Lufft WS301-UMB – Temperature, Relative Humidity, Radiation, Air Pressure

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
- Solar radiation
- 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 CMP3 is integrated.

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 WS301-UMB Smart Weather Sensor			Order No.
WS301-UMB			8374.U01
Technical Data	Dimensions	Ø approx. 150 mm, height 268 mm	
	Weight	Approx. 1.3 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)	< 1%	
	Directional error (at 80° with 1,000 W/m²)	< 20 W/m²	
	Temperature dependent of sensitivity	< 5% (–10 bis +40 ° C)	
	Tilt error (at 1000 W/m²)	< 1%	
	Spectral range	300 to 2,800 nm	
	Measuring range	2000 W/m²	
Air pressure	Principle	MEMS Capacitive	
	Measuring range	300…1200 hPa	
	Accuracy	± 0.5 hPa (0 … +40°C)	
General Information	Protection type housing	IP66	
	Interface	RS485, 2-wire, half-duplex	
	Op. power consumption	4...32 VDC	
	Operating humidity range	0…100 %	
	Op. temperature range	–50…60 °C	
Accessories	Surge protection		8379.USP
	Power supply 24 V/4 A		8366.USV1
	UMB Interface converter ISOCON-UMB		8160.UISO
	Digital-analog-converter DACON8-UMB		8160.UDAC
	Temperature Sensor WT1		8160.WT1
	Road Surface Temperature Sensor WST1		8160.WST1
	Rain Sensor WTB100		8353.10
	Connection cable, 20m		8370.UKAB20

KIPP & ZONEN
SINCE 1830

Aspirated temperature/humidity measurement

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

Third-Party-Rain gauge sensors are compatible: 0.1mm, 0.2mm, 0.5mm, 1mm heated and unheated.