

8 Outlet NEMA Version



Outlet
LEDs 1-8

Line LEDs

iBoot-PDU8-N15



This document covers the following models

SKU	Model
1530041	iBoot-PDU4-N15
1530043	iBoot-PDU4-N20
1530045	iBoot-PDU4-C10
1530047	iBoot-PDU4-C20
1530081	iBoot-PDU8-N15
1530083	iBoot-PDU8-2N15
1530085	iBoot-PDU8-N20
1530087	iBoot-PDU8-2N20
1530089	iBoot-PDU8-C10
1530091	iBoot-PDU8-2C10
1530093	iBoot-PDU8-C20
1530095	iBoot-PDU8-2C20

4 Outlet NEMA Version



Outlet
LEDs 1-4

Line LED

iBoot-PDU4-N15



iBoot-PDU_v170515e

Initial Release

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1. Important Safety Information

When using this product, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and injury to persons, including the following:

Disconnect all power cords before servicing!

1. Read and understand all instructions.
2. Follow all warnings in the manual and marked on the product.
3. Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
4. Do not use this product in an outdoor environment or near water, for example, near a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool.
5. Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.
6. Slots and openings in this product and the back or bottom are provided for ventilation to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the product on the bed, sofa, rug, or other similar surface. This product should never be placed near or over a radiator or heat register. This product should not be placed in a built-in installation unless proper ventilation is provided.
7. This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your dealer or local power company.
8. This product is equipped with a three wire grounding type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding type plug. Do not use a 3-to-2 prong adapter at the receptacle; use of this type adapter may result in risk of electrical shock and/or damage to this product.
9. Do not allow anything to rest on the power cord. Do not locate this product where the cord will be abused by persons walking on it.
10. Do not overload wall outlets and extension cords as this can result in the risk of fire or electric shock.
11. Never push objects of any kind into this product through slots as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electrical shock. Never spill liquid of any kind on the product.
12. To reduce the risk of electrical shock, do not disassemble this product, but take it to a qualified serviceman when some service or repair work is required. Opening or removing covers may expose you to dangerous voltages or other risks. Incorrect re-assembly can cause electric shock when the appliance is subsequently used.
13. Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - a) When the power supply cord or plug is damaged or frayed.
 - b) If liquid has been spilled into the product.
 - c) If the product has been exposed to rain or water.
 - d) If the product does not operate normally by following the operating instructions. Adjust only those controls, that are covered by the operating instructions because improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.
 - e) If the product has been dropped or has been damaged.
 - f) If the product exhibits a distinct change in performance.
14. Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.
15. Do not use the telephone to report a gas leak in the vicinity of the leak.
16. Do not exceed the maximum output rating of the auxiliary power receptacle.

2. General Overview

Independently controllable outlets	The iBoot-PDU series is designed to provide power distribution and remote power control. Each iBoot-PDU allows four or eight outlets to be independently switched on and off for reboot, energy management and security. The iBoot-PDU has many features to make the management of power distribution simple and cost effective:
Dual power inputs for redundant power feeds (some models)	Models with dual inputs (-2N15, -2N20, -2C10, -2C20) have two input lines (mains). Each line feeds four outlets Line A supports outlets 1-4 and Line B feeds 5-8. Dual power inlet models can be used to support higher current devices, as each inlet can carry its rated load, doubling the amperage of a single inlet device. Dual Inlet models can also be used to source power from two redundant sources, with each source feeding a power supply of a single device.
Support for dual redundant powered devices	In addition to two power sources, pairs of outlets can be linked together to allow simultaneous control. This allows a single command to power down devices with dual redundant power supplies.
Web Browser Control	Simple web browser interface is easy to use and provides complete status information and control of the outlets, and groups.
Telnet/Serial CLI control	Telnet and serial access use the same Command Line Interface (CLI) structure and syntax to completely configure the iBoot-PDU, or multiple iBoot-PDUs in a cluster configuration.
Multiple users with assigned rights and simultaneous control	Multiple users can be assigned administrator or user only rights, plus access to specific outlets and groups. Users only see the outlets and groups they are assigned to.
Grouping of outlets for simultaneous management	Multiple outlets, across multiple iBoot-PDUs in clustered configurations can be linked together in named groups and managed together. This allows for example, power cycling all devices of a certain type together.
Multiple iBoot-PDU Cluster Configuration	Additional iBoot-PDUs can be managed from a single unit. One master iBoot-PDU provides the communication to the users and continuously receives status information from the rest of the iBoot-PDUs in the cluster. Groups can be created across multiple PDUs and controlled simultaneously.
Automation	The iBoot-PDU can monitor voltage, current and temperature to provide automatic response to the physical environment. Program complex sequences of outlet actions and notifications to respond instantly to out of normal situations. Temperature monitoring requires add-on probes.
AutoPing for automatic reboot of crashed systems	Monitor and react to failed equipment and networks by testing responses to multiple IP addresses. Auto reboot failed systems.

Real-Time event control	Set automatic power actions based on your schedule. Restart systems every day to reduce memory bloat. Power up resources only when needed for energy management, lifecycle extension or security.
Landline Modem Option	The add-on landline modem supports data calls from terminal devices using the CLI, and direct dial from a tone telephone for simple on/off control when more sophisticated means are not available.
SNMP manageable	iBoot-PDU Supports SNMP up to V3. The iBoot-PDU MIB is downloadable from the website.
Syslog reporting	All activity can be reported to a syslog compatible server.

2.1. Models Covered in this Document

SKU	Model	Outlets	Power Inlet	Power Outlets
1530041	iBoot-PDU4-N15	4 Outlets	1 x NEMA 5-15P 2 Meter Linecord	4 x NEMA 5-15R
1530043	iBoot-PDU4-N20	4 Outlets	1 x NEMA 5-20P 2 Meter Linecord	4 x NEMA 5-15R
1530045	iBoot-PDU4-C10	4 Outlets	1 x IEC320 C14 Detached Linecord IEC C13 to CEE7 2 Meters	4 x IEC C13
1530047	iBoot-PDU4-C20	4 Outlets	1 x IEC320 C20 Detached Linecord IEC C19 to CEE7 2 Meters	4 x IEC C13
1530081	iBoot-PDU8-N15	8 Outlets	1 x NEMA 5-15P 2 Meter Linecord	8 x NEMA 5-15R
1530083	iBoot-PDU8-2N15	8 Outlets	2 x NEMA 5-15P 2 Meter Linecord	8 x NEMA 5-15R
1530085	iBoot-PDU8-N20	8 Outlets	1 x NEMA 5-20P 2 Meter Linecord	8 x NEMA 5-15R
1530087	iBoot-PDU8-2N20	8 Outlets	2 x NEMA 5-20P 2 Meter Linecord	8 x NEMA 5-15R
1530089	iBoot-PDU8-C10	8 Outlets	1 x IEC320 C14 Detached Linecord IEC C13 to CEE7 2 Meters	8 x IEC C13
1530091	iBoot-PDU8-2C10	8 Outlets	2 x IEC320 C14 Detached Linecord IEC C13 to CEE7 2 Meters	8 x IEC C13
1530093	iBoot-PDU8-C20	8 Outlets	1 x IEC320 C20 Detached Linecord IEC C19 to CEE7 2 Meters	8 x IEC C13
1530095	iBoot-PDU8-2C20	8 Outlets	2 x IEC320 C20 Detached Linecord IEC C19 to CEE7 2 Meters	8 x IEC C13

3. Quick Start

3.1. Front Panel

3.1.1. 8 Outlet Models



Outlet
LEDs 1-8

Line LEDs

3.1.2. 4 Outlet Models

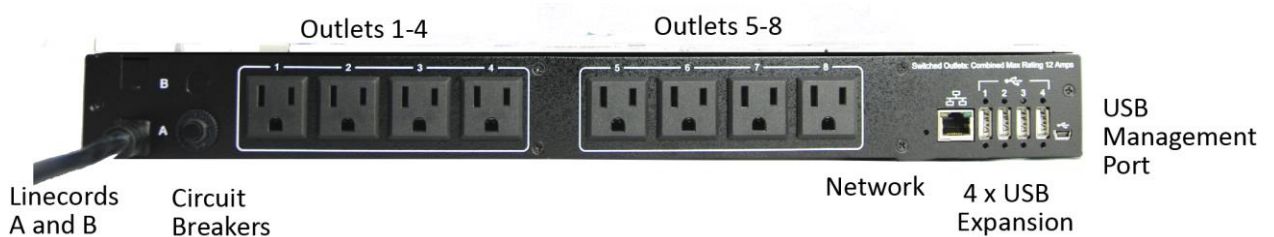


Outlet
LEDs 1-4

Line LED

3.2. Rear Panel – NEMA Versions

3.2.1. 8 Outlet Models



Linecords
A and B

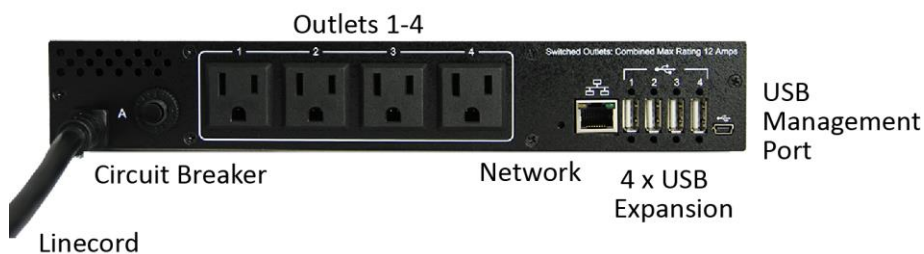
Circuit
Breakers

Network

4 x USB
Expansion

USB
Management
Port

3.2.2. 4 Outlet Models



Circuit Breaker

Network

4 x USB
Expansion

USB
Management
Port

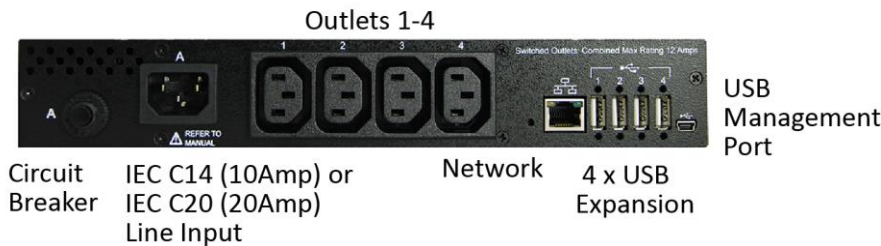
Linecord

3.3. Rear Panel – IEC Versions

3.3.1. 8 Outlet Models



3.3.2. 4 Outlet Models



3.4. Quick Start Defaults

IP address 192.168.1.254 Or as Set by DHCP Server.

User Credentials Username: admin
Password: admin

Command Line Quick Start:

To view outlet status iBoot-PDU> get outlets

To turn on off outlet 1 iBoot-PDU> set outlet 1 off

To reboot outlet 2 iBoot-PDU> set outlet 2 cycle

3.5. Changing the IP Address

The iBoot-PDU is factory default to obtain an IP address from a DHCP server, if one is found at startup. If a DHCP server is not found, the unit will default to IP address 192.168.1.254. There are several ways to set the IP Address.

3.5.1. Device Management Utility

Obtain the Device Management Utility (DMU) from Dataprobe's website at dataprobe.com/support-documents/iboot-pdu/

Open the DMU on a PC on the same physical network as the iBoot-PDU and select **Device > Discover** to display the current IP Address of the iBoot-PDU. Select **Set > Network Settings** to change the network settings. The IP settings can only be set within the

Name	Product ID	IP Address	Mac Address
P10-2 New	v2.01.098	10.10.10.71.90	00:00:AD:00:30:82
P10-2 New	v2.01.098	10.10.10.52.90	00:00:AD:00:30:91
Door Buzzer	P10-S v1.23.107	10.10.10.18.90	00:40:9D:43:35:97
charlie-top	1.00.08082016	10.10.10.13.90	68:9E:19:85:04:75
iBoot-PDU-766818	1.00.09162016	10.10.10.116.90	EC:24:68:7B:88:18
iBoot-PDU-Charlie1	1.00.09122016	10.10.10.115.90	68:9E:19:85:07:74

first two minutes of powering up the iBoot-PDU. The DMU will only work with iBoots on the same physical subnets as the PC

Complete instructions for the DMU are provided in the download.

3.5.2. Web Page Setup

From the home page (Dashboard), click on Network -> Addresses. Enter the new IP Address, Subnet Mask, Gateway and DNS, then click Save. Click the RESTART button to restart the iBoot-PDU with the new settings. To lock the settings, select IP Mode = Static. If IP Mode remains or is programmed to DHCP, the iBoot-PDU will obtain an address from a DHCP Server as soon as it finds one.

3.5.3. Telnet

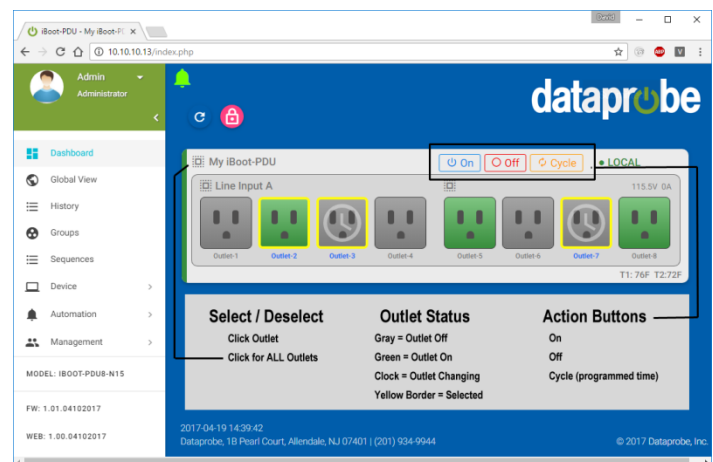
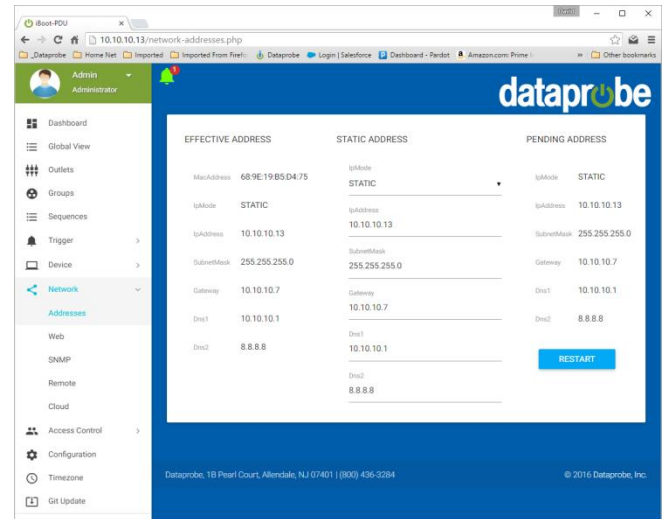
See Section 9 for telnet commands to set the IP address and related settings.

3.6. **Web Browser Control**

The iBoot-PDU web interface provides the easiest means of operating the outlets and monitoring the current status of the units. One or more outlets can be simultaneously controlled with a few mouse clicks.

To Control any of the outlets, From the Dashboard screen, highlight the outlet(s) to be controlled with a mouse click, then click on the desired Action Buttons ON – OFF - CYCLE

When Cycle is selected, the outlet(s) will cycle for the amount of time set (default 10 Seconds). When more than one outlet is controlled to turn on, there will be a delay between outlets turning on, as set by the delay setting (default 1 Second).



4. Installation

4.1. Rack Mounting

The iBoot-PDU is designed for mounting in a standard 19" equipment cabinet.

There are two L-shape brackets marked as "L" and "R", install the "L" bracket on the left side of the iBoot-PDU chassis then the "R" bracket on its right side.



Installed L bracket:



Installed R bracket:

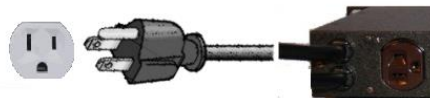
Install the iBoot-PDU to the standard 19-inch rack.

4.2. Ethernet

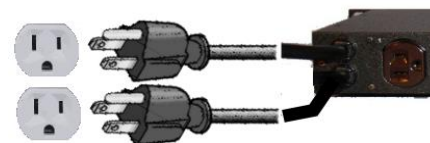
The iBoot-PDU has a 10/100 Ethernet port. The default address is 192.168.0.254 or as set by a DHCP Server on initial power up.

