

Firmware Upgrade & Instruction

0.3.0.rc01

PowerLok Rack PDUs

FW REV	DATE	REVISION
0.1.0.rc01	22 APR 20	Initial release of next generation 7000-8000 series PDUs.
0.1.1.rc01	19 JUL 21	Corrects auto negotiate function permitting 100 Mbps ethernet communications.
0.2.1.rc01	16 AUG 21	Corrects static IP function.
0.2.1.rc01	12 OCT 21	Add instructions for resetting PDU micro.
0.3.0.rc01	4 NOV 21	Advancements to network security features

POWERLOK
RACK POWER DISTRIBUTION

Introduction

This document provides instruction to enable the firmware to be upgraded on PowerLok Rack PDUs. PowerLok Rack PDUs are a next generation solution for the mission critical industry. All PowerLOK Rack PDUs are engineered, designed, tested, and manufactured in the United States. FW revision numbers are based on x.y.z.rc# Semantic Versioning, where;

x=Forward and/or backward compatibility conflict
y=Adding feature or function
z=Code change following release
rc=Code change before release

Step 1) Download File

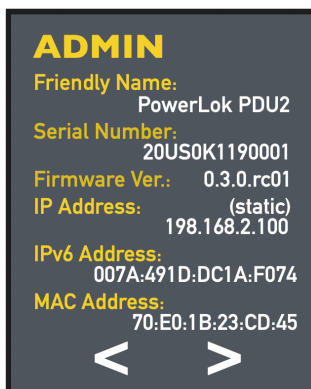
Download the zip file “gv-pdu-upgrade-vx.y.z.rc#” to a folder of your choosing. Unzip the file.

Step 2) Connect to PDU

With the PDU powered up, connect an ethernet cable between one of the PDU’s RJ45 ports and your laptop.

Step 3) Locate IP Address

Locate the IP address for the PDU to be updated by scrolling to the ADMIN screen on the PDU’s LCD display.

