DPS Telecom

"Your Partners In Network Alarm Monitoring"

Remote Power Switch AB6

USER MANUAL

Visit our website at www.dpstelecom.com for the latest PDF manual and FAQs.

February 6, 2017 **D-UM-RSPDC-12011** **Firmware Version 1.0C**

Revision History

February 23, 2017	Updates to specifications and shipping list
February 6, 2017	Shipping list update
November 18, 2015	Specs update
June 18, 2015	Added Event Log Section
April 4, 2013	Added TTY power control feature
November 28, 2012	Added hardware and software sections for new AMM Options; clarified D-Wire port functionality
July 23, 2012	Updated Shipping List
May 24, 2012	Updated Shipping List and UM Part Number
May 18, 2012	Updated Front Panel LEDs and Shipping List with D-Wire
May 11, 2012	Updated shipping list
December 20, 2011	Added Studded Power Block Cover information
December 8, 2011	Updated shipping list and fuse information
September 9, 2011	Added low voltage disconnect and password lockout features
May 23, 2011	Initial Release
May 13, 2011	Preliminary Release

Notice

The material in this manual is for information purposes and is subject to change without notice. DPS Telecom shall not be liable for errors contained herein or consequential damages in connection with the furnishing, performance, or use of this manual.

Contents

Visit our website at www.dpstelecom.com for the latest PDF manual and FAQs

1 Introduction **1**

1.1 Specifications 1

1.2 Shipping List 3

2 Hardware Installation **5**

2.1 Tools Needed 5

2.2 Mounting 5

2.3 Power Connections 6

2.4 Studded Power Block Cover 6

2.5 Power Input Connection 7

2.6 Power Output Connection 8

3 Physical Power Switch Resources **10**

3.1 Front Panel LEDs 10

3.2 Craft Port 11

3.3 LAN Connection 12

3.4 Breaker Switches 12

3.5 Fuses 13

4 Alarm Monitoring **14**

4.1 Discrete Alarms 14

4.2 Analog Alarms 15

4.2.1 Switching Analog Alarms to Current Operation 16

4.3 D-Wire Sensor Input 17

4.4 Control Relay Connectors 17

4.5 Display Mapping 18

5 Initial Configuration **20**

5.1 Connecting via the Craft Port 20

5.1.1 Control Power via TTY 21

5.2 Connecting via LAN 22

5.3 Ethernet Configuration 24

5.3.1 Temporarily Disabling the RPS Firewall 24

6 Using the Web Interface **26**

6.1 Logging in to the Web Interface 26

6.2 Navigating the Web Interface 27

6.3 Provisioning the RPS 28

6.3.1 System 29

6.3.2 User Profiles 30

6.3.3 Ethernet 33

6.3.4 Firewall 34
6.3.4.1 Disabling Protocols
6.3.5 SNMP 36
6.3.6 Notifications 38
6.3.6.1 Email Notification Settings
6.3.6.2 SNMP Notification Settings
6.3.6.3 Schedule
6.3.6.4 Testing Notifications
6.3.7 Power Feed Status (Provisioning) 41
6.3.8 Base Alarms (Provisioning) 43
6.3.9 User Controls (Provisioning) 44
6.3.9.1 Configuring Derived Controls
6.3.10 User Analogs (Provisioning) 45
6.3.11 Sensors (Provisioning) 47
6.3.12 Power Control (Provisioning) 48
6.3.12.1 Low Voltage Disconnect
6.3.13 System Alarms (Provisioning) 50
6.3.14 Timers 52
6.3.15 Date Time 53
6.3.15.1 Testing your Automatic Time Adjustment (NTP) Settings
6.4 Operating the RPS 55
6.4.1 Power Feed Status (Operation) 55
6.4.2 Power Control (Operation) 56
6.4.3 Base Alarms (Operation) 57
6.4.4 User Controls (Operation) 58
6.4.5 User Analogs (Operation) 58
6.4.6 Sensors (Operation) 59
6.4.7 System Alarms (Operation) 59
6.4.8 Event Log 61
6.5 Device Access 61
6.6 Updating Firmware 62
7 Frequently Asked Questions 63
8 Technical Support 64
9 End User License Agreement 65

1 Introduction

The RPS AB6 front panel

The Remote Power Switch (RPS AB6), is a rack-mountable power distribution unit (PDU) that allows you to remotely power on/off and reboot critical devices from any computer on your network.

Via the RPS web browser, you'll be able to toggle power, monitor voltages (and threshold alarms) for your power feeds, and see fuse-alarms. The web browser supports HTTPS (HTTP secure) for secure browsing and a number of secure access profiles and password options are available to set access rights for individual users who might access the RPS web browser.

The unit can also send SNMP traps and email notifications when power is switched on or off, when a fuse alarm sets, or one of the inputs loses power, so you'll never have to make a trip out to a site to flip a switch again.

1.1 Specifications

Power Inputs:	2 Studded Terminal Block inputs
Voltage:	-48 VDC (-36 to -60 VDC) feeds (studded terminal blocks)
Current Draw:	350mA
Power Outputs:	12 (4 connectors, 3 outputs per connector)
Voltage:	-48 VDC
Max Current per Feed:	8 Amps
Max Current per Set:	36 Amps per output group
GMT Fuse:	10 Amp max (1 per output)
Output Relays:	8A max @ 60V continuous

Note: Fuses are not included with the with the Remote Power Switch AB6. The user will need to determine fuse ratings for slots appropriate to their needs (keeping in mind the 36 Amp maximum per output group).

Interfaces:	1 DB9 RS232 Craft Port 1 RJ45 10/100 BaseT Ethernet Port 1 RJ-11 D-Wire Port
Spare Fuses:	0
Dimensions:	1.75"H x 17"W x 8.5" D
Weight:	5 lbs.
Mounting:	19" or 23" Rack
Visual Interface:	22 front-panel LEDs 2 back-panel LEDs
Operating Temperature:	32°–140° F (0°–60° C)
Operating Humidity:	0%–95% noncondensing
MTBF:	60 years

Windows Compatibility: XP, Vista, 7 32/64 bit
***RoHS 5 Approved**

1.2 Shipping List

While unpacking the Remote Power Switch, please make sure that all of the following items are included. If some parts are missing, or if you ever need to order new parts, please refer to the part numbers listed and call DPS Telecom at **(800) 622-3314**.

Shipping List

Remote Power Switch AB6
D-PK-RSPDC

RPS AB6 User Manual
D-UM-RSPDC-12011

RPS AB6 Resource CD
(includes manuals, MIBs, and software)

DB9M-DB9F Download Cable 6 ft.
D-PR-045-10-A-04

23" Rack Ears
D-CS-325-10A-01

6-Pin DC Out Phoenix Connectors (x4)
2-821-00762-06

19" Rack Ears
D-CS-325-10A-00

Ethernet Cable, 14 ft.
D-PR-923-10B-14

Metric Rack Screws (x4)
2-000-80750-03

Pads (x4)
2-015-00030-00

3/8" Ear Screws (x8)
1-000-60375-05

Standard Rack Screws (x4)
1-000-12500-06

Nut With Star Washer (x9)
2-002-01421-00

Cable Ties (x4)
1-012-00106-00

5 Amp Fuse (x12)
2-741-10000-00

10 Amp Fuse (x4)
2-741-05000-00

Studded Power Block Cover (x2)
2-820-73175-01

Optional Accessories

D-Wire Temperature Sensor
D-PK-DSNSR-12001

6 Pin Connectors (For Controls) (x1)
2-821-10635-00

8 Pin Connectors (For Alarms and Analogs) (x6)
2-821-10835-00

2 Hardware Installation

2.1 Tools Needed

To install the Remote Power Switch, you'll need the following tools:

Phillips No. 2 Screwdriver

Small Standard No. 2 Screwdriver

7/16" Nut Driver

2.2 Mounting

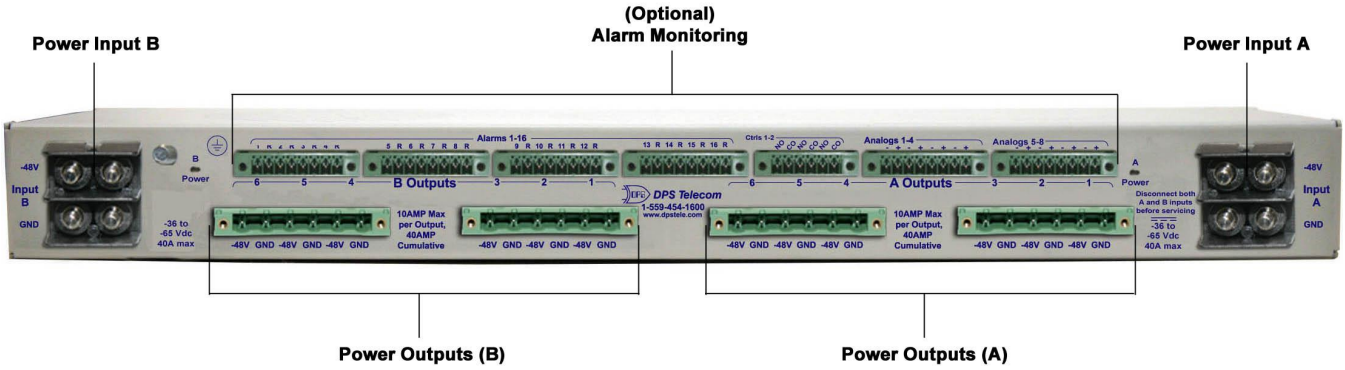
The RPS AB6 with 23" rack ear in flush mount position

The Remote Power Switch mounts in a 19" rack or a 23" rack using the appropriate rack ears for each size. Attach the rack ears in the flush-mount location shown in the picture above.

Note: Rack ears can be rotated 90° for wall mounting or 180º for other mounting options (not shown).

2.3 Power Connections

Both the Remote Power Switch AB6's power input and output connections are located on the unit's rear panel.



The Remote Power Switch AB6 rear panel

2.4 Studded Power Block Cover

Before the power input connections can be made the studded power block covers will need to be removed. To do this use the DPS Standard No. 2 screwdriver. Use the leverage provided by the screwdriver to lift the latching device as seen in the image below. Once the power connections are made, ensure that the studded power block covers are reattached to the device.

How to remove the studded power block cover

2.5 Power Input Connection

The Remote Power Switch has 2 power feeds, 1 for each set of 6 outputs. Each feed consists of 4 screw-lug power connectors.

WARNING **The Grounding Lug on the back of the unit provides a permanent connection to earth ground when connected. The Grounding Lug must be used in order to comply with CE standards.**

Input Feed B and the Grounding Lug for the RPS AB6

Before you connect a power supply to the Remote Power Switch, test the voltage of your power supply:

- Connect the black common lead of a voltmeter to the ground terminal of the battery, and connect the red lead of the voltmeter to the battery's –48 VDC terminal. The voltmeter should read **between –43 and –53 VDC**. If the reading is outside this range, test the power supply.

To connect the RPS to a power supply:

Warning: Before connecting power feeds, make sure that the breaker for the power feed you're connecting is switched off.

1. Use the grounding lug to connect the unit to earth ground. The grounding lug is next to the ⏚ symbol. Insert the eyelet of the earth ground cable between the two nuts on the grounding lug (Ground cable not included). Tighten the grounding lug into place using your 7/16" nut driver.

2. Insert a **battery ground** into the **lower terminal** and tighten the nut down on the ground cable using your 7/16" nut driver. If using the dual feed connector displayed in the example above, tighten both nuts down on the connector.

3. Insert a **–48 VDC** line to the unit's **upper terminal** and tighten the nut down on the -48 VDC line. If using the dual feed connector displayed in the example above, tighten both nuts down on the connector.

4. Repeat Steps 2 and 3 for the remaining power inputs.

Note: You must connect A and B side power inputs to separate power supplies for your Remote Power Switch to properly function.

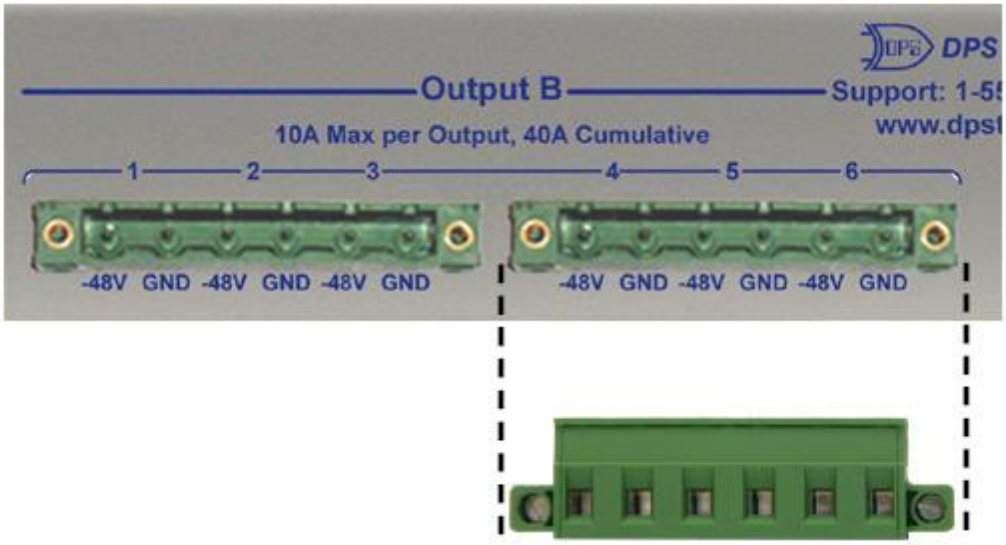
5. Flip the breaker switch(es) to turn on power.

If the power feeds are connected correctly, you will see LED activity on the front-side of the unit.

Warning: You must connect both terminals on an input feed to output a full 40 Amps.

2.6 Power Output Connection

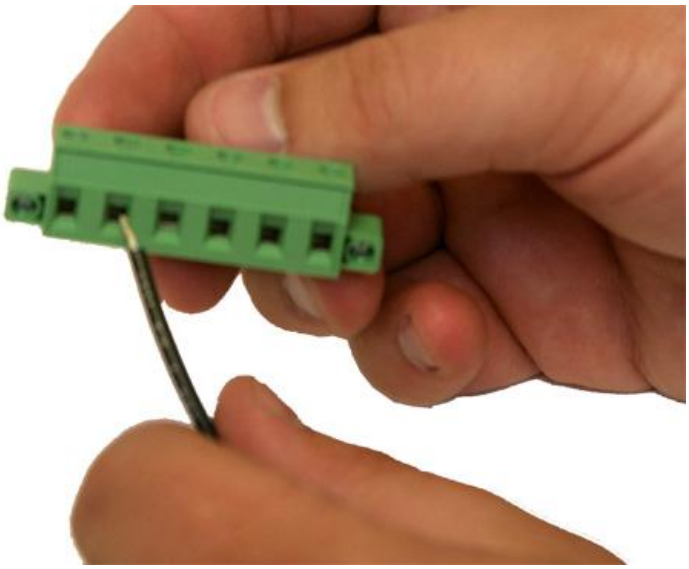
The Remote Power Switch's power feeds are wired to 6-pin plug connectors, 3 per connector. For each output feed, the -48V cable will be on the left and the ground cable (GND) will be on the right.



Power output connectors on the RPS AB6

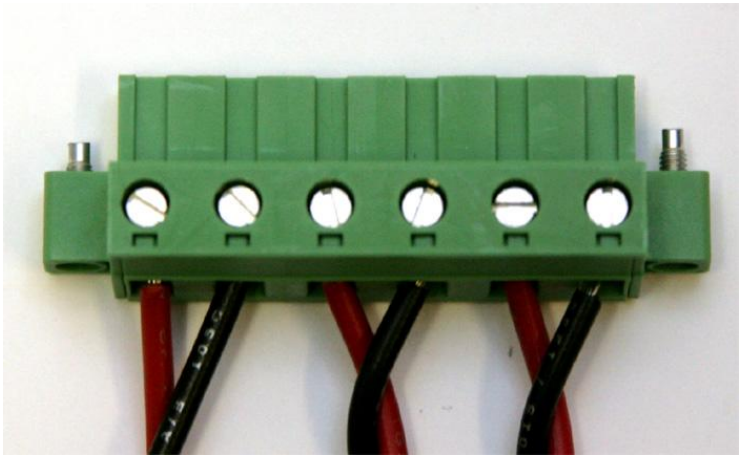
To connect your power feeds:

1. If connected, remove the front panel fuse for the power input (or set of power inputs) you'll be working with. (Example: If connecting input feeds A1-A3, ensure that fuses A1, A2, and A3 are disconnected.)
2. If connected, disconnect the 6-pin power connector from the remote power switch before wiring power outputs.



Inserting the ground cable into appropriate terminal for the output connector

3. Connect the ground cable to the right terminal for each power output; using a small flathead screwdriver, tighten the GND terminal.
4. Connect the -48V cable to the left terminal for each power output; using a small flathead screwdriver, tighten the -48V terminal.



A fully wired output connector

5. Once you've wired your equipment to the terminals on the 6-pin plug, connect the plug to the RPS
6. Screw-in the connector to ensure that it does not fall loose from the unit.
7. Re-insert the fuses for the outputs you've just connected.

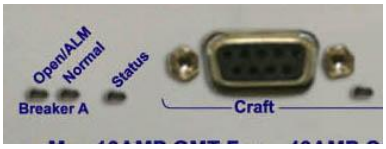
3 Physical Power Switch Resources

The Remote Power Switch's fuses, breaker switches, craft port, LAN, and indicator LEDs are all front-accessible. Once you've wired power inputs and outputs to the unit, you can perform all other operations from the unit's front panel.

The front panel of the RPS AB6

3.1 Front Panel LEDs

Indicator LEDs for the RPS AB6 are all located on the front panel, and will alert you to the status of your unit.

