

MX2308

HOBOb MX2308 Temp/RH/PAR Data Logger

Measures Temperature, RH & Photosynthetically Active Radiation (PAR) with LI-COR PAR sensor

High-precision monitoring of PAR, temperature, and humidity with effortless Bluetooth data offload, ideal for monitoring environmental conditions—from agricultural operations to academic research.

Important Information

Requires a compatible mobile device or Windows computer and the HOBObconnect app. System requirements for the app can be found at bottom of the HOBObconnect software page. Get cloud storage and access to the powerful tools of LI-COR Cloud[®] IoT software! (formerly HOBOblink) Add an MX Data Plan!



Compatible with
HOBObconnect[®] Monitoring App

Supported Measurements

PAR, Relative Humidity, Temperature

Features

Wireless Bluetooth Data Offload Fast, easy logger setup and download via phone or tablet (up to ~100 ft range) High-Accuracy PAR Measurements Integrated LI-COR PAR sensor delivers research-grade light intensity readings for both sunlight and indoor grow light conditions Integrated Temp & RH Monitoring Logged temperature and humidity alongside PAR enables calculation of **VPD** for a complete view of greenhouse climate conditions Rugged, Weatherproof Design Durable IP67/NEMA 6 housing stands up to humid, wet, and dusty environments found in greenhouses, growth chambers, or outdoor field sites Long Battery Life & Memory User-replaceable battery lasts up to ~2+ years and ample data storage supports extended deployments Alarms and Alerts See out-of-range conditions with logger's LED readout, and configure threshold alerts using HOBObconnect for proactive monitoring Easy Deployment Users can deploy the logger in minutes, configure logging intervals via the HOBObconnect app, and wirelessly retrieve data (without a laptop) in the field!

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 MX2308 Temp/RH/PAR Data Logger (MX2308) Specifications

Temperature Sensor

Range	-40 to 65 °C (-40 to 149 °F)
Accuracy	±0.2 °C (typical) within -40 to 65 °C
Resolution	0.008°C (.014 °F)
Drift	<0.01°C (0.018°F) per year

Relative Humidity (RH) Sensor

Range	0 to 100% RH, -40° to 65 °C (-40° to 149 °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% RH
Drift	<1% per year typical

Photosynthetically Active Radiation (PAR) Sensor

Range	0 to 3,000 $\mu\text{mol}/\text{m}^2/\text{s}$ (full sunlight)
Accuracy	±5% typical (LI-COR LI-190R factory calibration)
Offset	+/-1 $\mu\text{mol}/\text{m}^2/\text{s}$
Resolution	0.1 $\mu\text{mol}/\text{m}^2/\text{s}$
Spectral Range	400–700 nm (PAR waveband)
Linearity	Maximum deviation of 1% up to 3,000 $\mu\text{mol}/\text{m}^2/\text{s}$
Stability	≤ 2% change over one year
Temperature Dependence	±0.15% per °C maximum
Cosine Correction	Cosine corrected up to 82° angle of incidence
Azimuth	≤±1% error over 360° at 45° elevation
Tilt	No error induced from orientation
Detector	High stability silicon photovoltaic detector (blue enhanced)
Sensor Housing	Weatherproof anodized aluminum case with acrylic diffuser and stainless steel hardware. O-ring seal on the sensor base.
Sensor Size	2.36 cm diameter x 3.63 cm (095" x 1.43")
Cable Length	1.8 m

Calculated Metrics

Accumulated PAR in mol/m^2 , Daily Light Integral (DLI) in $\text{mol}/\text{m}^2/\text{day}$, Vapor Pressure Deficit (VPD) in kPa, and Dew Point (computed from logged data)

Response Time (typical, to 90% of change)

Temperature	
Without Solar Radiation Shield	17 minutes in air moving 1 m/sec
With RS1/M-RSA Solar Radiation Shield	24 minutes in air moving 1 m/sec
RH	
Without Solar Radiation Shield	30 seconds in air moving 1 m/sec
With RS1/M-RSA Solar Radiation Shield	40 seconds in air moving 1 m/sec

Response Time (typical, to 90% of charge)

Temperature	Without Solar Radiation Shield: 17 minutes in air moving 1 m/sec With RS1/M-RSA Solar Radiation Shield: 24 minutes in air moving 1 m/sec
Relative Humidity (RH)	Without Solar Radiation Shield: 30 seconds in air moving 1 m/sec With RS1/M-RSA Solar Radiation Shield: 40 seconds in air moving 1 m/sec

Logger

Operating Range	-40 to 65 °C (-40 to 149 °F)
Radio Power	0.4mW (-4 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 is 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 c
Memory	195,000 measurements, maximum
Full Memory Download Time	Approximately 4-5 minutes; 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.) LI-190R: 2.36 cm diameter x 3.63 cm (0.93 x 1.43 in.)
Weight	Logger: 149 g (5.26 oz)
Materials	Acetal, silicone gasket, stainless steel screws
Environmental Rating	NEMA 6 and IP67