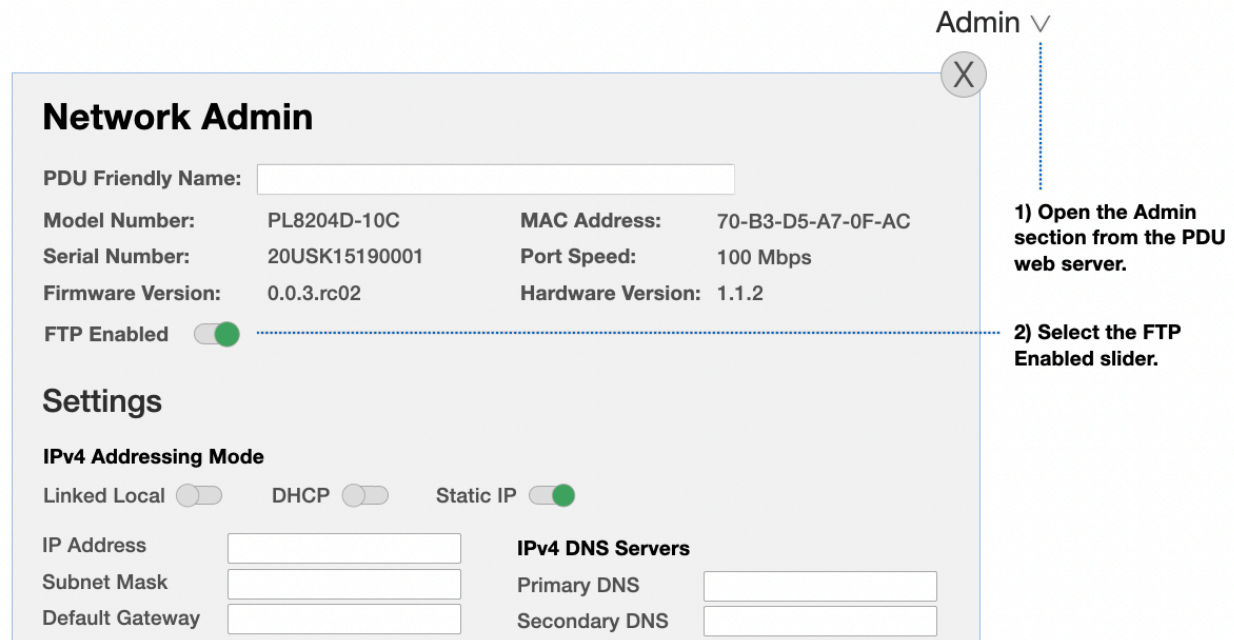


Step 4) Open Web UI

Open the WEB UI by typing the PDU’s IP address into your browser.

Step 5) Enable FTP

Use the following steps to enable FTP on the WEB UI via the ADMIN drop down menu. Note: FTP Enabled automatically closes after one hour.



The screenshot shows the 'Network Admin' web interface. At the top right, there is a dropdown menu labeled 'Admin' with a downward arrow and a close button 'X'. Below this, the 'Network Admin' section contains the following information:

PDU Friendly Name:	<input type="text"/>		
Model Number:	PL8204D-10C	MAC Address:	70-B3-D5-A7-0F-AC
Serial Number:	20USK15190001	Port Speed:	100 Mbps
Firmware Version:	0.0.3.rc02	Hardware Version:	1.1.2

Below this information, there is a toggle switch for 'FTP Enabled' which is currently turned on (green). To the right of the interface, two numbered instructions are provided:

- 1) Open the Admin section from the PDU web server.
- 2) Select the FTP Enabled slider.

The 'Settings' section below includes 'IPv4 Addressing Mode' with three options: 'Linked Local' (off), 'DHCP' (off), and 'Static IP' (on). Below this are input fields for 'IP Address', 'Subnet Mask', and 'Default Gateway'. To the right, there are input fields for 'IPv4 DNS Servers', 'Primary DNS', and 'Secondary DNS'.

Step 6) Close All Browser Connections

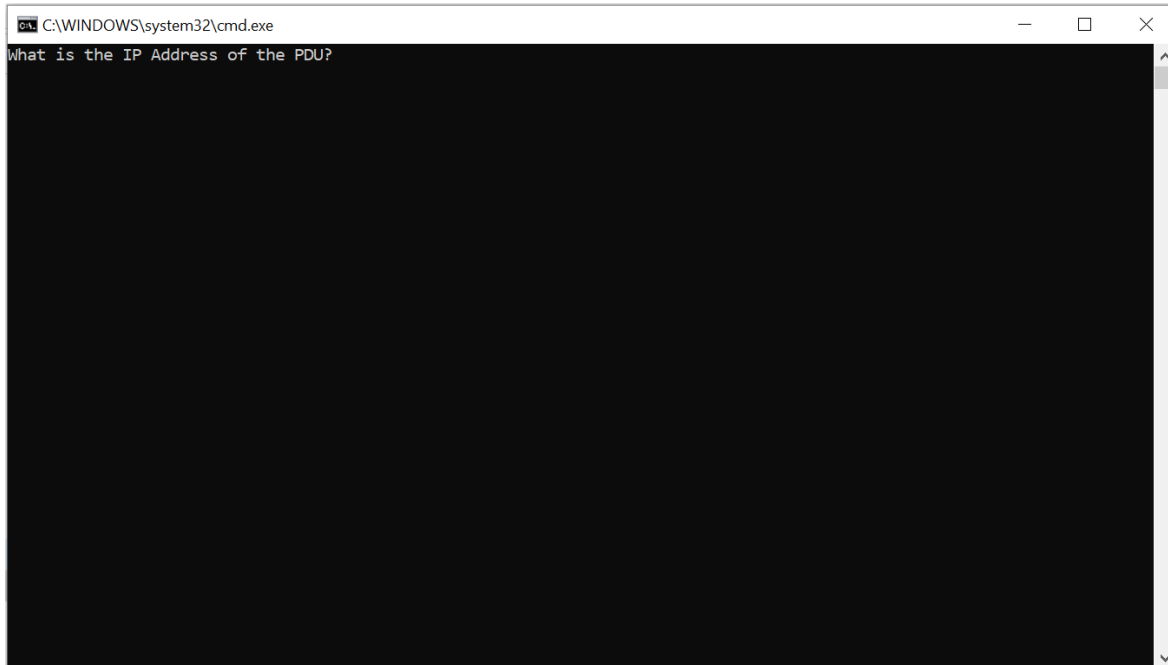
IMPORTANT! Before proceeding to upgrading the firmware, make certain all browser connections to the PDU are closed. The WEB UI must be closed for the firmware upgrade to proceed. It is recommended that the whole browser application is closed rather than the tab alone.

