

# NetGuardian G6 832A/864A Web Browser

## USER MANUAL



**DPS Telecom**  
Network Monitoring Solutions

### NetGuardian 832A G6

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**Monitor**

Standing Alarms

Alarm Overview

Alarms

Persistent Alarm Counters

Exp. Alarms

Controls

Exp. Controls

Battery

Analog

Exp. Analogs

Sensors

Wireless Sensors

HVAC Controller

Ping Targets

Modbus Registers

SNMP Alarms

Accum. Timers

Analog Delta

System Alarms

Alarm History

Graph

Routing Table

Stats

Provisioning

Device Access

Tooltips Off

Export Tooltips to Help File

## Welcome!

The NetGuardian 832A G6 is a Remote Telemetry Unit designed to perform a wide array of input monitoring tasks, and provide an interface which allows the user to monitor real-time sensor readings, review history of past alarm events, and forward alarm data to technicians and/or a NOC.

Review the options below for a brief overview of the NetGuardian 832A G6's system capabilities.

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### NetGuardian 832A G6 Overview

Monitor options are designed to provide an at-a-glance view for supported alarm types on the NetGuardian 832A G6.

- Standing Alarms displays only the alarm points that are currently standing on the unit.
- Alarm Overview displays all points on the unit on a single page.
- Alarms displays the status of all dry contact inputs, and wetted alarm inputs for certain builds.
- Persistent Alarm Counters displays the number of alarm pulses received on a configured point.
- Expansion Alarms allows monitoring of alarms collected by an expansion unit.
  - Expansion Alarms is also used for reporting of alarm echo devices.
- Controls displays the status and operation controls for relays and virtual alarms.
- Expansion Controls allows monitoring and control of relay outputs on an expansion unit.
  - Expansion Controls also handles relay outputs for alarm echo devices.
- Battery displays additional statistics for BVM sensors in context of a battery string.
- Analog displays the status of on-board continuous range sensors and power monitor.
- Sensors displays the status of configured D-Wire sensors and scripted sensors.
- Wireless Sensors displays the most recent readings from a paired wireless extender.
- HVAC Controller displays the current status of all configured HVAC zones.
- Ping Targets displays the status of any IP devices the NetGuardian 832A G6 is monitoring.
- Modbus Registers shows the status of any monitored modbus registers or coils.
- SNMP Alarms shows the status of any alarms generated based on SNMP Traps received.
- Accumulation Timers displays the alarm time accumulated for any configured alarm points.
- Analog Delta displays the value range for a configured analog in a limited time period.
- System Alarms shows any internally generated alarms the NetGuardian 832A G6 has created.
- Alarm History displays the 500 latest alarm/clear events.
- Graph is a useful tool for visualizing analog or sensor history that has been gathered over time.
- Routing Table shows the NetGuardian 832A G6's live routing table, with fallback status.
- Stats will display various stats about the device, as well as status of firmware modules.

Monitor

Provisioning

Device Access

Optional Features

1/9/2000, 1:43:19 AM
NetGuardian 832A G6 v0.0A.0042
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Visit our website at [www.dpstelecom.com](http://www.dpstelecom.com) for the latest PDF manual and FAQs.

November 17, 2021

D-UMW-NG832.6

Firmware Version v.5.6D

## Revision History

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November 24, 2021    First Edition

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# 1 Overview



*NetGuardian 832A G6 monitors alarms, pings network elements, and reports via SNMP or email.*

## 1.1 Introduction

The NetGuardian's Web Browser Interface lets you manage alarms and configure the unit through the Internet or your Intranet. You can quickly set up alarm point descriptions, view alarm status, issue controls, and configure paging information, and more. The NetGuardian supports nearly all latest versions of any web browser you choose.

NetGuardian 832A G6 can monitor both legacy and contemporary devices via traditional contact closures and analog voltages/currents, IP-based protocols (ex. MODBUS). Once collected, alarms can trigger email or SMS-via-email notifications, SNMP traps, or reporting to a T/MON control alarm master.

## 1.2 What's New in NetGuardian G6

The NetGuardian 832A G6 has many new features above and beyond our preceding RTUs, some which are highlighted here:

**The new G6 includes many enhancements** over previous models:

- Elimination of web page loading: The web interface will now load only once when you first access it. Once the page is loaded, alarm data updates several times per second, so there's no waiting to see alarm status or for a long page to reload. This provides a superior experience when monitoring the G6 from its built-in web interface.
- Much larger capacity for recording event history and analog sensor readings: Earlier models were limited to only 100 alarm events, intended only as a small buffer to protect against momentary losses of connectivity back to the central alarm master. The G6 now has enough storage to be a viable standalone monitoring system in all but the busiest environments.
- Analog gauges for fast visual review of important levels: For several years, small and medium NetGuardian models have included animated analog gauges. This feature is now incorporated in the flagship 832A model of the NetGuardian.

**The G6 maintains fundamental long-term features of the NetGuardian RTU line:**

- Expansion Alarms offer the ability to monitor and control via an expansion shelf.
- SNMP Alarms show the statuses of any alarms generated based on SNMP traps received.
- System Alarms show any internally generated alarms the NetGuardian 832A G6 has created (ex. "SNMP trap failed to send!").
- Routing Table shows the NetGuardian 832A G6's live routing table, with fallback status.
- Alarm lists and color-coded status indicators give you the ability to quickly see alarm states and status levels of your connected devices and/or sensors.



**The green "Edit" menu is now "Provisioning":**

- User Profiles are now used to configure passwords and access permissions for users who access the NetGuardian 832A G6.
- The Ethernet section provides options for configuring network interfaces, including static routes.
- SNMP is used to designate options for the NetGuardian 832A G6's SNMP agent (including SNMPv3 users & authentication/privacy)

## 2 Shipping List

While unpacking the NetGuardian, 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.



**NetGuardian 832A G6: D-PK-NG832-6...**  
**NetGuardian 864A G5: D-PK-NG864-6...**



**NetGuardian G6 Resource CD**  
**(includes manual, MIBs, and software)**



**6 ft. USB Download Cable**  
**D-PR-046-10A-06**



**Two Ethernet Cables 14 ft.**  
**D-PR-923-10B-14**



**Telephone Cable 6 ft.**  
**D-PR-045-10A-01**



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



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



**Eight 3/8" Ear Screws (F)**  
**2-000-60375-05**



**Four Standard Rack Screws (H)**  
**1-000-12500-06**



**Four Metric Rack Screws (G)**  
2-000-80750-03



**Three 3/4-Amp GMT Fuses (B)**  
2-741-00750-00



**Two Large Power Connector Plugs for Main Power (C)**  
2-820-00862-02



**Four Cable Ties**  
(Sixteen with hinged panel)



**4 Pin Analog Connector (D)**  
2-820-00814-02



**Pads (E)**  
2-015-00030-00

A B C D E F G H



Screws and connectors are packaged in a sealed hardware kit, shown above

Optional



+



(Hardware kit containing a WAGO connector)



