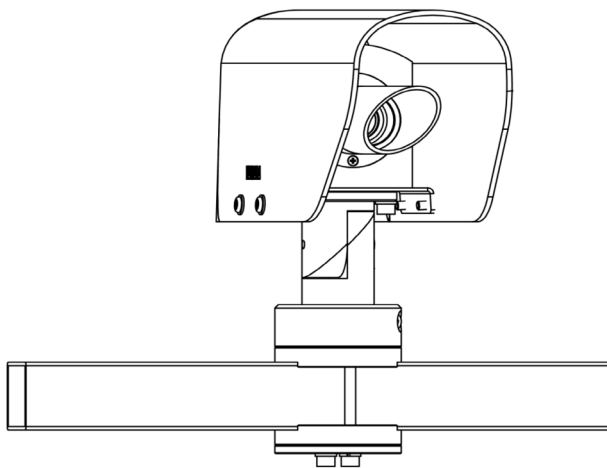


Part Number: 82121 (DST111)



The IR Surface Temperature Sensor provides a remote alternative for measuring road surface temperature. By measuring the infrared radiation emitted by the surface and applying intelligent signal processing, the sensor provides reliable remote surface temperature measurement.



## Specifications

**Operating Temperature:** -40° to +140°F (40 to +60 °C)

**Supply Voltage:** 9 to 30 VDC

**Average power consumption:** 16.5mW @12 VDC

**Temperature measurement range:** -40° to +140°F (40 to +60 °C)

**Measuring distance:** 6 ft 7 in to 49 ft (2 to 15 m)

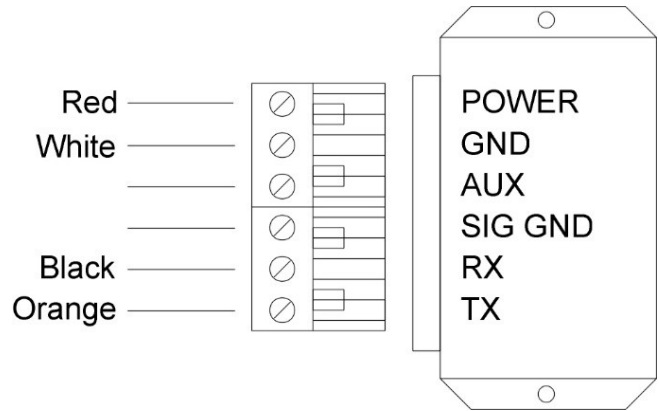
**Installation angle from the horizontal line:** 30 to 85° (35 to 65° recommended)