4.3. Power Source

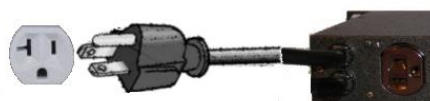
The **iBoot-PDU4-N15** and **iBoot-PDU8-N15** provide a linecord for connection to a 15 Amp 115VAC service. The total maximum current load for all outlets on the these models cannot exceed 12 Amps.



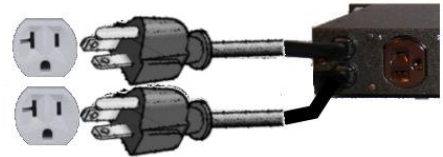
The **iBoot-PDU8-2N15** provides two linecords for connection to 15 Amp 115VAC services. The total maximum current load for outlets on any linecord cannot exceed 12 Amps. Each linecord distributes power to four outlets.



The **iBoot-PDU4-N20** and **iBoot-PDU8-N20** provide a linecord for connection to a 20 Amp 115VAC service. The total maximum current load for all outlets on the these models cannot exceed 16 Amps.



The **iBoot-PDU8-2N20** provides two linecords for connection to 20 Amp 115VAC services. The total maximum current load for outlets on any linecord cannot exceed 16 Amps. Each linecord distributes power to four outlets.



The **iBoot-PDU4-C10** and **iBoot-PDU8-C10** are for international applications and can be used on 100V to 240VAC. These models provide an IEC 320 style universal inlet for connecting a detachable power cord. A standard IEC to CEE7 European cord set is supplied with the unit for use on 10 Amp 240VAC service*. The total maximum current load for all outlets cannot exceed 12 Amps at 115VAC or 10 Amps when used at 240VAC.



The **iBoot-PDU8-2C10** is for international applications and can be used on 100V to 240VAC. The iBoot-PDU8-2C10 provides two IEC 320 style universal inlets for connecting a detachable power cord. Two standard IEC to CEE7 European cord sets are supplied with the unit for use on 10 Amp 240VAC service*. The total maximum current load for outlets on any linecord cannot exceed 12 Amps at 115VAC or 10 Amps when used at 240VAC. Each linecord distributes power to four outlets.



The **iBoot-PDU4-C20** and **iBoot-PDU8-C20** is for international applications and can be used on 100V to 240VAC. The iBB-C20 provides an IEC 320 style universal inlet for connecting a detachable power cord. A standard IEC to CEE7 European cord set is supplied with the unit for use on 20 Amp 240VAC service*. The total maximum current load for all outlets cannot exceed 16 Amps.

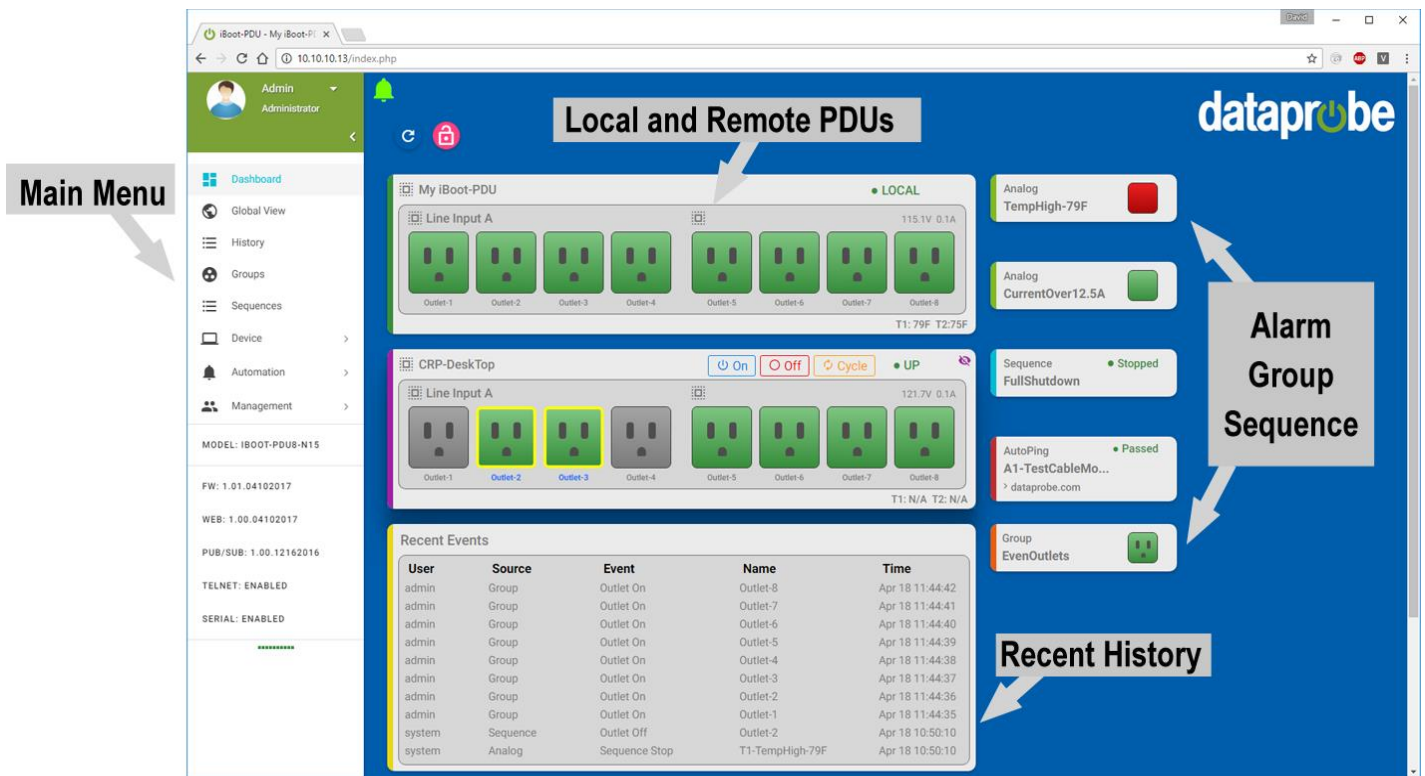


The **iBoot-PDU8-2C20** is for international applications and can be used on 100V to 240VAC. The iBoot-PDU8-2C20 provides two IEC 320 style universal inlets for connecting a detachable power cord. Two standard IEC to CEE7 European cord sets are supplied with the unit for use on 16 Amp 240VAC service*. The total maximum current load for outlets on any linecord cannot exceed 16 Amps. Each linecord distributes power to four outlets.



* Power cords for other countries are available from your local source. If a power cord with a different terminating plug is required, be sure it is properly rated and meets all the required local electrical standards.

5. Basic Operation – Web Browser



Web Interface Overview

5.1. Main Menu

The Main Menu, on the left column is the principal navigation for the web interface.

5.1.1. Dashboard

The dashboard provides a quick and easy way to view and manage the outlets, or defined groups of outlets, start and stop any defined sequences, view alarm triggers and view the most recent events. See Section 5.2

5.1.2. Global View

The Global view provides a concise view of the outlets and groups. This is especially useful when remote PDUs are being managed. See Section 5.3

5.1.3. History

The History Log details the history of the activities of the PDU. Logs can be sorted, downloaded and deleted. See Section 0

5.1.4. Groups

The Group page allows the setup and control of groups of outlets, either on one, or across multiple PDUs. See Section 0

5.1.5. Sequences

The Sequence page allows the setup of sequences of events. Sequences can either be manually controlled or triggered automatically when user defined conditions are met. See Section 5.6

5.1.6. Device

The device selection provides access to all the setup of the PDU. See Section 7

5.1.7. Automation

The Automation section allows setup of the Analog, AutoPing, and Time based alarm triggering. See Section 6

5.1.8. Management

The Management section provides configuration of Users, Cloud Services and additional network management functions. Firmware updates are also managed in this section. See Section 8

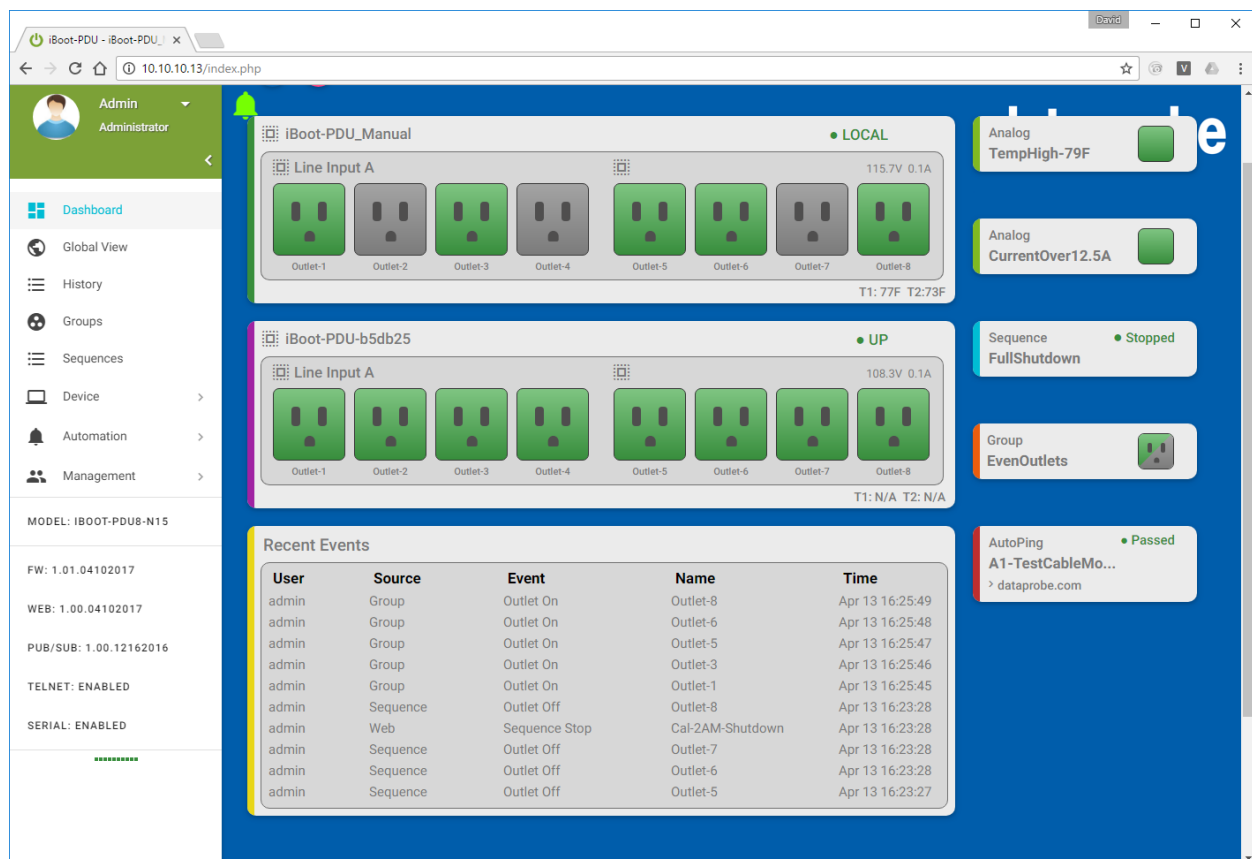
5.1.9. Information Panel

Below the menu is information on the Model, Version, and Status of the Serial and Telnet access methods (enabled or disabled).

5.2. Dashboard

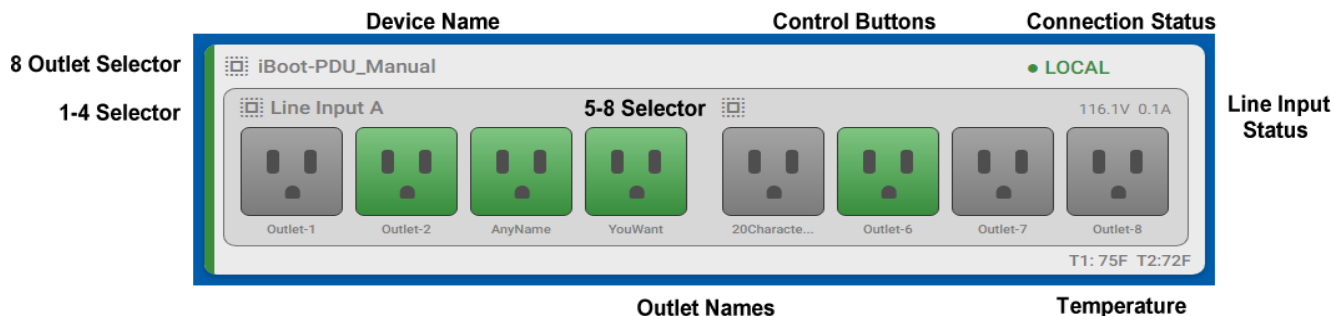
The Dashboard view is the principal means of providing status and control of the iBoot-PDU. The dashboard is comprised of a series of cards that detail specific aspects of the iBoot-PDU configuration and current status.

Cards can be rearranged to suit the needs of the user and specific cards can be hidden from the dashboard to allow only important information to be presented as the user wishes.

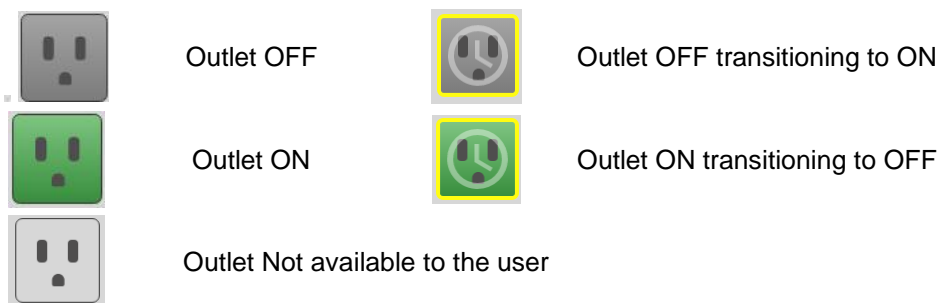


5.2.1. Device Cards:

This card represents the iBoot-PDU outlets, Mains and any temperature sensors that are connected to it. If additional remote units are associated with this iBoot-PDU, they will be represented by their own Device Cards.



The device card shows each outlet current status of each outlet



The voltage and current are displayed on each device card in the upper right hand corner. PDUs with dual inputs will display the voltage and current for each input in their respective 4 outlet segments

If the optional temperature sensor is installed, the temperature of one or both of the probes of the sensor in the lower right hand corner. See Section 10.1

5.2.2. Selecting and Controlling Outlets

Click on any outlet to select it. The outlet is highlighted when selected. More than one outlet can be selected before power operations are commanded.



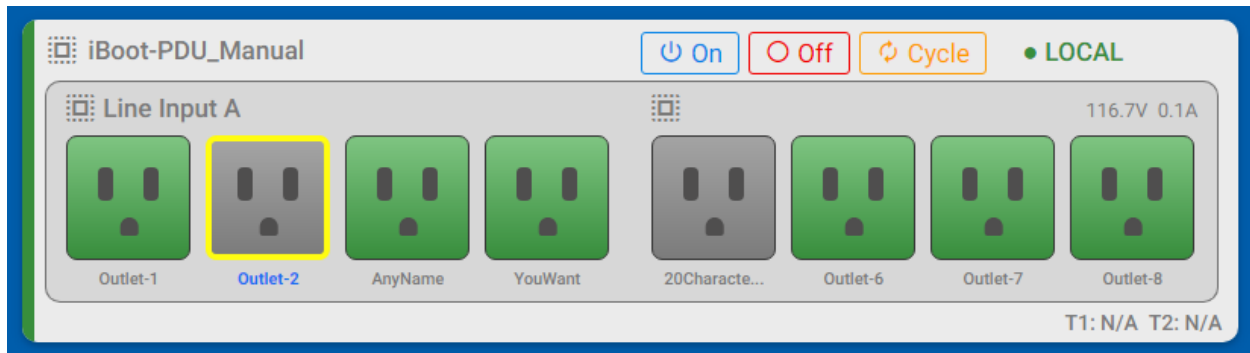
Make sure only the desired outlets are selected prior to making any power control operation.

Outlets can also be selected by using the ALL/NONE icon located in the upper left hand corner of the Device Card. There are also ALL/NONE icons for outlets 1-4 and 5-8.