+

## Optional Items



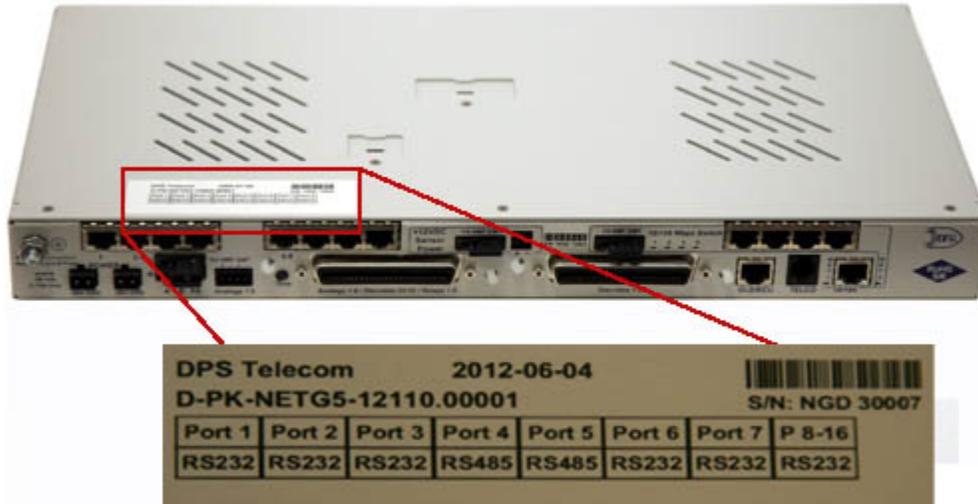
**Two 3/4-Amp GMT Accessory Fuses (A)**  
2-741-00250-00



**One Small Connector for Sensor Output**  
2-820-00812-02

## 2.1 Port Allocation

Located on the top of the unit in the back left corner is the Port Allocation Sticker. This sticker includes your part number (D-PK-NETG5-#####.#####), which specifies your build option. The table below it lists your port allocation. This label displays serial electrical information about each of the ports, for example if the port hardware is configured for RS232, RS485, 202, etc.



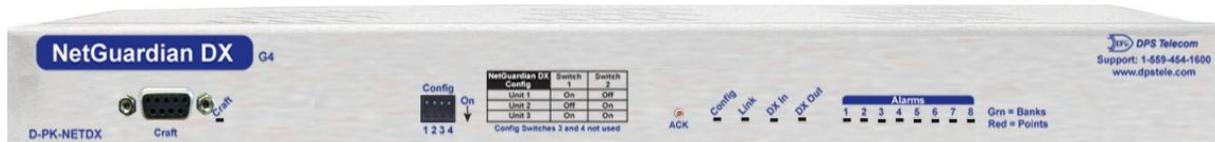
## 2.2 Optional Accessories

You can extend the capabilities of the NetGuardian through accessory units that provide greater discrete alarm capacity, remote audiovisual alarm notification, visual surveillance of remote sites, and other options. If you would like to order any of these accessories, or if you would like more information about them, call DPS Telecom at (800) 622-3314.



### NetGuardian Expansion (NetGuardian 832A/864A DX G5) D-PK-DX832/D-PK-DX864

The NetGuardian G5 expansions provide an additional 32 alarms for your NetGuardian 832A model or 64 points for your 864A, providing a total of 128 or 256 alarms with 3 expansion units. Each expansion comes standard with an additional 8 control relays and 8 analog inputs, and is available with an optional 8 port hub. (Optional builds are also available without controls, analogs, or both.)



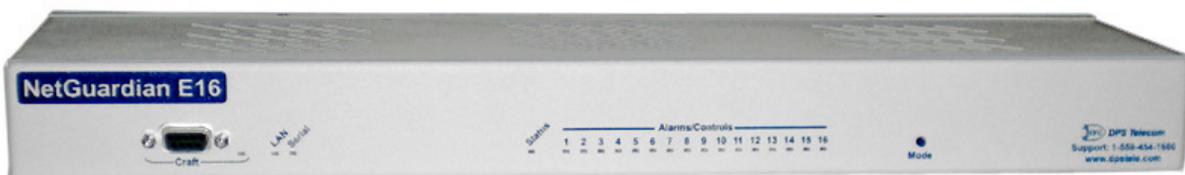
### NetGuardian Expansion (NetGuardian DX G4) D-PK-NETDX-12022.00001

The NetGuardian Expansion G4 provides an additional 48 discrete and 8 relay controls. Up to three NetGuardian Expansions can be daisy-chained off one NetGuardian, providing a total of 176 discrete and 32 analog alarm points.



### NetGuardian Expansion

The NetGuardian 480 (NG480) Expansion provides an additional 80 alarms and 4 relays. With 80 discrete alarm inputs, you can easily forward all the alarms of a small to medium-sized site.



### NetGuardian E16 D-PK-DXE16

Adding the NetGuardian E16 provides an additional 16 alarm points and 16 controls. One NetGuardian E16 unit may be used per NetGuardian 832A/864A G5 remote. In this configuration, the E16 must be the last unit in the chain. Having only 1 serial port, it cannot forward traffic to a subsequent RTU.



**General LCD Display (GLD)**  
**D-PK-GLDRJ-12001.00001**

The General LCD Display (GLD) is a small wall-mounted remote terminal for the NetGuardian. The LCD display shows system status and alarm messages, and the built-in speaker gives an audible notice of alarms. Up to 12 GLDs can be daisy-chained off the NetGuardian.



**Hinged Wire-Wrap Back Panel**  
**For 19" rack: D-PK-NGPAN-12002**

**For 23" rack: D-PK-NGPAN-12006**

The hinged wire-wrap back panel provides wire-wrap connections for the NetGuardian's alarms and control relays.



**Pluggable Barrier Panel**  
**For 19" rack: D-PK-NGPAN-12021**

**For 23" rack: D-PK-NGPAN-12007**

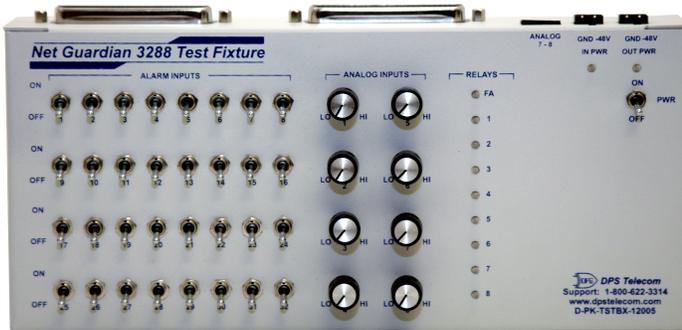
The pluggable barrier panel provides screw-lug barrier plug connections for the NetGuardian's alarms and control relays.



**Hinged Amphenol Back Panel**  
**For 19" rack: D-PK-NGPAN-12027**  
**D-PK-NGPAN-12047**

**For a KDA864 GOB option**  
**For a KDA 864 with GOB-L option**

The Hinged Amphenol Back Panel easily allows for Upgrades from a KDA864 to a NetGuardian 864.



### **NetGuardian 3288 Test Fixture D-PK-TSTBX-12005.00001**

Every DPS product is rigorously tested before shipping, and the NetGuardian Test Box allows technicians to verify every discrete alarm input, control relay, and voltage-based analog alarm input on a NetGuardian G5. This time-tested tool is now available to you as the NetGuardian 3288 Test Fixture (known casually as the "NetGuardian Test Box"). With 32 discrete alarm toggles, 8 analog knobs, and 8 control relay LEDs, you can verify every alarm input and control output on your NetGuardians in a controlled way.

