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

One external temperature sensor is connectable.

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. 150 mm, height approx. 280 mm	
	Weight	approx. 1.3 kg	
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)	
General Information	Heating	20 VA at 24 VDC	
	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		**8379.USP**
	Power supply 24 V/4 A		**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**

Aspirated temperature/humidity measurement

Maintenance-free operation

Open communication protocol:
- UMB-ASCII
- UMB-Binary
- SDI-12
- MODBUS
- Analoge outputs in combination with 8160.UDAC