

SERIES LINE: J-SERIES WEATHER SENSORS

TYPE: ALL-IN-ONE, COMPACT, SMART

CATEGORY: WEATHER & ENVIRONMENTAL

ALL-IN-ONE

WS300-J All-in-One Weather Sensor

Measure More. Maintain Less.

Air Temperature, Air Pressure, and Humidity Monitoring

The professional Lufft WS-J Series of Compact Weather Sensors, builds on the previous WS-UMB weather sensor reputation for consistent, long-lasting performance in all weather situations. With the WS300-J you gain improved accuracy at higher output rates as well improved feature sets in measured parameter, connectivity, and housekeeping functions. Achieved by implementing a new processor generation for higher sampling rates and a redesigned temperature stabilized A/D conversion.



METEOROLOGICAL OBSERVATION

AIR QUALITY

SOLAR ENERGY

ROAD WEATHER

AGMET

KEY BENEFITS

1. Focused Atmospheric Measurements

The WS300-J delivers accurate air temperature, air pressure and relative humidity data with output rates of 5s. An external tipping bucket or surface/ module temperature sensor can be connected. Its streamlined design provides the essential measurements needed for climatological monitoring, forecasting, and environmental observations

2. Reduced Risk, Improved Self-Diagnostics

The WS-J's incorporates improved house-keeping functions, live heating-voltage monitoring, and automatic self-diagnostics to catch a failing component before it corrupts the rest of the instrument and finally your decision making data set.

3. Flexible Integration into Existing Networks

The WS300-J is a perfect match when a low power device is required and when air temperature & humidity must be measured at 2 m height, while wind with a WS200-J measured at 10 m height.

The new aspirated radiation solution ensures lifetime performance and the single sensor. One station, one data stream, and seamless integration into established monitoring networks.

4. One Platform Across Networks

The J-Series is a drop-in replacement for legacy WS units, sharing size, weight, mounting, cable connections, available protocol formats and interfaces, and software across the platform. One calibration reference, one spare pool, one standard.

SUPPORTS EXTERNAL
SENSOR CONNECTIVITY

READ/ WRITE: UMB,
MODBUS RTU, NMEA
SDI-12 1.4, ASCII

UPGRADED ADC
HARDWARE

EXPERIENCE 20+ WS
SENSORS MADE BY LUFFT

Technical Specifications

PRODUCT MODEL: WS300-J

01 – GENERAL

Article number Europe	J8372.1
Dimensions	Ø150 × 223 mm
Weight	840 g
Communication Interface	Non-isolated RS485; SDI-12

02- ELECTRICAL

Power supply operational range	4 to 28 V DC
Power supply best performance heater, fan for aspirated mode	Below 24 V DC
Current consumption heater	-
Current consumption normal 12v	65 mA
Current consumption normal 24v	75 mA
Current consumption power safe mode 1 at 12v	12 mA
Current consumption power safe mode 1 at 24v	6 mA

03 – TEMPERATURE

Measuring range	-50 to +60 degC
Unit	degC; degF
Accuracy	+/-0.2 degC
Resolution	0.1 deg C

04 - RELATIVE HUMIDITY

Measuring range	0 to 100 % RH
Unit	% RH; g/m ³
Accuracy	+/-2 % RH
Resolution	0.1 % RH

05 - AIR PRESSURE

Measuring range	300 to 1200 hPa
Unit	hPa
Accuracy	+/-0.5 hPa (0 to +40 degC)
Resolution	0.1 hPa

06 - EXTERNAL TEMPERATURE

Measuring range	-40 to +80 degC
Accuracy	+/-1 degC; WST1 +/-0.3 degC from -10 to +10 degC

12 MODELS & 15 DERIVATIVES

J-Series Overview

MODELS WS200-J - WS800-J

PARAMETER	WS200-J	WS300-J	WS400-J	WS401-J	WS500-J	WS501-J	WS502-J	WS510-J	WS600-J*	WS601-J*	WS700-J*	WS800-J*
WIND												
Speed	✓	—	—	—	✓	✓	✓	✓	✓	✓	✓	✓
Direction	✓	—	—	—	✓	✓	✓	✓	✓	✓	✓	✓
Gust (WMO-Compliant 3-Sec)	✓	—	—	—	✓	✓	✓	✓	✓	✓	✓	✓
TEMPERATURE & HUMIDITY												
Temperature	—	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Relative Humidity	—	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Barometric Pressure	—	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PRECIPITATION												
Measuring Principle	—	—	radar	gauge	—	—	—	—	radar	gauge	radar	radar
Quantity	—	—	✓	✓	—	—	—	—	—	✓	✓	✓
Type	—	—	✓	—	—	—	—	—	✓	—	✓	✓
Intensity	—	—	✓	✓	—	—	—	—	✓	✓	✓	✓
Doppler Radar Precipitation Technology	—	—	✓	—	—	—	—	—	✓	—	✓	✓
Tipping Bucket Precipitation Technology	—	—	—	✓	—	—	—	—	—	✓	—	—
SOLAR RADIATION												
Silicon Photocell	—	—	—	—	—	—	—	—	✓	✓	✓	✓
Thermopile	—	—	—	—	—	✓	—	✓	—	—	—	—
LIGHTNING												
Strike Count	—	—	—	—	—	—	—	—	—	—	—	✓
INTERFACE												
External Precipitation input	✓	✓	—	—	✓	✓	✓	✓	—	—	—	—
Temperature Sensor input (PT1000 connection)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

✓ Parameter supported on this model

— Not available on this model

* WS600-J, WS700-J, and WS800-J include North America (NA) regional variant



J-SERIES MANUAL