



New class of Smart Weather Sensors with high-quality aluminum housing: WS3100 Climate Reference Sensor for Calibration / Verification of Air Temperature, Relative Humidity, Air Pressure and Solar Radiation

- **Parameters measured**

Temperature, relative humidity, air pressure (redundant pressure as option), global radiation

- **Measurement technology**

PT100/Temp, Capacitive/RH, MEMS Resonant Pressure transducer, Kipp&Zonen CMP10 / radiation

- **Product highlights**

Metal housing with ventilated radiation shield temperature/humidity measurements, Traceable accuracy, Modular architecture, Drift-free sensing technologies, Easy maintenance & calibration possibilities, CMP10 Secondary Standard Kipp & Zonen Pyranometer, WiFi module

- **Interfaces**

RS485, 2-wire, half-duplex/WiFi

- **Article number**

8391.U01

Relative humidity is measured by means of a heated capacitive sensor element; a precision PT100 measuring element is used to measure air temperature. A resonant pressure transducer is employed for precise pressure measurement. Due to the integrated Kipp &

Technical Data

WS3100-UMB Reference Weather Sensor - discontinued



Zonen CMP10 pyranometer, global radiation values are in a secondary standard quality.

Accuracy in detail:

- Temperature better than +/- 0.1°C
- Relative Humidity better than +/- 2%
- Air Pressure better than +/- 0.1 hPa
- Solar Radiation better than 5% W/m² (secondary standard)

Measurement output can be accessed by the following protocols: UMB-Binary, UMB-ASCII, UMB-ASCII 2.0, SDI-12 and NMEA.

IMPORTANT: WS3100 is discontinued

| General | |
|--------------------------|-------------------------------------|
| Dimensions | Ø ca. 250 mm, height approx. 470 mm |
| Weight | Approx. 5 kg |
| Interface | RS485, 2 - wire, half - duplex/WiFi |
| Power consumption | 24 VDC/typical 4W |
| Operating temperature | -40...60 °C (optional -60 °C) |
| Operating rel. humidity | 0...100 % RH |
| Protection level housing | IP66 |

| Global radiation | |
|--|----------------------|
| Principle | Pyranometer |
| Unit | W/m ² |
| Response time | < 5s |
| Zero offset A | < 7W/m ² |
| Zero offset B | < 2W/m ² |
| Neigungsfehler bei 1000 W/m ² | < 0.2% |
| Temperature sensivity dependence | < 1% (-10°C...40°C) |
| Spectral range (50% points) | 285... 2.800nm |
| Measurement range | 4000W/m ² |

| Temperature | |
|-----------------|---------------|
| Principle | PT100 |
| Measuring range | -40 ... 60 °C |
| Unit | °C |
| Accuracy | ±0.1 °C |
| Resolution | 0.01 °C |

| Relative humidity | |
|-------------------|----------------|
| Principle | Capacitive |
| Measuring range | 0 ... 100 % RH |

Technical Data

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| | |
|------------|----------|
| Unit | % RH |
| Accuracy | ±2 % RH |
| Resolution | 0.1 % RH |

Air pressure

| | |
|-----------------|-----------------------------------|
| Principle | MEMS Resonant Pressure transducer |
| Measuring range | 300 ... 1100 hPa |
| Unit | hPa |
| Accuracy | ±0.1 hPa |
| Resolution | 0.01 hPa |