

Instructions for Delta-Trash Demo

1. Connect the backup battery to the system, its negative leg has been left disconnected to avoid battery discharging while in storage and is marked with a black marker. Utilize the Wago quick disconnect to reconnect it.
2. Flip the main battery disconnect safety switch located at the back of the robot to the 'ON' position. Note that the robot will now be powered on until the charging system is engaged or the backup battery and main battery are both simultaneously disconnected.
3. Utilize the app (buildable from code located <https://github.com/CameronParrettUKY/Delta-Trash/tree/main/Application> in MIT App Creator) to connect to the bluetooth device called "dela-trash".
4. You should now be able to utilize the app to control the robot.

NOTES:

1. The Power System PI PICO that is in the board has a dead analog to digital converter, this is due to a voltage spike problem that has been mitigated and time constraints and prevents the device from detecting charging status. Replacing this microcontroller and uploading firmware available at <https://github.com/CameronParrettUKY/Delta-Trash/tree/main/Power%20System/Code> will fix this. The one in the board has a modified firmware to turn the system on all the time, which was used for the demo at SDD.
2. At least one motor signaling set became disconnected while placing the robot in storage, this is fixable utilizing schematics provided in github (<https://github.com/CameronParrettUKY/Delta-Trash/tree/main/Power%20System/Circuit%20Schematics/powerboard> loadable in KiCad), but is necessary for a demo.
3. The charging system connector became disconnected during pre-SDD testing, and needs to be reconnected to charge the main battery.

4. The device contains a circuit fix in the form of 3 diodes stacked together that is not documented. This is to prevent voltage on the ADC pins of the power pico from exceeding 3 volts during transient conditions.