



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, Tiltable 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	432 VDC
Power supply	511 VDC (electronics with limited precision of measurements)
Power supply	24 VDC +/- 10% (heater)
Power consumption	40 VA (heater)
Operating temperature	-5060°C (with heater)
Operating rel. humidity	0100% 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/m²)	<1%
Directional error (at 80° with 1,000W/m²)	< 20 W/m ²
Temperature dependence of sensitivity	< 5 % (□10 +40 °C)
Tilt error (at 1000W/m²)	<1%
Spectral range	3002800 nm
Measuring range	2000 W/m ²
Altitude	060 °
Azimuth	-10 °10 °

Temperature		
Principle	NTC	
Measuring range	-50 60 °C	
Unit	°C	
Accuracy	±0.2°C (-2050°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

WS303-UMB Smart Weather Sensor - discontinued



Accuracy	±0.5 hPa (040°C)













