

This guide is intended for testing the Modern Robotics Core Control Modules. This guide does not take into account user program errors, connecting the Android devices using Wi-Fi direct, the driver station, or nonoperational legacy components.

You will need to download Core Device Discovery (<http://modernroboticsinc.com/coredevicediscovery>) to complete the tests in this guide.

Directions: Use only a computer when using this document. DO NOT use the phone to test your modules. Read Q1 and select the most appropriate answer. Follow the instructions or explanation under that answer. If support is contacted, specify that the Core Control Module Troubleshooting Guide from 12/4/17 was used.

Q1: When do you experience the problems you are having?

A1: While a program is running and the robot is moving.

USB connections are your culprit. If a connection wiggles in the port, a module will lose connection with the phone and an error will be thrown similar to "unable to find Modern Robotics USB Device..."

The most common connector for this is the micro connection going into the phone. The mini connections also provide the same challenge. Using a zip tie 1-2 inches from the connection to ensure the connector does not move with respect to the device it is connected to often fixes the problem. Teams have also found success in replacing their USB cables after rigorous use and using 3D printed strain relievers which can be found at <http://www.thingiverse.com/thing:1099628> courtesy of Dale Jordan of Oregon FTC.

A2: Before the robot is initialized (before "INIT" is selected on the driver station.)

[Continue to Q2.](#)

A3: After the robot has initialized but before the robot moves.

Check that your robot program and the configuration file have the motors, servos, sensors, and legacy controllers named the exact same and none of those items are missing from the robot configuration.

Q2: How many LEDs are illuminated on your Power Distribution Module?

A1: 0 LEDs / Flickers

[Continue to Q3.](#)

A2: 1 or 2 LEDs

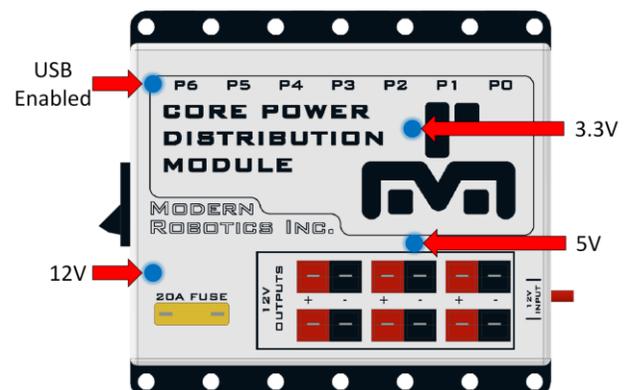
[Use the Module Repair Service Form](#)

A3: 3 LEDs

[Continue to Q4.](#)

A4: 4 LEDs

[Continue to Q5.](#)



Q3: Is your battery is charged, fuse(s) intact, and power switch(s) on? Be sure to check both the inline fuse on the battery and the fuse on the Power Distribution Module.

A1: No.

Charge battery, fix fuses, and turn on the robot.

A2: Yes.

[Continue to QA.](#)

Q4: Is your computer on and connected to the Power Distribution module?

A1: No.

Connect the Power Module to a computer that is powered on.

A2: Yes.

Contact support@modernroboticsinc.com with Q4 A2.

Q5: Do all connected Modern Robotics modules / controllers have LEDs illuminated?

A1: No.

[Continue to Q6.](#)

A2: Yes.

This indicated that the Core Power Distribution Module is working correctly. [Continue to Q9.](#)

Q6: Which module does not have any LEDs Illuminated?

A1: Servo Controller or Motor Controller.

[Continue to Q7.](#)

A2: Legacy Module or Device Interface.

[Continue to Q8.](#)

Q7: Do all motor and servo controllers have power provided from the Power Distribution Module through Anderson Power pole extension cables?

A1: No.

Provide power to your motor and servo controllers.

A2: Yes.

[Continue to Q8.](#)

Q8: Try switching the USB cable on the module without an LED illuminated with another cable that is working for another module. Now does the LED illuminate?

A1: Yes.

You have a broken USB cable which needs to be replaced. Go to <http://modernroboticsinc.com/Content/Images/uploaded/RepairService/ModuleRepairService.pdf> for more information on our repair service.

A2: No.

Contact support@modernroboticsinc.com with Q8 A2.

Q9: Click “Refresh” to refresh the Core Device Discovery device list. Do your modules show up with a green box?

A1: Yes.

Your modules are connected and working. Check that the firmware version of your modules is on 2.0 or higher. Modules on version 1.5 or 1.6 need a firmware update. For more information on our firmware update service, go to <http://modernroboticsinc.com/firmware-update>.

Also, refer to the Core Device Discovery documentation for more information on using the program (http://modernroboticsinc.com/Content/Images/uploaded/CoreDeviceDiscovery/Core_Device_Discovery_User_Guide.pdf).

A2: No.

[Continue to Q10.](#)

Q10: Connect each module that did not work in previous steps directly to the computer bypassing the Core Power Distribution Module.

A1: The module was detected when connected on its own.

Your module is in working order, there may have been a COM error on your computer with so many modules connected during the original test.

A2: Module does not show a valid COM port

Drivers may not have been installed properly on your computer. This is common with computer that are connected to a secure network like a school or business (requires Windows Update). If this is the case, you can install the FTDI drivers manually. Got to <http://www.ftdichip.com/Drivers/VCP.htm> and select the “setup executable” option in the comments column.

A3: Module still has a red box when using Core Device Discovery.

Click the “Save Output” button to save a text file with information that is useful to our support team. Email the text file(s) to support@modernroboticsinc.com. Please include the steps you have taken. The more detailed you are, the better we will be able to assist you.

Other Notes:

- If you are programming with Android Studios, make sure the “Instant Run” feature is disabled in the settings.
- Your phone may need a factory reset. Go to the setting of your phone and complete a factory reset of the phone. You will then need to follow the appropriate steps of setting your phone up as a Robot Controller.