

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 ... 20 mA, 0...10V, 0...20 mA, 2...10V frequency (analog)

Halttest

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

Lufft VENTUS-UMB Wind Sensor			Order No.
VENTUS-UMB			8371.UM
VENTUS-UMB for wind energy applications			8371.UMT
Technical Data	Dimensions	Ø approx. 150mm, height approx. 170mm	
	Weight	approx. 1.62 kg	
Wind direction	Principle	Ultrasonic	
	Measuring range	0 ... 359,9°	
	Resolution	0.1°	
	Accuracy	<2° RMSE >1.0 m/s	
	Start-up threshold	0.1 m/s	
	Measuring rate	60 partial measurements/ 15 measurements per second	
	Measurement output rate	1-10 seconds adjustable – default 10 s	
Wind speed	Principle	Ultrasonic	
	Measuring range	0 ... 75 m/s	
	Resolution	0.1 m/s	
	Accuracy	±0.2 m/s or ± 2 % RMS of reading, whichever is greater	
	Start-up threshold	0.1 m/s	
	Measuring rate	60 partial measurements/ 15 measurements per second	
	Measurement output rate	1-10 seconds adjustable – default 10 s	
Virtual temperature	Unit	m/s; km/h; mph; kts	
	Principle	Ultrasonic	
	Measuring range	-50 ... +70 °C	
	Resolution	0.1 °K	
	Accuracy	± 2.0 K (without heater and without sun exposure or wind > 4m/s)	
Air pressure	Measuring rate	60 partial measurements/ 15 measurements per second	
	Measurement output rate	1-10 seconds adjustable – default 10 s	
	Principle	MEMS Capacitive	
	Measuring range	300 ... 1200 hPa	
Data output digital	Accuracy	±1.5 hPa	
	Interface	RS485 semi-/full duplex, isolated	
	Baudrate	1200 - 57600	
	Meas. rate instant. value	1-10 s	
	Measuring rate Avg (arithmetic, vector)	1-10 min	
Data output analog	Status	Heating, sensor failure	
	Only semi-duplex mode		
	Output signal	0 ... 20 mA, 4 ... 20 mA, 0 ... 10V, 2 ... 10V, 2 ... 2,000 Hz only output 1 (instantaneous, avg, min, max)	
	Load	max. 500 Ohm	
	Resolution	16 Bit	
General Information	Auflösung	16 Bit	
	Operating temperature	-40 ... +60 °C (with heating) -20 ... +60 °C (without heating)	
	Bus operation	Up to 32 devices	
	Operating voltage electronics	24 VDC ±10 % or 24 VDC/1.2 VA without heating 12 VDC	
	with heating	24 VDC, max. 240 VA (140 W + 100 W)	
	Connection	8-pole plug	
	Housing material	Aluminum, seawater-proof	
	Protection	IP66	
	Pole diameter	50 mm/2"	
	Factory certificate	yes	
Accessories	Surge protection		8379.USP-V
	Power supply 24 V/10 A		8366.USV2
	UMB Interface converter ISOCON-UMB		8160.UISO
	Connection cable, 15 m incl. connector		8371.UK015
	Connection cable, 50 m incl. connector		8371.UK050
	Connector		8371.UST1