



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 available as part of a measurement station that employs the [MeteoPV Solar Resource Platform](#) and any other Campbell Scientific data logger using SDI-12, RS-485, ModbusRS-485, or 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)
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Resolution	0.01 m s ⁻¹
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Starting Threshold	0.01 m s ⁻¹
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Wind Direction Measurement

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



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