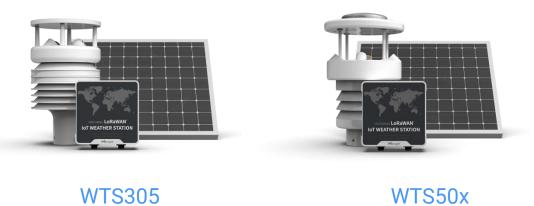


### **♦** Introduction

IoT Weather Station (WTS Series) is an all-in-one LoRaWAN<sup>®</sup> weather monitoring system for various atmospheric conditions, such as temperature, humidity, wind speed, wind direction, barometric pressure and rainfall. Consisting of 3 main parts, WTS Sensors, WTS 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<sup>®</sup> technology. Compliant with Milesight LoRaWAN<sup>®</sup> gateway and Milesight IoT Cloud solution, users can manage all sensor data and trigger other sensors or appliances easily via webpage or mobile App remotely.



#### ◆ Features

- > Integrated with multiple sensors like humidity, temperature, barometric pressure, wind speed, wind direction, rainfall, 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 Milesight IoT Cloud

## Specifications

#### **WTS Sensors**

Model	WTS305	WTS505/WTS506		
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	0% - 100% RH		
Accuracy	± 5% RH	± 3% RH		
Resolution	0.5% RH	0.5% RH		
Wind Direction				
Operating Principle	Ultrasonic			
Range	0° - 360°	0° - 360°		
Accuracy	± 3°	± 3°		
Resolution	1°	0.1°		
Wind Speed				

Operating Principle	Ultrasonic	
Range	0 -60 m/s	0 -60 m/s
Accuracy	± (0.5 + 0.02 V) m/s, V=Speed	± 0.3 m/s or ± 3% (whichever is greater)
Resolution	0.1 m/s	0.1 m/s
<b>Barometric Pressure</b>		
Operating Principle	Piezoresistive absolute pressure sensor	
Range	500 - 1100 hPa	500 - 1100 hPa
Accuracy	±1 hPa	±0.5 hPa
Resolution	0.1 hPa	0.1 hPa
Rainfall (WTS506 Onl	y)	
Operating Principle	<u> </u>	Piezoelectric
Range	<u> </u>	0 - 500 mm
Accuracy	<del>_</del>	±0.5 mm (< 10 mm), ±5 %( >10 mm)
Resolution	<u> </u>	0.01 mm
<b>Physical Characterist</b>	ics	
Material	ABS	Aluminium Alloy
Weight	1 kg	WTS505: 2 kg
		WTS506: 2.15 kg
Dimonoion	ф140 x 248 x ф50 mm	WS505: φ160 x 252 x φ73 mm
Dimension		WS506: φ160 x 263 x φ73 mm
Operating Temperature	-40°C to +60°C	-40°C to +85°C
Relative Humidity	0% - 100% (non-condensing)	
Ingress Protection	IP65	
Installation	Pole Mounting	

# WTS Hub

Wireless Transmission		
Technology	LoRaWAN <sup>®</sup>	
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	
Relative Humidity	0% to 95% (non-condensing)	
Ingress Protection	IP67	
Dimension	116 × 116 × 45.5 mm	
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	15 W (± 5%)	
Minimal Power	14.5 W (± 5%)	
Physical Characteristics		
Cell Type	Monocrystalline Silicon	
Operating Temperature	-20°C to +80°C	
Weight	1 kg (Without Bracket), 2.2 kg (With Bracket)	
Dimension	343 × 283 × 16.5 mm	