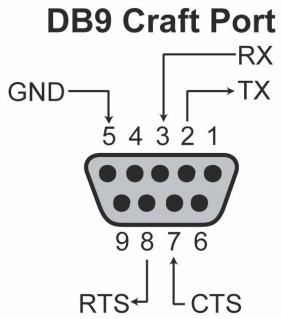


LEDs on the front panel of the RPS AB6

Front Panel LEDs:

LED	Status	Description
D-Wire	Blinking Green	Transmit over D-Wire
	Blinking Red	Receive over D-Wire
Craft	Blink Green	Transmitting over craft port
	Blink Red	Receiving over craft port
FA Sum	Solid Red	A fuse is blown/broken on one or more of the power feeds
Pwr 1-6 (Output A/B)	Solid Red	A fuse is blown/broken on the feed
	Solid Green	The output feed is powered
100BT	Solid Green	100 BT connection
	Off	10 BT connection
Status	Blink Red	Bootloader application is active; the unit is starting up
	Blink Green	The main application is active
Breaker A	Open/ALM	Solid Red = Power A switch is 'On'
	Normal	Solid Green = Power A switch is 'Off'
Breaker B	Open/ALM	Solid Red = Power B switch is 'On'
	Normal	Solid Green = Power B switch is 'Off'

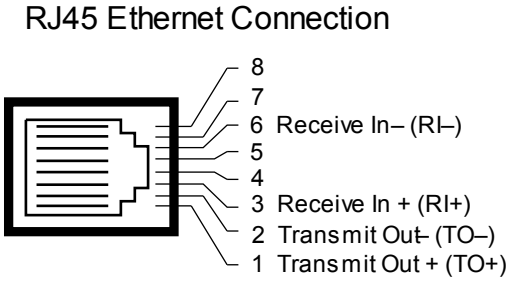
3.2 Craft Port



Remote Power Switch AB6 Front Panel Craft Connection

The unit's front-side craft port is used to access the TTY interface (for initial configuration and local access to the unit).

3.3 LAN Connection



Ethernet port pinout

Connect the RPS AB6 to LAN via the unit's front-side 10/100BaseT Ethernet port.

3.4 Breaker Switches

The switches on the front panel of the remote power switch control the corresponding power inputs on the backside of the unit. Use each switch to effectively turn on or off the power feeds on either side of the unit.

Note: When turning on power using a breaker switch, the corresponding power feeds will honor the user-set **Power-On Sequence**. For information about the Power-On Sequence, see the **Power Control (Provisioning)** section of this manual.

Breaker Switches are located on the front panel of the RPS AB6

You can store one spare fuse in the small recess above and below each breaker switch.

3.5 Fuses

The Remote Power Switch AB6's fuses are all located on the front side, each directly corresponding with the power feeds in the back. Each of the unit's fuse slots accepts **up to a 10 amp GMT fuse**, however, 10 Amp fuses are not required. The user should choose fuses rated to fit their application and should **not exceed 40 Amps-worth of fuses per 6-output side (A or B)**.

Fuse alarm LEDs are located above the fuses to visually indicate if any of the fuses are blown. Additionally, from the blue **Power Control** option under the **Operation** Menus, you can operate your power outputs and view the status of each feed as seen in section **5.4.2 Power Control (Operation)**

4 Alarm Monitoring

4.1 Discrete Alarms

The RPS AB6's discrete alarm inputs

The RPS AB6 features 16 discrete alarm inputs - also called digital inputs or contact closures. Discrete alarms are either activated or inactive, so they're typically used to monitor on/off conditions like power outages, equipment failures, door alarms and so on.

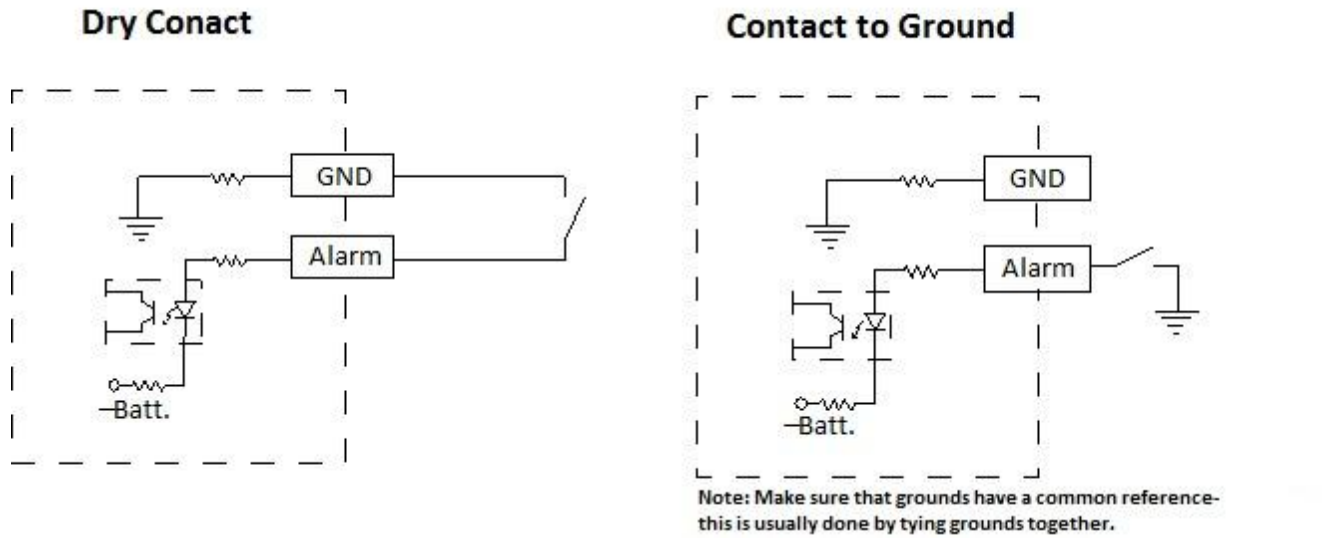
The RPS AB6's discrete alarm points are single-lead signals referenced to ground. The ground side of each alarm point is internally wired to ground, so alarm points can either connect as a dry contact or a contact to ground.

In a **dry contact alarm**, the alarm lead brings a contact to the ground lead, activating the alarm.

In a **contact to ground alarm**, a single wire brings a contact to an external ground, activating the alarm.

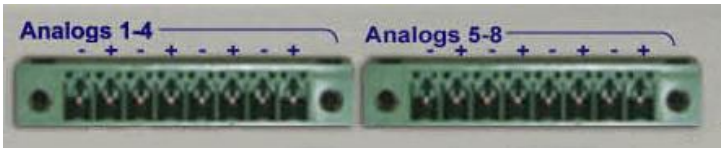
For a diagram, see the image below.

You can reverse the polarity of each individual discrete alarm point, so that the alarm is activated when the contact is open.



Discrete alarm points can connect as a dry contact or a contact to ground

4.2 Analog Alarms

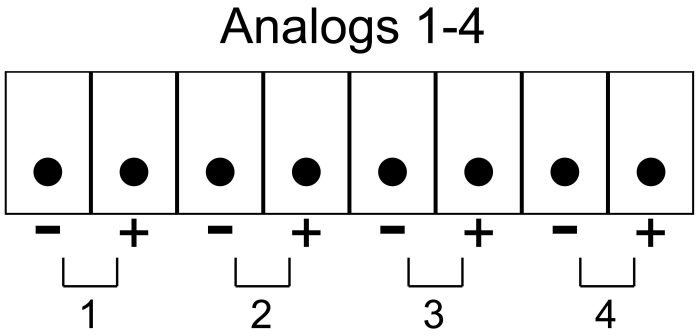


The RPS AB6's analog alarm inputs

The RPS AB6's 8 analog alarm inputs measure continuous ranges of voltage or current. Analog alarms are typically used to monitor battery voltage, charging current, temperature or other continuously variable conditions.

The measurement range of the analog channels is –90 to +90 VDC or 4 to 20 mA.

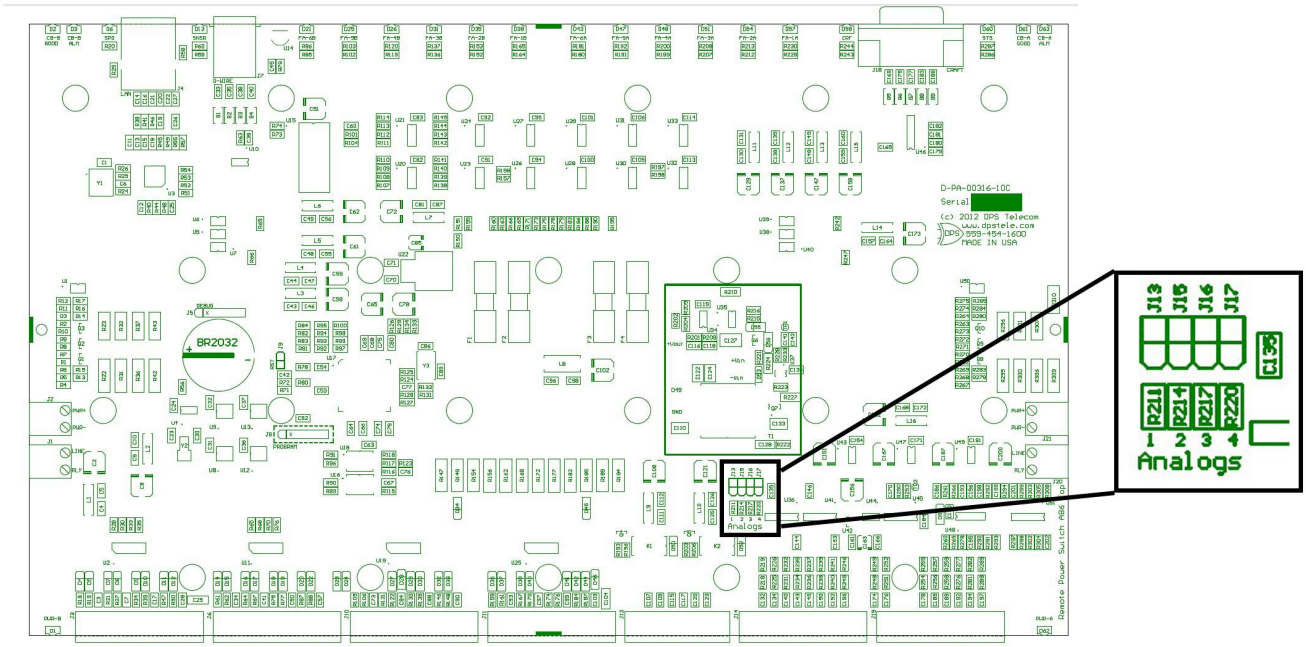
You can connect analog alarm inputs to the RPS AB6 by using the 8-pin analog alarm connectors. For the 8-pin analog connector's pinout information, see the figure below.



8-Pin Analog Connector Pinout

By default, the analog inputs are configured to measure voltage. You can switch the analog inputs to measure current by resetting jumpers on the RPS AB6's circuit board. For instructions, see **Section 4.2.1, "Switching Analog Alarms to Current Operation."**

4.2.1 Switching Analog Alarms to Current Operation



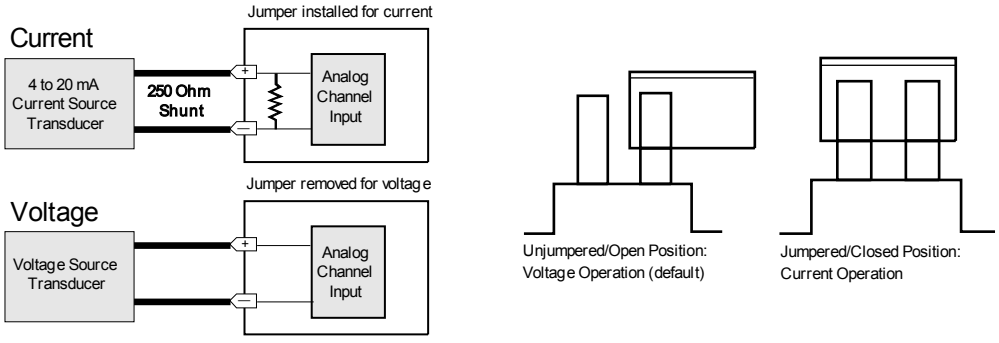
Adjustable jumpers on the RPS Ab6 circuit board

By default, the analog inputs are configured to measure voltage. You can switch the analog inputs to measure current by resetting jumpers on the RPS AB6's circuit board.

WARNING: Always observe anti-static precautions whenever opening the unit.

To test the analog alarm voltage/current jumpers, follow these steps:

1. Make sure the RPS AB6 is depowered and disconnected from all network connections.
2. Remove the screws from the sides of the RPS AB6 case.
3. Slide off the top cover of the case to expose the circuit board.
4. The adjustable jumpers are shown in the figure above. All alarm inputs can be individually configured for current or voltage operation.



Jumper settings for analog alarm inputs

5. By default, all jumpers are in the unjumpered/open position, which corresponds to voltage operation, as shown in figure above. To reset an analog alarm input to current operation, reset its jumper in the closed position.

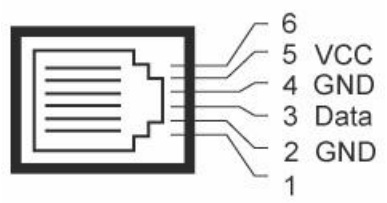
   Note: Each jumper inserts a 250-ohm shunt resistor across the input. This must be taken into account when defining the analog input reference scale.

6. Slide the top cover of the case back into position and replace the screws.
7. Reconnect and power up the RPS AB6.

4.3 D-Wire Sensor Input

The port on your RPS AB6 labeled, "**D-Wire**" supports the connection of up to **16 D-Wire sensors**. The RPS AB6 powers and communicates with your D-Wire sensors via straight-through RJ-11 cables.

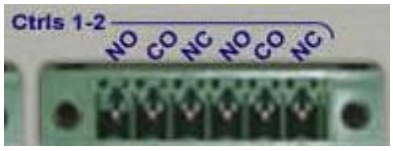
Connecting D-Wire Sensors
Using a **6P4C, straight-through RJ-11 cable** (part #D-PR-045-10A-01, pinout below), connect the D-Wire sensor port on the RPS AB6 to the **In** jack on a D-Wire sensor. Chain additional sensors to the RPS AB6 (using the same straight-through cables) from the **Out** jack on the previous sensor to the **In** jack on the next (i.e. Out on sensor 4 to In on sensor 5).



Pinout for D-Wire RJ-11 jacks

For details about configuring your sensors though the web interface, see the **Provisioning > Sensors** section of this manual.

4.4 Control Relay Connectors



The RPS AB6's control relay inputs

A 6-pin connector for two control relays is located on the RPS AB6's back panel.

4.5 Display Mapping

	Description	Port	Address	Point
Display 1	Power outputs side A fuse alarms	99	1	1-6
	Power outputs side B fuse alarms	99	1	7-12
	Side A breaker alarm	99	1	13
	Side B breaker alarm	99	1	14
	Power outputs side A	99	1	17-22
	Power outputs side B	99	1	23-28
	User Controls	99	1	29-30
	System alarms	99	1	33-64
Display 2	Base Alarms	99	1	1-16
	Undefined	99	1	17-64
Display 3	Side A power feed alarms	99	1	1-5
	Side A power feed value	99	1	6-64
Display 4	Side B power feed alarms	99	1	1-5
	Side B power feed value	99	1	6-64
Display 5	User Analog 1 alarms	99	1	1-5
	User Analog 1 value	99	1	6-32
	User Analog 2 alarms	99	1	33-37
	User Analog 2 value	99	1	38-64
Display 6	User Analog 3 alarms	99	1	1-5
	User Analog 3 value	99	1	6-32
	User Analog 4 alarms	99	1	33-37
	User Analog 4 value	99	1	38-64
Display 7	User Analog 5 alarms	99	1	1-5
	User Analog 5 value	99	1	6-32
	User Analog 6 alarms	99	1	33-37
	User Analog 6 value	99	1	38-64
Display 8	User Analog 7 alarms	99	1	1-5
	User Analog 7 value	99	1	6-32
	User Analog 8 alarms	99	1	33-37
	User Analog 8 value	99	1	38-64
Display 9	Digital Sensor 1 alarms	99	1	1-5
	Digital Sensor 1 value	99	1	6-32
	Digital Sensor 2 alarms	99	1	33-37
	Digital Sensor 2 value	99	1	38-64
Display 10	Digital Sensor 3 alarms	99	1	1-5
	Digital Sensor 3 value	99	1	6-32
	Digital Sensor 4 alarms	99	1	33-37
	Digital Sensor 4 value	99	1	38-64
Display 11	Digital Sensor 5 alarms	99	1	1-5
	Digital Sensor 5 value	99	1	6-32
	Digital Sensor 6 alarms	99	1	33-37
	Digital Sensor 6 value	99	1	38-64

Display 12	Digital Sensor 7 alarms	99	1	1-5
	Digital Sensor 7 value	99	1	6-32
	Digital Sensor 8 alarms	99	1	33-37
	Digital Sensor 8 value	99	1	38-64
Display 13	Digital Sensor 9 alarms	99	1	1-5
	Digital Sensor 9 value	99	1	6-32
	Digital Sensor 10 alarms	99	1	33-37
	Digital Sensor 10 value	99	1	38-64
Display 14	Digital Sensor 11 alarms	99	1	1-5
	Digital Sensor 11 value	99	1	6-32
	Digital Sensor 12 alarms	99	1	33-37
	Digital Sensor 12 value	99	1	38-64
Display 15	Digital Sensor 13 alarms	99	1	1-5
	Digital Sensor 13 value	99	1	6-32
	Digital Sensor 14 alarms	99	1	33-37
	Digital Sensor 14 value	99	1	38-64
Display 16	Digital Sensor 15 alarms	99	1	1-5
	Digital Sensor 15 value	99	1	6-32
	Digital Sensor 16 alarms	99	1	33-37
	Digital Sensor 16 value	99	1	38-64

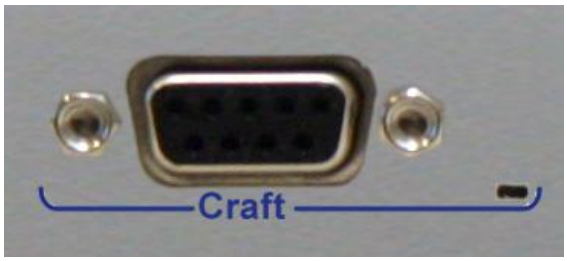
The RPS AB6 display mapping

5 Initial Configuration

Before you can incorporate the Remote Power Switch into your network, you must configure its ethernet port. Initial configuration for your Remote Power Switch's ethernet settings is performed via the TTY interface. To access the TTY interface, you will establish a craft port connection with your remote power switch using the included serial cable (recommended), a USB to serial connection, or a LAN connection that mimics the unit's factory-set IP address and subnet mask.

You may also use the TTY interface to locally interface with the RPS, however, some advanced configuration, monitoring, and control options may not be available via TTY. For more advanced options, use the RPS's secure web browser interface.

5.1 Connecting via the Craft Port



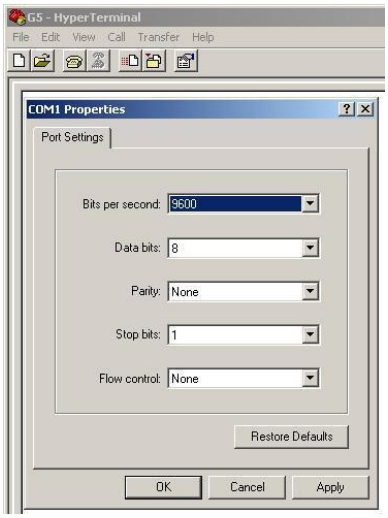
RPS AB6 Craft Port

The easiest way to connect to your Remote Power Switch is over a physical cable connection between your PC's COM port and the Remote Power Switch's craft port.

