

# Lufft WS400-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 intensity
- Precipitation type
- Precipitation quantity
- Air pressure

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

Precipitation is measured by a 24 GHz Doppler radar, which measures the drop speed of an individual drop of rain/snow.

Precipitation quantity and intensity are calculated from the correlation between drop size and speed.

The difference in drop speed determines the type of precipitation (rain/snow). Maintenance-free measurement offers a major advantage over the common tipping spoon and tipping bucket processes.

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

**One external temperature sensor is connectable.**

Lufft WS400-UMB Smart Weather Sensor			Order No.
<b>WS400-UMB</b> EU, USA, Canada			<b>8369.U01</b>
<b>WS400-UMB</b> UK			<b>8369.U02</b>
<b>Technical Data</b>	Dimensions	Ø approx. 150mm, height approx. 280mm	
	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>Precipitation intensity</b>	Resolution	0.1mm/h	
<b>Precipitation quantity</b>	Resolution	0.01mm	
	Measuring range	Measuring range drop size 0.3...5mm	
	Reproducibility	Typ. >90%	
<b>Precipitation type</b>	Rain/snow		
<b>Air pressure</b>	Principle	MEMS Capacitive	
	Measuring range	300...1200hPa	
	Accuracy	±0.5hPa (0...+40°C)	
<b>General Information</b>	Heating	20VA at 24VDC	
	Protection type housing	IP66	
	Interface	RS485, 2-wire, half-duplex	
	Op. power consumption	4...32VDC	
	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>
	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

Maintenance-free operation

Open communication protocol:

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