
User Manual for eConnect® PDU and Electronic Access Control

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Table of Contents

Legal Information	5
Warranty	5
Nomenclature	5
PRODUCT FEATURES	6
Proprietary Auxiliary ports:.....	9
PRODUCT LABELING AND CERTIFICATIONS	14
PDU MODELS	15
INSTALLATION CHECKLIST for eConnect PDUs and Electronic Access Control (EAC).....	17
Safety Warnings and Cautions	17
INSTALLATION GUIDE	18
USING THE LOCAL DISPLAY	22
Basic Menu Navigation	24
Monitoring PDU Conditions	25
Alarms.....	29
Network Configuration	31
Display Setup.....	35
PDU Settings	37
Update Firmware	41
PDU Model Information	44
USING THE BUILT-IN WEB SERVER APPLICATION	46
Login.....	46
Status – Overview.....	49
Status – Alarms	52
Outlet – Overview	52
Outlet – Setup.....	54
Outlet – Groups	55
eConnect Cabinet Access Control – Overview.....	56
Cabinet Access – Settings.....	57
Logging – Overview	58
Logging – Export Logs.....	59
Logging – Settings	60
Notification - Thresholds	61
Environmental Thresholds	62
Outlet Thresholds	63
Notification - Routing	64

Settings – PDU	67
Settings – PDU - Clone.....	69
Settings - Environmental.....	70
Settings – Network.....	71
Settings – SNMP	72
Settings – Emails	73
The PDU does not include a mail server. In order to provide email notifications for the PDU, you must first setup an email account for the PDU on an accessible mail server.....	73
• SMTP Mail Server – the mail server where the account resides, ex: smtp.google.com.....	73
• Port Number – the provider’s port number, usually 465 or 25.....	73
• Check Use TLS or Start TLS check box(es) to match your provider’s encryption requirements.....	73
• Email address – the email address assigned to the PDU	73
• If Authentication is required, select Specify Credentials from the drop down list.	73
• Enter the User Name and Password for the Email account.	73
• Select Anonymous if no Username and Password are required.....	73
• Enter the email address(es) of the Recipient(s) (eg: your technician’s email address.).....	73
Click on Save and Send a Test Email to make sure notification setup is correctly. The PDU must have network access to the mail server.....	73
Administration – User Management	74
Change the necessary information. Input the Key Card ID for the Electronic Access Control. If you don’t know your Key Card ID, see Appendix (Page 80). The same information should be input for both the Primary and Alternate PDU to assure the same logging authority will be carried through.	75
Administration – Radius Authentication	75
Administration – LDAP Authentication.....	76
Administration – Advanced	76
Administration – Upgrade Firmware	78
Additional Software.....	79
Using the APPLICATION PROGRAMING INTERFACE (API)	79
TROUBLESHOOTING GUIDE	79

APPENDIX.....	82
APPENDIX for eConnect EAC.....	82
Assigning a Key Card ID.....	82
Desfire Card:.....	90
HiD iClass Card:	91
MiFare Classic Card:	92
Prox Card:.....	93

INTRODUCTION – User Manual for eConnect® PDU and eConnect® Electronic Access Control

This document is the User Manual for CPI eConnect® Power Distribution Units (PDUs) and Electronic Access Control (EAC).

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Legal Information

The information contained in this guide is subject to change without notice. Chatsworth Products, Inc. (CPI) shall not be liable for technical or editorial errors or omissions contained herein; nor is it liable for any injury, loss, or incidental or consequential damages resulting from the furnishing, performance or use of this material and equipment.

Warranty

CPI warrants all CPI-branded hardware products to be free from defects in material and/or workmanship (CPI's Standard Limited Warranty) for a period of three (3) years following the date of purchase (the Original Warranty Period).

The customer must contact CPI in writing or by oral communication confirmed in writing within the Original Warranty Period to report a product that the customer claims is defective. CPI reserves the sole and absolute right to determine whether or not the product or any part thereof is defective. In the event a product (or any part thereof) is determined by CPI to be defective (an Accepted Claim), CPI will provide a re-manufactured or replacement product or part (the Replacement Product) at no cost to the customer and issue a Return Material Authorization (RMA) number.

Extended Limited Warranty

CPI Extended limited warranties on CPI-Branded Electronic and Non-Electronic hardware products are available for two additional years beyond the expiration of the Original Warranty Period (3 years). CPI's Extended Limited Warranty can be purchased concurrently with, or separately from, the initial purchase of the product until the expiration of the Original Warranty Period for that product.

For more information on CPI Warranties, [visit the website](#).



Nomenclature

PDU: eConnect Power Distribution Unit product

Socket/Receptacle/Outlet: Electrical output port

Secure Array™: Connects up to 32 PDUs under one IP address. A second connection provides failover capability, allowing linked PDUs to stay connected when one loses functionality.

Click Secure: PDUs with locking IEC outlets (LX-XXXXX) that secure straight equipment power cords to vertical PDUs to prevent accidental disconnections.

Primary Role: The role that is assigned to the PDU that is attached to the network and serves as the beginning of the Secure Array. This PDU should

have a level of functionality that is equal to or higher than that of all the remaining PDUs within the array. In an array with several PDUs with the highest level of functionality, the PDU with the most outlets among this group should be assigned the Primary Role.

Secondary Role: The role assigned to a PDU that is 1) linked to the primary PDU, or 2) a standalone PDU.

Alternate Role: The role assigned to the PDU that is connected to the network to provide a backup network connection if the Primary Role PDU loses power. This PDU must be equivalent to the Primary PDU in functionality and number of outlets.

PRODUCT FEATURES

Vertically Mounted PDUs:

Part Number Series Px-1xxxx and Lx-1xxxx:

Product Dimensions: 70.5"H x 2.2"W x 2.2"D (1791 mm x 56 mm x 56 mm)

Shipping Dimension: 82"H x 7.5"W x 10"D (2060 mm x 191 mm x 254 mm)

Shipping Weight: 22 lb (10.0 kg)

Part Number Series Px-2xxxx and Lx-2xxxx:

Product Dimensions: 72"H x 2.35"W x 2.2"D (1829 mm x 60 mm x 56 mm)

Shipping Dimension: 84"H x 9"W x 10"D (2134 mm x 229 mm x 254 mm)

Shipping Weight: 25 lb (11.3 kg)

Product Dimensions: 77.9"H x 2.7"W x 2.2"D (1978 mm x 68 mm x 56 mm)

Shipping Dimension: 86"H x 10.7"W x 5.5"D (2185 mm x 272 mm x 140 mm)

Shipping Weight: 30 lb (12 kg)

Part Number Series Px-3xxxx and Lx-3xxxx:

Product Dimensions: 75" x 2.67" x 2.2" (1829 mm x 68 mm x 56 mm)

Shipping Dimension: 89"H x 10"W x 10"D (2261 mm x 254 mm x 254 mm)

Shipping Weight: 27 lb (12.2 kg)

Product Dimensions: 77.9"H x 2.7"W x 2.2"D (1978 mm x 68 mm x 56 mm)

Shipping Dimension: 86"H x 10.7"W x 5.5"D (2185 mm x 272 mm x 140 mm)

Shipping Weight: 30 lb (12 kg)

Part Number Series Px-6xxxx and Lx-6xxxx:

Product Dimensions: 70.5"H x 4"W x 2.2"D (1791 mm x 101.6 mm x 56 mm)

Shipping Dimension: 86"H x 10.7"W x 5.5"D (2185 mm x 272 mm x 140 mm)

Shipping Weight: 36 lb (16.1 kg)

Input Voltage:

100 – 415 Volts, varies by part number

Output Voltage:

100 – 240 Volts, varies by part number

Input/Output Configurations:

Single-Phase 120 Volts input/output:

Three conductor input cable (P + N + E)

One or two branch circuits: Branch A or Branch A and B.

Single-Phase 100-240 Volts input / output:

C20 input connector

One or two branch circuits: Branch A or Branch A and B.

Single-Phase 208 Volts input/output:

Three conductor input cable (2P + E)

One or two branch circuits: Branch A or Branch A and B.

Single-Phase 120/208 Volts input and 208V or 120/208V Output:

Four conductor input cable (2P + N + E)

One or two branch circuits: Branch A or Branch A and B.

Single-Phase 220-240 Volts input/output:

Three conductor input cable (2P + E)

One or two branch circuits: Branch A or Branch A and B.

Three-Phase 208 Volt input/output:

Four conductor input cable (3P + E)

Three and six branch circuits: Branch XY, YZ, ZX

Three-Phase – 208 Volt input/ 208 Volt and/or 120 Volt output:

Five conductor input cable (3P + N + E)

Three branch circuits: Branch XY, YZ, ZX and/or XN, YN, ZN

Three-Phase WYE 380-415 Volts input 220 to 240 Volt output :

Five conductor input cable (3P + N + E)

Three and six branch circuits: Branch XN, YN, ZN

Power Input Cable:

Length: Standard: 10 ft (3 m)

Gauge: 6 – 12 AWG, varies by part number

Plug type: Current, Voltage and Configuration dependent, varies by part number

Some PDUs have an IEC C20 Input and do not include a power input cable.

Circuit Breakers:

Type: Single or Double Pole Electro-hydraulic UL489 listed Breakers Quantity:

One, two, three or six, varies by part number

Rating: 16 Amperes, 20 Amperes or 30 Amperes, varies by part number

Receptacles:

Types: NEMA, IEC, varies by part number

Quantity: Varies by part number

Rating: 15 Amperes or 20 Amperes, varies by part number

Mounting:

Mounting style: 2 x Tool-less Buttons on the PDU rear cover Distances:

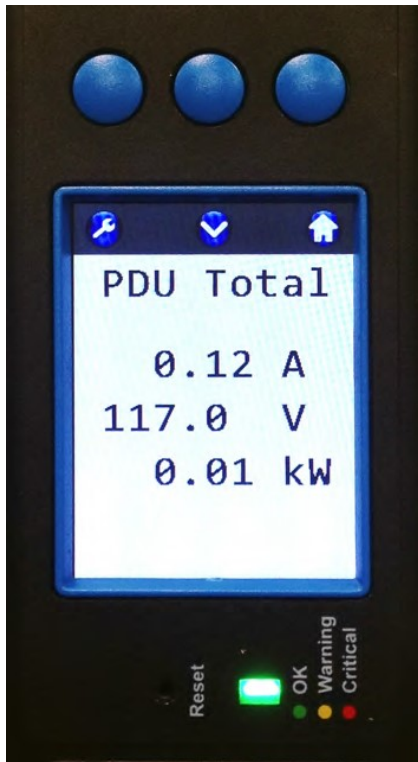
61.25" (1556 mm) and 64.75" (1645 mm) apart

Positions: 4 mounting positions (A1, A2, B1, B2)

LCD local display with push button control:

Dimension: 1.5" x 2.0" (38 mm x 51 mm)

Resolution: 240 x 320



Actual information displayed may vary depending on whether the unit is single-phase or three-phase.

Single-phase PDUs

USB port: 2

Quantity: 2

Function: CPI Firmware upgrades

Secure Array/PDU Linking/Serial Port:

Connector type: (2) RJ45 for (1) link-in/serial combo port and (1) link-out port for serial communication and PDU linking using a Cat 5/6 cable



Environmental port:

Connector type: (1) RJ11

Connection: (1) or (2) environmental probes (order separately) (order two probes with a splitter P/N 17761-003 to connect two probes).

For environmental sensing of temperature (°F or °C) and relative humidity(%)

Ethernet port:

Connector type: (1) RJ45

Speed: 10/100/1000

Megabit/sec

Support: IPv6; IPv4; SNMP v1, v2, v3

Proprietary Auxiliary ports:

For Electronic Access Control or other peripherals*

Connector type: (2) RJ45

Aux1: For rear door

Aux 2: For front door

* On vertical (0U) eConnect PDUs manufactured after March 1, 2017

NOTE: Models manufactured before March 1, 2017 do not feature auxiliary ports for eConnect Electronic Access Control. These models (shown below) can be upgraded with newer firmware versions for PDUs with 1 Gb Ethernet. The Electronic Access Control instructions in Page 54 do not apply to these models.

Vertical eConnect PDUs manufactured before March 1, 2017:



Horizontally Mounted PDUs:

Type: Horizontally mounted

Part Number Series Px-5xxxx

Product Dimensions: 2U H x 19" EIA x 10.1"D (89 mm x 432 mm x 257 mm)

Shipping Dimension: 8.5"H x 20"W x 22"D (216 mm x 508 mm x 559 mm)

Shipping Weight: 13 lb (5.9 kg)

Input Voltage:

120 - 240 Volts, varies by part number

Output Voltage:

100 – 240 Volts, varies by part number

Input/Output Configurations:

Single-Phase 100-240 Volts input/output

C20 input connector

One branch circuit: Branch A

Single-Phase 120 Volts input/output
L5-20P or L5-30 Input connector
One or two branch circuits: Branch A or
Branch A and B

Single-Phase 208 Volts input/output
L6-20P or L6-30 Input connector
One or two branch circuits: Branch A or
Branch A and B

Single-Phase 220-240 Volts
input/output
Three conductor input cable (2P + E)
Two branch circuits: Branch A and B

Power Input Cable:

Length: Standard: 10 ft (3 m)
Gauge: 10 – 12 AWG, varies by part number
Plug type: Current, Voltage and Configuration dependent, varies by part
number Some PDUs have an IEC C20 Input and do not include a power input
cable.

Circuit Breakers:

Type: Double Pole Electro-hydraulic UL489 listed Breakers Quantity:
One or Two, varies by part number
Rating: 16 Amperes or 20 Amperes, varies by part number

Receptacles:

Types: NEMA, IEC, varies by part number
Quantity: Varies by part number
Rating: 15 Amperes or 20 Amperes, varies by part number

Mounting:

Mounting style: Horizontal 19" EIA
(2) 3.47"H (88.1 mm) mounting flanges with hardware
receiving holes spaced 17" (431.8 mm) apart (on either side
of the PDU) to support standard 19" EIA mounting onto
equipment rails

LCD local display with push button control:

Dimension: 1.5" x 2.0" (38 mm x 51 mm)
Resolution: 240 x 32

Single-Phase PDUs



Actual information displayed may vary depending on whether the unit is Single-Phase or Three-Phase.

USB port:

Quantity: 2

Function: CPI Firmware upgrades

Secure Array™/PDU Linking/Serial Port:

Connector type: (2) RJ45 for (1) link-in/serial combo port and (1) link-out port for serial communication and PDU linking using a Cat 5/6 cable



Environmental ports:

Connector type: (1) RJ11

Connection: (1) or (2) Environmental probes (order separately; order two probes with a splitter P/N 17761-003 to connect two probes).

For environmental sensing of temperature (°F or °C) and relative humidity(%)








Ethernet port:

Connector type: (1) RJ45 Speed: 10/100/1000

Megabit/sec

Support: IPv6; IPv4; SNMP v1, v2, v3.

PRODUCT LABELING AND CERTIFICATIONS

	<p>The presence of the CE Mark on equipment means that it has been designed, tested and certified as complying with all applicable European Union (CE) regulations and recommendations.</p>
	<p>An authorized testing laboratory has evaluated a sample of the product to determine that it meets applicable national standards</p>
	<p>Product compliance (electrical, gas and other safety standards) to North American safety standards</p>
	<p>This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.</p>
	<p>Nemko has tested or certified the product according to national standards official safety regulations in Norway</p>
	<p>Samples of this product met UL's safety requirements for US and Canada.</p>
	<p>Do not dispose this product as unsorted municipal waste.</p>

PDU MODELS

Basic (CPI P/Ns: P1-xxxxx & L1-xxxxx):

- No local or remote monitoring available. Does not have display or connections
- Ensures reliability within modern data centers with high hot aisle temperatures as a result of 149°F (65°C) ambient temperature rating.
- Available with patented Click Secure Locking Outlets to prevent accidental disconnections.
- Available in vertical configurations.

Monitored (CPI P/Ns: P3-xxxxx & L3-xxxxx):

- Local LCD display and remote monitoring via IP, Serial, SNMP.
- High ambient temperature rating of 149°F (65°C).
- Features CPI's Secure Array™ IP Consolidation, for linking up to 32 PDUs under a single IP address.
- Vertical configurations are available with patented Click Secure Locking Outlets to prevent accidental disconnections.
- Local and remote monitoring of total PDU amperage, power and voltage on single-phase PDUs; line amperage, power and voltage on three-phase PDUs.
- Local and remote branch circuit monitoring of amperage, power, voltage and power factor at each breaker.
- Optional local and remote environmental monitoring of temperature and humidity, requires an external sensor (P/N 17761-003, ordered separately).
- Models manufactured after March 1, 2017, provide integration with eConnect Electronic Access control
- Available in vertical and horizontal configurations.

Monitored-Pro (CPI P/Ns: P4-xxxxx & L4-xxxxx):

- Local LCD display and remote monitoring via IP, Serial, SNMP.
- High ambient temperature rating of 149°F (65°C).
- Features CPI's Secure Array™ IP Consolidation, for linking up to 32 PDUs under a single IP address.
- Available with patented Click Secure Locking Outlets to prevent accidental disconnections.
- Local and remote monitoring of total PDU amperage, power and voltage on single-phase PDUs; power and voltage on three-phase PDUs.
- Local and remote branch circuit monitoring of amperage,

- power, voltage and power factor at each breaker.
- Local monitoring of amperage at each outlet; remote monitoring of individual outlet amperage, power and voltage at each outlet.
- Optional local and remote environmental monitoring of temperature and humidity, requires an external sensor .(P/N 17761-003, ordered separately)
- Models manufactured after March 1, 2017, provide integration with eConnect Electronic Access control
- Available in vertical configurations.

