

WATER QUALITY MONITORING / DATA SHEET

SW11-01

Portable Water Multimeter

Portable multi-parameter water-quality platform for rapid field measurement and traceable data collection.

Overview

- SW11-01 combines a rugged handheld terminal with four universal smart-sensor interfaces for rapid field measurement.
- Automatic sensor recognition, hot-swap support, integrated positioning and high-capacity logging support traceable data collection.
- The platform is designed for surface-water surveys, groundwater monitoring, aquaculture, wastewater inspection and environmental research.



Sensor Interfaces 4 universal	Data Records 100,000+	Enclosure IP67 / floating	Runtime Approx. 12 h*
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* Approximate runtime stated for operation with four smart sensors.

Key Advantages

- Fast response and easy operation.
- Automatic sensor recognition and hot-swap support.
- Built-in GPS and barometer for field data context and compensation.
- Rechargeable battery, backlit keypad and sealed field connector.
- Chinese and English language support.

Typical Applications

- Surface-water surveys.
- Groundwater monitoring.
- Aquaculture and fisheries.
- Wastewater inspection.
- Environmental research and field validation.

MEASUREMENT PRINCIPLE

Measurement Platform

SW11-01 is a modular measurement platform. Installed smart-sensor modules are recognized automatically, and readings are recorded with date, time and GPS information. Depending on the installed sensor, measurements use optical fluorescence, optical scattering, electrodes, conductivity cells or derived calculations.

SYSTEM DATA

General Specifications

Item	Specification
Display	320 × 240 TFT; 6.5 × 4.9 cm
Cable connector	MS-type waterproof bayonet connector

Item	Specification
Connectivity	Pogo-pin USB; PC connection and charging cable included
GPS	Built in; coordinates stored with measurement data and site lists
Data memory	More than 100,000 sets: data, date, time and GPS
Battery	Rechargeable lithium battery; approximately 12 h with four smart sensors

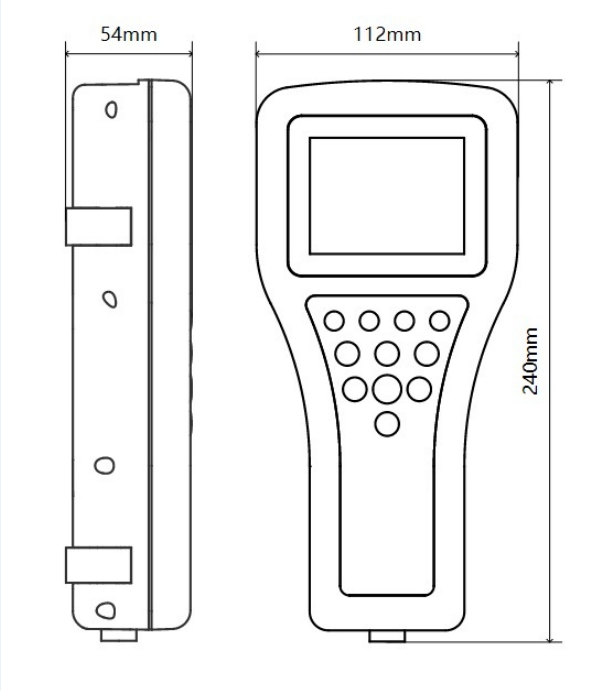
HANDHELD

Handheld Specifications

Item	Specification
Backlit keypad	Yes
Logging modes	Single point or continuous
Auto stable	User-defined; holds stable readings
Languages	Chinese and English
Calibration points	One or two points
Barometer	Built in; automatic dissolved-oxygen compensation
Waterproof	IP67; floating enclosure
Warranty	2 years meter; 1 year sensor; 6 months for pH/ORP, ammonium and nitrate sensor modules

MECHANICAL

Physical Interface & Dimensions



Physical data

- Handheld width: 112 mm
- Handheld height: 240 mm
- Handheld depth: 54 mm
- Pogo-pin USB connector
- Military-spec sealed field connector
- Swap cable with IP68 connector

MEASUREMENT

Measurement Parameters

Available parameters, ranges and performance depend on the installed smart-sensor modules and selected configuration. Confirm the final sensor set for the intended application.

Parameter	Principle / Sensor	Range	Accuracy	Resolution
Dissolved Oxygen	Optical fluorescence	0–20 mg/L or 0–200% saturation	±0.3 mg/L or 5% of reading	0.01 mg/L; 0.1% Sat.
Water Temperature	Temperature sensor	0–45°C	±0.5°C	0.01°C
Conductivity	Four-electrode cell	1 µS/cm–100 mS/cm	±1%	0.0001 mS/cm
Salinity	Derived from conductivity	0–70 ppt	±1%	Configuration dependent
pH	Electrode	0–14 pH	±0.1 pH	0.01 pH
ORP	Electrode	–999 to +999 mV	±20 mV	1 mV
Nitrate	Ion-selective electrode	0.5–1000 mg/L	±15% of reading or 2 ppm	0.01 mg/L
Turbidity	90° optical scattering	0.3–1000 NTU	±0.3 NTU or 3% of reading	0.01 NTU
Suspended Solids	Optical / derived	0–2000 mg/L	Sensor configuration dependent	Sensor configuration dependent
Transparency	Optical	2–100 cm	Sensor configuration dependent	Sensor configuration dependent
Chlorophyll a	Fluorescence	0.15–400 µg/L	Calibration dependent	0.01 µg/L

Additional supported modules listed in the source include ammonium and potassium.

OPERATION

Compensation, Calibration & Operation

Function	Description
Compensation	Automatic atmospheric-pressure and salinity compensation
Automatic endpoint	Supported; configurable in the field
Calibration	One- or two-point calibration; historical calibration time can be queried
Language	Chinese and English
Data workflow	Single-point or continuous logging with GPS-linked records
Sensor recognition	Automatic identification; hot-swap supported

ARCHITECTURE

Smart Sensor Architecture

Component	Function
Titanium bail	Rugged handling and deployment point
RGB LED indicator	Immediate visual sensor status
Robust shell	Designed for repeated field use
Non-vented depth sensor	Integrated depth measurement
Universal sensor ports	Four-port modular smart-sensor connection
Titanium smart sensors	Modular sensing elements for selected water-quality parameters
Sensor guard	Sensor protection
Temperature sensor	Integrated temperature measurement
Color display with graphing	On-device reading display and trend visualization
GPS and barometer	Position logging and atmospheric-pressure compensation
Rechargeable lithium battery	Portable field operation
IP67 handheld casing	Floating, sealed handheld enclosure

FIELD USE

Field Use & Configuration

- Install only compatible smart-sensor modules and protect unused ports with sealed caps.
- Confirm calibration before deployment; select one- or two-point calibration according to the sensor and method.
- Use continuous logging for profiling or long observations; use single-point mode for site checks.
- Rinse sensors with clean water after use and follow the maintenance instructions for each sensor module.

Note: Available parameters, ranges and performance depend on the installed smart-sensor modules and selected configuration. Confirm the final sensor set for the intended application.



Physical Interface & Dimensions

Handheld width: 112 mm
 Handheld height: 240 mm
 Handheld depth: 54 mm
 250 mm
 32 mm

Pogo-pin USB connector
 Military-spec sealed field connector
 Swap cable with IP68 connector

Configuration & Support Summary

- Portable handheld platform with four universal smart-sensor interfaces.
- GPS-linked logging, graphing display and automatic sensor recognition.
- Supports modular water-quality measurement for field surveys and validation.
- Confirm the installed sensor set and final configuration before deployment.

SW11-01 Portable Water Multimeter

CONTACT / SUPPORT

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