

Firmware Upgrade & Instruction

PowerLok Rack PDUs

FW REV	DATE	REVISION
0.1.0.rc01	APR 20	First release of next generation 7-8000 series PDUs.
0.1.1.rc01	JUL 21	Correct auto negotiate function permitting 100 Mbps ethernet communications.
0.2.1.rc01	AUG 21	Improve static IP function.
0.3.0.rc01	SEP 21	Advancements to network security features.
0.4.0.rc01	NOV 21	Support added for Envirolok.
0.4.0.rc02	DEC 21	Linked local correction for automated final test system.
0.4.0.rc03	MAY 22	Power type 10 and 19 added.
0.5.0.rc05	JUL 22	Support added for Switchlok
0.5.0.rc06	AUG 29	Formatting improvements

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

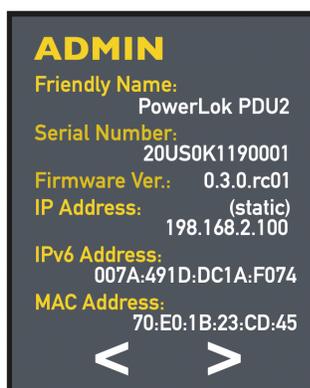
Download the zip file “gv-pdu-upgrade-vx.y.z.rc#” to a folder of your choosing. Unzip the file.

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 an 'Admin' dropdown menu with a downward arrow and a close button 'X'. Below this, the 'Network Admin' section contains several fields: 'PDU Friendly Name' (text input), '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', and 'Hardware Version: 1.1.2'. Below these is the 'FTP Enabled' slider, which is currently turned on (green). Underneath is the 'Settings' section, including 'IPv4 Addressing Mode' with 'Static IP' selected, and 'IPv4 DNS Servers' with 'Primary DNS' and 'Secondary DNS' input fields. To the right of the interface, two numbered instructions are provided: '1) Open the Admin section from the PDU web server.' and '2) Select the FTP Enabled slider.' Dotted lines connect these instructions to the 'Admin' dropdown and the 'FTP Enabled' slider respectively.

Step 6) Close All Browser Connections

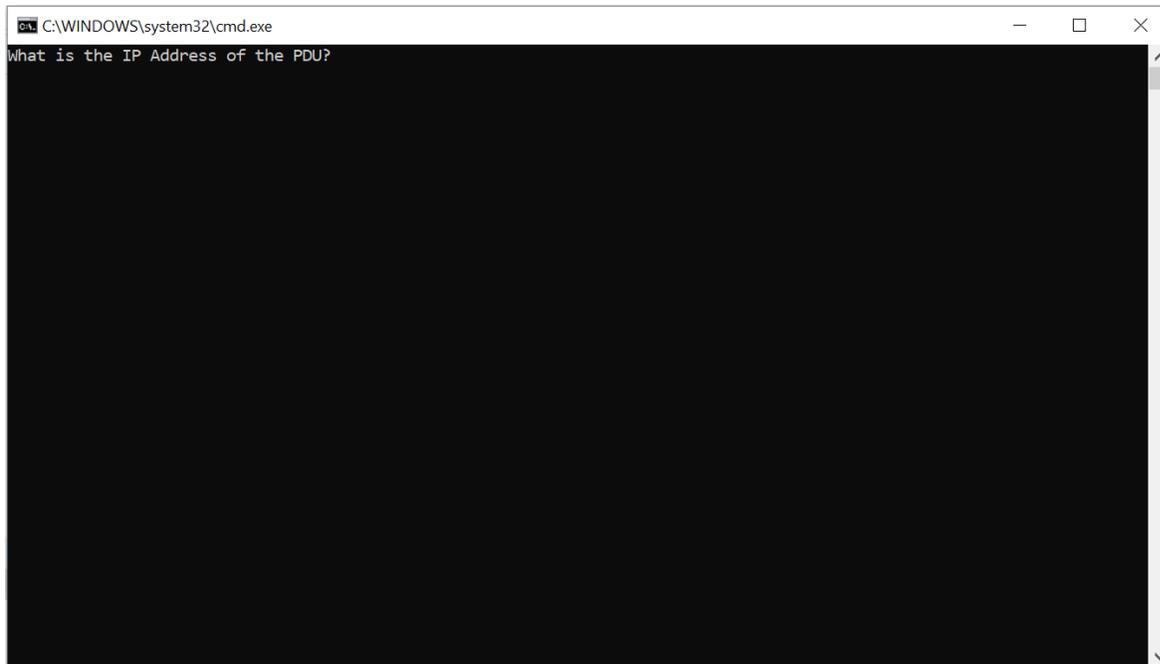
IMPORTANT! Before proceeding to upgrading the firmware, make certain all browser connections to the PDU are closed. The WEB UI must be closed for the firmware upgrade to proceed. It is recommended that the whole browser application is closed rather than the tab alone.