Switched (CPI P/Ns: P5-xxxxx & L5-xxxxx):

- Local LCD display and remote monitoring via IP, Serial, SNMP
- High ambient temperature rating of 149°F (65°C).
- Features CPI's Secure Array™ IP Consolidation, for linking up to 32 PDUs under a single IP address.
- Vertical configurations are available with patented Click Secure Locking Outlets to prevent accidental disconnections.
- Local and remote monitoring of total PDU amperage, power and voltage on single-phase PDUs; power and voltage on three-phase PDUs.
- Local and remote branch circuit monitoring of amperage, power, voltage and power factor at each breaker.
- Remote outlet control (ON/OFF) capability for every outlet.
- Optional local and remote environmental monitoring of temperature and humidity, requires an external sensor. (P/N 17761-003, ordered separately)
- Models manufactured after March 1, 2017, provide integration with eConnect Electronic Access control
- Available in vertical and horizontal configurations.

Switched-Pro (CPI P/Ns: P6-xxxxx & L6-xxxxx):

- Local LCD display and remote monitoring via IP, Serial, SNMP.
- High ambient temperature rating of 149°F (65°C).
- Features CPI's Secure Array™ IP Consolidation, for linking up to 32 PDUs under a single IP address.
- Available with patented Click Secure Locking Outlets to prevent accidental disconnections.
- Local and remote monitoring of total PDU amperage, power and voltage on single-phase PDUs; power and voltage on three-phase PDUs.
- Local and remote branch circuit monitoring of amperage, power voltage and power factor at each breaker.
 - Local monitoring of amperage at each outlet; remote

- monitoring of individual outlet amperage, power and voltage at each outlet remote outlet control (ON/OFF) capability for every outlet.
- Optional local and remote environmental monitoring of temperature and humidity, requires an external sensor. (P/N 17761-003, ordered separately)
- Models manufactured after March 1, 2017, provide integration with eConnect Electronic Access control
- Available in vertical configurations.

INSTALLATION CHECKLIST for eConnect PDUs and Electronic Access Control (EAC)

Safety Warnings and Cautions

- DO NOT OPEN THE CHASSIS of an eConnect PDU. There are no user serviceable parts within an eConnect PDU. Opening or removing covers, receptacle plates, or other access points may expose you to dangerous shock hazards or other risks. Refer all servicing to qualified service personnel.
- Do not spill any liquids on the chassis.
- Do not insert objects of any kind into the eConnect chassis via vent holes or any openings as they may contact dangerous voltage points, which can be fatal or cause harmful electric shock, fire or equipment failure.
- Do not place any heavy objects on the power cord. Damage to the cord may cause shock or fire.
- PDU must be installed VERTICALLY in a RESTRICTED ACCESS LOCATION.
- RESTRICTED ACCESS LOCATION: location for equipment where both of the following apply:
 - Access can only be gained by SERVICE PERSONS or by USERS who
 - have been instructed about the reasons for the restrictions applied to the location and about any precautions that shall be taken
 - Access is through the use of a TOOL or lock and key, or other means of security, and is controlled by the authority responsible for the location.
- Hot surface warning label: The equipment may be hot under full load.



Checklist for EAC:

- Connect wires between latch and CAN bus module
- Connect wires between sensors and CAN bus module
- Connect wires between CAN bus and PDU. Aux 1 should be connected to the rear door's CAN module. Aux 2 should be connected to the front door's CAN module.
- Login to the web GUI using the default login information of "admin/admin", and navigate to the "Cabinet Access – Settings" page.
- Select the checkbox for the appropriate lock you wish to enable, and click "Save"

- The lock is powered when you see a continuous blue light on the lock. At this point you should be able to refresh the web page and see the status update appropriately.
- Program the Card Reader and Key Card ID (Go to Page xx for detailed information).
- Use the web GUI to change cabinet access and logging settings (Cabinet Access and Logging tabs respectively)
- The light will flash magenta/blue when the latch opens

Additional Software

The eConnect PDU can be configured, monitored and controlled using the built-in software as explained in this manual.

In addition to the software that is built-in to the eConnect PDU, there are two other software programs that can be used for PDU configuration, monitoring and control.

- eConnect Serial Communicator software allows you to monitor and configure PDUs using a direct serial connection. A Serial Setup Cable (CPI P/N 35941-131) is also required. Download from <http://www.chatsworth.com/support-and-downloads/downloads/software/>
- eConnect Firmware Upgrader software allows you to upgrade firmware over the network for multiple standalone and linked PDUs that have firmware version 1.17.227 or later. Download from <http://www.chatsworth.com/support-and-downloads/downloads/software/>

INSTALLATION GUIDE

Preparation:

- Prepare a plan identifying where each rack device is to be connected to the PDU receptacle. For ease of power cord management, if you are installing a vertically mounted PDU, it is recommended to connect the rack device to the receptacle that is approximately at the same height.
- It is recommended to retain the PDU Ethernet Hardware Address (MAC address) available through the LCD display under PDU Info. It's recommended to record the PDU name, rack/cabinet name, location and MAC address for future reference.
- If the rack device has more than 1 input for power for purpose of redundancy, the power cables should be connected to different PDUs.

Locking Outlets:



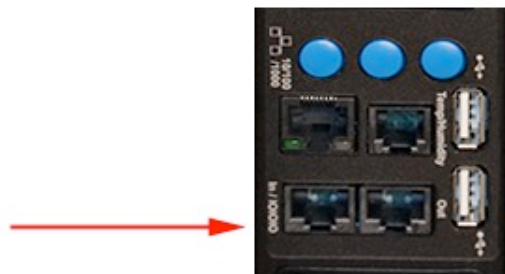
- If a PDU has locking outlets (LX-XXXXX), the device will feature clamp-like components at each straight IEC outlet. Simply insert the power cord into the outlet by pushing the boot of the cord through the locking device until you hear and feel a click. The click serves as an indication that the plug is fastened or “locked” securely in place. To remove the plug, lightly squeeze the locking mechanism between the fingers of one hand while placing the fingers of the other over the boot of the power cord and pulling gently out gently. The power cord will easily be released.

External Connections:

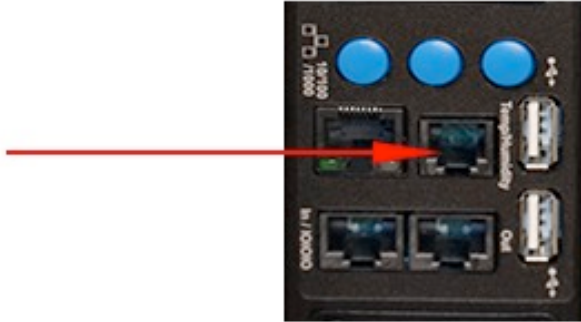
- Install the PDU into the cabinet and secure the PDU external ground wire to the cabinet ground stud.
- Optional: In/ Serial Port:
 - For daisy chaining when linking PDUs, use a standard CAT5/6 cable.
 - For running the EPSerial.exe application, use CPI serial cable (P/N 35941-131).



- Optional: Ethernet Port: Connect to LAN. Use CAT5/6 cable.



- Optional: Environmental Probe Port.
Use environmental probes with splitter (P/N 117761-003):



- Optional: Out Port: For Secure Array when linking PDUs. Use a standard CAT5/6 cable.



- Optional: USB Port: For firmware upgrades use USB Flash Drive.

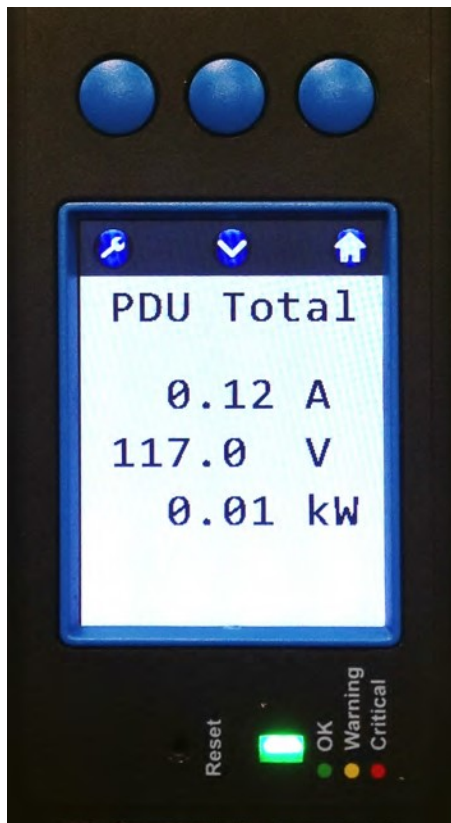


Energizing the PDU

- Attach the input power cord to a matching power source.
- The PDU status light will blink Green for about 60 seconds as the PDU is booting up.
- A solid Green status light will follow with the LCD display coming on and displaying all zeroes.
- Once the PDU is energized, connect cabinet devices to their respective outlets.

USING THE LOCAL DISPLAY

CPI's multifunctional LCD display has a 240 x 320 pixel resolution and can be navigated by three soft buttons located immediately above the display.



Actual information displayed may vary depending on whether the unit is single-phase or three-phase.

Single-phase PDU

The local interface can display the following information:

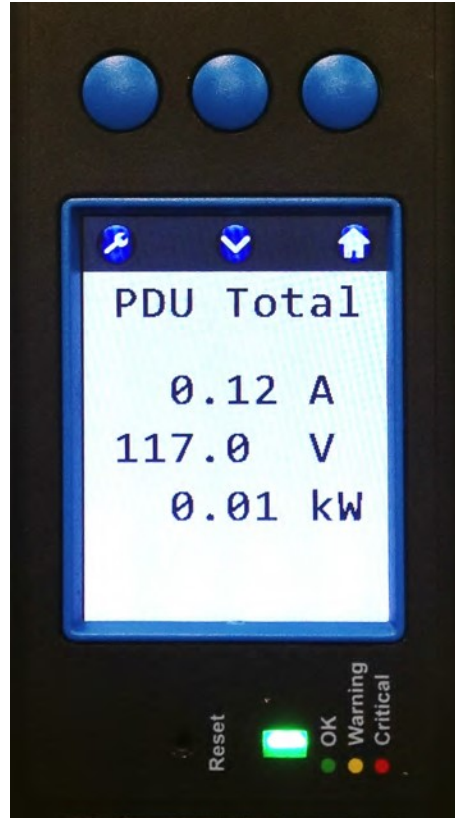
- Sum of current, voltage and power values for single-phase PDUs
- Line input current and sum of voltage and power values on three-phase PDUs
- Current, voltage, power and power factor values per branch breaker
- Temperature and humidity values when optional environmental probes are attached
- Per outlet current on Monitored Pro (P4-xxxxx) and Switched Pro (P6-xxxxx) models
- Alarm notification when predefined warning or critical thresholds are reached

The local interface can also be used to set up many functions of an eConnect PDU as following:

- Network IP setup (v4 and v6)
- Display settings – brightness, timeout, orientation
- PDU role (primary or secondary)
- PDU info

Basic Menu Navigation



The legend below explains the meaning of each button on the PDU display:




Note: single-phase PDU display shown.

Menu button/icon definitions and functions


 Go to the Main Menu.

Note: In PDUs in the Secure Array, the  (blue) icon turns  (green).

Note: The home icon turns (purple)  during a firmware upgrade.

 Select the highlighted menu item.

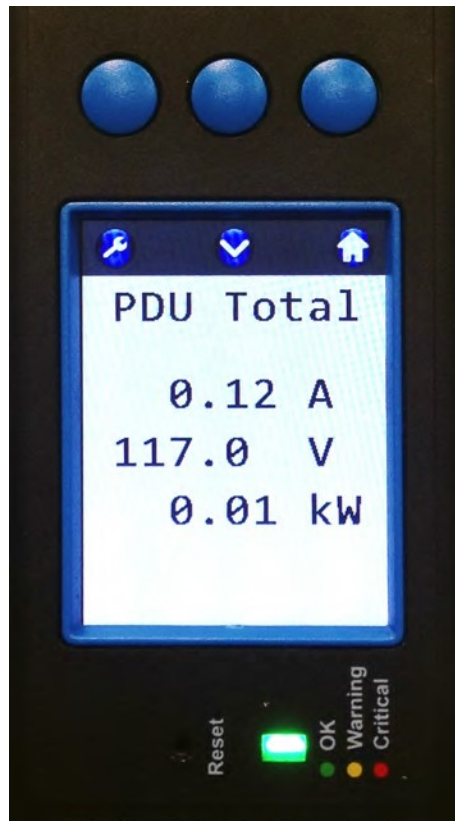
 Go to Setup menu.

 Move highlighted menu item down or to the right.

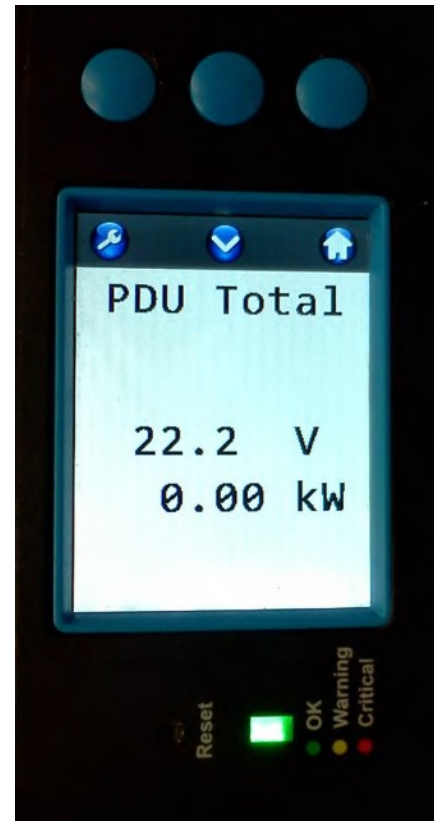
 Move highlighted menu item up or to the left.

Monitoring PDU Conditions

The main screen on single-phase PDUs list total amperage, voltage and power usage by equipment attached to the PDU. The main screen on three-phase PDUs lists total voltage and power usage by equipment attached to the PDU.



Single-phase PDU



Three-phase PDU

From the Main menu press the:

Left button to set up the PDU

Middle button to view the next data screen

Right button to go back to the Main Menu

The following screen(s) list branch circuit values (CB1, CB2 or XY, YZ, ZX). There is one screen per phase/branch.



Click on:

Left button to set up the PDU

Right button to go back to the Main Menu

Middle button to scroll through the remaining

screens

After scrolling through the branch/phase screens, the PDU will display the Environment summary screen. Environmental probes (P/N 17761-003) must be attached to the PDU for environmental values to display.



Click on the middle button to view next data screen This will return to the PDU Total screen

Click on:

Left button to set up the PDU

Right button to go back to the Main Menu

On Monitored Pro (P/N P4-xxxxx & L4-xxxxx) and Switched Pro (P/N P6-xxxxx & L6-xxxxx) PDUs, the following screen(s) list total current use for each outlet. Eight outlets are listed on each screen.



Click on the middle button to view next data screen

- Click on:**
- Left button** to set up the PDU
 - Right button** to go back to the Main Menu
 - Middle button** to go to the next data screen

Alarms

When any alarm or warning threshold is hit, the Alarms summary will be displayed before the PDU Total values when the **Home Icon** is selected.



Color codes:

Text with **Yellow** background: Warning condition was reached.

Text with **Red** background: Critical condition was reached.

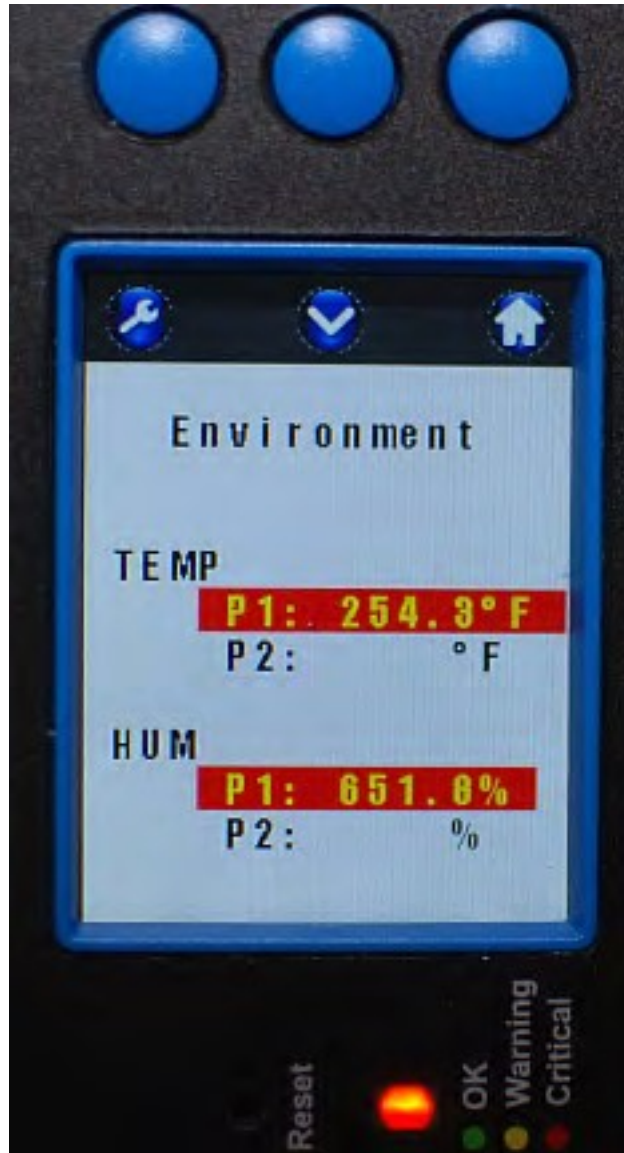
Click on:

Left button to access the setup menu

Middle button to view additional summary screens

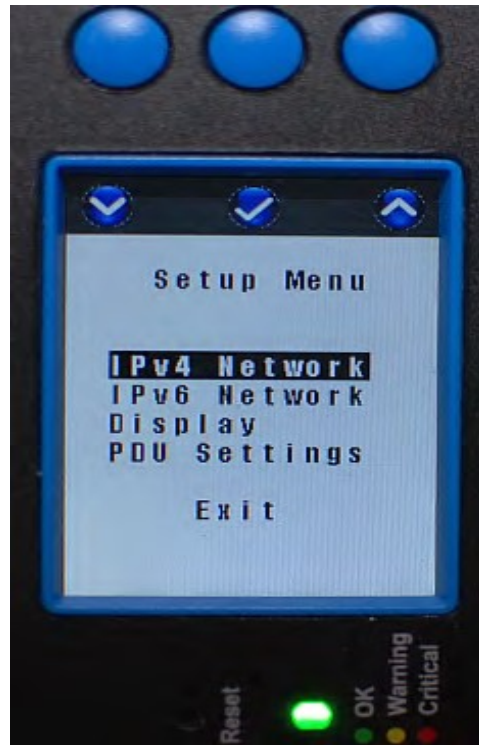
Right button to return to the home (this) screen

Additionally, when there is an alarm, the out of range measurements are highlighted on the respective summary screen, and the LED next to the display will flash.



