

WEATHER STATION / DATA SHEET

SS1000U-01

Portable Weather Station

Handheld multi-parameter micro weather station with ultrasonic wind measurement, 2.4-inch touch display, Bluetooth configuration and USB Type-C data export.

Overview

SS1000U-01 is a handheld micro weather station integrating multiple measurement functions in a lightweight and durable instrument with no moving parts.

According to the selected configuration, it provides real-time data for wind speed, wind direction, temperature, humidity, atmospheric pressure, noise, PM2.5, PM10, CO2, illuminance, optical rainfall, total solar radiation and altitude.

The device includes a 2.4-inch touch screen, a specially designed handle for one-handed use, Bluetooth configuration through a mobile APP, internal storage for up to 260,000 records and USB Type-C data export for PC analysis.



2.4-inch TOUCH DISPLAY	260,000 RECORD CAPACITY	Up to 36 h BATTERY LIFE	USB-C / Bluetooth EXPORT / CONFIGURATION
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CAPABILITY

Key Advantages & Applications

Key Advantages

- Integrated multi-parameter handheld weather station with freely selectable measurement elements.
- 2.4-inch LCD touch screen for real-time data viewing with clear and complete display content.
- Large-capacity rechargeable battery with up to 36 hours of operation under specific configurations.
- Built-in data storage; records can be exported via USB Type-C cable.

Application Scenarios

- Field inspection and on-site commissioning.
- Portable environmental monitoring and meteorological observation.
- Temporary fixed monitoring with optional mounting bracket.
- Outdoor surveys requiring compact, real-time multi-parameter data collection.

MEASUREMENT PRINCIPLE

Technical Principle

The instrument uses ultrasonic propagation time difference in air to measure wind speed and wind direction. The device is composed of several selectable sensor elements, enabling combined measurement of meteorological and environmental parameters in a portable form factor.

SYSTEM DATA

General Specifications

Item	Specification
Data Export	USB Type-C to USB cable connected to a computer

Item	Specification
Power Supply	Battery powered; three 18650 batteries
Data Storage	Up to 260,000 records
Battery Life	≤36 h under specific configuration conditions
Display	2.4-inch LCD touch screen
Configuration	Built-in Bluetooth module with dedicated mobile APP software

Element Operating Temperature

Element	Operating Temperature
Wind speed / wind direction	-40 to +80 °C
Temperature / humidity	-40 to +80 °C
Atmospheric pressure	-40 to +80 °C
Noise	-40 to +80 °C
PM2.5	-20 to +60 °C
CO2	-10 to +60 °C
Illuminance	-40 to +80 °C
Total solar radiation	-40 to +80 °C

PERFORMANCE

Measurement Performance

Element	Range	Accuracy	Resolution
Wind speed	0–40 m/s; start 0.5 m/s	±(0.5 m/s + 2% FS) (60% RH, 25 °C)	0.1 m/s
Wind direction	0–359°	±3° (60% RH, 25 °C)	1°
Humidity	0–99% RH	±3% RH (60% RH, 25 °C)	0.1% RH
Temperature	-40 to +80 °C	±0.5 °C (25 °C)	0.1 °C
Atmospheric pressure	0–120 kPa	±0.15 kPa @ 25 °C, 101 kPa	0.1 kPa
Noise	30–120 dB	±0.5 dB (94 dB @ 1 kHz)	0.1 dB
PM10 / PM2.5	0–1000 µg/m³	PM2.5: ±3% FS; 50% @ 0.3 µm, 98% @ ≥0.5 µm	1 µg/m³
CO2	0–5000 ppm; effective 400–5000 ppm	±(50 ppm + 3% FS) (25 °C)	1 ppm
Illuminance	0–200,000 Lux	±7% (25 °C)	1 Lux
Total solar radiation	0–1800 W/m²	≤±3% @ 150 W/m²	1 W/m²

STABILITY & RESPONSE

Long-Term Stability & Response Time

Item	Specification
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Item	Specification
Temperature Stability	≤ 0.1 °C/y
Humidity Stability	$\leq 1\%$ /y
Atmospheric Pressure Stability	-0.1 kPa/y
Noise Stability	≤ 3 dB/y
PM10 / PM2.5 Stability	$\leq 1\%$ /y
CO2 Stability	$\leq 1\%$ /y
Illuminance Stability	$\leq 5\%$ /y
Total Solar Radiation Stability	$\leq \pm 3\%$
Temperature / Humidity Response	Temperature ≤ 25 s; humidity ≤ 8 s
Wind / Pressure / Noise Response	Wind speed ≤ 3.5 s; wind direction ≤ 3.5 s; pressure ≤ 2 s; noise ≤ 3 s
Particles / CO2 / Light Response	PM10 / PM2.5 ≤ 90 s; CO2 generally < 180 s for 90% step change; illuminance ≤ 3 s; total solar radiation ≤ 10 s

OPTIONAL MEASUREMENT MODULES

Measurement Elements & Optical Rainfall

Item	Specification
Optical Rainfall Typical Accuracy	$\pm 5\%$ (laboratory data)
Optical Rainfall Resolution	Standard 0.1 mm
Maximum Instantaneous Rainfall	24 mm/min
Rain Sensing Diameter	6 cm

Selectable Measurement Elements

Category	Available Elements
Meteorological	Air temperature, air humidity, atmospheric pressure, wind speed, wind direction, altitude
Environmental	Noise, PM2.5, PM10, CO2
Radiation / Optical	Illuminance, total solar radiation, optical rainfall

Note: PM and CO2 cannot be selected at the same time according to the source ordering information.

CONFIGURATION

Product Selection

Code	Meaning
SS-	Company code
1000U-01	Portable Weather Station
USB-	USB data export
-1	Ultrasonic handheld weather station
Blank	Without bracket

Code	Meaning
M8	With tripod bracket

MECHANICAL DATA

Device Dimensions

Configuration Dimensions



Mechanical Data

- Configuration A
- Upper sensor section: 181 mm; handle/body section: 245 mm.
- Configuration B
- Upper sensor section: 145 mm; handle/body section: 245 mm.

CONTACT / SUPPORT

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