Lufft WS100 - Radar Precipitation Sensor and Smart Disdrometer

Radar reflection method to measure velocity on hydrometeors by 24-GHz-Doppler radar.

Correlation and determination of drop size classes to provide DSD matrix in 11 classes.

Drop Size distribution matrix to calculate intensity of precipitation and to determine type of precipitation according fundamental meteorological relationships (Gunn-Kinzer and Hobbs and Locatelli).

Multiple and simultaneous interfaces for data output and communication.

Lufft WS100 Precipitation sensor			Order No.
Product variants	***WS100-UMB*** EU		**8367.U03**
	WS100-UMB USA, Canada		**8367.U04**
Technical data	Dimensions	Ø150 mm (5.9 in), height: 190 mm (7.48 in)	
	Weight	~0.6 kg	
Electrical parameters	Power supply	10...28 VDC	
	Power consumption without heating	1 VA / 0.4 VA (low power mode)	
	Heating power	9 VA	
Operating parameters	Operat. temp. range	-40...60 °C	
	Operat. humidity range	0...100 %	
	Protection class	IP66	
	Survival wind speed	75 m/s	
Data transfer	Interfaces/ protocols	RS-485 semi-duplex two-wire, SDI-12, pulse interface / UMB protocol, Modbus	
	(Pluggable) cable length	10 m	
	Transmission frequency	24 GHz	
Precipitation	Measurement surface	9 cm²	
	Precipitation types	Rain, snow, sleet, freezing rain, hail; No precipitation (SYNOP 4677)	
	Principle	Doppler radar	
	Accuracy	±10 %*	
	Resolution liquid precipitation	0.01 / 0 .1 / 0.2 / 0.5 / 1.0 mm (pulse interface)	
Measurement ranges	Droplet size	0.3...5.0 mm	
	DSD	11 drop size classes with bandwidth of 0.5 mm	
	Precipitation intensity	0.01...200 mm/h / 0...7.874 inch/h	
	Particle velocity	0.9...15.5 m/s	
	Solid precipitation	5.1...~30 mm	
Accessories	UMB interface converter ISOCON-UMB		**8160.UISO**
	Power supply 24V/4A		**8366.USV1**
	Surge protection		**8379.USP**
	Connection cable, 20m		**8370.UKAB20**

** 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.*

- Maintenance-free
- Fast response time
- Resolution of 0.01 mm
- Heated

Subject to technical modifications