Once one or more outlets are selected, the control buttons are available. Select On, Off or Cycle as desired to begin the power control sequence for one or more outlets.

If multiple outlets are selected and the On button is pressed, there will be a delay between each outlet. This delay is user programmable. See Section 7.3. Off actions are simultaneous for all outlets selected.

If the same multiple outlets are repeatedly controlled together, it may be advantageous to create a Group of outlets and control them using the group capabilities. See Section 0



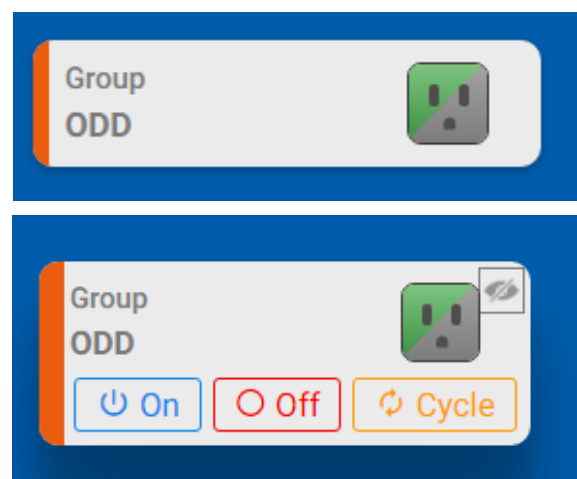
5.2.3. Recent Events Card

The Recent Events Card shows the last 10 events of the iBoot-PDU. To view a more complete history, or download and manage history events, select History Log from the Menu.

Recent Events				
User	Source	Event	Name	Time
admin	Group	Outlet Off	Outlet-8	Apr 11 18:09:57
admin	Group	Outlet Cycle	Outlet-8	Apr 11 18:09:29
admin	Group	Outlet On	AnyName	Apr 11 18:09:24
admin	Group(EvenOutlets)	Outlet On	Outlet-8	Apr 11 18:09:07
admin	Group(EvenOutlets)	Outlet On	Outlet-6	Apr 11 18:09:06
admin	Group(EvenOutlets)	Outlet On	YouWant	Apr 11 18:09:05
admin	Group(EvenOutlets)	Outlet On	Outlet-2	Apr 11 18:09:04
admin	Web	Group On	EvenOutlets	Apr 11 18:09:03
admin	Group(OddOutlets)	Outlet Off	Outlet-7	Apr 11 18:09:00
admin	Group(OddOutlets)	Outlet Off	Outlet-7	Apr 11 18:09:00

5.2.4. Group Card

The Group card represents a pre-established group of outlets on this device; any configured remote device(s) or a combination of both local and remote devices. The group status is displayed by an outlet icon. In addition to the standard statuses as per any outlet, the group status can also be Mixed with an icon of both gray and green, indicating that the outlets within the group have dissimilar status.



To control a group from the Dashboard, select it by clicking on the card. This will expand the group and present the control buttons:

Click on On, Off or Cycle to perform the desired operation. As with multiple selected outlets, the On function will be subject to the Delay time between turning on each of the outlets in the group.

See Section 0 for Group Configuration

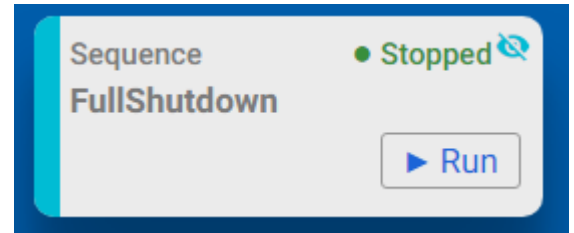
5.2.5. Sequence Card

Sequences are pre-programmed action steps that can be initiated on command, or linked to an Automation Trigger.

The Sequence Card displays the name of the sequence and the current status Stopped or Running.

To control a Sequence, click on the card to expand it and display the RUN or STOP button as appropriate.

See Section 5.6 for more about Sequences



5.2.6. Trigger Card

Triggers define the automation settings of the iBoot-PDU. Each trigger represents an aspect of the iBoot-PDU that is continuously monitored, and the condition that sets off one or more actions when that condition is met.

Triggers have three states that are represented on their card that appears on the dashboard.

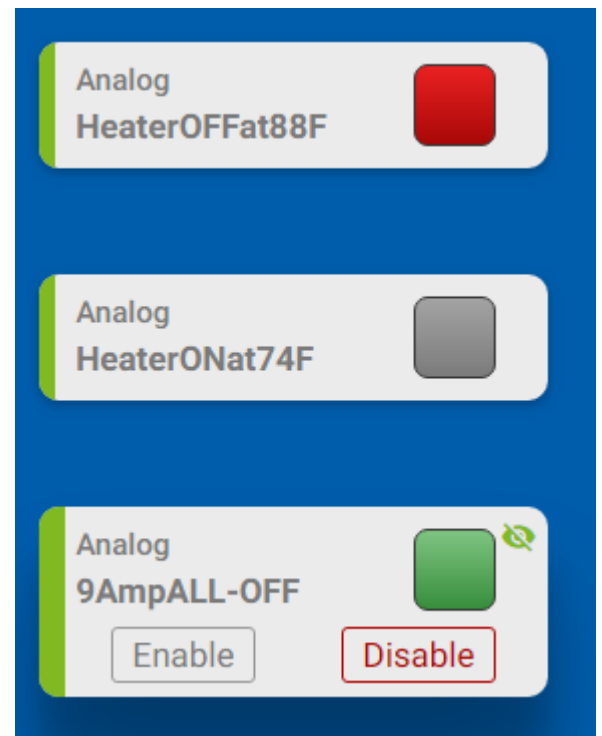
Gray : Trigger disabled

Green: Trigger condition has not been met

Red: Trigger condition has been met

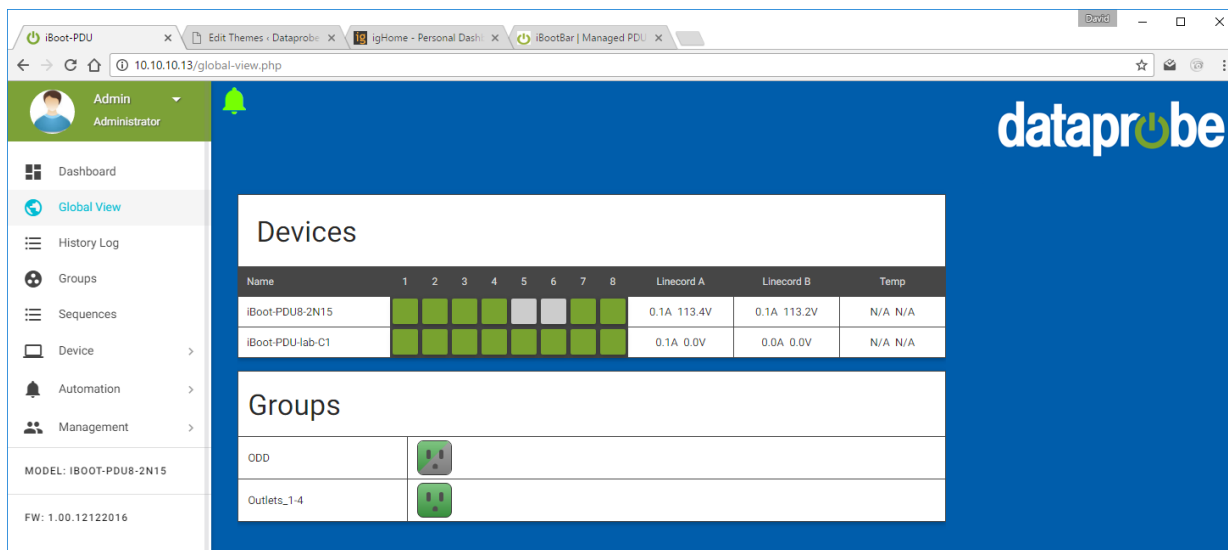
Triggers can be enabled and disabled from the card, as well as hidden from the dashboard. Click on the trigger card to expand it for these functions.

See Section 6 for more about Triggers and Automation



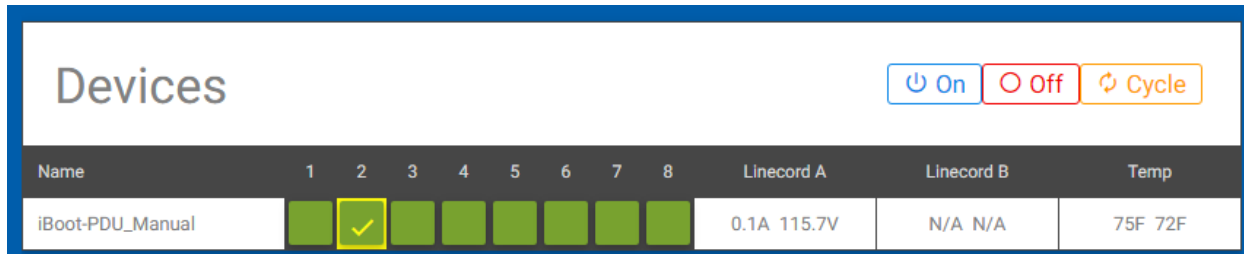
5.3. Global View

The Global view provides a convenient way to view and control a large number of Devices, Remotes and Groups from a single screen. It allows view of all outlets in a single page, and allows immediate control of any outlet or group in the configuration. See section 0 for Group setup.



5.3.1. Outlet Control

To operate one or more outlets, click on the outlet to select. When one or more outlets are selected, the power control buttons will be displayed. Click on the desired power control button.



5.3.2. Group Control

As with outlets, click on any group to select it and display the power control buttons. Only one group can be selected at any time.

5.4. History

The history page displays the last 100 events. The history log can be filtered using the drop down selectors for User Source Event and Name.

The complete history can be downloaded in .csv format for additional analysis and storage. It is advised to download and clear the history periodically to maintain a complete record.

The screenshot displays the 'History' page of the iBoot-PDU-Web-Demo application. The page features a sidebar on the left with navigation options: Dashboard, Global View, History (selected), Groups, Sequences, Device, Automation, and Management. The main content area shows a table of events with columns: User, Source, Event, Name, and Time. A dropdown menu is open for the 'Event' column, showing options: All, Outlet Off, Sequence Stop, Sequence Start, Outlet On, Group On, and Outlet Cycle. The table lists various events, including 'Sequence Start', 'Outlet On', 'Outlet Cycle', and 'Sequence Stop', with corresponding timestamps. The top right corner of the page includes a 'dataprobe' logo and buttons for 'Save', 'Clear All', and 'Export'.

User	Source	Event	Name	Time
All	All	All	All	
system	Sequence	Outlet Off	Outlet-8	May 15 2017 09:30:01
system	Analog	Sequence Stop	T0-T2-Over90	May 15 2017 09:30:01
system	Analog	Sequence Start	T0-T2-Over90	May 15 2017 09:30:01
system	Sequence	Outlet On	Outlet-8	May 15 2017 09:29:31
system	Analog	Group On	T0-T2-Over90	May 15 2017 09:29:31
system	Analog	Outlet Cycle	Outlet-8	May 15 2017 09:29:31
admin	Group(EvenGroup)	Sequence Stop	T0-T2-Over90	May 15 2017 09:29:31
admin	Group(EvenGroup)	Sequence Start	T0-T2-Over90	May 15 2017 09:29:31
admin	Group(EvenGroup)	Outlet On	Outlet-8	May 15 2017 09:25:51
admin	Group(EvenGroup)	Outlet On	Outlet-6	May 15 2017 09:25:50
admin	Group(EvenGroup)	Outlet On	Outlet-4	May 15 2017 09:25:49
admin	Group(EvenGroup)	Outlet On	Named-Outlet-2	May 15 2017 09:25:49
admin	Web	Group On	EvenGroup	May 15 2017 09:25:48
system	Sequence	Outlet Cycle	Outlet-8	May 15 2017 02:00:01
system	Sequence	Outlet Cycle	Outlet-7	May 15 2017 02:00:01
system	Sequence	Outlet Cycle	Outlet-6	May 15 2017 02:00:01
system	Sequence	Outlet Cycle	Outlet-5	May 15 2017 02:00:01
system	Sequence	Outlet Cycle	Outlet-4	May 15 2017 02:00:01
system	Sequence	Outlet Cycle	Router	May 15 2017 02:00:01
system	Sequence	Outlet Cycle	Named-Outlet-2	May 15 2017 02:00:01
system	Sequence	Outlet Cycle	Outlet-1	May 15 2017 02:00:01
system	Sequence	Outlet Cycle	Outlet-8	May 14 2017 02:00:00
system	Sequence	Outlet Cycle	Outlet-7	May 14 2017 02:00:00
system	Sequence	Outlet Cycle	Outlet-6	May 14 2017 02:00:00
system	Sequence	Outlet Cycle	Outlet-5	May 14 2017 02:00:00
system	Sequence	Outlet Cycle	Outlet-4	May 14 2017 02:00:00
system	Sequence	Outlet Cycle	Router	May 14 2017 02:00:00
system	Sequence	Outlet Cycle	Named-Outlet-2	May 14 2017 02:00:00

5.5. Groups

Groups allow the user to organize outlets for simultaneous action. Groups can be used to control devices with dual redundant power supplies. Groups can be used to power cycle all devices at a given time of day. Groups can be organized within one PDU or across multiple PDUs. With multiple PDUs in a group it is possible to power up systems in multiple locations with a single command.

The screenshot displays the iBoot-PDU Groups management interface. It features three groups: 'OddOutlets', 'EvenOutlets', and 'ALLOutlets'. The 'OddOutlets' group is expanded, showing a 'Local Outlets' section with a table of outlets. Each outlet has a status icon (green for ON, red for OFF, yellow for CYCLE) and a checkbox. The 'OddOutlets' group has a 'Show On Dashboard' checkbox checked. The 'EvenOutlets' and 'ALLOutlets' groups are collapsed. The interface includes buttons for 'On', 'Off', 'Cycle', 'Save', 'Cancel', and 'Delete'.

Group	Outlet	Status	Selected
OddOutlets	Outlet-1	ON	<input checked="" type="checkbox"/>
	Outlet-2	OFF	<input type="checkbox"/>
	AnyName	ON	<input checked="" type="checkbox"/>
	YouWant	OFF	<input type="checkbox"/>
	20Characte	ON	<input checked="" type="checkbox"/>
	Outlet-6	OFF	<input type="checkbox"/>
	Outlet-7	ON	<input checked="" type="checkbox"/>
	Outlet-8	OFF	<input type="checkbox"/>
EvenOutlets			
ALLOutlets			

5.5.1. Add Group

Click on Add Group to create a group:

Enter the name of the group. Names do not allow spaces.

Click on Local Outlets to select which outlets will form members of the group. If remote PDUs are defined, they can also be added to the group. Click Save when done.

Once the group is formed, It can be controlled from this screen, from the dashboard, or used in any automation action.

The status of the group, ON, OFF or MIXED is displayed by an icon at the top. The status of each individual outlet in the group is displayed by expanding the device area:

5.5.2. Groups and User Rights

Groups can only be built from outlets the user has rights to. Administrators can build groups and assign them to users even if the user has no rights to the specific outlet(s) within that group. Therefore a user can control a group without having the ability to alter a specific outlet within that group. This can be used to insure that all outlets within a group maintain the same status.

Groups will be displayed on the dashboard. If this is not necessary, uncheck Show on Dashboard.

5.6. Sequences

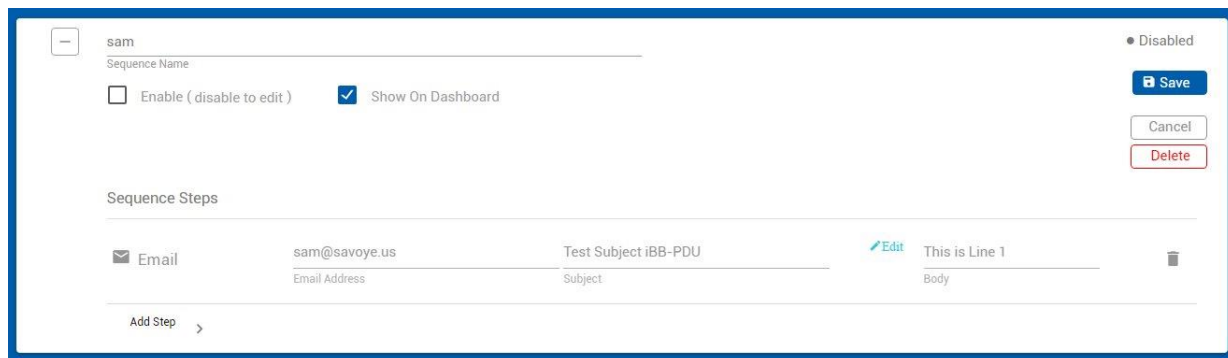
Sequences are a set of actions that can be initiated with a single command. Sequences can contain outlet, group and messaging actions. Sequences can also include delays and looping to build sophisticated sets of instructions.

