

- Compact weather station for measurement of wind speed and wind direction (2D ultrasonic) as well as air pressure, temperature and relative humidity, and additionally precipitation
- RS485 interface
- MODBUS communication protocol



Description

The Lufft compact weather stations with Universal Measurement Bus (UMB) are designed for recording environmental data. The WS series provides a comprehensive range of environmental sensors for recording wind speed and wind direction as well as air pressure, temperature, relative humidity and precipitation. The compact weather stations in particular are outstanding due to their unrivaled price-performance ratio. The top-of-the-range model, WS600-UMB, incorporates sensors for temperature, humidity, precipitation, air pressure, wind direction and wind speed.

Wind data is measured by 2D ultrasonic. The measurement principle for temperature is NTC, air pressure and relative humidity are measured capacitive.

The electrical connection for all UMB compact weather stations is made via a standard plug connector system. This keeps installation and service costs to a minimum. All UMB compact weather stations can be polled by means of a standard protocol. Once data polling has been incorporated for one sensor, additional sensors can be added by easy parameterization of the data polling system.

Channel-oriented sensor data polling delivers a large number of computed variables in metric and US format, hence there is no need for conversion by the user. Sensors can be configured, equipment tested and firmware updated with the free configuration software (UMBConfig-Tool).

Overview Lufft Weather Stations

	WS200-UMB	WS300-UMB	WS500-UMB	WS600-UMB
Wind speed	x		x	x
Wind direction	x		x	x
Temperature		x	x	x
Air pressure		x	x	x
Rel. humidity		x	x	x
Precipitation type				x
Precipitation intensity				x
Rain accumulation				x

Specifications

	WS500-UMB	WS600-UMB
Order-No.	S85900H	tba
Wind		
Measurement principle	Ultrasonic	Ultrasonic
Wind speed range	0 ... 75 m/s	0 ... 75 m/s
Wind speed accuracy	±0.3 m/s or 3% (0 ... 35 m/s) RMS of reading, which is greater ±5% (>35 m/s)	±0.3 m/s or 3% (0 ... 35 m/s) RMS of reading, which is greater ±5% (>35 m/s)
Wind direction range	0 ... 359.9°	0 ... 359.9°
Wind direction accuracy	< 3° RMSE > 1.0 m/s	< 3° RMSE > 1.0 m/s
Air pressure		
Measurement range	300 ... 1200 hPa	300 .. 1200 hPa
Accuracy	±0.5 hPa (0 ... 40°C)	±0.5 hPa (0 ... 40°C)
Temperature		
Measurement range	-50 ... 60°C	-50 ... 60°C
Accuracy	±0.2°C (-20 ... 50°C), otherwise ±0.5°C	±0.2°C (-20 ... 50°C), otherwise ±0.5°C
Rel. humidity		
Measurement range	0 ... 100% RH	0 ... 100% RH
Accuracy	±2% RH	±2% RH
Precipitation		
Resolution	-	0.01mm
Measurement range	-	Drop size 0.3 ... 5mm
Precipitation type	-	Rain / snow
General information		
Power supply	12-24 V DC ±10%	
Heating	20 VA @ 24 V DC	40 VA @ 24 V DC
Interface	RS485, 2-wire, half-duplex (MODBUS communication protocol)	
Connection	8-pole screw connector	
Operating temperature range	-50 ... 60°C	
Operating humidity range	0 ... 100% RH	
Dimension / Weight	Ø 150mm, height: 287mm / 1.2kg	Ø 150mm, height: 343mm / 1.5kg
Protection type housing	IP66	
Cable length	10m (contact us for other cable length)	
Accessories	RS485 module for data logger Meteo-40 (Order-No: M83551)	

Last Modification: 08 November 2013