



## Lufft WS3100-UMB Reference Weather Sensor with CMP10

**Product #:** 8391.U01  
**USD Price:** Contact Hach

The WS3100-UMB Weather Sensor is a Climate Reference Sensors in a high quality aluminum housing fullfilling WMO and aviation standards. it is typically used by meteorology services, in AWOS applications and as reference for calibration verification of Air Temperature, Relative Humidity, Air Pressure and Global radiation.

Global Radiation is measured by K&Z thermophile pyranometer, 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.

The sensor is delivered with a DAKKS ( ISO/IEC 1702) calibration sheet. All technical parameters are given for the full operating range.

The robust and high precise Climate Reference Sensor WS3000 is designed for professional meteorological applications in all climate zones. It delivers highly reliable data, even in extreme ambient conditions.

The weather sensor is designed to replace single sensors in a meteorological weather station.

Examples of use:

Weather stations from meteorological serives

Calibration / Verification of Air Temperature, Relative Humidity, Air Pressure

Climate meteorological weather station

Hydro-meteorological reference station

Solar energy applications

### **Excellent survivability under extreme conditions**

Full-metal (high quality aluminium) construction with ventilated air temperature / humidity measurements

### **Traceable accuracy**

Detailed calibration certificates, performed by an accredited laboratory for every sensor and drift-free sensing technologies

### **Modular architecture**

Easy maintenance and calibration possibilities for every single sensor

### **Fully compliant to WMO guidelines**

Technical over full temperature, pressure and humidity operating range

- 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)

## Specifications

*Parameters Measured:	Global Radiation
	Temperature
	Relative Humidity
	Air Pressure
Accuracy:	Temperature: $\pm 0.2$ °F (-40 - +140 °F) or $\pm 0.1$ °C (-40 - +60 °C)
	Relative humidity: $\pm 2$ % RH (0 - 100 %)
	Air pressure: $\pm 0.1$ hPa (500 -100 hPa)
Dimensions:	approx. Ø 10 in (250 mm) x H 20 in (500 mm)
Interface:	RS485, 2 - wire, half - duplex/WiFi
IP Rating:	IP66
Measurement technology:	Global radiation: Kipp&Zonen CMP10 Pyranometer
	Temperature: PT100
	Relative humidity: Capacitive
	Air pressure: MEMS Resonant Pressure transducer
Measuring Range:	Global radiation - 4000 W/m²
	Temperature: -112 - +176 °F (-80 - +80 °C)
	Relative humidity: 0 - 100 % RH
	Air pressure: 300 - 1100 hPa
Power Consumption:	24 VDC / typical 4W
Principles:	Global radiation: Pyranometer
	Temperature: PT100
	Relative humidity: Capacitive
	Air pressure: MEMS Resonant Pressure transducer
Relative Humidity:	0 - 100 % RH
Resolution:	Temperature: 0.02 °F (0.01 °C)
	Relative humidity: 0.1 % RH
	Air pressure: 0.01 hPa
Response Time:	Global Radiation: 5s
Spectral Accuracy:	Global radiation: Spectral range (50 % points) 285 - 2.800 nm
Temperature Range:	-40 - +60 °C (with optional test expendable to -60 - +60 °C)
Temperature Sensivity Dependence:	Global radiation: Temperature sensivity dependence < 1% (-10 °C- +40 °C)
Tilt Response:	1000 W/m² : < 0,2 %
Units:	Global radiation W/m²

Temperature °C

Relative humidity % RH

Air pressure hPa

Weight:

Approx. 11 lb (5 kg)

Zero offset A:

Zero offset A: < 7 W/m<sup>2</sup>

Zero offset B: < 2 W/m<sup>2</sup>

Zero offset B:

Zero offset B: < 2 W/m<sup>2</sup>