



USB Enabled LED Test

FIRST® has been tracking some reported technical issues with the Power Distribution Modules (PDMs) that are used with the new FIRST® Tech Challenge robot platform. The PDM is the device that acts as a powered USB hub and also distributes 12V power to the motor and servo controllers on a robot. Users in the field have reported a small number of PDMs with a power-on issue. In these cases, users power on the PDM but are unable to communicate to USB devices connected to the PDM. Modern Robotics (MR) has been investigating this issue. MR suspects that only a low number of devices may be vulnerable. MR has created a quick test to ensure your PDM is working properly.

The PDM has four blue LEDs on board. One of the LEDs is located in the upper left hand corner of the module, above and to the left of the words “CORE” and “P6” on the casing (see figure 1 and 2 for the LED labeled “USB Enabled” below).

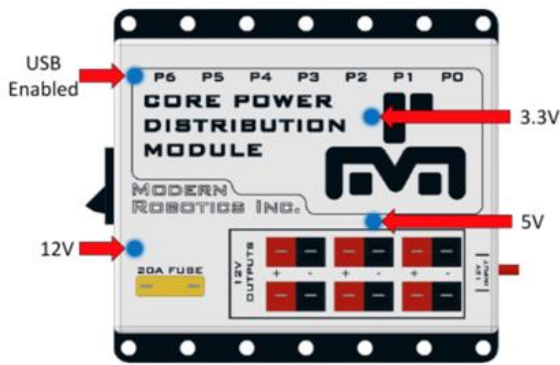


Figure 1: USB Enabled Location Schematic



Figure 2: Photo of USB Enabled Location

What you need:



Figure 3: Items needed for Test.

How to Test:

1. If your PDM was previously powered on, ensure it has been powered down for at least 30 seconds.
2. Connect the PDM to a fresh 12V battery, and then turn the PDM on.

Blue LED is turned off

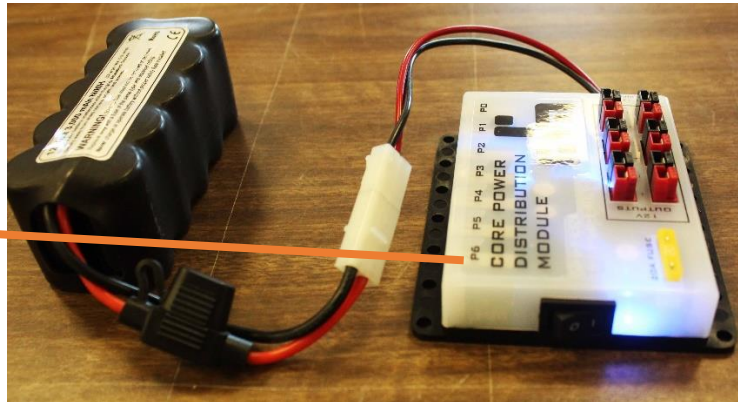
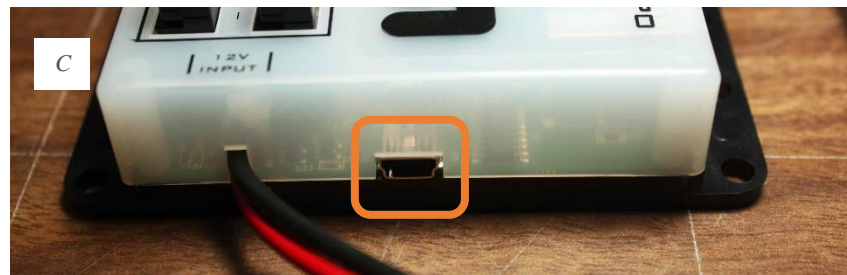


Figure 4: 12V Battery connected to PDM

3. Turn on your competition approved phone, and then plug it into the PDM micro port (see photo below, the USB micro port is circled in orange)



Figure 5: (A) Competition approved phone, (B) Micro to mini USB, (C) Micro port on PDM



4. The blue USB enabled light should turn on

Blue LED has turned on



Figure 6: Full Test Set Up

If this occurs you have a properly functioning PDM module. If the USB Enabled LED does not light up you should contact Modern Robotics to see if your device needs to be serviced.