

u[sonic]WS6-NAV WEATHER SENSOR



The maritime, all-in-one sensor for six weather parameters

u[sonic]WS6-NAV is a compact weather sensor with no moving parts. The wind parameters are measured with ultrasonic technology. Its robust, seawater-resistant aluminum housing ensures use under harsh conditions on ships and on wind turbines. The integrated heating keeps the weather sensor ice-free even in extreme conditions down to -50 °C. The sensor has an NMEA 0183 output according to marine standard.

Safety is a top priority on the high seas. The u[sonic]WS6-NAV has been tested by official institutions and is certified according to the EN 60945 standard for marine equipment. Minimum maintenance is needed for the sensor, routine calibrations are not required. The lamellar protective housing can be easily disassembled to clean or replace the sinter cap of the humidity-temperature sensor inside.

- Six measurement parameters: Wind direction, wind speed, air temperature, air humidity, barometric pressure, dew point temperature (calculated value)
- Simple installation with only one cable connection
- Wear-free operation because no moving measuring elements
- Easy to service due to removable lamella protection shelter

APPLICATIONS

- On board all types of vessels
- Onshore and offshore wind turbines
- Coastal monitoring
- Industrial and port facilities

Professional Line	u[sonic]WS6-NAV
Id-No.	00.16480.100200 With bayonet-plug; 00.16480.100000 With M16-plug
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 % r. h.
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)
Accuracy air temperature	0.1 K (0...60 °C); 0.2 K (-40...0 °C)
Accuracy rel. humidity	Typically 1.5 % (0...80 %) r.h.; 2 % (> 80 %) r. h.

Continued on page 2

Professional Line	u[sonic]WS6-NAV
Accuracy barometric pressure	0.5 mbar (at 20 °C)
Resolution wind direction	0.1°
Resolution wind speed	0.1 m/s
Resolution air temperature	0.1 °C
Resolution rel. humidity	0.1 % r. h.
Resolution barometric pressure	0.1 mbar
Trigger threshold	0.1 m/s
Protocols	NMEA 0183 (other protocols on request)
Interface	RS-485 (in RS-422 compatibility mode)
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 (standard with bayonet); 120 W; 240 W (standard with M16)
Dimensions	See dimensional drawing in the user manual
Housing	Seawater resistant aluminum (painted RAL 9003)
Protection class	IP 66; IP 67
Weight	approx. 3.1 kg
Standards	<p>Low voltage guide line: 72/23 EWG</p> <p>Protection class: DIN EN 60529</p> <p>DIN EN 50121-4:2016</p> <p>Salt fog: EN 60945</p> <p>IEC 61724-1</p> <p>Cold test Ad acc. to DIN EN 60068-2-1 (01/2008)</p> <p>Condensation test CH acc. to ISO 6270-2 (09/2005) and DIN EN ISO 12944-6 (07/1998), category C4</p> <p>Salt mist test based on DIN EN ISO 7253 (04/2002) and DIN EN ISO 12944-6 (07/1998), category C4</p>
EMC standards / Electrical safety	DIN EN 60945; DIN EN 61000-4-2, 3, 4, 6, 11
Accessories (order separately)	<p>32.16420.066100 Sensor cable 10 m, with 12-pole bayonet plug</p> <p>32.16470.060000 Sensor cable 15 m, with 8-pole M16-plug</p>

As of: 14.03.2025