Network Configuration

Select the **Left Button** to access the PDU Setup Menu



Click on:

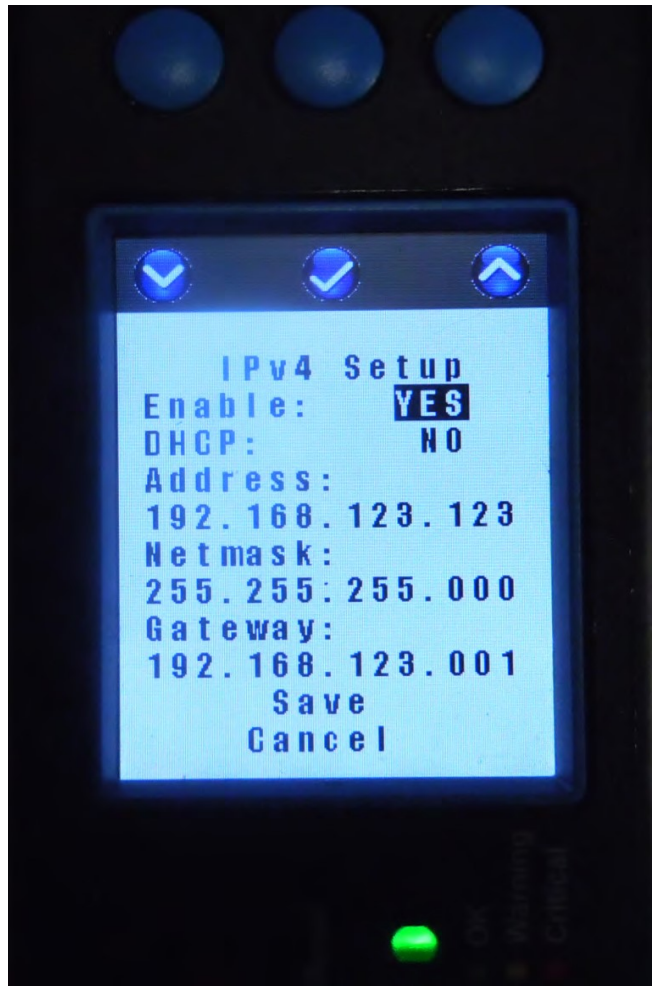
Left button to traverse down the list of options

Middle button to select the highlighted option

Right button to traverse up the list of options

Select **Exit** to exit this screen

Click on middle button to set up IPv4 Network



Click on:

Left button to traverse down the list of options

Middle button to select the highlighted option

Right button to traverse up the list of options

Select **Save** or **Cancel** to exit this screen

Save updates IP information immediately

Cancel makes no changes to the setup



Return to the Setup Menu.
Use the Left Button to select IPv6 Network.
Click on middle button to set up IPv6 Network

Click on:
Left button to traverse down the list of options
Middle button to select the highlighted option
Right button to traverse up the list of options



Click on:

Left button to traverse down the list of options

Middle button to select the highlighted option

Right button to traverse up the list of options

Select **Save** or **Cancel** to exit this screen

Save updates IP information immediately

Cancel makes no changes to the setup

Display Setup



Return to the Setup Menu.
Use the Left button to select Display.
Click on middle button to set up the Display

Click on:
Left button to traverse down the list of options
Middle button to select the highlighted option
Right button to traverse up the list of options



Click on:

Left button to traverse down the list of options

Middle button to select the highlighted option

Right button to traverse up the list of options

Timeout – Controls how long display remains on (minutes)

Brightness – Controls display brightness (1-9)

Input Cord – Controls display orientation (TOP or BOT input cord location). This rotates the display 180° so that it can be easily read regardless of whether the PDU is mounted with the cord toward the top or bottom of the cabinet.

Outlet – Controls whether individual outlet current measurements are displayed (Show or Hide) on Monitored Pro (P4-xxxxx & L4-xxxxx) and Switched Pro (P6-xxxxx & L6-xxxxx) models

Select **Save** or **Cancel** to exit this screen

Save updates IP information immediately

Cancel makes no changes to the setup

PDU Settings



Return to the Setup Menu.

Use the Left button to select PDU Settings.

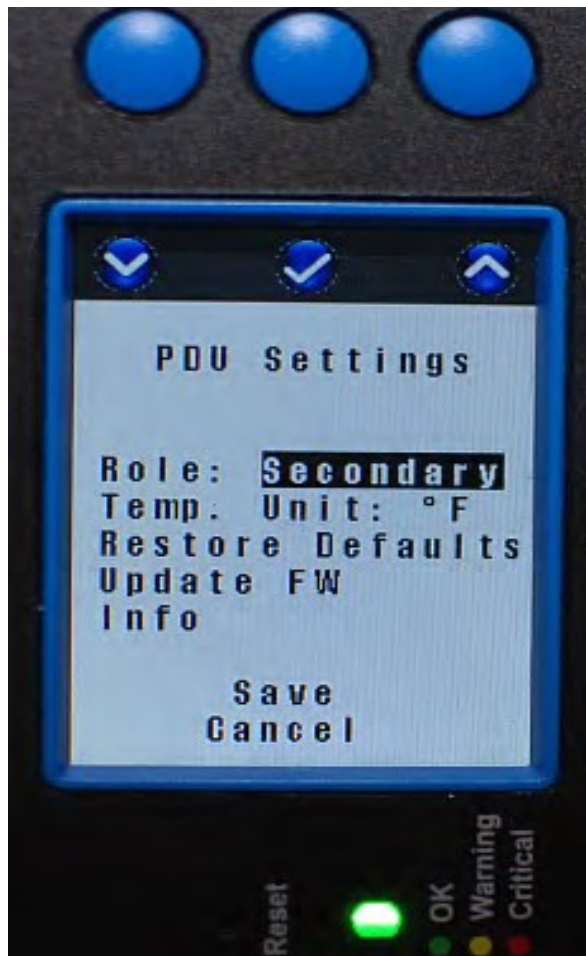
Click on middle button to set up advanced info for the PDU

Optional: **Click on:**

Left button to traverse down the list of options

Middle button to select the highlighted option

Right button to traverse up the list of options



Click on:

Left button to traverse down the list of options

Middle button to select the highlighted option

Right button to traverse up the list of options

Role – Choose **PRIMARY** if PDU is the **FIRST PDU** in a Secure Array™. Only one PDU may be Primary, and this must be the PDU with the highest level of functionality and highest number of outlets within that functionality. Choose **ALTERNATE** if the PDU will be a backup to the Primary. Only one PDU may be ALTERNATE, and this PDU must match the functionality and outlet quantity of the Primary in order to fully support the array. Otherwise keep or choose **SECONDARY**. See page 49 for additional details.

Temp – Choose Celsius or Fahrenheit

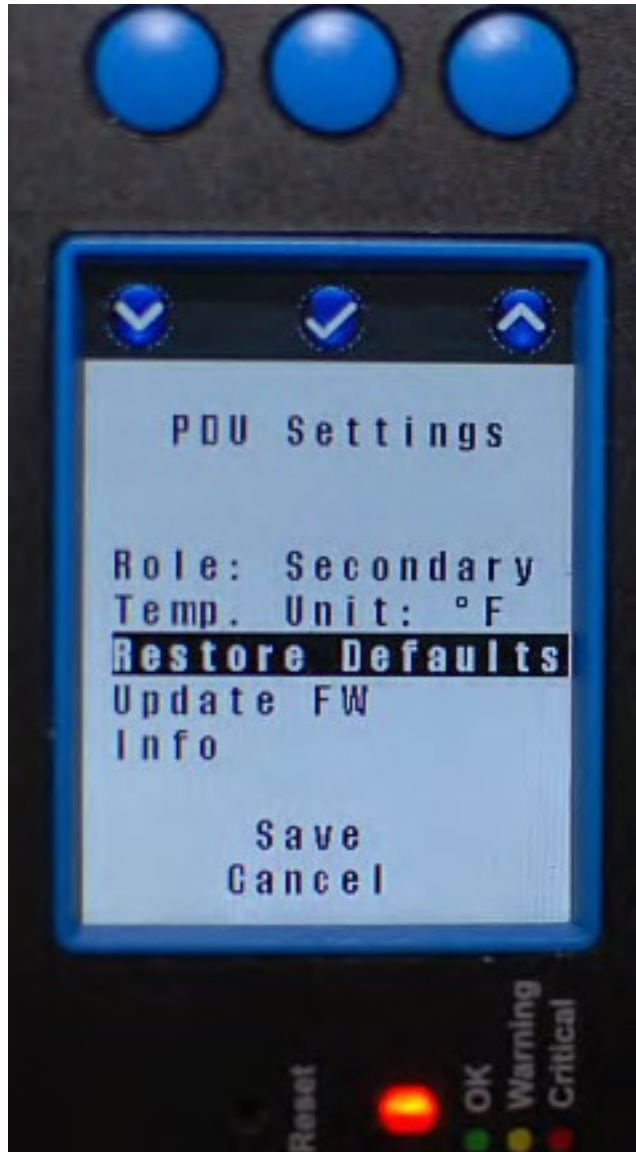
Restore Defaults – Choose to select which fields will be restored

(confirmation needed, see details on the next page)

Update FW – Choose to update firmware locally through USB port

Save – Confirm all changes made in this session

Cancel – Cancel all changes made in this session



Click on middle button to restore Default values for the PDU

Optional: **Click on:**

Left button to traverse down the list of options

Middle button to select the highlighted option

Right button to traverse up the list of options



Click on:

Left button to traverse down the list of option

Middle button to select the highlighted option

Right button to traverse up the list of options

Network Only – Will immediately reset the IP address back to the default address (192.168.123.123).

Config Only – Will immediately reset PDU and outlet names, alarm thresholds, etc. back to defaults.

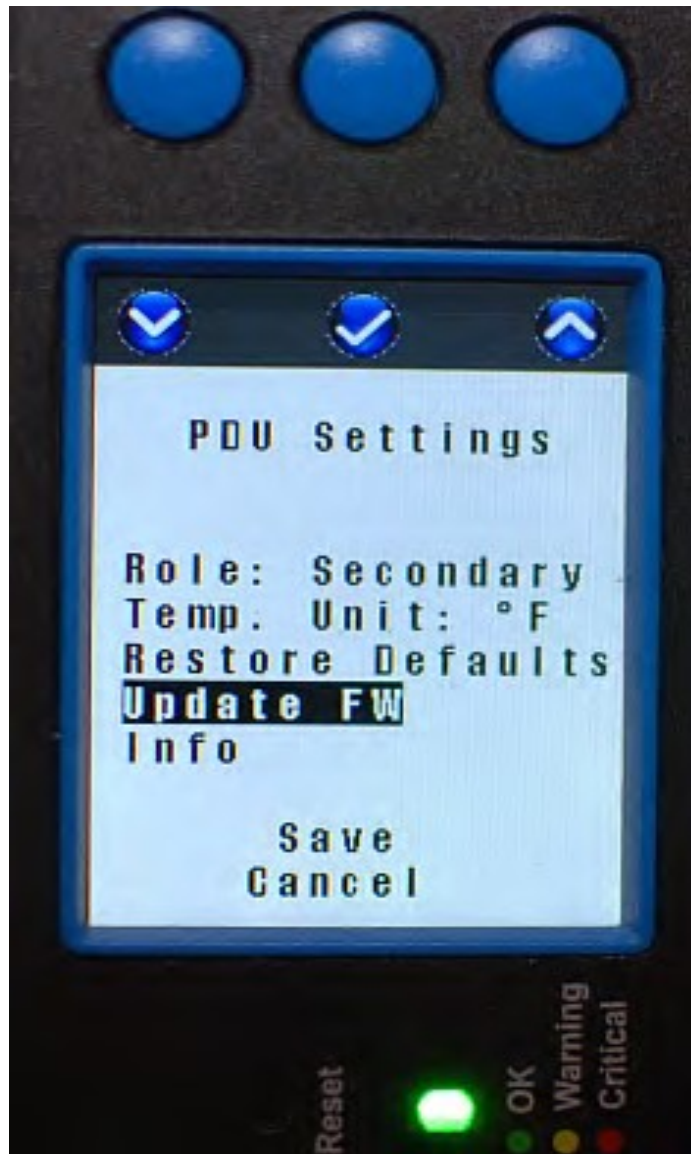
User Only – Will immediately delete all accounts except the default administrative user account:

Admin, admin.

Reset All – Resets Network, Config and User values to defaults. **Reset Device** – Resets all values and reboots the main communications module. Outlets will not lose power, but you will lose your network connection and monitoring during reboot.

Note: The physical reset button under the screen will Reset Device and erase all local memory, including log files.

Update Firmware



Click on middle button to update firmware for the PDU.

Optional: **Click on:**

Left button to traverse down the list of options

Middle button to select the highlighted option

Right button to traverse up the list of options



Click on:

Left button to traverse down the list of options

Middle button to select the highlighted option

Right button to traverse up the list of options

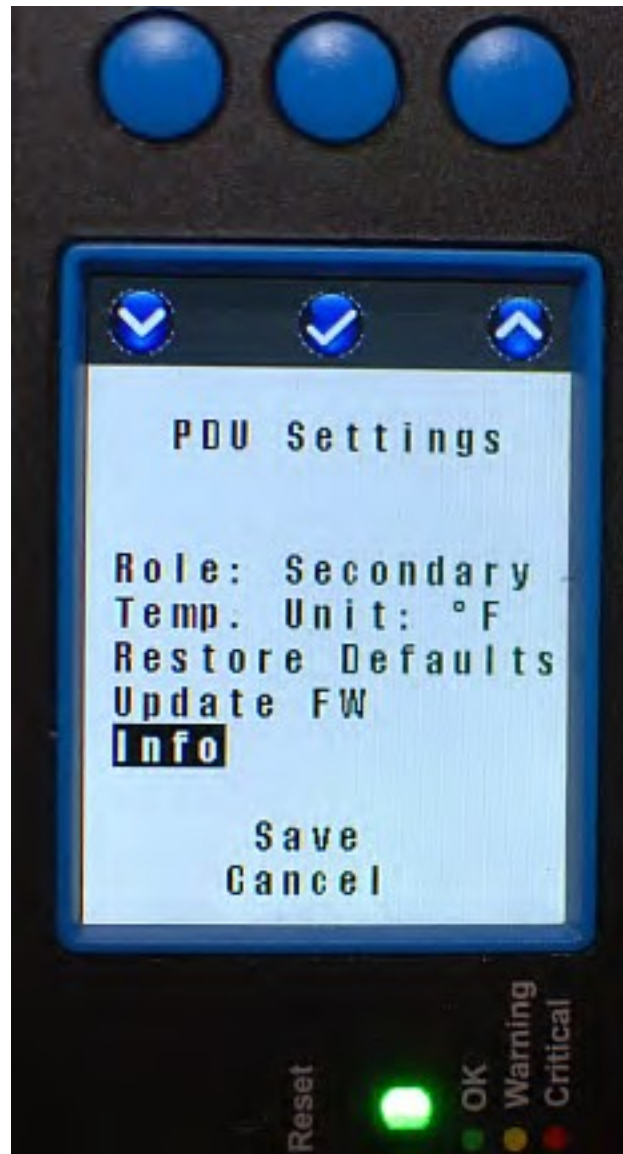


Sample of Updating – (above)

Sample of Failed updating – (below)



PDU Model Information



Click on middle button to display the information of the PDU.

Optional: **Click on:**

Left button to traverse down the list of options

Middle button to select the highlighted option

Right button to traverse up the list of options



Click on middle button to traverse back to the PDU Settings Menu.

USING THE BUILT-IN WEB SERVER APPLICATION

Login

All eConnect PDUs, excluding Basic models (P1-XXXX and L1-XXXX), are shipped with:


A 1 GB Ethernet connection and built-in Web Server Application Default IP address: **192.168.123.123**

Default User name/Password: **admin/admin**

You can access the PDU using the default IP address, or you can use the LCD Local display (see page [23](#)) or the PDUSerial.exe application (see page [69](#)) to change the default IP address to the appropriate IP address.

- To access the PDU, connect the Ethernet port to a network switch
- From Web Browser on a computer that is network accessible to the PDU, type: <http://PDU address>. For example, the default would be: <http://192.168.123.123>

The Login Screen will display:



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Username:

Password:

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Help

Log in using default User name and password: **admin, admin** and **click on Login** button or user name and password if it has been created.

First Login – Set Date and Time

The PDU has data logging and alarm notification functions that benefit from a time and date stamp. However, the PDU does not have an internal clock. So, each time you power the PDU, you must manually set the time and date or assign a Time Server to do so automatically.

To assign a Time Server, click on the **Settings** tab, **Network** sub menu. Scroll down the page to the heading **Time Servers**.

