PRODUCT-VIEW

LAMBRECHT meteo

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.

- ✓ 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]

Wind direction and wind speed

With high-quality Hukseflux 'Second Class' pyranometer

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.

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Application examples

Professional meteorology · Wind warning

Wind turbines On- and Offshore

Ship weather stations · Measuring stations in river basins

Building technology · Sewage treatment plants

Traffic and industrial meteorology

Dams and sluices

Technical Data

Wind direction	
Meas. principle:	ultrasonic
Measuring range:	0...359.9°
Accuracy:	< 2° (> 1 m/s) RMSE
Resolution:	0.1°

Air temperature	
Meas. principle:	digital temperature sensor
Measuring range:	-40...+70 °C
Accuracy:	± 0.1 K (0...60 °C) ; ± 0.2 K (-40...0 °C)
Resolution:	0.1 °C

Air pressure	
Meas. principle:	piezoresistive
Measuring range:	300...1100 mbar
Accuracy:	± 0.5 mbar
Resolution:	0.1 mbar

Dew point temperature	
Meas. principle:	passive · calculated from air temperature and humidity
Measuring range:	-40...+70 °C
Resolution:	0.1 °C

Wind speed	
Meas. principle:	ultrasonic
Measuring range:	0...65 m/s
Accuracy:	± 0.2 m/s RMSE (v < 10 m/s); ± 2 % RMSE (10 m/s < v < 65 m/s)
Resolution:	0.1 m/s

Relative humidity	
Meas. principle:	capacitive, digital
Measuring range:	0...100 % r.h.
Accuracy:	typ. ± 1.5 % (0...80 %) ; ± 2 % (80...100 %)
Resolution:	0.1 % r.h.

Global radiation	
Meas. principle:	thermoelectric
Measuring range:	0...2000 W/m² • Global radiation in the range of 285...3000 nm
Accuracy:	Second class
Resolution:	0.2 W/m²

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