

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 protocols:
UMB-Binary, UMB-ASCII, SDI-12, MODBUS

One external temperature or rain sensor is connectable.



Aspirated temperature/humidity measurement

Open communication protocol:

- UMB-ASCII
- UMB-Binary
- SDI-12
- MODBUS
- Analogue outputs in combination with 8160.UDAC

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

Lufft WS301-UMB Smart Weather Sensor			Order No.
WS301-UMB			8374.U01
Technical data	Dimensions	Ø approx. 150mm, height 268mm	
	Weight	approx. 1.3kg	
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 1,000W/m²)	< 20W/m²	
	Temperature dependent of sensitivity	< 5% (-10 bis 40 °C)	
	Tilt error (at 1000W/m²)	< 1%	
	Spectral range (50% points)	300 to 2,800nm	
Air pressure	Measuring range	1400W/ m²	
	Principle	MEMS Capacitive	
	Measuring range	300 ... 1200hPa	
General Information	Accuracy	±0.5 hPa (0 ... 40°C)	
	Protection type housing	IP66	
	Interface	RS485, 2-wire, half-duplex	
	Op. power consumption	4...32 VDC	
	Operating humidity range	0 ... 100 %	
Accessories	Op. temperature range	-50 ... 60 °C	
	Surge protection		8379.USP
	Power supply 24V/4A		8366.USV1
	UMB interface converter ISOCON-UMB		8160.UISO
	Digital-analog-converter DAICON8-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	

