



HOBO[®] MX2203 Data Logger

TidbiT MX Temperature 400' Data Logger

The HOBO MX2203 TidbiT waterproof temperature logger leverages the power of Bluetooth Low Energy (BLE) to deliver high-accuracy temperature measurements straight to your iOS or Android mobile device. Designed for durability, this rugged waterproof logger is ideal for long-term deployments in streams, lakes, and oceans (up to 400-foot depths). Data collection in the field has never been easier!

Remotely access your data in Onset's cloud-based HOBOLink software with the new MX Gateway.

Supported Measurements:

Temperature and Water Temperature

Key Advantages:

- Convenient wireless setup and download via Bluetooth Low Energy (BLE)
- Large memory stores 96,000 measurements
- Waterproof to 120 meters (400 feet)
- User-replaceable battery
- Waterproof boot protects the logger during deployment
- LED alarm notifies you when temperature exceeds set threshold
- Water detection feature conserves battery life
- Works with Onset's free HOBOMobile app
- $\pm 0.2^{\circ}\text{C}$ ($\pm 0.36^{\circ}\text{F}$) accuracy



HOBO MX2203 Data Logger Specifications

Temperature Sensor (MX2203)	
Range	MX2203: -20° to 70°C (-4° to 158°F) in air; -20° to 50°C (-4° to 122°F) in water
Accuracy	±0.25°C from -20° to 0°C (±.45°F from -4° to 32°F) ±0.2°C from 0° to 70°C (±0.36°F from 32° to 158°F)
Resolution	0.01°C (0.018°F)
Drift	<0.1°C (0.18°F) per year
Response Time	MX2203: 17 minutes typical to 90% in air moving 1 m/s, unmounted; 7 minutes typical to 90% in stirred water, unmounted
Logger	
Radio Power	1 mW (0 dBm)
Transmission Range	Approximately 30.5 m (100 ft) line-of-sight
Wireless Data Standard	Bluetooth Smart (Bluetooth Low Energy, Bluetooth 4.0)
Logger Operating Range	-20° to 70°C (-4° to 158°F)
Logging Rate	1 second to 18 hours
Buoyancy (Fresh Water)	MX2203: 3.1 g (0.11 oz) negative
Waterproof	MX2203: To 122 m (400 ft)
Water Detection	Water conductivity level of 100 µS/cm or greater necessary for reliable detection of water. Deionized water or water below 100 µS/cm may not be detected. The water conductivity circuit may not reliably detect water that has frozen around the electrodes, i.e. below 0°C (32°F).
Memory	96,000 measurements
Battery	CR2477 3V lithium, user replaceable in MX2203, non-replaceable in MX2204
Battery Life	3 years, typical at 25°C (77°F) with logging interval of 1 minute and Bluetooth Always On in software. 5 years, typical at 25°C (77°F) with logging interval of 1 minute and Bluetooth Always Off or Bluetooth Off Water Detect in software. Faster logging intervals and statistics sampling intervals, burst logging, remaining connected with the app, excessive downloads, and paging may impact battery life. To ensure proper battery installation, see Battery Information for detailed instructions on replacing the battery in the MX2203 logger.
Time Accuracy	± 1 minute per month at 25°C (77°F)
Full Memory Dowload	Approximately 45 seconds; may take longer the farther the device is from the logger
Wetted Materials	MX2203: Polypropylene case, EPDM O-ring, stainless steel screws, Santoprene® (TPE) boot
Dimensions	MX2203: 4.45 x 7.32 x 3.58 cm (1.75 x 2.88 x 1.41 inches)
Weight	MX2203: 36.2 g (1.28 oz)
Environmental Rating	IP68

The CE Marking identifies this product as complying with all relevant directives in the European Union (EU).

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 8pm 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

Onset Computer Corporation
470 MacArthur Boulevard
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HOBO® MX2204 Data Logger

TidbiT MX Temperature 5000' Data Logger

The HOBO MX2204 TidbiT waterproof temperature logger leverages the power of Bluetooth Low Energy (BLE) to deliver high-accuracy temperature measurements straight to your iOS or Android mobile device. Designed for durability, this rugged waterproof logger is ideal for long-term deployments in streams, lakes, and oceans. Data collection in the field has never been easier!

