Vaisala WINDCAP® Ultrasonic Wind Sensor WXT532 is designed for demanding applications where stable and inexpensive wind measurements are required.

Proven Vaisala Performance
WXT532 incorporates decades of Vaisala experience in wind measurement using ultrasound to determine horizontal wind speed and direction. With no moving parts, the sensor has high sensitivity as the measurement time constant and starting threshold are virtually zero. This makes it superior to conventional mechanical wind sensors. WXT532 is designed to operate without periodic field calibration and maintenance.

Applications
WXT532 is ideal for use in marine applications as the housing with the mounting kit is water resistant. The sensor is also suitable for environmental monitoring, for example, for measuring wind speed and direction in automatic weather stations.

Easy to Install
WXT532 is delivered fully assembled and configured from the factory. With Vaisala Configuration Software Tool you can change the settings, such as averaging times, output mode, update intervals, measured variables, and message contents. The sensor can be mounted either on top of a pole mast or on a cross arm. When using the optional mounting kit, the north alignment needs to be performed only once.

Heating
The optional heating available in WXT532 assists measurements in freezing or snowy weather conditions and in humid environments.

Features
- Triangular design ensures excellent data availability
- Maintenance-free with no moving parts
- Optional heating available
- Compact, durable, and robust
- Low power consumption
- IP66 housing with mounting kit
- mA output suitable for industrial applications
- Cost-effective
- Optional accredited wind calibration (MEASNET) available
- DNV GL Type Examination

Since the heating circuit is independent of the operational power, separate power supplies can be used. Heating is switched on automatically at low temperatures, well before the freezing point.

Low Power Consumption
WXT532 has very low power consumption: in idle mode the device typically consumes about 2...3 mW.

DNV GL TYPE EXAMINATION CERTIFICATE No. TAA00000VF
Technical Data

Wind Measurement Performance

**Wind Speed**
- Observation range: 0 ... 60 m/s (134 mph)
- Response time: 0.25 s
- Available variables: Average, maximum, and minimum
- Accuracy: ±3 % at 10 m/s (22 mph)
- Output resolution: 0.1 m/s (km/h, mph, knots)

**Wind Direction**
- Azimuth: 0 ... 360°
- Response time: 0.25 s
- Available variables: Average, maximum, and minimum
- Accuracy: ±3.0° at 10 m/s (22 mph)
- Output resolution: 1°

**Wind Measurement Frame**
- Averaging time: 1 ... 3600 s (= 60 min), at 1 s steps, on the basis of samples taken at 4, 2, or 1 Hz rate (configurable)
- Update interval: 1 ... 3600 s (= 60 min), at 1 s steps

**Inputs and Outputs**
- Operating voltage: 6 ... 24 VDC (-10 ... +30 %)
- Average power consumption:
  - Minimum: 0.1 mA at 12 VDC (SDI-12 standby)
  - Typical: 3.5 mA at 12 VDC with typical measuring intervals
  - Maximum: 15 mA at 6 VDC (with constant measurement of all parameters)
- Heating voltage: Options: DC, AC, full-wave rectified AC
  - 12 ... 24 VDC (-10 ... +30 %)
  - 12 ... 17 VACrms (-10 ... +30 %)
- Digital outputs: SDI-12, RS-232, RS-485, RS-422
- Communication protocols: SDI-12 v1.3
- ASCII automatic and polled NMEA 0183 v3.0 with query option
- Self-diagnostic: Separate supervisor message, unit/status fields to validate measurement stability
- Start-up: Automatic, < 5 seconds from power on to the first valid output
- Serial data interface: SDI-12, RS-232, RS-485, RS-422, USB connection
- Baud rate: 1200 ... 115 200

**Analog mA Output Options**
When the analog output option is applied, digital communication is not available.
- Wind speed: 0 ... 20 mA or 4 ... 20 mA
- Wind direction: 0 ... 20 mA or 4 ... 20 mA
- Load impedance: Max. 200 Ω
- Update interval: Max. 4 Hz

**Options and Accessories**
- Vaisala Configuration Tool and USB service cable SP 220614
- Cable USB RS-232/RS-485 1.4 m USB M12 SP 220782
- Cable 2 m shielded 8-pin M12 SP 222287
- Cable 10 m shielded 8-pin M12 SP 222288
- Cable 10 m shielded 8-pin M12, connectors on both ends SP 215952
- Cable 40 m shielded 12-pin, open end wires SP 217020
- Bushing and grounding accessory kit 222109
- Mounting kit 212792
- Mounting accessory between Mounting kit and 60 mm tube WMSFIX60
- Bird Kit 212793

**Operating Environment**
- Operating temperature: -52 ... +60 °C (-60 ... +140 °F)
- Storage temperature: -60 ... -70 °C (-76 ... -158 °F)
- IP rating: Without mounting kit: IP65
  - With mounting kit: IP66

**Mechanical Specifications**
- Dimensions (H × Ø): 141 × 114 mm (5.48 × 4.49 in)
- Weight: 510 g (1.12 lb)

**Compliance**
- EMC compliance: IEC 61326-1
- IEC 60945
- IEC 55022:2010 Class B
- Environmental: IEC 60068-2-1, 2, 6, 14, 30, 31, 52, 78
  - IEC60529
  - VDA 621-415
- Maritime: DNVGL-CG-0339
  - IEC 60945

Published by Vaisala | B211593EN-B © Vaisala 2017

All rights reserved. Any logos and/or product names are trademarks of Vaisala or its individual partners. Any reproduction, transfer, distribution or storage of information contained in this document is strictly prohibited. All specifications — technical included — are subject to change without notice.