## 2.3 Specifications

|                                 |   |
|---------------------------------|---|
| <b>Discrete Alarm Inputs:</b>   | 32 (expandable to 80, 128, or 176 in 832A model)<br>64 (expandable to 112, 160, or 208 in 864A model)   |
| <b>Analog Alarms:</b>           | 8   |
| <b>Analog Input Range:</b>      | (-94 to 94 VDC or 4 to 20 mA)   |
| <b>Analog Accuracy:</b>         | +/- 1% of Analog Range (See <b>Analog Step Sizes</b> )  |
| <b>Control Relays:</b>          | 8 Form C (expandable to 16, 24, 32)   |
| <b>Maximum Voltage:</b>         | 110 VDC/125 VAC   |
| <b>Maximum Current:</b>         | 0.3 Amp at 125VAC, 1A at 30VDC  |
| <b>Ping Alarms:</b>             | 32  |
| <b>Protocols:</b>               | SNMPv1, SNMPv2c, SNMPv3, DCPx, DCPf, TRIP, SNPP<br>SMTP, TAP, HTTP, FTP, TELNET, ICMP, RADIUS, SSH, HTTPS   |
| <b>Interfaces:</b>              | 9 RJ45 10/100 full-duplex Ethernet ports (1 port tied internally to switch<br>- if switch option is purchased)<br>1 RJ11 telco jack<br>5 D-Wire Ports (4 Front, 1 Rear. Rear uses modem jack)<br>2 50-pin amphenol connectors (discretes, controls, and analogs)<br>1 4-pin screw connector (analog)<br><i>With Fiber top-board build option:</i> 4 10/100/1000 copper Ethernet<br>ports <b>AND</b> 2- 1000 Base-X SFP Fiber ports<br><i>With WAN top-board build option:</i> 1 Rj45 WAN port |
| <b>Physical Dimensions:</b>     | 1.720"H x 17.026"W x 8.386"D (NetGuardian 832A)<br>(11.250"D with hinged Wire Wrap Adapter)<br>1.720"H x 17.026"W x 9.636"D (NetGuardian 864A)<br>(12.750"D with hinged Wire Wrap Adapter)  |
| <b>Weight:</b>                  | 6 lbs. 3 oz. (2.8 kg)   |
| <b>Mounting:</b>                | 19" or 23" rack   |
| <b>Power Input</b>              |   |
| <b>Voltage Options Include:</b> | -48 VDC nominal (-18 to -60 VDC)<br>(Optional) -24 VDC nominal (-18 to -36 VDC)<br>(Optional) -24 VDC nominal (-18 to -36 VDC)<br>(Optional) +24VDC (+18 to +36 VDC)<br>(Optional) +12VDC (+11 to +18 VDC)  |
| <b>Current Draw:</b>            | 150 mA at 48 VDC (300 mA at 24 VDC)   |
| <b>GMT Fuse:</b>                | 3/4 amp recommended   |

**Sensor Power Output**

|                                |                                    |
|--------------------------------|------------------------------------|
| <b>Voltage Output Options:</b> | +12 VDC<br>+24 VDC                 |
| <b>Output Current:</b>         | 500 mA at +12, or 250mA at +24 VDC |
| <b>Input Current Draw:</b>     | May increase by 150 mA at 48 VDC   |
| <b>GMT Fuse:</b>               | 3/4 amp recommended                |

**Visual Interface:** LCD display  
19 RGB LEDs

**Audible Notification:** Alarm speaker (with volume control)

**Operating Temperature:** 32° to 140° F (0° to 60° C)

**Storage Temperature:** -22° to 176° F (-30° to 80° C)

**Industrial Temperature Option:** -22° to 158° F (-30° to 70° C)

**Operating Humidity:** 0%–95% non-condensing

**MTBF:** 60 years

**Windows Compatibility:** Windows 95, 98, NT, ME, XP, 2000, Vista, 7 32/64 bit, 8, 10, 11

**\*RoHS 5 Approved**

**Note:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

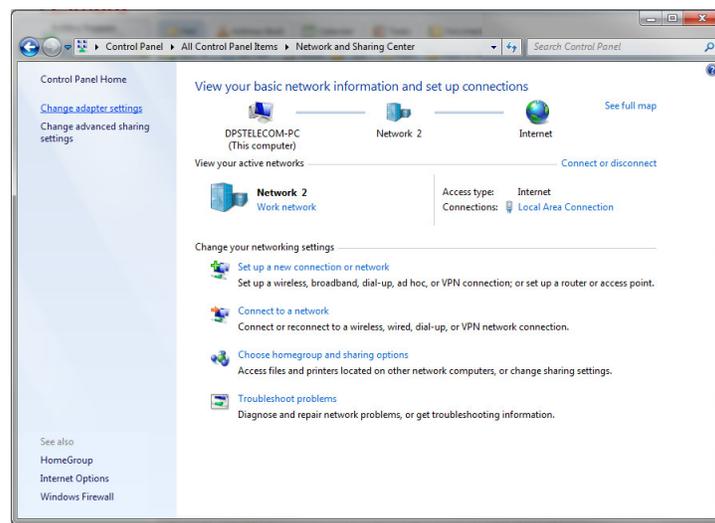
## 3 Connect to Network

This section provides step-by-step instructions on how to connect your NetGuardian 832A G6 Controller to your network.

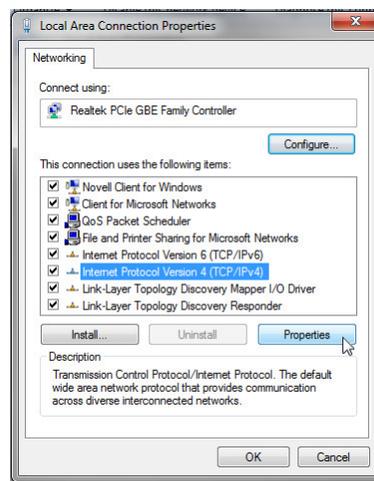
The following pictures and instructions depict either Windows 7 or Windows 10. Other operating systems will likely be similar.

### 3.1 Change Your PCs IP

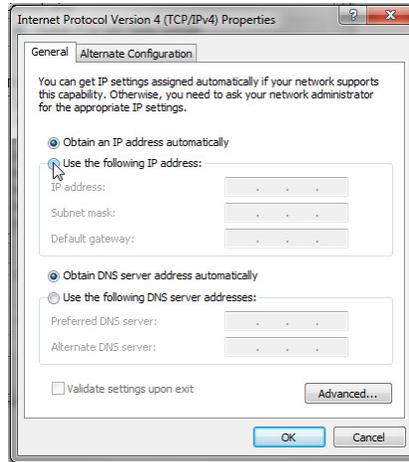
1. Plug LAN cable into PC.
2. Click **START**.
3. Select **CONTROL PANEL**.
4. Select **NETWORK AND INTERNET**.
5. Select **NETWORK AND SHARING CENTER**.
6. Click **CHANGE ADAPTER SETTINGS** in the left menu.



7. Find the appropriate adapter (most likely, this will not be a wireless connection).
8. Right-click the adapter.
9. Select **PROPERTIES** from the drop-down menu.
10. Click **INTERNET PROTOCOL VERSION 4** from the menu.



11. Click the **PROPERTIES** button.
12. Click the radio button for the option that states "Use the following IP address:"
  - If this button is already selected, record information before changing it so that you can set it back later.
  - If "Obtain an IP address automatically" is an option, you don't have to record the IP address information.



13. Enter in an IP address that is within your G6's Subnet (see defaults below). When installing a new G6 that has factory default settings, your PC's new IP should be 192.168.1.XXX (replace the XXX with any number from 1-255, excluding the IP used by the unit (see defaults below)).
  - **Default G6 Controller IP (Net 1): 192.168.1.100**
  - **Default G6 Controller IP (Net 2): 192.168.1.101**
  - **Default G6 Controller Subnet Mask: 255.255.255.0**
14. Click *OK* and close the window.