5.6.1. Add Sequences

Click on Add Sequence to begin the setup process.



Enter the name of the sequence than click Save.



The status of the sequence is displayed on the top right of the card. Statuses are:

- | | |
|----------|--|
| Disabled | The sequence is disabled for editing or to prevent execution |
| Stopped | The sequence is enabled, but execution has been halted A Run button will be presented to initiate the sequence |
| Running | The sequence is currently running. A Stop button will be presented to halt the sequence. |

Enable Checkbox determines if the sequence is available to be executed

Show on Dashboard determines if the sequence card will be displayed on the Dashboard

Click on the + sign to expand the sequence and build the steps of the sequence.

Click Add Step and select the step to be added. Available steps are

- | | |
|--------|---|
| Delay | Wait before proceeding to the next step
Select the length of time in seconds |
| Outlet | Control an outlet
Select the device (if remotes are present) |

	Select the outlet number
	Select the action On – Off - Cycle
Loop	Repeat one or more steps
	Select the starting step to repeat from
	Select the number of times to repeat the loop
Log	Write a message into the history log
	Enter the Title of the Log
	Enter the Text of the Log
Email	Send an email message
	Enter the destination email address
	Enter the subject of the email
	Enter the body of the email. Click on the Edit button to open an edit window.
	Email requires setup prior to use. See Section 0
Group	Control a group
	Select the group name
	Select the action On – Off - Cycle

Steps can be reordered with drag and drop actions to build the sequence as desired.

The sequence is not ready to be initiated until it is Enabled with the Enable Checkbox. Sequences must be disabled to be edited.

Sequences will be displayed on the dashboard. If this is not necessary, uncheck Show on Dashboard.

6. Automation

6.1. General Description

The iBoot-PDU can be programmed to monitor a variety of conditions and take automatic action whenever necessary. There are two aspects to the automation that need to be programmed to achieve the desired effect: Triggers and Sequences. Triggers define what is being monitored and the conditions that prompt action. Sequences control what actions take place when triggers are activated.

When programming triggers, it is suggested to first define the sequences, then the triggers. See Section 5.6 on building sequences.

6.2. Analog Triggers

Analog triggers monitor voltage, current and temperature.

6.2.1. To program a trigger:

1. Select Automation > Analog from the main menu.
2. Click on Add Analogs at the top of the page.

The screenshot shows the configuration page for an analog trigger named "CurrentOver12.5A". The status is "Enabled" with a green dot. There are three checkboxes: "Enable (Please disable to edit Analog)" which is checked, and "Show On Dashboard" which is also checked. To the right of these are three buttons: "Save" (dark grey), "Cancel" (light grey), and "Delete" (red outline). Below the checkboxes are several input fields: "Current" (set to "Line A"), "Type" (set to ">"), "Condition" (set to "0.5"), "Hysteresis" (set to "Forever"), "Repeat" (set to "Undefined"), and "Count" (set to "0"). To the right of these are "Source Instance" (set to "12.5"), "Trigger Point" (set to "0"), "Qualify Time" (set to "0"), and "Remaining" (set to "0"). At the bottom, there are two buttons: "Basic Settings" and "Use Advanced Settings". Below these are two more input fields: "Outlet" and "Action".

Enable Checkbox determines if the trigger is available to be active

Show on Dashboard determines if the trigger card will be displayed on the Dashboard

6.2.2. Analog Trigger Settings

Name	Enter a Name for the trigger. Up to 20 Alphanumeric characters, no spaces
Type	Select from Voltage, Current or Temperature. The temperature probe must be installed prior to setting temperature triggers.
Source Instance	If Voltage or Current, select Line A or Line B if the iBoot-PDU is a dual input model. If Temperature, Select between Main and External Sensor
Condition	Set if the condition triggers when the above or below the Trigger Point. Options are <div><div><</div>Less Than <div><=</div>Less Than or Equal To <div>></div>Greater Than <div>>=</div>Greater Than or Equal To</div>
Trigger Point	Set the level at which the trigger will activate.
Hysteresis	Set the amount by which the trigger will change from Fail to Clear. For Example with a current setting of >= 11 Amps and a hysteresis of 2, the trigger will go to fail at 11 Amps and will return to clear at 9 Amps.
Qualifying Time	Sets the time, in seconds which the triggering condition has to persist to create a Fail status. The same time is used to set the Clear Status
Repeat	Triggers can be repeated either forever, for one time only, or for a set number of times. Once a trigger has reached its set number of repeats it will stop functioning. Disable and re-Enable the trigger to reset the counter and begin anew.
Count	When the Repeat is set to Counter, set the number of times to repeat the trigger.
Remaining	When the Counter is used. This field displays the number of counts remaining. It is for informational purposes only and cannot be set.
Outlet / Action	Set the outlet that this trigger will act upon. This setting allows quick definition of a single outlet sequence. When more complex sequences are required, select Use Advanced Settings button.
Action	Set the action on the single outlet, or all outlets: <div><div>ON</div>Turn the outlet On, make no change when Clear <div>OFF</div>Turn the outlet Off, make no change when Clear <div>ON-Follow</div>Turn the outlet On when Fail and Off when Clear <div>Off- Follow</div>Turn the outlet Off when Fail and On when Clear <div>Cycle</div>Cycle the outlet for the programmed length of time. Cycle can be in either direction (On-OFF-ON or Off-On-Off depending on the current state of the outlet. For a more determinate cycle, use a sequence with two or more steps</div>
Advanced Settings	The Advanced Settings allows a Fail and Clear Sequence to be defined. Select one of the previously defined sequences from the drop down list. If None is selected for both, the trigger will be informational only and no action will be taken
Enable	Check Enable to make the sequence active. The sequence must be disabled to make any edits. Click Save to complete the setup process.

Show on
Dashboard

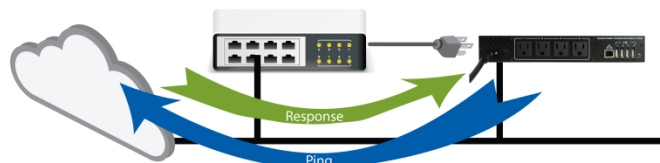
Determines if the Trigger will present a card on the Dashboard.

6.3. AutoPing Triggers

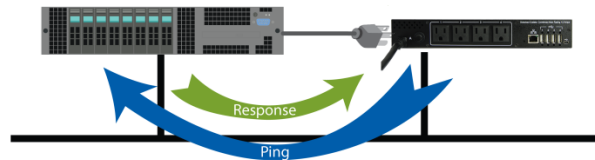
The AutoPing feature allows iBoot-PDU to automatically detect failed equipment and perform a timed reboot or other power control function (like turning on an indicator or siren). You set one or two IP addresses to be periodically pinged. When iBoot-PDU no longer detects a response from these addresses, the programmed power control function is actuated. The two addresses can be AND or OR linked so that both (AND) or either (OR) need to fail in order to take the selected action.

Examples:

Use Auto-Ping as service monitor:
iBoot-PDU is installed with the device to be rebooted, but pings a remote host to test the communication channel. Ideal for: DSL & Cable Modem Verification.



Use AutoPing as server monitor:
iBoot-PDU is installed with the device it monitors and automatically reboots if there is no response. Ideal for: datacenters and digital signage



iBoot-PDU monitors network device and powers up alarm or redundant system when there is no response
Ideal for: Hot Standby Servers, Environmental Control, Alert for any Network Failure.



6.3.1. To program an AutoPing

1. Select Automation > AutoPing from the main menu.
2. Click on Add AutoPing at the top of the page.

Add AutoPing Save

Undefined
AutoPing Name

☐ Enable (disable to edit)

A and B ▼ 10
Mode Restart Delay <0-999>

Autoping A Autoping B

Undefined Undefined
Address Address

10 10
Period in Seconds <1-999> Period in Seconds <1-999>

10 10
Fail Count <1-60> Fail Count <1-60>

2 2
Timeout <1-60> Timeout <1-60>

Basic Settings Use Advanced Settings

Outlet-1 ▼ On ▼
Outlet Action

1 ☐ Forever
Cycle Count <0-60>

6.3.2. AutoPing Settings

Name	Enter a Name for the trigger. Up to 20 Alphanumeric characters, no spaces
Enable	Check Enable to make the AutoPing active. The AutoPing must be disabled to make any edits.
Show on Dashboard	Determines if the trigger card will display on the dashboard. If unchecked, it will continue to function without status display on the dashboard, if enabled

Mode	Set if one (A) or two (A / B) IP addresses will be used for the test. If two, then select if AND (both must fail to trigger an action, clears if either is good), or OR, (triggers action if either fail, clears when both are good)										
Restart Delay	Sets the length of time in seconds, to delay after initiating an action before beginning to restart the pinging tests. Allows time for rebooted equipment to initialize. 0 – 999 seconds is valid										
Address	Set the IP address or DNS name of the target of the pinging										
Period	Set the frequency of the pinging, in seconds. 1 – 999 is valid										
Fail Count	Set the number of times the ping test must fail consecutively, in order to trigger the action.										
Timeout	Sets the length of time iBoot-PDU will wait for each ping response. The default 2 seconds should only be changed in applications where the normal response time is expected to be extended, such as in satellite communications.										
Outlet / Action	Set the outlet that this trigger will act upon. This setting allows quick definition of a single outlet sequence. All outlets is also available. When more complex sequences are required, select Use Advanced Settings button.										
Action	Set the action on the single outlet, or all outlets: <table> <tr> <td>ON</td><td>Turn the outlet On, make no change when Clear</td></tr> <tr> <td>OFF</td><td>Turn the outlet Off, make no change when Clear</td></tr> <tr> <td>ON-Follow</td><td>Turn the outlet On when Fail and Off when Clear</td></tr> <tr> <td>Off- Follow</td><td>Turn the outlet Off when Fail and On when Clear</td></tr> <tr> <td>Cycle</td><td>Cycle the outlet for the programmed length of time. Cycle can be in either direction (On-OFF-ON or Off-On-Off depending on the current state of the outlet. For a more determinate cycle, use a sequence with two or more steps</td></tr> </table>	ON	Turn the outlet On, make no change when Clear	OFF	Turn the outlet Off, make no change when Clear	ON-Follow	Turn the outlet On when Fail and Off when Clear	Off- Follow	Turn the outlet Off when Fail and On when Clear	Cycle	Cycle the outlet for the programmed length of time. Cycle can be in either direction (On-OFF-ON or Off-On-Off depending on the current state of the outlet. For a more determinate cycle, use a sequence with two or more steps
ON	Turn the outlet On, make no change when Clear										
OFF	Turn the outlet Off, make no change when Clear										
ON-Follow	Turn the outlet On when Fail and Off when Clear										
Off- Follow	Turn the outlet Off when Fail and On when Clear										
Cycle	Cycle the outlet for the programmed length of time. Cycle can be in either direction (On-OFF-ON or Off-On-Off depending on the current state of the outlet. For a more determinate cycle, use a sequence with two or more steps										
Cycle / Forever	When Cycle is selected, sets the maximum times the outlet(s) will cycle (1-60). If an unlimited number of cycles is preferred, use the Forever checkbox.										
Advanced Settings	The Advanced Settings allows a Fail and Clear Sequence to be defined. Select one of the previously defined sequences from the drop down list. If None is selected for both, the trigger will be informational only and no action will be taken. The sequence can be repeated using the cycle count setting (1-60). The Clear sequence will only run one time.										
Save	Click Save to complete the setup process.										

6.3.3. AutoPing Statistics

The AutoPing system provides a host of counters that assist in troubleshooting network and device problems. Click on the down arrow next to Stats A or Stats B to expand the statistics.

Basic Settings

Use Advanced Settings

O-2

▼

Cycle

▼

Outlet

Action

1

☐ Forever

Cycle Count <1-60>

Stats A ▼

Stats B ▼

Total Pings Sent :	5	Total Pings Sent :	5
Total Pings Received :	5	Total Pings Received :	5
Ping Received (%) :	100	Ping Received (%) :	100
Ping Timeout (%) :	0	Ping Timeout (%) :	0
Consec Pass :	5	Consec Pass :	5
Consec Fail :	0	Consec Fail :	0
Consec Timeout :	0	Consec Timeout :	0
Last Response Time :	16	Last Response Time :	16
Min Response Time :	12	Min Response Time :	12
Max Response Time :	16	Max Response Time :	16
Avg Response Time :	13	Avg Response Time :	13
Fail Socket :	0	Fail Socket :	0
Fail Arp :	0	Fail Arp :	0
Fail Dns :	0	Fail Dns :	0
Fail Ping Timeout :	0	Fail Ping Timeout :	0
Total Failures :	0	Total Failures :	0
Total Fail Triggers :	0	Total Fail Triggers :	0
Total Clear Triggers :	0	Total Clear Triggers :	0

Reset All

Reset All

The Reset button will clear all statistics for the selected AutoPing.

6.4. Scheduling Triggers

Time of day events can be used to trigger actions. Set the starting time and date, and if the event is repeating.

6.4.1. To program an Schedule

3. Select Automation > Schedule from the main menu.
4. Click on Add Schedule at the top of the page.

Add Schedule

Save

RebootRouter2AM

Name

04/11/2017

02:00

Daily

Start Date

Start Time

Repeat

Use Advanced Settings

Outlet-1

Cycle

Outlet

Action

☒ Monday
☒ Tuesday
☒ Wednesday
☒ Thursday
☒ Friday
☒ Saturday
☒ Sunday

☒ Enabled

6.4.2. Schedule Fields

Name	Enter a Name for the trigger. Up to 20 Alphanumeric characters, no spaces
Start Date	Set the date of the first occurrence. A drop down calendar assists entry
Start Time	Enter the Start Time (HH:MM) in 24 hour format. A drop-down assist entry.
Repeat	Set whether the event will repeat. Set None, Daily, Weekly, Monthly Select the days of the week using the checkboxes to set which days of the week the trigger is to occur.
Outlet	Select which outlet the trigger is to act on. All outlets is also an option. To run pre-programmed sequences, click on Use Advanced.
Action	Set the action on the single outlet, or all outlets: ON Turn the outlet On OFF Turn the outlet Off Cycle Cycle the outlet for the programmed length of time. Cycle can be in either direction (On-OFF-ON or Off-On-Off depending on the current state of the outlet. For a more determinate cycle, use a sequence with two or more steps
Advanced Settings	The Advanced Settings allows a sequence to be defined. Select one of the previously defined sequences from the drop down list.
Enable	Check Enable to make the schedule active. The schedule must be disabled to make any edits.
Save	Click Save to complete the setup process.

7. Device Setup

7.1. Information

Set basic information about the iBoot-PDU

Device Information

Reboot Save

iBoot-PDU-WEB-Demo 1

Device Name Outlet Delay Time

Fahrenheit United States

Unit of Temperature Country Code

☐ Allow Simple Passwords

7.1.1. Device Information Fields

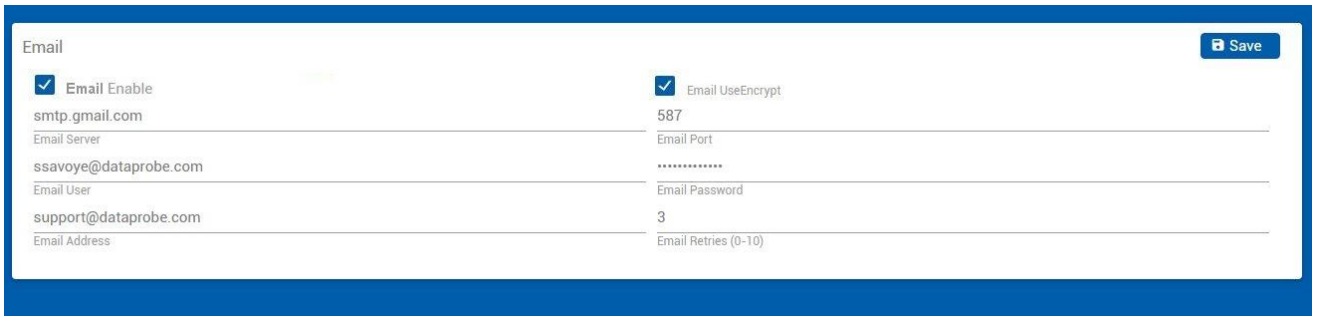
Device Name	Set the Name of the Device displayed. 20 alphanumeric characters, no spaces
Outlet Delay Time	Sets the time, in seconds between powering each outlet when multiple outlets are being turned on. Minimizes inrush current issues.
Temp. Units	Celsius or Fahrenheit
Country Code	Select Country Code from the dropdown list.
Allow Simple Passwords	<p>Simple Passwords (default) are any characters, 20 maximum</p> <p>If unchecked, passwords must be a minimum of 8 characters, up to 20 characters and contain at least one each of</p> <ul style="list-style-type: none">Upper Case CharacterLower Case CharacterNumberSpecial Character See section n 9.2 for a list of allowed characters.