The screenshot shows the CPI PDU web interface. At the top left is the CPI logo and 'CHATSWORTH PRODUCTS, INC.'. To the right is a summary box with 'PDU Info' (Name: H05R15C09A, Location: CPI 01, Hall 5, Row 11, Cabinet 09, Outside PDU, Configuration ID: P6-1F0A1-C2A, IP Address: 97.105.189.156, Firmware: 3.2.25) and 'Session Info' (User: admin, Last Login: 2017-01-25 07:11, Uptime: 0d 0h 51m). A green 'No Alarm' indicator is present. Below this is a navigation bar with tabs: Status, Outlet, Cabinet Access, Logging, Notifications, Settings (selected), and Administration. Under 'Settings', there are sub-tabs: PDU, Environmental, Network (selected), SNMP, and Emails. The main content area is titled 'Network Settings' and contains the following sections:

- TCP / IP Configuration**: Enable Protocols: IPv4 and IPv6 (dropdown). Manually Configure IPv4. Link Local IPv6 (fe80::20e:d3ff:fe00:1000/64). Global IP. Manually Configure IPv6.
- IPv4 Setup**: IP Address: 97.105.189.156, Subnet Mask: 255.255.255.240, Default Gateway: 97.105.189.145.
- IPv6 Setup**: IP Address, Prefix Length: 0, Default Gateway.
- IPv4 DNS Servers**: Primary DNS Server: 0.0.0.0, Secondary DNS Server: 0.0.0.0.
- IPv6 DNS Servers**: Primary DNS Server, Secondary DNS Server.
- Time Servers**: RFC Time Server, NTP Time Server (both empty input fields).
- Web Access Settings**: Enable HTTP Port: 80, Enable HTTPS Port: 443.

At the bottom are 'Save' and 'Cancel' buttons.

Enter the IP Address of the RFC or NTP Time Server.

The PDU must have network access to the time server. For detailed network setup, see **Settings – Network** on page 54.

If you do not utilize a time server, or decide to set the time and date manually, click on the **Administration** tab, **Advanced** sub menu.

Advanced

The PDU time can be configured by synchronizing the PDU with the web browser, if desired. Clicking "Soft Reboot" will perform a reboot of the entire system. Also, the PDU can be reverted back to factory defaults in certain categories. "Reset Network" will reset settings on the "Settings - Network" and "Settings - SNMP" tabs. "Reset Configuration" will reset all settings not related to the network or user configuration. "Reset Users" will reset all configuration on the "Administration - User Management" tab. "Reset All" functions as if all three choices were selected simultaneously.

PDU Info

Firmware: 3.2.25 (Bootloader: unknown)
 Configuration ID: P6-1F0A1-C2A
 Serial Number:
 MAC Address: 00:0E:D3:00:10:00

Time and Date Settings

Please fix PDU's date and time
 Browser date and Time: Tue, 31 Jan 2017 18:30:00 UTC [Sync PDU Time](#)

PDU Time in UTC
 Time: 7 Hrs 16 Mins 15 Secs
 Date: 25 Jan 2017

[Save](#) [Cancel](#)

[SOFT REBOOT](#)

Factory Defaults

Reset Network Reset Configuration
 Reset Users Reset All

[APPLY DEFAULTS](#)

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Click on **Sync PDU time** and then **Save** button to update the clock on the PDU using the browser date and time, or manually set the time with the drop boxes.

Note that if you perform a firmware upgrade, the PDU will reboot and the time will need to be manually reset, unless you have assigned Time Server to the PDU.

The remainder of the manual is ordered according to the tabs on the screen displayed above, so the next section is Status and the Status sub menus.

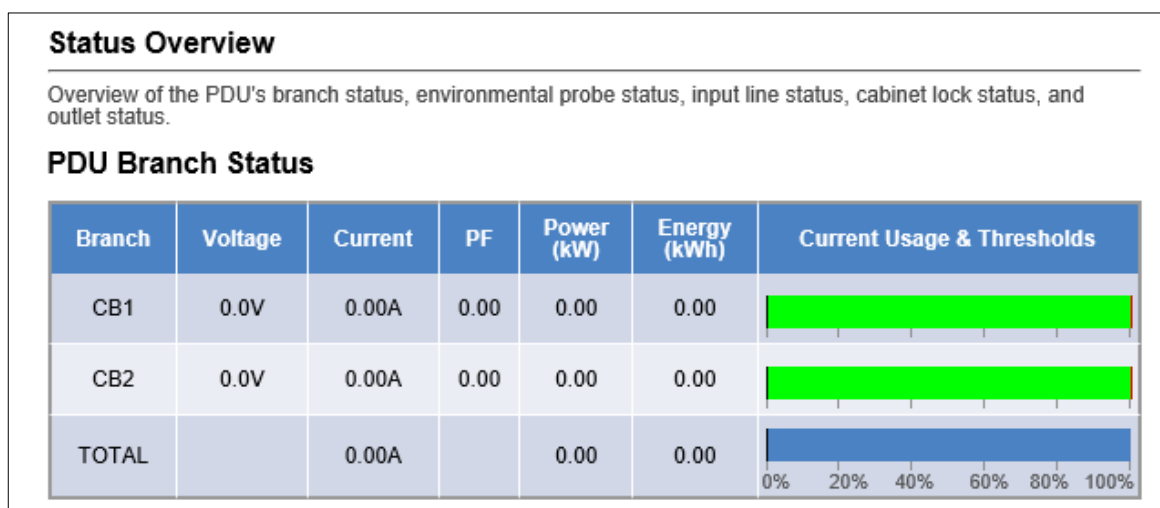
Note that the screenshot above is from a Switched Pro PDU, which includes Outlet Control and Monitoring features. Note that there are tabs for Status, Outlet, Settings and Administration. However, there is no Outlet tab on Monitored models (P3-XXXX and L3-XXXX).

Status – Overview

Click on the **Status** tab, **Overview** sub menu to view circuit, sensor, input and outlet status.

All models present branch circuit status and sensor status (when attached).

The screenshot below shows a six-breaker model with PDU Circuit Status for branch circuits (XN1, YN1, ZN1, XN2, YN2 and ZN2). Note that there are also single breaker/circuit, two-breaker/circuit and three-breaker/circuit models. Your model may display fewer circuits.



Once alarm thresholds are set (see page [50](#) and [52](#)), the PDU Circuit Status table under the Status tab, Overview sub menu will show the operating range as a green bar, warning range as a yellow bar, and alarm range as a red bar. The actual measured value will be shown as a black line overlaying the graph.

This allows a quick visual reference for available power within the acceptable operating range for each circuit. The total power consumed is also displayed at the bottom of the graph as a percentage of power available.

Scroll down.

If an optional Environmental Probe is attached to the PDU, temperature and humidity will be displayed under Sensor Status. You can connect two probes to each PDU.

Three-phase PDUs will also display PDU Input Status – the amount of current (Amperes) on each line input before the breakers. This value is not logged.

Sensor Status

	Temp	Humidity
Probe1 Name		
Probe2 Name		

PDU Input Status

	Current
Line1	0.00A
Line2	0.00A
Line3	0.00A

If deploying PDU with Auxiliary Ports and eConnect EAC, scroll down the page to view door and lock status.

If eConnect EAC is attached to the PDU, the doors and the locks will be displayed under Front Door Status and Rear Door Status.

Front Door Status

State
Door: Tampered Open!
Lock: Locked

Rear Door Status

State
Door: Not Configured
Lock: Not Configured

Door status:

- **Not Configured:** Lock is not enabled.
- **Closed:** Door is closed.
- **Opened:** Door is opened.
- **Tampered Open:** Door is opened, and lock is locked or tampered unlocked or force unlocked.

Lock status:

- **Not Configured:** Lock is not enabled.
- **Locked:** Lock is locked and handle is in the cradle
- **Force Unlocked:** Unlock using the GUI
- **Tamper Unlocked:** Unlock using the key and handle is not in the cradle.
- **Unlocked via Key Card:** A registered key card was used to unlock.

Scroll down.

Monitored Pro (P4-XXXXX & L4-XXXXX), Switched (P5-XXXXX & L5-XXXXX), and Switched Pro (P6-XXXXX & L6-XXXXX) models will also present per outlet status. The image below shows a Switched Pro model.

Switched models do not include Current, Voltage, Power or Energy values.
 Monitored Pro models do not include Status or Control values.

Outlet Status

Outlet Name	Status	Control	Branch	Current	Voltage	Power (kW)	Energy (kWh)	Groups
1 - Outlet 1	Off	<input type="checkbox"/>	CB1	0.00A	117.5V	0.00	0.11	Storage
2 - Outlet 2	On	<input type="checkbox"/>	CB1	0.00A	117.5V	0.00	0.02	Storage
3 - OutletName3	Off	<input type="checkbox"/>	CB1	0.00A	117.5V	0.00	0.10	Storage
4 - OutletName4	Off	<input type="checkbox"/>	CB1	0.00A	117.5V	0.00	0.02	Storage
5 - OutletName5	On	<input type="checkbox"/>	CB1	0.00A	117.5V	0.00	0.02	Servers
6 - OutletName6	On	<input type="checkbox"/>	CB1	0.00A	117.5V	0.00	0.02	Servers
7 - OutletName7	On	<input type="checkbox"/>	CB1	0.00A	117.5V	0.00	0.02	Servers
8 - OutletName8	On	<input type="checkbox"/>	CB1	0.00A	117.5V	0.00	0.02	Servers
9 - OutletName9	On	<input type="checkbox"/>	CB1	0.00A	117.5V	0.00	0.02	Storage
10 - OutletName10	Off	<input type="checkbox"/>	CB1	0.00A	117.5V	0.00	0.02	N/A
11 - OutletName11	Off	<input type="checkbox"/>	CB1	0.00A	117.5V	0.00	0.02	N/A
12 - OutletName12	Off	<input type="checkbox"/>	CB1	0.00A	117.5V	0.00	0.10	N/A
13 - OutletName13	On	<input type="checkbox"/>	CB1	0.00A	117.5V	0.00	0.02	N/A
14 - OutletName14	On	<input type="checkbox"/>	CB1	0.00A	117.5V	0.00	0.02	N/A
15 - OutletName15	On	<input type="checkbox"/>	CB1	0.00A	117.5V	0.00	0.02	N/A
16 - OutletName16	On	<input type="checkbox"/>	CB1	0.00A	117.5V	0.00	0.02	N/A
17 - OutletName17	On	<input type="checkbox"/>	CB1	0.00A	117.5V	0.00	0.04	N/A
18 - OutletName18	Off	<input type="checkbox"/>	CB1	0.00A	117.5V	0.00	0.10	N/A
19 - OutletName19	On	<input type="checkbox"/>	CB1	0.00A	117.5V	0.00	0.02	N/A
20 - OutletName20	Off	<input type="checkbox"/>	CB1	0.00A	117.5V	0.00	0.02	N/A
21 - OutletName21	On	<input type="checkbox"/>	CB1	0.00A	117.5V	0.00	0.02	N/A
22 - OutletName22	On	<input type="checkbox"/>	CB1	0.00A	117.5V	0.00	0.02	N/A
23 - OutletName23	Off	<input type="checkbox"/>	CB1	0.00A	117.5V	0.00	0.02	N/A
24 - OutletName24	On	<input type="checkbox"/>	CB1	0.00A	117.5V	0.00	0.02	N/A

On Off Reset

Status – Alarms

Click on **Alarms** to view a summary of Alarm messages, if there are any present:

Warning thresholds are indicated by a yellow-colored rectangular alarm status symbol. Critical thresholds are indicated by a red-colored rectangular alarm status symbol.

The ACK buttons can be used to acknowledge that an alarm is present. By acknowledging an alarm, the yellow or red status indicator next to the PDU's display (see page 22) will stop blinking and notification for this particular alarm will no longer be sent out through SNMP. The alarm remains present in the Alarms Status page while the alarm is active. The ACK feature is recommended when the customer is aware of the alarm and in the process of resolving it, and does not want to be notified by the PDU any longer.

Outlet – Overview

Monitored Pro (P4-XXXXX & L4-XXXXX), Switched (P5-XXXXX & L5-XXXXX) and Switched Pro (P6-XXXXX & L6-XXXXX) models, Click on Outlet, Overview tab to view Outlet Status on the PDU:

Help | Logout

PDU Info
Name: H05R15C09A
Location: CPI 01, Hall 5, Row 11, Cabinet 09, Outside PDU
Configuration ID: P6-1F0A1-C2A
IP Address: 97.105.189.156
Firmware: 3.2.25

Session Info
User: admin
Last Login: 2017-01-25 07:15
Uptime: 0d 1h 14m

No Alarm

Status Outlet Cabinet Access Logging Notifications Settings Administration

Overview Setup Groups My Profile

Outlet Overview

Overview of the status and measurements for each of the outlets on this PDU. Outlets can be turned "on" and "off" by checking the Control checkbox and clicking "on", "off" or "reset". "Reset" turns the outlet off with a delay and then back on based on the "Reset Delay" assigned to the outlet under Outlet, Setup.

Outlet Name	Status	Control	Branch	Current	Voltage	Power (kW)	Energy (kWh)	Groups
1 - OutletName1	On	<input type="checkbox"/>	CB1	0.00A	0.0V	0.00	0.00	N/A
2 - OutletName2	On	<input type="checkbox"/>	CB1	0.00A	0.0V	0.00	0.00	N/A
3 - OutletName3	On	<input type="checkbox"/>	CB1	0.00A	0.0V	0.00	0.00	N/A
4 - OutletName4	On	<input type="checkbox"/>	CB1	0.00A	0.0V	0.00	0.00	N/A
5 - OutletName5	On	<input type="checkbox"/>	CB2	0.00A	0.0V	0.00	0.00	N/A
6 - OutletName6	On	<input type="checkbox"/>	CB2	0.00A	0.0V	0.00	0.00	N/A
7 - OutletName7	On	<input type="checkbox"/>	CB2	0.00A	0.0V	0.00	0.00	N/A
8 - OutletName8	On	<input type="checkbox"/>	CB2	0.00A	0.0V	0.00	0.00	N/A
9 - OutletName9	On	<input type="checkbox"/>	CB1	0.00A	0.0V	0.00	0.00	N/A

On Switched (P5-XXXXX & L5-XXXXX) and Switched Pro (P6-XXXXX & L6-XXXXX) models, you can turn outlets on or off by clicking the checkbox under the Control column. The indicator in the Status column will change as the outlet switches on or off.

Scroll down to view the rest of the Outlets.

Outlet – Setup

To name and enter alarm limits for a specific Outlet, from the **Outlet** tab, click on the **Set Up** sub menu, and use the drop down list to select the outlet:

Outlet Setup

Select an Outlet to edit from the drop down menu.

Select an Outlet from list: OutletName2 (2) ▼

Outlet Name:* OutletName2

Outlet Description: Outlet2 Description

Outlet Name	Status	Branch	Current	Voltage	Power (kW)	Energy (kWh)
2 - OutletName2	On	CB1	0.00A	0.0V	0.00	0.00

No Change On Off Reset

Outlet ON Delay: 4 Seconds

Outlet Reset Delay: 5 Seconds

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Switched (P5-XXXXX & L5XXXXX) and Switched Pro (P6-XXXXX & L6-XXXXX) models include settings for Outlet ON Delay and Outlet Cycle Delay, allowing you to specify a delay when power is cycled.

Enter Outlet data and click on **Save** button to save new data.

Outlet – Groups

To create a group of outlets from a single PDU or multiple PDUs that are linked together, click on the **Outlet** tab, **Click on the Groups** sub menu, **Click on New Group**:

The screenshot shows the Chatsworth PDU web interface. At the top left is the CPI logo and 'CHATSORTH PRODUCTS, INC.'. To the right, there are two information boxes: 'PDU Info' and 'Session Info'. The 'PDU Info' box contains: Name: H05R15C09A, Location: CPI 01, Hall 5, Row 11, Cabinet 09, Outside PDU, Configuration ID: P6-1FOA1-C2A, IP Address: 97.105.189.156, Firmware: 3.2.25. The 'Session Info' box contains: User: admin, Last Login: 2017-01-25 07:15, Uptime: 0d 1h 17m. A green 'No Alarm' indicator is visible. Below these boxes is a navigation menu with tabs: Status, Outlet, Cabinet Access, Logging, Notifications, Settings, Administration. The 'Outlet' tab is selected, and the 'Groups' sub-menu is active. The main content area is titled 'Outlet Groups' and contains the text: 'Create a new group, or select an existing group to edit. Groups can contain up to 32 outlets, and outlets from any PDU within the Secure Array can be added to the group. The outlets within a group can be controlled on the group's "View" page.' Below this text is a 'New Group' button. At the bottom, there is a copyright notice: 'Copyright © 2017 Chatsworth Products, Inc. All Rights Reserved.' and a version update notice: 'Version 1.21 Last Updated: 2017-01-25 20:11'.

Name the Group, select PDU(s) and Outlets to be grouped and click on **Save** button:

This screenshot is similar to the previous one, but it shows a table of existing groups. The table has three columns: 'Group', 'Name', and 'Action'. The 'Action' column contains three links: 'View', 'Edit', and 'Remove'. Below the table is a 'New Group' button. The rest of the interface, including the PDU and Session info boxes, navigation menu, and footer, is identical to the previous screenshot.


Group	Name	Action
Group 1	my group	View Edit Remove

To view, edit or remove an existing group, click on **View or Edit or Remove** under Action in the Outlet, Groups table:

View provides Group Status. You can see totals and control outlets on Switched and Switched Pro.

eConnect Cabinet Access Control – Overview

*Only applicable for Vertical eConnect PDUs with Auxiliary Ports. Go to page [58](#) to jump to Logging tab.



