

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.

Aspirated temperature/humidity measurement

Maintenance-free operation

Open communication protocol:

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

Lufft WS400-UMB Smart Weather Sensor			Order No.
WS400-UMB EU, USA, Canada			8369.U01
WS400-UMB UK			8369.U02
Technical Data	Dimensions	Ø approx. 150mm, height approx. 280mm	
	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	
Precipitation quantity	Resolution	0.01 mm	
	Measuring range	Measuring range drop size 0.3 ... 5 mm	
	Reproducibility	typ. >90 %	
Precipitation type	Rain/snow		
Air pressure	Principle	MEMS Capacitive	
	Measuring range	300 ... 1200 hPa	
	Accuracy	± 0.5 hPa (0...+40°C)	
	Heating	20VA at 24VDC	
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	
Power supply 24V/4A			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
Connection cable, 20m			8370.UKAB20

