HOBO® MX2301A Data Logger

Temperature/RH

A weatherproof data logger with built-in temperature and relative humidity sensors. Leveraging Bluetooth technology for easy setup and data download directly to your mobile device or Windows computer running Onset's free HOBOconnect app, this logger delivers high-accuracy measurements even in harsh outdoor environments.

Key Advantages:

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

*Per RH sensor manufacturer data sheet

Contact Us

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