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

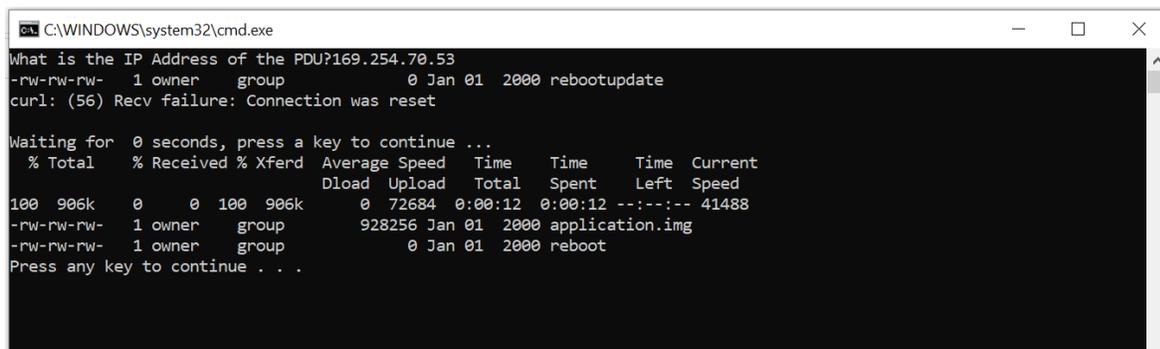
When the following screen appears, type in the IP address for the PDU being upgraded and press the ENTER key.



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.

