



METSens550

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



Measures 5 Common Meteorological Parameters

IEC 61724-1 Compliant

Overview

The MetSens550 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 side connector allows users to connect a tipping bucket rain gauge. An integrated electronic compass allows the MetSens550 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, wet bulb temperature, rainfall total, and rainfall intensity data are provided. The MetSens550 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. (An integrated side connector allows users to connect a tipping bucket rain gauge.)
Sampling Rate	1 Hz
Digital Communication Modes	Serial RS-232, RS-485, SDI-12, NMEA, Modbus, ASCII
IP Rating	66

Compliance	› Where applicable, all individual parameters meet or exceed specifications of IEC 61724-1 (2017, 2021). › 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

Accuracy › ±5% (up to 60 m s⁻¹)

› ±3% (up to 40 m s⁻¹)

Resolution 0.01 m s⁻¹

Starting Threshold 0.01 m s⁻¹

Wind Direction Measurement

Measurement Range 0° to 359°

Accuracy ±3° (up to 60 m s⁻¹)

Resolution 1°

Precipitation Input

Measurement Input Type Triggering

Range 0 to 1000 mm h⁻¹

Precipitation Resolution From 0.01 mm

Input to MetSens550 Contact closure via an M8 male, 4-pin connector. (User-supplied 20 m cable or mating female connector required.)

Compass

Measurement Range 0 to 359°

Resolution 1°

Units of Measure Degrees

Accuracy ±3°



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