



**Precipitation Measurement**  
Fast responding radar precipitation  
sensor and disdrometer for  
measuring type of precipitation

## Lufft WS100

### Radar Precipitation Sensor and Smart Disdrometer

The Lufft WS100 rain sensor utilizes new a radar measurement technique providing maintenance free precipitation accumulation, intensity, and drop size measurements. The sensors fast response rate detects precipitation from the first drop. Making this sensor ideal for immediate detection of a precipitation event and highly suitable for urban hydrology and dense precipitation networks

# Meteorology



# WS100 - A new maintenance-free radar precipitation sensor

For immediate measurement of rain intensity, accumulation, and type of liquid or solid precipitation type, across light to heavy precipitation events.

## Feature / Benefits

- New radar measurement technique for hydromet applications - eliminating on-site maintenance requirements
- Detect the first drop with the fast response time
- Measure more parameters including intensity, accumulation and type of precipitation
- Distinguishes between 11 drop size classes
- Easily integrate with new or existing measurement stations via SDI-12

## Applications

- Precipitation event detection
- Urban hydrology
- Dense precipitation networks

## Pair with

- OTT Pluvio<sup>2</sup> WMO compliant „reference“ gauge
- OTT and Sutron logging transmitters for IP, Mobile, or Satellite communication
- Hydromet Cloud - SaaS for anytime, anywhere data visualization, alarming, and data management

## Sensor technology

- 24 GHz Doppler Radar, Radar reflection method



100% Maintenance-free thanks to the smart measurement principle, no moving parts and a fully closed housing design!



Differentiation of rain, snow, sleet, freezing rain and hail with the WS100 precipitation type detection

## Technical Data

### Sensor Technology

Rain, snow, sleet, freezing rain, hail; No precipitation (SYNOP 4677)

### Measurement surface

3.5433071 in (9 cm<sup>2</sup>)

### Droplet size

0.012...0.20 in  
(0.3...5.0 mm)

### DSD

11 drop size classes with bandwidth of 0.02 in (0.5 mm)

### Precipitation intensity

0...7.87 inch/h / 0.01...200 mm/h

### Particle velocity

0.9...15.5 m/s

### Solid precipitation

0.20... ~1.18 in (5.1...~30 mm)

### Accuracy

±10 %\*

### Resolution liquid precipitation

0.0004/ 0.004/ 0.008/ 0.02/ 0.04 in  
(0.01 / 0.1 / 0.2 / 0.5 / 1.0 mm (pulse interface))

### Interfaces/ protocols

RS-485 semi-duplex two-wire, SDI-12, pulse interface / UMB protocol, Modbus

### (Pluggable) cable length

32.8 ft (10 m)

### Power supply

10...28 VDC

### Power consumption without heating

1 VA / 0.4 VA (low power mode)

### Heating power

9 VA

### Operat. temp. range

-40...140 °F (-40...60 °C)

### Operat. humidity range

0...100 %

### Protection class

IP66

### Survival wind speed

75 m/s (246 fps)

### Dimensions

5.9 in (Ø150 mm), height: 7.48 in (190 mm)

### Weight

~21.16438 ounce (~0.6 kg)

### Accessories

UMB interface converter ISOCON-UMB

Power supply 24V/4A

Surge protection

Surge protection

Connection cable, 65.6 ft (20m)

\* Under laboratory conditions by means of Lufft test system: Reference drop simulator with 2.8 mm drop diameter and adjustable intensity between 10 and 200 mm/h.