Remotely access your data in Onset's cloud-based HOBOLink software with the new MX Gateway.

Supported Measurements:

Temperature and Water Temperature

Key Advantages:

- Convenient wireless setup and download via Bluetooth Low Energy (BLE)
- Large memory stores 96,000 measurements
- Waterproof to 1500 meters (5000 feet)
- Waterproof boot protects the logger during deployment
- LED alarm notifies you when temperature exceeds set threshold
- Water detection feature conserves battery life
- Works with Onset's free HOBOMobile app
- $\pm 0.2^{\circ}\text{C}$ ($\pm 0.36^{\circ}\text{F}$) accuracy



HOBO MX2204 Data Logger Specifications

Temperature Sensor (MX2203 and MX2204)	
Range	MX2203: -20° to 70°C (-4° to 158°F) in air; -20° to 50°C (-4° to 122°F) in water MX2204: -20° to 70°C (-4° to 158°F) in air; -20° to 50°C (-4° to 122°F) in water, maximum sustained temperature in water 30°C (86°F)
Accuracy	±0.25°C from -20° to 0°C (±.45°F from -4° to 32°F) ±0.2°C from 0° to 70°C (±0.36°F from 32° to 158°F)
Resolution	0.01°C (0.018°F)
Drift	<0.1°C (0.18°F) per year
Response Time	MX2203: 17 minutes typical to 90% in air moving 1 m/s, unmounted; 7 minutes typical to 90% in stirred water, unmounted MX2204: 15 minutes typical to 90% in air moving 1 m/s, unmounted; 4 minutes typical to 90% in stirred water, unmounted
Logger	
Radio Power	1 mW (0 dBm)
Transmission Range	Approximately 30.5 m (100 ft) line-of-sight
Wireless Data Standard	Bluetooth Smart (Bluetooth Low Energy, Bluetooth 4.0)
Logger Operating Range	-20° to 70°C (-4° to 158°F)
Logging Rate	1 second to 18 hours
Buoyancy (Fresh Water)	MX2203: 3.1 g (0.11 oz) negative MX2204: 7.6 g (0.27 oz) negative
Waterproof	MX2203: To 122 m (400 ft) MX2204: To 1,524 m (5,000 ft)
Water Detection	Water conductivity level of 100 µS/cm or greater necessary for reliable detection of water. Deionized water or water below 100 µS/cm may not be detected. The water conductivity circuit may not reliably detect water that has frozen around the electrodes, i.e. below 0°C (32°F).
Memory	96,000 measurements
Battery	CR2477 3V lithium, user replaceable in MX2203, non-replaceable in MX2204
Battery Life	3 years, typical at 25°C (77°F) with logging interval of 1 minute and Bluetooth Always On in software. 5 years, typical at 25°C (77°F) with logging interval of 1 minute and Bluetooth Always Off or Bluetooth Off Water Detect in software. Faster logging intervals and statistics sampling intervals, burst logging, remaining connected with the app, excessive downloads, and paging may impact battery life. To ensure proper battery installation, see Battery Information for detailed instructions on replacing the battery in the MX2204 logger.
Time Accuracy	± 1 minute per month at 25°C (77°F)
Full Memory Download	Approximately 45 seconds; may take longer the farther the device is from the logger
Wetted Materials	MX2203: Polypropylene case, EPDM O-ring, stainless steel screws, Santoprene® (TPE) boot MX2204: Epoxy case, Santoprene (TPE) boot
Dimensions	MX2203: 4.45 x 7.32 x 3.58 cm (1.75 x 2.88 x 1.41 inches) MX2204: 4.06 x 6.99 x 3.51 cm (1.6 x 2.75 x 1.38 inches)
Weight	MX2203: 36.2 g (1.28 oz) MX2204: 32.8 g (1.16 oz)
Environmental Rating	IP68

The CE Marking identifies this product as complying with all relevant directives in the European Union (EU). This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

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