Use the DB9M-DB9F download cable provided with your Remote Power Switch to make a craft port connection.

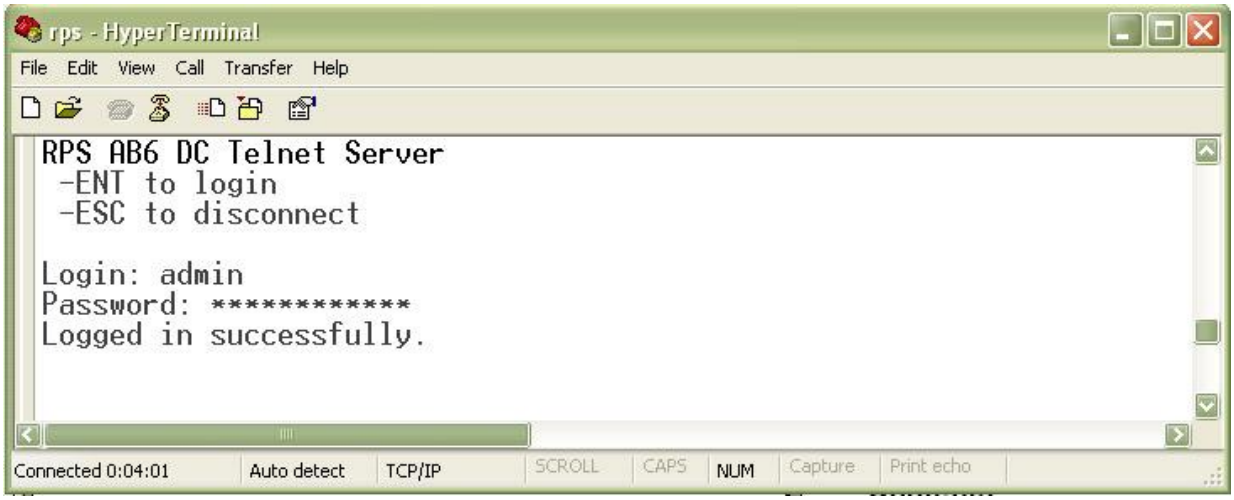
1. Open HyperTerminal (or a similar terminal emulation program) and create a new connection/session with the following COM port options and click **OK**:

. • Bits per second: **9600**
• Data bits: **8**
• Parity: **None**
• Stop bits: **1**
• Flow control: **None**



Setting up a serial connection using HyperTerminal

2. Press **Enter**



The TTY interface login screen

3. Enter the default login information.
    - Username: **admin**
    - Password: **dpstelecom**

See **Ethernet Configuration** later in this chapter to continue configuring your Remote Power Switch's ethernet port.

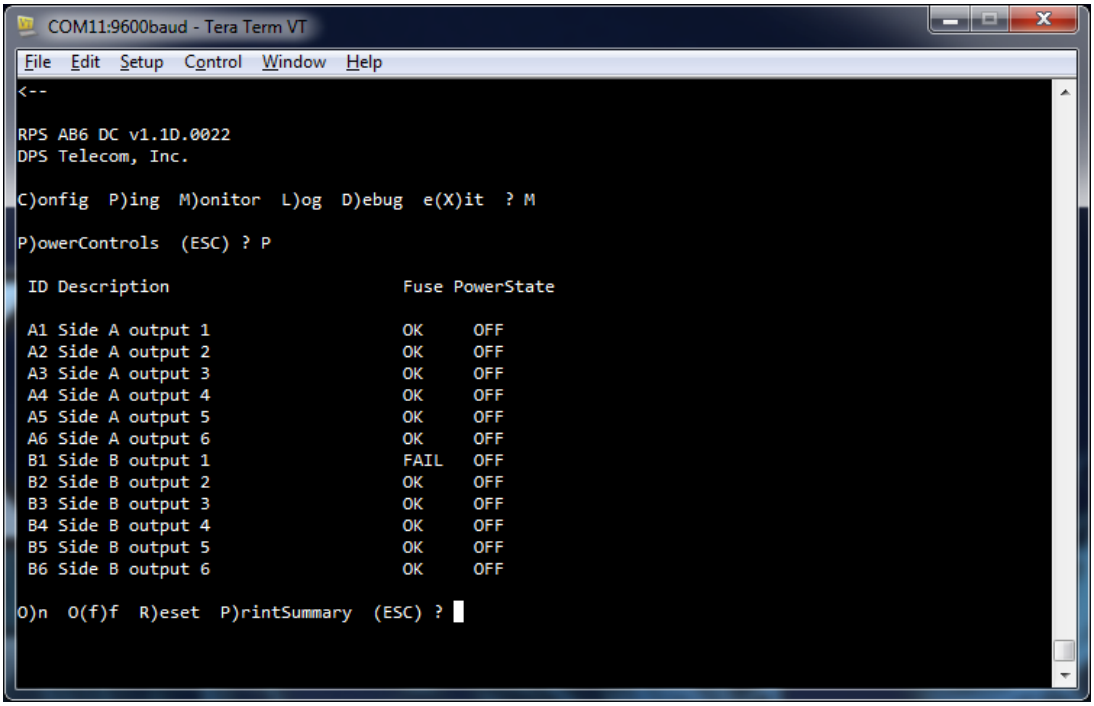
5.1.1 Control Power via TTY

After you have connected via the craft port, you can use the TTY interface to access the Power Controls:

1. Press M)onitor.

2. Press P)owerControls

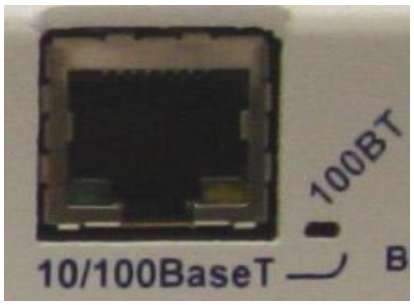
From here you can view the ID, Description, Fuse status (OK/Fail), and PowerState (On/Off).



You also have access to the following commands:

Status	Description
On (O)	Turn on power.
Off (F)	Turn off power.
Reset (R)	Temporarily turns off power before turning it back on again.
Print Summary (P)	View a list of relay states and fuse statuses.
(ESC)	Go back to the previous menu.

5.2 Connecting via LAN



Ethernet port

If you have physical access to the Remote Power Switch, it is easier to connect to the unit through the craft port and assign it an IP address. Then you can complete the rest of the unit configuration over a remote LAN connection, if you want. For instructions, see the previous section.

If you DON'T have physical access to the Remote Power Switch, you can make a LAN connection to the unit by temporarily changing your PC's IP address and subnet mask to match the Remote Power Switch's factory default IP settings. Follow these steps:

1. Look up your PC's current IP address and subnet mask, and write the information down; you will be temporarily changing your PC's IP and subnet mask to access the RPS.

2. Reset your PC's IP address to **192.168.1.200**.

3. Reset your PC's subnet mask to **255.255.0.0**. You may have to reboot your PC to apply your changes.

4. Once the IP address and subnet mask of your computer coincide with the Remote Power Switch's, you can access the Remote Power Switch via a Telnet session at port 2002 or via Web browser using the Remote Power Switch's default IP address, **192.168.1.100**.

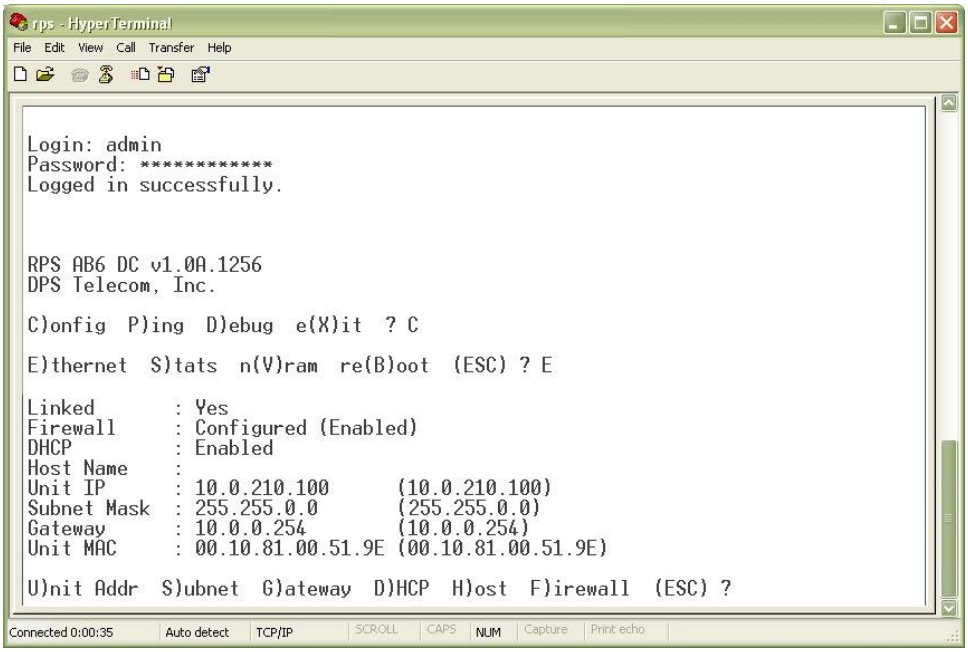
5. Provision the Remote Power Switch with the appropriate information (see **Ethernet Configuration** later in this chapter or **Configuring the RPS (Edit Menu)** for more information), then change your computer's IP address and subnet mask back to their original settings -- the information you wrote down in Step 1.

See the following section, **Ethernet Configuration**, to continue configuring your Remote Power Switch's ethernet port.

5.3 Ethernet Configuration

The Remote Power Switch must be assigned an IP address before you will be able to connect via LAN/ WAN using a Telnet client or a Web browser. To connect via LAN, the minimum configuration requires setup of the IP address and subnet mask. Minimum WAN configuration requires that the default gateway be set as well.

Note: *Instructions and Screenshots related to the Remote Power Switch TTY Interface are based on firmware version 1.0. Later versions of the Remote Power Switch firmware may support additional options.*



Configure the Ethernet port parameters from the TTY Interface

To access your Remote Power Switch's Ethernet settings from the main TTY menu:.

1. Press **C** for the C)onfig menu.
2. Press **E** for the E)thernet menu.
3. Configure the **U**nit's address, **S**ubnet mask, and default **G**ateway.
4. Press ESC to escape to the Ethernet menu.
5. Press **B** to perform a soft reboot of the unit.
6. Now you can connect to the unit via LAN and use the unit's Web Browser Interface to complete configuration of the RPS.

5.3.1 Temporarily Disabling the RPS Firewall

If your firewall settings are keeping you from accessing the Remote Power Switch's web interface, you can temporarily disable the unit's firewall to gain access to unit's web interface from the TTY interface via craft serial connection. The Firewall, disabled in this way, is turned-off until you write new changes to the unit or reboot. To temporarily disable the firewall, access the **F)irewall** option from the **E)thernet** menu.

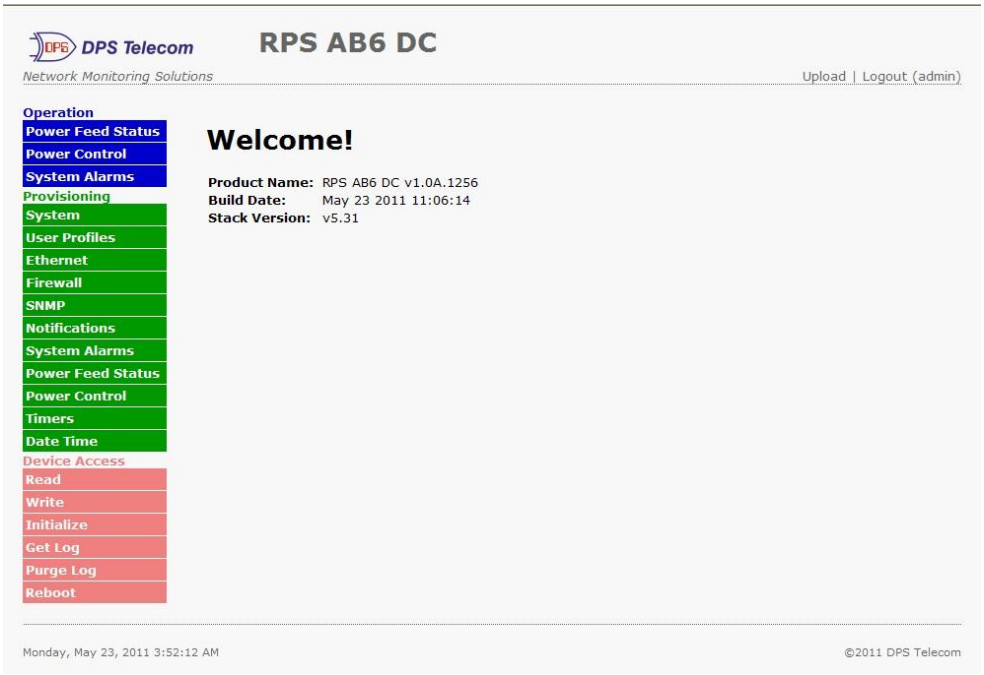
Note: The Remote Power Switch's firewall cannot be configured via the TTY interface. This option is

provided purely as a means to circumvent the firewall in the event that your whitelist/blacklist blocks legitimate users out of the unit's web interface. To configure the unit's web interface, visit the **Firewall** section later in this manual.

6 Using the Web Interface

The Remote Power Switch AB6 features a built-in web browser interface for configuring and monitoring the unit through the Internet or your Intranet.

Note: Only one user may remotely access the Remote Power Switch via the web browser interface at a time.



The Web Interface allows you to configure your unit, monitor your input feeds, and control your power outputs

Note: *Instructions and Screenshots related to the Remote Power Switch Web Interface are based on firmware version 1.0. Instructions and images may differ from later versions of the Remote Power Switch firmware.*

6.1 Logging in to the Web Interface

To login to the unit's web interface, simply type the IP address of the Remote Power Switch into the address bar of your web browser. You will be prompted for your username and password.

The default username is: **admin**
The default password is: **dpstelecom**

DPS Telecom strongly recommends you change your username and password and set user profiles for users who will access the RPS. See **User Profiles** for more information.

6.2 Navigating the Web Interface

To navigate to any section of the web interface, simply click the links on left side of the interface.

The Web Interface is split into 3 sections:

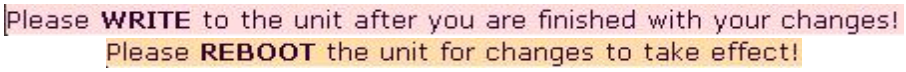
- The blue **Operation** menus provide access to monitor and control your power feeds.
- The green **Provisioning** menus are where you'll configure your unit, alarm thresholds, and notifications.
- The pink **Device Access** options provide access to logs of RPS AB6 activity and abilities to read, write, reboot, and initialize the unit.

6.3 Provisioning the RPS

Remote Power Switch configuration is performed from the **Provisioning** menus, the menu options in green on the left-side of the web interface. The following pages provide a brief description of the options available in each menu.

Saving Configuration Changes to the Remote Power Switch:
At the bottom of each screen you access from the **Provisioning** Menu, you will see a **Save** button. Clicking Save will cache your changes locally. The web interface will then prompt you to either **Write** your changes to the unit or **Reboot** the unit for changes to take effect in the top-left corner of your browser. The relevant options will be highlighted in the **Device Access** options**.**

Note: If the unit prompts you to both Write changes to the unit **and** Reboot, you will Write your changes first. Rebooting before without writing to the unit (if a Write is required) will cause you to lose your configuration changes.

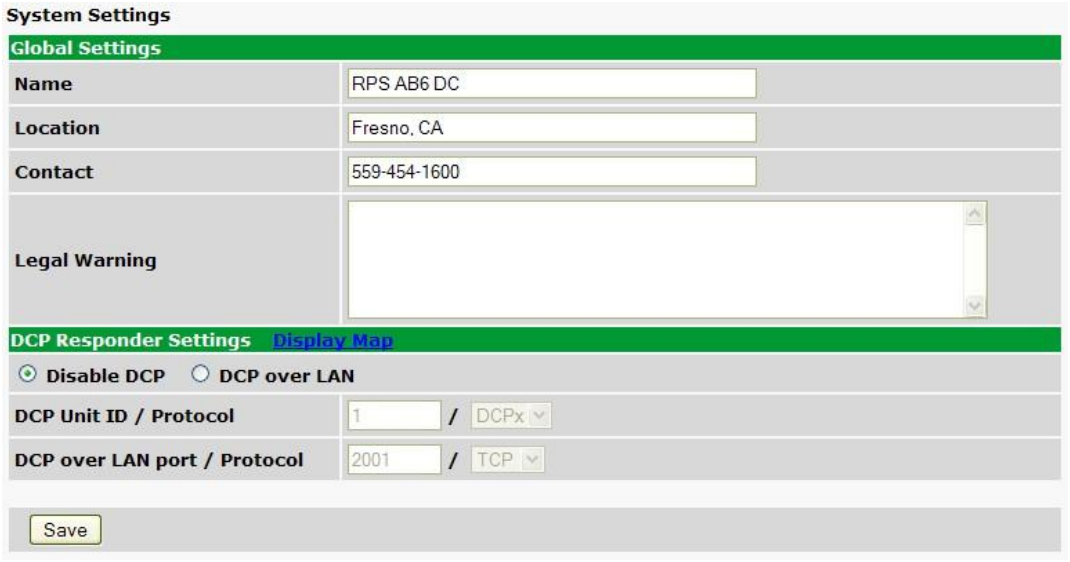


Status messages on the RPS AB6, inform you how to implement your changes

The control menu highlights items that must be completed for your changes to take effect

6.3.1 System

Clicking the Provisioning option labeled **System** will take you to the System Options page**.** From here, you will configure system information and global DCP settings.



The System menu

Global System Settings	
Name	A name for this Remote Power Switch.
Location	The location of this Remote Power Switch.
Contact	Contact telephone number for the person responsible for this Remote Power Switch. (Optional field)
Legal Warning	If not blank, the text in this field will popup after every login
DCP Responder Settings *(For use with T/Mon)*	
DCP over LAN	Enables DCP transmissions over LAN (Disabled by default)
DCP Unit ID/Protocol	User-definable ID number for this Remote Power Switch (DCP Address), and the DCP protocol being used (DCPx or DCPf).
DCP over LAN port/ Protocol	Enter the DCP port for this Remote Power Switch (UDP/TCP port).

