

First and only Smart Weather Sensor with integrated Kipp & Zonen CMP10 Pyranometer (secondary standard)

- **Parameters measured**
  Temperature, relative humidity, air pressure, wind direction, wind speed, radiation

- **Measurement technology**
  Ultrasonic/Wind, NTC/T, Capacitive/RH, MEMS capacitive/Pressure, Kipp&Zonen/Radiation

- **Product highlights**
  Wind detection with birdproof construction. 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**
  8375.U13

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, air pressure, wind direction, wind speed and radiation. One external temperature or rain sensor is connectable.

General

Dimensions	Ø approx. 150 mm, height approx. 332 mm
Weight	Approx. 1.5 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)
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)

Wind direction	
Principle	Ultrasonic
Measuring range	0 ... 359.9 °
Unit	°
Accuracy	< 3° RMSE > 1.0 m/s
Resolution	0.1

Wind speed	
Principle	Ultrasonic
Measuring range	0 ... 75 m/s
Unit	m/s
Accuracy	±0.3 m/s or ±3 % (0...35 m/s) ±5 % (>35 m/s) RMS
Resolution	0.1 m/s

Radiation

Response time	< 5 s
Zero offset A	< 7 W/m^2
Zero offset B	< 2 W/m^2
Directional error (at 1000 W/m^2)	< 0.2 %
Temperature dependence of sensitivity	< 1 % (-10 °C...40 °C)
Spectral range	285 to 2,800 nm
Measuring range	4000 W/m^2