

SMART WEATHER SENSORS

The WS J-Series

The proven WS platform, upgraded

SIX BENEFITS TO THE J-SERIES

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|---|---------------------------------------|---|
| 1 | IEC compliance built in | Full IEC 61724-1:2021 compliance for the met parameters, supporting Class A monitoring system classification. WMO compliant wind gust, and WMO Synop 4680 wawa present weather codes on the radar precipitation models. |
| 2 | Heating you can verify | The station measures and reports its own heating supply voltage, so a failing or under-powered heater is visible rather than hidden. Heating powers down automatically on over-voltage. |
| 3 | Twelve times faster | The update interval comes down from 1 minute to 5 seconds. Tracker stow, winter treatment calls and control actions are taken on conditions as they are, not on a minute-old average. |
| 4 | SDI-12, Modbus, UMB-ASCII2 | SDI-12 moves to read and write, with the buffer assignment unified across subtypes. Modbus provides both old and new registers, reading the most important values at once with access to all UMB channels. UMB-ASCII2 is new for the range. |
| 5 | Better pyranometer integration | Improved ADC hardware for Kipp & Zonen CMP pyranometer integration on the WS501-J and WS510-J. |
| 6 | Wind direction offset | Apply a software offset to wind direction to correct for deliberate sensor misalignment at installation, where the mounting position is fixed by the structure rather than by north. |

What changes, and what does not

WHAT STAYS EXACTLY THE SAME

Mounting, wiring and the 8-pole connector

Integration over UMB, SDI-12 and MODBUS

The parameter set of every model

Accuracy specifications across the range

IP66 rating and the -50 to $+60$ °C operating range

WHAT IS NEW IN THE J-SERIES

The item number gains a J suffix

Standards compliance is built in

Heating supply voltage is measured and reported

The update interval falls to 5 seconds

SDI-12 becomes read and write

Wind direction offset is available in software

Models overview

12
MODELS

15
DERIVATES

	WS200-J	WS300-J	WS400-J	WS401-J	WS500-J	WS501-J	WS502-J	WS510-J	WS600-J	WS601-J	WS700-J	WS800-J
CAPABILITY									+ -NA		+ -NA	+ -NA
MEASUREMENTS												
Wind speed & direction Gust, WMO compliant	●	—	—	—	●	●	●	●	●	●	●	●
Temperature & relative humidity	—	●	●	●	●	●	●	●	●	●	●	●
Barometric pressure	—	●	●	●	●	●	●	●	●	●	●	●
Precipitation Quantity & intensity	—	—	Radar	Gauge	—	—	—	—	Radar	Gauge	Radar	Radar
Precipitation type	—	—	●	—	—	—	—	—	●	—	●	●
Solar radiation Pyranometer type	—	—	—	—	—	CMP3 Class C	Lufft Si-Pyr.	CMP10 Class A	—	—	Lufft Si-Pyr.	Lufft Si-Pyr.
Lightning	—	—	—	—	—	—	—	—	—	—	—	●
INPUTS & MODES												
External precipitation input	●	●	—	—	●	●	●	●	—	—	—	—
Temperature sensor input PT1000 connection	●	●	●	●	●	●	●	●	●	●	●	●
Power save 1	●	●	●	●	●	●	●	●	●	●	●	●
Power save 2	●	●	—	●	●	●	●	●	—	●	—	—

**The proven WS platform,
upgraded.**

WS to WS J-Series spec comparison

MODEL EQUIVALENCY	Every model gains a J suffix and keeps its parameter set: WS200-J, WS300-J, WS400-J, WS401-J, WS500-J, WS501-J, WS502-J, WS510-J, WS600-J, WS601-J, WS700-J, WS800-J. Order numbers gain a J prefix, so 8371.1 becomes J8371.1. The NA radar variants follow the same rule, so WS600-NA becomes WS600-J-NA, and likewise WS700-J-NA and WS800-J-NA. WS100, WS301, WS302, WS310 and WS400-NA are not part of this transition.
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What changes

SPECIFICATION	LEGACY WS	WS J-SERIES	APPLIES TO
IEC 61724-1:2021	Not stated	Full compliance for the met parameters, supporting Class A monitoring system classification	All models
Wind gust	Peak gust calculated from 1 second values	WMO compliant wind gust reporting	Models with wind
Present weather	Precipitation type reported	WMO Synop 4680 wawa codes 00, 40, 61, 62, 63, 67, 68, 71, 72 and 73	Radar precipitation models
Heating supply voltage	Not reported by the device	Measured and reported by the device	Heated models
Heating protection	Not stated	Hardware and software over-temperature cut-out	Heated models
Update interval	1 minute	5 seconds	All models
Wind direction offset	Not available	User applied offset, set in software	Models with wind
Pyranometer integration	Existing ADC hardware	Improved ADC hardware for K&Z CMP pyranometer integration	WS501-J, WS510-J
Supply voltage	4 to 30 V DC	4 to 28 V DC	All models
Protocol options	UMB-ASCII, Terminal mode	UMB-ASCII 2.0 added, Terminal mode withdrawn	All models

10 DIFFERENCES

What does not change

Every figure below carries over from the legacy WS model to its J equivalent.

AIR TEMPERATURE	HUMIDITY
-50 to +60 °C, ±0.2 °C	0 to 100 % RH, ±2 % RH
AIR PRESSURE	WIND SPEED
300 to 1200 hPa, ±0.5 hPa	0 to 75 m/s, (±3 % <35m/s ±5 % >35m/s)
WIND DIRECTION	COMPASS
0 to 359.9°, less than 3° RMSE	0 to 359.9°, ±10°
RADAR PRECIPITATION	RAIN GAUGE
0.3 to 5.0 mm drop size, 0.01 mm	0.2 mm or 0.5 mm, 2 % accuracy
GLOBAL RADIATION	ENVIRONMENT
TP-Pyr: 0 to 2000 W/m², under 1 W/m²	IP66, -50 to +60 °C operating
MECHANICAL	PROTOCOLS
Mast 60 to 76 mm, 8 pole connector	UMB, SDI-12, MODBUS, NMEA / XDR

DROP-IN REPLACEMENT

The J-Series is a drop-in replacement for the WS model it succeeds.
Mounting, wiring, integration and pricing are unchanged.

NOT INCLUDED

WS100, WS301, WS302,
WS310, WS400-NA