## 3.2 Browse the Web Interface

- Using the web browser of your choice, browse to the G6's unit's IP address.
- The login form should appear. Enter the admin login information provided below and click *Login*.
  - Username: admin
  - Password: dpstelecom

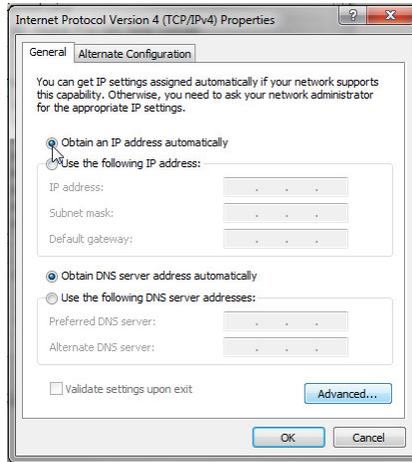
|                                      |  |
|--------------------------------------|--|
| Username:                            | <input type="text" value="admin"/>     |
| Password:                            | <input type="password" value="....."/> |
| <input type="button" value="Login"/> |  |

- Expand the Provisioning menu.
- Click **Ethernet**.
- Change the G6's default IP address, subnet mask, and default gateway to be compatible with your network.
- Click **Save** at the bottom of the page to cache your changes. To commit changes to the unit, click **Device Access** in red on the bottom left, then **Write and Reboot**.

|                              |   |
|------------------------------|---|
| Monitor                      | Ethernet Settings   |
| Provisioning                 | Net 1 Settings  |
| System                       | MAC Address: 00:10:81:00:fa:c0  |
| User Profiles                | Host Name: <input type="text" value=""/> ( )  |
| <b>Ethernet</b>              | Enable DHCP: <input checked="" type="checkbox"/>  |
| RADIUS                       | Unit IP: <input type="text" value="192.168.1.100"/> (192.168.1.100)   |
| Serial Ports                 | Subnet Mask: <input type="text" value="255.255.0.0"/> (255.255.0.0)   |
| SNMP                         | Gateway: <input type="text" value="255.255.255.255"/> (255.255.255.255)   |
| Notifications                | User Metric (Priority): <input type="text" value="10"/> (10)  |
| Alarms                       | Net 2 Settings  |
| Persistent Alarm             | MAC Address: 00:10:81:00:fa:c1  |
| Counters                     | Host Name: <input type="text" value=""/> ( )  |
| Exp. Alarms                  | Enable DHCP: <input type="checkbox"/>   |
| Controls                     | Unit IP: <input type="text" value="10.0.6.86"/> (10.0.6.86)   |
| Exp. Controls                | Subnet Mask: <input type="text" value="255.255.0.0"/> (255.255.0.0)   |
| Analog                       | Gateway: <input type="text" value="10.0.0.254"/> (10.0.0.254)   |
| Exp. Analog                  | User Metric (Priority): <input type="text" value="11"/> (11)  |
| Sensors                      | DNS Settings (Global)   |
| Wireless Sensors             | DNS Server 1: <input type="text" value="255.255.255.255"/> (255.255.255.255)  |
| Ping Targets                 | DNS Server 2: <input type="text" value="255.255.255.255"/> (255.255.255.255)  |
| Accum. Timers                | Static Routes   |
| Analog Delta                 | Route 1   |
| System Alarms                | Interface: <input type="text" value="Net 1"/>   |
| Timers                       | Network IP: <input type="text" value="255.255.255.255"/> (255.255.255.255)  |
| Date and Time                | Subnet Mask: <input type="text" value="255.255.255.255"/> (255.255.255.255)   |
| <b>Device Access</b>         | Gateway: <input type="text" value="255.255.255.255"/> (255.255.255.255)   |
| Tooltips Off                 | User Metric (Priority): <input type="text" value="5"/> (5)  |
| Export Tooltips to Help File | Route 2   |
|                              | Interface: <input type="text" value="Net 1"/>   |
|                              | Network IP: <input type="text" value="255.255.255.255"/> (255.255.255.255)  |
|                              | Subnet Mask: <input type="text" value="255.255.255.255"/> (255.255.255.255)   |
|                              | Gateway: <input type="text" value="255.255.255.255"/> (255.255.255.255)   |
|                              | User Metric (Priority): <input type="text" value="6"/> (6)  |
|                              | Advanced TCP Settings   |
|                              | Force Max TCP Window Size: <input type="checkbox"/> This should only be used for slower networks. If you are experiencing issues with TCP communication (such as web browsing or telnet), then set the Maximum TCP Window Size to a value that is less than what was last used in parenthesis |
|                              | Maximum TCP Window Size: <input type="text" value="16383"/> (Last window size: 64240)   |
|                              | <input type="button" value="Save"/>   |

### 3.3 Restore and Connect

1. Return to the Internet Protocol Version 4 page on your PC.
2. Reset the IP address by typing in the numbers you recorded previously or by clicking the "Obtain an IP address automatically" button.



3. Click **OK**.
4. Log back onto the unit as described previously.
5. Click **Provisioning**.
6. On the System Settings screen, change your default user and password.
7. Save your changes.

## 4 Quick Turn Up

The next sections of this manual will walk you through some of the most common tasks for using the G6. You will learn how to send email notifications and send SNMP traps to your alarm master - all using the Web browser. For details on entering your settings into each Web browser menu, the section "Provisioning Menu Field Descriptions" section.

### 4.1 How To Send Email Notifications

1. Click on the **Notifications** button in the **Provisioning** menu. You can setup as many as 8 different notifications. Begin the setup "wizard" by clicking **Edit** for a notification number. In this example, we'll setup Notification 1 to send emails.

| Notifications |           |      |         |   |
|---------------|-----------|------|---------|---|
| Summary       |           |      |         |   |
| Id            | Notify On | Type | Details |   |
| 1             | Disabled  |      |         | <input type="button" value="Edit"/> <input type="button" value="Test"/> |
| 2             | Disabled  |      |         | <input type="button" value="Edit"/> <input type="button" value="Test"/> |
| 3             | Disabled  |      |         | <input type="button" value="Edit"/> <input type="button" value="Test"/> |
| 4             | Disabled  |      |         | <input type="button" value="Edit"/> <input type="button" value="Test"/> |
| 5             | Disabled  |      |         | <input type="button" value="Edit"/> <input type="button" value="Test"/> |
| 6             | Disabled  |      |         | <input type="button" value="Edit"/> <input type="button" value="Test"/> |
| 7             | Disabled  |      |         | <input type="button" value="Edit"/> <input type="button" value="Test"/> |
| 8             | Disabled  |      |         | <input type="button" value="Edit"/> <input type="button" value="Test"/> |

2. At the **Notification Setting** screen, use the drop down box to set what events to use for this notification. Now, select the **Send Email** button and click **Save and Next**.

3. At the **Email Notification** screen, you'll enter your email server settings. Enter the **IP address** or **Host Name** of your email server. **NOTE:** if using Host Name, make sure that DNS Servers settings are configured. Enter the **Port Number** (usually 25) and the **"To" Email Address** of the technician that will receive these emails. If authentication is required, chose the type and fill in the necessary fields. Click **Next**.

4. At the **Schedule** screen, you'll select the exact days/times you want to receive email notifications. You can set two schedules per notification. For example, you may want to receive notifications at certain times during the week, and at different hours on the weekend. Use the check boxes to select the days of the week, and select the time from the drop down menus. Click **Finish**. To try a test notification, click the **Test** button (See next step.)

| Notification 1 (Schedule) |                                     |                                     |                                     |                                     |                                     |                                     |                                     |  |
|---------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--|
| Id                        | Sun                                 | Mon                                 | Tue                                 | Wed                                 | Thu                                 | Fri                                 | Sat                                 | Notification Time  |
| 1                         | <input checked="" type="checkbox"/> | <input type="radio"/> Any Time<br><input checked="" type="radio"/> 12 h 0 min AM to 11 h 59 min PM |
| 2                         | <input checked="" type="checkbox"/> | <input type="radio"/> Any Time<br><input checked="" type="radio"/> 12 h 0 min AM to 11 h 59 min PM |

5. If you chose to test the email notification you've just setup, you will prompted with a pop up . Click **OK** to send a test email alarm notification. Confirm all your settings by checking your email to see if you've received it. **NOTE:** This test only means that your notification settings are correct, but you still need to assign the notification to an alarm point. See the next step.