Step 7) Locate File

Locate the “pdu_upgrade.bat” file in the unzipped folder. Double click to open file.

Step 8) Enter PDUs IP Address

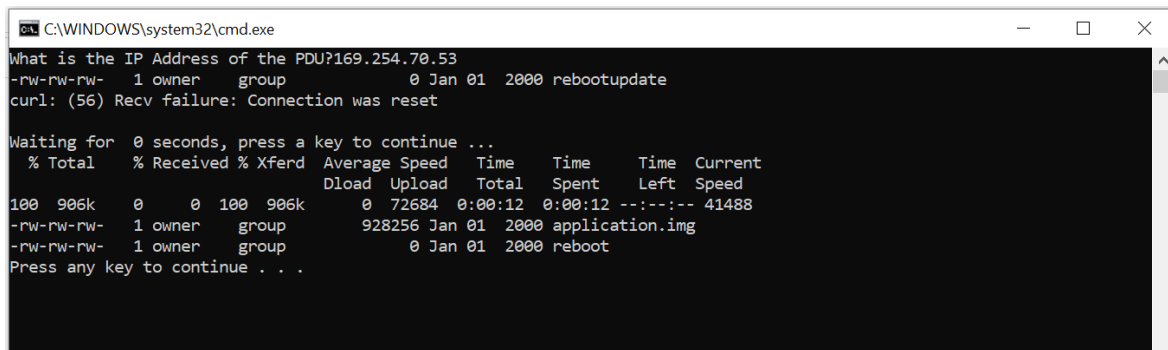
When the following screen appears, type in the IP address for the PDU being upgraded and press the ENTER key.



Step 9) Firmware Upgrade Process

IMPORTANT: During the “countdown” shown on the update screen during the upgrade process, the display states: “Press a key to continue...” DO NOT PRESS ANY KEY.

Allow the countdown to continue to zero and wait for the following screen to appear showing the completion of the firmware upgrade.

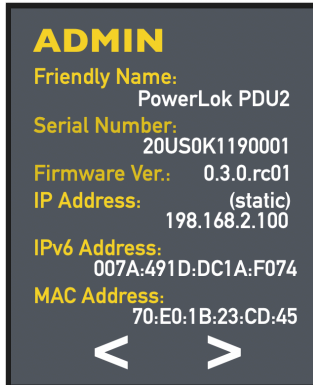


Step 10) Exit the Firmware Upgrade Program

When the previous step is complete, press the ENTER key to exit the firmware upgrade program.

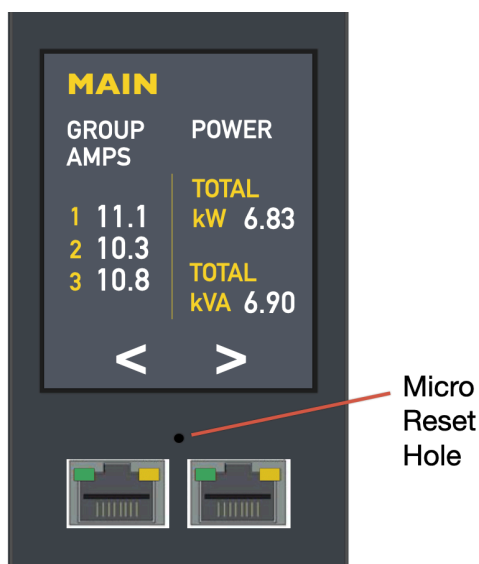
Step 11) Confirm Update on ADMIN Screen

Scroll to the ADMIN screen and verify the desired firmware version is displayed.



