

u[sonic]

COMPACT SENSOR LINE

Compact all-in-one design · highest precision · flexible use

Wind direction and speed are precisely determined by ultrasonic measurement. Furthermore, air temperature, relative humidity, air pressure and global radiation are measured; the dew point is calculated. The lamella shelter of the humidity temperature sensor eliminates any undesirable weather influences and ensures even more accurate measurements.

Year-round use in all climate zones

Since the sensors do not have any moving measuring elements, they require little maintenance. The intelligent heating works depending on wind speed and direction and keeps the sensors ice-free even under extreme weather conditions. The u[sonic] series easily meets the special challenges of alpine and maritime applications.



u[sonic]

Wind direction
and wind speed

- ✓ Serial interfaces RS485 and SDI-12 for user-configurable output signals
- ✓ Compatible with commercially available data loggers and PLC systems
- ✓ Intelligent, integrated heating
- ✓ Sensor shelter of the TH sensor for even more precise measurements
- ✓ Easy installation with only one cable connection



u[sonic]WS6

- 6 Parameters:
- Wind direction
 - Wind speed
 - Temperature
 - Relative humidity
 - Air pressure
 - Dew point



u[sonic]WS7

- 7 Parameters:
- Wind direction
 - Wind speed
 - Temperature
 - Relative humidity
 - Air pressure
 - Global radiation
 - Dew point

All weather sensors of the u[sonic] series feature high-quality aluminum housings and are extremely robust and durable.

Application examples



Professional meteorology ·
Wind warning



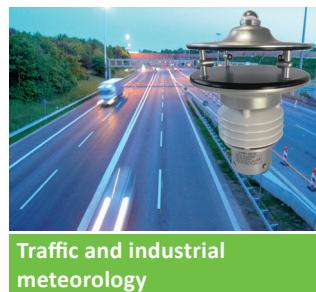
Wind turbines
On- and Offshore



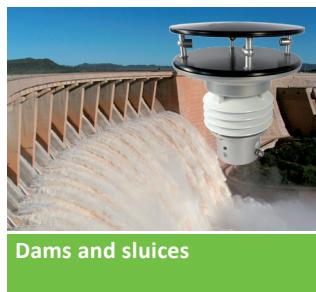
Ship weather stations · Mea-
suring stations in river basins



Building technology ·
Sewage treatment plants



Traffic and industrial
meteorology



Dams and sluices

Technical Data

Wind direction		Wind speed			
Meas. principle:	ultrasonic	Meas. principle:	ultrasonic		
Measuring range:	0...359.9°	Measuring range:	0...65 m/s		
Accuracy:	< 2° (> 1 m/s) RMSE	Accuracy:	± 0.2 m/s RMSE (v < 10 m/s); ± 2 % RMSE (10 m/s < v < 65 m/s)		
Resolution:	0.1°	Resolution:	0.1 m/s		
Air temperature		Relative humidity			
Meas. principle:	digital temperature sensor	Meas. principle:	capacitive, digital		
Measuring range:	-40...+70 °C	Measuring range:	0...100 % r.h.		
Accuracy:	± 0.1 K (0...60 °C) ; ± 0.2 K (-40...0 °C)	Accuracy:	typ. ± 1.5 % (0...80 %) ; ± 2 % (80...100 %)		
Resolution:	0.1 °C	Resolution:	0.1 % r.h.		
Air pressure		Global radiation			
Meas. principle:	piezoresistive	Meas. principle:	thermoelectric		
Measuring range:	300...1100 mbar	Measuring range:	0...2000 W/m² • Global radiation in the range of 285...3000 nm		
Accuracy:	± 0.5 mbar	Accuracy:	Second class		
Resolution:	0.1 mbar	Resolution:	0.2 W/m²		
Dew point temperature					
Meas. principle:	passive · calculated from air temperature and humidity				
Measuring range:	-40...+70 °C				
Resolution:	0.1 °C				
General technical data					
Operating conditions:	-40...+70 °C (with heating -50...+70 °C) • 0...100 % r.h.				
Response threshold:	0.1 m/s (factory adjustable for wind direction)				
Interfaces u[sonic]: Interfaces WS6 and WS7:	RS485/RS422 • SDI-12 • Analog output: 0...20 mA · 4...20 mA · 0...5 V · 0...10 V RS485/RS422 • SDI-12				
Protocols:	NMEA 0183 (default) • SDI-12 and Modbus • further protocols on request				
Supply voltage u[sonic], u[sonic]WS6 and u[sonic]WS7:	without heating: 6...60 V DC or 12...42 V AC • with heating: 24 V AC/DC				
Housing:	seawater-resistant aluminum				
Protection class:	IP 66 · IP67				