6. Now you will associate this notification to an alarm (system, base, analog, etc.) You have 8 notification devices available to use. Remember that Notification #1 in the Notifications menu corresponds to the first "Notifications" column of check boxes "N1". (Notification #2 "N2" is the second column, and so on until Notification #8 "N8")

## 4.2 How to Send SNMP Traps

1. Click on the **SNMP** button in the **Provisioning** menu. Enter the **SNMP GET** and **SNMP SET** community strings for your network, then click **Save**. The typical SNMP SET and GET community strings for network devices is "public". As an added security measure, we've made our default "dps\_public".

**SNMP**

**Global Settings**

|                       |                        |
|-----------------------|------------------------|
| Get Community         | dps_public             |
| Set Community         | dps_public             |
| Read and Write Access | Access disabled        |
| SNMPv3 Engine ID      | 80000a7a03001081002f85 |

**SNMPv3 Users**

| Id | SNMPv3 Username | Auth Type | Auth Pass | Priv Type | Priv Pass |
|----|-----------------|-----------|-----------|-----------|-----------|
| 1  |                 | No Auth   |           | No Priv   |           |
| 2  |                 | No Auth   |           | No Priv   |           |
| 3  |                 | No Auth   |           | No Priv   |           |

Save

2. Click on the Notifications button in the Provisioning menu. You can setup as many as 8 different notifications. Begin the setup "wizard" by clicking Edit for a notification number. In this example, we'll setup Notification 1 to send SNMP traps to your alarm master.

**Notifications**

**Summary**

| Id | Notify On | Type | Details |           |
|----|-----------|------|---------|-----------|
| 1  | Disabled  |      |         | Edit Test |
| 2  | Disabled  |      |         | Edit Test |
| 3  | Disabled  |      |         | Edit Test |
| 4  | Disabled  |      |         | Edit Test |
| 5  | Disabled  |      |         | Edit Test |
| 6  | Disabled  |      |         | Edit Test |
| 7  | Disabled  |      |         | Edit Test |
| 8  | Disabled  |      |         | Edit Test |

3. At the **SNMP Notification** screen, you'll enter your network's SNMP settings. Enter the **IP address** of your SNMP Trap Server. Enter the **Trap Port Number** (usually 162) and the **Trap Community** password. Click **Save and Next**.
4. At the **Schedule** screen, you'll select the exact days/times you want to receive SNMP notifications. You can set 2 schedules per notification. For example, you may want to receive notifications at certain times during the week, and at different hours on the weekend. Use the check boxes to select the days of the week, and select the time from the drop down menus. Click **Save and Finish**. To try a test notification, click the **Test** button (See next step.)

**Notification 1 (Schedule)**

| Id | Sun                                 | Mon                                 | Tue                                 | Wed                                 | Thu                                 | Fri                                 | Sat                                 | Notification Time  |
|----|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--|
| 1  | <input checked="" type="checkbox"/> | <input type="radio"/> Any Time <input type="radio"/> 12 h 0 min AM to 11 h 59 min PM |
| 2  | <input checked="" type="checkbox"/> | <input type="radio"/> Any Time <input type="radio"/> 12 h 0 min AM to 11 h 59 min PM |

5. If you chose to test the email notification you've just setup, you will prompted with a pop up . Click **OK** to send a test SNMP alarm notification. Confirm all your settings by checking your alarm master to see if the SNMP trap was received.

**NOTE:** This test only means that your notification settings are correct, but you still need to assign the notification to an alarm point. See Step 6 in "How to Send Email Notifications" for more detail.

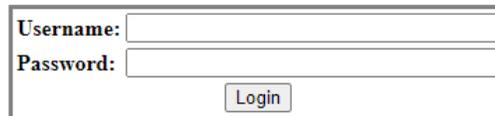
## 5 Logging on to the NetGuardian

For Web Interface functionality, the unit must first be configured with some basic network information. If this step has not been done, refer to the NetGuardian User Manual for initial software configuration setup.

1. To connect to the NetGuardian from your Web browser, you must know its IP address or domain name if it has been registered with your internal DNS. Enter it in the address bar of your Web browser. It may be helpful to bookmark the logon page to simplify access.
2. After connecting to the NetGuardian's IP address, enter your Username password and click the Login button, see image below.

**NOTE:** The factory default username/password is **admin/dpstelecom**.

3. In the left frame there is **Monitoring** menu button, a **Provisioning** menu button and a **Device Access** menu button. Most of the software configuration will occur in the **Provisioning** menu. The following sections provide detailed information regarding these functions.



A screenshot of a web browser login form. It contains two text input fields: the top one is labeled 'Username:' and the bottom one is labeled 'Password:'. Below the password field is a button labeled 'Login'.

*Enter your username/password to enter the NetGuardian Web Browser Interface.*

## 6 Provisioning Menu Field Descriptions

G6 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 G6:

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 without writing to the unit (if a Write is required) will cause you to lose your configuration changes.

Please **WRITE** to the unit after you are finished with your changes!  
Please **REBOOT** the unit for changes to take effect!

*Status messages on the G6 Device Access menu, inform you how to implement your changes*

| Device Access | Device Access           |
|---------------|-------------------------|
| Backup Config | Backup Config           |
| Read          | Read                    |
| Write         | <b>Write (required)</b> |
| Initialize    | Initialize              |
| Get Log       | Get Log                 |
| Purge Log     | Purge Log               |
| Reboot        | Reboot                  |

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

## 6.1 System

From the **Provisioning > System** menu, you will configure and edit various global settings that apply widely. You can also save/erase logs and backup/restore device configurations.

**NetGuardian 832A G6**

Home | Upload | Logout (admin)

**System Settings**

**Global Settings**

Name: HVAC Controller G6  
 Location: Fresno, CA  
 Contact: 559-454-1600  
 Sound on COS (Web Browser Monitoring):   
 Web Mode: HTTP - Port 80  
 Terminal Mode: SSH - Port 2002  
 Multiload Access: Allow Access  
 LCD Pin: 123456

**DCP Responder Settings** [Display Map](#)

Disable DCP  DCP over LAN  DCP over Serial

DCP Unit ID / Protocol: 1 / DCPx  
 DCP over LAN port / Protocol: 2001 / UDP  
 Expansions: None

**Sensor and Alarm History**

Get Sensor History (Analog Readings): [Recent](#) [All Records](#) [Erase Sensor History](#)  
 Get Alarm Log (Discrete Events): [Recent](#) [All Records](#) [Erase Alarm Log](#)  
 Get Combined Log: [Recent](#) [All Records](#) [Erase History And Logs](#)

**On-board configuration backup**

Current backup details [?]: **Name:** HVAC Controller G6  
**Timestamp:** 8/11/2021, 9:14:21 AM  
**Status:** Valid For Current Firmware

On-board backup [?]: [Update on-board backup](#)  
 Invalidate backup config [?]: [Invalidate backup config](#)  
 Validate backup in web [?]: [Validate backup](#)  
 Restore backup and reboot [?]: [Restore backup](#)

**Escrow Web Validation**

Current escrow details [?]: Escrow empty or invalid  
 (Use upload link to load config into escrow)

Invalidate escrow config [?]: [Invalidate escrow config](#)  
 Validate escrow in web [?]: [Validate escrow](#)  
 Restore escrow and reboot [?]: [Restore escrow](#)

[Save](#)

