



HOBO[®] MX2301A Data Logger

Temperature/RH Data Logger

The HOBO MX2301 is a weatherproof data logger with built-in temperature and relative humidity sensors. Leveraging Bluetooth Low Energy, the logger enables easy, fast set up and data download directly from your mobile device, and provides high-accuracy measurements in harsh outdoor environments.

Supported Measurements:

Relative Humidity and Temperature

Key Advantages:

- Convenient wireless setup and download via Bluetooth Low Energy (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 HOBOMobile app
- Share downloaded data easily from your mobile device
- Accuracy: +/- 0.2C° and +/- 2.5% RH



HOBO MX2301A Data Logger 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 0.04°C (0.072°F)

Drift <0.01°C (0.018°F) per year

RH 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

Memory 128 KB (63,488 measurements, maximum)

Response Time: Temperature (typical, to 90% of change)	Without Solar Radiation Shield	With RS1/M-RSA Solar Radiation Shield	With RS3-B Solar Radiation Shield
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internal sensor	17 minutes in air moving 1 m/sec	24 minutes in air moving 1 m/sec	N/A
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Response Time: RH (typical, to 90% of change)	Without Solar Radiation Shield	With RS1/M-RSA Solar Radiation Shield	With RS3-B Solar Radiation Shield
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internal sensor	30 seconds in air moving 1 m/sec	40 seconds in air moving 1 m/sec	N/A
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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 -40° to 70°C (-40° to 158°F)

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 Power Saving Mode disabled; 5 years, typical with logging interval of 1 minute and Power Saving Mode enabled. Faster logging intervals and statistics sampling intervals, burst logging, remaining connected with the app, excessive downloads, and paging may impact battery life.

Memory 128 KB (63,488 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