



QBii Quick Start Manual

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1 Safety Information

Before using your robot, familiarize yourself with the following basic safety information:

1. **Your robot is not a toy.** It should not be operated by a child unless under the direct supervision of a responsible adult who is familiar with the safe operation of the robot.
2. The robot is an electrical appliance. Basic precautions for electrically powered devices should always be followed.
3. Small children and pets should be supervised when the robot is operating nearby. Never deliberately drive the robot towards a person or an animal.
4. Your robot does not automatically detect edges or cliffs. Do not drive the robot or program a path near a stair edge or other discontinuity in the floor.
5. Although the robot is equipped with range-finding sensors that detect obstacles, they are not foolproof and are not a substitute for responsible operation.
6. Never deliberately drive the robot towards walls, furniture, or anything else that might suffer damage.
7. Your robot is designed to operate indoors on clean, bare floors that are free of obstructions.
8. The robot may drive on low-pile carpet but not on deep-pile carpet.
9. Do not drive over electrical cords, ropes, string, loose cloth, or anything else that might become entangled in the robot's wheels. If this happens, stop the robot immediately, turn it off, and remove the battery if it is safe. If the obstruction is an electrical cord, unplug it from its source before touching the robot.
10. Do not expose the robot to water.

2 Before You Begin

To use the Control App, you must ensure the following first:

1. Install the Control App on your mobile device.

Instructions on how to do this may be found in a separate document called “App Installation Instructions.”

2. During installation, allow the Control App access to your mobile device’s

- Location Services
- Storage (photos and media)

3. Turn on Bluetooth on your mobile device.

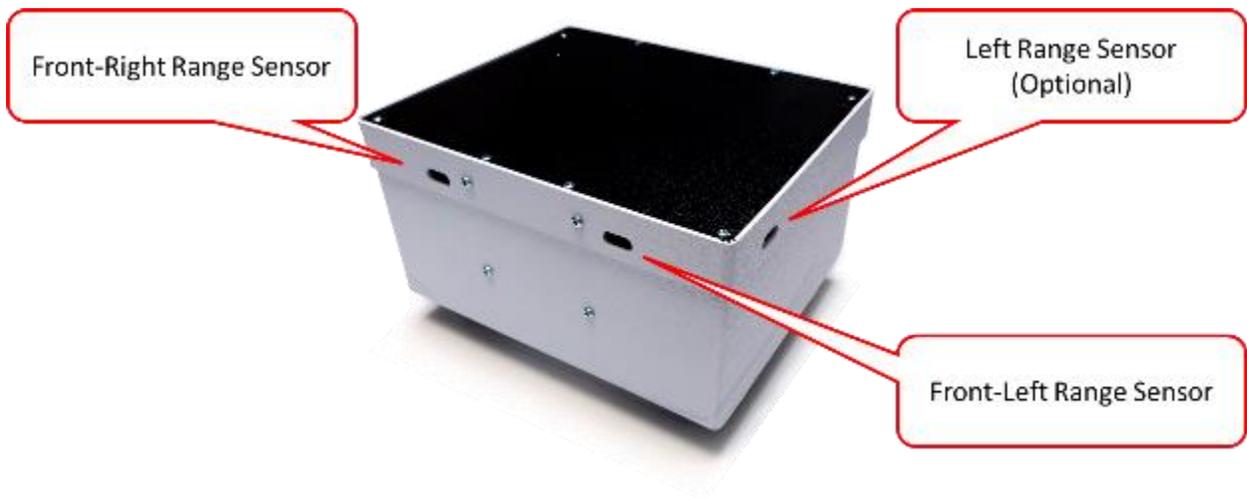
The Control App communicates with your robot via Bluetooth Low Energy (Bluetooth LE or BLE). You must ensure that Bluetooth is enabled on your device.

4. Update the robot’s firmware, if necessary.

Ensure that your robot is running the latest version of its firmware.

Instructions on how to do this may be found in a separate document called “Arduino QBii Environment Instructions.”