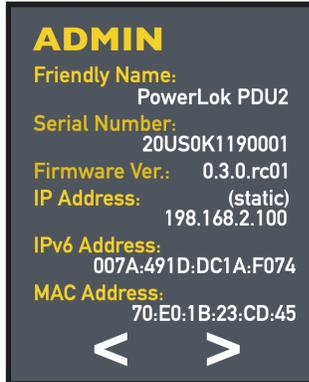


Step 10) Exit the Firmware Upgrade Program

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

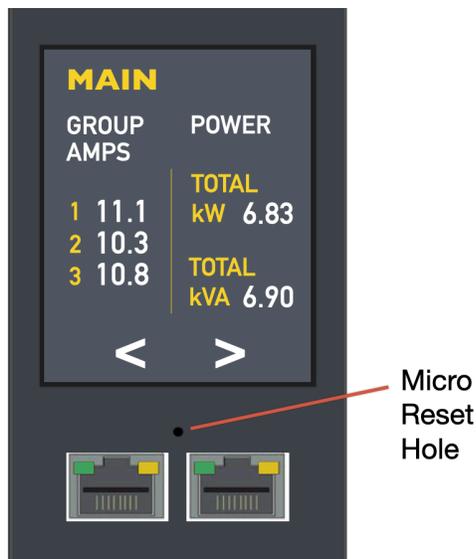
Step 11) Confirm Update on ADMIN Screen

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



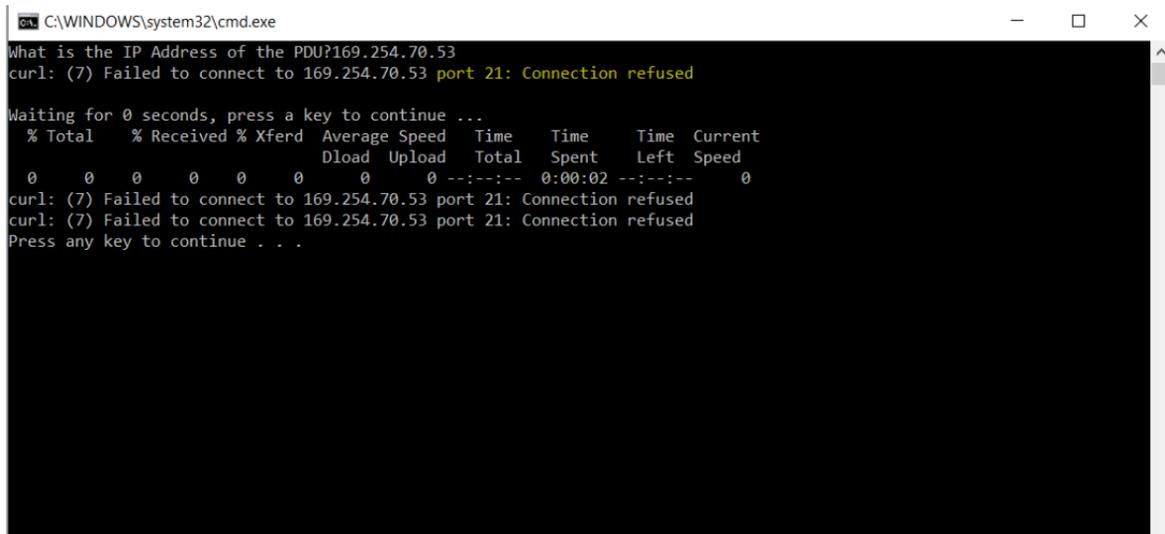
REBOOTING A PDU MICRO CONTROLLER

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

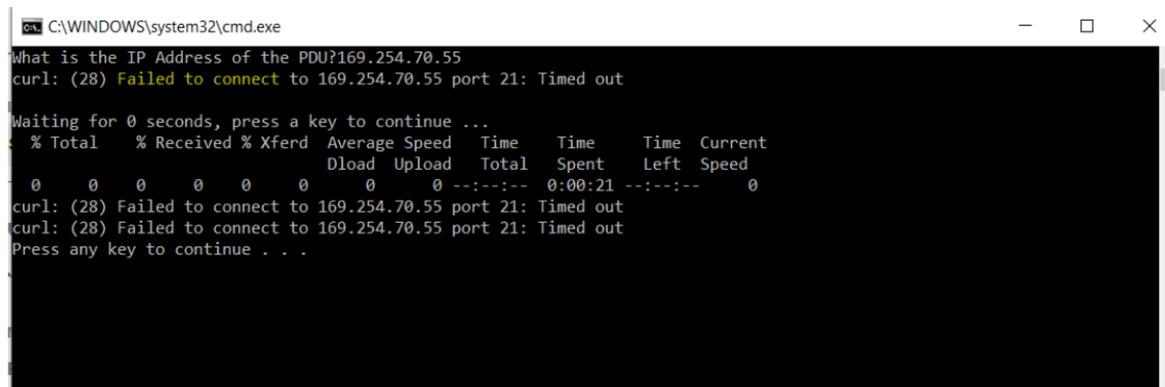
- A. If the FTP is not enabled through the WEB UI, the following screen will be displayed if a firmware upgrade is attempted:



```
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     Current
                                 Dload  Upload  Total  Spent    Left     Speed
  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 . . .
```

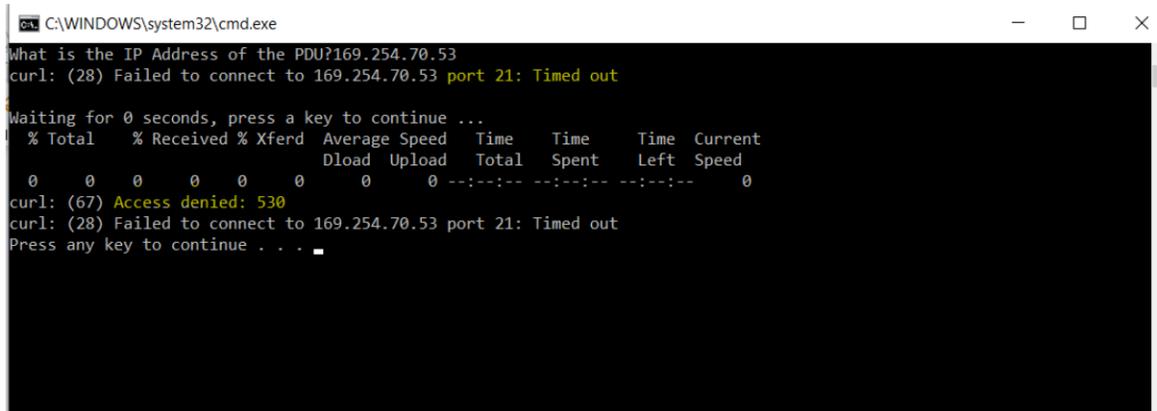
- B. If the IP address is incorrectly typed in, the following screen will be displayed after a pause of several seconds:



```
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     Current
                                 Dload  Upload  Total  Spent    Left     Speed
  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
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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