



Rechargeable Robot Batteries – Frequently Asked Questions (FAQ's)

What type of batteries are in Terrapin products?

Terrapin robots and wireless devices are powered by rechargeable lithium polymer batteries. These batteries are custom designed to be compact while providing a large amount of power relative to their size and weight, so are ideal for mobile devices such as robots. Lithium batteries are also used in cell phones because of their high-power density.

How are batteries recharged?

Each Terrapin product with an internal battery comes with its own specific USB charging cable. To recharge the battery, set all power switches to the OFF position, attach one end of the cable to the USB port on the product, and the other to a USB power source. A USB power source may be a USB port on another device, such as a desktop or laptop computer, or a USB port directly connected to an electrical outlet (*with or without an adapter*). Charging is always faster when done directly from an electrical outlet.

Terrapin offers a [Six-Bot USB Charger](#) which allows you to charge up to 6 robots or other USB devices at one time utilizing a single electrical outlet. It has an on/off switch and individual port lights to signal when a device is charging (*red*) and fully charged (*green*).

For Bee-Bots and Blue-Bots, Terrapin offers a [Docking Station](#) as an additional charging option. The Docking Station is a tray to which Bee-Bots and/or Blue-Bots may be affixed without needing any cables. When plugged into a single electrical outlet, the Docking Station charges up to six Bee-Bots and/or Blue-Bots simultaneously.

NOTE – [Spare charging cables](#) are available for all robots if you want extras or need replacements.

When do I need to recharge the battery / know if the battery is charged?

Robots or other products that light up but don't move, that move sluggishly, or that do not operate as expected indicate that the battery likely needs charging. Some products have indicator lights that battery power has diminished. Consult your product's manual for information about the indicator lights.

A few hours are usually sufficient to recharge a battery fully in any Terrapin product. Shorter periods may be all that's required if the battery still has some juice in it when charging begins. Consult your product's manual for information about the length of charging times.

How can I maximize battery life?

Maximize battery life during regular use by *charging only when needed*. Stop charging when the battery is fully charged, and if possible, *avoid charging overnight*. You will not overcharge a battery, but the effort of a constant trickle charging can lead to higher ambient temperatures for your product, which can reduce capacity over time. Heat is not a lithium battery's friend.



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Keep your product cool, as higher temperatures accelerate the loss of battery capacity. Do not store in an overly heated or direct sun location.

Long term storage

It is recommended that lithium battery products to be stored for any length of time (*like over the summer*) be run down to about 50%, have all the power switches turned OFF, and be stored in a cool, dry place. A few months of storage should pose no problem, but for longer periods of time, try to recharge them at least every six months. Longer periods without charging at all contributes to battery exhaustion.

Do not charge when products are in storage. Bee-Bots/Blue-Bots may be stored on a Docking Station as long as it is unplugged.

Why is my battery not holding a charge?

Lithium batteries have a lifespan, measured in the number of charging cycles, and will eventually give out. Too frequent charging or not charging often enough shortens it. See the section on '*how to maximize battery life*' for further details. Not holding a charge indicates a battery is coming to the end of its useful life. Batteries in Terrapin products have an estimated life of 3-5 years with normal classroom use.

I haven't used my robot in a long time. Why isn't it working?

When lithium batteries are not used or recharged over a long period, their capacity degrades. Storing and not using products with batteries can lose 20%-35% of their capacity per year depending on storage climate and temperature.

Can I replace or repair the battery?

Replacement [Bee-Bot / Blue-Bot Rechargeable Batteries](#) along with the [special screwdriver](#) required to access the battery compartment are available for purchase on the Terrapin web site. Contact Terrapin about battery replacements for other products.

Do not attempt to repair a battery or substitute with one that is not authorized.

How can I test if the battery is an issue?

A power (*battery*) issue may be diagnosed by swapping the battery in a product that is not working correctly with one from the same or similar (*Bee-Bot / Blue-Bot are interchangeable*) product that is working correctly. If replacing the battery solves the issue, then the battery is likely the problem. If replacing the battery does not solve the issue, then the problem likely has another source.



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How should the rechargeable batteries be disposed of?

When a product has reached the end of its useful lifespan you will need to remove the battery from its battery compartment and dispose of it *separately* from the rest of the product.

NOTE: The screw hole on the battery compartment for [Bee-Bot](#), [Blue-Bot](#) and [Pro-Bot](#) is a peculiar shape (*a triangle*) to meet EU compliance for young kids not being able to get inside the robot. Oddly enough, there is usually a triangle shaped tip on the end of a pair of full-sized scissors. If you wrap a cloth around an open pair and twist the robot rather than the scissors, opening the battery compartment should be manageable in short order. If trying this option makes you uncomfortable, the [special screwdriver](#) required to access the battery compartment is available for purchase on the Terrapin web site.

Once the battery is removed, the emptied product can be disposed of in regular trash, but the batteries cannot - they need to be taken to a local dump or a recycling center (*that is set up specifically to accept them*) for proper disposal.

Batteries are considered household hazardous waste and should be disposed of properly at a hazardous waste facility drop off. They hold many long-term risks because they carry many toxic substances that when crushed will leak into the ground and contaminate our water. *Ask your local electronics stores if they offer rechargeable battery return programs or do an online search for the facility or facilities nearest you.*