3 Quick Tour of QBii



4 Charging Your Batteries



Your QBii robot comes with two rechargeable li-ion batteries compatible with the M12 format used in Milwaukee tools, together with a battery charger.

QBii is also compatible with high-capacity versions of the M12 batteries (not included).

To extend your robot's operational time, we recommend charging one battery while the other is in use. That way, when the robot's battery is low, you can immediately swap it out for a fresh battery.

This will allow you to operate your robot on a nearly continuous basis.

When the robot is on, you can use its built-in Voltmeter to monitor the battery's charge. Here are approximate voltage levels corresponding to different charge levels:

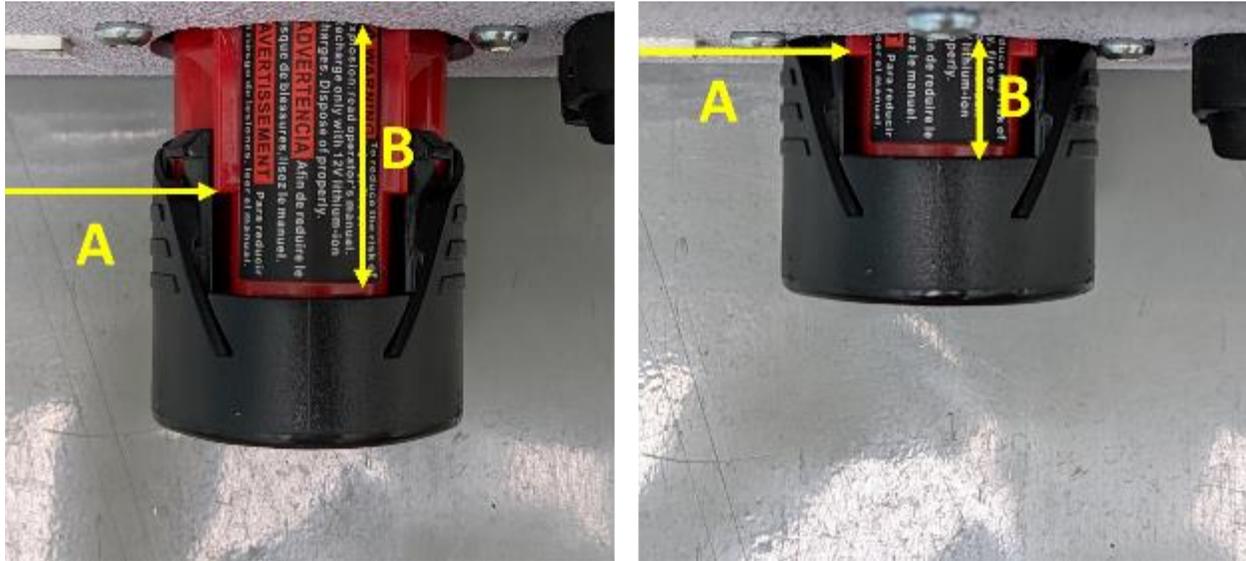
- Full charge: 12.6V
- Operating range: 11.0V to 12.6V
- Depleted battery: 10.2V

Take voltage readings when the robot is stationary. The current draw from moving motors will cause the voltage to drop, which might give misleading results.

Do not use a battery in the robot if its voltage is below 10V. You should immediately swap this battery out for a freshly charged battery.



5 Installing a Battery



Insert an M12 battery into the Battery Port on the robot's Switch Panel (see Section 3).

