

UBIQ^{IoT}

PRODUCT CATALOGUE
2021



LORAWAN WEATHER STATION



Derived from the DAVIS Vantage Pro 2 model, the UBIQ-IoT LoRaWAN Weather Station WS100LRW is designed to provide the highest level of accuracy, reliability and ruggedness. It is engineered to withstand the most challenging weather conditions such as scorching sun, corrosion, strong winds and temperature extremes.

It measures air temperature and relative humidity, rainfall, wind speed and direction.

The LoRaWAN transmission technology allows to cover long range distances, providing stable and reliable readings. The weather station

connects over a private LoRaWAN network and transmits sensor data to a LoRaWAN Gateway.

The low energy consumption allows for battery duration of at least two years.

TECHNICAL SPECIFICATIONS

GENERAL

Trasmission	LoRaWan
Frequency	AS923 (channel plan AS923) AU915 (channel plan AU915-928) EU868 (channel plan EU863-870) US915 (channel plan US902-928)
Range	Node range: Up to 10 km
MCU	Espressif ESP32 chipset
Battery type/ duration	Lithium Thionyl Chloride (Li-SOCl ₂)/ 1 year

SENSORS

Variable	Resolution	Range	Accuracy (+/-)
Wind Speed	1 Km/h	from 0 to 241 km/h	3 Km/h o 5%
Wind Direction	1°	from 0° to 359°	3°
Outside Temperature	0,1°C	from -40° to + 65°C	0,5°C
Outside Humidity	1.00%	from 0% to 100%	3% (4% if above 90%)
Rain Intensity	0,2 mm/h	up to 1016 mm/h	5% up to 127 mm/h
Solar Radiation	1 W/mq	from 0 to 1800 W/mq	5.00%

LORAWAN SENSOR NODE



The exclusive UBIQ LoRaWAN sensor node can be used to deploy sensors in the field. Soil moisture content, air humidity and temperature sensors can equip the LoRaWAN sensor node. The node can host up to 5 sensors, 4 with mini jack 3.5mm connectors for soil moisture and 1 with a RJ11 connector for air humidity and temperature.

The nodes connect over a private LoRaWAN network and transmit the data to a LoRaWAN Gateway. The nodes are powered with long-life batteries and the low energy consumption allow the batteries to run 1 year.

UBIQ SN-100 LRW is a LoRaWAN compliant sensor node capable to manage up to four METER 10HS soil moisture probes and one Davis DW-6830 air humidity and temperature sensor.



TECHNICAL SPECIFICATIONS SENSOR NODE

Transmission	LoRaWan
Frequency	AS923 (channel plan AS923) AU915 (channel plan AU915-928) EU868 (channel plan EU863-870) US915 (channel plan US902-928)
Range	Node range: Up to 10 km
MCU	Espressif ESP32 chipset
Battery type/ duration	Lithium Thionyl Chloride (Li-SOCl ₂)/ 1 year

SOIL MOISTURE PROBE (METER GROUP ECH₂O 10HS)

Volumetric water content (VWC)	Range: 0–0.57 m ³ /m ³ (0%–57% VWC) Resolution: 0.0008 m ³ /m ³ (0.08% VWC) in mineral soils from 0–0.50 m ³ /m ³ (0%–50% VWC) Accuracy: With standard calibration equation, 0.03 m ³ /m ³ (3% VWC) typical in mineral soils that have solution electrical conductivity <10 dS/m <i>NOTE: With soil-specific calibration, ±0.02 m³/m³ (±2% VWC) is</i>
--------------------------------	---

AIR HUMIDITY & TEMPERATURE (DAVIS DW-6830)

Operating Temperature	Resolution	Range	Accuracy (+/-)
Outside temperature	0,1°C	from -40° to + 65°C	0,5°C
Outside humidity	1.00%	from 0% to 100%	3% (4% if above 90%)