

packetSENSE Automated Weather Station

The **packetSENSE Automated Weather Station** is a high-performance, LoRaWAN®-enabled device designed for accurate and reliable weather monitoring. Equipped with six (6) integrated sensors, it provides precise measurement, recording, and transmission of real-time environmental data across various applications.

Data is transmitted through LoRaWAN® connectivity, with optional satellite communication support to maintain operation even in remote or off-grid areas. Compact yet durable, the system is built to withstand extreme weather conditions, delivering long-term reliability with minimal maintenance.

Features

- **Low-maintenance** — all sensors have no moving parts.
- **Multi-parameter sensing:** temperature, humidity, rainfall, wind speed/direction, barometric pressure.
- **Long-life battery** with up to 4,000 charge cycles.
- **Remote data access** via secure online platforms.
- **Interoperable data format** for easy system integration.

Applications

- **Weather and Environmental Monitoring**
- **Disaster Risk Reduction and Management**
- **Public Health and Safety Programs**
- **Environmental and Climate Research**
- **Smart City and Urban Planning Initiatives**

Technical Specification

Wireless Communication Supported

Technology	LoRaWAN®
Frequency Band	AS923-3 (915 MHz to 918 MHz)
Transmit Power	+22 dBm
Class	Class A
Range	up to 15 km ^[1]

Power Configuration

Power Source	15 W, 1 A Solar Panel and Backup Battery
Battery Type	ICR18650/26V
Battery Voltage	3.6 V
Battery Capacity	2 × 2550 mAh

Sensor Performance

Temperature

Operating Principle	Thermistor
Range	-40 °C to +85 °C
Accuracy	±0.3 °C
Resolution	0.1 °C

Humidity

Operating Principle	Capacitive
Range	0% RH to 100% RH
Accuracy	±3% RH
Resolution	0.5% RH

Wind Direction

Operating Principle	Ultrasonic
Range	0° to 360°
Accuracy	±3.0°
Resolution	0.1°

Note

[1] Wireless transmission up to the line of sight of 15 km in rural areas

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Ortigas, Pasig City, 1605, Philippines

Wind Speed

Operating Principle	Ultrasonic
Range	0 m/s to 60 m/s (0 km/h to 216 km/h)
Accuracy	±3% of reading
Resolution	0.1 m/s (0.36 km/h)

Barometric Pressure

Operating Principle	Piezoresistive Absolute Pressure
Range	500 hPa to 1100 hPa
Accuracy	±0.5 hPa
Resolution	0.1 hPa

Rainfall

Operating Principle	Piezoelectric
Range	0 mm to 1000 mm
Accuracy	±5% of reading
Resolution	0.1 mm

General Specifications

Operating Temperature	Sensor: -40 °C to +85 °C Transceiver: -20 °C to +60 °C
Relative Humidity	0% RH to 100% RH (non-condensing)
Ingress Protection	Sensor: IP65 Transceiver: IP67
Enclosure Material	Sensor: Aluminium Alloy
Dimensions	Sensor: Ø160 mm × 263 mm × Ø73 mm Transceiver: 116 mm × 116 mm × 45.5 mm
Mounting/Installation	Sensor and Solar Panel: Pole Mounting Transceiver: Screw Mounting

Approvals

Regulatory	CE
Environmental	RoHS

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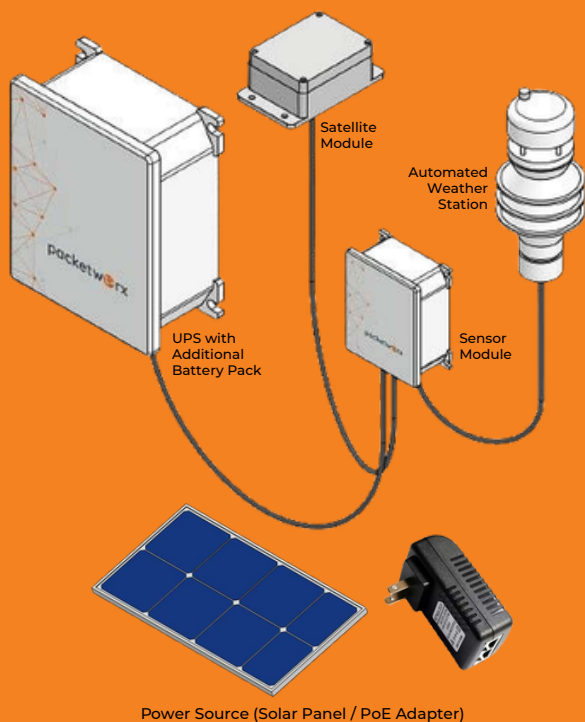
Approvals

Regulatory	CE, FCC, ICASA, ISSED, Telec
Environmental	RoHC

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Power Source (Solar Panel / PoE Adapter)

WindSpeed

Operating Principle	Ultrasonic
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Resolution	0.1 m/s

Barometric Pressure Sensor

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