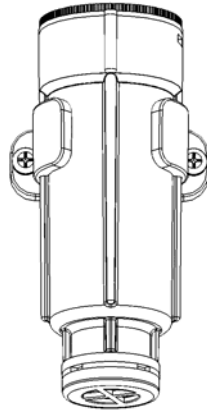


Deploying and protecting the logger

- To clean the logger’s case, use a sponge with warm, soapy water.
- Use the included clamp to mount the logger to a surface. The clamp has two holes for the screws, 44 mm (1.7 inches) apart.



The clamp is slightly tapered to accommodate the logger. Install the clamp so the logger fits better with its communication window facing up. This will prevent condensation from pooling around the sensor and/or grommet.

- A solar shield is recommended if the logger will be exposed to sunshine.
- Periodically inspect the desiccant and dry it if it is not bright blue. The desiccant pack is located in the cap of the logger. To dry the desiccant, remove the desiccant pack from the cap and leave the pack in a warm, dry location until the bright blue color is restored. (Refer to the “Battery” section for instructions on removing and replacing the logger cap.)

Temperature range (RH > 90%)	Desiccant maintenance schedule
Less than 30°C (86°F)	Approximately once per year
30° to 40°C (86° to 104°F)	Approximately every six months
Over 40°C (104°F)	Approximately every three months

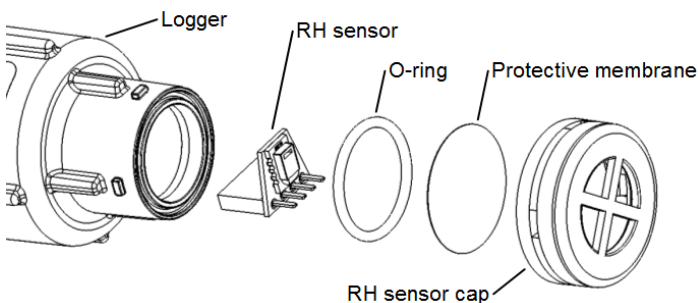
Replacing the RH sensor

The RH sensor (on models U23-001 and U23-002) is protected by an ASA styrene polymer cap and a modified hydrophobic polyethersulfone fluid barrier membrane that allows vapor to penetrate while protecting the sensor from condensation.

RH sensor performance may degrade over time. To replace the RH sensor in your logger, refer to the diagram and instructions for your logger:

U23-001

1. Turn the sensor cap counter-clockwise slightly and pull to remove it.
2. Set the membrane aside. If the o-ring comes off, set it aside as well.

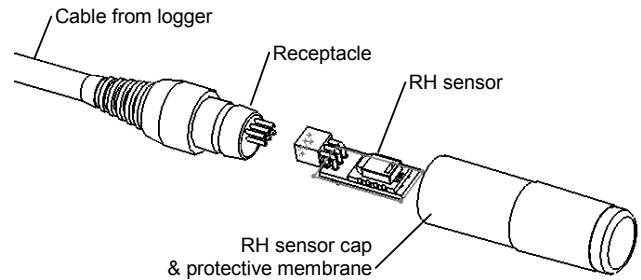


3. Note the orientation of the small circuit board containing the RH sensor. Using a pair of small pliers, pull it out and discard it.

4. Push gently but firmly to install the new sensor (Onset part # HUM-RHPCB-1) in the same orientation.
5. Make sure the o-ring is clean and seated properly, and set the protective membrane on top (either side can face up).
6. Put the sensor cap back on. Push down and turn it slightly clockwise to close it securely. Do not force it. If the cap does not go on easily, the sensor may be installed incorrectly. Check the sensor orientation and try again.

U23-002

1. Grasp the cap and membrane and pull firmly. Discard them.
2. Note the orientation of the small circuit board containing the RH sensor. Pull it out and discard it.



3. Push gently but firmly to install the new sensor (Onset part # HUM-RHPCB-2) in the same orientation.
4. Put the new sensor cap and membrane on. Do not force the cap. If it does not go on easily, the sensor may be installed backwards. Reverse the sensor and try again.

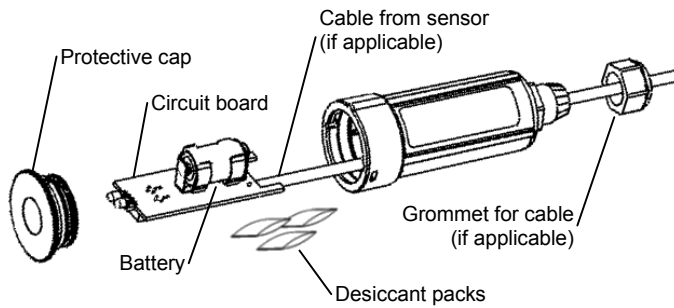
Battery

Typical battery life is about three years. Actual battery life is a function of the number of deployments, logging interval, and operation/storage temperature of the logger. To obtain a three-year battery life, use a logging interval of one minute or greater, and operate and store the logger at temperatures between 0° and 40°C (32° and 104°F).

Frequent deployments with logging intervals of less than one minute, and continuous storage/operation at temperatures above 40°C, will result in significantly lower battery life. For example, continuous logging at a one-second logging interval will result in a battery life of approximately one month.

The logger can report and log its own battery voltage. If the battery falls below 3.1 V, the logger will record a “bad battery” event in the datafile. If the datafile contains “bad battery” events, or if logged battery voltage repeatedly falls below 3.3 V, the battery is failing and should be replaced before the next deployment. To change the battery:

1. Turn slightly counter-clockwise and pull to remove the protective cap. Loosen the cable grommet on the opposite end, if the logger has an external sensor.
2. Carefully pull out the circuit board containing the battery. (If the logger has an external sensor, you will probably find it easier to push the cable(s) into the case to push the circuit board out.)
3. Examine the desiccant packs that were packed into the case. If the desiccant is not bright blue, put the desiccant packs in a warm, dry place until the blue color is restored.



4. Install a new 1/2 AA, 3.6 Volt lithium battery (part # HP-B). The positive end of the battery should face towards the communication LEDs.
5. Use a clean, dry cloth to wipe away any moisture inside the case.

6. Push the board and the desiccant packs back into the case, aligning the board with the grooves inside the case. (If you try to put the board in upside-down, the battery will get in the way.)
7. Make sure o-ring on the protective cap is still in place. It should not be pinched, twisted, or trapping dirt or lint, which could interfere with the protective cap.
8. Line up the bumps on the protective cap with the notches in the logger's case. Push and turn the cap slightly clockwise. Pull the slack in the sensor cable(s) and-tighten the grommet, if applicable.

⚠ WARNING: Do not cut open, incinerate, heat above 100°C (212°F), or recharge the lithium battery. The battery may explode if the logger is exposed to extreme heat or conditions that could damage or destroy the battery case. Do not dispose of the logger or battery in fire. Do not expose the contents of the battery to water. Dispose of the battery according to local regulations for lithium batteries.