

## IOT-S500WS5

Solar Powered LoRaWAN Wireless Weather Station for Temperature, humidity, wind speed, wind direction, barometric pressure



IoT Weather Station (IOT-S500WS5) is an all-in-one LoRaWAN® weather monitoring system for various atmospheric conditions, such as temperature, humidity, wind speed, wind direction, barometric and pressure. Consisting of 3 main parts, S500 Sensors, S500 Hub and solar panel, IoT Weather Station is designed to withstand the most challenging weather conditions and is easy to install in different scenarios to be widely used in meteorology, smart agriculture, smart building, etc.

Sensor data is transmitted using LoRaWAN® technology. Compliant with Linovision LoRaWAN® gateway and Linovision IoT Cloud solution, users can manage all sensor data and trigger other sensors or appliances easily via webpage or mobile App remotely.

### Outstanding Features

- Integrated with multiple sensors like humidity, temperature, barometric pressure, wind speed, wind direction, etc.
- Waterproof, UV-proof and salt spray resistant enclosure for outdoor harsh environment applications
- High power solar powered with chargeable batteries backup
- Store locally more than 19, 000 historical records and support retransmission to ensure no data miss
- Easy to carry and install
- Ultra-wide-distance wireless transmission up to the line of sight of 15 km in rural areas
- Equipped with NFC for easy and quick configuration
- Compliant with standard LoRaWAN® gateways and network servers
- Quick and easy management with Linovision IoT Cloud

## Specification

### S500 Sensors

Temperature	
Operating Principle	Thermistor
Range	-40°C - 85°C
Accuracy	±0.3°C
Resolution	0.1°C
Humidity	
Operating Principle	Capacitive humidity sensor
Range	0% -100% RH
Accuracy	±5% RH
Resolution	0.5% RH
Wind Direction	
Operating Principle	Ultrasonic
Range	0°- 360°
Accuracy	±3°
Resolution	1°
Wind Speed	
Operating Principle	Ultrasonic
Range	0 -60 m/s
Accuracy	±(0.5 + 0.02 V) m/s, V=Speed
Resolution	0.1 m/s
Barometric Pressure	
Operating Principle	Piezoresistive absolute pressure sensor
Range	500- 1100 hPa
Accuracy	±1hPa
Resolution	0.1 hPa
Physical Characteristics	
Material	ABS
Weight	1 kg (2.2 lbs)
Dimension	φ140 x 248 x φ50 mm (φ5.5x 9.8 x φ2.0 in)
Operating Temperature	-40°C to +60°C (-104°F to +140°F)
Relative Humidity	0% - 100% (non-condensing)
Ingress Protection	IP65
Installation	Pole Mounting

### S500 Hub

Wireless Transmission	
Technology	LoRaWAN®
Frequency	CN470/RU864/IN865/EU868/US915/AU915/KR920/AS923-1&2&3&4
Max Tx Power	16dBm(868MHz)/22dBm(915MHz)/19dBm(470MHz)
Sensitivity	-137dBm @300bps
Work Mode	OTAA/ABP Class A
Operation	
Power On & Off	Mobile App (via NFC), PC Software(via USB Type-C), Power Button (Internal)
Configuration	Mobile App (via NFC) or PC software(via USB Type-C)
Physical Characteristics	
Power Supply	Solar powered(15 W, 1A)with 2 ×2550 mAh chargeable batteries backup
Operating Temperature	-20°C to+60°C (-68°F to +140°F)
Relative Humidity	0% to 95% (non-condensing)
Ingress Protection	IP67
Dimension	116×116×45.5mm (4.6x4.6x1.8 in)
Installation	Screw Mounting

### Solar Panel

Electrical Characteristics	
Open-Circuit Voltage	18 V (±0.3 V)
Rated Voltage	15 V (±0.3 V)
Rated Current	1 A (±5%)
Maximum Power	±5%)
Minimal Power	14.5 W (±5%)
Physical	
Cell Type	Monocrystalline Silicon
Operating Temperature	-20°C to+80°C
Weight	1 kg (Without Bracket), 2.2 kg (With Bracket)
Dimension	343×283 ×16.5mm