Once you've entered/modified your system settings, click **Save** in the bottom-left corner of the window to cache your changes.

6.3.2 User Profiles

Clicking **User Profiles** gives you access to modify the default username and password, and to edit the administrator profile and create up to 9 additional unique user profiles, each with different access rights to the Remote Power Switch.

User Profiles Summary

Id	Username	Status	
1	admin	Active	Edit (Administrator Profile)
2	user	Suspended	Edit Delete

The User Profiles screen shows you at a glance whether a profile is active, suspended, or not yet configured

To create or edit any the 10 user profiles (including the default), click the **Edit** button.

The Administrator Profile:
The first user profile in the User Profiles menu is the Administrator's Profile. Access rights for the administrator's profile are all enabled and may not be disabled, nor can the profile be deleted or suspended. This is a precaution to prevent a situation in which an access right is disabled for all users. You may still edit the **Username, Password, and Active Days** fields for the Administrator Profile.

Suspend this Profile	☐
Active Days User will be required to update password after this many days.	180
Max number of failed logon attempts Once max number is reached, device will not accept logins from users that do NOT have "Edit logon profiles" right.	3
Username	
Password	
Confirm Password	
Access Rights	
Check all	☐
Edit logon profiles	☑
Edit Date Time page	☑
Write config (change unit configuration)	☑
View operation pages	☑
Send power controls	☑
TTY access (access via Craft port or via Telnet)	☑
Initialize config to factory defaults	☑
Upload new firmware or new config	☑
Get audit log	☑
Purge (delete) audit log	☑
Get (backup) config	☑
Remotely reboot the unit	☑
Save	
Go to profiles summary	

Configure access privileges for users in the User Profile screen

From here, you can change all configurable settings for a user profile.

Profile Field	Description
Suspend this Profile	If this box is checked, the profile will not be able to access the RPS
Active Days	This field determines the number of days a profile will be active before the user is required to update their password. **Note:** Changing this field will reset the Active Day Count.
Max number of failed logon attempts	Indicates the number of times the user may attempt to logon. If the user fails to login within the number of attempts specified, the remote power switch will lock out **all users without** the **Edit logon profiles** access privilege for **15 minutes.**
User	Enter a username or a user description
Password	Enter a unique user password **Note:** All passwords are AES 128 encrypted.
Confirm Password	Re-enter the password.
Access Privileges	
Edit logon profiles	Enables the user to add/modify user profiles and password information.
Edit Date Time Page	Allows the user to edit the unit's date, time, and NTP server
Write Config (Change Unit Configuration)	Enables the user to change the unit config by accessing the **Write** feature in the control menu.
View Operation Pages	Allows the user to access Operation menu options.
Send Power Controls	Enables the user to issue On, Off, and Reboot commands to the RPS Power Outputs.
TTY Access (access via Craft port or via Telnet)	Grants the user access to the unit via TTY interface (via craft or telnet)
Initialize config to factory defaults	Allows the user to use the **Initialize** option in the **Device Access** menu, resetting the Remote Power Switch to factory default settings. (All user settings will be lost.)
Upload new firmware or new config	Allows the user to upload firmware or backed-up configuration files
Get Audit Log	Allows the user to access the Audit Log (**Get Log** command)
Purge (delete) audit log	Allows the user to delete the audit log (**Purge Log** command)
Get (backup) config	Enables the user to backup the unit's configuration files to be restored later.
Remotely reboot the unit	Enables the user to reboot the unit remotely.

User profile field descriptions

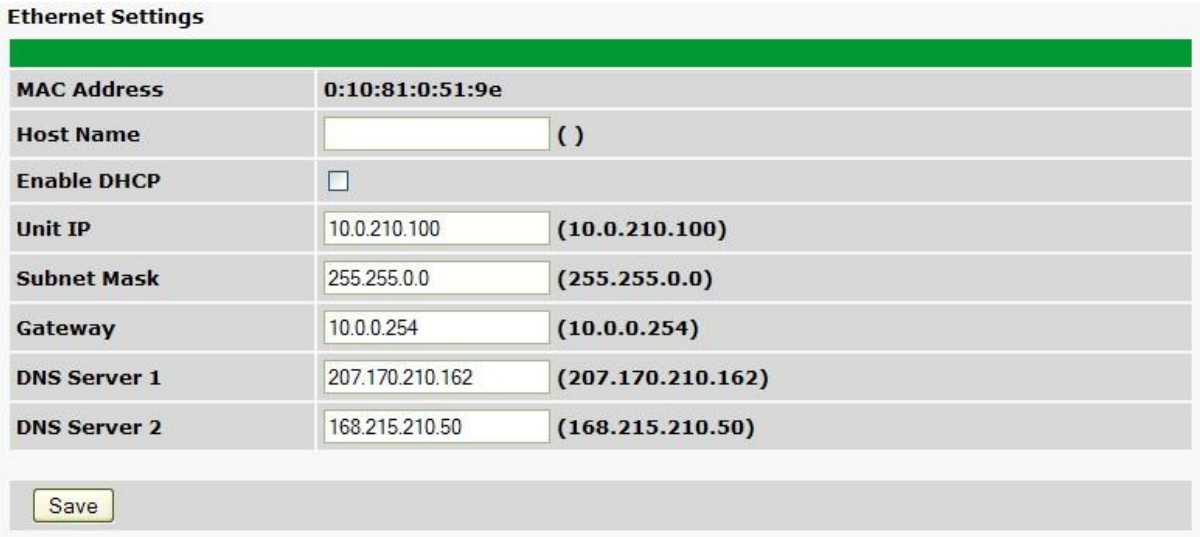
Once you've finished configuring a profile, click **Save** to store your changes locally.

To access another profile, simply click **Go to profiles summary** at the bottom of the page. You may

also navigate away from the user profiles screen at any time by clicking any of the menu options on the left side of the screen.

6.3.3 Ethernet

From the Ethernet Menu, you may define and change your unit's Ethernet settings.

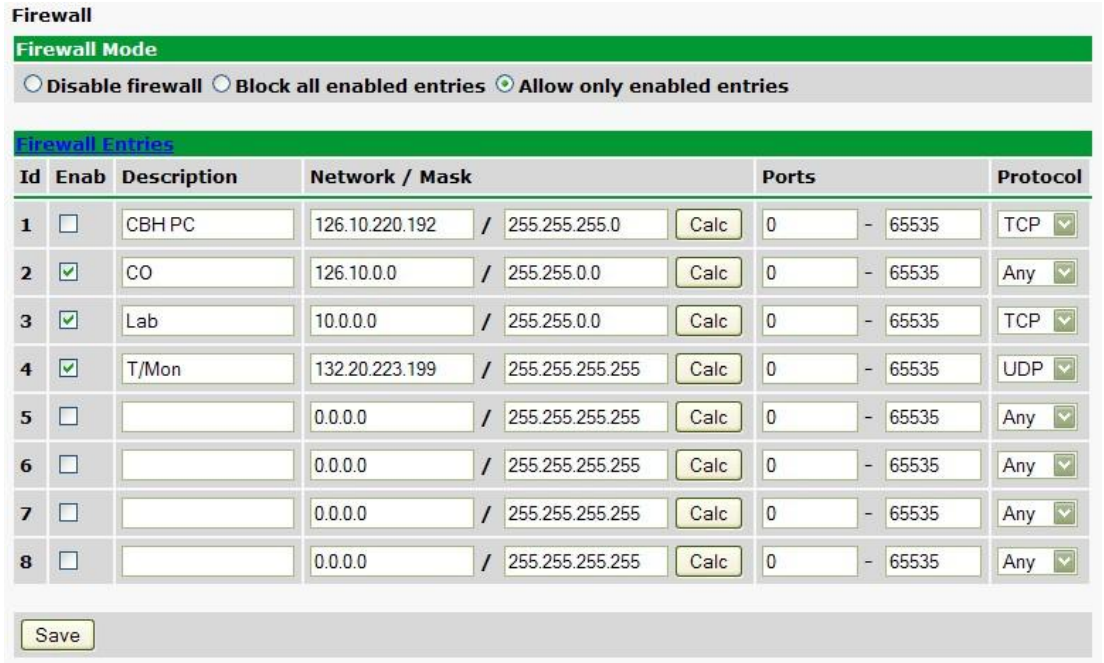


Edit Ethernet Options

Ethernet Settings	
MAC Address	Hardware address of the Remote Power Switch (DC). (Not editable - For reference only.)
Host Name	Enter a Host Name for easy-access via the web browser. Example: If you don't want to remember this unit's IP address, you can type in a name is this field, such as RPSAB6. Once you save and reboot the unit, you can now browse to it locally by simply typing in "RPSAB6" in the address bar. (no "http://" needed).
Enable DHCP	Used to turn on Dynamic Host Connection Protocol. **NOT recommended** because the unit is assigned an IP address from your DHCP server. The IP you've already assigned to the unit becomes inactive. Using DHCP means the unit will NOT operate in a T/Mon environment.
Unit IP	IP address of the Remote Power Switch.
Gateway	An important parameter if you are connected to a wide-area network. It tells the Remote Power Switch (DC) which machine is the gateway out of your local network. Set to 255.255.255.255 if not using. Contact your network administrator for this info.
Subnet Mask	A road sign to the Remote Power Switch, telling it whether your packets should stay on your local network or be forwarded somewhere else on a wide-area network.
DNS Server 1	Primary IP address of the domain name server. Set to 255.255.255.255 if not using.
DNS Server 2	Secondary IP address of the domain name server. Set to 255.255.255.255 is not using.

6.3.4 Firewall

From the Firewall menu, you can deny or allow access to the RPS AB6 by IP Address, Subnet Mask, Port, or Protocol. By default, the firewall option is disabled



The Firewall option allows you to filter IPs or setup a white-list of allowable connections

To enable the Remote Power Switch's firewall, simply click the radio button to determine how you want the firewall to behave.

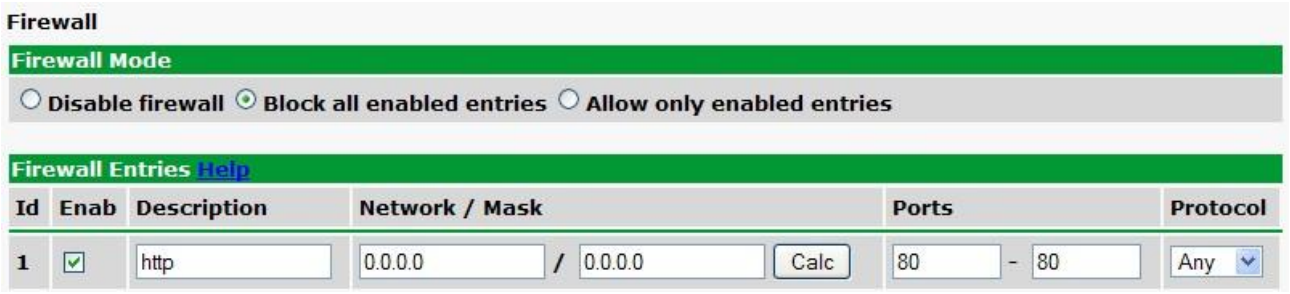
- **Block all enabled entries** puts the firewall in **Black List Mode**. This option blocks packets from the IP addresses/subnet masks in the Firewall Entries list.
- **Allow only enabled entries** puts the firewall in **White List Mode**, allowing only IP addresses/subnet masks in the Firewall Entries list to access the Remote Power Switch.

In the **Firewall Entries** section of the page, simply enter the relevant information for the filter: IP Address, Subnet Mask, Ports, or Protocols. The **Enab** button allows you to include or exclude addresses in the Firewall Entries table from the behavior set by the Firewall Mode. Click the checkbox to subject the entry to the firewall, and uncheck it to exclude it from the list.

When adding an entry, the **Calc** button will show you, by combination of the IP address and Network Mask entered, what network (or address) will be affected by the Network/Mask combination you've entered.

6.3.4.1 Disabling Protocols

Using the Remote Power Switch's **Firewall** feature, you can block access to the unit from certain protocols by blocking all IP addresses on the port on which the protocol operates. To disable access in this manner, the AB6 must operate in **Black List Mode.**



To block all all IP addresses on a particular port:

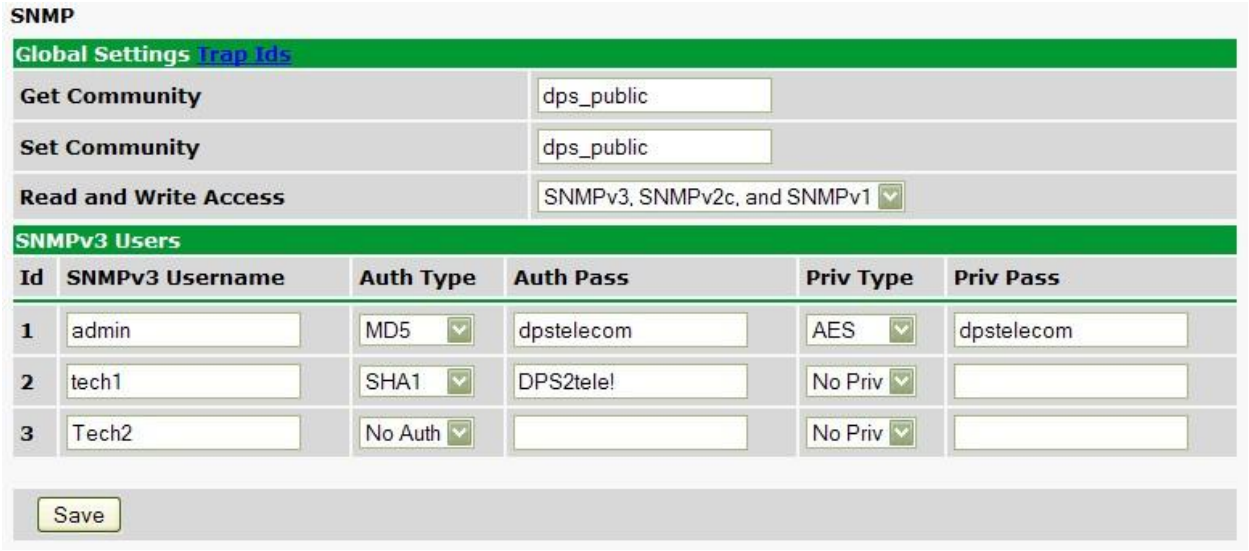
1. Click the **Block all enabled entries** radio button.
2. On an open **Firewall Entry**, change both of the **Ports** fields to the port number of the protocol you wish to disable
   - i.e. for HTTP, set both port fields to 80. (HTTP operates on port 80)
   - for Telnet, block port 2002
   - for HTTPS, block port 443
3. Change both the **Network / Mask** fields to **0.0.0.0**. This tells the the AB6 to block all IP addresses on the specified port.
4. Set the protocol to **TCP**

Note: Make sure you block only the ports associated with the protocol you wish to disable. Leaving the **Ports** fields unaltered while setting the Network and Mask fields to 0.0.0.0 will block **all IP access** to the unit (blocking all IP addresses on all ports).

You can block SNMP (default, port 162) or DCP (default, 2001) protocols in this manner, however, you can also disable those features entirely from the SNMP and System tabs respectively.

6.3.5 SNMP

From the SNMP menu, you can configure SNMP



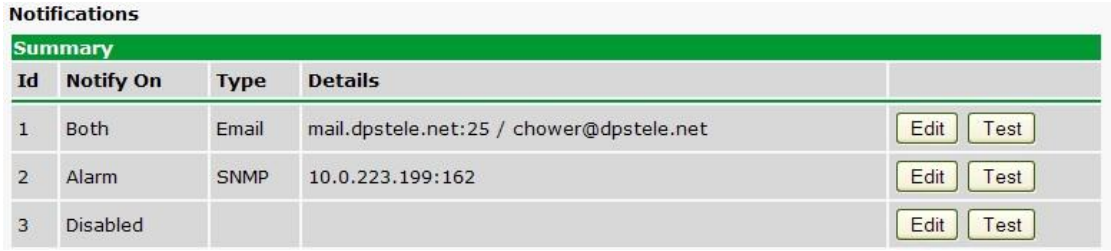
Configure SNMP settings for up to 3 users

Global Settings	
Get	Community name for SNMP requests.
Set	Community name for SNMP SET requests.
Read and Write Access	This field defines how the Remote Power Switch unit may be accessed via SNMP. This can be set to the following: • Access Disabled- Restricts all access to unit via SNMP • SNMPv3-Only- Allows SNMPv3 access only • SNMPv3 and SNMPv2c only- Allows SNMPv3c and SNMPv2c access only • SNMPv3, SNMPv2c, and SNMPv1y- All- Allows you to read or write using any version of SNMP (v1, v2c, v3)
v3-Users	
ID	The user number designated for a v3-user. The RPS AB6 supports up to 3 SNMPv3-User profiles.
Username	The name of the user for which an SNMPv3 management operation is performed.
Auth Type	This identifies the security modes available when SNMPv3 is utilized. The modes are as follows: • **No-Auth-** This access mode does not require authentication. This mode is the least secure and is comparable to v1 and v2c. • **MD5-** Provides authentication based on the MD5 algorithm. • **SHA1-** Provides authentication based on the SHA algorithm and provides
Priv Type	• **DES-** Not yet implemented • **AES-** Provides AES encryption • **No Priv-** No encryption
Auth Pass	This field contains the password used with either MD5 or SHA authentication algorithms.
Priv Pass	This field contains the password used with privatization encryption.

Available fields in the SNMP configuration menu

6.3.6 Notifications

From the Notifications menu, you can set up to 8 different notifications and recipients for events reported by the RPS AB6.



The Edit > Notifications menu

The notifications menu will show you a list of currently configured notifications

- **Notify On** shows what events will trigger a notification.
  - **Disabled** indicates that the notification is not currently enabled
  - **Alarms** indicates that notification will be sent when alarms set
  - **Clears** indicates that notification will be sent when alarms clear
  - **Both** indicates that notifications will be sent when alarms set or clear
- The **Type** field shows the type of notification being sent. The Remote Power Switch is capable of sending Email notification or SNMP Traps when events occur.
- The **Details** field shows the server being used for SNMP notifications, if SNMP notifications are enabled.

