



HOBO® MX2302A Data Logger

External Temperature/RH Sensor Data Logger

The HOBO MX2302 is a weatherproof data logger with external 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: $\pm 0.2^{\circ}\text{C}$ and $\pm 2.5\%$ RH



HOBO MX2302A 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
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
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
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

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
Environmental Rating	NEMA 6 and IP67
CE	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.