

# 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.**

Lufft WS301-UMB Smart Weather Sensor			Order No.
<b>WS301-UMB</b>			<b>8374.U01</b>
<b>Technical Data</b>	Dimensions	Ø approx. 150mm, height 268mm	
	Weight	Approx. 1.3kg	
<b>Temperature</b>	Principle	NTC	
	Measuring range	-50... 60 °C	
	Accuracy	± 0.2 °C (-20 °C... +50 °C), otherwise ± 0.5 °C (> -30 °C)	
<b>Relative humidity</b>	Principle	Capacitive	
	Measuring range	0... 100 % RH	
	Accuracy	± 2 % RH	
<b>Radiation</b>	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	300 to 2,800nm	
<b>Air pressure</b>	Measuring range	2000W/m²	
	Principle	MEMS Capacitive	
	Measuring range	300... 1200hPa	
<b>General Information</b>	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 %	
<b>Accessories</b>	Op. temperature range	-50... 60 °C	
	Surge protection		<b>8379.USP</b>
	Power supply 24V/4A		<b>8366.USV1</b>
	UMB Interface converter ISOCON-UMB		<b>8160.UISO</b>
	Digital-analog-converter DAICON8-UMB		<b>8160.UDAC</b>
	Temperature Sensor WT1		<b>8160.WT1</b>
	Road Surface Temperature Sensor WST1		<b>8160.WST1</b>
	Rain Sensor WTB100		<b>8353.10</b>
	Connection cable, 20m		<b>8370.UKAB20</b>



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: 0.1mm, 0.2mm, 0.5mm, 1mm heated and unheated.

