Weather Stations

OpenWeather delivers a fully integrated hardware ecosystem for air-quality and microclimate monitoring, designed for city-scale deployments and long-term research. Our solution combines professional outdoor weather stations with compact indoor microstations, creating a unified monitoring network that balances coverage, accuracy, and granularity.

Outdoor base stations provide high-precision reference measurements, forming the backbone of the network. Indoor microstations extend monitoring directly into homes and buildings, capturing room-level air quality and exposure. By linking both layers through OpenWeather's analytics platform and machine-learning calibration, the system maintains consistent, research-grade data quality across thousands of measurements.

Suitable for every use case

- Energy and utilities
- Authorities
- Agriculture and land management
- Infrastructure, construction and asset management
- Defence
- Logistics and operations
- Transport and road maintenance
- Smart cities
- Retail

OWMS3000-AQ
Super Meteorological Observation Station

A compact all-solid-state super micro weather station that supports the measurement of multiple parameters such as temperature, rainfall, humidity, air pressure, wind speed, wind direction, precipitation, and UV optional rays.

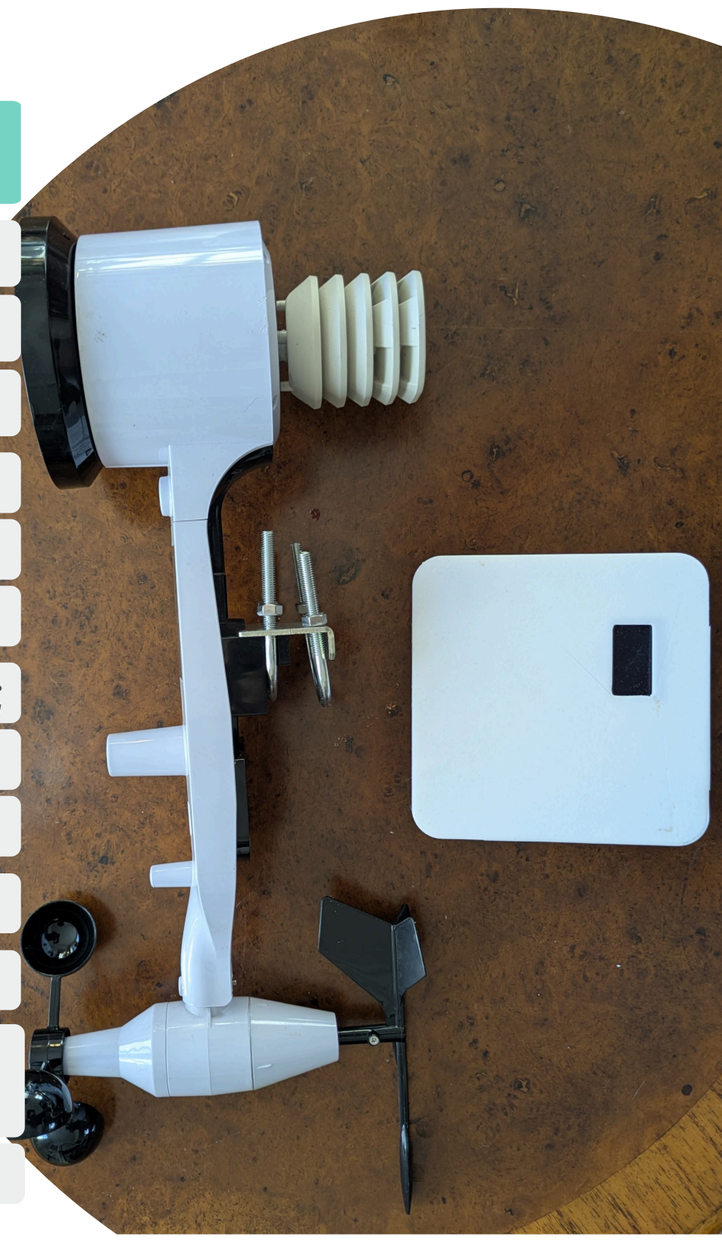
Weather Data

Temperature	Measuring range	-30°C~70°C -40°C~60°C	Humidity	Measuring range	0~100%RH
	Measuring accuracy	±0.3°C, ±0.2°C (5°C~35°C) (Advanced version supports ±0.1°C)		Measuring accuracy	±3%RH(10%RH-90% RH); 5%(90%RH-100%RH)
	Decomposition power	0.1°C		Resolution	±5%
Wind speed	Measuring range	0~50 m/s (advanced version supports 75m/s)	Wind direction	Measuring range	0°-360°
	Measuring accuracy	±0.5m/s(0~15m/s), ±4%(>15m/s)		Measuring accuracy	±2"(not exceeding ±10°); ±4°(exceeding ±10°)
	Resolution	0.1m/s		Decomposition force	1°
Air pressure	Measuring range	300hPa~1100hPa	Rainfall	Measuring accuracy	Better than 10~20% (depending on recipitation intensity)
	Measuring accuracy	±0.3hPa (0°C~50°C), ±0.5hPa (-30°C~0°C) (advanced version supports ±0.2hPa)		Resolution	0.1mm
Pressure resolution		0.1hPa	UV	Measuring accuracy	±1.5UV
				Resolution	0.1UV
*Ambient light dynamic range		128klx	*Ambient light resolution		100mlx

Sensor digital communication interface	RS485/SDI12/TTL UART
Programmable sensor power supply	3.3~12V maximum 1A output current