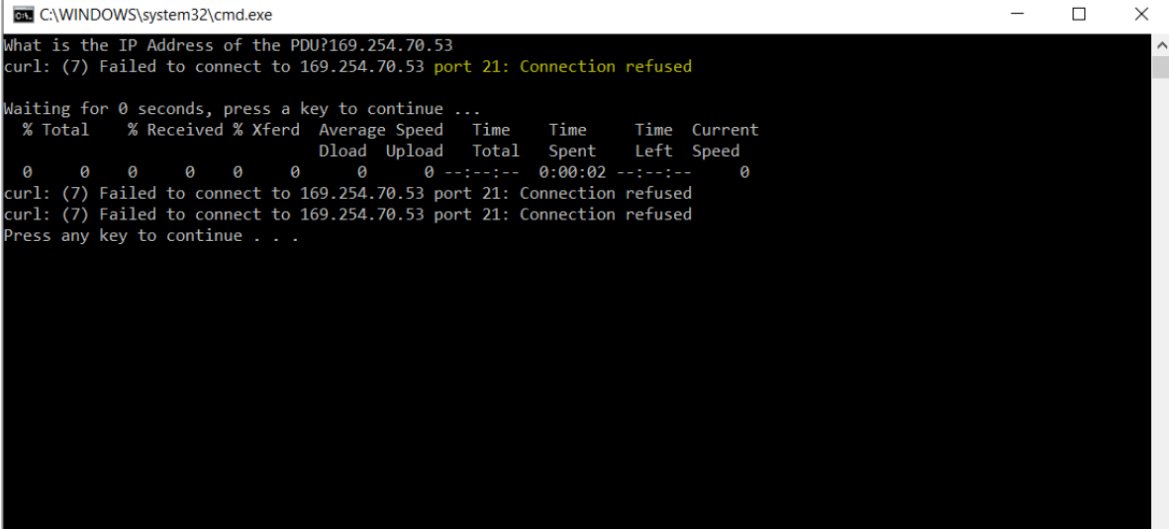
REBOOTING A PDU MICRO CONTROLLER

If the PDU application is non-responsive on the PDU itself or from the web application, you can reboot the micro controller to restore functionality. Rebooting the micro controller does not interrupt power the PDU receptacles. Insert a pin no larger than .030" (0.75mm) diameter to press and reset the switch. There is currently a misalignment with the underlying metal and some precision is required to access the reset switch. When the switch is activated, the PDU screen will go blank for a moment before rebooting. This is a SELV (Safety Extra Low Voltage) section of the PDU and no harm can come to the user.