**Measuring area:** Ø 59.1 in at 32 ft (150 cm at 10 m)

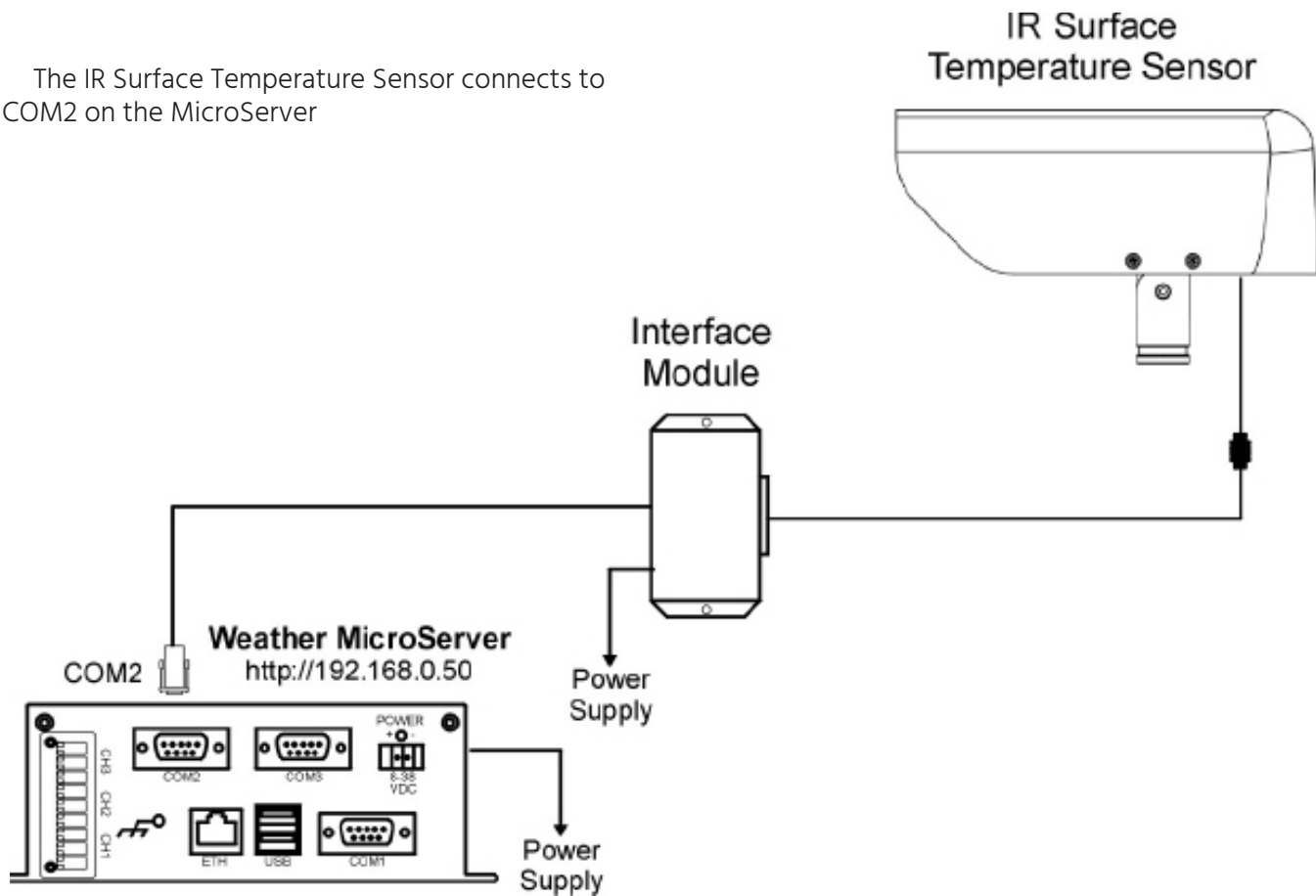
## Connection

### Connecting the Sensor Transmitter to the Interface Module

Using a #1 Straight Slot screwdriver, attach the wires from the end of the sensor cable to the terminal block screws on the Interface Module (see right diagram)



The IR Surface Temperature Sensor connects to COM2 on the MicroServer



## Operation

The IR Sensor communicates over RS-485 and is configured to output data once every 30 seconds.

## Communication Settings

The protocol for both serial ports is the following:

- Bits per Second (baud rate): 9600
- Data bits: 8
- Parity: None
- Stop bits: 1
- Flow control: None

## Data Output Definition

Example:

2005-01-23 12:34,01,M16,DST  
01 22.3;02 54.3;03 12.6;14 12.5;60 20.7;61 0;

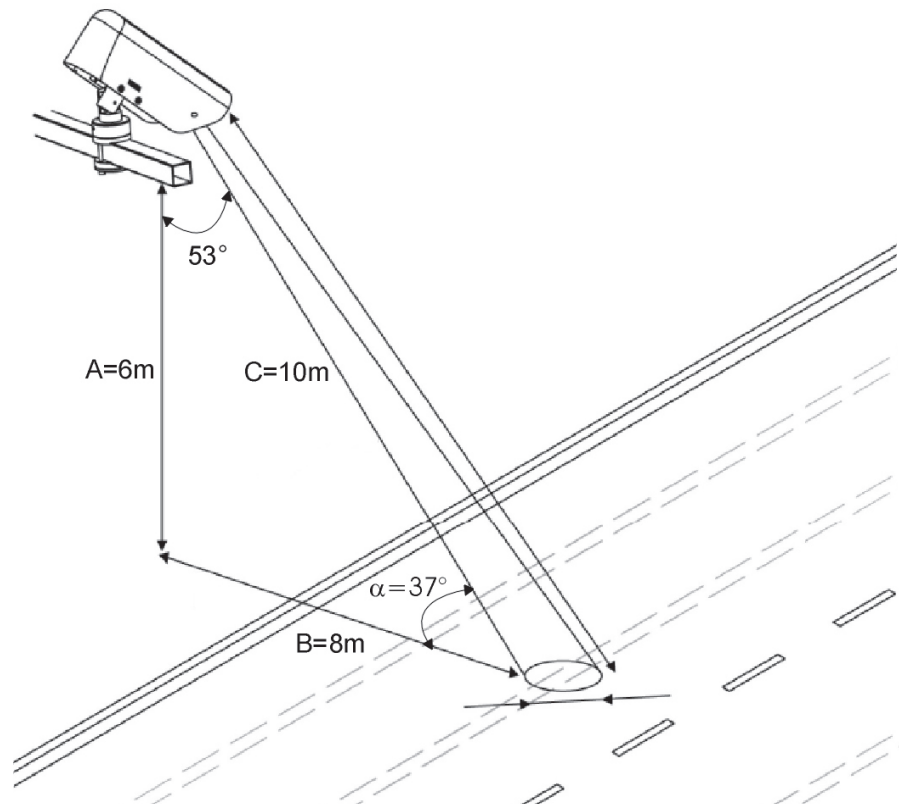
Where:

- 01 = Air Temp (°C)
- 02 = RH (%)
- 03 = Dew Point (°C)
- 14 = Input Voltage
- 60 = Surface Temperature (°C)
- 61 = Hardware Status  
Hardware Status Code
- X0 = Hardware OK
- X1 = CPU HW warning

## Installation

The IR Sensor is configured to be mounted at a measuring distance of 10 meters.

*For further installation instructions please refer to page 11 from the included Vaisala Remote Road Surface Temperature Sensor DST111 User's Guide.*



Height A (m)	Length B (m)	Angle $\alpha$ (°)	Measuring Distance C (m)
6	8	37	10



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