The Provisioning > System menu

| Global System Settings        |  |
|-------------------------------|--|
| <b>Name</b>                   | A name for this unit. (Optional, useful for coordination & notifications)  |
| <b>Location</b>               | The location of this unit. (Optional, useful for coordination & notifications)   |
| <b>Contact</b>                | Contact telephone number for the person responsible for this unit. {Optional field}  |
| <b>Sound on COS</b>           | Checking this box enables Sound on COS when viewing the Alarms, Sensors, Ping Targets, or System Alarms page under the Monitor menu.   |
| <b>Web Mode</b>               | HTTP on port 80 or HTTPS on port 443. Changes will only go active after reboot. (Default HTTPS - Port 443)   |
| <b>Redirect HTTP to HTTPS</b> | Only available when web mode is HTTPS - Port 443. When enabled, opens port 80 for sole purpose of redirecting to landing page of HTTPS server. When disabled, leaves port 80 closed and browsing to http://<ip address of unit> will yield a connection refused message. (Default = Enabled)       |
| <b>Terminal Mode</b>          | Telnet on port 2002 or SSH on port 2002. (Default - Telnet on port 2002).  |
| <b>Multiload Access</b>       | "Allow Access" or "Require Login". When set to "Allow Access", unit will allow direct navigation to the Upload page (for updating firmware, web image, or config) without needing to authorize for user access. This can help with recovery of unit, but may not be desired in secure deployments. |
| <b>LCD PIN</b>                | Passcode used to unlock Device Setup on the Touchscreen (Default: 123456)  |

| <b>DCP Responder Settings (For use with T/Mon)</b> |  |
|--|--|
| <b>Disable DCP, DCP over LAN / Serial</b>          | Select one of these 3 options to send DCP protocol over LAN, serial, or disable DCP completely.  |
| <b>DCP Unit ID</b>                                 | User-definable ID number for the target unit (DCP Address).  |
| <b>DCP Unit Protocol</b>                           | Drop-down menu of available protocols for use with DCP Address.  |
| <b>DCP over LAN port</b>                           | Enter the DCP port for the target unit. (UDP/TCP port)   |
| <b>LAN Protocol</b>                                | Drop-down menu of available protocols for use over LAN.  |
| <b>Expansions</b>                                  | Select the number of expansion units connected to the unit.  |
| <b>Sensor and Alarm History</b>                    |  |
| <b>Get Sensor History</b>                          | Download a log of all configured analog and sensor values. Also, "Erase" button to clear the history.  |
| <b>Get Alarm Log</b>                               | Download a log of the device's recent alarm history. Also, "Erase" button to clear the log.  |
| <b>On-board Configuration Backup</b>               |  |
| <b>Current backup details</b>                      | <p>If backup has been created, displays the Name, Timestamp, and Status of the on-board backup.</p> <ul style="list-style-type: none"> <li>• Name: System Name of the stored backup configuration.</li> <li>• Timestamp: Unit time when backup configuration was created. Note that this time may be before the time when the on-board backup was last updated, particularly in cases where the configuration had been live for some time before later updating the on-board backup.</li> <li>• Status: Indicates whether backup configuration is valid for current firmware, or gives additional instruction when the backup is not valid for current firmware. Usual causes of an invalid backup result from a firmware version change without subsequently updating the on-board backup.</li> </ul> |
| <b>On-board backup</b>                             | Creates a backup of the current written and active configuration.  |
| <b>Invalidate backup config</b>                    | Erases the saved backup configuration from the unit.   |
| <b>Validate backup in web</b>                      | Exercises a "Device Access > Read" operation, except that the unit will read in the values from the backup configuration rather than the active configuration. The values read into the web interface can be validated in the edit interface and written back to the unit as an active configuration. When doing this, the current local user profiles will be applied to the backup configuration instead of restoring the backup configuration's local user profiles.  |
| <b>Restore backup and reboot</b>                   | Reboots the unit and restores the onboard backup configuration - rather than the active configuration. This will restore the local user profiles from the backup configuration.  |

| <b>Escrow Web Validation</b>     |  |
|----------------------------------|--|
| <b>Current escrow details</b>    | On power up, will show escrow empty or invalid. By using the multiloader interface, a backup configuration (previously downloaded from "Device Access > Backup Config") can be uploaded to the escrow location for web validation before going active. When a config has been uploaded to escrow, this will show the Name, Timestamp, and Status, similar to the on-board configuration above. |
| <b>Invalidate escrow config</b>  | Explicitly erases the escrow configuration from the unit.<br><b>NOTE:</b> Uploading a new configuration will overwrite the previous escrow configuration.<br><b>NOTE:</b> Rebooting the unit without restoring a configuration from escrow will erase the escrow configuration.  |
| <b>Validate escrow in web</b>    | Exercises a "Device Access > Read" operation, except will read in the values from the escrow configuration rather than the active configuration. Works similarly to on-board configuration backup validation.  |
| <b>Restore escrow and reboot</b> | Reboots the unit with a message to the bootloader that it should attempt to boot using the escrow configuration rather than the active configuration. This will restore the local user profiles from the escrow configuration.   |

## 6.2 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 7 additional unique user profiles, each with different access rights to the NetGuardian's web interface.

The screenshot shows the NetGuardian 832A G6 web interface. The top navigation bar includes the DPS Telecom logo, the product name 'NetGuardian 832A G6', and links for 'Home', 'Upload', and 'Logout (admin)'. A left sidebar contains a menu with items like 'Monitor', 'Provisioning', 'System', 'User Profiles' (circled in red), 'Ethernet', 'RADIUS', 'Serial Ports', 'SNMP', 'Notifications', 'Alarms', 'Persistent Alarm Counters', 'Exp. Alarms', 'Controls', and 'Exp. Controls'. The main content area is titled 'User Profiles Summary' and contains a table with the following data:

| Id | Username | Status    |   |
|----|----------|-----------|---|
| 1  | admin    | Default   | <input type="button" value="Edit"/> (Administrator Profile)               |
| 2  |          | Suspended | <input type="button" value="Edit"/> <input type="button" value="Delete"/> |
| 3  |          | Suspended | <input type="button" value="Edit"/> <input type="button" value="Delete"/> |
| 4  |          | Suspended | <input type="button" value="Edit"/> <input type="button" value="Delete"/> |
| 5  |          | Suspended | <input type="button" value="Edit"/> <input type="button" value="Delete"/> |
| 6  |          | Suspended | <input type="button" value="Edit"/> <input type="button" value="Delete"/> |
| 7  |          | Suspended | <input type="button" value="Edit"/> <input type="button" value="Delete"/> |
| 8  |          | Suspended | <input type="button" value="Edit"/> <input type="button" value="Delete"/> |

*Configure access privileges for users in the User Profile screen*

To create or edit any of the 8 user profiles (including the Admin), click the **Edit** button. From there, you can change all configurable settings for a user profile.