**CHATSWORTH
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PDU Info	Session Info
Name: H05R15C09A	User: admin
Location: CPI 01, Hall 5, Row 11, Cabinet 09, Outside PDU	Last Login: 2017-01-25 07:44
Configuration ID: P6-1F0A1-C2A	Uptime: 0d 1h 25m
IP Address: 97.105.189.156	
Firmware: 3.2.25	

Help | Logout

Status
Outlet
Cabinet Access
Logging
Notifications
Settings
Administration

My Profile

Overview Settings

Cabinet Access Overview

View the state of the two doors attached to the cabinet where this PDU resides if there is a connection to a CPI Electronic Access Control system. The doors can be either closed and unlocked, closed and locked or completely opened. The third table shows the five most recent door openings/closings to the cabinet.

Front Door Status

State
Door: Tampered Open!
Lock: Locked
UNLOCK

Rear Door Status

State
Door: Not Configured
Lock: Not Configured
UNLOCK

Recent Openings/Closings

Door	Cabinet	PDU	Time Opened	Time Closed

Cabinet Access – Settings

The screenshot shows a web interface for 'Cabinet Access Settings'. At the top, there are navigation tabs: Status, Outlet, Cabinet Access (selected), Logging, Notifications, Settings, and Administration. Below the tabs is a header bar with 'Overview', 'Settings', and 'My Profile'. The main content area is titled 'Cabinet Access Settings' and includes a paragraph of instructions: 'Select the checkboxes for "Enable Front Lock" and "Enable Rear Lock" and then click the "CONFIGURE" button to initiate configuration of the Electronic Access Control system. Once completed, the PDU will be able to interact with the cabinet's door locks, send notifications on error conditions and give a real-time status of the system.'

Configuration fields include:

- Cabinet Lock Open Time: 30 Seconds
- Cabinet Door Open Alarm Time: 2 Minutes
- Enable Front Lock
- Enable Rear Lock

Below these are two status panels:

- Front Door Status:** A table with a 'State' header, 'Door: Tampered Open!', and 'Lock: Locked'.
- Rear Door Status:** A table with a 'State' header, 'Door: Not Configured', and 'Lock: Not Configured'.

At the bottom of the settings area are 'Save' and 'Cancel' buttons. The footer contains 'Copyright © 2017 Chatsworth Products, Inc. All Rights Reserved.' and 'Version 1.21 Last Updated: 2017-01-27 20:22'.

Enter the **Cabinet Lock Open Time**: 1 – 30 seconds. The default value is 5 seconds

Enter **Cabinet Door Open Alarm Time**: 1 – 240 mins. The default value is 10 minutes

Check box to enable Front or/and Rear Lock(s) where applicable

Click on **Save** to save the configured data.

Logging – Overview

The screenshot displays the Chatsworth PDU web interface. At the top left is the Chatsworth logo and company name. The main header area contains PDU and Session information. The PDU Info section lists: Name: H05R15C09A, Location: CPI 01, Hall 5, Row 11, Cabinet 09, Outside PDU, Configuration ID: P6-1F0A1-C2A, IP Address: 97.105.189.156, and Firmware: 3.2.25. The Session Info section lists: User: admin, Last Login: 2017-01-31 16:09, and Uptime: 0d 1h 0m. A green 'No Alarm' indicator is present. Below the header is a navigation menu with tabs for Status, Outlet, Cabinet Access, Logging (selected), Notifications, Settings, and Administration. A secondary menu shows Overview (selected), Export Logs, and Settings, with a 'My Profile' link on the right. The main content area is titled 'Logging Overview' and includes a descriptive paragraph about log files. Below this is a 'Log Module Usage' section with a 'Metrics Data' bar chart showing 0% usage. The 'Syslog Quickview' section features a 'Syslog Filter' with a 'Reload Entries' button and three checked checkboxes: Event, Audit, and System. At the bottom is a 'Syslog Entries' table with three rows of log data.

PDU Info
Name: H05R15C09A
Location: CPI 01, Hall 5, Row 11, Cabinet 09, Outside PDU
Configuration ID: P6-1F0A1-C2A
IP Address: 97.105.189.156
Firmware: 3.2.25

Session Info
User: admin
Last Login: 2017-01-31 16:09
Uptime: 0d 1h 0m

No Alarm

Status Outlet Cabinet Access **Logging** Notifications Settings Administration

Overview Export Logs Settings My Profile

Logging Overview

The PDU creates two types of log files: a data log (metrics) of measured values and an events log (syslog) of system changes. Logs are stored locally until exported. The bar below indicates the amount of local storage that is used. The table below is a summary of the last 10 (syslog) events. Use the Logging-Settings tab to configure the data log (metrics) interval, remote storage server location and remote events log (syslog) server location. Use the Logging-Export Logs tab to search for and manually export logs.

Log Module Usage

Metrics Data

0%

Syslog Quickview

Syslog Filter [Reload Entries](#)

Event Audit System

Syslog Entries

Time (UTC)	Entry
Jan 31 16:10:58	[Tom's Cabinet]:[H05R15C09A]:[Event] Front Lock has been locked.
Jan 31 16:10:25	[Tom's Cabinet]:[H05R15C09A]:[Event] Front Lock has been force unlocked.
Jan 31 16:10:06	[Tom's Cabinet]:[H05R15C09A]:[Event] Front Lock has been locked.

Select Syslog Filter by checking the check box(es) and click on the **Reload Entries** button to obtain up-to-date information.

Logging – Export Logs

PDU Info
Name: H05R15C09A
Location: CPI 01, Hall 5, Row 11, Cabinet 09, Outside PDU
Configuration ID: P6-1F0A1-C2A
IP Address: 97.105.189.156
Firmware: 3.2.25

Session Info
User: admin
Last Login: 2017-01-31 16:09
Uptime: 0d 1h 4m

No Alarm

Status Outlet Cabinet Access **Logging** Notifications Settings Administration

Overview **Export Logs** Settings My Profile

Export Logs

Select which type of data you wish to retrieve, then specify the time interval you wish to view data from. You can choose to "Quick View" your data, which will present the data in a spreadsheet, "Download" your data in a CSV format, or "Transfer" the CSV file to the server specified on the Settings page.

Report Type

Data File
Log file: Current 001000+201701311200.log

Event Log File
Log file: Jan 16 23:41:34 - Current

DOWNLOAD TRANSFER TO SERVER DELETE

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Select type of file and select the log file to be exported.

Click on **DOWNLOAD** to download selected file to the connecting computer.

Click on **TRANSFER TO SERVER** to save the file on the designated storage server.

Click on **DELETE** to remove the save file from the PDU.

Logging – Settings

Log Settings

Enable the data logging to have outlet, branch, and environmental data logged to a .dat file at the specified logging interval. The .dat file can be downloaded on the "Export Logs" page. A separate application is used to convert the .dat file to .csv files. The Log Server can be enabled for manual or auto-transfer of the .dat and syslog files to another server available over the network. Auto-transfers will take place every 6 hours once enabled. Manual transfers are initiated via the "Export Logs" page. The Syslog server option can be enabled for real-time streaming of syslog data to a pre-configured syslog server available on the network.

Data Logging Settings

Enable Logging:

Logging Interval: minutes

Log Full Warning Level: %

Event Logging Settings

Log Identity:

Log Facility:

Storage Server

SSH Server Address: Port:

Destination Directory:

Connection options:

User Name:

Password:

Auto-Transfer Data Log:

Auto-Transfer Event Log:

Syslog Server

Server Address: Port:

Metric Data Logging:

Check Enable Logging check box to begin capturing data on the PDU internal memory. Input the desired interval and Log Full Warning Level percentage.

Event Logging Settings:

Log Identity and Log Facilities are preset on the PDU memory system. Pick any Log Local to store data locally.

Storage Server:

Input information for Data Log and Event Log to be stored remotely. Make sure to click on the **Save and Test Connection** button to validate the connection and authorization to save data on the remote server.

Syslog Server:

Allows the use of the remote server as the Syslog instead of the PDU itself.

Click on **Save** to save all input data.

Notification - Thresholds

Branch Thresholds

The screenshot shows a web interface with a navigation bar at the top containing tabs for Status, Outlet, Cabinet Access, Logging, Notifications (selected), Settings, and Administration. Below the navigation bar, there are sub-tabs for Thresholds and Routing, and a 'My Profile' link on the right. The main content area is titled 'Notification Thresholds' and contains the following text: 'Specify the data thresholds that will trigger an alarm event for this PDU. There are both low and high, critical and warning thresholds. The outlet and branch threshold tables allow values to be copied from one row to all rows in the table.'

Below this text is a section for 'Branch Thresholds' with a 'Clear All' button and a 'Copy to All From Branch:' dropdown menu set to '1'. A table follows with the following structure:

Branch	Critical Low Voltage (Volts)	Warning Low Voltage (Volts)	Warning High Voltage (Volts)	Critical High Voltage (Volts)	Critical Low Load (Amps)	Warning Low Load (Amps)	Warning Overload (Amps)	Critical Overload (Amps)
CB1	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="20"/>
CB2	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="20"/>

At the bottom of the table are 'Save' and 'Cancel' buttons.

Input all desired limitations to be set as thresholds. Click on **Save**.

Scroll down to input other thresholds.

Environmental Thresholds

Sensor	Critical Low	Warning Low	Warning High	Critical High
Temperature 1	<input type="text"/> °F	<input type="text"/> °F	<input type="text"/> °F	<input type="text"/> °F
Temperature 2	<input type="text"/> °F	<input type="text"/> °F	<input type="text"/> °F	<input type="text"/> °F
Humidity 1	<input type="text"/> 0 %	<input type="text"/> 0 %	<input type="text"/> 0 %	<input type="text"/> 0 %
Humidity 2	<input type="text"/> 0 %	<input type="text"/> 0 %	<input type="text"/> 0 %	<input type="text"/> 0 %

Environmental Thresholds

Input all desired limitations to be set as thresholds. Click on **Save**.

Scroll down to input other thresholds.

For P4-xxxxx, L4-xxxxx, P6-xxxxx, L6-xxxxx PDU models only:

Outlet Thresholds

Clear All

Copy to All From Outlet:

Outlet	Critical Low Load (Amps)	Warning Low Load (Amps)	Warning Overload (Amps)	Critical Overload (Amps)
1	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
2	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
3	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
4	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
5	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
6	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
7	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
8	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
9	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
10	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
11	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
12	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>

Outlet Thresholds

Input all desired limitations to be set as thresholds. Click on **Save**.

Notification - Routing

Status	Outlet	Cabinet Access	Logging	Notifications	Settings	Administration
Thresholds	Routing					My Profile

Notification Routing

Specify how you would like to be notified of an alarm event for this PDU. You can choose to have an entry in the syslog file, a trap sent via SNMP (if the appropriate SNMP settings are configured on the Settings - SNMP page), and have an email notification sent (if the email setup has been completed on the Notifications - Emails page).

Branch Voltage Notifications

Event	Log	Trap	Email
Branch Critical Low Voltage	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Branch Warning Low Voltage	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Branch Warning High Voltage	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Branch Critical High Voltage	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Branch Current Notifications

Event	Log	Trap	Email
Branch Critical Low Load	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Branch Warning Low Load	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Branch Warning Overload	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Branch Critical Overload	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Select method(s) of notifications for Branch Voltage and Branch Current by checking the check box(es): Log, Trap, Email

Scroll down for more notification settings.

Outlet Current Notifications

Event	Log	Trap	Email
Outlet Critical Low Current	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Outlet Warning Low Current	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Outlet Warning High Current	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Outlet Critical High Current	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Temperature Notifications

Event	Log	Trap	Email
Temperature Critical Low	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temperature Warning Low	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temperature Warning High	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temperature Critical High	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Humidity Notifications

Event	Log	Trap	Email
Humidity Critical Low	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Humidity Warning Low	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Humidity Warning High	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Humidity Critical High	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Select method(s) of notifications for Outlet, Temperature, Humidity if applicable by checking the check box(es): Log, Trap, Email.

Scroll down for more notification settings.

Door and Lock Notifications

Event	Log	Trap	Email
Badge Scanned and Verified	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Badge Scanned and Not Verified	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Door Opens or Closes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Lock Opens or Closes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Door Open Longer than Alarm Period	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

PDU Notifications

Event	Log	Trap	Email
PDU Firmware Update Applied	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PDU Configuration Change	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PDU Receptacle Change	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PDU System Reboot	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PDU Accessed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Secure Array State Change	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Select All Select All Select All

Select method(s) of notifications for Door, Lock , and PDU if applicable by checking the check box(es): Log, Trap, Email.

Click on Save to save the input data.

Settings – PDU

PDU Info
Name: H05R15C09A
Location: CPI 01, Hall 5, Row 11, Cabinet 09, Outside PDU
Configuration ID: P6-1F0A1-C2A
IP Address: 97.105.189.156
Firmware: 3.2.25

Session Info
User: admin
Last Login: 2017-01-31 17:27
Uptime: 0d 2h 54m

No Alarm

Help | Logout

Status Outlet Cabinet Access Logging Notifications **Settings** Administration

PDU Environmental Network SNMP Emails My Profile

PDU Settings

Edit Secure Array and general PDU related configuration properties.

Cabinet ID:

PDU Name:*

PDU Location:

Primary PDU:

Out Of Service: No alarms will be sent

Sum Amps: Amperage will be summed across all branches

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Enter desired **PDU Name** and **Location**. The PDU Name is displayed in the summary information at the top of each web interface screen and on the PDU's LCD screen.

Out of Service checkbox: Check this box to deactivate alarms if a PDU goes offline or becomes “unlinked.” Use this checkbox for planned service.

Status	Outlet	Cabinet Access	Logging	Notifications	Settings	Administration
--------	--------	----------------	---------	---------------	----------	----------------

PDU	Environmental	Network	SNMP	Emails	Clone	My Profile
-----	---------------	---------	------	--------	-------	------------

Secure Array:

Sort ASC ▾

■ H05R15C09A
(97.105.189.156)

■ PDU Name

Primary PDU

PDU Settings

Edit Secure Array and general PDU related configuration properties.

Cabinet ID:

PDU Name:*

PDU Location:

Primary PDU:

Share Role: If the Secure Array fails over to the Alternate PDU, the Secure Array will not switch back to the Primary PDU.

Linked PDU Count: Number of PDUs in the Secure Array (Currently 1)

Send Notification on

Link Count change: If Linked PDU count changes then notification will be sent

Role Change: If Role between Alternate and Primary is changed notification will be sent

Out Of Service: No alarms will be sent

Sum Amps: Amperage will be summed across all branches

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Primary PDU checkbox: eConnect PDUs can be linked together through a Secure Array to share a single IP address through a single network connection. Check this box for the PDU with the highest level functionality. For several PDUs that have the highest level of functionality, check the box for the one that has the highest number of outlets. The check box for Primary PDU should only be checked if this PDU is linked with other PDUs, and if this is the PDU that is attached to the network. If this PDU is not linked to other PDUs, do not check the Primary PDU check box.

Remote cabinet access control through eConnect EAC is possible with all the PDUs that are linked together in the Secure Array.

Share Role checkbox: When linking PDUs, there can also be an Alternate (Primary) PDU to provide a backup network connection if the Primary PDU loses its network connection. Check this box to allow the Alternate PDU to keep the “primary” network connection role after the Primary PDU returns to normal service. Uncheck to switch the primary network connection back to the Primary PDU.

To keep cabinet access control entries, make sure the Key Card ID information on both the Primary and Alternate PDU in case the role of the Primary PDU changes.

Link Count Change checkbox: Check this box to receive an alarm notification if the number of PDUs in the Secure Array changes indicating a potential link failure.

Role Change checkbox: Check this box to receive an alarm notification if the Alternate PDU assumes the Primary PDU role indicating a potential primary PDU or network connection failure.

Fill in the desired choices and click on **Save**.

Settings – PDU - Clone

The screenshot displays the 'Clone and Transfer Settings' page. It features a navigation bar with tabs for 'Status', 'Outlet', 'Cabinet Access', 'Logging', 'Notifications', 'Settings', and 'Administration'. The 'Settings' tab is selected, and the 'Clone' sub-tab is active. The main content area is titled 'Clone and Transfer Settings' and includes a 'Secure Array' section with a dropdown menu showing 'H05R15C09A (97.105.189.156)'. Below this, there are checkboxes for 'Settings to Clone' such as Branch Voltage Thresholds, Branch Current Thresholds, Outlet Reset Delays, Outlet ON Delays, Temperature Thresholds, Humidity Thresholds, Trap Interval, Sum Amps Setting, Notification Specifications, Logging Settings, Outlet Current Thresholds, Temperature Unit, and Out-of-Service Setting. A 'Select PDU's to Clone to:' section contains a text input field for 'PDU Name'. At the bottom, there are 'Clone' and 'Cancel' buttons. The footer contains copyright information for Chatsworth Products, Inc. and the version number 1.21.

Data from the Primary PDU can be cloned to the other PDUs in the Secure Array by checking the desired parameters and selecting the PDUs to be cloned.

You can designate one of the linked PDUs as an Alternate PDU. The Alternate PDU serves as a backup to the Primary PDU. It has a second and separate network connection from the Primary PDU and assumes the Primary role, providing a network connection to the PDUs in the array, if the Primary PDU loses connection. The Alternate PDU must be equivalent to the Primary in functionality and outlet quantity in order to fully support the array. Additionally, if deploying eConnect EAC, the Alternate PDU must have the same user access information (ID card) from the primary PDU in order for the access logging information to show up in the GUI.

Check the Alternate Primary check box, fill in the desired choices and click on **Save**.

Status Outlet Logging Notifications **Settings** Administration

PDU Environmental Network SNMP Emails My Profile

Secure Array:

Sort ASC

H05R15C09A
(97.105.189.156)

PDU Name

Primary PDU

Alternate Primary PDU

PDU Settings

Edit Secure Array and general PDU related configuration properties.