7.1.2. Device Reboot

The Reboot button will reboot the iBoot-PDU system. A confirmation box will appear. Select OK to initiate the Reboot.

7.2. Email

Sets the outgoing email parameters



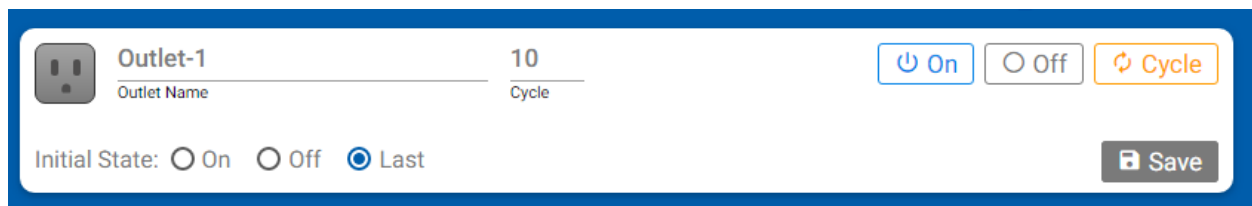
Email configuration interface showing fields for Email Enable, Email UseEncrypt, Email Server, Email Port, Email User, Email Password, Email Address, and Email Retries. A Save button is present in the top right corner.

7.2.1. Email Fields

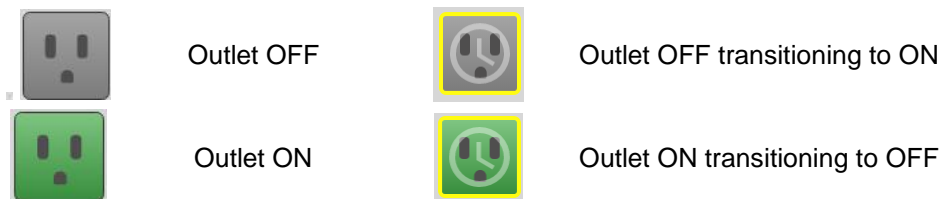
Enable Email	Enable or disable the email client with this checkbox
Email Encryption	Set the client for encrypted or unencrypted email
Email Server	Set the IP Address or DNS name of the email server
Email Port	Set the port for the email server
Email User	Set the email username to log onto the SMTP Server
Email Password	Set the password to log onto the SMTP Server
Email Address	Set the From and Return-to address
Email Retries	Set the number of retries for email sending
Save	Click Save to store all the settings

7.3. Outlets

Set the parameters for each outlet, and control the outlet status The color of the outlet icon will indicate the current status of the outlet.



Outlet-1 configuration interface showing fields for Outlet Name, Cycle (10), and buttons for On, Off, and Cycle. Below these are radio buttons for Initial State: On, Off, and Last (selected). A Save button is present in the bottom right corner.



Only outlets the user has rights to will be shown.

7.3.1. Control Outlets

Click on the On, Off or Cycle buttons to control the outlet. The selected action will take place immediately.

7.3.2. Outlet Settings

Outlet Name	Set the name for each outlet. 20 alphanumeric characters, no spaces
Cycle	Set the Cycle time in seconds. This is the length of time the outlet will be off during reboot, or on when pulsing the power on.
Initial Status	Sets the state of the outlet when the iBoot-PDU is powered on. Options are On, Off or Last. Last is the last state of the unit before the iBoot-PDU was powered down.
Save	Click Save to store the settings.

7.4. Remotes

The iBoot-PDU can manage additional iBoot-PDU devices. Add those additional units here.

7.4.1. To Add a remote unit

Click on the Add Remote Devices button at the top of the page.

Add Remote Device

Save

Undefined

IP Address

Undefined

Username

Undefined

Delay

1

Password

7.4.2. Remote Settings

IP Address	Set the IP Address in format XXX.XXX.XXX.XXX
Username	Set the username for the remote unit. The username used must have administrative rights. Only outlets to which the username used has rights to will be managed by this iBoot-PDU.
Password	Set the password associated with the username above.
Delay	Sets the Delay Time for the remote unit. Sets the time, in seconds between powering each outlet when multiple outlets are being turned on. Minimizes inrush current issues.

Click Save to complete the setup and initiate communication with the remote.

7.4.3. Remote Administration

The iBoot-PDU will connect with the remote unit and present Up, Down or Pending status in the upper right corner of the remote unit's card. This same status appears on the device card on the dashboard, if the Show on Dashboard selector is checked.

7.5. IP Address

The IP Address card shows the current IP Address setup and allows changing of these parameters. The iBoot-PDU allows for these setting to be manually entered or assigned from a DHCP server. Check with your network administrator for the proper configuration and settings.

Current Address			Pending Address	
MacAddress	a0:f6:fd:38:b3:cb	DHCP	ipMode	
ipMode	DHCP	Static Address	ipMode	
IpAddress	192.168.0.106	192.168.0.135	IpAddress	
SubnetMask	255.255.255.0	255.255.255.0	SubnetMask	
Gateway	192.168.0.1	192.168.0.1	Gateway	
Dns1	192.168.0.1	192.168.0.1	Dns1	
Dns2	0.0.0.0	8.8.8.8	Dns2	

7.5.1. IP Address Settings

IP Mode	Sets the mode that will select the IP Address settings: DHCP: The iBoot-PDU will get these settings from a DHCP Server STATIC: The iBoot-PDU will used the settings as manually set below:
IP Address	Enter the IP Address [XXX.XXX.XXX.XXX]
Subnet Mask	Enter the Subnet Mask [XXX.XXX.XXX.XXX]

Gateway	Enter the Gateway [XXX.XXX.XXX.XXX]
DNS 1 and 2	Enter one or two DNS server entries [XXX.XXX.XXX.XXX]

Click Save to store the settings as entered. Once saved, they are held as Pending. To complete the process, Reboot the iBoot-PDU. When the iBoot-PDU is ready for reboot, a notification will appear at the top left of the information panel. Click on notifications, then reboot.

7.6. Web

Sets the features regarding the internal web server of the iBoot-PDU

7.6.1. Web Server Settings

Web Enabled	Enables [True] or disables [False] the web server
Web Port	Sets the IP Port the web server will use
SSL Enabled	Enables [True] or disables [False] Secure Sockets Layer. When true, web clients must use https:// to connect to the iBoot-PDU
SSL Port	Sets the IP Port the web server will use for SSL
Fail2ban Enabled	Enables [True] or disables [False] Fail2Ban security

7.7. Console

Sets the features regarding the CLI for both Serial Port control via the USB ports and Telnet.

7.7.1. Console Settings

Serial Enabled	Enables [True] or disables [False] the serial port for console management
Console Timeout	Sets the time in minutes for automatic logout of the console session.
Telnet Enabled	Enables [True] or disables [False] the telnet server
Telnet Port	Sets the IP Port the telnet server will use
SSH Enabled	SSH will be available in a future release. Please check for firmware updates and release notice.
SSH Port	Sets the IP port used for SSH connections.

7.8. Time Zone

Time is automatically set from time.nst.gov and cannot be manually set. Manual time entry will be available in a future release. Please check for firmware updates and release notice. Timezone can be set in this release.

Date	Enter the Date in MM/DD/YYYY format
Time	Enter the Time in HH:MM format using 24 hour time
Timezone	Use the dropdown list or select on the map.

7.9. Device Log

The device log is intended for deep inspection of the processes of the iBoot-PDU. It is intended to assist Dataprobe Support Services in assisting you in managing the device. Contact Dataprobe Support Services for additional details.

8. Management

8.1. Users

Multiple users can be programmed and each user can have unique rights to outlets, groups, etc. In addition, users can be assigned administrator rights, which allow access to all setup functions.

The screenshot shows a web interface for adding a new user. At the top, there's a title 'Add new user' and a 'Save' button. Below this, there are several input fields: 'User Name', 'Password', 'Email', 'Expire Password After Days' (with a value of '0'), and 'SnmpPassword'. There is also a checkbox labeled 'Administrator Rights'. Below the form, there are two existing users listed: 'admin' and 'demo', each with a '+' icon next to its name.

8.1.1. To Add a User

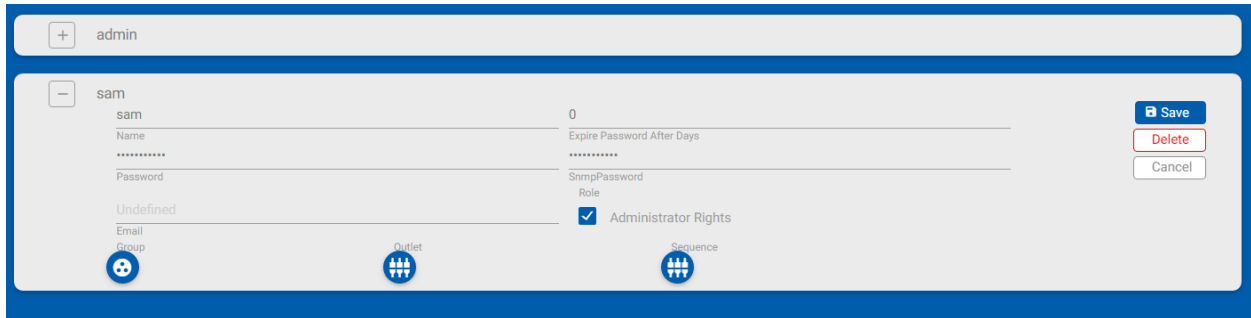
1. Select Management > Users from the Main Menu
2. Click on Add Users at the top of the page.

Name	Enter a unique name for the user [1 to 30 Alphanumeric characters, no spaces]
Password	Enter a password for the user. Allowable passwords are determined by the Simple Password Enable/Disable feature. See Section 7.1.1
Email	Enter a valid email address. Used for password recovery.
Password Expires	Enter a number of days, after which the password must be changed. Enter 0 to have the password never expire
Role	The checkbox assigns administrative rights to the user. This allows access to all setup functions.

Click Save to complete the setup.

8.1.2. Assigning Outlets, Groups and Sequences

Once the user is saved, expand the user card to display the assignment buttons for Outlets, Groups and Sequences.



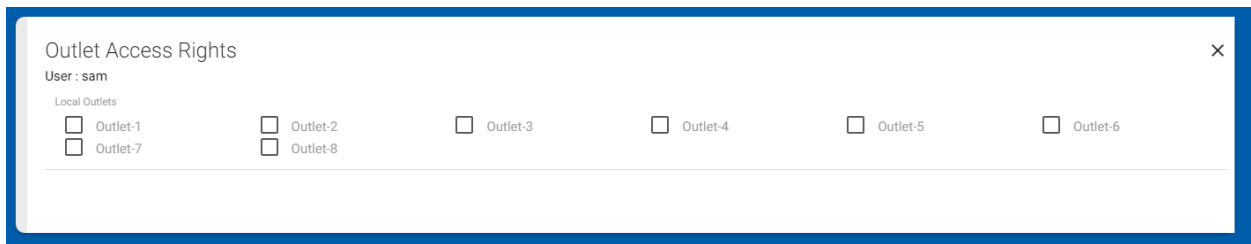
The screenshot shows a user management interface. At the top, there is a header bar with a '+' icon and the text 'admin'. Below this, a user card for 'sam' is displayed. The card has a minus icon on the left. The user details include: Name: sam, Password: (masked with asterisks), Email: Undefined, and Group: (empty). To the right of these details, there are fields for 'Expire Password After Days' (set to 0) and 'SnmpPassword' (masked with asterisks). Below these fields, there is a 'Role' section with a checked checkbox for 'Administrator Rights'. At the bottom of the card, there are three icons: a group of people for 'Group', a single person for 'Outlet', and a sequence of arrows for 'Sequence'. On the right side of the card, there are three buttons: 'Save' (blue), 'Delete' (red), and 'Cancel' (grey).

Click on the desired button to display a list of elements (Outlets, Groups, and Sequences) that can be assigned or dis-assigned. These settings are immediately saved. Close the assignment card to complete the process.

Click Save to complete any change

Click Delete to Delete the User

Click Cancel to cancel any unsaved changes.



The screenshot shows a dialog box titled 'Outlet Access Rights' with a close button (X) in the top right corner. Below the title, it says 'User : sam'. Underneath, there is a section labeled 'Local Outlets' with a list of checkboxes for 'Outlet-1' through 'Outlet-8'. All checkboxes are currently unchecked.

8.1.3. Administrator user

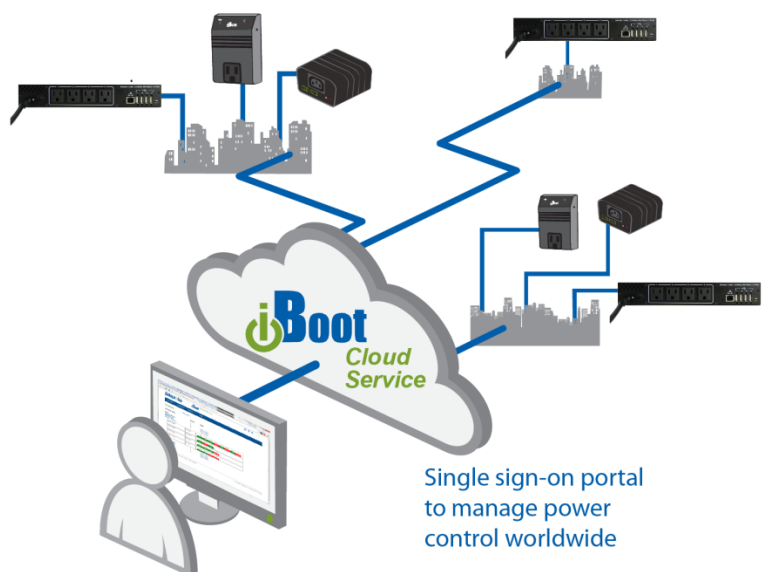
The user named **admin** cannot be deleted from the system. The user named **admin** can also not be unassigned administrator rights. By default user **admin** automatically obtains rights to any outlets, groups and sequences programmed into the system. Rights to these elements can be unassigned to the user named administrator.

8.2. **Cloud Service**

This feature enables or disables the provisioning of the iBoot-PDU to be managed using the iBoot Cloud Service.

8.2.1. Cloud Service Overview

iBoot Cloud Service (iBCS) allows customers with iBoot products to access and control all their devices from multiple locations with a single portal with a single sign-on.



iBCS will not only make using iBoots easier, by consolidating all units into one sign-on and interface, it will also enhance the number of situations where iBoot can be deployed.

- Customers with Dynamic IP addressing to always be able to access their iBoot from any location.
- Service providers manage multiple customer accounts with diverse security configurations
- Customers that are not allow in-bound connections to access their iBoots.

Follow These Steps to get your iBoot-PDU on the Cloud

1. Establish an iBoot Cloud Account (FREE)
2. Enable the iBoot-PDU for Cloud Services
3. Visit the iBoot Cloud Service to Control Power

8.2.2. Establish a iBoot Cloud Services Account

1. Go to: cloud.iboot.co
2. Click on Register
3. Complete the Registration Information
4. Click on the link provided in the confirming email

8.2.3. Enable iBoot-PDU for Cloud Services

Once the Cloud Service account is set-up, complete this form to link the iBoot-PDU to the account

Cloud Service ● Disabled Save

☐ Enable

Server address:

Activation Code:

Cloud Username:

Cloud Password:

Cloud UUID:

Enabled	Enable or disable Cloud Service provisioning
Server Address	Leave the default setting of cloud.iboot.co , unless instructed to do so by Dataprobe Support, or your network administrator
Cloud Username and Password	Enter the name and password for the Cloud Account.

