

PORTABLE WEATHER MONITORING / DATA SHEET

SS1000U-10

Portable Mechanical Weather Station

A compact mechanical weather station combining a portable tripod, carrying case, handheld acquisition terminal and configurable 485 sensors for on-site environmental monitoring.

Overview

- Portable tripod, carrying case and handheld terminal support rapid installation and mobile field work.
- Directly displays measurements, stores historical records and supports one-key data export with limit alarms.
- One RS485 interface accepts compatible Modbus-RTU devices; up to 32 channels / elements can be configured.
- USB export, Bluetooth printing and 4G upload are selectable according to the ordered configuration.



Power 5000 mAh battery	Display 2.8 in color LCD	Storage 340,000 records	Channels Up to 32
Key Advantages • Portable installation with a lightweight, detachable tripod and protective aluminum carrying case. • Large color display gives direct readings; USB export and alarm prompts simplify field work. • Battery-powered collector provides one RS485 port for flexible 485 sensor integration.		Applications • Agriculture, forestry, environmental and ecological surveys. • Temperature / humidity, noise, air quality, CO₂, pressure and illuminance monitoring. • Temporary stations, field research, campus education and mobile measurements.	

SENSOR DATA

Configurable Sensor Packages

Package / element	Description	Selection
Mechanical wind package	Polycarbonate cup anemometer + wind vane	Included in T1 package
Weather shelter package	Louver box with temperature / humidity / pressure sensors	Included in T1 and T2 packages
Ultrasonic wind package	Ultrasonic wind speed / direction sensor	Included in T2 package
Custom 485 package	User-selected Modbus-RTU transmitters	T3 package; up to 32 elements
Environmental elements	Temperature, humidity, noise, air quality, CO ₂ , pressure, illuminance and other compatible elements	Depends on selected transmitters

Sensor measurement ranges and accuracy follow the specifications of the selected Modbus-RTU devices; no additional sensor performance is inferred from the portable station manual.

DATA HANDLING

Item	Specification
Channels	Up to 32 channels; one measured element per channel
Record interval	Normal 1–999 s, default 60 s; alarm 1–999 s, default 30 s
Data capacity	Up to 340,000 records across connected sensors
Export	USB connection; TXT / XLS / PDF export through configuration software
Printing	Optional Bluetooth one-key printing from the stored-data screen

ACQUISITION UNIT

Handheld Data Collector

Item	Specification
Power	5000 mAh lithium battery
Display	2.8-inch color LCD
Storage	Up to 340,000 records
Charging	8–10 h
Standby	10–12 h (default package 1 configuration)
Environment	–20 to +60 °C; <95%RH, non-condensing
Configuration	USB data cable to PC; Modbus-RTU channel setup
Options	USB export / Bluetooth printing / 4G upload



**Portable mechanical station: tripod + case + terminal
+ selected sensors**

Mounting Options

- Assemble the tripod, tray and terminal bracket; secure the connecting rod with the hand screw.
- Connect the aviation-plug adapter to the one-to-two or one-to-three splitter and selected sensors.
- Place the tripod on a stable surface and keep the sensors clear of nearby obstructions.
- Use unique addresses for connected 485 devices.

DIMENSIONS & PACKAGE

Case, Connections and Standard Package

Assembly	Approx. specification	Notes
Carrying case	Aluminum portable case	Stores terminal, tripod and sensor accessories
Tripod	Lightweight, telescopic and detachable	Portable three-leg field support
Connections	Aviation-plug sensor cable, USB / Type-C and RS485	Interface set depends on configuration

Assembly	Approx. specification	Notes
Included / Option-Dependent - Handheld rapid-measurement terminal, charger with 1 m Type-C cable and aviation-plug adapter. - Aluminum carrying case, tripod, dedicated tray, terminal bracket, connector rod and hand screws. - One-to-two or one-to-three splitter cable, warranty card and certificate; USB drive is optional.		Selectable Elements - T1: polycarbonate wind speed / direction + louver box (temperature / humidity / pressure). - T2: ultrasonic wind speed / direction + louver box (temperature / humidity / pressure). - T3: handheld terminal with user-selected transmitters; USB / BT / 4G communication options.

COMMUNICATION

RS485 / Modbus-RTU Interface

Parameter	Setting
Supported devices	Any sensor compliant with Modbus-RTU
Baud rate	2400 / 4800 / 9600 bit/s; connected 485 devices must match
Polling interval	100–65565 ms; default 500 ms
Timeout	100–65565 ms; default 500 ms
Fault tolerance	1–65535 query attempts; default 3
Functions	03 / 04; configurable start address, register count and offset
Channel parameter	Configuration
Channel name	Custom label; up to six Chinese characters in the source software
Slave address	Address of the connected Modbus-RTU device
Data type	Big-endian or little-endian according to the sensor register definition
Scaling	Displayed value = A × raw value + B; decimal places configurable
Alarm limits	Upper and lower limits configurable per channel

INSTALLATION & OPERATION

Configuration and Data Export

Configuration - Connect the terminal to a PC with the USB data cable and read or write device information. - Set channel names, slave addresses, data types, registers, scaling, units and alarm limits. - Use the Bluetooth function for optional one-key printing of stored data.	Data Export - Read stored data through the configuration software after connecting the terminal by USB. - Export records in TXT, XLS or PDF format and clear device storage from the software toolbar. - For the 4G option, configure the upload address, port and interval before field deployment.
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SERVICE

Installation and Care

Confirm the terminal, tripod, splitter and sensors are firmly connected before powering on. Keep the tripod stable, assign unique Modbus addresses and inspect cables, plugs and locks before each deployment. Do not use this product as a safety or emergency-stop device; operate it only within the stated environmental limits and follow the supplied instructions.

CONTACT / SUPPORT

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