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.

Sampling Rate 1 Hz

Digital Communication Modes
Serial RS-232, RS-485, SDI-12, NMEA, Modbus, ASCII

IP Rating 66

Compliance CE, RoHS

Specifications

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

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)
<table>
<thead>
<tr>
<th>Measurement Type</th>
<th>Measurement Range</th>
<th>Resolution</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Temperature Measurement</td>
<td>-40° to +70°C</td>
<td>0.1°C</td>
<td>±0.3°C (@ 20°C)</td>
</tr>
<tr>
<td>Relative Humidity Measurement</td>
<td>0 to 100%</td>
<td>0.1</td>
<td>±2% @ 20°C (10 to 90% RH)</td>
</tr>
<tr>
<td>Barometric Pressure Measurement</td>
<td>300 to 1100 hPa</td>
<td>0.1 hPa</td>
<td>±0.5 hPa (@ 25°C)</td>
</tr>
<tr>
<td>Wind Speed Measurement</td>
<td>0.01 to 60 m s⁻¹</td>
<td>0.01 m s⁻¹</td>
<td>±5% (up to 60 m s⁻¹)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>±3% (up to 40 m s⁻¹)</td>
</tr>
<tr>
<td>Wind Direction Measurement</td>
<td>0° to 359°</td>
<td>1°</td>
<td>±3° (up to 60 m s⁻¹)</td>
</tr>
<tr>
<td>Compass</td>
<td>0 to 359°</td>
<td>1°</td>
<td>Degrees</td>
</tr>
</tbody>
</table>

For comprehensive details, visit: [www.campbellsci.com/metsens500](http://www.campbellsci.com/metsens500)