PDU settings saved

Cabinet ID:

PDU Name:*

PDU Location:

Alternate Primary: If Primary PDU is not active then this PDU will assume the role

Share Role: If the Secure Array fails over to the Alternate PDU, the Secure Array will not switch back to the Primary PDU.

Linked PDU Count: Number of PDUs in the Secure Array (Currently 1)

Send Notification on

Link Count change: If Linked PDU count changes then notification will be sent

Role Change: If Role between Alternate and Primary is changed notification will be sent

Out Of Service: No alarms will be sent

Sum Amps: Amperage will be summed across all branches

Save Cancel

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Settings - Environmental

Status Outlet Cabinet Access Logging Notifications **Settings** Administration

PDU Environmental Network SNMP Emails My Profile

Environmental Settings

Edit general environmental probe settings.

Unit of Measure: °F °C

Probe 1 Name:

Probe 2 Name:

Save Cancel

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Select choice of temperature unit, enter name for the probes. Click on **Save**.

Settings – Network

Network Settings

Edit network related configuration properties.

TCP / IP Configuration

Enable Protocols: IPv4 and IPv6 ▾

Manually Configure IPv4

Link Local IPv6 fe80::20e:d3ff:fe00:1000/64

Global IP Manually Configure IPv6

IP4 Setup

IP Address: 97.105.189.156

Subnet Mask: 255.255.255.240

Default Gateway: 97.105.189.145

IP4 DNS Servers

Primary DNS Server: 0.0.0.0

Secondary DNS Server: 0.0.0.0

IP6 Setup

IP Address: ::

Prefix Length: 0

Default Gateway: ::

IP6 DNS Servers

Primary DNS Server: ::

Secondary DNS Server: ::

Time Servers

RFC Time Server:

NTP Time Server:

Web Access Settings

Enable HTTP Port: 80

Enable HTTPS Port: 443

- **Network** - Using the Enable Protocols combo box, select the Network Protocol(s). Enter data for IPv4 and/or IPv6 Networking.
- **Time Servers** – Designate a time server as the source for time after each reboot (requires a network connection). As an alternative, you can manually set the time from the Administration tab, Advanced sub menu.
- **Web Access Settings** –Designate the port for accessing the PDU using a web browser and HTTP or HTTPSs.

Click on **Save**.

Settings – SNMP

Status Outlet Cabinet Access Logging Notifications **Settings** Administration

PDU Environmental Network **SNMP** Emails My Profile

SNMP Settings

Edit SNMP and trap related configuration properties.

Enable SNMP Access

Listen Port:

Trap Port:

Security Level:

SNMP V1 and V2c Settings

Read Community: (Default: public)

Write Community: (Default: private)

Limit Host Access

Host 1 IP Address: IPv4: IPv6:

Host 2 IP Address: IPv4: IPv6:

Host 3 IP Address: IPv4: IPv6:

SNMP V3 Settings

USM User:

Auth Algorithm:

Auth Password:

Priv Algorithm:

Priv Password:

Send Traps To

Host 1 IP Address: IPv4: IPv6:

Host 2 IP Address: IPv4: IPv6:

Host 3 IP Address: IPv4: IPv6:

Additional Trap Settings:

Context Name:

Alarm Interval: Minutes

Log Interval: Minutes

Log Difference: Amps

Enter data for SNMP v1, v2c or v3 settings.
Enter the IP Addresses you want to send traps to.
Click on **Save** to save all entered data.

Settings – Emails

The screenshot shows a web interface for configuring email notifications. At the top, there are navigation tabs: Status, Outlet, Cabinet Access, Logging, Notifications, Settings (selected), and Administration. Below these is a sub-menu: PDU, Environmental, Network, SNMP, Emails (selected), and My Profile. The main content area is titled 'Notification Setup' and includes the following fields and options:

- Enable Email Notification
- SMTP Mail Server:
- Port Number:
- Use TLS:
- Start TLS:
- E-mail Address:
- Authentication: - Username:
- Password:
- Recipient 1:
- Recipient 2:
- Recipient 3:


Buttons at the bottom include 'Save and Send Test Email', 'Save', and 'Cancel'.

The PDU does not include a mail server. In order to provide email notifications for the PDU, you must first setup an email account for the PDU on an accessible mail server.

- **SMTP Mail Server** – the mail server where the account resides, ex: smtp.google.com.
- **Port Number** – the provider’s port number, usually 465 or 25.
- Check **Use TLS** or **Start TLS** check box(es) to match your provider’s encryption requirements.
- **Email address** – the email address assigned to the PDU
- If Authentication is required, select **Specify Credentials** from the drop down list.
- Enter the **User Name** and **Password** for the Email account.
- Select **Anonymous** if no Username and Password are required.
- Enter the email address(es) of the Recipient(s) (eg: your technician’s email address.)

Click on **Save and Send a Test Email** to make sure notification setup is correctly. The PDU must have network access to the mail server.

Administration – User Management



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PDU Info
Name: H05R15C09A
Location: CPI 01, Hall 5, Row 11,
Cabinet 09, Outside PDU
Configuration ID: P6-1F0A1-C2A
IP Address: 97.105.189.156
Firmware: 3.2.25

Session Info
User: admin
Last Login: 2017-01-31 17:27
Uptime: 0d 3h 22m

No Alarm

Help | Logout

Status Outlet Cabinet Access Logging Notifications Settings Administration

User Management Radius Authentication LDAP Authentication Advanced Upgrade Firmware My Profile

User Management

Create, edit, and delete users. Users can be a member of one of 4 groups: Admin, Cabinet, Viewer, User. A user's group will determine a user's level of web interface access. The 'Viewer' group has no configuration access. The 'User' group has limited configuration access. The 'Cabinet' group has the same level of configuration access as the 'User' group, but also has access to the 'Cabinet Access' tab in the web interface. The 'Admin' group has access to every tab in the web interface.

User Name	Group	Card ID	Action	
admin	Admin	D0D69D9E	Edit	
Nick	Admin	D0DF00EE	Edit	Delete
Prox	Cabinet	6303e9	Edit	Delete
TomTu	Admin	b4e0b301f8ff12e0	Edit	Delete

Previous Page User List Page: 1 Next Page

Create User

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Click on **Create User** to add a new user.

Create User

Create User

Username:

Password:

Confirm Password:

Create Cancel

Input the username and password and click on **Create**.

To edit an existing user. Click on **Edit** for that username.

User Profile

User Name:

Password: (Leave blank to keep current password)

Confirm Password:

Card ID:

Group: ▼

Change the necessary information. Input the Key Card ID for the Electronic Access Control. If you don't know your Key Card ID, see Appendix on Page 80. The same information should be input for both the Primary and Alternate PDU to assure the same logging authority will be carried through.

Click on **Save**.

Administration – Radius Authentication

Status Outlet Cabinet Access Logging Notifications Settings Administration

User Management **Radius Authentication** LDAP Authentication Advanced Upgrade Firmware My Profile

Radius Authentication

Users authenticated via Radius will have "Viewer" permission. To grant a user additional permission, create a local account under User Management and edit the user to assign an appropriate Group: User, Cabinet or Admin. Users need Group: Cabinet or Admin permission for Cabinet Access with the Electronic Access Control system.

Enable Radius Server

Radius Server Port:

Radius Secret

NAS Server

Connection Test Password

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For network/website authentication using **Radius Authentication**, enter the necessary information and **Save**. Note that users will need to be added under the **Local User List** to have **Control** or **Admin** capabilities.

Administration – LDAP Authentication

The screenshot shows the 'LDAP Authentication' configuration page. At the top, there is a navigation bar with tabs for Status, Outlet, Cabinet Access, Logging, Notifications, Settings, and Administration. Below this is a sub-navigation bar with links for User Management, Radius Authentication, LDAP Authentication (selected), Advanced, Upgrade Firmware, and My Profile. The main content area is titled 'LDAP Authentication' and contains the following text: 'Users authenticated via LDAP will have "Viewer" permission. To grant a user additional permission, create a local account under User Management and edit the user to assign an appropriate Group: User, Cabinet or Admin. Users need Group: Cabinet or Admin permission for Cabinet Access with the Electronic Access Control system.'

Below the text is a checkbox labeled 'Enable LDAP Authentication'. To the right of this checkbox are two lines of text: 'ldaps://<ipaddress>:[port]' and 'ldap://<ipaddress>:[port]'. Below these are two lines of text: 'For domain example.com' and 'cn=users,dc=example,dc=com'. There are four input fields: 'LDAP Server URI', 'Base DN', 'Username', and 'Connection Test Password'. At the bottom of the form are 'Save' and 'Cancel' buttons.

At the bottom of the page, there is a copyright notice: 'Copyright © 2017 Chatsworth Products, Inc. All Rights Reserved.' and a version/updated date: 'Version 1.21 Last Updated: 2017-01-27 23:32'.

For network/website authentication using LDAP Authentication, enter the necessary information and Save. Note that users will need to be added under the **Local User List** to have **Control** or **Admin** capabilities.

Administration – Advanced

The screenshot shows the 'Advanced' configuration page. At the top, there is a navigation bar with tabs for Status, Outlet, Cabinet Access, Logging, Notifications, Settings, and Administration. Below this is a sub-navigation bar with links for User Management, Radius Authentication, LDAP Authentication, Advanced (selected), Upgrade Firmware, and My Profile. The main content area is titled 'Advanced' and contains the following text: 'The PDU time can be configured by synchronizing the PDU with the web browser, if desired. Clicking "Soft Reboot" will perform a reboot of the entire system. Also, the PDU can be reverted back to factory defaults in certain categories. "Reset Network" will reset settings on the "Settings - Network" and "Settings - SNMP" tabs. "Reset Configuration" will reset all settings not related to the network or user configuration. "Reset Users" will reset all configuration on the "Administration - User Management" tab. "Reset All" functions as if all three choices were selected simultaneously.'

Below the text is a section titled 'PDU Info' with the following information: 'Firmware: 3.2.25 (Bootloader: unknown)', 'Configuration ID: P6-1F0A1-C2A', 'Serial Number:', and 'MAC Address: 00:0E:D3:00:10:00'.

Below this is a section titled 'Time and Date Settings'. It contains the text 'Browser date and Time: Wed, 01 Feb 2017 00:32:52 UTC' and a 'Sync PDU Time' button. Below this is a section titled 'PDU Time in UTC' with the following information: 'Time: 18 Hrs 41 Mins 48 Secs' and 'Date: 31 Jan 2017'. There are 'Save' and 'Cancel' buttons.

Below this is a section titled 'SOFT REBOOT' with a 'SOFT REBOOT' button.

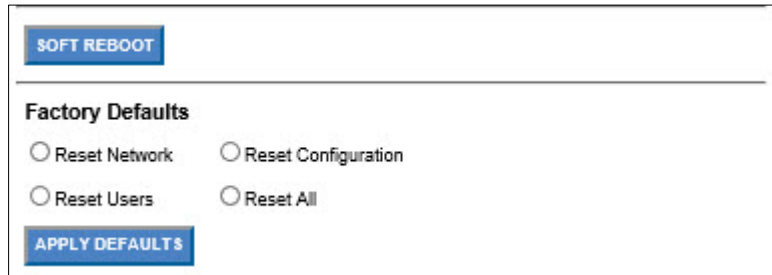
Below this is a section titled 'Factory Defaults' with the following information: 'Reset Network', 'Reset Configuration', 'Reset Users', and 'Reset All'. There are radio buttons next to each option. Below this is an 'APPLY DEFAULTS' button.

At the bottom of the page, there is a copyright notice: 'Copyright © 2017 Chatsworth Products, Inc. All Rights Reserved.' and a version/updated date: 'Version 1.21 Last Updated: 2017-01-25 20:11'.

PDU Info includes serial number and MAC address. Model number and firmware version are also displayed in the gray summary box at the top of each screen.

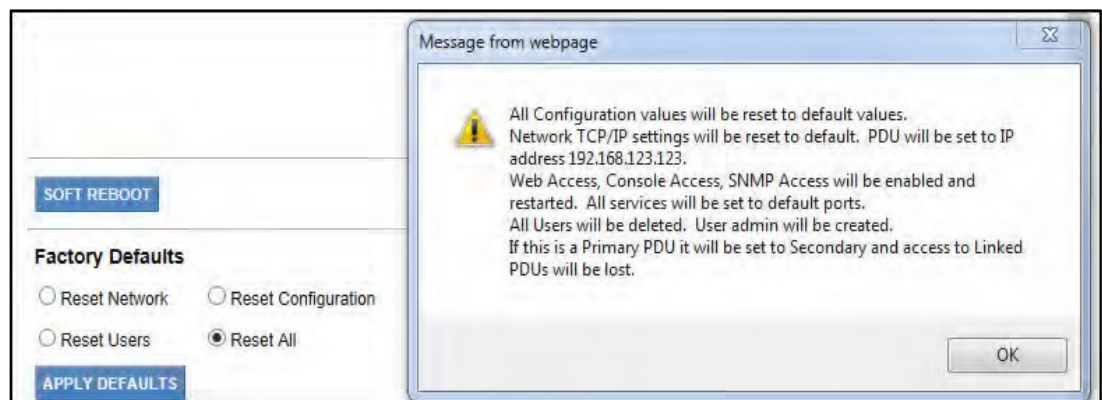
Verify the **Time** and **Date Settings** to ensure date/time stamps on logs and alarms are correct.

Soft reboot restarts the network connection, but does not power down outlets. Use this if you have connection problems.



Factory Defaults reset customer-entered values to the original factory defaults:

- **Reset Network** – Resets the PDU Network information to factory defaults including IP address (192.168.123.123). You may lose your network connection.
- **Reset Configuration** – Resets the PDU Configuration information to factory defaults including PDU name, alarms thresholds, etc. You will lose all configured fields.
- **Reset User** – Deletes all users except the single factory default admin user. Login will be reset to admin, admin and this user will have full admin capabilities.
- **Reset All** – Resets all fields to factory defaults.



To reset to factory defaults, select the appropriate radial button.
Review the warning message.
Click the **Apply Defaults** button to apply selected defaults. Resets are applied immediately.

Administration – Upgrade Firmware

The screenshot shows the 'Upgrade Firmware' page within an administration interface. The top navigation bar includes 'Status', 'Outlet', 'Cabinet Access', 'Logging', 'Notifications', 'Settings', and 'Administration'. Below this, a sub-menu contains 'User Management', 'Radius Authentication', 'LDAP Authentication', 'Advanced', 'Upgrade Firmware', and 'My Profile'. The main content area is titled 'Upgrade Firmware' and contains the following text:

The version of firmware installed on this PDU is listed in the gray box above. To upgrade your firmware, download the most current firmware from the CPI website (<http://www.chatsworth.com/support-and-downloads/downloads/software>). Unzip the download and place the .bin file in a networked directory.

You will need to specify your 'Upgrade Option' as shown below. 'Versions Less Than' refer to a version that is less than the version being used to upgrade the PDU. 'Versions Not Equal' will only update if the PDU's current version is not the same as the version being used to upgrade the PDU, regardless of being newer or older. 'Force All Versions' will apply the version being used to upgrade the PDU. The PDU can be upgraded via HTTP, FTP, or TFTP. To initiate an upgrade, select the appropriate radio button, specify the appropriate fields, and click the 'Upgrade' button. The 'Test' button can be used to verify connectivity to the HTTP, FTP, or TFTP server.

Upgrade Option: Versions Less Than Versions Not Equal Force All Versions

Upgrade this PDU via Network

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This section shows the 'Upgrade this PDU via Network' option selected. It includes the following fields and buttons:

Upgrade this PDU via Network

HTTP or FTP URL: (eg: <http://192.168.100.1/cpipack.bin>)

TFTP Server IP: Filename:

Post the downloaded firmware to an accessible HTTP/FTP or TFTP directory.

Enter HTTP/FTP or TFTP data.

Click on **the Test** button to assure the remote site can be reached.

Click on the **Upgrade** button to perform the upgrade.

After successful installation, the new firmware version will display in the PDU Info box at the top of the screen.

Additional Software

Note: Linked PDUs with firmware version 1.17.227 or later can be upgraded from the network (remotely) using eConnect Firmware Upgrader, a separate software program available from www.chatsworth.com/Support-and-Downloads/Downloads/Software.

Note: eConnect PDUs can also be monitored and configured using a direct serial connection with eConnect Serial Communicator, a separate software program available from www.chatsworth.com/Support-and-Downloads/Downloads/Software. A Serial Setup Cable (CPI P/N 35941-131) is also required.

USING THE APPLICATION PROGRAMING INTERFACE (API)

Refer to this link to get API instructions

Additional information about API Best Practices refer to

<https://bocoup.com/blog/documenting-your-api>

TROUBLESHOOTING GUIDE

Local display is blank:

- Check the PDU status LED.
- Make sure the PDU is plugged into a live source.
- Timeout feature might be activated, press the middle button.

Receptacle has no power:

- Check the circuit breaker for the branch. If necessary, switch it off then back on and recheck. (Note that all equipment connected to the branch will lose power.)
- Check power at the source.
- If problem persists, the PDU unit must be replaced.

PDU cannot establish Link to another PDU:

- Verify that proper cable is used to interface PDUs, use a standard Cat 5/6, 4-pair network cabinet with RJ45 connectors on both ends.
- Make sure the connectors are snapped in securely.
- Verify the integrity of the cable.
- If problem persists after a power cycle, the PDU unit must be replaced.

PDUs in the Secure Array are not displaying in the interface:

- Verify that the PDU models are compatible.
 - Models with auxiliary ports will only connect to models that support Gigabit Ethernet.

PDUs in the Secure Array are not displaying data that is appropriate to their level of functionality:

- Verify that the PDUs assigned to the PRIMARY and ALTERNATE roles are represented by the units with the highest level of functionality within the array.
- If the problem persists, verify that the units in the PRIMARY and ALTERNATE roles have the highest number of outlets within their functionality.

