Potential Hardware Issue with early production Modern Robotics Power Modules#41

New issue

> Open **ftctechnh** opened this issue on Oct 16 · 7 comments

ftctechnh commented on Oct 16 Owner

Modern Robotics has informed FIRST that they suspect that some of the early production Core Power Distribution Modules might have a hardware issue that can cause inconsistent behavior with the device's built-in USB hub. Devices that are affected might make it difficult for the Android Robot Controller to detect USB modules (such as the motor controller, servo controller, legacy module, and/or device interface module) that are connected through the Power Distribution Module's USB hub.

The problem requires that the module be sent back to Modern Robotics to have a part replaced on the device.

FIRST has requested from Modern Robotics additional information to help identify potentially suspect Power Distribution Modules, but currently we do not have a serial number range that can help us identify the devices which might be affected by the issue.

Modern Robotics has created a very handy utility program that can be run on a PC that can be used to scan and check all of your Modern Robotics modules (servo, dc motor, legacy and device interface). It can also be used to check your Power Module (if your PC can detect and communicate with the Modern Robotics devices that are connected through the Power Module reliably, then it's most likely a good Power Module). You can find information about the utility at the following web page:

http://modernroboticsinc.com/coredevicediscovery

If you are experiencing inconsistent USB connection issues that cannot be explained by problems with loose wiring or low battery voltage, then you should contact Modern Robotics for technical assistance to determine if you have a problematic device.

http://modernroboticsinc.com/contactus

5 **ftctechnh** added the issue label on Oct 16

ftclhsrobotics commented on Oct 17

Modern Robotics needs to provide a serial number list so that we can quickly resolve this issue.

The fact that the problem manifests itself as "inconsistent USB connection issues" means that it **could** work through the *handy* utitity program and still fail at other times.

Its quite easy once they identify the offending/misbehaving module any competent inventory system should be able to spit all the serial numbers of Core distribution modules that contain the bad parts

JochenFischer commented on Oct 23

Labels
issue

Milestone
No milestone

Assignee
No one assigned

8 participants

My team demonstrated their simple robot at the Mini Maker Faire in Charlotte two weeks ago. The robot was being used all day long and we lost connection numerous times.

As an engineer myself, I can say that it was not loose wiring nor low battery levels.

After trying to fix the connections all day long, I found that unplugging the USB cable from the Power and USB Distribution Module and plugging it in again always fixed the issue. It appears that the fault lies with the USB connection breaking down at some point.

techied commented on Oct 24

Wow. Glad I stumbled upon this, we are losing connection randomly because of failures. Will definetly contact Modern Robotics.

mennesoft commented on Oct 25

I can also verify that our team has one of the quirky core distribution modules. Inconsistent is the best way to describe it. When you connect the same set of modules and click Detect in the Settings of the Robot Controller application, sometimes you'll get all the connected devices, but sometimes not, and if you retry you'll often get different results even if you don't touch the hardware or cables at all.

We have also experienced loss of connection, but it could be related to the system trying to detect connected hardware at startup, and then getting different results as explained above.

We'll contact Modern Robotics as well. I don't know our serial number off hand.

Kevin Menningen
Team 7979
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WardBenjamin commented on Oct 25

My team has at least one dist. module with the same issues as described above by Kevin. He's right, inconsistant is the perfect way to describe it. Often, simply restarting the robot several times, or closing the app and turning the module off and back on fixes the issues related to non-detection of the hardware.

The error is always something USB-related, usually that the software can't find a motor controller. We've never had any issues with power, though.

Benjamin Ward, FTC Team 4592 Nuts & Bolts

AlecHub commented on Oct 29

Inconsistency is the nature of the race condition bug of the PDM reported here over two weeks ago.

TheOutlaws commented on Nov 2

And I am having troubles my team wants me to program the robot to go straight then turn and thiks is my first year doing android could I get a push in the right direction for this program