If all the parameters are correct, the Click Save and the PDU will connect with the cloud and register the device with the service.

8.2.4. Manage Power from the Cloud

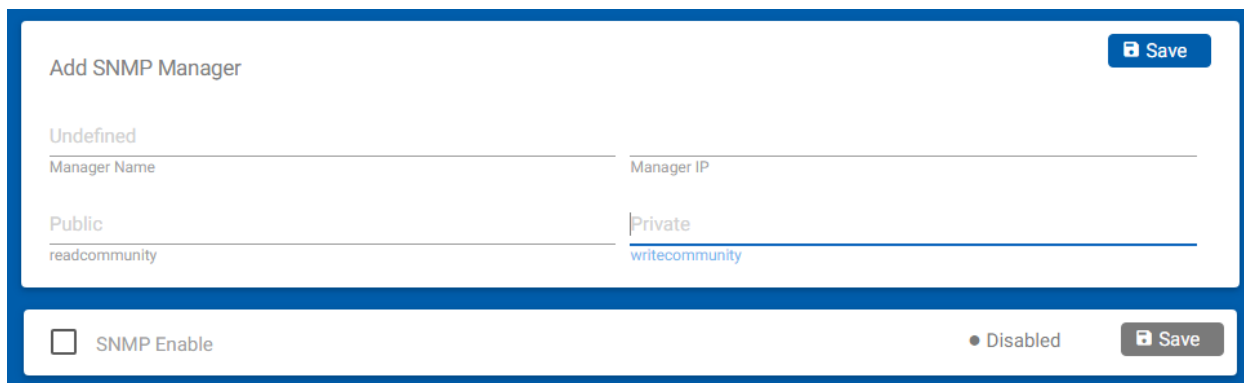
Return to cloud.iboot.co and login.

8.3. NMS

Setup the iBoot-PDU for use with SNMP and Syslog servers.

8.3.1. SNMP Setup

Click on Add SNMP Managers button to open the Add SNMP Manager setup card.



Manager Name	Enter a name for the SNMP manager
Manager IP Address	Enter the IP Address or DNS name of the manager
Readcommunity	Set if the ReadString is Public or Private
Writecommunity	Set if the WriteString is Public or Private

Select the SNMP Enable checkbox and then use the Save Button to store the settings

The iBoot-PDU supports SNMP V3. Download the mib at <http://dataprobe.com/support-documents/iboot-pdu/>

8.3.2. Rsyslog Setup

Click on Add Rsyslog button to open the Add Rsyslog Manager setup card.

Add Rsyslog Manager

Save

Undefined

Manager Name

xxx.xxx.xxx.xxx

Manager IP

☐

Enable

TCP

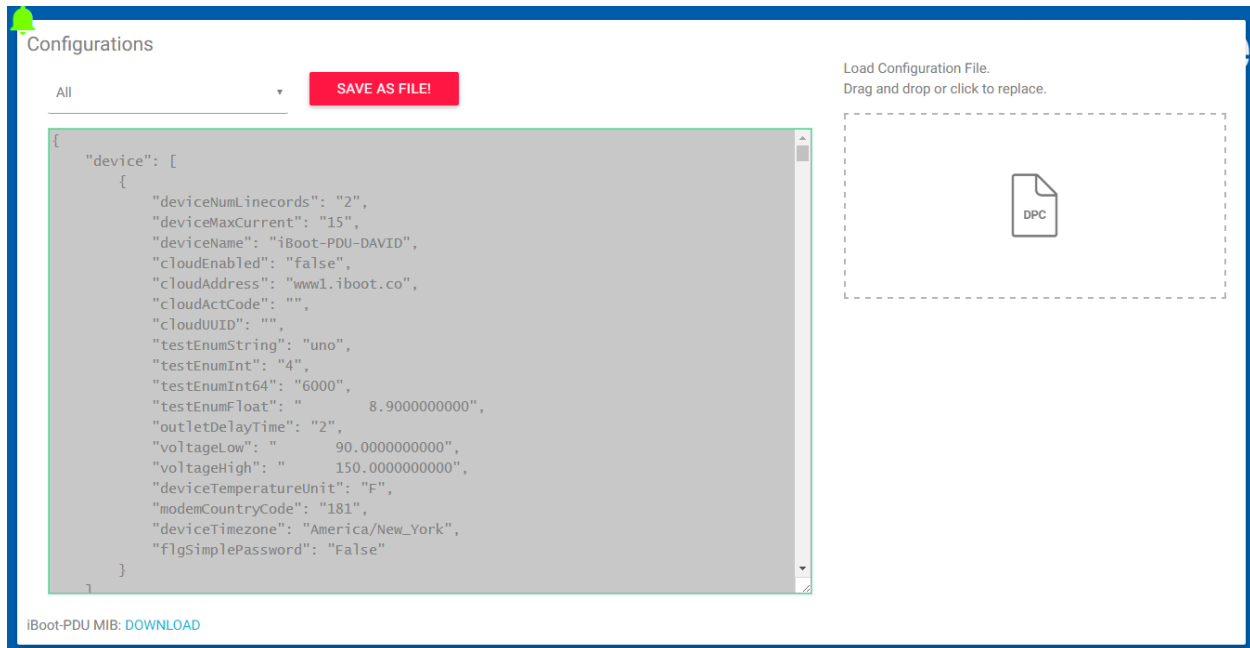
Port

Manager Name	Enter a name for the Syslog manager
Manager IP Address	Enter the IP Address of the manager
TCP/UDP	Select either TCP or UDP protocol
Port	Set the port for the Syslog manager [default: 514]
Enable	Select Enable or Disable for the Syslog reporting

Click Save to store the settings

8.4. Configuration

The configuration manager allows device settings to be downloaded and uploaded. All or part of the configuration can be exported or imported, creating a powerful way to clone all or part of a fully configured iBoot-PDU to many additional units easily.



8.4.1. Download Configurations

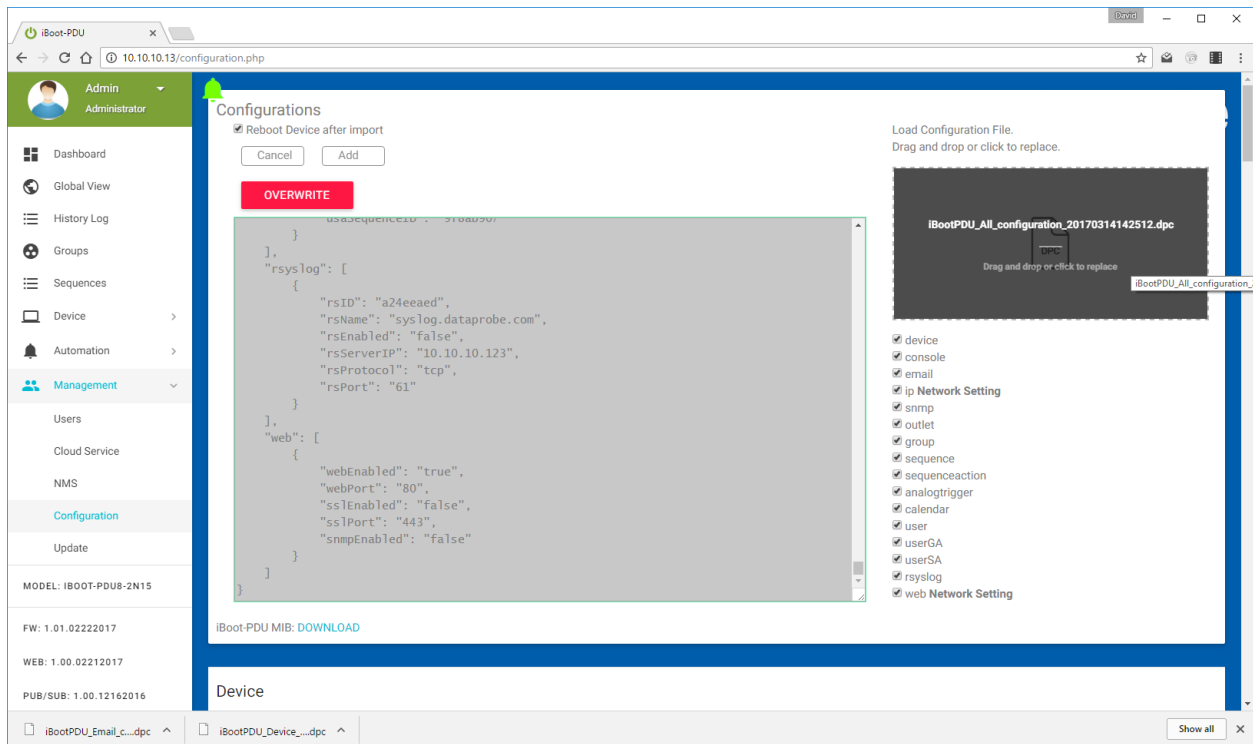
It is possible to download one section of the configuration. To do so, click on the selector and choose the desired selection. It is also possible to download the all section as a single file, or all sections except the network settings. This last allows import of the configuration to another iBoot-PDU that is already established on the network.

Once the selection is made, click on SAVE AS FILE to select the target location and begin the download.

8.4.2. Upload configurations

To install a configuration file (.dpc) into an iBoot-PDU drag and drop the file into the Load Configuration File area. Click on the area to manually select the file to be installed.

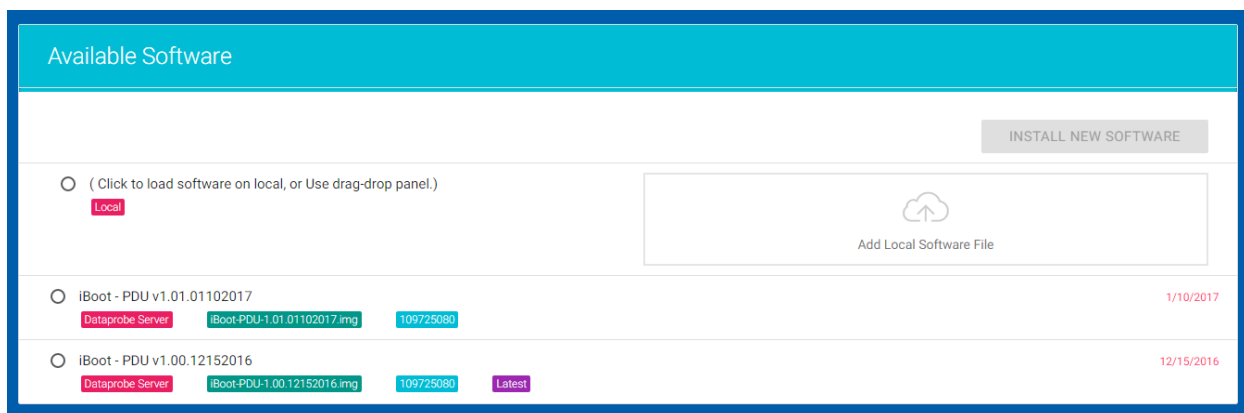
Once the file is selected and scanned, a list of available sections is presented as checkboxes. Deselect any checkboxes that are not to be uploaded.



If it is desired or required to reboot the iBoot-PDU after the new configuration is loaded, check the Reboot Device after import button. Click **OVERWRITE** to begin the process, or **Cancel** to abort the import.

8.5. Update

The iBoot-PDU firmware can be updated and custom firmware can be installed. Upon selection, the iBoot-PDU checks for new and available version of the firmware. Connection to the Internet is required for this function. Firmware can also be added from a file, provided by Dataprobe.



8.5.1. Install new firmware

Click on the desired version and then **Install New Software**. If Local firmware is selected navigate to the desired file, or use drag and drop to load the file. Click on **INSTALL NEW SOFTWARE** to begin the installation process

9. Command Line Interface

The Command Line Interface provides complete setup of all function of the iBoot-PDU. Access the CLI either via the network interface using Telnet, or via the modem or serial port using a terminal emulation program. Some commands of the CLI require administrative rights. These are indicated in the table below. See section 10.3 on serial port driver installation and setup.

9.1. Telnet Setup

Using a telnet client (for example putty.exe) connect to the IP Address of the iBoot-PDU. Once connected the iBoot-PDU will request the user name and password. Once these credentials are properly entered, the iBoot-PDU will indicate ready with the iBoot-PDU> prompt:

```
iBoot-PDU
Connected to Telnet Session 3
```

```
User> admin
Password> *****
```

```
iBoot-PDU>
```

9.2. CLI Commands Syntax

The CLI uses a standard SET and GET command structure to save and retrieve setup parameters.

The CLI syntax is as follows:

- Angle brackets designate required parameters: <required>
- Square brackets designate optional parameters: [optional]
- Vertical bars for choice of items: <option1 | option2 | option3>
- Hyphen indicates a range of numbers <0-99>
- Special Characters are the following: ! @ # \$ % ^ & * () - _ = + [{] } \ | ; : , < . > / ?
 - The space character can be used but the entire name must be in double quotes "my name"
- Commands that are highlighted in gray indicate that they are accessible to all users. All other commands require administrator credentials
- All names are case sensitive

9.3. CLI Command Listing

Command	Default Values	Notes
9.3.1. <u>Device</u>		
get device	Displays basic details about the iBoot-PDU: Model, Device Name, Firmware Version and additional details. iBoot-PDU> get device Device Information: Firmware Version: v1.01.04102017 Device Model: iBoot-PDU8-N15 Device Name: My iBoot-PDU Temperature Unit: Fahrenheit Country Code: 181 Timezone: America/New_York Use Simple Passwords: true ok iBoot-PDU>	
set device name <name>	iBoot-PDU-XXXXXX XXXXXX is the last six characters of mac address	Sets current Device Name string - accepts double quoted strings 20 Characters
reboot		Reboots the iBoot-PDU
set device countrycode <code>	181	For use with external modem. See country code list supplied with land line modem.
set device temperature <C F>	F	F = Fahrenheit C = Celsius

set factory defaults <true | false>

Sets the Set Factory Defaults on next reboot flag. To set factory defaults, enter this command <true> then enter the reboot command.

