

MX2306 • MX2307

HOBOb MX Soil Moisture and Temperature Data Logger

Bluetooth loggers

Low-cost, fully integrated soil moisture loggers with convenient Bluetooth wireless data offload.

Important Information

Requires a compatible mobile device or Windows computer and the HOBObconnect app. System requirements for app can be found at bottom of HOBObconnect software page.



Compatible with
HOBObconnect Monitoring App

Supported Measurements

Soil Moisture, Temperature

Features

- Ready to deploy, with pre-attached sensors
- Easy configuration and data offload with the free HOBObconnect app
- Durable TEROS 10 soil moisture sensor lasts over 10 years in the field
- For use in both mineral soils and soilless media
- Sturdy, sharp stainless-steel spikes for easy installation and better soil contact
- Option to view data in Percent of Field Capacity

What's in the box

- HOBOb MX2306 or HOBOb MX2307 Data Logger with 2m cable(s) and attached sensor(s)
- HOBOb MX Soil Moisture Logger Quick Start
- Screws
- Cable ties

Contact Us

Sales (8am to 5pm ET, Monday through Friday)

- Email sales@onsetcomp.com
- Call 1-508-759-9500
- In U.S. toll free 1-800-564-4377
- Fax 1-508-759-9100

Technical Support (8am to 5pm ET, Monday through Friday)

- Contact Product Support www.onsetcomp.com/support/contact
- Call 1-508-759-9500
- In U.S. toll free 1-877-564-4377

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HOBO MX Soil Moisture and Temperature Data Logger (MX230x) Specifications

Soil Moisture: Volumetric Water Content (VWC)

Measurement Range*	0.00 to 0.64 m ³ /m ³ in mineral soils 0.00 to 0.70 m ³ /m ³ in soilless media
Accuracy	±0.031 m ³ /m ³ typical in mineral soils that have solution EC <8 dS/m ±0.051 m ³ /m ³ typical in soilless media
Resolution	0.001 m ³ /m ³
Dielectric Measurement Frequency	70 MHz

Temperature Sensor (MX2307)

Range	-40 to 100°C (-40 to 212°F), with tip and cable immersion in fresh water up to 50°C (122°F) for one year
Accuracy	±0.25°C from -40 to 0°C (±0.45 from -40 to 32°F) ±0.2°C from 0 to 70°C (±0.36 from 32 to 158°F) ±0.25°C from 70 to 100°C (±0.45 from 158 to 212°F)
Resolution	0.04°C (0.072°F)
Drift	<0.01°C per year (0.018°F per year)
Response Time	3 minutes in air moving 1 m/s; 20 seconds in stirred water 4 minutes in air moving 1 m/s with RS3-B Solar Radiation Shield

Logger

Operating Range	-25° to 60°C (-13° to 140°F)
Radio Power	1 mW (0 dBm)
Transmission Range	Approximately 30.5 m (100 ft) line-of-sight
Wireless Data Standard	Bluetooth Low Energy (Bluetooth Smart)
Logging Rate	1 second to 18 hours
Logging Modes	Fixed interval (normal, statistics) or burst
Memory Modes	Wrap when full or stop when full
Start Modes	Immediate, push button, date & time, or next interval
Stop Modes	When memory full, push button, date & time, or after a set logging period
Time Accuracy	±1 minute per month 0° to 50°C (32° to 122°F)
Battery Type	2/3 AA 3.6 Volt lithium, user replaceable
Battery Life	2 years, typical with logging interval of 1 minute and Bluetooth Always On enabled; 5 years, typical with logging interval of 1 minute and Bluetooth Always On disabled. Faster logging intervals and statistics sampling intervals, burst logging, remaining connected with the app, excessive downloads, and paging may impact battery life.
Memory	110,000 measurements, maximum (472 kB)
Full Memory Download Time	Approximately 60 seconds; may take longer the further the device is from the logger
Dimensions	Logger housing: 10.8 x 5.08 x 2.24 cm (4.25 x 2.0 x 0.88 in.) Soil moisture sensor: 7.5 x 5.1 x 2.4 cm (2.95 x 2.02 x 0.95 inches) Soil moisture sensor needle length: 5.4 cm (2.13 inches) Soil moisture sensor needle diameter: 0.32 cm (0.13 inches) Temperature sensor (MX2307) diameter: 0.53 cm (0.21 in.) Sensor cable length: 2 m (6.56 ft)
Weight	MX2306: 229 g (80 oz) MX2307: 267 g (94 oz)
Materials	Logger: Acetal, silicone gasket, stainless steel screws Soil Moisture Sensor: ASA plastic body with polyurethane epoxy filling and stainless steel pins Temperature Sensor (MX2307): Stainless steel waterproof tip Cable: PVC, UV resistant and rodent repellent (soil moisture sensor cable)
Environmental Rating	Temperature sensor and cable (MX2307): Immersion in water up to 50°C (122°F) for 1 year

Notices

*

The sensor data can be post-calibrated if necessary (e.g. the sensor is used in non-mineral soil types or higher than standard accuracy is required). Users can apply a calibration equation to the data exported from the app. The VWC range will depend on the calibration equation.

