



VENTUS-X: Additional transducer heater for most eXtreme environmental conditions! Extremely precise and maintenance-free measurement of wind speed and wind direction even in the lowest temperature

- **Parameters measured**
Wind speed, wind direction, virtual temperature, barometric pressure
- **Measurement technology**
Ultrasonic
- **Product highlights**
Ice-free operation in extreme freezing conditions due to additional transducer heater, maintenance-free measurement, suitable for extreme ambient conditions, vibration and seawater resistant, compatible interfaces
- **Interfaces**
SDI-12, RS-485, various RS-485-protocols, analogue output
- **Article number**
8371.UMTX

The accurate wind sensor uses the run-time differential method for determining the wind speed and wind direction. It provides output for instantaneous values, vector and scalar means, the maximum gust of wind and wind direction, the maximum/minimum values and the virtual temperature. Data output through serial or analogue interfaces provides compatibility of the Lufft Ventus for commercially available hydrometeorological dataloggers and PLC systems. An automatic heater ensures reliable operation even in very

harsh environmental conditions.

| General | |
|---------------------------------|---|
| Dimensions | Ø approx. 150 mm, height approx. 170 mm |
| Weight | Approx. 1.62 kg |
| Permissible ambient temperature | -40 ... 60 °C |
| with heating | 24 VDC / 240 VA (140 VA + 100 VA) |
| Bus operation | Up to 32 devices |
| Operating voltage electronics | 12 - 24 VDC / 1.2 VA, without heating |
| Electrical connection | 8 pole plug |
| Housing material | Aluminium, seawater - proof |
| Protection type | IP68 |
| Pole diameter | 50 mm/2" |
| Factory certificate | Yes |

| Data output digital | |
|--|-----------------------------------|
| Interface | RS485 semi-/full duplex, isolated |
| Baud rate | 1200 - 57600 |
| Measurement rate instantaneous value | 1 - 10 s |
| Measurement Avg (arithmetic, vector), Min, Max | 1...10 min |
| Status | Heating, sensor failure |

| Data output analog | |
|--------------------------|---|
| Data output analog | Only semi - duplex mode |
| Output signal | 0 ... 20 mA, 4 ... 20 mA, 0 ... 10 V, 2 ... 10 V, 2 ... 2,000 frequency (instantaneous, avg, min, max) |
| Load | Max. 500 Ohm |
| Resolution | 16 bit |
| Jarring 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 |
| HALT | Highly Accelerated Life Test |
| Maximum operating height | 3500 m |

| Wind direction | |
|-----------------|-------------------|
| Principle | Ultrasonic |
| Measuring range | 0 ... 359.9 ° |
| Unit | ° |
| Accuracy | ±2° RMSE >1.0 m/s |
| Resolution | 0.1 ° |

| Wind speed | |
|-----------------|--------------|
| Principle | Ultrasonic |
| Measuring range | 0 ... 90 m/s |

Technical Data

VENTUS-X-UMB Ultrasonic Wind Sensor with extended Heating



| | |
|------------|---|
| Unit | m/s |
| Accuracy | ± 0.2 m/s or ± 2 % RMS of reading (whichever is greater) for 0...65 m/s - otherwise ± 5 % |
| Resolution | 0.1 m/s |

| Virtual temperature | |
|---------------------|--|
| Principle | Ultrasonic |
| Measuring range | -50 ... 70 °C |
| Unit | °C |
| Accuracy | ± 2.0 °C (without heater and without sun exposure or wind > 4 m/s) |
| Resolution | 0.1 °C |

| Air pressure | |
|-----------------|------------------|
| Principle | MEMS capacitive |
| Measuring range | 300 ... 1200 hPa |
| Unit | hPa |
| Accuracy | ± 1.5 hPa |
| Resolution | 0.1 hPa |