CLI prompt changes to:

```
*** SETTING FACTORY DEFAULTS ON REBOOT ***
iBoot-PDU (Reboot Required)>
```

To avoid resetting to factory defaults on next reboot: set this flag to <false>

9.3.2. Network

get network

Displays all network settings

```
iBoot-PDU> get network

Network IP Settings:

MAC Address: 68:9e:19:b5:d9:9b
IP Mode:     static
IP Address:  10.10.10.13
Subnet:      255.255.255.0
Gateway:     10.10.10.7
DNS 1:       10.10.10.1
DNS 2:       8.8.8.8

ok

iBoot-PDU>
```

set ipmode <static dhcp>	DHCP	Sets if the IP Address will be set via DHCP server or manually set.
set ipaddress <xxx.xxx.xxx.xxx>	As set by DHCP or 192.168.0.254	IP Address in dotted decimal format
set subnet <xxx.xxx.xxx.xxx>	As set by DHCP or 255.255.255.0	IP Address in dotted decimal format
set gateway <xxx.xxx.xxx.xxx>	As set by DHCP or	IP Address in dotted decimal format
set dns1 <xxx.xxx.xxx.xxx>	As set by DHCP or	IP Address in dotted decimal format
set dns2 <xxx.xxx.xxx.xxx>	As set by DHCP or	IP Address in dotted decimal format

get web

Displays the settings for the internal web server

```
iBoot-PDU> get web
```

Web Settings:

```
Web Enabled:  true
Web Port:    80
SSL Enabled:  false
SSL Port:    443
```

Ok

```
iBoot-PDU>
```

set web enabled <true false>	TRUE
--------------------------------	------

set web port <1-65535>	80
------------------------	----

set ssl enabled <true false>	FALSE
--------------------------------	-------

set ssl port <1-65535>	443
------------------------	-----

get console

Displays the settings for the Serial and Telnet CLI functions.

```
iBoot-PDU> get console
```

Console Settings:

```
Serial Enabled:  true
Console Timeout: 20 minutes
Telnet Enabled:  true
Telnet Port:     23
SSH Enabled:     false
SSH Port:        22
```

Ok

```
iBoot-PDU>
```

set console timeout <0-60>	2	In Minutes
----------------------------	---	------------

set console serial enabled <true false>	TRUE
---	------

set telnet enabled <true false>	TRUE
-----------------------------------	------

set telnet port <1-65535>	23
set ssh enabled <true false>	FALSE
9.3.3. <u>Users</u>	
get users	
Display all users	
iBoot-PDU> get users	
Users:	
ID	Role
-----	-----
1	Admin
2	User
3	User
admin	david
dweiss@dataprobe.com	support@dataprobe.com
Ok	
iBoot-PDU>	
get user <name>	Display the properties of the user
iBoot-PDU> get user david	
User:	
ID:	ef37ef0f
Name:	david
Role:	User
E-mail:	dweiss@dataprobe.com
Password:	<password>
SNMP Password:	<password>
PIN:	
Ok	
iBoot-PDU>	
add user <name>	Maximum 20 characters & special characters
del user <name>	
set user <name> role <admin user>	

set user <oldname> name <newname>		Maximum 20 characters & special characters
set user <name> password <password>	password	<p>Depends on Simple Password Setting:</p> <p>If Simple Passwords = True then</p> <p>Maximum 20 characters & special characters</p> <p>If Simple Passwords = False Then</p> <p>Minimum 8 characters</p> <p>Maximum 8 characters</p> <p>Must contain a minimum of one character of each:</p> <p>Upper Case</p> <p>Lower Case</p> <p>Numeric</p> <p>Special</p>
set user <name> snmppassword <snmp-password>	password for added users adminadmin for admin user	Minimum 8 Characters, Maximum 20 characters & special characters
set user <name> email <email>		128 characters Maximum. Properly formed email address
set user <name> pin <pin>	12345	5 characters & special characters
9.3.4. <u>Access Rights</u>		
set user <name> device <local remote name> outlet <all 1-x> <yes no>		x = number of outlets in the device 4 or 8
set user <name> group <name> <yes no>		gives right to use for the named group, or removes rights
set user <name> sequence <name> <yes no>		gives right to use for the named group, or removes rights

9.3.5. Outlets

get outlets

Returns the status of each outlet and additional status information:

```
iBoot-PDU> get outlets
```

```
Current time is Tue 2017-05-02 11:01:01 EDT
```

```
Current firmware version is v1.01.04202017
```

```
Line Input A: Voltage = 115.7 V, Current = 0.1 A
```

```
Line Input B: Voltage = 111.6 V, Current = 0.1 A
```

```
Temperature: T0 = 77.3 F, T1 = 76.9 F
```

```
Outlets:
```

```
Outlet Delay Time: 1
```

ID	Name	Current State	Initial State	Cycle Time
--	----	-----	-----	-----
1	Outlet-1	On	Last	10
2	Outlet-2	On	Last	10
3	Router	On	Last	10
4	Outlet-4	On	Last	10
5	Outlet-5	On	Last	10
6	Outlet-6	On	Last	10
7	Outlet-7	On	Last	10
8	Outlet-8	off	Last	10

```
ok
```

```
iBoot-PDU>
```

set outlet <1-x> <on | off | cycle>

Controls the outlet. n=the number of outlets in the device 4 or 8.

set outlet <remote name> <1-x> <on | off | cycle>

Allows control of outlets on local or remote devices

set outlet <1-x> name <name>	Outlet-1 - Outlet-8, default names for outlets	30 characters & special characters
set outlet <1-x> initialstate <on off last>	Last	
set outlet <1-x> cycletime <1-99>	10	
set outlet delaytime <0-99>	1	In seconds
9.3.6. <u>Groups</u>		
get groups Display the currently programmed groups: <pre>iBoot-PDU> get groups get groups Groups: Group ID Name Status ----- ---- - 497288cc EvenGroup Mixed 4be0cf06 OddGroup On ok iBoot-PDU></pre>		
add group <name>		30 characters & special characters
del group <name>		
set group <oldname> name <newname>		30 characters & special characters
set group <name> <on off cycle>		
set group <name> outlet <all 1-x> <yes no>		adds and removes outlet rights to this device
set group <name> device <local remotename> outlet <all 1-x> <yes no>		adds and removes outlet rights for group on local remote device


```
get group <name>
```

Returns all group outlets.

Status: N = ON F= OFF R = Rebooting C=Cycling

```
iBoot-PDU> get group EvenGroup
```

	outlets	1	2	3	4	5	6	7	8
1. Local		F		N		N		N	F
2. WEB-Remote		N		N		N		N	N

ok

```
iBoot-PDU>
```

9.3.7. Sequences

```
get sequences
```

Returns all the sequences currently programmed

```
iBoot-PDU> get sequences
```

Sequences:

ID	Sequence ID	Name	Enabled	Max Count	Last Trig
---	-----	----	-----	-----	-----
1	ff60024c	FullShutdown	true	100	
2	e0e8c83d	Cal-2AM-Shutdown	true	100	Thu 2017-04-20 02:00:00 EDT
3	f4c8c6d9	1-TestCableModem	true	100	Tue 2017-04-18 07:28:03 EDT
4	f694b0fe	T0-CurrentOver12.5A	true	100	
5	fdb660ce	T1-TempHigh-79F	true	100	Tue 2017-04-18 10:50:10 EDT

ok

```
iBoot-PDU>
```

get sequence <name>

Returns the details of the sequence

iBoot-PDU> get sequence Delayed-Power-DOWN

Sequence Config:

ID: de638eb6

Name: Delayed-Power-DOWN

Enabled: true

Max Count: 100

Last Trig: Fri 2017-04-28 17:07:14 EDT

There are 15 actions for this sequence

Position	Action ID	Action Type	Param1	Param2	Param3	Param4	Param5	Param6	Param7	Param8
1	edf53b79	outlet	localhost	1	OFF					
2	edf7cff3	delay	3							
3	edfa7bb7	outlet	localhost	2	OFF					
4	edfcede7	delay	3							
5	ee00d1f2	outlet	localhost	3	OFF					
6	ee0399df	delay	3							
7	ee062410	outlet	localhost	4	OFF					
8	ee0954a4	delay	3							
9	ee0ca273	outlet	localhost	5	OFF					
10	ee0f3f79	delay	3							
11	ee12fcda	outlet	localhost	6	OFF					
12	ee15a7ed	delay	3							
13	ee1887ef	outlet	localhost	7	OFF					
14	ee1b986f	delay	3							
15	ee1f25ad	outlet	localhost	8	OFF					

Ok

iBoot-PDU>

add sequence <name>

20 characters & special characters

del sequence <name>		
set sequence <name> <run stop>		
set sequence <oldname> name <newname>		20 characters & special characters
set sequence <name> enabled <true false>	FALSE	
set sequence <name> maxcount <1-100>	100	Set the maximum number of steps allows for sequence execution. Prevents sequences from excessive looping
del sequence <name> action <1-n all>		n is the last number of sequence steps. When a number is deleted, all remaining steps are renumbered automatically.
9.3.8. <u>Sequence Actions</u>		
add sequence <name> action		
del sequence <name> action <1-n>		
set sequence <name> action <1-n> type <none delay outlet group sequence log loop>		Sets the type of action. See Section 5.6 for type descriptions.
set sequence <name> action <old#> position <new#>		Reorders an action step. All subsequent steps are moved down by one and prior steps are renumbered.

Each type of sequence action has a set of parameters. The following table details the nature of the parameters 1-8 for each action:

Action Type	Param1	Param2	Param3	Param4 – Param8
Outlet	Device ID or Remote Name local and remotes	Outlet Number	Action "ON", "OFF", "CYCLE"	
Group	Group ID or NAME local groups only	Action "ON", "OFF", "CYCLE"		
Delay	Number of Seconds			
Sequence	Device ID or NAME local and remotes	Sequence ID or NAME (Not "SAME" sequence)	Action "RUN", "STOP"	
Email	Destination Email Address	Subject Line: 80 Char String	Body Line 1: 80 Char String	Additional 80 Character Strings for Body of Email
Log	Header Text Ascii string 30 char	Log Text 80 Char Message		
Loop	Target Action Number	Loop Count Integer 1-100		

set sequence <name> action <1-n> param1 <value>

set sequence <name> action <1-n> param2 <value>

set sequence <name> action <1-n> param3 <value>

set sequence <name> action <1-n> param4 <value>

set sequence <name> action <1-n> param5 <value>

set sequence <name> action <1-n> param6 <value>

set sequence <name> action <1-n> param7 <value>

set sequence <name> action <1-n> param8 <value>

9.3.9. Remotes

add remote <IP FQDN>	IP Address in dotted decimal format - OR – Fully Qualified Domain Name (FQDN) 128 Characters max.
------------------------	---

del remote <name>

set remote <name> name <name>	NOT needed - name is from device
-------------------------------	----------------------------------

set remote <name> address <IP FQDN>	IP Address or FQDN
---------------------------------------	--------------------

set remote <name> username <username >	admin	30 characters & special characters
--	-------	------------------------------------

set remote <name> password <password >	admin	30 characters & special characters
--	-------	------------------------------------

set remote <name> delay <1-99>	1	In Seconds
--------------------------------	---	------------

get remote <name>

get remotes

Returns a list of remote PDUs managed by this device

iBoot-PDU> get remotes

Remotes:

	Remote ID	Status	Name	Address	Username	Password
	-----	-----	-----	-----	-----	-----
1	3c3a8851	Up	My1stRemote	192.168.1.66	admin	admin
2	3c3a9275	Up	AnotherRemote	192.168.1.77	admin	admin

Ok

iBoot-PDU>

9.3.10. Analog Triggers

get triggers

Returns a list of Analog Triggers

```
iBoot-PDU> get triggers
```

```
get triggers
```

Analog Triggers:

	Trigger ID	Name	Enabled	Type	Source	Condition	Trigger Sequence ID	Clear Sequence ID
	-----	----	-----	----	-----	-----	-----	-----
1	713c1409	T2-Over90	true	Temperature	T1	>=	72678d3e	None
2	7c5c65ab	T2-Under80	False	Temperature	T1	<=	9b520f94	None

```
ok
```

```
iBoot-PDU>
```

add trigger <analog | discrete> <name>

Add a new trigger of a specific type with a name 30 characters & special characters

get trigger <name>

Returns all information for individual trigger

iBoot-PDU> get trigger T2-Over90

Analog Trigger:

ID: 713c1409
Name: T1-Over90
Enabled: true
Type: Temperature
Condition: >=
Trigger Point: 90.000000
Hysteresis: 2.000000
Repeat: Forever
Source Instance: T1
Target IP: 127.0.0.1
Target Trigger Sequence ID: T1-T2-Over90 (72678d3e)
Target Clear Sequence ID: None
Status: Clear
Count: 0
Remaining: 0
Qualify Time: 2

ok

iBoot-PDU>

set trigger <name> name <new name>	rename an existing trigger 30 characters & special characters
------------------------------------	---

set trigger <name> enabled <true false>	FALSE	enable/disable an existing trigger Triggers need to be disabled before parameter changes?
---	-------	--

set trigger <name> type <voltage current temperature>	Voltage	Will be others
---	---------	----------------

set trigger <name> condition < < <= > >= >	<	Compare condition
--	---	-------------------

set trigger <name> triggerpoint < # >	95
---------------------------------------	----

set trigger <name> hysteresis < # >	5
-------------------------------------	---

set trigger <name> repeat <once counter forever>	Forever	
set trigger <name> sourceip <xxx.xxx.xxx.xxx localhost remote name>	127.0.0.1 (localhost)	128 characters & special characters
set trigger <name> sourceinstance <LV1 LV2 LC1 LC2 T0 T1>	LV1 / LC1 / T0	This setting changes the Line Cord or Temperature Sensor that is being monitored for Analog Triggers. It defaults to Line 1 or T0 (main sensor) depending on the trigger type. This only needs to be changed to select LV2, LC2 or T1.
set trigger <name> targettriggersequence <sequence name>	None	Name of Sequence to run on Trigger
set trigger <name> targetclearsequence <sequence name>	None	Name of Sequence to run on Clear Trigger
set trigger <name> count <count>	10	
set trigger <name> qualifytime <qualifytime>	10	In seconds
del trigger <name>		

9.3.11. Schedule Triggers

get events

Returns all Schedule Events

```
iBoot-PDU> get events
get events
```

Events:

				Trigger			
Event ID	Name	Enabled	Repeat	Start Date	Start Time	Sequence ID	
-----	----	-----	-----	-----	-----	-----	
1 78d1bd16	Reboot2AM	true	daily	04/14/2017	02:00	78d1c63a	
2 78d1b282	PWR-UP-ALL	true	daily	05/02/2017	06:00	78d1a124	

```
Ok
iBoot-PDU>
```


get event <name>

Returns the details of the event

```
iBoot-PDU> get event Reboot2AM
```

Event:

```
ID:                78d1bd16
Name:              Reboot2AM
Enabled:           true
Start Date:        05/04/2017
Start Time:        02:00
Repeat:            daily
Target Sequence:   Cal-Reboot2AM (78d1c63a)
Run on Mondays:    true
Run on Tuesdays:  true
Run on Wednesdays: true
Run on Thursdays: true
Run on Fridays:    true
Run on Saturdays:  true
Run on Sundays:    true
```

ok

```
iBoot-PDU>
```

add event <name>

30 characters & special characters

del event <name>

set event <name> name <newname>

30 characters & special characters

set event <name> enabled <true | false>

FALSE

set event <name> startdate <MM/ DD/YYYY>

MM/DD/YYYY

10 characters & special characters

set event <name> starttime <HH:MM>

HH:MM

5 characters & special characters

set event <name> repeat <hourly | daily | weekly
| monthly>

Daily

set event <name> targetsequence <sequencename>

None

set event <name> <dayofweek> <True False>				True for all days		Sunday Monday Tuesday Wednesday Thursday Friday Saturday			
9.3.12. <u>AutoPing Triggers</u>									
get autopings									
retrieves all AutoPing status									
iBoot-PDU> get autopings									
Auto-Ping Triggers:									
	AutoPing ID	Name	Enabled	Status	Ping Address	Trigger Sequence ID	Clear Sequence ID	Period	Count
	-----	----	-----	-----	-----	-----	-----	-----	-----
1	8a4daf9d	A1-RouterTest	true	Fail	dataprobe.com	None	None	60	3
2	4469d511	A2-DualTest	true	Fail	10.10.10.7	None	None	10	10
3	447056ab	B2-DualTest	true	Fail	10.10.10.1	None	None	10	10
ok									
iBoot-PDU>									

get autoping <name>

Returns the configuration of any AutpPing

```
iBoot-PDU> get autoping A1-RouterTest
```

Auto-Ping Trigger:

```
ID:                8a4daf9d
Name:              A1-RouterTest
Enabled:           true
Status:            Clear
Address:           dataprobe.com
Target Device:     127.0.0.1
Trigger Sequence ID: None
Clear Sequence ID: None
Period:            60 second(s)
Fail Count:        3
Timeout:           30 second(s)
Restart Delay:     10 second(s)
Metric Name:       None
Metric Condition:  <
Metric Value:      1
Metric Sequence Trigger ID: None
```

ok

```
iBoot-PDU>
```

add autoping <name>

20 characers &special characters

del autoping <name>

set autoping <name> name <newname>

20 characters & special characters

set autoping <name> enabled <true | false>

FALSE

set autoping <name> address <IP | FQDN>

0.0.0.0

IP or 128 characters for FQDN

set autoping <name> count <1-99>

3

set autoping <name> period <1-999>

10 seconds

NOTE: will be avilable in firmware following version 06242016

set autoping <name> timeout <1-999>	3 seconds																																				
set autoping <name> failtriggersequence <sequence name none>	None																																				
set autoping <name> cleartriggersequence <sequence name none>	None																																				
set autoping <name> restartdelay <0-999>	0 seconds																																				
set autoping <name> group <name> <yes no>																																					
add autoping group <name>	20 characters & special characters																																				
<div>get autoping groups</div> <div>Returns a summary of the AutoPings where any with A and B tests are combined to 1 record</div> <div><div>iBoot-PDU> get autoping groups</div><div>Auto-Ping Groups:</div><table><thead><tr><th></th><th>AP Group ID</th><th>Name</th><th>Enabled</th><th>Status</th><th>Mode</th><th>Fail Trigger Sequence ID</th><th>Clear Trigger Sequence ID</th><th>Cycle Count</th></tr><tr><th></th><th>-----</th><th>----</th><th>-----</th><th>-----</th><th>----</th><th>-----</th><th>-----</th><th>-----</th></tr></thead><tbody><tr><td>1</td><td>8a52b244</td><td>1-RouterTest</td><td>true</td><td>Clear</td><td>OR</td><td>8af12b33</td><td>None</td><td>5</td></tr><tr><td>2</td><td>4475ca53</td><td>2-DualTest</td><td>true</td><td>Clear</td><td>OR</td><td>45684243</td><td>None</td><td>5</td></tr></tbody></table><div>ok</div><div>iBoot-PDU></div></div>			AP Group ID	Name	Enabled	Status	Mode	Fail Trigger Sequence ID	Clear Trigger Sequence ID	Cycle Count		-----	----	-----	-----	----	-----	-----	-----	1	8a52b244	1-RouterTest	true	Clear	OR	8af12b33	None	5	2	4475ca53	2-DualTest	true	Clear	OR	45684243	None	5
	AP Group ID	Name	Enabled	Status	Mode	Fail Trigger Sequence ID	Clear Trigger Sequence ID	Cycle Count																													
	-----	----	-----	-----	----	-----	-----	-----																													
1	8a52b244	1-RouterTest	true	Clear	OR	8af12b33	None	5																													
2	4475ca53	2-DualTest	true	Clear	OR	45684243	None	5																													
set autoping group <name> name <new name>	20 characters & special characters																																				
set autoping group <name> enabled <true false>	FALSE																																				
set autoping group <name> mode <and or>	And																																				
set autoping group <name> failtriggersequence <sequence name>	None																																				
set autoping group <name> cleartriggersequence <sequence name>	None																																				
set autoping group <name> cyclecount <0-999>	0																																				

