Lufft WS501-UMB – Temperature, Relative Humidity, Radiation, Air Pressure, Wind, Electronic Compass

From the WS product family of professional intelligent measurement transducers with digital interface for environmental applications.

Integrated design with ventilated radiation protection for measuring:

- Air temperature
- Relative humidity
- Air pressure
- Wind direction
- Wind speed
- Solar Radiation

Relative humidity is measured by means of a capacitive sensor element; a precision NTC measuring element is used to measure air temperature.

The world renowned technology of Kipp+Zonen CMP3 is integrated.

Ultrasonic sensor technology is used to take wind measurements.

Measurement output can be accessed by the following protocolls:
UMB-Binary, UMB-ASCII, SDI-12, MODBUS

Lufft WS501-UMB Compact Weather Station			Order No.
WS501-UMB EU, USA, Canada			**8375.U01**
Technical Data	Dimensions	Ø approx. 150 mm, height 332 mm	
	Weight	approx. 1.5 kg	
Temperature	Principle	NTC	
	Measuring range	–50 … 60 °C	
	Accuracy	±0.2 °C (–20 °C … +50 °C), otherwise ±0.5 °C (>–30 °C)	
Relative humidity	Principle	Capacitive	
	Measuring range	0 … 100 % RH	
	Accuracy	±2 % RH	
Radiation	Response time (95%)	18s	
	Non-stability (change/year)	±1 %	
	Non-linearity (0 to 1,000 W/m²)	±2.5 %	
	Directional error (at 80° with 1,000 W/m²)	±20 W/m²	
	Temperature dependence of sensitivity	±5 % (–10 to +40 °C)	
	Tilt error (at 1000 W/m²)	±3 %	
	Spectral range (50% points)	300 to 2,800 nm	
	Measuring range	1400 W/m²	
Air pressure	Principle	MEMS capacitive	
	Measuring range	300 … 1200 hPa	
	Accuracy	±1.5 hPa	
Wind direction	Principle	Ultrasonic	
	Measuring range	0 … 359.9 °	
	Accuracy	±3 °	
Wind speed	Principle	Ultrasonic	
	Measuring range	0 … 60 m/s	
	Accuracy	± 0.3 m/s or ±3 % (0 … 35 m/s)	
General Information	Heating	20 VA at 24 VDC	
	Protection type housing	IP65	
	Interface	RS485, 2-wire, half-duplex	
	Operating power consumption	24VDC +/-10%	
	Operating humidity range	0 … 100 %	
	Operating temperature range	–50 … 60 °C	
Accessories	Surge protection		**8379.USP**
	Power supply 24V/4A		**8366.USV1**
	UMB Interface converter ISOCON-UMB		**8160.UISO**
	Digital-analog-converter DACON8-UMB		**8160.UDAC**
	Temperature Sensor WT1		**8160.WT1**
	Surface Temperature Sensor WST1		**8160.WST1**

KIPP & ZONEN SINCE 1830

All in One

Aspirated temperature/humidity measurement

Open communication protocol:
- UMB-ASCII
- UMB-Binary
- SDI-12
- MODBUS
- Analoge outputs in combination with 8160.UDAC