



## HOBO<sup>®</sup> 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!

#### 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)<br>±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;<br>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.<br>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.<br>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.<br>Faster logging intervals and statistics sampling intervals, burst logging, remaining connected with the app, excessive downloads, and paging may impact battery life.<br>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)

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