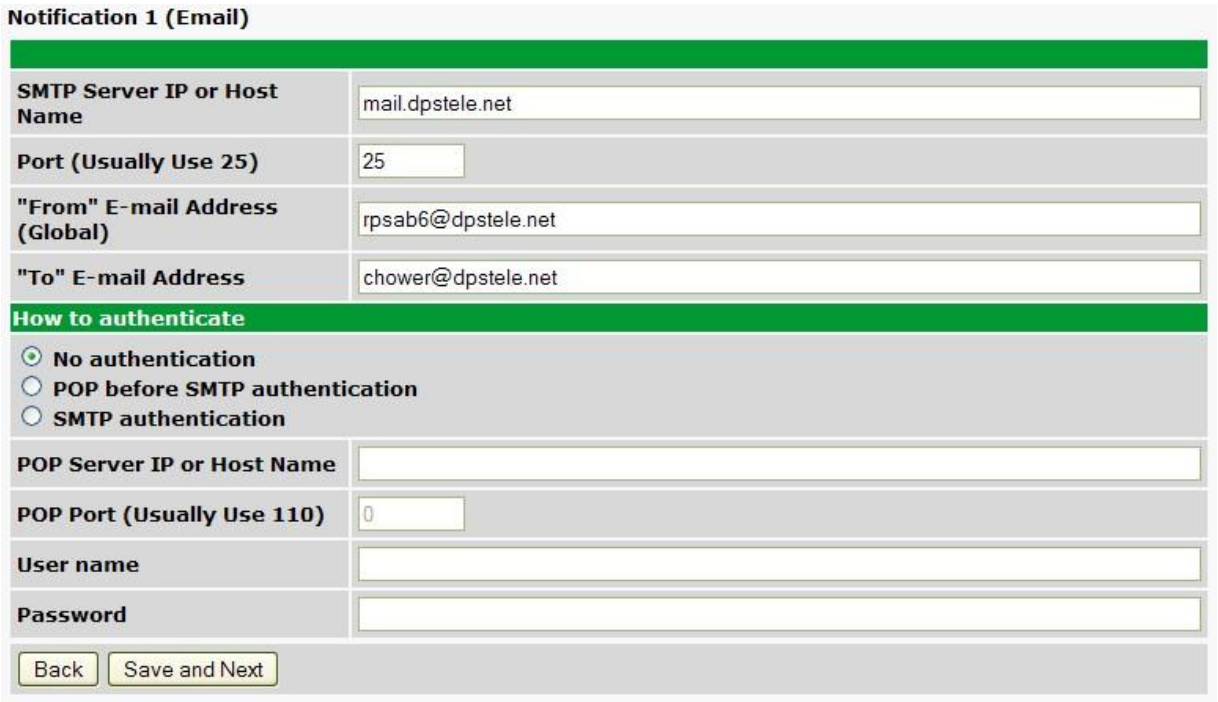
To send a test notification, click **Test**

To configure any of the unit's notifications, click **Edit**.

The Notification # menu

1. In the drop-down box, choose whether you'd like to receive notification for alarms, clears, or both. You may also disable the notification by selecting the appropriate option.
2. Next, choose the sort of notification you would like sent when an event occurs. You may choose:
   - **Send Email** to have an email sent when events occur
   - **Send SNMP** to have a trap sent when events occur
3. Click **Save and Next** to continue configuring notifications.

6.3.6.1 Email Notification Settings



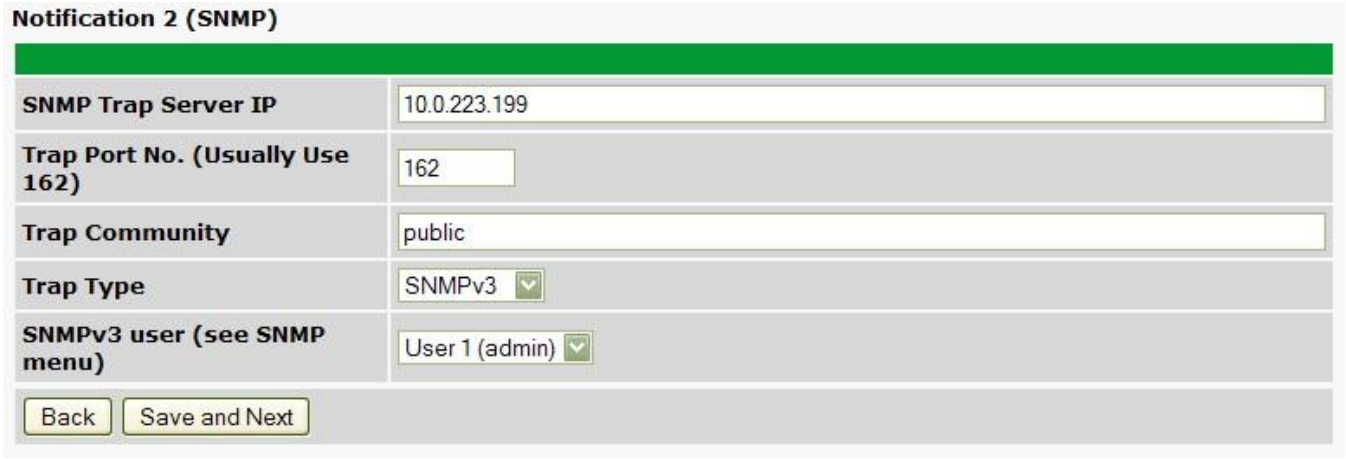
Editing Email Notification Settings

4a. Enter the appropriate information for email notifications in the fields of the Email Notification screen. Click **Save and Next** to continue.

Email Notification	
SMTP Server IP or Host Name	The IP address of your email server.
Port Number	The port used by your email server to receive emails, usually set to 25.
"From" E-mail Address (Global)	The email address that the Remote Power Switch will send all email notifications from. The address in this field applies to all email notifications. Changing the "From email address" for any one email notification type will automatically apply to all email notifications for the RPS.
"To" E-mail Address	The email address of the person responsible for this Remote Power Switch, who will receive email alarm notifications.

If you want to send authenticated emails, click the appropriate radio button. If you enable POP authentication, you will have to enter the relevant authentication information the fields below.

6.3.6.2 SNMP Notification Settings



Configuring SNMP notifications

4b. Enter the appropriate information for SNMP Trap notifications in the fields of the SNMP Notification screen. Click **Save and Next** to continue.

SNMP Notification	
SNMP Trap Server IP	The SNMP trap manager's IP address.
Trap Port No.	The SNMP port (UDP port) set by the SNMP trap manager to receive traps, usually set to 162.
Trap Community	Community name for SNMP TRAP requests.
Trap Type	Indicate whether you would like to send SNMPv1, v2c, or v3 traps
SNMPv3 user	Choose the SNMP user from the drop-down box. SNMP users are configured from the SNMP menu.

6.3.6.3 Schedule

The Schedule creation screen

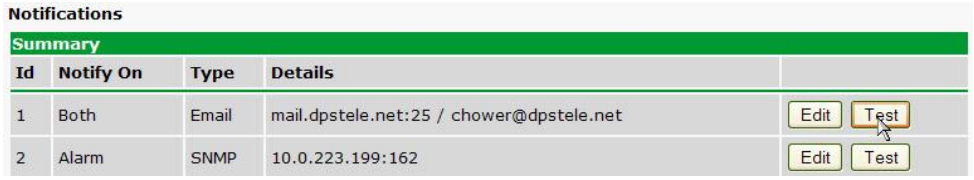
Notification Scheduling	
Days of the week	From either Schedule 1 or 2, check which days you want to receive notifications.
Any Time	Select to tell the Remote Power Switch you want to receive alarm notifications at any time for the day(s) you've selected.
Notification Time	Instead of "Any Time", use these fields to only send alarm notifications during certain hours on the day(s) you've selected.

Click **Save and Finish** to save the notification.

6.3.6.4 Testing Notifications

To test your Notifications to ensure that they are correctly configured:

1. Click the **Test** button next to any of your notifications. The system will ask you to confirm that you would like to send a test. Click **OK**.



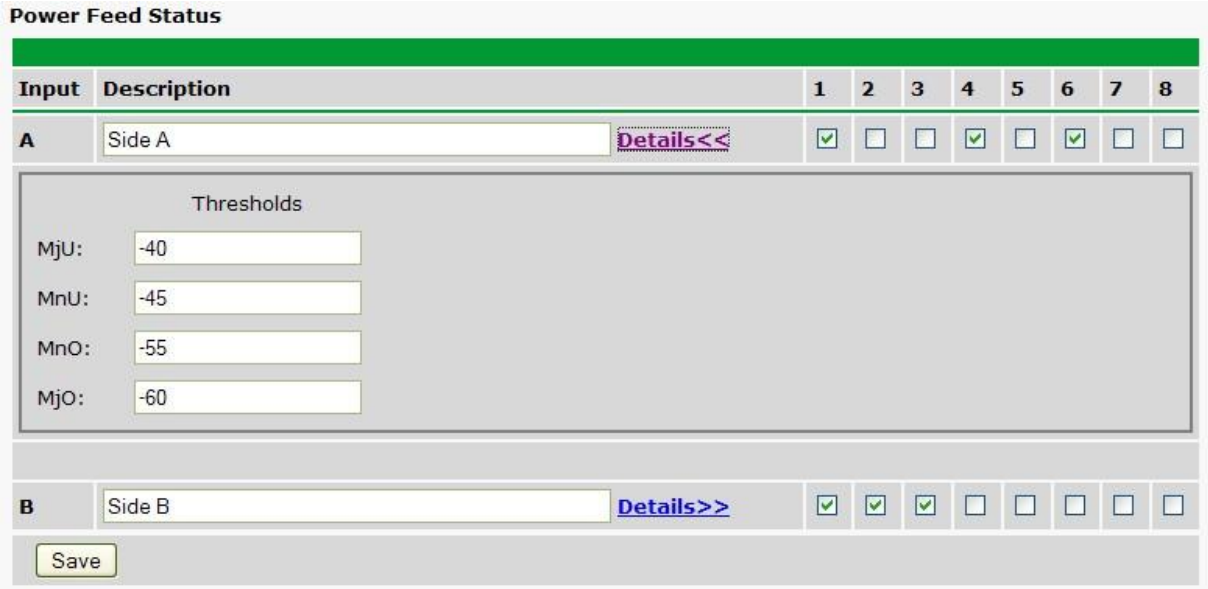
The Test button allows you to check your Notification Settings

2. Go to the System Alarms page and see if the **Notification** alarm for the notification you just tested has set.
   - If the Notification 1-8 failed alarm displays as in the example below (the state shows **Alarm** in red), then your notification settings are incorrect.
   - If the Notification 1-8 failed alarm state displays **Clear** with a green background, then your notification settings are correct.

The NTP alarm will show you if your NTP Settings are correct

6.3.7 Power Feed Status (Provisioning)

From the green **Power Feed Status** option under the **Provisioning** heading, you can set thresholds alarms for your power input feeds and determine notifications for power input alarms.



Set notifications and threshold alarms for your input feeds from the Provisioning > Power Feed Status screen

For both of your unit's input feeds:

- Set a **Description** for each of the unit's input feeds, and
- Click any of the checkboxes 1-8 to indicate what notifications you want the RPS AB6 to send for each particular input alarm.

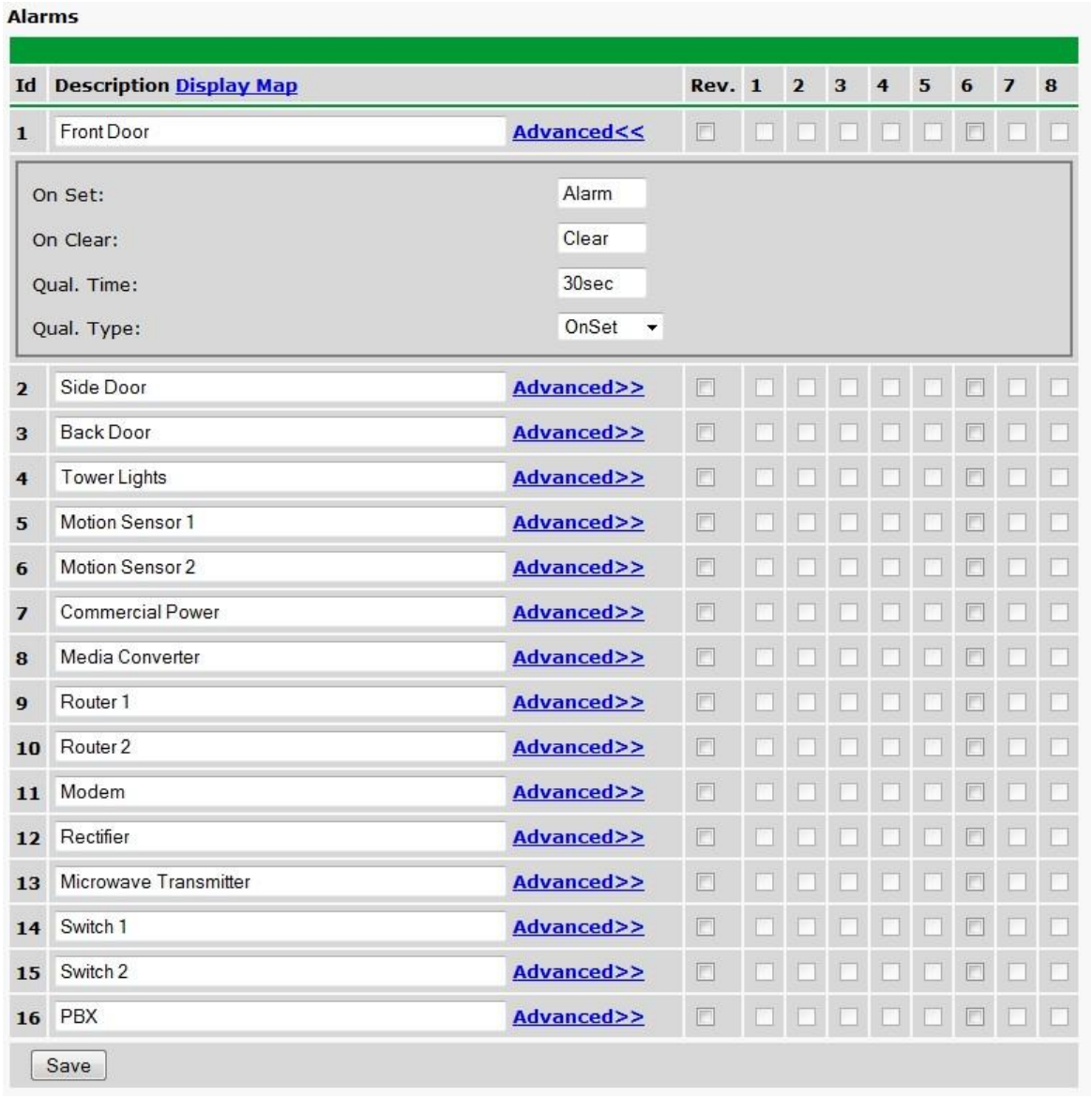
Click **Details** to reveal the thresholds for input alarms. All thresholds are listed in Voltage.

- MjU indicates a Major Under alarm (low voltage). The default value is -40Vdc
- MnU indicates a Minor Under alarm (low voltage) The default value is -45Vdc
- MnO indicates a Minor Over alarm (high voltage) The default value is -55Vdc
- MjO indicates a Major Over alarm (high voltage) The default value is -60Vdc

Once you've configured alarm thresholds and notifications for your power inputs, click **Save** to commit your changes locally.

6.3.8 Base Alarms (Provisioning)

Discrete alarms are configured from the **Provisioning** > **Alarms** menu. Descriptions for the alarm points, polarity (normal or reversed) and notification type(s) are defined from this menu. You also have the option to use **Basic** or **Advanced** configuration methods, explained in this section.



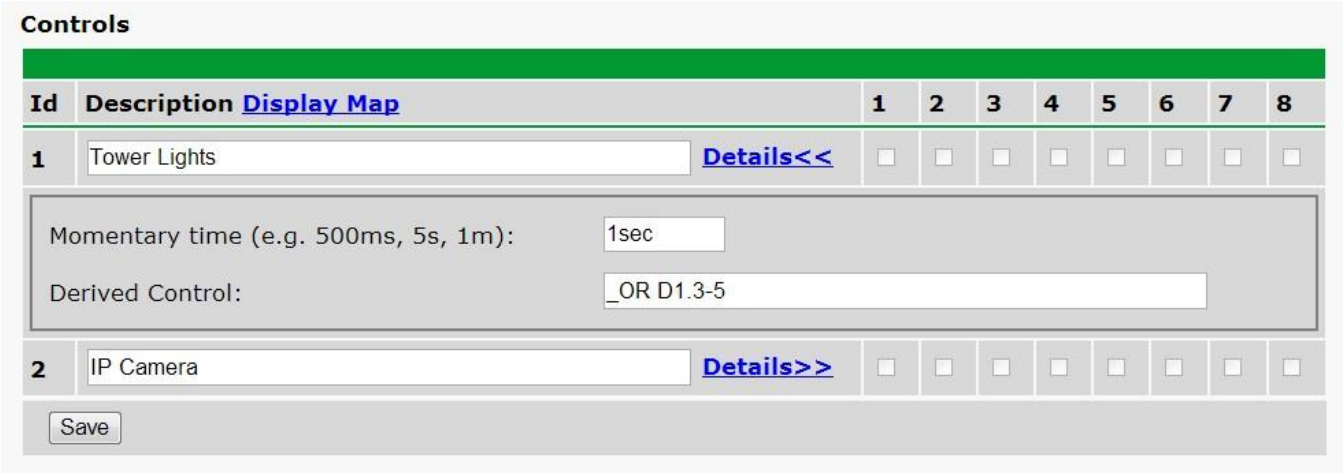
The Provisioning > Alarms menu

Basic Alarm Configuration	
ID	Alarm ID number.
Description	User-definable description for the discrete alarm point.
Rev (Reverse)	Reverse: Check this box to reverse the polarity of the alarm point. Leaving this option un-checked means a normally open contact closure is an alarm. When polarity is reversed, a normally closed alarm point is clear when closed.
Notification Devices	Check which notification device(s), 1 through 8, you want to send alarm notifications for that alarm point.

Advanced Alarm Configuration (Advanced>>)	
On Set	User-definable description (condition) that will appear for the discrete alarm input on Set. Example: "Alarm" or "Urgent."
On Clear	User-definable description (condition) that will appear for the discrete alarm input on Clear: "Example: "Alarm Cleared".
Qual. Time (Qualification Time)	The length of time that must pass, without interruption, in order for the condition to be considered an Alarm or a Clear.
Qual. Type (Qualification Type)	Allows you to choose whether you want to apply the Qualification Time to the alarm Set, Clear, or Both.

6.3.9 User Controls (Provisioning)

The RPS AB6's 2 control relays can be configured in the **Provisioning** > **Controls** menu. You can enter your own description for these relays and designate them to a notification device(s).



The Provisioning > Controls screen

Basic Controls Configuration	
ID	ID number for the control relay.
Description	User-definable description for the NetGuardian's control relay.
Advanced Control Configuration (Details>>)	
Momentary Time	Control on time (in milliseconds) when you execute the MOM command. Max limit of 600 seconds.
Derived Control	See Section **6.3.9.1, "Configuring Derived Controls."**
Notification Devices	Check which notification device(s), 1 through 8, you want to send alarm notifications for the control relay.

