



MetSens500

Compact Weather Sensor for Temperature, RH, Barometric Pressure, and Wind with Compass



Measures 5 Common Meteorological Parameters

IEC 61724-1 Compliant

Overview

The MetSens500 compact weather sensor measures wind speed and direction via an ultrasonic sensor, as well as air temperature, relative humidity, and barometric pressure, in a single, combined instrument mounted inside three double-louvered, naturally aspirated radiation shields with no moving parts. An integrated electronic compass allows the MetSens500 to provide accurate, relative wind direction measurements without being oriented in a particular way,

making installation easier. WMO average wind speed and direction and gust, temperature, relative humidity, barometric pressure, absolute humidity, air density, and wet bulb temperature data are provided. The MetSens500 is compatible and easily integrated with the [MeteoPV Solar Resource Platform](#) and any Campbell Scientific data logger using SDI-12, RS-485, ModbusRS-485, or NMEA RS-232.

Benefits and Features

- › Quality measurements
- › Fast and simple to install
- › Compact, integrated design
- › Lightweight and robust

Specifications

| | | |
|--------------------------------|--|--|
| Measurements Made | Air temperature, barometric pressure, relative humidity, wind direction, and wind speed. | › Where applicable, all individual parameters meet or exceed specifications of IEC 61724-1 (2017, 2021). |
| Sampling Rate | 1 Hz | |
| Digital Communication Modes | Serial RS-232, RS-485, SDI-12, NMEA, Modbus, ASCII | |
| IP Rating | 66 | |
| Compliance | › CE, RoHS | |
| Operating Temperature Range | -40° to +70°C | |
| Operating Voltage | 5 to 30 Vdc | |
| Typical Current Drain @ 12 Vdc | › 25 mA (continuous high mode) › 0.7 mA (eco-power mode; 1 hour polled) | |
| Weight | 0.7 kg (1.5 lb) | |

Air Temperature Measurement

| | |
|-------------------|-----------------|
| Measurement Range | -40° to +70°C |
| Resolution | 0.1°C |
| Accuracy | ±0.3°C (@ 20°C) |

Relative Humidity Measurement

| | |
|-------------------|---------------------------|
| Measurement Range | 0 to 100% |
| Resolution | 0.1 |
| Accuracy | ±2% @ 20°C (10 to 90% RH) |

Barometric Pressure Measurement

| | |
|-------------------|-------------------|
| Measurement Range | 300 to 1100 hPa |
| Resolution | 0.1 hPa |
| Accuracy | ±0.5 hPa (@ 25°C) |

Wind Speed Measurement

| | |
|-------------------|------------------------------|
| Measurement Range | 0.01 to 60 m s ⁻¹ |
|-------------------|------------------------------|

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|----------|--|
| Accuracy | › ±5% (up to 60 m s ⁻¹) › ±3% (up to 40 m s ⁻¹) |
|----------|--|

| | |
|------------|------------------------|
| Resolution | 0.01 m s ⁻¹ |
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|--------------------|------------------------|
| Starting Threshold | 0.01 m s ⁻¹ |
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Wind Direction Measurement

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|-------------------|------------|
| Measurement Range | 0° to 359° |
|-------------------|------------|

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|----------|-----------------------------------|
| Accuracy | ±3° (up to 60 m s ⁻¹) |
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|------------|----|
| Resolution | 1° |
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Compass

| | |
|-------------------|-----------|
| Measurement Range | 0 to 359° |
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|------------|----|
| Resolution | 1° |
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|------------------|---------|
| Units of Measure | Degrees |
|------------------|---------|

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|----------|-----|
| Accuracy | ±3° |
|----------|-----|

For comprehensive details, visit: www.campbellsci.com/metsens500 



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