

# Lufft WS401-UMB – Temperature, Relative Humidity, Precipitation, 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
- Precipitation
- Air pressure

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

Optionally, the WS401-UMB can be equipped with a leaf wetness sensor in addition.

Precipitation is measured by tipping spoon and tipping bucket processes. The flexible tipping bucket allows a 0.2mm or a 0.5mm resolution of the rainfall.

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

**One external temperature sensor is connectable.**

Lufft WS401-UMB Smart Weather Sensor			Order No.
<b>WS401-UMB</b>			<b>8377.U01</b>
<b>Technical Data</b>	Dimensions	Ø approx. 150 mm, height approx. 380 mm	
	Weight	Approx. 1.5 kg	
<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>Precipitation</b>	Resolution	0.2 mm / 0.5 mm	
	Accuracy	± 2 %	
<b>Air pressure</b>	Principle	MEMS Capacitive	
	Measuring range	300 ... 1200 hPa	
	Accuracy	± 0.5 hPa (0...+40°C)	
<b>General Information</b>	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	
<b>Accessories</b>	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 DACON8-UMB		<b>8160.UDAC</b>
	Leaf wetness sensor WLW100		<b>8358.10</b>
	Temperature Sensor WT1		<b>8160.WT1</b>
	Road Surface Temperature Sensor WST1		<b>8160.WST1</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