6.3.9.1 Configuring Derived Controls

The RPS AB6's Derived controls can be configured in the **Provisioning** > **User Controls** > **Details>>** tab. You can enter your own equation next to "Derived Control:".

Derived controls can be created from derived formulas using the following operations:
_OR : Set the current operation to OR.
_AN : Set the current operation to AND.
_XR : Set the current operation to XOR.

D : Tag to change the active display number.
. : Used like a comma to delimit numbers.
- : Used to specify a range of points.

Spaces included here are for readability purposes only.

Hot Tip!

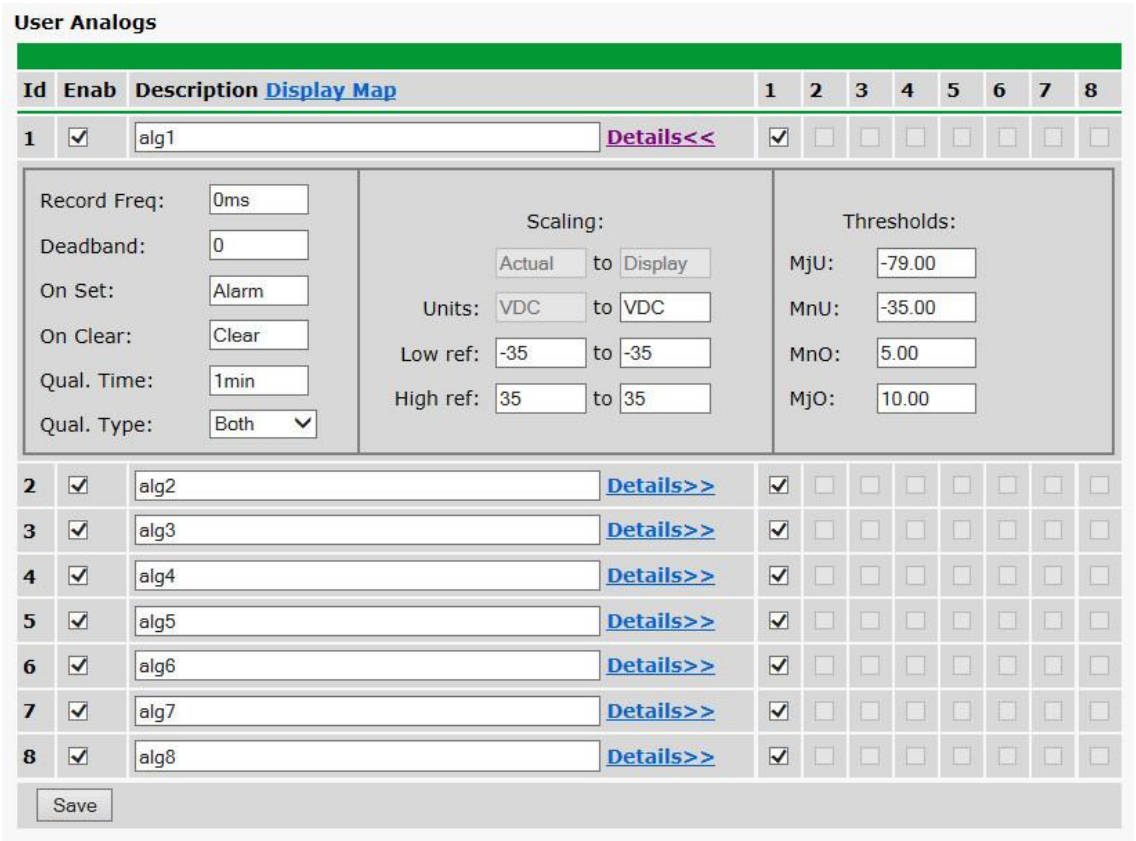
- Precedence of the operations are always left to right.
- All number references can either be one or two digits.

_OR D1.3-5 is logically equivalent to (1.3 || 1.4 || 1.5)
_AN D 1.3-5 D2.6 _OR D3.7 is logically equivalent to ((1.3 && 1.4 && 1.5 && 2.6) || 3.7)
_OR D01.03-05 D02.06 _AN D02.07 D03.10.-12 is logically equivalent to ((1.3 || 1.4 || 1.5 || 2.6&& (2.7 && 3.10 && 3.12))
_AN D1.3-5D2.6_OR.7D3.10.12 is logically equivalent to ((1.3 && 1.4 && 1.5 && 2.6) || 2.7 || 3.10 || 3.12))

6.3.10 User Analogs (Provisioning)

The RPS AB6 has 8 user-definable analog channels. Each channel must be individually configured to monitor data.

Note: Only analogs supported by the units hardware will appear in the NetGuardian web browser interface.



The Provisioning > Analogs menu

Basic Analog Configuration	
ID	Analog ID number.
Enab	Check this box to enable the analog.
Description	User-definable description for the analog channel.
Notification Devices	Check which notification device(s), 1 through 8, you want to send alarm notifications for that alarm point.
Advanced Analog Configuration (Details>>)	
Record Freq	The amount of time, in minutes (min) or seconds (s), between each log of each analog value to history.
Deadband	The amount (in volts) that the channel needs to go above or below a threshold in order to cause an alarm.
On Set	User-definable description (condition) that will appear for the temperature alarm on Set. Example: "Alarm".
On Clear	User-definable description (condition) that will appear for the temperature alarm Clear. Example: "Alarm Cleared".
Qual. Time (Qualification Time)	The length of time that must pass, without interruption, in order for the condition to be considered an Alarm or a Clear.
Qual. Type (Qualification Type)	Allows you to choose whether you want to apply the Qualification Time to the alarm Set, Clear, or Both.
Units	User-definable display units or optional choice between Fahrenheit and Celsius temperatures. The most common are: VDC = Voltage %H = Humidity F = Fahrenheit C = Celsius

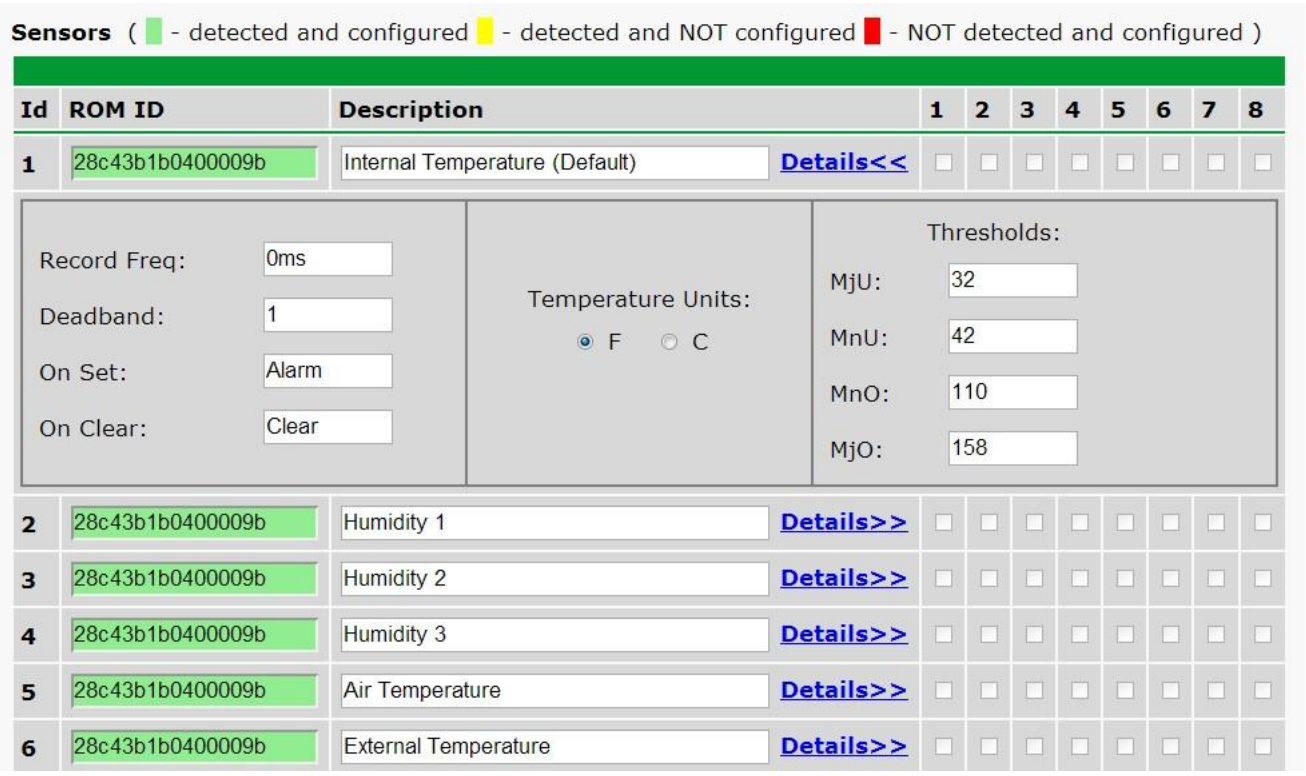
Low Ref	User-definable lower reference/scaling level. This scales the information collected by the sensor (in mA or VDC) to a meaningful unit for the user. For example, for a temperature sensor, the lower input collected by the sensor may be 4mA (for a 4-20mA sensor), which would correspond to a specific temperature you define in this field.
High Ref	User-definable upper reference/scaling level. This scales the information collected by the sensor (in mA or VDC) to a meaningful unit for the user. For example, for a temperature sensor, the upper input collected by the sensor may be 20mA (for a 4-20mA sensor), which would correspond to a specific temperature you define in this field.
Thresholds	These settings are set to indicate the severity of the alarm depending on which threshold values have been passed. Enter values for Major Under (MjU), Minor Under (MnU), Minor Over (MnO), and Major Over (MjO).

6.3.11 Sensors (Provisioning)

The RPS AB6 supports up to 16 daisy-chained D-Wire sensors via its D-Wire input. Sensors connected to the NetGuardian will appear on the NetGuardian's web interface. The background color of the ROM field informs the user of the sensor's configuration state.

By default, the RPS AB6's first D-Wire sensor is used to monitor the internal temperature. When no additional sensors are plugged in, ID #1 will refer to the RPS AB6's internal temperature. The internal temperature sensor measures a range of -40° F to 180° F (-40° C to 82.2° C) within an accuracy of about ± 2°. Before plugging in any addition D-Wire sensors, be sure to set up the internal sensor.

Basic configuration for the NetGuardian's D-Wire temperature sensors can be accomplished from the **Provisioning** > **Sensors** menu. From this screen, you can configure D-Wire sensors, select notification devices, and set thresholds.

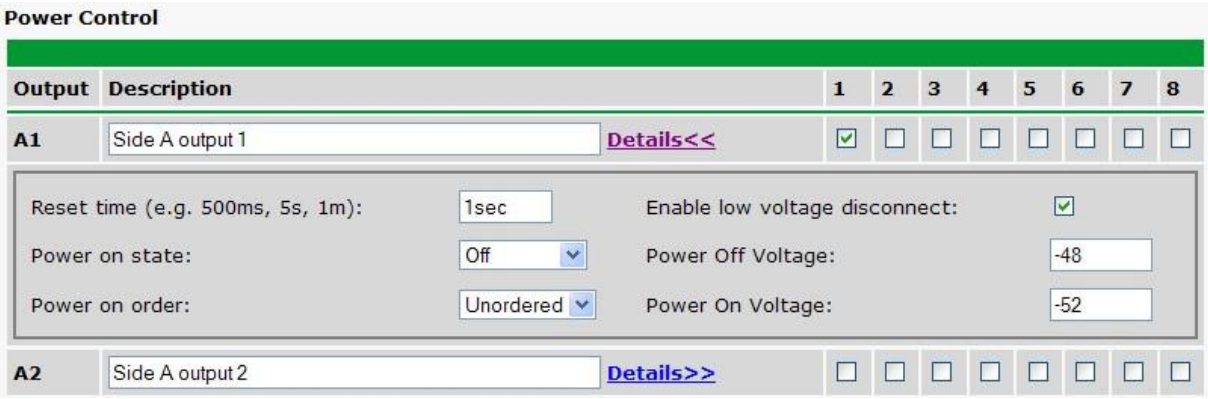


The Provisioning > Sensors menu

Basic Sensor Configuration	
ID	Sensor ID number.
ROM ID	The ID number found on the sticker of the temperature sensor node. Your NetGuardian will automatically detect the sensor ID when you plug a sensor into the unit. The color of the sensor ID field will tell you the status of the connected sensor. **Green** - The sensor is connected and properly configured. **Yellow** - The sensor is connected but has not yet been configured (fill in your configuration fields and click **Save** to configure the sensor). **Red** - The sensor is not detected and configured (i.e. a previous configured sensor is no longer connected). **Blue** - The sensor is not supported by the NetGuardian. To reconfigure or disable the Sensor ID, simply delete any data in this field and click **Save**. The unit will refresh the sensor ID on that channel.
Description	User-definable description for the sensor channel.
Notification Devices	Check which notification device(s), 1 through 8, you want to send alarm notifications for that alarm point.
Advanced Sensor Configuration (Details>>)	
Record Freq	The amount of time, in minutes (min) or seconds (s), between each recorded sensor value.
Deadband	The amount (in native units) that the channel needs to go above or below a threshold in order to cause an alarm.
On Set	User-definable description (condition) that will appear for the temperature alarm on Set. Example: "Alarm".
On Clear	User-definable description (condition) that will appear for the temperature alarm Clear. Example: "Alarm Cleared".
Temperature Units	Select whether you want to measure temperature in Fahrenheit or Celsius.
Thresholds	These settings are set to indicate the severity of the alarm depending on which threshold values have been passed. Enter values for Major Under (MjU), Minor Under (MnU), Minor Over (MnO), and Major Over (MjO).

6.3.12 Power Control (Provisioning)

From the green **Power Control** menu under the **Provisioning** heading, you can set the power on state, order, and determine notifications for power output feeds.



The Edit Power Control screen

You may set a **Description** for each power output, A1-B6, in the appropriate field.

The checkboxes labeled 1-8 correspond to your Remote Power Switch's 8 notifications (labeled 1-8 in the **ID** column of the **Notifications** screen). Toggle the checkboxes to determine which notifications you would like sent for each feed.

Click **Details** to reveal additional settings for each output:

Field	Description
Reset Time	Indicates the length of time between power-off and power-on when resetting equipment attached to that particular power input.
Power on state	The state of the power output when a user restores power to the Remote Power Switch (i.e. resetting the unit or flipping the breaker switch associated with a power output). Valid options are **On**, **Off**, or **Last State** (which causes the output to revert to the state it was in when the unit lost power).
Power on order	Determines the order in which power is delivered to the power outputs when powering on or resetting the Remote Power Switch. For each output, choose the order, 1st through 12th. If you wish to remove or rearrange the power on order, you can click **Unorder All** to set all power outputs back to **Unordered**.
Low Voltage Disconnect	Check to enable the Low Voltage Disconnect feature. See the following section for details about the Low Voltage Disconnect Feature.
Power Off Voltage	The measured input voltage at which the RPS will shut off the output
Power On Voltage	The measured input voltage at which the RPS will restore power to the output

6.3.12.1 Low Voltage Disconnect

The Low Voltage Disconnect (LVD) feature allows you to derive power on-off functionality for your output feeds based on a measurement the Remote Power Switch's input voltage.

With the Low Voltage Disconnect function enabled, power output feeds will automatically shut off when the voltage monitored on the corresponding input drops below a user-defined threshold "off" threshold. The Remote Power Switch will restore power to the output when when the voltage monitored on the input feed returns to a value above a user defined "on" threshold.

Note: Enabling the Low Voltage Disconnect feature **disables direct control of your power feeds** in the Power Control (Operation) menu, including any user defined derived controls and SNMP SET commands. To enable manual access to LVD enabled power feed controls, you will have to click an override button in the **Power Controls** (Operation) menu of the web interface.

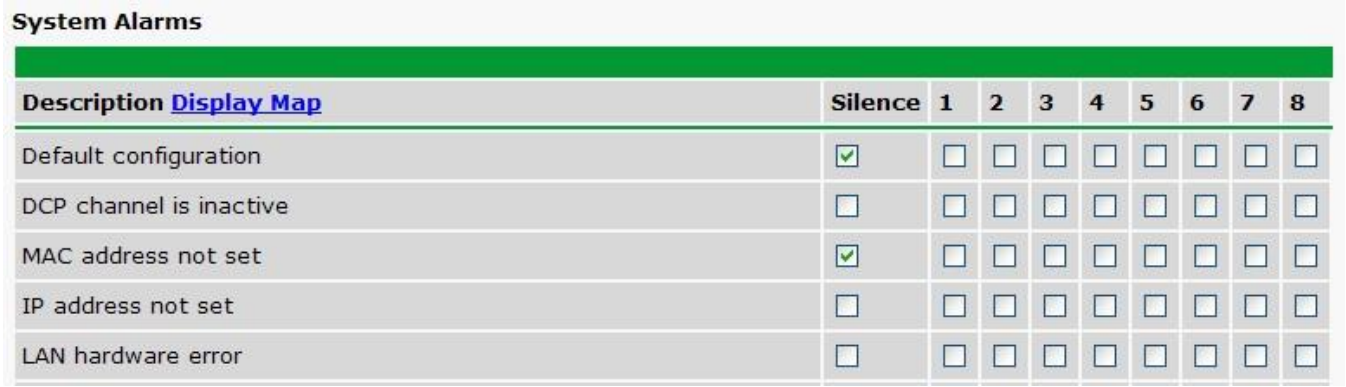
You can configure the LVD feature for individual output feeds, and set individual thresholds for each feed. If the input voltage rises above the "on" threshold for multiple output feeds simultaneously, the your remote power switch will honor the appropriate power-on order.

To Enable Low Voltage Disconnect:
1. Click the **Details** box to reveal advanced options for an output feed
2. Check the box marked **Enable LVD**
3. Set the appropriate threshold values for the **Power Off** and **Power On Voltage**.
4. Repeat steps 1-3 for any other channels on which you wish to enable the LVD feature.

Best Practice Tip: Set the Power On Voltage to a value higher than the Power Off Voltage as a buffer to prevent intermittent on-off activity in the event that the input voltage fluctuates around the Power Off Voltage threshold.

6.3.13 System Alarms (Provisioning)

From the System Alarms menu, you can determine to have notifications sent for the Remote Power Switch's internal alarms.



