



**Compact all-in-one weather sensor for measurement of temperature, relative humidity, precipitation intensity, precipitation type, precipitation quantity and air pressure.**

- **Parameters measured**  
Temperature, relative humidity, precipitation intensity, precipitation type, precipitation quantity and air pressure
- **Measurement technology**  
NTC/T, Capacitive/RH, MEMS capacitive/Pressure, 24 GHz Doppler radar/Precipitation
- **Product highlights**  
Compact all-in-one weather sensor, low power, heater, 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**  
8369.2, 8369.1

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, precipitation intensity, precipitation type, precipitation quantity and air pressure. One external temperature sensor is connectable.

General	
Dimensions	Ø ca. 150 mm, height ca. 280 mm
Weight	Approx. 1.3 kg
Interface	RS485, 2 - wire, half - duplex
Power supply	11 ... 32 VDC
Power supply	5 ... 11 VDC (electronics with limited precision of measurements)
Power supply	24 VDC +/- 10% (heater)
Power consumption	20 VA (heater)
Frequency range	24.150 GHz – 24.250 GHz (Europe) 24.075 GHz – 24.175 GHz (North America)
Frequency range	24.150 GHz – 24.250 GHz (Europe; Article no. 8369.2) 24.075 GHz – 24.175 GHz (North America; Article no. 8369.1)
Operating temperature	-50...60 °C (with heater)
Operating rel. humidity	0...100 % RH
Cable length	10 m
Protection level housing	IP66
Mast mounting suitable for	Mast diameter 60 - 76 mm

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
Accuracy	±0.5 hPa (0...40 °C)

Precipitation (liquid)	
Droplet size	0,3 ... 5 mm
Detection sensitivity	0,01 mm/h
Particle velocity	0.9 ... 15.5 m/s
Precipitation types	rain/ snow
Solid precipitation	5.1 ... ~30 mm
Intensity range	0...200mm/h
Intensity resolution	0.01 mm/h
Amount resolution	0.1 mm
Accuracy	20 % under laboratory conditions

# Technical Data

WS400-UMB Smart Weather Sensor



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Reproducibility	Typical >90 % under laboratory conditions
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