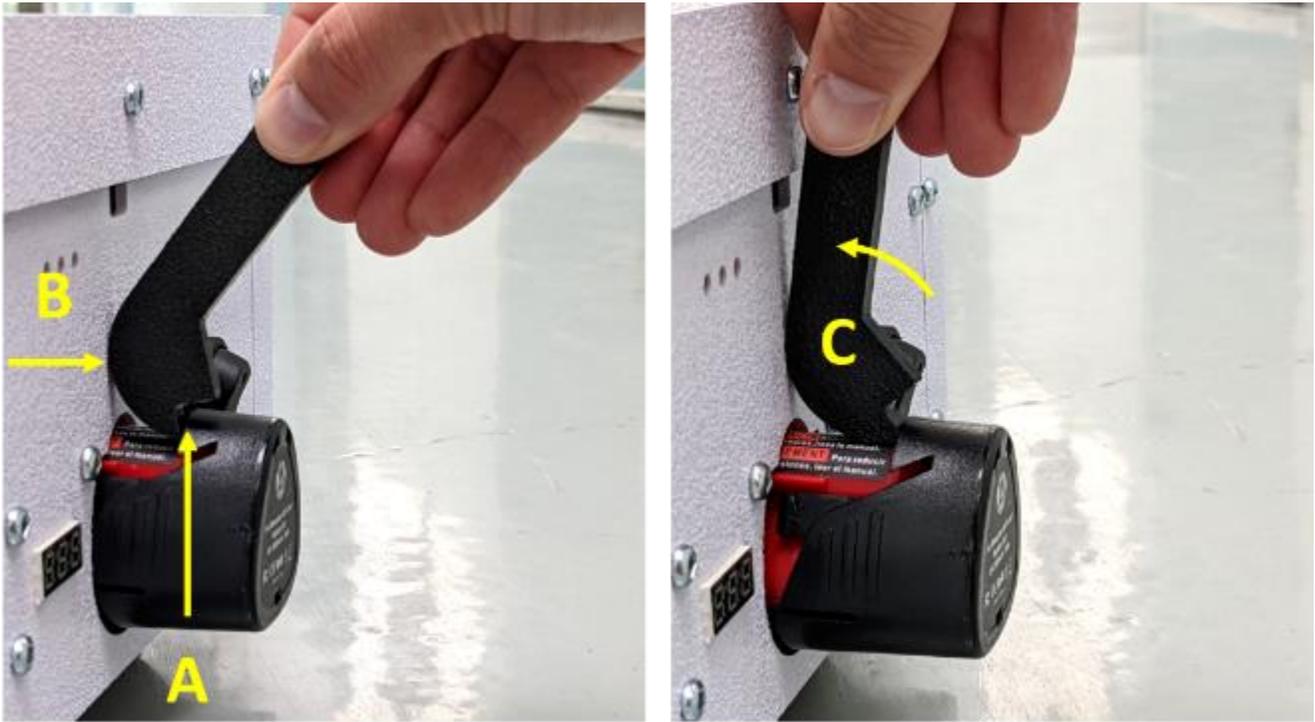
Gently push the battery until you hear a faint click and/or feel a positive engagement. This will happen when the edges of the red tabs (A) reach the Switch Panel. **Do not use excessive force, as this may damage the battery mount.**

When the battery is fully inserted, distance (B) from the lip of the battery shell to the Switch Panel should be about 0.5 inches.

A properly inserted battery is displayed shown below.



