# Lufft UMB Sensor Overview

| | Wind | Temperature Rel. humidity Air pressure | Temperature Rel. humidity Air pressure Precipitation | Temperature Rel. humidity Air pressure Radiance (solar radiation) |
|---|---|---|---|---|
| **Titan** | Ventus | | | WS310 |
| **Platinum** | | | | WS301/303 |
| **Gold** | V200A | WS300 | WS400 | WS304 |
| **Professional** | WS200 | | WS401 | WS302 |

| Temperature Rel. humidity Air pressure Wind speed Wind direction | Temperature Rel. humidity Air pressure Wind speed Wind direction Radiance (solar radiation) | Temperature Rel. humidity Air pressure Wind speed Wind direction Precipitation | Temperature Rel. humidity Air pressure Wind speed Wind direction Precipitation Radiation | 2 Channel EXPANDER | Protocols |
|---|---|---|---|---|---|
| |  WS510 | | | ANACON | UMB MODBUS ASCII SDI12 |
| |  WS501/503 | | | ANACON | UMB MODBUS ASCII SDI12 |
|  WS500 |  WS504 |  WS600 |  WS700 | ANACON | UMB MODBUS ASCII SDI12 |
| |  WS502 |  WS601 | | ANACON | UMB MODBUS ASCII SDI12 |
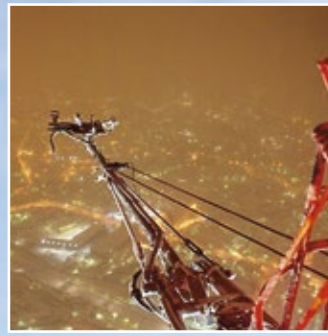
# A Passion for Precision

# ventus

VENTUS ultrasonic cold weather anemometer was tested under
MIL standard-810F method 521.2 proving success in ice free operation.
Ventus is corrosion tested for seawater and vibration resistance.
It gives the best accuracy with maintenance-free operation.

HALT test
Vibration test    According to IEC 60945
Corrosion test    According to MIL-STD-810
                  Method 509.3
Ice-free test     According to MIL-STD-810F
                  Method 521.2

Now UL-certified
Underwriters Laboratories Inc.

TÜV SÜD
Safety tested · Production monitored
C · NRTL · US

# Lufft VENTUS-UMB– Ultrasonic Wind Sensor Metal Housing, 240 W-Heater



**Extremely precise and maintenance-free measurement of wind velocity and wind direction, as well as calculation of acoustic virtual temperature.**

Belongs to Lufft's WS family of professional intelligent sensors with digital and analog interfaces.

The ultrasonic wind sensor is designed without mechanical parts – traditionally known as "cups and vane".

The digital or analog output delivers instantaneous, average, min or max value with flexible measuring rate. The VENTUS is heated in case of critical ambient conditions. Made for cold climates!

**Recommended for:**

- Wind turbines
- Marine/ships
- Meteorology
- Building automation

**The following outputs/protocols are available:**

- NMEA
- UMB-ASCII
- UMB-Binary
- MODBUS (ASCII, RTU)
- SDI-12
- 4 … 20mA, 0...10V, 0…20mA, 2…10V frequency (analog)

| Lufft VENTUS-UMB Wind Sensor | | | Order No. |
|---|---|---|---|
| ***VENTUS-UMB for wind energy applications*** | | | **8371.UMT** |
| **Technical data** | Dimensions | Ø approx. 150mm, height approx. 170mm | |
| | Weight | Approx. 1.62kg | |
| **Wind direction** | Principle | Ultrasonic | |
| | Measuring range | 0…359.9° | |
| | Resolution | 0.1° | |
| | Accuracy | <2° RMSE >1.0m/s | |
| | Start-up threshold | 0.1m/s | |
| | Measuring rate | 60 partial measurements/ 15 measurements per second | |
| | Measurement output rate | 1-10 seconds adjustable – default 10s | |
| **Wind speed** | Principle | Ultrasonic | |
| | Measuring range | 0…90m/s | |
| | Resolution | 0.1m/s | |
| | Accuracy | ±0.2m/s or ±2% RMS of reading, whichever is greater (0...65m/s) else ±5% | |
| | Start-up threshold | 0.1m/s | |
| | Measuring rate | 60 partial measurements/ 15 measurements per second | |
| | Measurement output rate | 1-10 seconds adjustable – default 10s | |
| | Unit | m/s; km/h; mph; kts | |
| **Virtual temperature** | Principle | Ultrasonic | |
| | Measuring range | –50…70°C | |
| | Resolution | 0.1°C | |
| | Accuracy | ±2.0°C (without heater and without sun exposure or wind > 4m/s) | |
| | Measuring rate | 60 partial measurements/ 15 measurements per second | |
| | Measurement output rate | 1-10 seconds adjustable – default 10s | |
| **Air pressure** | Principle | MEMS Capacitive | |
| | Measuring range | 300…1200hPa | |
| | Accuracy | ±1.5hPa | |
| **Data output digital** | Interface | RS485 semi-/full duplex, isolated | |
| | Baudrate | 1200…57600 | |
| | Meas. rate instant. value | 1-10s | |
| | Measuring rate Avg (arithmetic, vector) | 1-10min | |
| | Status | Heating, sensor failure | |
| **Data output analog** | Only semi-duplex mode | | |
| | Output signal | 0…20mA, 4…20mA, 0…10V, 2…10V, 2…2,000 Hz only output 1 (instantaneous, avg, min, max) | |
| | Load | Max. 500Ohm | |
| | Resolution | 16 Bit | |
| **General information** | Operating temperature | -40…60°C (with heating) -20…60°C (without heating) | |
| | Bus operation | Up to 32 devices | |
| | Operating voltage electronics | 12-24VDC / 1.2VA, without heating | |
| | with heating | 24VDC / 240VA (140VA + 100VA) | |
| | Connection | 8-pole plug | |
| | Housing material | Aluminum, seawater-proof | |
| | Protection | IP68 | |
| | Pole diameter | 50mm/2" | |
| | Factory certificate | Yes | |
| **Accessories** | Surge protection | | **8379.USP-V** |
| | Power supply 24V/10A | | **8366.USV2** |
| | UMB Interface converter ISOCON-UMB | | **8160.UISO** |
| | Connection cable, 15m incl. connector | | **8371.UK015** |
| | Connection cable, 50m incl. connector | | **8371.UK050** |
| | Connector | | **8371.UST1** |