LogTag Recorders

UHADO-16

USB/PDF Temperature & Humidity Logger with Display

- Record and display Temperature & Humidity readings simultaneously
- Up to 16,000 sets of recordings - enough for the longest trip
- Real time clock provides date/time stamp for every recording
- USB micro-port for direct connection to a computer
- Automatic generation of a PDF report without special software
- Contact pins allow connection to LogTag Interfaces, including WiFi type
- User configuration for alarm setting, logging interval, trip duration etc.
- In transit inspections can be recorded at the push of a button
- User replaceable CR2032 lithium coin cell battery

The LogTag® UHADO-16 Temperature & Humidity logger measures and stores up to 16,000 sets of high resolution humidity and temperature readings over a measurement range of 0~100% RH and -30°C to +70°C (-22°F to +158°F).

The display shows current Temperature & Humidity readings, Alarm status and Recording status. By pushing the "Review" button, the user can check minimum and maximum Temperature & Humidity readings for the trip, and the duration of any Temperature & Humidity recordings in the Alarm range.

The UHADO-16 can be connected directly to a computer for configuration and data download using a standard Micro-USB to USB cable. The user has the option of automatically generating a PDF report on download. In addition, the UHADO-16 is fitted with three contact pins, meaning that it can be used with the LogTag LTI-USB, LTI-HID and LTI-WiFi Interface Cradles. Data can be processed using readily available LogTag Analyzer and LogTag Online software.

### Additional RH uncertainty for temperatures different than 25°C
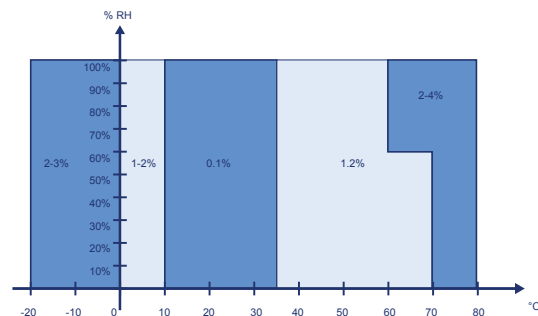
This graph shows the possible additional uncertainty in %RH compared to the accuracy specifications for temperatures different than 25°C for the standard factory calibration. The shown uncertainties may be positive or negative.

The performance can be improved by re-calibrating the product for %RH at the specific temperature of interest after which case this chart would no longer apply.

Humidity Measurement Operating and Storage Conditions

This chart shows the normal recommended operating range of the humidity sensor. Conditions outside the recommended range may temporarily offset the RH signal up to ±3 %RH.

After return to normal conditions it will slowly return towards calibration state by itself. See "Reconditioning Procedure" to accelerate this process. Prolonged exposure to extreme conditions may accelerate ageing.
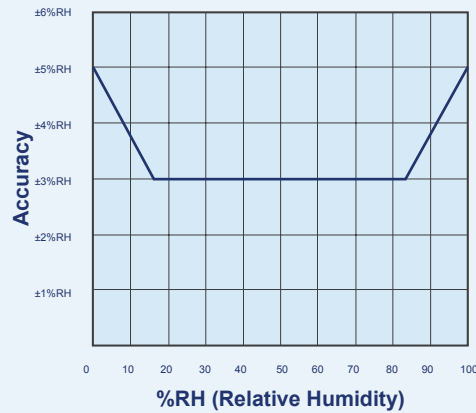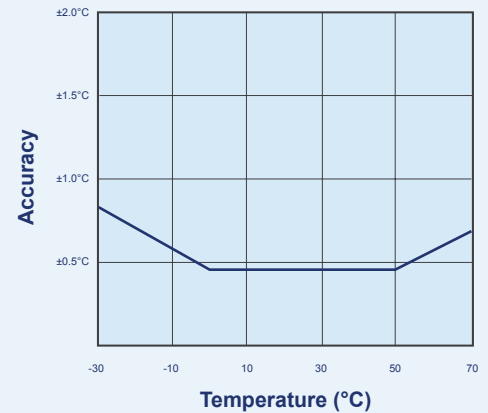
Accuracy / Resolution Charts
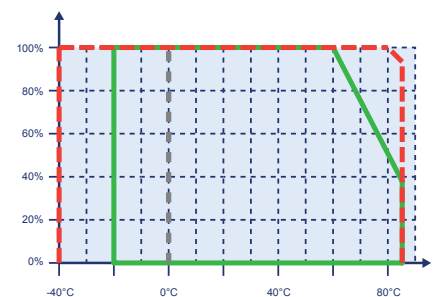
Accessories