No Ethernet Connection:

- Verify connection with a ping tool from any computer in the network.
- Check that the green LED in the PDU Ethernet port is lit.
- Check that the end connectors are snapped in place.
- Check the integrity of the cabling from the PDU's Ethernet port to the network switch/hub/router.
- Verify the port integrity of the network switch/hub/router.
- Verify via serial port that the network configurations for the PDU are set properly.
- If the Ethernet communication problem persists after power cycling it, replace the PDU unit.

For eConnect PDU with EAC installed:

Lock issue

If lock status shows as “Not Configured” or “Lost Communication”

- Check the cable that is connecting the lock to the CAN bus module for continuity.
- Check the cable that is connecting the CAN bus module to the PDU for continuity.

If lock status shows as “Unlocked”

- Check that the lock is locked using the appropriate mechanical key
- Check the cable that is connecting the lock to the CAN bus module for continuity.

Door issue

If door status shows as “Not Configured” or “Lost Communication”

- Check the cable that is connecting the door sensors with the CAN bus module for continuity.
- Check the cable that is connecting the CAN bus module to the PDU for continuity.

If door status shows as “Open” while the door is closed:

- Check that the door magnets are aligned properly.

Check that the cable that is connecting the door magnets with the CAN bus module for continuity.

Customer Support:

US Tech Support: 1-800-834-4969 • techsupport@chatsworth.com

APPENDIX

Regulatory Information:

ETL
CE
FCC Part 15, Class A
EN 55022
RoHS Compliant
UL &
cUL
Listed
IEC
60950-
1
CSA C22.2

Environmental Conditions:

Operating Temperature: 32 - 149°F (0 - 65°C) at Input Power Rating
(kW) Operating Relative Humidity: 5 - 95%
Operating Elevation: 0-10000 ft (0-3000 m)
Storage Temperature: -13 - 149°F (-25 - 65°C)
Storage Relative Humidity: 5 - 95%
Storage Elevation: 0-50000ft (0-15000 m)

The Technical Construction File is held by CPI.

APPENDIX for eConnect EAC

Assigning a Key Card ID

As discussed in the section **Administration – User Management** (page 71), each user may be assigned a unique key card ID associated with their account that allows the PDU to unlock eConnect EAC mechanism (if installed) when a key card is presented to the cabinet door lock. If the key card ID is not known, there are two methods that can be used to interrogate the card electronically, in order to retrieve the key card ID, and enter it into the eConnect system.

The first method utilizes the eConnect card reader and the event-logging system described in the **Logging – Overview** section of this manual to acquire the key card ID.

Whenever a key card is presented to eConnect EAC, the key ID is read off the card, and then is compared to all key IDs known by the eConnect system. If the key ID is unknown, an entry is appended to the syslog to show that cabinet access has been attempted by an unknown user. The log entry includes the unknown key card ID. The key card ID can then be read from the syslog, and then entered into a user profile.

To easily copy the card ID from the syslog, double click the last set of characters on the pertinent log entry with the left mouse button to highlight it, then click the right mouse button and select **Copy** (or press **Ctrl-C** on the computer keyboard) to copy the characters to the windows clipboard.

Syslog Entries

Time (UTC)	Entry
Feb 9 19:05:07	[PDU Cabinet]:[P6 lock tester]:[Audit] User admin logged in on the web GUI interface.
Feb 9 19:04:34	[PDU Cabinet]:[P6 lock tester]:[Audit] Front Door has encountered a failed access attempt. Card ID was caa4b301f8ff12a4

Next, find the user that will be associated with this card, or create a new user if necessary and add the user name and password and click save. Change the Group association for this user to the cabinet, place the mouse cursor on the Card ID text box and left click once, then paste the key card ID in with mouse right-click **Paste** (or via the keyboard by pressing **Ctrl-V**). Be sure to press the **Save** button to save the key card ID.

From this point forward, the key card ID will be known to the system and associated with the user. Note that once the card ID is into the system, it will no longer be displayed in the syslog entry for security purposes.

Create User

User Profile

User Name:

Password: (Leave blank to keep current password)

Confirm Password:

Card ID:

Group:

Save
Cancel

The second method to interrogate an unknown key card is to utilize the pcProx® Plus external card reader, CPI part number 36653-001, and a windows-based computer that is logged on to the eConnect web interface. The external card reader plugs into any available USB port on the computer and will generate “keystrokes” when a card is presented. Thus, the user places the mouse cursor on the Card ID text box, and when the card is presented to the external reader, the key card ID characters are injected into the text box automatically, as if they were entered manually with a keyboard.

The external USB card reader does require software to be downloaded from the third-party vendor’s website, and configured to the type of key card intended to be used on the system. **NOTE:** At the time of writing of this manual, configurations have been tested for card types Desfire, HiD iClass, MIFARE Classic, and Prox cards. Other types of cards may be used with this reader, although some changes may need to be made to the external card reader settings so the key codes are correct. A comparison could be made between the syslog entry method described above to find the proper settings that provide a match for that family of cards. From that point forward, no changes to the external card reader’s configuration should be required to enroll more cards of the same type.

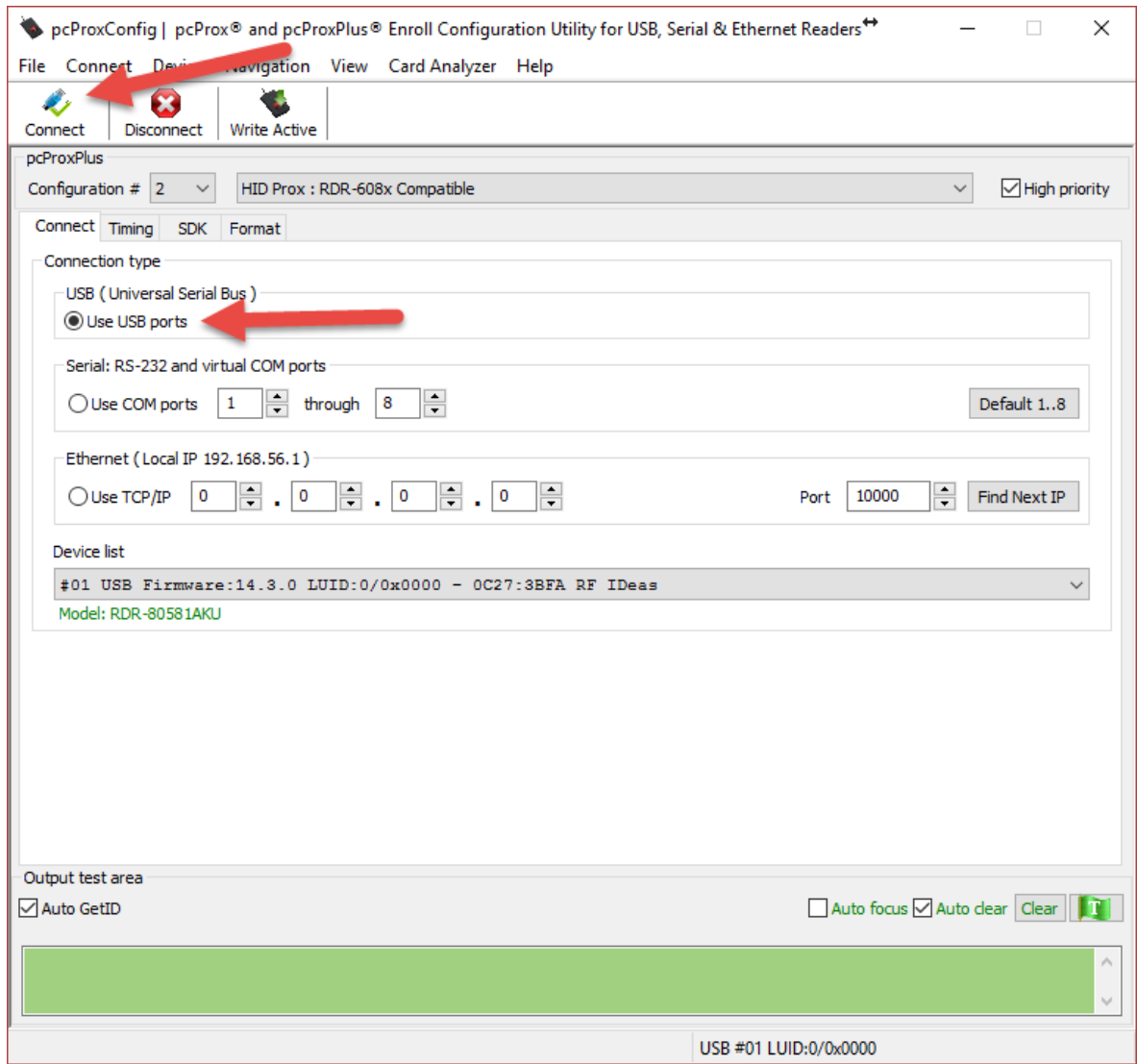
Preparation

To configure the pcProx® Plus card reader, you must have the pcProx® Configuration Utility installed on your computer, which is available at

www.rfideas.com/support/product-support/pcprox-plus

Click on the link above and save the resultant zip file to a directory on the computer. Unzip the contents of the zip file and click on the file pcProxConfig.exe (be sure the PC user has Administrator privileges to install programs). The pcProx® Configuration Utility will be installed with a start menu shortcut at **RF IDEas -> PCProx5 -> pcProxConfig.exe**

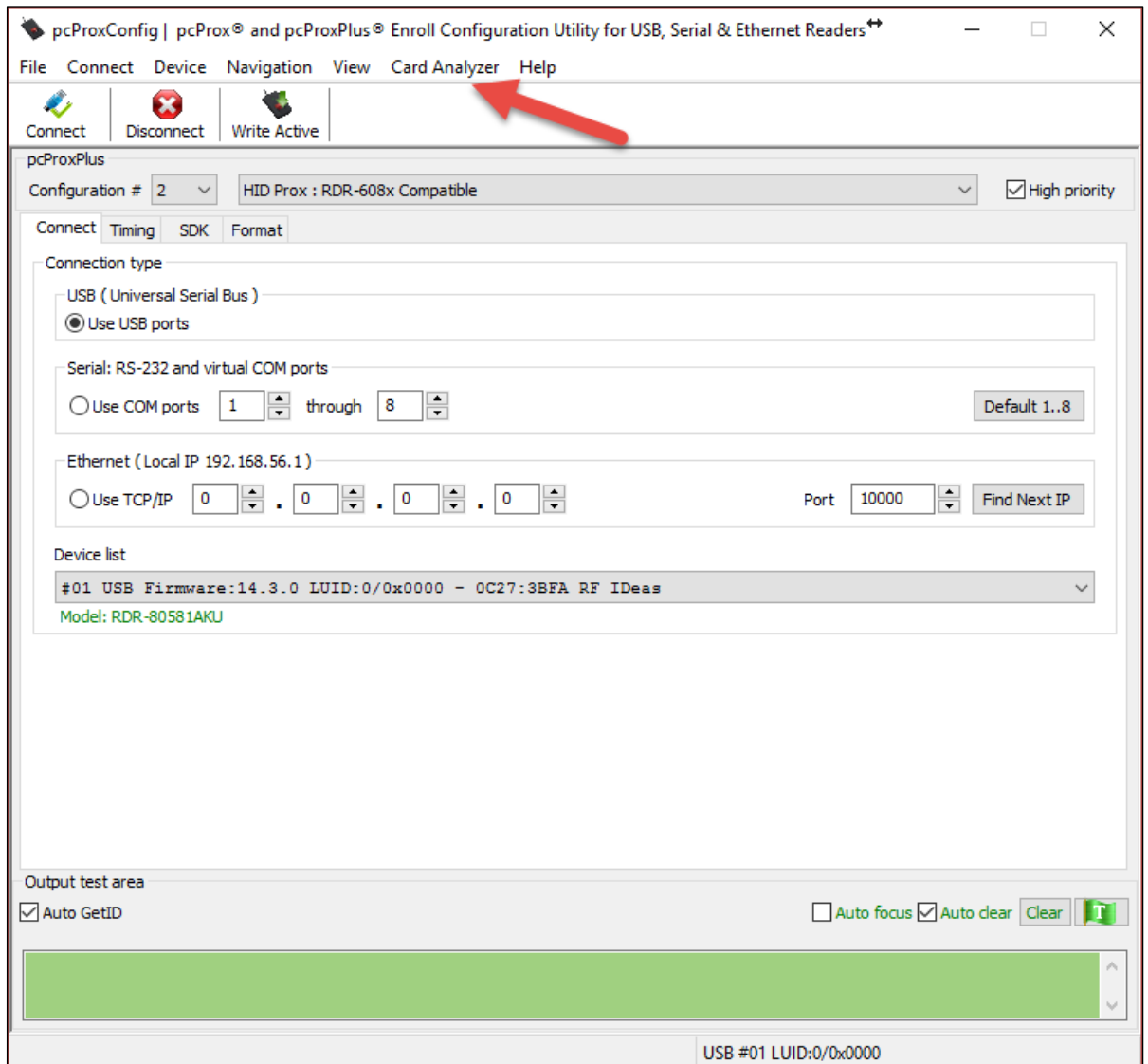
Plug in the pcProx® Plus card reader into an available USB port. Run the program PcProxConfig from the Windows start menu, click **Use USB ports**, and select the **Connect** button in the upper left of the screen to associate the program to the external reader.



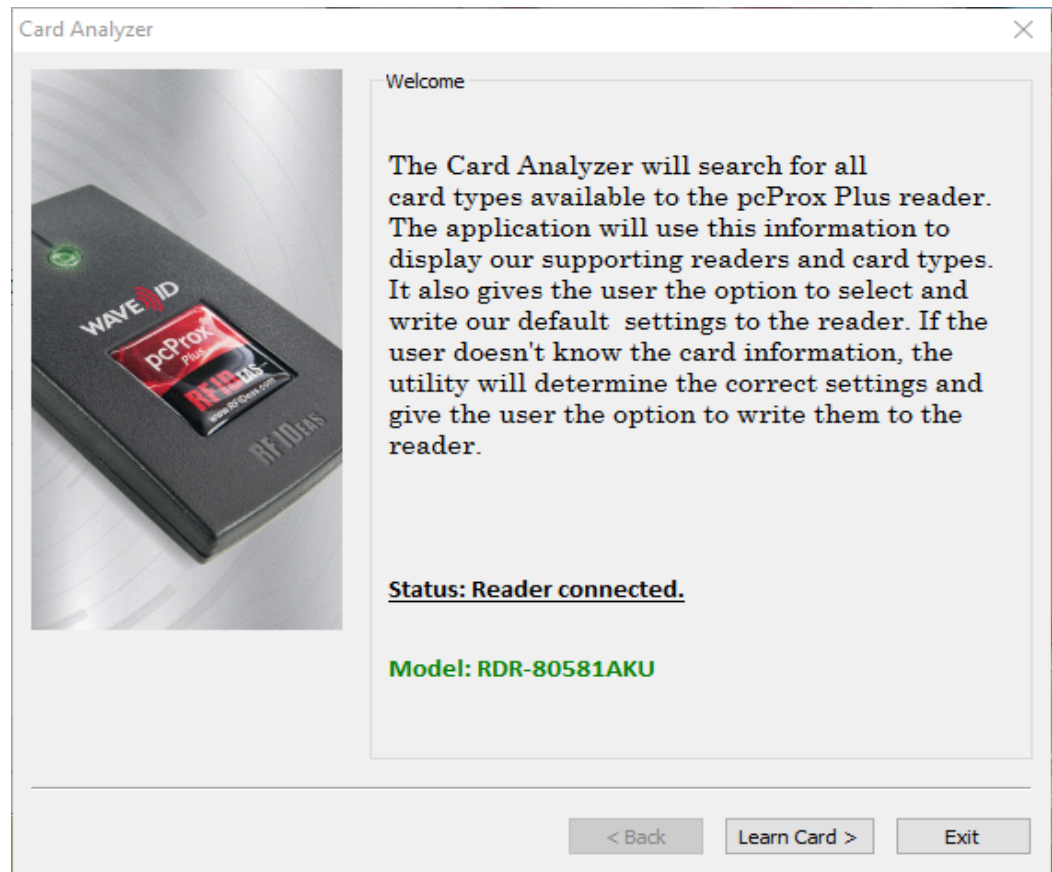
Determining what Card Profile to use

The pcProx® Plus Card enrollment reader must be tailored to the **RFID Card Type** that will be used with the eConnect EAC system. If the card type is one of the Desfire, HiD iClass, Mifare Classic or Prox, please proceed to **Programming the pcProx® Plus reader** on page 83.