| User Profile  |   |
|---|---|
| <b>Suspend this Profile</b>                             | If this box is checked, the profile will not be able to access the unit.  |
| <b>Username</b>   | Enter a username or a user description  |
| <b>Password</b>   | Enter a unique user password <b>NOTE:</b> All passwords are AES 128 encrypted.  |
| <b>Confirm Password</b>                                 | Re-enter the password.  |
| Access Rights   |   |
| <b>Check all</b>  | Enables all Access Rights   |
| <b>Edit logon profiles</b>                              | Enables the user to add/modify user profiles and password information.  |
| <b>Write Config (change unit configuration)</b>         | Enables the user to change the unit config by accessing the <b>Write</b> feature in the control menu.   |
| <b>View monitor pages</b>                               | Allows the user to access Monitor menu options.   |
| <b>Send relay commands</b>                              | Allows the user to send commands to operate the device's control relays.  |
| <b>TTY access (access via Craft port or via Telnet)</b> | Grants the user access to the unit via TTY interface (via craft or telnet).   |
| <b>Initialize config to factory defaults</b>            | Allows the user to use the <b>Initialize</b> option in the <b>Device Access</b> menu, resetting the unit to factory default settings. All user settings will be lost. |
| <b>Upload new firmware, or config</b>                   | Allows the user to upload firmware or backed-up configuration files.  |
| <b>Get audit log</b>                                    | Allows the user to access the Audit Log ( <b>Get Log</b> command).  |
| <b>Purge (delete) audit log</b>                         | Allows the user to delete the existing audit log.   |
| <b>Get (backup) config</b>                              | Backs-up all user profile configuration settings.   |
| <b>Get and delete analog history</b>                    | Allows the user to access and delete the analog and sensor history.   |

*User profile field descriptions*

## 6.3 Ethernet

The **Edit > Ethernet** menu allows you to define and configure Ethernet settings.

|                                     |                                     |  |
|-------------------------------------|-------------------------------------|--|
| <b>Monitor</b>                      | <b>Ethernet Settings</b>            |  |
| <b>Provisioning</b>                 | <b>Net 1 Settings</b>               |  |
| <b>System</b>                       | MAC Address                         | 00:10:81:00:fa:c0  |
| <b>User Profiles</b>                | Host Name                           | <input type="text"/> ( )   |
| <b>Ethernet</b>                     | Enable DHCP                         | <input checked="" type="checkbox"/>  |
| <b>RADIUS</b>                       | Unit IP                             | <input type="text" value="192.168.1.100"/> (192.168.1.100)   |
| <b>Serial Ports</b>                 | Subnet Mask                         | <input type="text" value="255.255.0.0"/> (255.255.0.0)   |
| <b>SNMP</b>                         | Gateway                             | <input type="text" value="255.255.255.255"/> (255.255.255.255)   |
| <b>Notifications</b>                | User Metric (Priority)              | <input type="text" value="10"/> (10)   |
| <b>Alarms</b>                       | <b>Net 2 Settings</b>               |  |
| <b>Persistent Alarm</b>             | MAC Address                         | 00:10:81:00:fa:c1  |
| <b>Counters</b>                     | Host Name                           | <input type="text"/> ( )   |
| <b>Exp. Alarms</b>                  | Enable DHCP                         | <input type="checkbox"/>   |
| <b>Controls</b>                     | Unit IP                             | <input type="text" value="10.0.6.86"/> (10.0.6.86)   |
| <b>Exp. Controls</b>                | Subnet Mask                         | <input type="text" value="255.255.0.0"/> (255.255.0.0)   |
| <b>Analogs</b>                      | Gateway                             | <input type="text" value="10.0.0.254"/> (10.0.0.254)   |
| <b>Exp. Analogs</b>                 | User Metric (Priority)              | <input type="text" value="11"/> (11)   |
| <b>Sensors</b>                      | <b>DNS Settings (Global)</b>        |  |
| <b>Wireless Sensors</b>             | DNS Server 1                        | <input type="text" value="255.255.255.255"/> (255.255.255.255)   |
| <b>Ping Targets</b>                 | DNS Server 2                        | <input type="text" value="255.255.255.255"/> (255.255.255.255)   |
| <b>Accum. Timers</b>                | <b>Static Routes</b>                |  |
| <b>Analog Delta</b>                 | Route 1                             |  |
| <b>System Alarms</b>                | Interface                           | <input type="text" value="Net 1"/>   |
| <b>Timers</b>                       | Network IP                          | <input type="text" value="255.255.255.255"/> (255.255.255.255)   |
| <b>Date and Time</b>                | Subnet Mask                         | <input type="text" value="255.255.255.255"/> (255.255.255.255)   |
| <b>Device Access</b>                | Gateway                             | <input type="text" value="255.255.255.255"/> (255.255.255.255)   |
| <b>Tooltips Off</b>                 | User Metric (Priority)              | <input type="text" value="5"/> (5)   |
| <b>Export Tooltips to Help File</b> | Route 2                             |  |
|                                     | Interface                           | <input type="text" value="Net 1"/>   |
|                                     | Network IP                          | <input type="text" value="255.255.255.255"/> (255.255.255.255)   |
|                                     | Subnet Mask                         | <input type="text" value="255.255.255.255"/> (255.255.255.255)   |
|                                     | Gateway                             | <input type="text" value="255.255.255.255"/> (255.255.255.255)   |
|                                     | User Metric (Priority)              | <input type="text" value="6"/> (6)   |
|                                     | <b>Advanced TCP Settings</b>        |  |
|                                     | Force Max TCP Window Size           | <input type="checkbox"/> This should only be used for slower networks. If you are experiencing issues with TCP communication (such as web browsing or telnet), then set the Maximum TCP Window Size to a value that is less than what was last used in parenthesis |
|                                     | Maximum TCP Window Size             | <input type="text" value="16383"/> (Last window size: 64240)   |
|                                     | <input type="button" value="Save"/> |  |

*The Provisioning > Ethernet menu*

| <b>Ethernet Settings (Many are separate for Net 1 &amp; Net 2)</b> |   |
|--|---|
| <b>MAC Address</b>   | Hardware address of the NetGuardian. (Not editable - For reference only.)   |
| <b>Host Name</b>   | Used only for web browsing. Example: If you don't want to remember this NetGuardian's IP address, you can type in a name in this field, such as "MyNetGuardian". Once you save and reboot the unit, you can now browse to it locally by simply typing in "MyNetGuardian" in the address bar. (no "http://" needed). |
| <b>Enable DHCP</b>   | 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.  |
| <b>Unit IP</b>   | IP address of the NetGuardian.  |
| <b>Subnet Mask</b>   | A road sign to the NetGuardian, telling it whether your packets should stay on your local network or be forwarded somewhere else on a wide-area network.  |
| <b>Gateway</b>   | An important parameter if you are connected to a wide-area network. It tells the NetGuardian 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.   |
| <b>User Metric (Priority)</b>                                      | Used to prioritize one network over another (Net 1 vs. Net 2) when making an outbound connection. The network gateway with the lower metric is the default gateway; the network gateway with the higher metric is a fallback gateway.   |
| <b>DNS Server 1</b>  | Primary IP address of the domain name server. Set to 255.255.255.255 if not using.  |
| <b>DNS Server 2</b>  | Secondary IP address of the domain name server. Set to 255.255.255.255 if not using.  |
| <b>[Static Routes]</b>   | Options for creating a static route to a designated subnet through a specified gateway. The "User Metric (Priority)" is used for prioritization similar to network behavior; any matching static routes with a lower metric will be attempted before those with higher metrics.                                     |

| <b>Advanced TCP Settings</b>     |   |
|----------------------------------|---|
| <b>Force Max TCP Window Size</b> | The defined TCP window size is used. (For low-bandwidth networks) |
| <b>Maximum TCP Window Size</b>   | Sets the TCP receive window size.                                 |

**NOTE:** DNS Server settings are required if a hostname is being used for ping targets.

## 6.4 RADIUS

RADIUS (Remote Authentication Dial In User Service) is an industry-standard way to manage logins to many different types of equipment in one central location. The G6 connects to your central RADIUS server. Every time a device receives a login attempt (usually a username & password), it requests an authentication from the RADIUS server. If the username & password combination is found in the server's database, an affirmative "access granted" reply is sent back to the unit device, allowing the user to connect. You can access the RADIUS page by clicking on **Provisioning** menu > **RADIUS** link. See image below.