Wall Mount Bracket

LTI-HID

LTI-WiFi

Rated Relative Humidity Reading Accuracy @ 25°C

Accuracy (±6%RH, ±5%RH, ±4%RH, ±3%RH, ±2%RH, ±1%RH) vs %RH (Relative Humidity) (0, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100)

%RH (Relative Humidity)

Rated Temperature Reading Accuracy

Accuracy (±2.0°C, ±1.5°C, ±1.0°C, ±0.5°C) vs Temperature (°C) (-30, -10, 10, 30, 50, 70)

Temperature (°C)

Product Specifications

Product Model	UHADO-16.
Sensor Measurement Range	-30°C to +70°C (-22°F to +158°F).
Operating Temperature Range	-30°C to +70°C (-22°F to +158°F).
Storage Temperature Range	0°C to +40°C (+32°F to +104°F).
Humidity Measurement Range	0% RH to 100% RH, with limitations.
Humidity Operating Range	0% RH to 100% RH, with limitations.
Storage Humidity Range	0-65%, non condensing.
Humidity Resolution	Better than 0.1% RH.
Temperature Resolution	Better than 0.1°C or 0.1°F
Recording Capacity	16,129 pairs of humidity and temperature readings 106 days @ 10min logging, 160 days @ 15min logging. Day summary statistics memory (for display on LCD): up for 30 days of Max/Min/duration and alarm trigger statistics.
Sampling Interval	Configurable from 30 seconds to several hours.
Logging Start Options	Push button start or specific date & time.
Recording Indication	State indicator "RECORDING".
Download Time	Typically less than 10 seconds for full memory, depending on computer or readout device used.
Environmental	IP61.
Power Source	3V Li-Mg Battery.
Battery Life	1 year of normal use (based on 15 minute logging, download data monthly). Replaceable battery.
Real Time Clock	Built-in real time clock. Rated accuracy ±25ppm @ 25°C (equivalent to 2.5 seconds/day). Rated temperature coefficient is -0.034 ±0.006ppm/°C (I.e typically +/- 0.00294 seconds/day/°C).
Connection Interface	Interface Cradle or USB 2.0 / Micro USB plug.
Software	LogTag® Analyzer
Size	93mm(H) x 54.5mm(W) x 8.6mm(T).
Weight	41g.
Case Material	Polycarbonate.

Re-conditioning Procedure

Exposure of the internal sensor to chemical vapors may interfere with the internal sensor and cause inaccurate readings to be logged. In a clean environment, this will slowly rectify itself. However, exposure to extreme conditions or chemical vapors will require the following reconditioning procedure to bring the internal sensor back to calibration state.

80°C (176°F) at<5%RH for 36 hours (baking) followed by 20-30°C (70-90°F) at>74%RH for 48 hours (re-hydration) High levels of pollutants may cause permanent damage to the internal sensor.

Exposure to Chemicals

Chemical vapors may interfere with materials used for the humidity sensor. The diffusion of chemicals into the sensor's polymer may cause a shift in both offset and sensitivity. In a clean environment the contaminants will slowly outgas.

The reconditioning procedure described to the left will accelerate this process. High levels of pollutants may cause permanent damage to the humidity sensor's polymer.