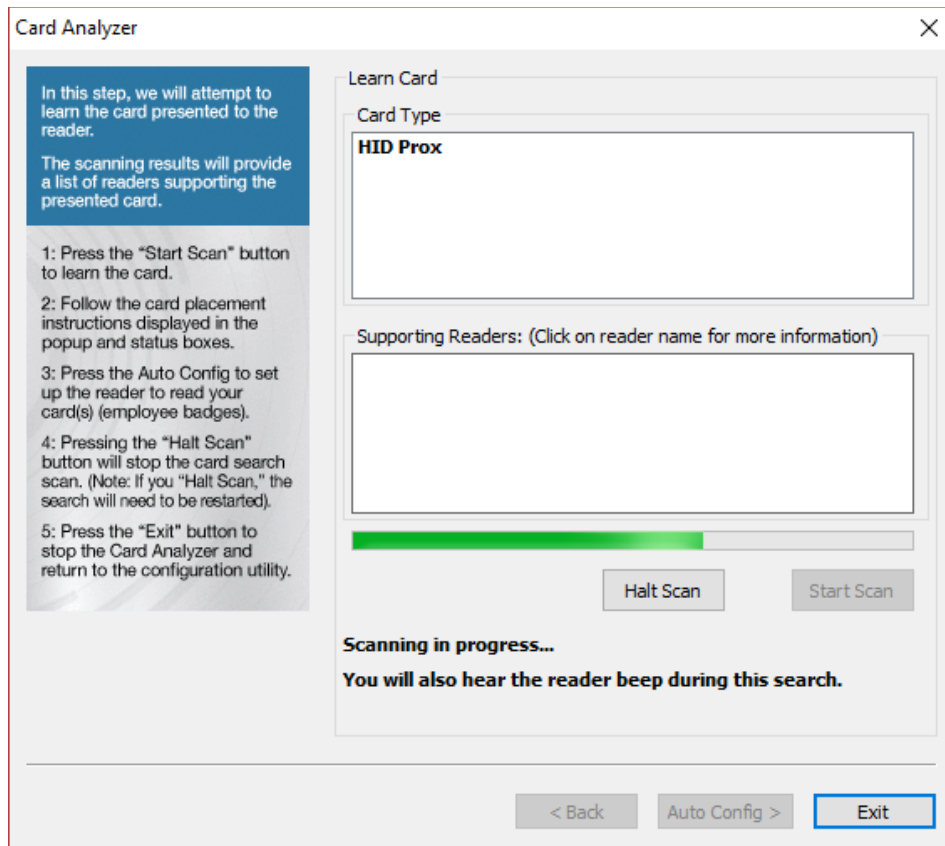
If the RFID card type is not known, the “**Card Analyzer**” Wizard, found under the “Card Analyzer” menu of the pcProxConfig program, can be used to scan for the Card Type:



After selecting Card Analyzer from the menu, place the ID card on the reader and press the Learn Card button:



The reader will then scan through several card types. When a compatible card type is found the **Card Type** box will show the type of card.

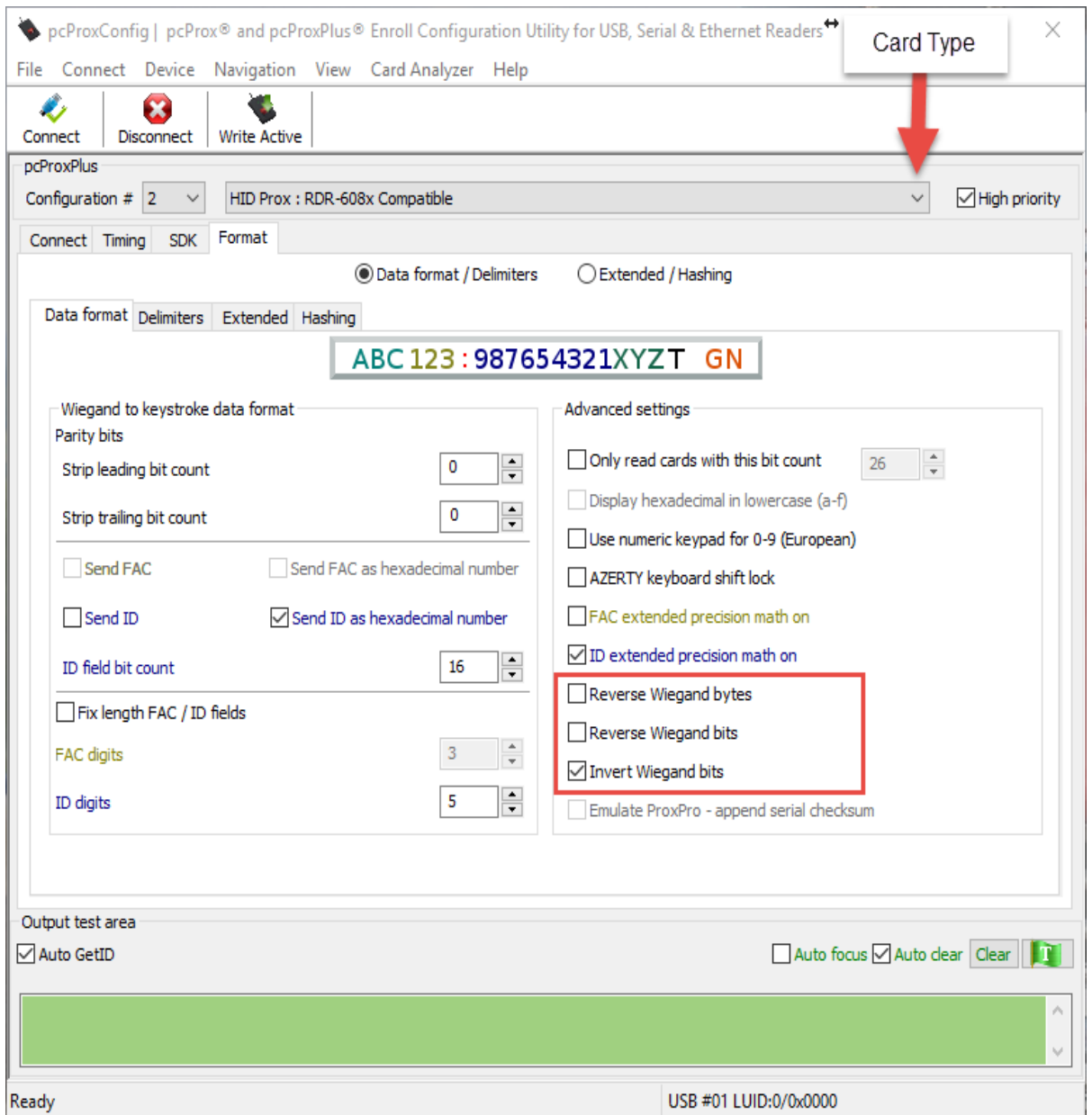


After determining the type, the user is ready to write the proper settings to the pcProx® Plus reader.

Programming the pcProx® Plus reader

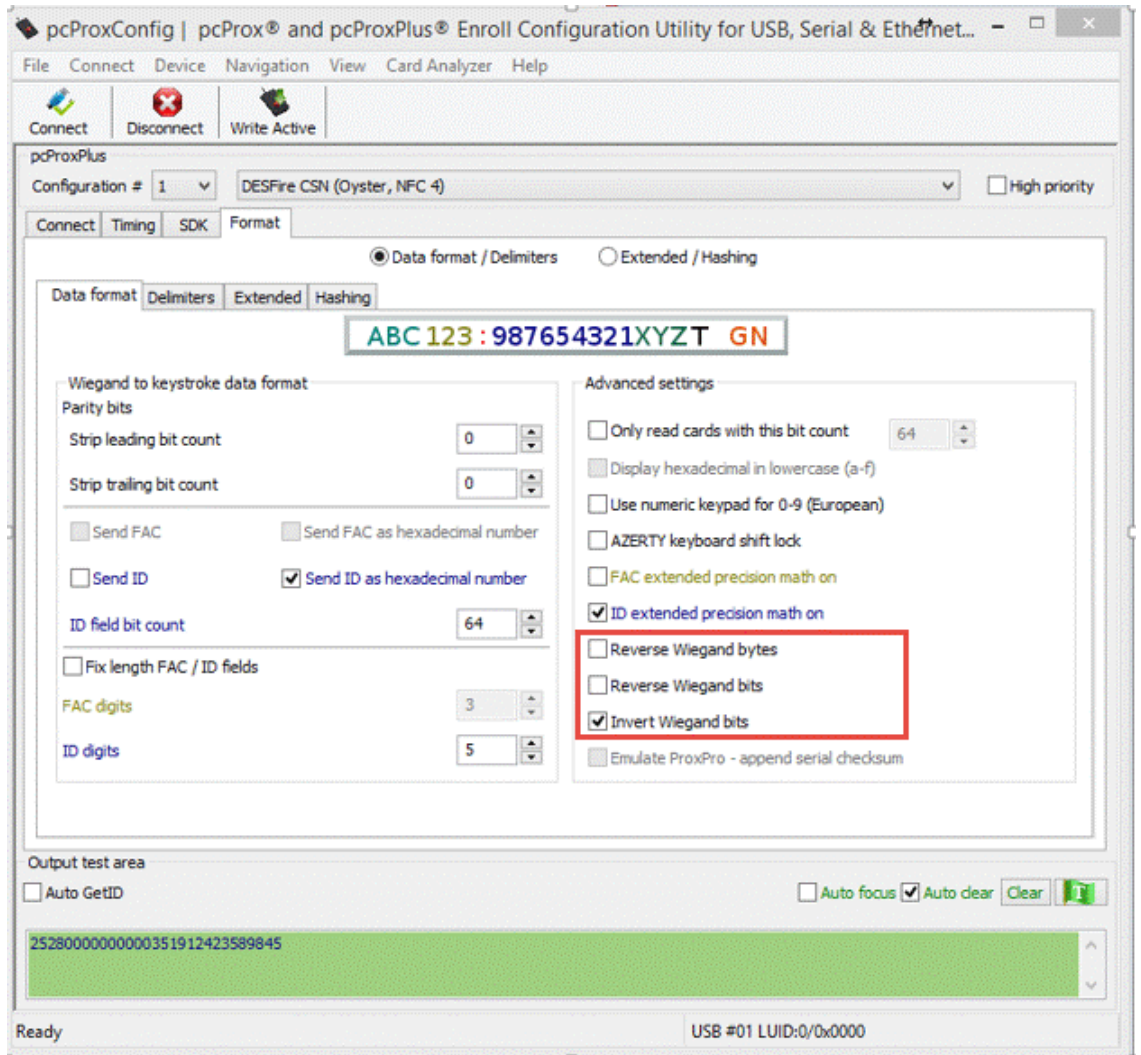
In order for the pcProx® Plus reader to be compatible with the eConnect EAC, the card reader must be flashed with the proper reader settings, as shown in the following steps:

The **Card Type** must be set from the drop-down selector on the **Format – Data Format** tab page. Additionally, the other fields and checkboxes on that page should initially be configured as shown below. Three advanced settings shown within a red rectangle must be checked or unchecked, depending on the **Card Type**. After all the settings have been made press the **Write Active** button to write the settings to the pcProx® Plus reader.

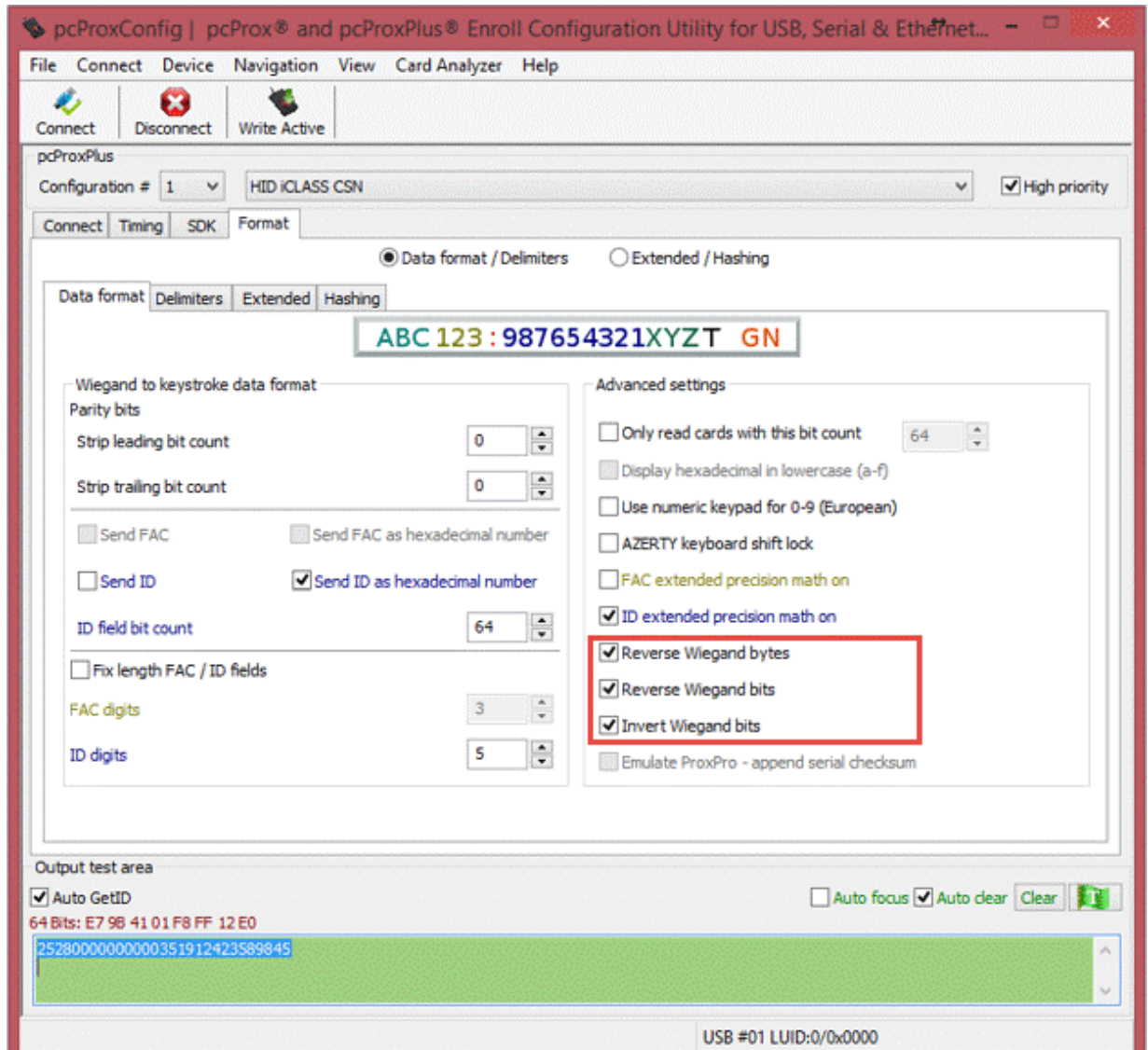


Common RFID Card Types and Reader Format Settings

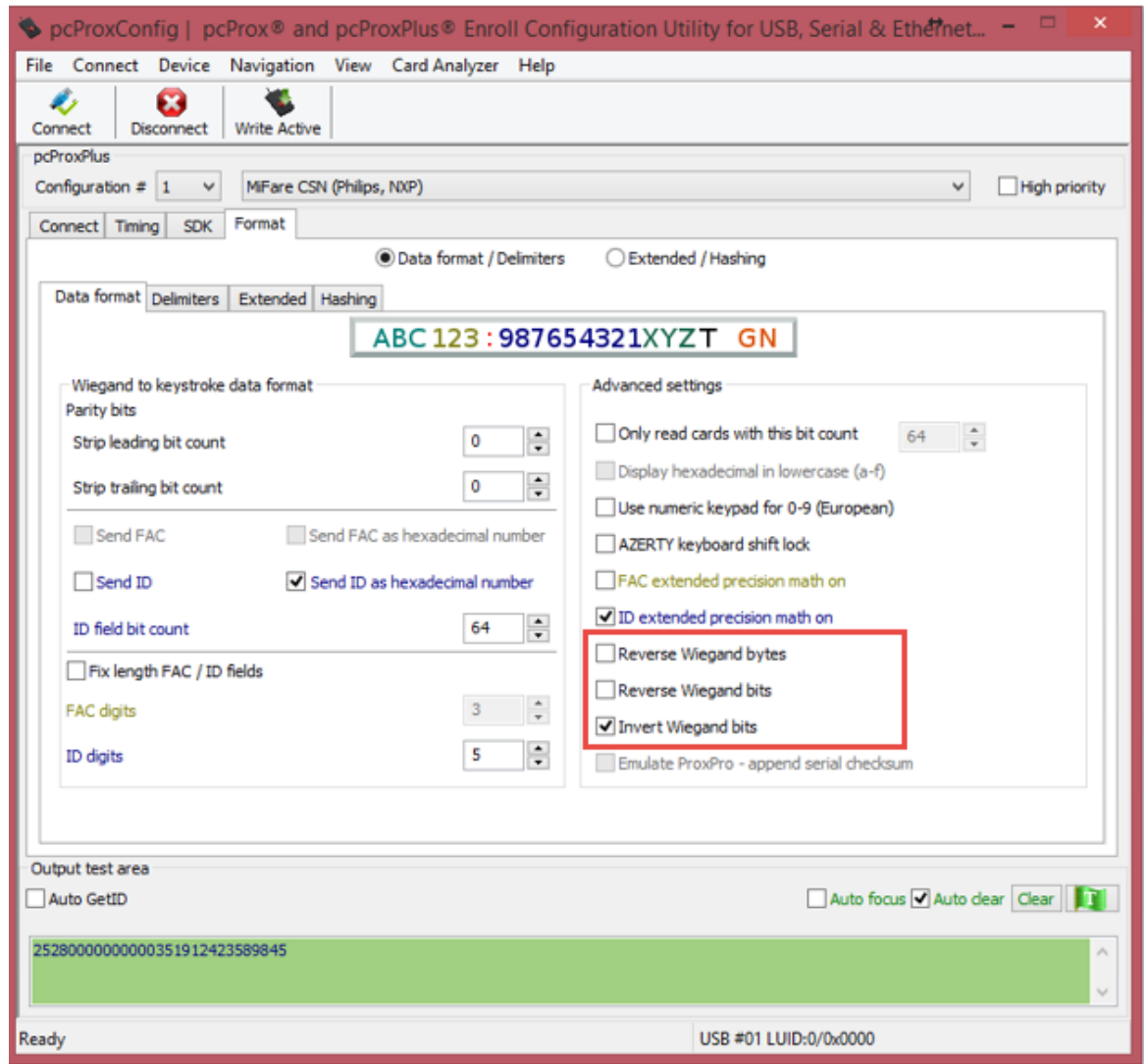
Desfire Card:



HiD iClass Card:



MiFare Classic Card:



Prox Card:

Prox cards require an additional settings in the **Wiegand to keystroke data format** box, as shown below:

