

MX2304

HOBO MX2304 External Temperature Sensor Data Logger

Bluetooth-enabled logger

A weatherproof data logger with one external temperature sensor, leveraging Bluetooth for easy setup and data download.

Important Information

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



Compatible with
HOBObconnect Monitoring App



Supported Measurements

Soil Temperature, Temperature

Features

- Convenient wireless setup and download via Bluetooth (100-foot range)
- Retrieve data in hard-to-reach locations
- Visual alarms alert you to out-of-range conditions
- Compact, weatherproof housing with built-in mounting
- View current data in real time with Onset's free HOBObconnect app
- Share downloaded data easily from your mobile device
- Accuracy: +/- 0.2C°

What's in the box

- HOBO MX2304 Ext Temp Data Logger
- 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

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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

HOBO MX2304 External Temperature Sensor Data Logger (MX2304) Specifications

Temperature Sensor			
Range	MX2301A and MX2305 internal sensors: -40 to 70°C (-40 to 158°F) MX2302A external temperature sensor: -40 to 70°C (-40 to 158°F) MX2303 and MX2304 external sensors: -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), MX2303 and MX2304 only		
Resolution	MX2301A and MX2302A: 0.02°C (0.036°F) MX2303, MX2304, and MX2305: 0.04°C (0.072°F)		
Drift	<0.01°C (0.018°F) per year		
Relative Humidity Sensor* (MX2301A, MX2302A only)			
Range	0 to 100% RH, -40° to 70°C (-40° to 158°F); 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%		
Drift	<1% per year typical		
Response Time (typical, to 90% of change)			
Temperature	Without Solar Radiation Shield	With RS1/M-RSA Solar Radiation Shield	With RS3-B Solar Radiation Shield
MX2301A internal sensor	17 minutes in air moving 1 m/sec	24 minutes in air moving 1 m/sec	NA
MX2302A external sensor	3 minutes, 45 seconds in air moving 1 m/sec	7 minutes, 45 seconds in air moving 1 m/sec	6 minutes, 30 seconds in air moving 1 m/sec

**MX2303/MX2304
external sensors**

3 minutes in
air moving 1
m/sec; 20
seconds in
stirred water

7 minutes in
air moving 1
m/sec

4
minutes
in air
moving
1
m/sec

**MX2305
internal sensor**

17 minutes in
air moving 1
m/sec

24 minutes in
air moving 1
m/sec

NA

RH

**Without Solar
Radiation
Shield**

**With RS1/M-
RSA Solar
Radiation
Shield**

**With
RS3-
B
Solar
Radiation
Shield**

**MX2301A
internal sensor**

30 seconds in
air moving 1
m/sec

40 seconds in
air moving 1
m/sec

NA

**MX2302A
external sensor**

15 seconds in
air moving 1
m/sec

30 seconds in
air moving 1
m/sec

30
seconds
in air
moving
1
m/sec

Logger

Operating Range

-40° to 70°C (-40° to 158°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

MX2301A and MX2302A: 128 KB
(63,488 measurements, maximum)
MX2303, MX2304, and MX2305: 128
KB (84,650 measurements, maximum)

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.)
External temperature sensor diameter:
0.53 cm (0.21 in.)
External temperature/RH sensor
diameter: 1.17 cm (0.46 in.)
External sensor cable length: 2 m (6.56
ft)
Solar radiation shield bracket: 10.8 x
8.3 cm (4.25 X 3.25 in.)

Weight

Logger: 75.5 g (2.66 oz)
Solar radiation shield bracket: 20.4 g
(0.72 oz)

Materials

Acetal, silicone gasket, stainless steel
screws

Environmental Rating

NEMA 6 and IP67

Description: ce 

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

FCC Logo: 

Australia/New Zealand General Compliance mark: 

Australia/New Zealand General Compliance mark: 

South Korea KC Certification for Electrical and Electronic Products: 

*Per RH sensor manufacturer data sheet