6 Removing a Battery

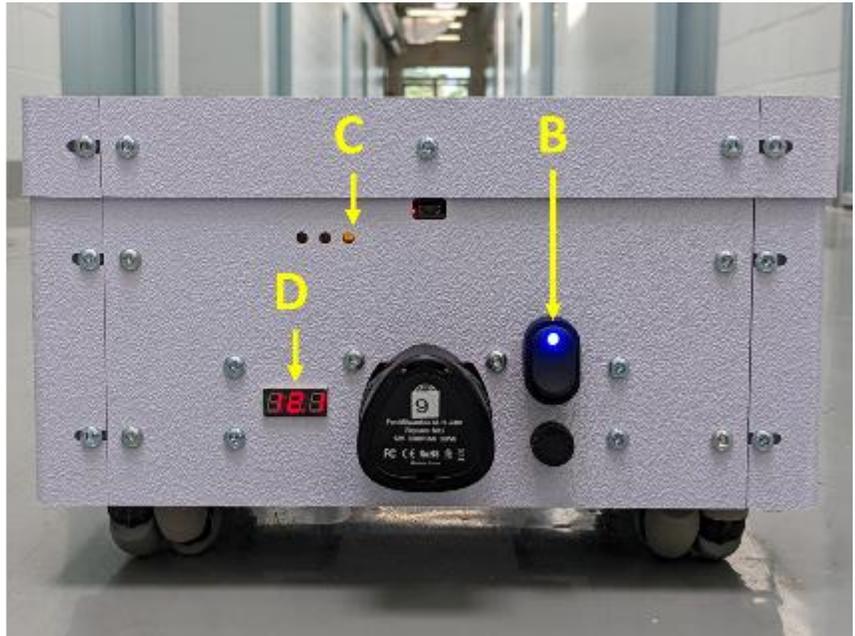


Typically, the robot's battery can be removed by simply grasping its black shell between your thumb and forefinger, squeezing slightly while pulling.

Sometimes, however, batteries may be more challenging to pull out. A **Battery Removal Tool** is included with your robot.

Hook the 'bird's mouth' feature of the Battery Removal Tool over the upper lip of the battery (A) with the rounded corner of the Tool against the rear panel (B). Rotate the Tool towards the robot (C) until the battery pops out.

7 Powering Up the Robot



With a charged battery in place, press on the upper half of the toggle switch (A). You should immediately see the following changes:

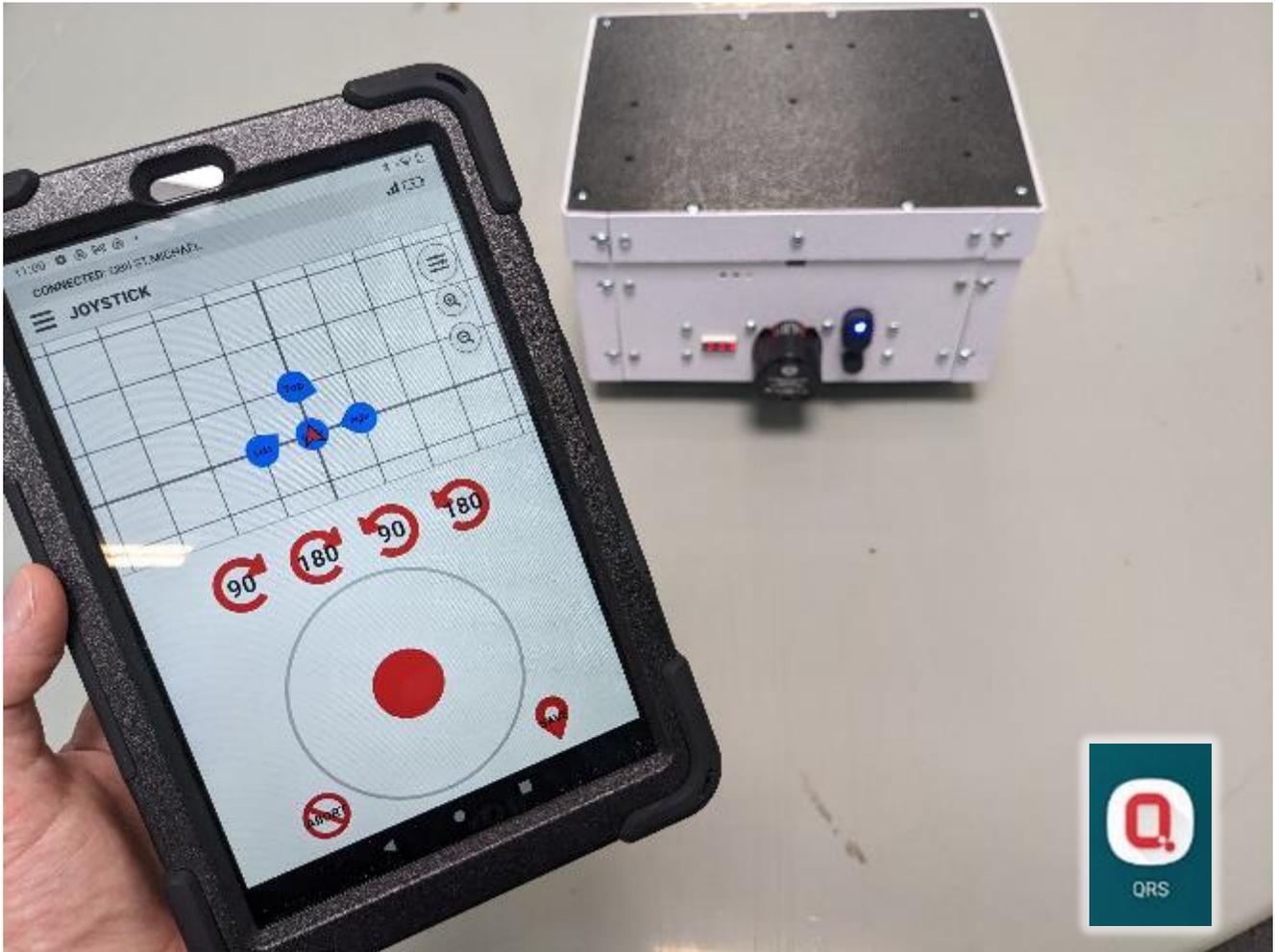
- The LED in the upper half of the toggle switch should turn on
- The third LED on the control board (C) should turn on
- The voltmeter (D) should indicate the battery voltage