Configurable digital input/output interface	8 levels, pulse counting/open drain output (maximum drive current 500mA)
Analog input interface	1 4-wire PT100 measurement with excitation/4-wire/3-wire/2-wire resistance measurement/6 single-ended/3 differential inputs, 0~1V/0~10V/ ±2.5V measurement
Wired communication	RS232, RS485, USB Type-C virtual serial port
Wireless communication	BLE, 4G/LoRa
Internal storage capacity	1 million sets of data
External storage interface	SD card, USB external U disk
GNSS positioning and timing	45W×2
Photovoltaic panel power	
Battery specifications	Lithium battery, capacity 30000mAh*3, 12V
Operating hours	It rains continuously for no less than 15 days (the camera function is turned on regularly)
Operating environment	-40°C~85°C, 5%~95%RH (no condensation)
Storage	16384 group
Data interval	60s, 2 seconds to 24 hours optional
Dimension	562mm×598.9mm×1831.7mm
Certification	CE, FCC, VCCI, CTICK

OWS2001
Micro Weather Station - Wind & Rain

A compact and exquisite in shape micro station featured with a robust wind sensor and a new generation of rain gauge suitable for all kinds of harsh environments.



Weather Data

Temperature Metering	Range	-9.9°C to 60°C (14°F to 140°F);
	Accuracy	±1°C(±1.8°F);
	Resolution	0.1°C, or 0.1°F;
Humidity	Range	1%RH to 99%RH;
	Accuracy	±5%RH;
	Resolution	1%RH;
Barometric Pressure Metering	Range	300 to 1100 hPa (8.85 to 32.5 inHg);
	Accuracy	±5hPa;
	Resolution	0.1 hPa (0.01 inHg);
Reading Update Interval:		About 1 minute;
Wind speed Metering Range:		0 to 50 m/s;
RF	Connection Frequency:	920/915/868/433MHz (depending on local regulations);
	Wireless Range:	Over 100 meters (in open areas);

OWS2000
Micro Weather Station

A compact all-solid-state micro-weather station that supports measurement of multiple parameters including temperature, humidity, air pressure, wind speed, wind direction and precipitation.

Weather Data

Wind Speed	Range	0m/s to 40m/s;
	Accuracy	<10m/s, ±0.5m/s;
	Resolution	0.1m/s;
Wind Direction	Range	0° to 359°;
	Accuracy	<2m/s, ±10°; ≥2m/s, ±7°;
	Resolution	1°;
Temperature	Range	-40°C to 60°C;
	Accuracy	±0.3°C (± 0.6°F);
	Resolution	0.1°C (± 0.1°F;
Humidity	Range	1% to 99%;
	Accuracy	±3.5%;
	Resolution	0.01;
Light	Range	0Klux to 200Klux;
	Accuracy	±15%;
	Resolution	0.1Klux;
UVI	Range	1~15;
	Accuracy	±2;
	Resolution	1;
Rain	Range	0~9999;
	Accuracy	TBA;
	Resolution	0.1mm;
Sensor Solar Panel (built-in):		6.5V/4mA;

OpenWeather

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