Determine which system alarms you want to receive notifications for from the Provisioning > System Alarms screen

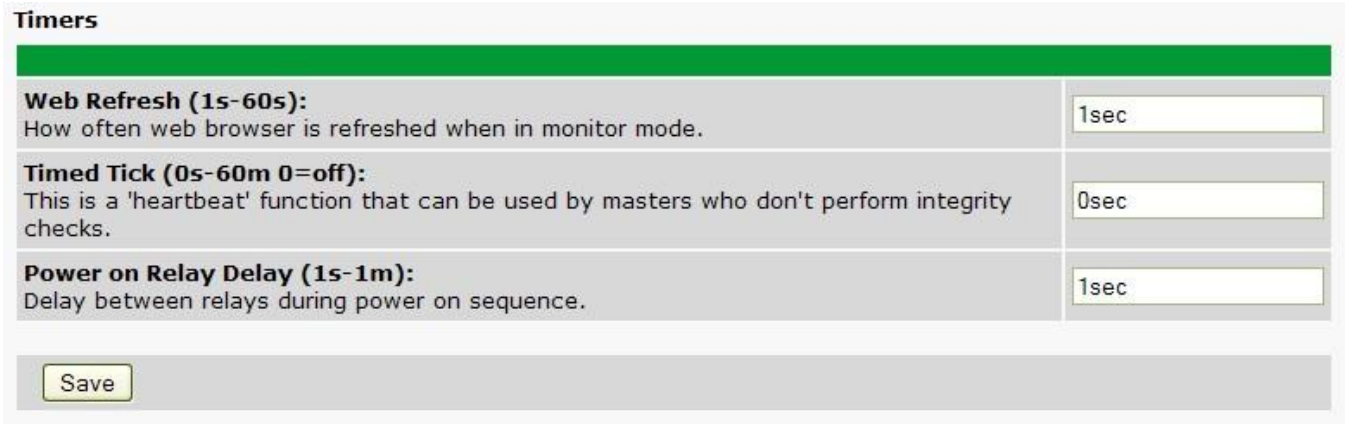
Click the checkbox marked **Silence** to prevent a system alarm from posting.

The checkboxes labeled 1-8 correspond to your Remote Power Switch's 8 notifications (labeled 1-8 in

the **ID** column of the **Notifications** screen). Toggle the checkboxes to determine which notifications you would like sent for each point.

6.3.14 Timers

The Timers menu allows you to change how often certain events within the Remote Power Switch occur.



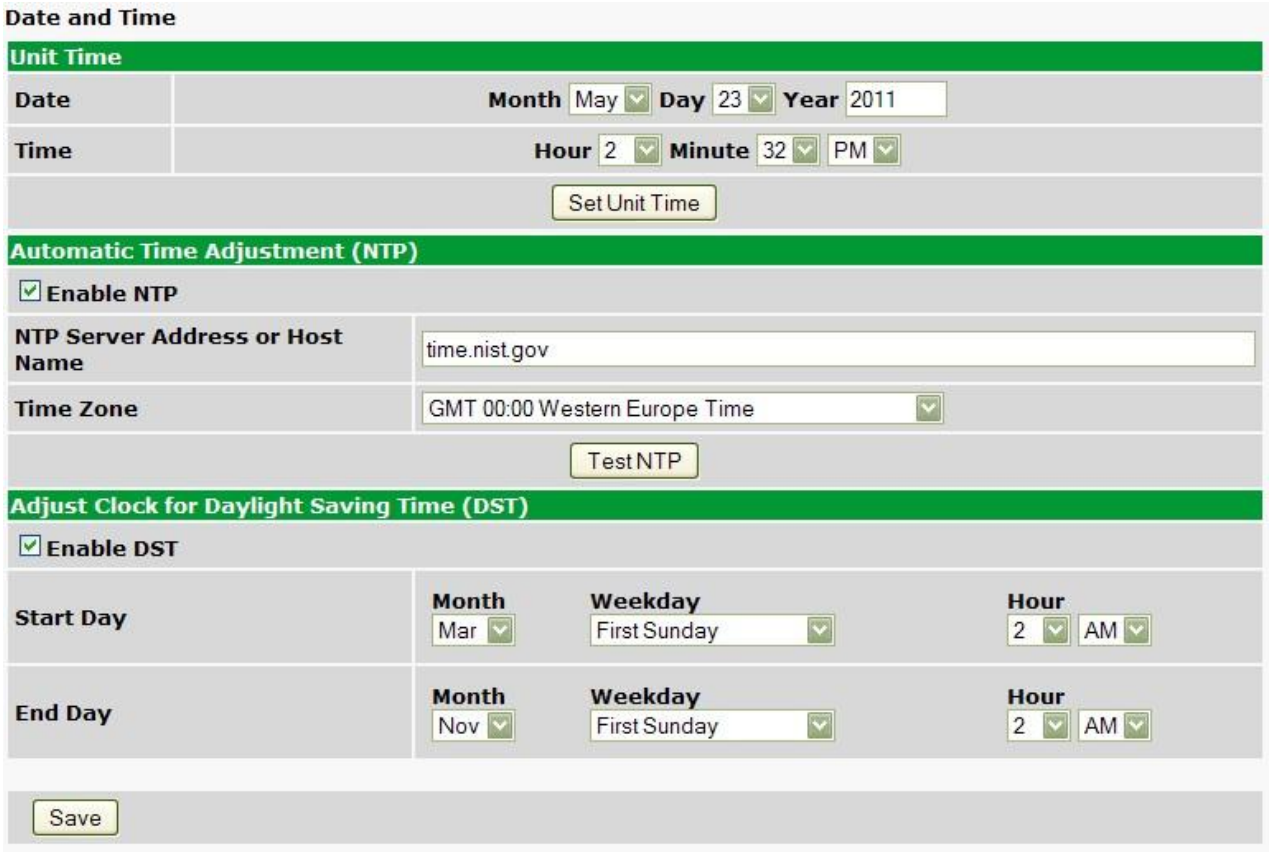
The Provisioning > Timers screen

Timers	
Web refresh	How often the web browser is refreshed when in monitor mode.
Timed Tick	The "hearbeat" function that can be used by masters who don't perform integrity checks.
Power on Relay Delay	Sets the delay between powering on devices during the power-on sequence. To set the Power-on sequence, see the **Power Control (Provisioning)** section of this manual.

6.3.15 Date Time

From the Date Time menu, you will set the internal clock of the Remote Power Switch or synch it with a Network Time server.

You will need to re-adjust the date and time following a power failure or reboot unless your Remote Power Switch is equipped with the real-time clock option or network time is enabled.

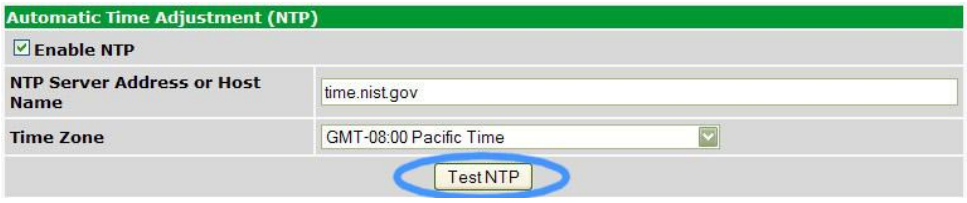


Configure an NTP server from the Date Time screen

Time Settings	
Date	Select the current month, day, and year from the drop-down menus.
Time	Select the current hour, minutes, and time of day fro the drop-down menus.
Automatic Time Adjustment (NTP)	
Enable NTP	Check this box to enable Network Time Protocol.
NTP Server Address or Host Name	Enter the NTP server's IP address or host name, then click Sync. Example: north-america.pool.ntp.org **NOTE:** Make sure DNS servers are defined if using Hostname for NTP server.
Time Zone	Select your time zone from the drop-down menu.
Adjust Clock for Daylight Savings Time (DST)	
Enable DST	Check this box to have the Remote Power Switch (DC) observe Daylight Savings.
Start Day	Select the month, weekday, and time when Daylight Savings will begin.
End Day	Select the month, weekday, and time when Daylight Savings will end.

6.3.15.1 Testing your Automatic Time Adjustment (NTP) Settings

To test your Network Time Server to ensure that Automatic Time Adjustment is correctly configured:
1. Click the **Test NTP** button on the Date and Time page.



The Test NTP button allows you to check your Network Time Settings

2. Go to the System Alarms page and see if the **NTP Failed** alarm has set.
   - If the NTP failed alarm displays as in the example below (the state shows **Alarm** in red), then your NTP settings are incorrect.
   - If the NTP failed alarm state displays **Clear** with a green background, then your NTP settings are correct.

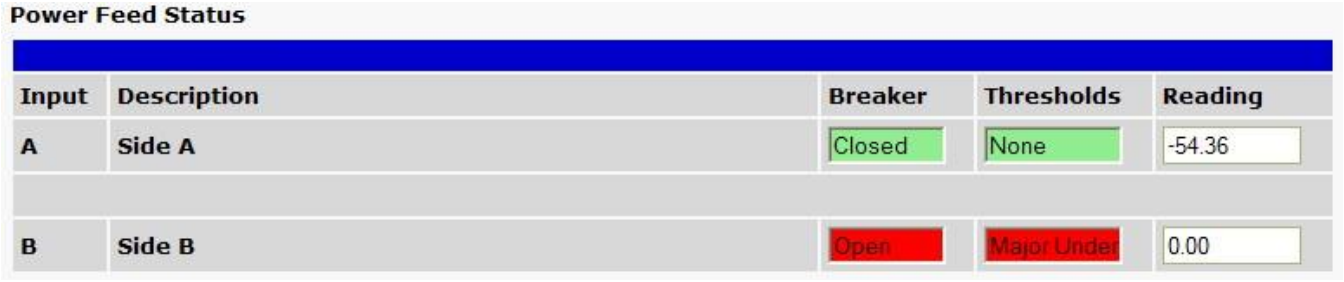
The NTP alarm will show you if your NTP Settings are correct

6.4 Operating the RPS

You can monitor your input and output feeds and switch on and off your outputs from the **Operation Menus**, the menu options in blue on the left-side of the web interface. The following pages provide descriptions of the options available in each menu option.

6.4.1 Power Feed Status (Operation)

From the blue **Power Feed Status** option under the **Operation** menu, you can check the status of your input feeds.



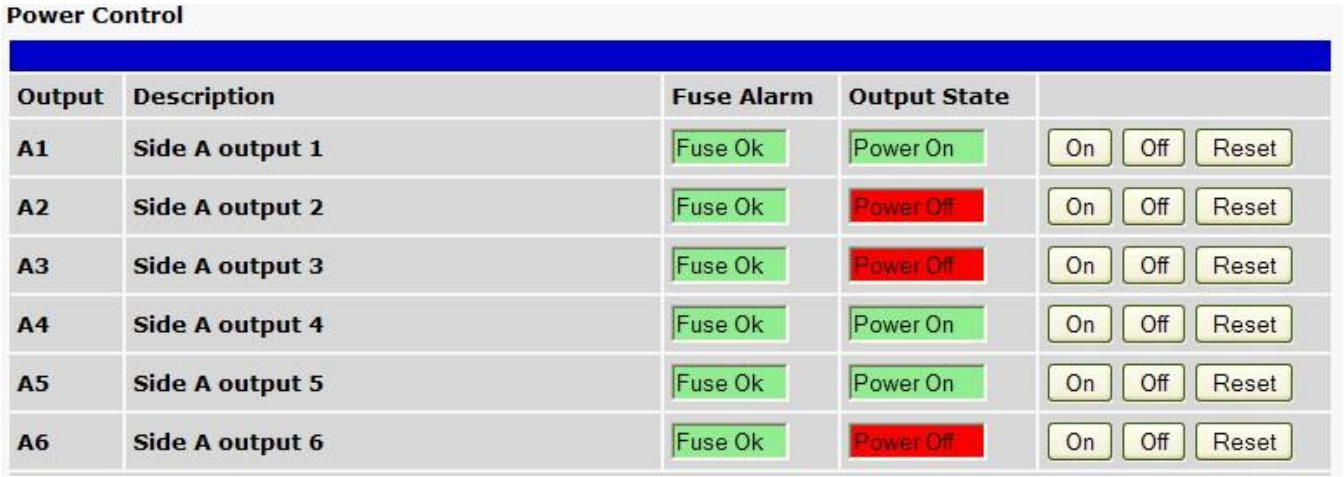
The Inputs screen shows when you have an input alarm

For each feed, A and B, you will see:

- **Breaker:** the status of the breaker switch on the front panel of the RPS -- Closed or Open.
- **Thresholds:** Whether or not the input has set a threshold alarm -- Major Under, Minor Under, None, Minor Over, or Major Over.
- **Reading:** the voltage input reading.

6.4.2 Power Control (Operation)

From the blue **Power Control** option under the **Operation** Menus, you can operate your power outputs and view the status of each feed.



Turn power on and off and monitor fuse alarms from the Operation Menu > Power Control screen

Each output feed displays:

- **Fuse Alarm:** showing the status of the fuse associated with each feed.
  - **Fuse Ok**, highlighted in green, indicates that the fuse is not blown
  - **Fuse Blown**, highlighted in red, indicates that the fuse is blown
- **Output State**: indicating the current state of the power output.
  - **Power Off**, highlighted in red, indicates that the output relay is off
  - **Power On**, highlighted in green, indicates that the output relay is on

Note: The **Output State** reflects the state of the relay. Power may or may not be present at the output depending on the state of the fuse.

The On, Off, and Reset buttons allow you to operate individual power feeds.

- **On** turns power on.
- **Off** turns power off.
- **Reset** temporarily turns power off before turning it back on again. Configure the length of time between Off and On functions when issuing the **Reset** command by changing the **Reset Time** from the **Provisioning > Power Control** screen.

If you have enabled the **Low Voltage Disconnect** feature for any of your unit's output feeds, you will see **LVD Controlled** in the field where the control buttons would normally appear. You can override LVD controled outputs by clicking the **Disable LVD** button.

The Low Voltage Disconnect (LVD) feature prevents manual control of your power outputs

Note: Take care when overriding power output feeds. If an output feed is off due to insufficient or high voltage, re-enabling the output could result in damage to the equipment connected to the output.

6.4.3 Base Alarms (Operation)

This selection provides the status of the base alarms by indicating if an alarm has been triggered. Under the **State** column, the status will appear in red if an alarm has been activated. The status will be displayed in green when the alarm condition is not present.

The Default text for an alarm is "Alarm." This can be configured and user-defined with the **On Set** condition under the **Provisioning > Base Alarms** menu.

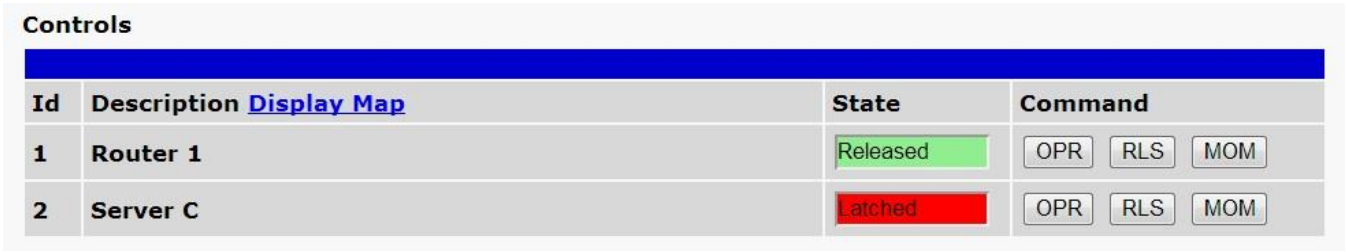
Alarms

Id	Description Display Map	State
1	Front Door	Clear
2	Side Door	Clear
3	Back Door	Clear
4	Tower Lights	Clear
5	Motion Sensor 1	Clear
6	Motion Sensor 2	Clear
7	Commercial Power	Clear
8	Media Converter	Clear
9	Router 1	Clear
10	Router 2	Clear
11	Modem	Clear
12	Rectifier	Clear
13	Microwave Transmitter	Clear
14	Switch 1	Clear
15	Switch 2	Clear
16	PBX	Clear

The Operation > Alarms menu will tell you if any base alarms have been triggered

6.4.4 User Controls (Operation)

Use the following rules to operate the NetGuardian's control:
1. Select **Controls** from the **Operation** menu.
2. Under the **State** column, you can see the current condition of the control.
3. To issue the control, click on a command (**OPR** - operate, **RLS** - release, or **MOM** - momentary)

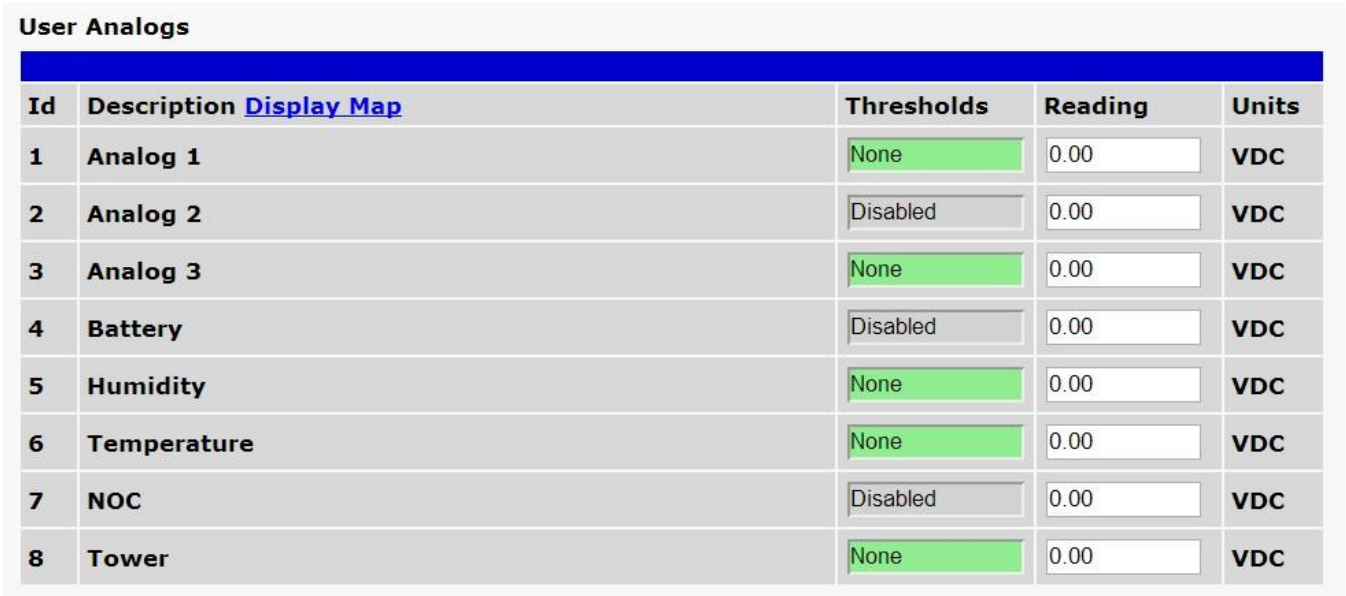


View and operate control relays from the Operation > Controls menu

Control Relay Operation	
ID	ID number for the control relay.
Description	Description for the NetGuardian's control relay defined in the Provisioning > Controls menu.
State	Status of the control relay. Can either be **Released** or **Latched**.
Command	**OPR** - Latch the relay. **RLS** - Release the relay. **MOM** - Momentarily latch the relay, then automatically release the relay. The duration of the latch is defined in the Provisioning > Controls menu.