Before proceeding, note the battery voltage. Here are approximate voltage levels corresponding to different charge levels:

- Full charge: 12.6V
- Operating range: 11.0V to 12.6V
- Depleted battery: 10.2V



8 Connecting the Control App



To control your robot, you must first connect to a mobile device that:

- Has the **QRS Control App** installed
- Has **Bluetooth Low Energy (BLE)** enabled

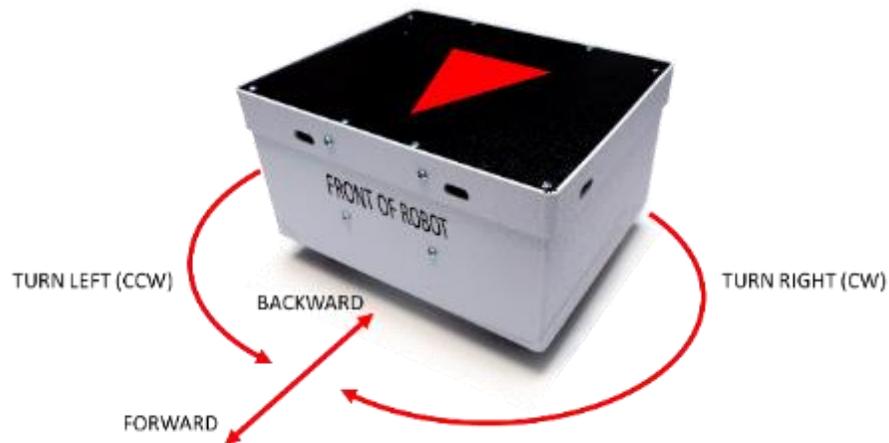
Make sure the robot is on. This will turn on its Bluetooth antenna.

Start the Control App by tapping the **QRS icon**. From the Dashboard screen, choose “Connect to Robot.” The App will scan for available robots in the area. Choose your robot and click “Connect.”

For more details, please refer to the **QRS Control App Manual**.



9 Driving the Robot



Driving the robot in **Joystick Mode** may require a little practice. The primary reason is that the forward/backward direction is defined relative to the robot, **not** the operator.

The best position for the operator while in **Joystick Mode** is **following behind the robot**. It may help to imagine the robot is a car, and you are its driver, sitting in a “driver’s seat” that moves and rotates with the robot.

