

u[sonic]WS7 Weather sensor



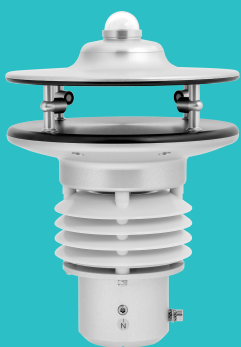
POSSIBLE APPLICATIONS

- Professional meteorological applications
- Wind turbines (onshore and offshore)
- Large-scale photovoltaic systems
- Traffic and industrial meteorology
- Building and environmental technology
- Wind warning systems and event technology
- Alpine and high alpine areas of application

Seven meteorological parameters in one device

The u[sonic]WS7 is the most versatile sensor in the LAMBRECHT series and provides precise weather data in a very small space. It measures wind direction and speed using ultrasound, as well as global radiation, temperature, humidity, and air pressure. The dew point is calculated automatically for comprehensive analysis. The slatted protective shelter reliably protects the humidity and temperature sensor from the effects of weather and ensures particularly accurate measurements. The intelligent, wind-dependent heating system guarantees reliable operation even in adverse conditions.

- **Measurement standard for global radiation:** Spectrally flat Class C (ISO 9060:2018), moderate quality (WMO No. 8)
- **Smart heating:** Automatic adjustment to wind direction and speed
- **Lamella sensor shelter:** For precise temperature and humidity measurements
- **Robust and easy to integrate:** Maintenance-free, no moving parts, with flexible interfaces



PRODUCT OVERVIEW

u[sonic]WS7 Weather sensor

Professional Line	u[sonic]WS7
Ident-No.	00.16480.001000
Measuring range wind direction	0...359.9°
Measuring range wind speed	0...65 m/s
Air temperature measuring range	-40...+70 °C
Measuring range rel. humidity	0...100 % RH
Air pressure measuring range	300...1100 mbar
Global radiation measurement range	0...2000 W/m ² ; global radiation in the range of 285...3000 nm
Wind direction accuracy	< 2° (> 1 m/s) RMSE
Wind speed accuracy	± 0.2 m/s RMSE (v < 10 m/s); ± 2% RMSE (10 < v < 65 m/s)
Air temperature accuracy	± 0.1 K (0...60 °C); ± 0.2 K (-40...0 °C) > 2 m/s
Relative humidity accuracy	Typical ± 1.5% (0...80%); ± 2% (> 80%)
Air pressure accuracy	± 0.5 mbar
Wind direction resolution	0.1°
Wind speed resolution	0.1 m/s
Air temperature resolution	0.1 °C
Resolution rel. humidity	0.1%
Air pressure resolution	0.1 mbar
Resolution of global radiation	0.2 W/m ²
Nonlinearity	< ± 1% (100...1000 W/m ²)
Response threshold	0.1 m/s
Output	RS-485; RS-422 (optional: please specify when ordering: Part No.: 97.16470.000422 RS-422 output configuration)
Protocols	NMEA 0183 Modbus RTU (optional: please specify when ordering: Ident No.: 97.16470.000001 Modbus configuration) SDI-12 (optional: please specify when ordering: Ident No.: 97.16470.000002 SDI-12 configuration) Other protocols available on request
Interface	RS-485/422; SDI-12 (optional)
Measuring rate	0.1...10 Hz
Operating conditions	-40...+70 °C (with heating: -50...+70); 0...100% RH
Survival speed	100 m/s
Supply voltage	Without heating: 6...60 VDC; with heating: 24 V AC/DC ± 20%
Power consumption	Sensor: typically 50 mA at 24 VDC; with heating: max. 10 A at 24 V AC/DC



Professional Line	u[sonic]WS7
Global radiation measuring element	Thermal column made of high-quality thermocouples
Measurement principle global radiation	Thermoelectric
Heating data	Factory configurable: 60 W; 120 W; 200 W (standard)
Dimensions	Ø 199 mm; height 284 mm
Housing	Seawater-resistant aluminum
Protection class	IP66, IP67
Weight	Approx. 3.4 kg
Standards and norms	Salt spray: EN 60945; Low voltage standard: 72/23 EEC Measurement standard for global radiation: Spectrally flat Class C (ISO 9060:2018), moderate quality (WMO No. 8)
EMC standards / Electrical safety	DIN EN 60945; DIN EN 61000-4-2, 3, 4, 6, 11
Accessories (order separately)	32.16470.060000 Sensor cable, 15 m, 8-pin M16 plug

As of May 27, 2026