6.4.5 User Analogs (Operation)

The **Operation** > **Analogs** screen provides a description of each analog channel, the current reading, the units being read, and alarm thresholds according to your settings.



Click on Analogs in the Operation menu to view the current channel readings.

6.4.6 Sensors (Operation)

The RPS AB6 supports up to 16 daisy-chained D-Wire sensors via its front-panel D-Wire input. Sensors connected to the AB6 will appear on the RPS AB6's web interface. The background color of the ROM field informs the user of the sensor's configuration state.

By default, the RPS AB6's first D-Wire sensor is used to monitor the internal temperature. When no additional sensors are plugged in, ID #1 will refer to the RPS AB6's internal temperature. The internal temperature sensor measures a range of -40° F to 180° F (-40° C to 82.2° C) within an accuracy of about ± 2°.

Basic configuration for the RPS AB6's D-Wire temperature sensors can be accomplished from the **Provisioning** > **Sensors** menu. From this screen, you can configure D-Wire sensors, select notification devices, and set thresholds.

Sensors (- detected and configured - NOT detected and configured)

Id	ROM ID	Description Display Map	Thresholds	Reading
1	28c43b1b0400009b	Internal Temperature (Default)	None	80.92
2	28c43b1b0400009b	Humidity 1	None	0.00
3	28c43b1b0400009b	Humidity 2	None	0.00
4	28c43b1b0400009b	Humidity 3	None	0.00
5	28c43b1b0400009b	Air Temperature	None	0.00
6	28c43b1b0400009b	External Temperature	None	0.00

The Operation > Sensors menu

6.4.7 System Alarms (Operation)

The **System Alarms** option, in blue under the Operation heading, allows you to monitor the Remote Power Switch's system alarms, the set of housekeeping alarms that report on the status of your Remote Power Switch.

System Alarms

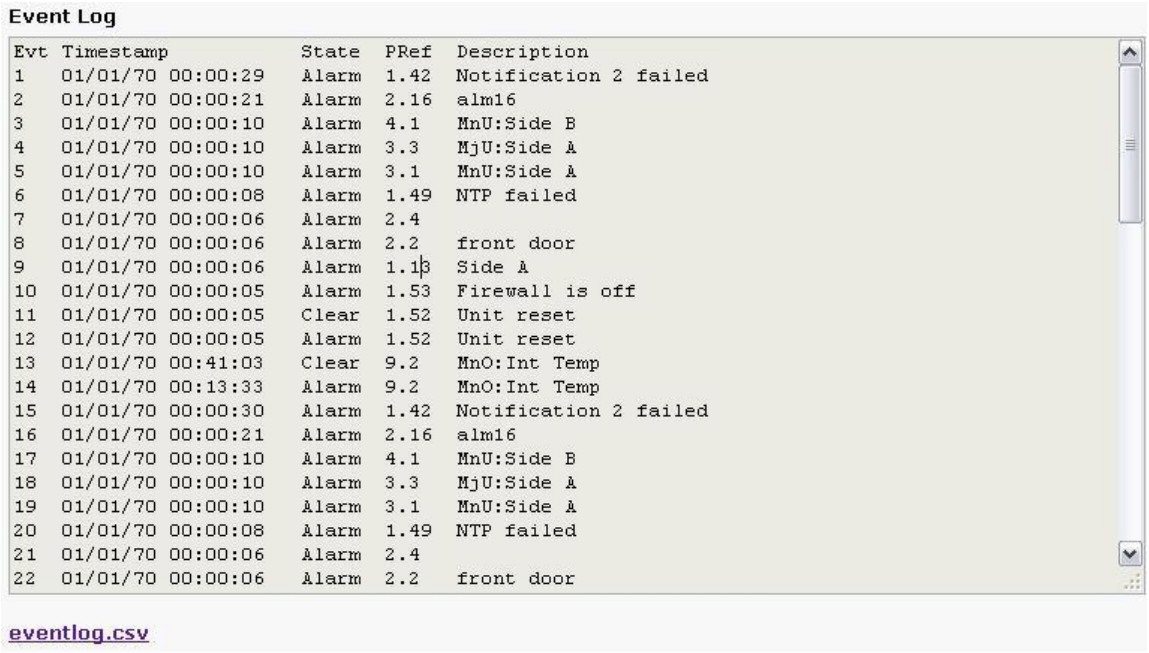
Id	Description	State
1	Default configuration	Clear
2	DCP channel is inactive	Clear
3	MAC address not set	Clear
4	IP address not set	Clear
5	LAN hardware error	Clear
6	SNMP processing error	Clear
7	SNMP community error	Clear
8	LAN TX packet drop	Clear

The System Alarms Monitoring screen

System alarms in a set state will show **Set** in a red field in the **State** column. When clear, alarm states will read **Clear** on a light green background, as displayed in the example above.

Note: If you checked the **Silence** checkbox for an alarm on the **Provisioning > System Alarms** page, its state will always show **Clear** on the **Operation > System Alarms** page. Checking the Silence box prohibits system alarms from reporting via the web interface.

6.4.8 Event Log



Event Log

Evt	Timestamp	State	PRef	Description
1	01/01/70 00:00:29	Alarm	1.42	Notification 2 failed
2	01/01/70 00:00:21	Alarm	2.16	alm16
3	01/01/70 00:00:10	Alarm	4.1	MnU:Side B
4	01/01/70 00:00:10	Alarm	3.3	MjU:Side A
5	01/01/70 00:00:10	Alarm	3.1	MnU:Side A
6	01/01/70 00:00:08	Alarm	1.49	NTP failed
7	01/01/70 00:00:06	Alarm	2.4	
8	01/01/70 00:00:06	Alarm	2.2	front door
9	01/01/70 00:00:06	Alarm	1.13	Side A
10	01/01/70 00:00:05	Alarm	1.53	Firewall is off
11	01/01/70 00:00:05	Clear	1.52	Unit reset
12	01/01/70 00:00:05	Alarm	1.52	Unit reset
13	01/01/70 00:41:03	Clear	9.2	MnO:Int Temp
14	01/01/70 00:13:33	Alarm	9.2	MnO:Int Temp
15	01/01/70 00:00:30	Alarm	1.42	Notification 2 failed
16	01/01/70 00:00:21	Alarm	2.16	alm16
17	01/01/70 00:00:10	Alarm	4.1	MnU:Side B
18	01/01/70 00:00:10	Alarm	3.3	MjU:Side A
19	01/01/70 00:00:10	Alarm	3.1	MnU:Side A
20	01/01/70 00:00:08	Alarm	1.49	NTP failed
21	01/01/70 00:00:06	Alarm	2.4	
22	01/01/70 00:00:06	Alarm	2.2	front door

eventlog.csv

Operation > Event Log

The Event Log displays the log for all alarm events. The log has the following fields:

Control Relay Operation	
Evt	The event number. The most recent event is displayed at the top.
Timestamp	The Date and Time the event occured.
State	The state of the alarm. Can be either "Alarm" or "Clear"
PRef	Point reference shows the display and point of the alarm.
Description	Alarm description.

6.5 Device Access

The **Device Access** options, listed in pink on the left side of the web interface, provide options for generating reports, updating the Remote Power Switch's firmware, and rebooting the unit. Click any of the options under **Device Access** to perform the desired action.

The control menu is located in the bottom left of the web interface

Device Access	Description

Option	
Read	Reads a configuration file from the unit
Write	Commits all changes made in the web interface to the Remote Power Switch's non-volatile memory
Initialize	Sets the unit's configuration to factory default values
Get Log	Opens the Remote Power Switch's event log in Notepad (or another plain text editor).
Purge Log	Deletes the Remote Power Switch's event log history
Reboot	Reboots the Remote Power Switch

6.6 Updating Firmware

To update the Remote Power Switch's firmware:

1. click **Upload** in the upper right corner of the web interface.

Click Upload in the upper-right corner of the web interface to upload new firmware

2. Click **Browse** to locate the firmware file for the Remote Power Switch

Browse for firmware, then click Upload to commit the firmware to the RPS

3. Click **Upload** to load the new firmware.

For the latest firmware, login to **MyDPS**, a link to which can be found in the upper-right corner of the web browser interface. For problems and firmware-related questions, contact DPS Telecom support (support@dpstele.com).

7 Frequently Asked Questions

Here are answers to some common questions from Remote Power Switch users. The latest FAQs can be found on the Remote Power Switch support web page, **http://www.dpstelecom.com.**

If you have a question about the Remote Power Switch, please call us at **(559) 454-1600** or e-mail us at **support@dpstele.com**

Q. How do I Telnet to the Remote Power Switch?

A. You must use **Port 2002** to connect to the Remote Power Switch. Configure your Telnet client to connect using TCP/IP (**not** Telnet, or any other port options). For connection information, enter the IP address of the Remote Power Switch and Port 2002. For example, to connect to the Remote Power Switch using the standard Windows Telnet client, click Start, click Run, and type Telnet <Remote Power Switch IP address> 2002.

Q. What do the terms alarm point, display, port, and address mean?

A. These terms define the exact location of a network alarm, from the most specific (an individual alarm point) to the most general (an entire monitored device). An alarm point is a number representing an actual contact closure that is activated when an alarm condition occurs. For example, an alarm point might represent a low oil sensor in a generator or a open/closed sensor in a door. A display is a logical group of 64 alarm points. A port is traditionally the actual physical serial port through which the monitoring device collects data. The address is a number representing the monitored device. The terms port and address have been extended to refer to logical, or virtual, ports and addresses. For example, the Remote Power Switch reports internal alarms on Port 99, address 1.

Q. When I connect to the Remote Power Switch through the craft port on the front panel it either doesn't work right or it doesn't work at all. What's going on?

A. Make sure your using the right COM port settings. The standard settings for the craft port are 9600 baud, 8 bits, no parity, and 1 stop bit. Flow control **must** be set to **none**. Flow control normally defaults to hardware in most terminal programs, and this will not work correctly with the Remote Power Switch.

Q. How do I get my Remote Power Switch on the network?

A. Before the Remote Power Switch will work on your LAN, the unit address (IP address), the subnet mask, and the default gateway must be set. A sample configuration could look like this:

unit address: 192.168.1.100
subnet mask: 255.255.255.0
Default Gateway: 192.168.1.1

Always remember to save your changes by writing to the NVRAM. Any modifications of the Remote Power Switch's IP configuration will also require a reboot.

Q. Which version of SNMP is supported by the SNMP agent on the Remote Power Switch?

A. SNMP v1, v2c, and v3 are supported by the Remote Power Switch AB6.

8 Technical Support

DPS Telecom products are backed by our courteous, friendly Technical Support representatives, who will give you the best in fast and accurate customer service. To help us help you better, please take the following steps before calling Technical Support:

1. Check the DPS Telecom website.
You will find answers to many common questions on the DPS Telecom website, at **http:// www.dpstelecom.com/support/**. Look here first for a fast solution to your problem.

2. Prepare relevant information.
Having important information about your DPS Telecom product in hand when you call will greatly reduce the time it takes to answer your questions. If you do not have all of the information when you call, our Technical Support representatives can assist you in gathering it. Please write the information down for easy access. Please have your user manual and hardware serial number ready.

3. Have access to troubled equipment.
Please be at or near your equipment when you call DPS Telecom Technical Support. This will help us solve your problem more efficiently.

4. Call during Customer Support hours. Customer support hours are Monday through Friday, from 7 A.M. to 6 P.M., Pacific time. The DPS Telecom Technical Support phone number is **(559) 454-1600**.

Emergency Assistance: *Emergency assistance is available 24 hours a day, 7 days a week. For emergency assistance after hours, allow the phone to ring until it is answered with a paging message. You will be asked to enter your phone number. An on-call technical support representative will return your call as soon as possible.*

9 End User License Agreement

All Software and firmware used in, for, or in connection with the Product, parts, subsystems, or derivatives thereof, in whatever form, including, without limitation, source code, object code and microcode, including any computer programs and any documentation relating to or describing such Software is furnished to the End User only under a non-exclusive perpetual license solely for End User's use with the Product.

The Software may not be copied or modified, in whole or in part, for any purpose whatsoever. The Software may not be reverse engineered, compiled, or disassembled. No title to or ownership of the Software or any of its parts is transferred to the End User. Title to all patents, copyrights, trade secrets, and any other applicable rights shall remain with the DPS Telecom.

DPS Telecom's warranty and limitation on its liability for the Software is as described in the warranty information provided to End User in the Product Manual.

End User shall indemnify DPS Telecom and hold it harmless for and against any and all claims, damages, losses, costs, expenses, obligations, liabilities, fees and costs and all amounts paid in settlement of any claim, action or suit which may be asserted against DPS Telecom which arise out of or are related to the non-fulfillment of any covenant or obligation of End User in connection with this Agreement.

This Agreement shall be construed and enforced in accordance with the laws of the State of California, without regard to choice of law principles and excluding the provisions of the UN Convention on Contracts for the International Sale of Goods. Any dispute arising out of the Agreement shall be commenced and maintained only in Fresno County, California. In the event suit is brought or an attorney is retained by any party to this Agreement to seek interpretation or construction of any term or provision of this Agreement, to enforce the terms of this Agreement, to collect any money due, or to obtain any money damages or equitable relief for breach, the prevailing party shall be entitled to recover, in addition to any other available remedy, reimbursement for reasonable attorneys' fees, court costs, costs of investigation, and other related expenses.

Warranty

DPS Telecom warrants, to the original purchaser only, that its products a) substantially conform to DPS' published specifications and b) are substantially free from defects in material and workmanship. This warranty expires two years from the date of product delivery with respect to hardware and ninety days from the date of product delivery with respect to software. If the purchaser discovers within these periods a failure of the product to substantially conform to the specifications or that the product is not substantially free from defects in material and workmanship, the purchaser must promply notify DPS. Within reasonable time after notification, DPS will endeavor to correct any substantial non-conformance with the specifications or substantial defects in material and workmanship, with new or used replacement parts. All warranty service will be performed at the company's office in Fresno, California, at no charge to the purchaser, other than the cost of shipping to and from DPS, which shall be the responsiblity of the purchaser. If DPS is unable to repair the product to conform to the warranty, DPS will provide at its option one of the following: a replacement product or a refund of the purchase price for the non-conforming product. These remedies are the purchaser's only remedies for breach of warranty. Prior to initial use the purchaser shall have determined the suitability of the product for its intended use. DPS does not warrant a) any product, components or parts not manufactured by DPS, b) defects caused by the purchaser's failure to provide a suitable installation environment for the product, c) damage caused by use of the product for purposes other than those for which it was designed, d) damage caused by disasters such as fire, flood, wind or lightning unless and to the extent that the product specification provides for resistance to a defined disaster, e) damage caused by unauthorized attachments or modifications, f) damage during shipment from the purchaser to DPS, or g) any abuse or misuse by the purchaser.

THE FOREGOING WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

In no event will DPS be liable for any special, incidental, or consequential damages based on breach of warranty, breach of contract, negligence, strict tort, or any other legal theory. Damages that DPS will not be responsible for include but are not limited to, loss of profits; loss of savings or revenue; loss of use of the product or any associated equipment; cost of capital; cost of any substitute equipment, facilities or services; downtime; claims of third parties including customers; and injury to property.

The purchaser shall fill out the requested information on the Product Warranty Card and mail the card to DPS. This card provides information that helps DPS make product improvements and develop new products.

For an additional fee DPS may, at its option, make available by written agreement only an extended warranty providing an additional period of time for the applicability of the standard warranty.

Technical Support

If a purchaser believes that a product is not operating in substantial conformance with DPS' published specifications or there appear to be defects in material and workmanship, the purchaser should contact our technical support representatives. If the problem cannot be corrected over the telephone and the product and problem are covered by the warranty, the technical support representative will authorize the return of the product for service and provide shipping information. If the product is out of warranty, repair charges will be quoted. All non-warranty repairs receive a 90-day warranty.

Free Tech Support is Only a Click Away

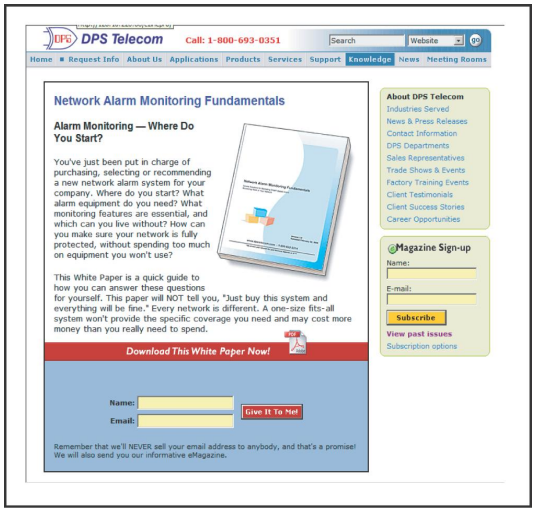
Need help with your alarm monitoring? DPS Information Services are ready to serve you … in your email or over the Web!

www.DpsTele.com

Free Tech Support in Your Email: The Protocol Alarm Monitoring Ezine

The Protocol Alarm Monitoring Ezine is your free email tech support alert, delivered directly to your in-box every two weeks. Every issue has news you can use right away:

- Expert tips on using your alarm monitoring equipment — advanced techniques that will save you hours of work
- Educational White Papers deliver fast informal tutorials on SNMP, ASCII processing, TL1 and other alarm monitoring technologies
- New product and upgrade announcements keep you up to date with the latest technology
- Exclusive access to special offers for DPS Telecom Factory Training, product upgrade offers and discounts



To get your free subscription to The Protocol register online at
www.TheProtocol.com/register

Free Tech Support on the Web: MyDPS

MyDPS is your personalized, members-only online resource. Registering for MyDPS is fast, free, and gives you exclusive access to:

- Firmware and software downloads and upgrades
- Product manuals
- Product datasheets
- Exclusive user forms

DPS Telecom
"Your Partners in Network Alarm Monitoring"

Register for MyDPS online at
www.DpsTele.com/register

(800) 622-3314 • www.DpsTelecom.com • 4955 E. Yale Avenue, Fresno, California 93727