

indoor HOBO® LCD Temp/RH Logger

With Display & Alarm Output



Size/Weight: 12.4 x 9.1 x 3.0 cm (4.9 x 3.6 x 1.2"),
170 g (6.0 oz.) w/ batteries

Key Specifications

- Measurement Range:**
- Internal temperature sensor: -20° to 50°C (-4° to 122°F)
 - Internal RH sensor: 15% to 95% RH
 - External water resistant sensor: -40° to 100°C (-40° to 212°F) in air, up to 50°C (122°F) in water
 - Stainless steel temp probe: -40° to 100°C (-40° to 212°F)
 - External temperature/RH probe: -40° to 75°C (-40° to 167°F) 0-100% RH between 0° and 50°C (32° to 122°F); sensor can be used in intermittent condensing environments up to 30° C (86° F)
- Accuracy:**
- Internal temperature sensor: ±0.7° at 20°C (±1.3° at 68°F) (see temp plot at far right)
 - Internal RH sensor: ±3% RH between 20% and 80% (see RH plot at far right)
 - External water resistant sensor: ±0.7° at 20°C (±1.3° at 68°F)
 - Stainless steel temp probe: ±0.7° at 20°C (±1.3° at 68°F)
 - External temperature/RH probe: temp: ±0.7° at 20°C (±1.3° at 68°F), RH: ±3%

When temperature and humidity conditions are critical, the HOBO LCD Temp/RH Logger offers reliable notification of out-of-range conditions. A remote alarm and auto dialer are available for additional security. The optional Protective Case allows deployment in outdoor, wet, dusty or condensing environments.

Features

- Easy to Use**
LCD display of temperature (°C or °F) and relative humidity (%)
Battery operated with no special wiring required for standalone logger
User-selectable start time/date; sampling intervals (1 second to 9 hours); set points for high and low temperature/RH alert/alarm limits
Relay for alarm generation; user-selectable Delayed Alarm feature filters out false alarms
- Allows continued logging during data download
Alarm output relay: selectable for Normally Closed or Normally Open
Uses Onset BoxCar® Pro software for system launch, data retrieval, analysis and export to popular spreadsheet programs.

Versatile

- Sensor options for a variety of applications:
Internal temp/RH for non-condensing environments
External temp/RH probes for briefly condensing environments
External water-resistant temperature probes for wet environments
Protective case available for logger with external probes

Reliable

- Over 65,000 measurements logging capacity
(11 months logging T/RH at 15-minute intervals)
Battery powered for continued monitoring/logging during power outages
One-year battery life typical
Displays flashing ALERT for out-of-limit alarm conditions
Remote Alarm/Auto dialer accessories (optional) ensure timely notification of alarm conditions
Non-volatile EEPROM memory retains data even if batteries fail

Easy to Maintain

- Uses 3 AAA alkaline batteries
User-replaceable internal RH sensor (Model H14-001)
Local display of memory and battery status



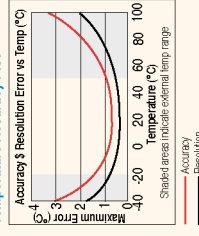
Compliant with all relevant directives in the European Union (EU)



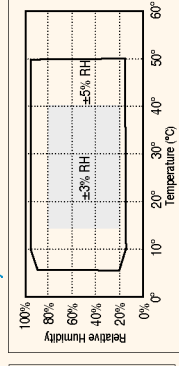
BoxCar®Pro-compatible

Detailed Specifications

Temperature Accuracy Plot

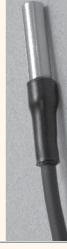


RH Accuracy Plot



- Operating temperature range:** -20° to 50°C (-4° to 122°F)
Humidity range: 0-95% RH, non-condensing, non-fogging
Time accuracy: ±1 minute per week at 20°C (68°F)
Recording modes: Stop when full or Wrap-around when full
NIST-traceable temperature accuracy certification available
Internal Temperature Sensor—non-condensing environments
Response Time (to 90%): <15 min. in air flow of 1 m/s (2.2 mph)
Internal RH Sensor—non-condensing environments
Response Time (to 90%): <2 min. in air flow of 1 m/s (2.2 mph)
Drift: <2% RH over 5 years (typical)

External Temperature Sensors:



Water Resistant External Temp Probe
0.7 x 2.5 cm (0.275 x 1")

Water Resistant Ext. Temp Probe (L-TMA-M00X)

- Sensor tip and cable can be immersed in fresh water up to 50°C (122°F) for 1 year
Response time (to 90%): <3 min in air flow of 1 m/s (2.2 mph); 1 min typical in stirred water



Stainless Steel Temp Probe
0.3 x 10.2 cm (0.12 x 4")

Stainless Steel Temp Probe (L-TMB-M002)

- Sensor tip only is suitable for immersion
Response time (to 90%): <3 min in air flow of 1 m/sec (2.2 mph); 15 sec typical in stirred water



