Lufft WS510-UMB – Solar Radiation, Wind, Temperature, Air pressure, Relative humidity, 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:

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

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 CMP10 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.

One external temperature or rain sensor is connectable.

Lufft WS510-UMB Smart Weather Sensor			Order No.
WS510-UMB			**8375.U13**
WS310-UMB without wind sensor			**8374.U13**
Technical data	Dimensions	Ø approx. 150 mm, height 392mm	
	Weight	Approx. 1.5 kg	
Temperature	Principle	NTC	
	Measuring range	–40 … 80 °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	Spectral range (50% points)	285 to 2,800 nm	
	Measuring range	4000 W/m²	
Air pressure	Principle	MEMS capacitive	
	Measuring range	300 … 1200 hPa	
	Accuracy	± 0.5 hPa (0 … 40°C)	
Wind direction	Principle	Ultrasonic	
	Measuring range	0 … 359.9 °	
	Accuracy	< 3 ° RMSE >1.0 m/s	
Wind speed	Principle	Ultrasonic	
	Measuring range	0 … 75 m/s	
	Accuracy	± 0.3 m/s or 3 % (0 … 35 m/s) RMS of reading, whichever is greater ± 5 % (>35 m/s) RMS	
General information	Heating	20 VA at 24 VDC	
	Protection type housing	IP66	
	Interface	RS485, 2-wire, half-duplex	
	Operating power consumption	12-24 VDC ± 10%	
	Operating humidity range	0 … 100 %	
	Operating temperature range	-40 … 80 °C	
	Response time	< 5 s	
	Zero offset A	< 7 W/m²	
	Zero offset B	< 2 W/m²	
	Directional error (at 1000 W/m²)	< 0,2%	
	Temperature dependence of sensitivity	< 1% (-10 °C...40 °C)	
Accessories	see WS family members		

KIPP & ZONEN SINCE 1830

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WS310 Technical Data as WS510 without wind sensor