

Bluetooth Smart CO2 Data Logger

HOBO[®] MX1102 Data Logger

Bluetooth low energy CO2, temperature and relative humidity data logger

Onset's HOBO MX1102 CO2 logger makes it more convenient than ever to measure and record CO2 in buildings and other non-condensing environments. It measures CO2 from 0 – 5,000 parts per million (ppm) – and our free HOBOMobile app* allows you to access data right from your mobile phone or tablet within a 100-foot range.

The MX1102 also features a USB port so it can be used with a computer running HOBOWare graphing and analysis software.

*iOS 8.0–8.3 required; Android app support estimated early Fall 2015.

Learn More!



Environment:

The MX1102 Data Logger is for use in Indoor environments

Supported Measurements:


The MX1102 Data Logger supports the following measurements:
Temperature • Relative Humidity • Carbon Dioxide

Features

- Wireless communication via Bluetooth Smart
- Six month battery life at 5-minute CO2 logging rate
- Easy to deploy and offload using free HOBOMobile App
- Visual and audible high & low alarm thresholds
- Self-calibrating CO2 sensor technology ensures optimal accuracy at lower maintenance costs



Minimum System Requirements:

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HOBOMobile app | 
mobile device* | *iOS Compatible Device
- iPhone 4s or later
- iPod Touch 5th Generation or later
- iPad 3rd Generation or later
- iPad Mini 1st Generation or later
- Running iOS 7.1 or later & Bluetooth 4.0 or later |
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Using Onset's free HOBOMobile[®] app, you can view data in graphs, check the operational status of loggers, configure alarm notifications, and share data files.



HOBO[®] MX1102 Data Logger

Temperature Sensor

Range	0° to 50°C (32° to 122°F)
Accuracy	±0.21°C from 0° to 50°C (±0.38°F from 32° to 122°F), see Plot A
Resolution	0.024°C at 25°C (0.04°F at 77°F), see Plot A
Drift	<0.1°C (0.18°F) per year

RH Sensor*

Range	1% to 90% (non-condensing)
Accuracy	±2% from 20% to 80% typical at 25°C (77°F), see Plot B
Hysteresis	±2% RH
Resolution	0.01% at 25°C (77°F)
Drift	<1% per year typical

CO₂ Sensor

Range	0 to 5,000 ppm
Accuracy	±50 ppm ±5% of reading at 25°C (77°F) and 1,013 mbar
Warm-up Time	15 seconds
Calibration	Auto or manual to 400 ppm
Non-linearity	<1% of FS
Pressure Dependence	0.13% of reading per mm Hg (corrected via user input for elevation/altitude)
Operating Pressure Range	950 to 1,050 mbar (use Altitude Compensation for outside of this range)
Compensated Pressure Range	-305 to 5,486 m (-1,000 to 18,000 ft)
Sensing Method	Non-dispersive infrared (NDIR) absorption

Response Time

Temperature	12 minutes to 90% in airflow of 1 m/s (2.2 mph)
RH	1 minute to 90% in airflow of 1 m/s (2.2 mph)
CO ₂	1 minute to 90% in airflow of 1 m/s (2.2 mph)

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	0° to 50°C (32° to 122°F); 0 to 95% RH (non-condensing)
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 at 25°C (77°F), see Plot C
Power Source	4 AA 1.5 Volt batteries (user replaceable) or USB power source (5 V DC, 2 Watts)
Battery Life	6 months, typical with logging and sampling intervals of 5 minutes or slower; 6 months or less with logging and sampling intervals faster than 5 minutes while logging CO ₂ . Entering burst logging mode will impact battery life. With HOBOMobile use, battery life can be reduced by remaining connected, excessive readouts, checking of Full Status Details, audible alarms, and paging. Visual/audible alarms and other events can have a marginal impact on battery life.
Memory	128 KB (84,650 measurements, maximum)
Download Type	USB 2.0 interface or via Bluetooth Smart
Full Memory Download Time	20 seconds via USB; approximately 60 seconds via Bluetooth Smart, may take longer the further the device is from the logger
LCD	LCD is visible from 0° to 50°C (32° to 122°F); the LCD may react slowly or go blank in temperatures outside this range
Size	7.62 x 12.95 x 4.78 cm (3.0 x 5.1 x 1.88 inches)
Weight	267.4 g (9.43 oz)
Environmental Rating	IP50



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

Specification page 2 of 2

HOBO MX CO₂ Logger

MX1102

Included Items:

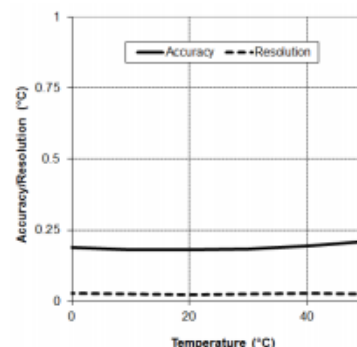
- Four AA 1.5 V alkaline batteries

Required Items:

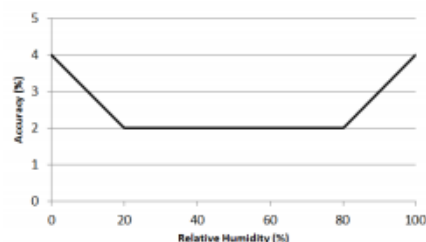
- HOBOMobile app and device with iOS 8.0–8.3 and Bluetooth 4.0
- OR
- HOBOWare 3.7.3 or later and USB cable

Accessories:

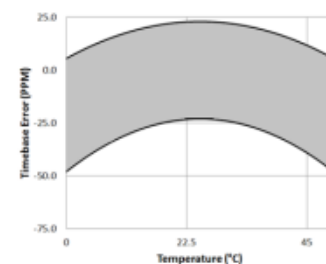
- Mounting kit with mounting brackets, screws, tie wraps, and Command™ strip



Plot A: Temperature Accuracy and Resolution



Plot B: Typical RH Accuracy*



Plot C: Time Accuracy

*Per RH sensor manufacturer data sheet

Note: The HOBO U-Shuttle (U-DT-1) is not compatible with this logger.