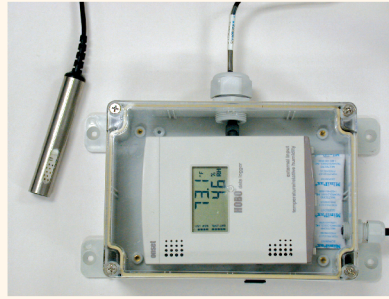
External Temp/RH Probe
1.6 x 8.9 cm (0.625 x 3.5")

External Temperature/RH Probe (S-THA-M00X)*

- Response Time (to 90%): temperature—8 minutes typical; RH—5 minutes typical in air flow of 2 m/sec (4.5 mph)
Drift: <0.1°C (0.2°F) temp per year (typical); ±1% RH per year; an additional, reversible RH drift up to 3% can occur when average RH exceeds 70%.

* Sensor requires protection from rain, splashing, mist, and airborne chemicals such as salt and ammonia. Operation outside stated limits or repeated sensor saturation will cause premature sensor failure.

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Size/Weight: 17.1 x 12.7 x 5.7 cm (6.75 x 5 x 2.25"); 315.2 g (11.2 oz)

LCD Protective Case

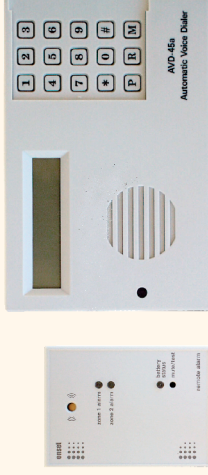
With the Protective Case, the LCD logger can be mounted wherever you need real-time data display, data logging and alarm initiation—even in outdoor, wet, dusty, or condensing environments. On-site data download to a laptop is easy through a removable seal on the side of the Case.

Features & Specifications

Tested to NEMA 4X (IP65) Standards for protection from corrosion, wind-blown dust and rain, splashing water, and hose-directed water
External Temperature or Temperature/RH sensor and alarm relay cables feed through watertight grommets
Easy data readout via removable watertight fitting with O-ring seal
Desiccant pack minimizes internal condensation for best viewing of LCD display
Provided with tabs that can be used for screw-in wall mounting
Hook and loop tape secures LCD logger inside case
Materials: Polycarbonate body and cover—UV stabilized

Note: Protective Case is for use with the H14-002 HOBO LCD Data Logger with external input from remote Temperature or Temperature/RH sensors. Check the HOBO LCD Sensor specifications to assure that the unprotected external sensor is recommended for your operating environment.

Remote Alarm & Auto Dialer



Onset's Remote Alarm provides audible and visual indication of alarm conditions. The Auto Dialer automatically calls a pager or voice phone when an alarm condition occurs. Use the Remote Alarm and Auto Dialer together or separately to ensure remote notification of alarm conditions detected by the LCD logger.

Remote Alarm Features & Specifications

Adjustable audible alarm level (soft/loud)
Mute button temporarily silences audible alarms
Self-test confirms proper indicator operation
Two inputs provide alarm notification for separate zones
Powered by 3 user-replaceable AAA alkaline batteries; 1 year battery life (typical)
Battery status indication
Size/Weight: 11.2 x 8.4 x 4.1 cm (4.4 x 3.3 x 1.6"); 168 g (5.9 oz)

Auto Dialer Features & Specifications

Dials up to 4 different numbers
Transmits either voice or numeric messages (for pagers)*
Automatically redials busy or unanswered numbers (up to 10 times for each number)
AC powered (AC adapter included)
Internal 9V alkaline battery provides 4 hours of stand-by power
Works alone or in conjunction with remote alarm
Size/Weight: 15.2 x 10.2 x 3.8 cm (6.0 x 4.0 x 1.5"); 283.5 g (10 oz)

**Note: Auto Dialer does not recognize "*" symbol*

HOBO LCD Temp/RH System Ordering

Description	Part No.
Internal version: HOBO LCD Temp/RH Replacement RH Sensor for H14-001	H14-001 HUM-UPS-600
External version: HOBO LCD with External Probe input LCD Ext. Temp Probe with 2 m (6.6') cable with 6 m (19.7') cable LCD Ext. Stainless Steel Temp Probe	H14-002 L-TMA-M002 L-TMA-M006 L-TMB-M002

External Temp/RH Sensor with 2 m (6.6') cable	S-THA-M002
with 6 m (19.7') cable	S-THA-M006
with 17 m (55.8') cable	S-THA-M017

A BoxCar Pro 4.3 Starter Kit is required to operate the LCD logger. Each Starter Kit includes software, PC interface cable, and software manual. Use with USB port requires USB-Serial Adapter (pg 49). See page 51 for software information.

Software: BoxCar Pro 4.3 Starter Kit (Windows®) USB-Serial Adapter	BCP4.3-ON CABLE-USB232
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Accessories: 2-Zone Remote Alarm Auto Dialer Protective Case	ARA AVD-45 H14-CASE-4X
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