



Ideal for researchers and growers looking for the accurate data to complete their plant growth picture, this Bluetooth-enabled, fully integrated logger delivers high precision measurements for soil moisture/electrical conductivity (EC), volumetric water content (VWC), and temperature with an external sensor, as well as temperature/relative humidity with an internal sensor. An upgrade from the cost-effective MX2306 and MX2307, this all-in-one solution tracks soil, plant, and atmospheric conditions simultaneously to assess growing conditions, improve crop yields, reduce harmful runoff, and protect ecosystems.

Connected to a mobile phone, tablet, or Windows laptop running the free HOBObconnect app, the logger features convenient Bluetooth wireless setup and data download when within 100 feet of the logger—making it easy to retrieve data from hard-to-access field locations. For indoor areas, such as greenhouses, users can add the MX Gateway and MX Data Plan for remote access to data with LI-COR Cloud® software.

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

Technical Specifications:

Temperature Sensors

Range	: -40 to 70°C (-40 to 158°F)
Accuracy	: ±0.2 °C (typical) within -40 to 70 °C
Resolution	: 0.008°C (.014 °F)
Drift	: <0.01°C (0.018°F) per year
Response Time* Without Solar Radiation Shield	: 17 minutes in air moving 1 m/sec
Response Time* With Solar Radiation Shield	: 24 minutes in air moving 1 m/sec

Relative Humidity (RH) Sensor

Range	: 0 to 100% RH, -40° to 70 °C exposure to conditions below -20°C (-4°F) or above 95% RH may temporarily increase the maximum RH sensor error by an additional 1%
Accuracy	: ±2.5% from 10% to 90% (typical) to a maximum of ±3.5% including hysteresis at 25°C (77°F); below 10% RH and above 90% RH ±5% typical
Resolution	: 0.01% RH
Drift	: <1% per year typical
Response Time* Without Solar Radiation Shield	: 30 seconds in air moving 1 m/sec
Response Time* With Solar Radiation Shield	: 40 seconds in air moving 1 m/sec
Calculated Metrics	: Vapor Pressure Deficit (VPD) in kPa, and Dew Point (computed from logged data)

Soil Moisture: Volumetric Water Content (VWC)

Measurement Range (select one at configuration)****	: 0.00 to 1.0 m³/m³ VWC in mineral soils 0.00 to 1.0 m³/m³ VWC in soilless media Apparent Dielectric Permittivity: 1 (air) to 80 (water)
Accuracy	: ±0.03 m³/m³ typical ±0.06 m³/m³ maximum Apparent Dielectric Permittivity: ±1 εa
Resolution	: 0.001 m³/m³ Apparent Dielectric Permittivity : 0.002 εa
Dielectric Measurement Frequency	: 70 MHz
Volume of Influence	: 1400 ml
Percent of Field Capacity (for VWC measurements only)	: Range: 0 to 200% Resolution : 0.1%

Soil Temperature*****

Measurement Range	: -40 to 70°C (-40 to 158°F)
Accuracy	: ±0.5°C from -40° to -20°C ±0.3°C from -20°C to 70°C
Resolution	: 0.1°C (0.18°F)

Soil Bulk Electrical Conductivity (EC)

Measurement Range	: 0 to 20000 $\mu\text{S cm}^{-1}$
Accuracy	: $\pm 5\%$ from 0 to 10000 $\mu\text{S cm}^{-1}$ $\pm 8\%$ from 10000 to 20000 $\mu\text{S cm}^{-1}$
Resolution	: 1 $\mu\text{S cm}^{-1}$

Logger

Operating Range	: -40 to 70°C (-40 to 158°F)
Radio Power	: 1mW (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 is 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; 4 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	: 195,000 measurements, maximum
Full Memory Download Time	: Approximately 4–5 minutes; 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 (only): 4.6 x 4.6 x 10.9 cm (1.81 x 1.81 x 4.31 in) Soil moisture sensor needle length: 5.4 cm (2.14 in) Soil moisture sensor needle diameter: 0.40 cm (0.16 in) Sensor cable length: 2 m (6.56 ft)
Weight (Unpackaged)	: 263 g, 9.3 oz
Weight (Packaged)	: 417 g, 14.7 oz
Materials	: Acetal, silicone gasket, stainless steel screws Soil Moisture Sensor: ASA plastic body with polyurethane epoxy filling and stainless-steel pins Cable: PVC, UV resistant and rodent repellent (soil moisture sensor cable)
Environmental Rating	: Logger: NEMA 6 and IP67 Soil Moisture sensor and cable: xxxx