

# Compact Weather Station Lufft WS500-UMB

Measurement of wind speed and wind direction (2D ultrasonic) as well as air pressure, temperature and relative humidity, and additionally precipitation



## Description

- 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

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).

## Specifications

Wind	
Measurement principle	Ultrasonic

<b>Wind</b>	
Wind speed range	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)
Wind direction range	0 ... 359.9°
Wind direction accuracy	< 3° RMSE > 1.0 m/s
<b>Air pressure</b>	
Measurement range	300 ... 1200 hPa
Accuracy	±0.5 hPa (0 ... 40°C)
<b>Temperature</b>	
Measurement range	-50 ... 60°C
Accuracy	±0.2°C (-20 ... 50°C), otherwise ±0.5°C
<b>Rel. humidity</b>	
Measurement range	0 ... 100% RH
Accuracy	±2% RH
<b>Precipitation</b>	
Resolution	
Measurement range	
Precipitation type	
<b>General</b>	
Power supply	12-24 V DC ±10%
Heating	20 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 150 mm, height: 287 mm / 1.2 kg
Protection type housing	IP66
Cable length	10 m (contact us for other cable length)
Accessories	RS485 module
Manufacturer	G. Lufft Mess- und Regeltechnik GmbH

## Sensor connection diagram

### Sensor Connection to Ammonit Meteo-40 Data Logger

Sensor	Plug Pin No.	Ammonit Cable Wire Colour	Meteo-40 RS485 M	Supply Sensor
Data	3	white	RS485 A (-)	
Data	4		RS485 B (+)	
Supply	2	red		12V
Ground	1	black		Main Ground
Heating	7	orange, orange		Main Ground
	8	violet, violet		24VDC

Connect the shield logger-sided to Ground (GND)

Cable type without heating: LiYDY 5 x 0.25mm<sup>2</sup>

Cable type with heating wires: LiYDY 7 x 0.25mm<sup>2</sup>

