



**Compact all-in-one weather sensor for measurement of temperature, relative humidity, radiation and air pressure.**

- **Parameters measured**  
Temperature, relative humidity, radiation and air pressure
- **Measurement technology**  
NTC/T, Capacitive/RH, Tilttable Pyranometer Kipp&Zonen/Radiation, MEMS capacitive/Pressure
- **Product highlights**  
Compact all-in-one weather sensor, low power, aspirated radiation shield, maintenance-free operation, open communication protocol
- **Interfaces**  
RS485 with supported protocols UMB-Binary, UMB-ASCII, Modbus-RTU, Modbus-ASCII, XDR and SDI-12
- **Article number**  
8374.U11

From the WS product family of professional intelligent measurement transducers with digital interface for environmental applications. Integrated design with ventilated radiation protection for measuring: Air temperature, relative humidity, radiation and air pressure. One external temperature or rain sensor is connectable.

**IMPORTANT:** WS303-UMB Smart Weather Sensor is discontinued

## General

### Technical data

Dimensions	Ø approx. 150mm, height approx. 392mm
Weight	Approx. 1.5kg
Interface	RS485, 2-wire, half-duplex
Power supply	4...32 VDC
Power supply	5...11 VDC (electronics with limited precision of measurements)
Power supply	24 VDC +/- 10% (heater)
Power consumption	40 VA (heater)
Operating temperature	-50...60°C (with heater)
Operating rel. humidity	0...100% RH
Protection level housing	IP66
Cable length	10m
Mast mounting suitable for	mast diameter 60 - 76mm

### Radiation

Response time (95%)	< 18 s
Non-stability (change/year)	< 1 %
Non-linearity (0 to 1,000W/m <sup>2</sup> )	< 1 %
Directional error (at 80° with 1,000W/m <sup>2</sup> )	< 20 W/m <sup>2</sup>
Temperature dependence of sensitivity	< 5 % (10... +40 °C)
Tilt error (at 1000W/m <sup>2</sup> )	< 1 %
Spectral range	300...2800 nm
Measuring range	2000 W/m <sup>2</sup>
Altitude	0...60 °
Azimuth	-10 °...10 °

### Temperature

Principle	NTC
Measuring range	-50 ... 60 °C
Unit	°C
Accuracy	±0.2°C (-20...50°C), otherwise ±0.5°C (>-30°C)

### Relative humidity

Principle	Capacitive
Measuring range	0 ... 100 % RH
Unit	% RH
Accuracy	±2% RH

### Air pressure

Principle	MEMS capacitive
Measuring range	300 ... 1200 hPa
Unit	hPa

# Technical Data

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Accuracy	$\pm 0.5$ hPa (0...40°C)
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