

## u[sonic]WS6 WEATHER SENSOR



For six weather parameters

The u[sonic]WS is the newest, most compact and system-capable addition to the LAMBRECHT meteo weather sensor series. The sensor has no moving measuring elements and is therefore low-maintenance. The intelligent heating system works in relation to the wind speed and direction and keeps the sensor ice-free even under extreme weather conditions. The u[sonic]WS6 easily meets the special challenges of alpine and maritime applications.

- No moving measuring elements, no wear
- Six weather parameters: wind direction and speed, air temperature, rel. humidity, barometric pressure, dew point
- Intelligent heating depending on wind speed and wind direction
- Lamella shelter for accurate measurements of the temperature-humidity sensor
- Easy to install, easy to maintain

### APPLICATIONS

- Professional meteorological application
- Wind turbines on- and off-shore
- Ship weather station
- Building automation and environmental engineering
- Traffic and industrial meteorology
- Wind warning and event engineering
- Photovoltaic large-scale plants
- Alpine applications

| Professional Line               | u[sonic]WS6                                                   |
|---------------------------------|---------------------------------------------------------------|
| Id-No.                          | 00.16480.000000                                               |
| Meas. range wind direction      | 0...359.9°                                                    |
| Meas. range wind speed          | 0...65 m/s                                                    |
| Meas. range air temperature     | -40...+70 °C                                                  |
| Meas. range rel. humidity       | 0...100 %                                                     |
| Meas. range barometric pressure | 300...1100 mbar                                               |
| Accuracy wind direction         | 2° (> 1 m/s) RMSE                                             |
| Accuracy wind speed             | ± 0.2 m/s RMSE (v < 10 m/s); ± 2 % RMSE (10 m/s < v < 65 m/s) |

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| Professional Line                 | u[sonic]WS6                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Accuracy air temperature          | ± 0.1K (0...60 °C); ± 0.2K (-40...0 °C)                                                                                                                                                                                                                                                                                                                                                   |
| Accuracy rel. humidity            | typ. ± 1.5 % (0...80 %) r. h.; ± 2 % (80...100 %) r. h.                                                                                                                                                                                                                                                                                                                                   |
| Accuracy barometric pressure      | ± 0.5 mbar                                                                                                                                                                                                                                                                                                                                                                                |
| Resolution wind direction         | 0.1°                                                                                                                                                                                                                                                                                                                                                                                      |
| Resolution wind speed             | 0.1 m/s                                                                                                                                                                                                                                                                                                                                                                                   |
| Resolution air temperature        | 0.1 °C                                                                                                                                                                                                                                                                                                                                                                                    |
| Resolution rel. humidity          | 0.1 %                                                                                                                                                                                                                                                                                                                                                                                     |
| Resolution barometric pressure    | 0.1 mbar                                                                                                                                                                                                                                                                                                                                                                                  |
| Trigger threshold                 | 0.1 m/s                                                                                                                                                                                                                                                                                                                                                                                   |
| Output                            | RS 485; RS 422 (optional; <b>please specify when ordering: Id-No.: 97.16470.000422 Configuration RS 422 output</b> )                                                                                                                                                                                                                                                                      |
| Protocols                         | NMEA 0183<br>Modbus RTU (optional; <b>please specify when ordering: Id-No.: 97.16470.000001 Configuration Modbus</b> )<br>SDI-12 (optional; <b>please specify when ordering: Id-No.: 97.16470.000002 Configuration SDI-12</b> )<br>other protocols on request                                                                                                                             |
| Interface                         | RS485 / 422; SDI-12 (optional)                                                                                                                                                                                                                                                                                                                                                            |
| Measuring rate                    | 0.1...10 Hz                                                                                                                                                                                                                                                                                                                                                                               |
| Operating conditions              | -40...+70 °C (with heating: -50...+70 °C); 0...100 % r. h.                                                                                                                                                                                                                                                                                                                                |
| Supply voltage                    | without heating: 6...60 VDC; with heating: 24 V AC/DC ± 20 %                                                                                                                                                                                                                                                                                                                              |
| Current consumption               | sensor: typically 50 mA at 24 VDC; with heating: max. 10 A at 24 V AC/DC                                                                                                                                                                                                                                                                                                                  |
| Heating data                      | factory configurable: 60 W / 120 W / 240 W (standard)                                                                                                                                                                                                                                                                                                                                     |
| Dimensions                        | Ø 199 mm; height 238 mm                                                                                                                                                                                                                                                                                                                                                                   |
| Housing                           | seawater resistant aluminium                                                                                                                                                                                                                                                                                                                                                              |
| Protection class                  | IP 66; IP 67                                                                                                                                                                                                                                                                                                                                                                              |
| Weight                            | approx. 3.1 kg                                                                                                                                                                                                                                                                                                                                                                            |
| Standards                         | Low voltage guide line: 72/23 EWG<br>Protection class: DIN EN 60529<br>MIL-STD-810G<br>DIN EN 50121-4:2016<br>Salt fog: EN 60945<br>Cold test Ad acc. to DIN EN 60068-2-1 (01/2008)<br>Condensation test CH acc. to ISO 6270-2 (09/2005) and DIN EN ISO 12944-6 (07/1998), category C4<br>Salt mist test based on DIN EN ISO 7253 (04/2002) and DIN EN ISO 12944-6 (07/1998), category C4 |
| EMC standards / Electrical safety | DIN EN 60945; DIN EN 61000-4-2, 3, 4, 6, 11                                                                                                                                                                                                                                                                                                                                               |
| Options (order separately)        | 00.16480.000200 u[sonic]WS6 with bayonet plug<br>32.16420.066100 Cable 10 m; 12-pole bayonet plug, ready-for-use                                                                                                                                                                                                                                                                          |
| Accessories (order separately)    | 32.16470.060000 sensor cable, 15 m, 8-pol. M16-plug                                                                                                                                                                                                                                                                                                                                       |

As of: 15.02.2024