9.3.13. EMAIL

get email

Displays the Email Parameters:

```
iBoot-PDU> get email
```

E-mail Settings:

```
Enabled:  false
Server:   0.0.0.0
Port:     25
Encrypted: false
Username: Username
Password: password
Address:  iBootBar
Retries:  3
```

ok

```
iBoot-PDU>
```

set email enabled <true false>	FALSE	
set email server <IP FQDN>	0.0.0.0	IP Address xxx.xxx.xxx.xxx or 128 characters maximum for FQDN
set email port <1-65535>	25	
set email encryption <true false>	FALSE	
set email username <username>	Username	30 characters & special characters
set email password <password>	Password	30 characters & special characters
set email retries <0-10>	3	

9.3.14. Cloud Services

get cloud

Returns the Status of the Cloud Service settings

```
iBoot-PDU> get cloud

Cloud Enabled:      false
Cloud Address:      cloud.iboot.co
Cloud Activation Code: <none>
Cloud Activation UUID: <none>

ok
iBoot-PDU>
```

set cloud address <IP FQDN>	cloud.iboot.co	IP Address xxx.xxx.xxx.xxx or 128 characters maximum for FQDN
-------------------------------	----------------	---

set cloud enabled <true false>	FALSE
----------------------------------	-------

9.3.15. SNMP

get snmp

Returns the SNMP manager information

```
iBoot-PDU> get snmp
```

```
get snmp
```

SNMP Settings:

Enabled: true

SNMP Managers:

ID	Name	IP Address	Read Community	Write Community
--	----	-----	-----	-----
1	Corporate	10.10.10.7	Public	Private
2	SNMP Manager	0.0.0.0	public	private
3	SNMP Manager	0.0.0.0	public	private
4	SNMP Manager	0.0.0.0	public	private

```
ok
```

```
iBoot-PDU>
```

set snmp enabled <true | false>

FALSE

set snmp manager <1-4> name <name>

SNMP Manager for all four
managers

30 characters & special characters

set snmp manager <1-4> ip <xxx.xxx.xxx.xxx>

0.0.0.0

set snmp manager <1-4> readcommunity
<readcommunity>

Public

set snmp manager <1-4> writecommunity
<writecommunity>

Private

9.3.16. Syslog

get rsyslogs

Returns the Rsyslog settings

iBoot-PDU> get rsyslogs

Rsyslog Servers:

	Rsyslog ID	Name	Enabled	Server IP	Protocol	Port
	-----	----	-----	-----	-----	----
1	286d2712	DataCenter	true	10.10.10.8	tcp	514

ok

iBoot-PDU>

add rsyslog <name>	30 characters & special characters
--------------------	------------------------------------

del rsyslog <name>

set rsyslog <name> name <newname>	30 characters & special characters
-----------------------------------	------------------------------------

set rsyslog <name> enabled <true false>	FALSE
---	-------

set rsyslog <name> serverip <IP FQDN>	0.0.0.0	IP or 128 characters for FQDN
---	---------	-------------------------------

set rsyslog <name> protocol <tcp udp>	UDP
---	-----

set rsyslog <name> port <1-65535>	514
-----------------------------------	-----

9.3.17. Firmware Upgrade

get firmware list

Gets the current list of available firmware from
<http://dataprobe.com/upgrade/iboot-pdu/>

iBoot-PDU> get firmware list

Firmware Server: <http://dataprobe.com/upgrade/iboot-pdu/>

Available Firmware Images (4):

	Image ID	Version	Release Date	Filename	Size	Description	Latest Release
	-----	-----	-----	-----	----	-----	-----
1	DONOTUSE	1.01.01102017	1/10/2017	iBoot-PDU-1.01.01102017.img	109725080	iBoot - PDU v1.01.01102017	false
2	LATEST	1.01.04202017	4/20/2017	iBoot-PDU-1.01.04202017.img	109725080	iBoot - PDU v1.01.04202017	true
3	02282017	1.01.02282017	2/28/2017	iBoot-PDU-1.01.02282017.img	109725080	iBoot - PDU v1.01.02282017	false
4	12152016	1.00.12152016	12/15/2016	iBoot-PDU-1.00.12152016.img	109725080	iBoot - PDU v1.00.12152016	false

Ok

iBoot-PDU>

get firmware status

Shows the firmware stored in the device and ready to be installed

iBoot-PDU> get firmware status

Firmware Server:

Upgrade Status:

Active Image: 1.01.04202017

Inactive Image: Empty

OK

iBoot-PDU>

set firmware image <image ID>

set firmware image apply

set device simplepassword <true | false>

FALSE

10. USB Interfaces

The USB ports are used to integrate peripheral devices to the iBoot-PDU. There are four USB A ports that allow attachment of peripherals and one USB B mini port that allows attachment of a computer or battery.

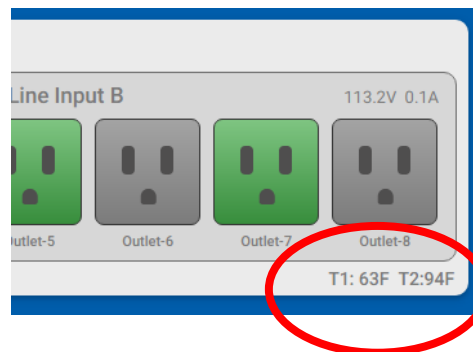
10.1. Temperature Monitor

The temperature monitor Item 1940213 provides two independent probes. One is internal to the USB module and the other is on a 6' cable that attaches to the module. The use of the cable probe is optional.

10.1.1. Temperature Probe Installation

If the cable probe is to be used, connect it to the module before inserting the module in the USB port of the PDU.

Connect the module to any of the USB ports on the PDU. The PDU will recognize the module and display the temperature on the dashboard in the lower right hand corner of the device card.



10.1.2. Temperature Probe Specifications

Range of measuring: -40~+125 C; -40~+257F;

Resolution rate: 0.06C

Precision: + 2C;

10.2. Landline Modem

Contact Dataprobe

10.3. Serial Port

The USB B port on the iBoot-PDU can be used for serial communication. The Command Line Interface through the serial connection allows programming of all parameters of the unit, and control of all functions.

To use the USB port, connect to a Windows PC, and the installation should be automatic. If you need to install a driver first you can download the driver at from Dataprobe's support site: <http://dataprobe.com/support-documents/iboot-pdu/>

USB Driver Installation

Run iBootG2Driver.exe prior to connecting the iBoot-PDU to the USB port of the PC.

Connect the USB iBoot-PDU to a USB port of the PC.

The PC will discover the iBoot-PDU and assign a COM port. To find the COM port go to Control Panel > System > Device Manager > Ports (COM & LPT) The com port assigned will be USB Serial Port (COMn)

The USB port can now be used with a standard Terminal Client (like HyperTerminal) to communicate directly with the iBoot-PDU. Dataprobe also provides a simple terminal program (EZ Term) at <http://dataprobe.com/support-documents/iboot-pdu/>

10.4. Battery Backup

An external USB battery can be used to maintain uptime for the manageability of the iBoot-PDU during power outages. Using a battery, in conjunction with a voltage alarm and email sequence provides a 'Call-For-Help' function that alerts personnel when there is a power failure at the facility. To properly size the battery, the following guidance is provided

Power draw on USB-B port when the iBoot-PDU is not on battery: 7mA max. Estimate 9.5 days on a 1600mAh battery that is not being recharged.

Power draw on USB-B port when the iBoot-PDU is on battery: 250mA max. Estimate 6.4 hours on 1600mAh battery.

Please Note. When the iBoot-PDU goes onto battery power, the USB-A ports will be disabled to prevent excessive draining of the battery. Resumption of A/C power requires a manual restart of the USB ports to resume their operation. Select the Reboot function on the iBoot-PDU to restart the USB-A ports if they are being used.

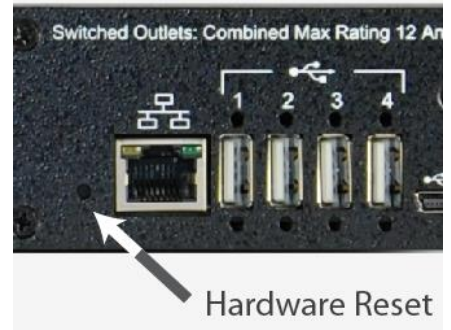
11. Troubleshooting

11.1. Hardware Reset

The hardware reset is located adjacent to the network jack on the rear panel. Use a non-conductive pin to actuate the reset if necessary.

Momentarily depress the reset button to perform a hardware reset.

Note that outlets will reset to the status as determined by their Last State Setting.



11.2. Reset Factory Defaults

Holding the hardware reset for more than 5 seconds will reset the device to its factory defaults.

Note that this will also reset the IP Address settings to DHCP or 192.168.1.254 if no DHCP server is found.

12. Specifications





12.1. Physical:





Height:	1U 1.75 in (4.5 cm)
Width:	19.0 in (48.25 cm) 11.0 in (27.94 cm)
Depth:	6.00 in (15.25 cm)
Weight:	7 lbs (3.25 Kg)

12.2. Environmental:

Temperature	
Operating:	0 to 55° C IEC Versions UL Tested 60° C NEMA Versions UL Tested 65° C All Versions Operating Limits
Storage:	-10 to 85° C
Altitude	2000m Operating
Relative Humidity	0 to 95% Non-Condensing

12.3. Power Inputs and Outputs

Input Required	Model	Input	Output
	iBoot-PDU4-N15	N15	4 x N15
	iBoot-PDU8-N15	N15	8 x N15
	iBoot-PDU8-2N15	2 x N15	8 x N15
	iBoot-PDU4-C20	N20	4 x N15
	iBoot-PDU8-N20	N20	8 x N15
	iBoot-PDU8-2N20	2 x N20	8 x N15

	iBoot-PDU4-C10	C14	4 x C13
	iBoot-PDU8-C10	C14	8 x C13
	iBoot-PDU8-2C10	2 x C14	8 x C13
	iBoot-PDU4-C20	C20	4 x C13
	iBoot-PDU8-C20	C20	8 x C13
	iBoot-PDU8-2C20	2 x C20	8 x C13

Key:

Input: N15 NEMA 5-15 Linecord 115VAC 15 Amps combined total switched
N20 NEMA 5-20 Linecord 115VAC 20 Amps combined total switched
C14 IEC320 C14 Receptacle 100-240VAC 10 Amps total at 240VAC Max
C20 IEC320 C20 Receptacle 100-240VAC 20 Amps total at 240VAC Max

Outlet: N15 NEMA 5-15 Receptacle 115VAC 12 Amps Max
C13 IEC 320 C13 Receptacle 100-240VAC 10 Amps Max

12.4. Safety

- Comply with UL60950-1, 2nd Edition 2014-10-14 (US)
- Comply with CAN/CSA C22.2 No. 60950-1-07, 2nd Edition, 2014-10 (Canada)

12.5. Emissions

- ANSI C63.4:2014 & 47 CFR Part 15, Subpart B, Class B
- ICES-003:2016 Issue 6, Class B

EN 55032 : 2012+AC:2013

EN 61000-3-2 : 2014, EN 61000-3-3 : 2013

EN 55024 : 2010+A1:2015, IEC 61000-4-2 : 2008

IEC 61000-4-3 : 2006+A1:2007+A2:2010

IEC 61000-4-4 : 2012, IEC 61000-4-5 : 2014

IEC 61000-4-6 : 2013, IEC 61000-4-8 : 2009, IEC 61000-4-11 : 2004

12.6. Environmental

- RoHS2 Directive 2011/65/EU Compliant
- Rated Pollution Degree 2 (PD 2) for use in business/laboratory environments with only Non-Conductive pollution present

13. Compliance Statements

13.1. FCC Part 15 Regulation

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Plug the equipment into an outlet on a circuit that is different from the one used by the receiver.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC rules. Operation of this device is subject to the following conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference that may cause undesired operation. **WARNING:** Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment

13.2. EMC, Safety, and R&TTE Directive Compliance

The CE mark is affixed to this product to confirm compliance with the following European Community Directives:

- Council Directive 89/336/EEC of 3 May 1989 on the approximation of the laws of Member States relating to electromagnetic compatibility;
- Council Directive 73/23/EEC of 19 February 1973 on the harmonization of the laws of Member States relating to electrical equipment designed for use within certain voltage limits;
- Council Directive 1999/5/EC of 9 March on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity.

13.3. Industry Canada

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe AB respecte toutes les exigences du Règlement Canadien sur le matériel brouilleur.

This product meets the applicable Industry Canada technical specifications

14. Technical Support and Warranty

Dataprobe Technical Support is available 8:30AM to 5:30PM ET to assist you in the installation and operation of this product. To obtain Technical Support call 201- 934-5111, or Email us at tech@dataprobe.com. Please have the following information available when you call:

- Model of Product
- Lot and Version Numbers
- Data of Purchase
- Name of Seller (if other than Dataprobe)

If you purchased this product through an Authorized Dataprobe Reseller, you should contact them first, as they may have information about the application that can more quickly answer your questions.

14.1. WARRANTY

Seller warrants this product, if used in accordance with all applicable instructions, to be free from original defects in material and workmanship for a period of One Year from the date of initial purchase. If the product should prove defective within that period, Seller will repair or replace the product, at its sole discretion.

Service under this Warranty is obtained by shipping the product (with all charges prepaid) to an authorized service center. Seller will pay return shipping charges. Call Dataprobe Technical Service at (201) 934-5111 to receive a Return Materials Authorization (RMA) Number prior to sending any equipment back for repair. Include all cables, power supplies and proof of purchase with shipment.

THIS WARRANTY DOES NOT APPLY TO NORMAL WEAR OR TO DAMAGE RESULTING FROM ACCIDENT, MISUSE, ABUSE OR NEGLIGENCE. SELLER MAKES NO EXPRESS WARRANTIES OTHER THAN THE WARRANTY EXPRESSLY SET FORTH HEREIN. EXCEPT TO THE EXTENT PROHIBITED BY LAW, ALL IMPLIED WARRANTIES, INCLUDING ALL WARRANTIES OF MERCHANT ABILITY OR FITNESS FOR ANY PURPOSE ARE LIMITED TO THE WARRANTY PERIOD SET FORTH ABOVE; AND THIS WARRANTY EXPRESSLY EXCLUDES ALL INCIDENTAL AND CONSEQUENTIAL DAMAGES.

Some states do not allow limitations on how long an implied warranty lasts, and some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may have other rights which vary from jurisdictions to jurisdiction.

WARNING: The individual user should take care to determine prior to use whether this device is suitable, adequate or safe for the use intended. Since individual applications are subject to great variation, the manufacturer makes no representation or warranty as to the suitability of fitness for any specific application.

Dataprobe Inc.

Dataprobe Inc
1 Pearl Court, Suite B
Allendale New Jersey 07401

Technical Support	
tech@dataprobe.com	201-934-5111
www.dataprobe.com/support	201-934-9944