standard on every sensor. Extended cable is added to that length, add suffix to model number. Insert cable length in meters.*

Accessories

Model No.	Description
OS210-FBS	Fixed bracket for compact sensors
OS210-ABS	Adjustable bracket for compact sensors
OS210-APSW	Air purge collar for compact 2:1 sensors
OS210-APSN	Air purge collar for compact 15:1, 30:1 and close-focus sensors
OS210-LSTS	Laser sighting tool for compact sensors
CAL-3-IR	NIST-traceable calibration

Power Supplies

Model No.	Description
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
TX8-100	Power/output cable, 30 m (98')

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