TROUBLESHOOT

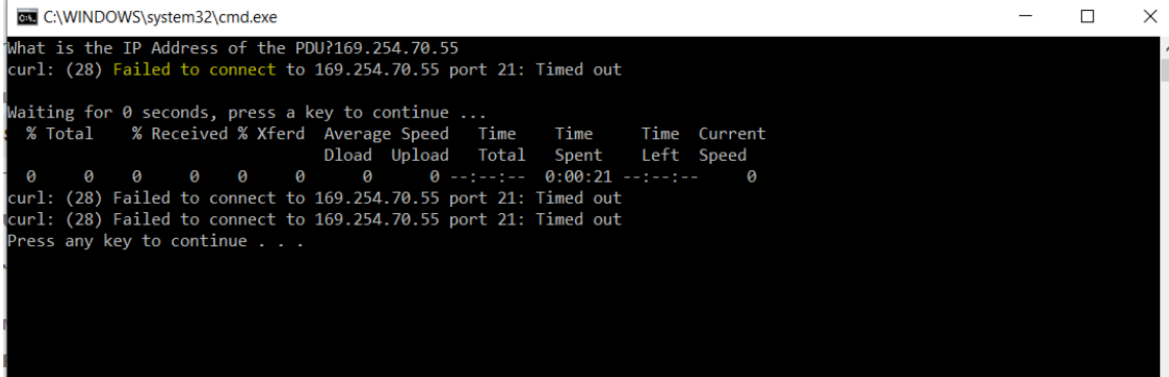
- A. If the FTP is not enabled through the WEB UI, the following screen will be displayed if a firmware upgrade is attempted:



```
C:\WINDOWS\system32\cmd.exe
What is the IP Address of the PDU?169.254.70.53
curl: (7) Failed to connect to 169.254.70.53 port 21: Connection refused

Waiting for 0 seconds, press a key to continue ...
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
   Dload  Upload   Total             Spent    Left     Speed
  0     0     0     0     0     0     0     0     0     0  --:--:--  0:00:02  --:--:--    0
curl: (7) Failed to connect to 169.254.70.53 port 21: Connection refused
curl: (7) Failed to connect to 169.254.70.53 port 21: Connection refused
Press any key to continue . . .
```

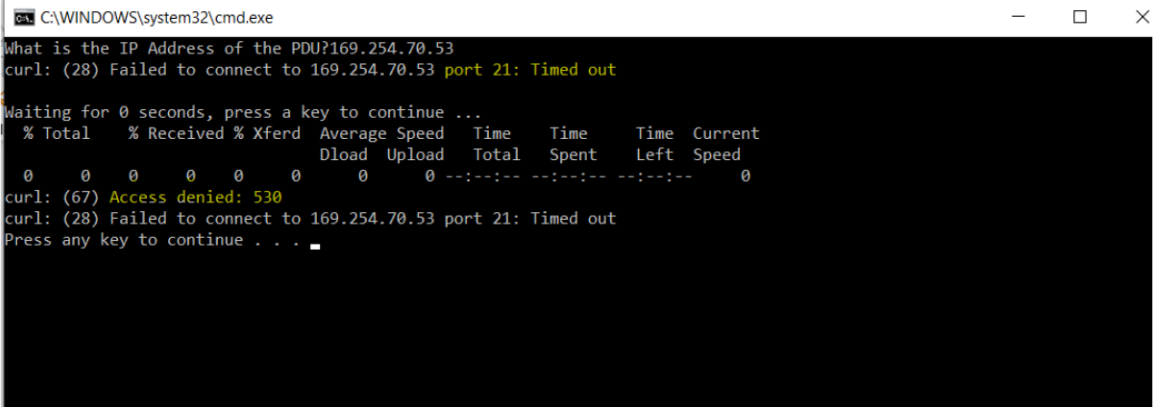
- B. If the IP address is incorrectly typed in, the following screen will be displayed after a pause of several seconds:



```
C:\WINDOWS\system32\cmd.exe
What is the IP Address of the PDU?169.254.70.55
curl: (28) Failed to connect to 169.254.70.55 port 21: Timed out

Waiting for 0 seconds, press a key to continue ...
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
   Dload  Upload   Total             Spent    Left     Speed
  0     0     0     0     0     0     0     0     0     0  --:--:--  0:00:21  --:--:--    0
curl: (28) Failed to connect to 169.254.70.55 port 21: Timed out
curl: (28) Failed to connect to 169.254.70.55 port 21: Timed out
Press any key to continue . . .
```

- C. If the WEB UI is still open when attempting a firmware upgrade, the following screen will appear after several seconds:



```
C:\WINDOWS\system32\cmd.exe
What is the IP Address of the PDU?169.254.70.53
curl: (28) Failed to connect to 169.254.70.53 port 21: Timed out

Waiting for 0 seconds, press a key to continue ...
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left   Speed
  0     0     0     0     0     0     0     0     0     0     0     0     0     0
curl: (67) Access denied: 530
curl: (28) Failed to connect to 169.254.70.53 port 21: Timed out
Press any key to continue . . .
```

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