The screenshot shows the NetGuardian 832A G6 web interface. The left sidebar contains a menu with 'RADIUS' highlighted in red. The main content area is titled 'RADIUS' and includes a 'Global Settings' section with 'Retry' (3) and 'Time-out' (5sec) fields. Below this are 'Server 1' and 'Server 2' sections, each with 'IPA' (255.255.255.255), 'Port' (1812), and 'Secret' fields. A 'Save' button is located at the bottom of the form.

Provisioning > RADIUS

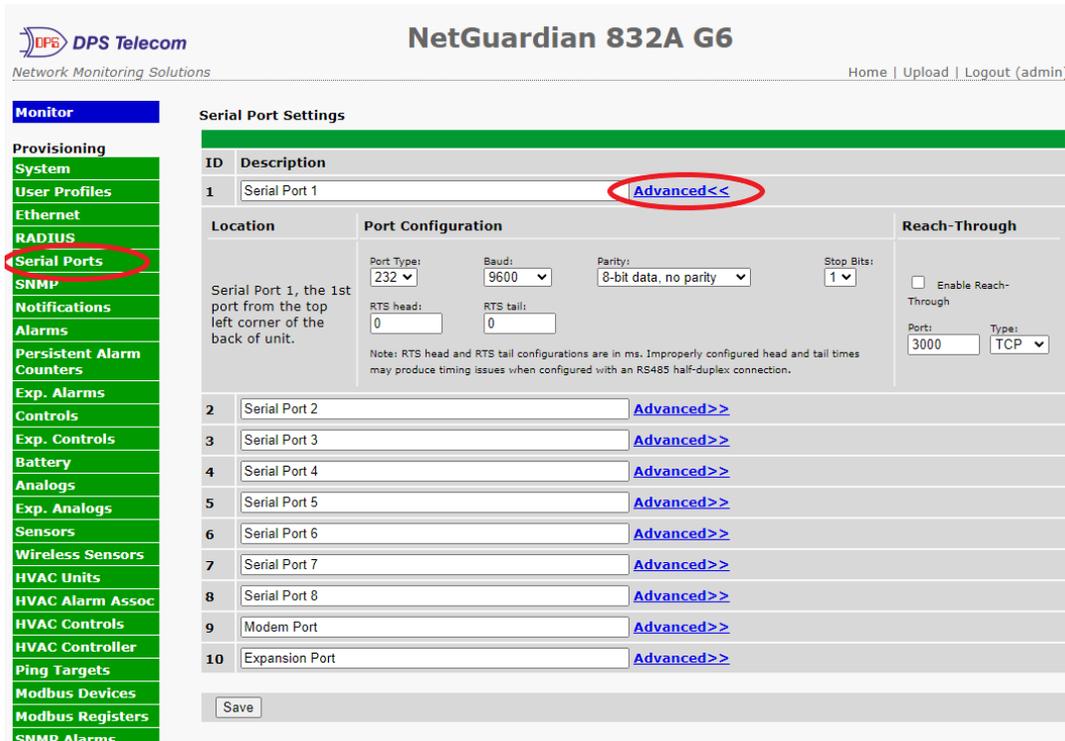
| Global Settings     |  |
|---------------------|--|
| <b>Retry</b>        | Enter the number of times the RADIUS server should retry a logon attempt |
| <b>Time-out</b>     | Enter in the number of seconds before a logon request is timed out       |
| Server 1 & Server 2 |  |
| <b>IPA</b>          | Enter the IP address of the RADIUS server                                |
| <b>Port</b>         | Port 1812 is an industry-standard port for using RADIUS                  |
| <b>Secret</b>       | Enter the RADIUS secret in this field                                    |

After successfully entering the settings for the RADIUS server, the G6 Web Browser will prompt users for both a Username and Password, which will be verified using the information and access rights stored in the RADIUS database.

RADIUS logons **are** case-sensitive. If the RADIUS server is unavailable or access is denied, the master password will work for craft port access only. Also, the "dictionary.dps" files (included on the Resource Disk) needs to be loaded on the RADIUS server for access-right definition. If RADIUS is enabled on the G6, the local authentication will not be valid.

## 6.5 Serial Ports

The **Provisioning > Serial Port** menu allows you to change settings depending on the port type of your G6. From this menu, you can select a mode of operation and enable reach-through serial port functionality.



The Provisioning > Serial Ports menu

| Location  |   |
|---|---|
| Reminder that the primary serial port is located on the back of the unit chassis. |   |
| Port Configuration  |   |
| <b>Port Type</b>  | Select the serial port for your build of the unit. Choose from 232, 485...  |
| <b>Baud, Parity, and Stop Bits</b>  | Select the appropriate settings from the drop-down menu.  |
| <b>RTS Head</b>   | Useful for RS485 serial connections, and especially necessary when configuring 485 half-duplex.   |
| <b>RTS Tail</b>   | Useful for RS485 serial connections, and especially necessary when configuring 485 half-duplex.   |
| Reach-Through   |   |
| <b>Enable Reach-through</b>   | Checking this box enables the port to be used as a terminal server. Most commonly used to Telnet through the port over LAN to a hub, switch, or router. From a command prompt, type the following ( <i>note the spaces between each entry</i> ):<br>telnet [IP address] [port]<br><b>Example:</b> telnet 192.168.1.100 3000 |
| <b>Port</b>   | Port number used for reach-through to a serial device.  |
| <b>Type</b>   | Select TCP or UDP traffic to be passed through to a serial device. Can also be set to "proxy" for establishing proxy reach-through from a TTY interface.  |

## 6.6 SNMP

The **Provisioning > SNMP** menu allows you to define and configure the SNMP settings.

SNMP Menu

| Global Settings              |   |
|------------------------------|---|
| <b>Get Community</b>         | Community name for SNMP requests.   |
| <b>Set Community</b>         | Community name for SNMP SET requests.   |
| <b>Read and Write Access</b> | This field defines how the G6 may be accessed via SNMP. This can be set to the following: <ul style="list-style-type: none"> <li>• Access Disabled- Restricts all access to unit via SNMP</li> <li>• SNMPv2c only- Allows SNMPv2c access only</li> <li>• SNMPv2c and SNMPv1-Only- Allows SNMPv1 and SNMPv2c access</li> <li>• SNMPv3, SNMPv2c and SNMPv1- Allows SNMPv3, SNMPv2c and SNMPv1 access</li> </ul> |

Fields in the Provisioning > SNMP settings

## 6.7 Notifications

From the initial **Provisioning > Notifications** menu, you will see which of the notifications are enabled, their type, and details. Click on the **Edit** link for one of the notifications to begin configuration. Once you have entered the **Edit** menu you will be given the option to set the status type of alarms which will trigger a notification. Entering the status drop down box offers you the following options:

1. Notification disabled.
2. Notify on both alarms and clears.
3. Notify on alarms only.
4. Notify on clears only.

The NetGuardian 832A G6 offers 4 types of notifications. Select one of these options under the type section:

1. Send Email.
2. Send SNMP.
3. Relay Groups.
4. Speaker.

Once your options have been selected you must click the **Save and Next** button to proceed for further configuration. Clicking the back button will take you to the previous Notification page. Click the **TEST** link to initiate a test of the notification to ensure your configuration settings are valid.

The screenshot shows the NetGuardian 832A G6 web interface. The top navigation bar includes the DPS Telecom logo, the device name 'NetGuardian 832A G6', and links for 'Home | Upload | Logout (admin)'. The sidebar menu on the left lists various configuration sections: Monitor, Provisioning, System, User Profiles, Ethernet, RADIUS, Serial Ports, SNMP, Notifications (highlighted with a red circle), Alarms, Persistent Alarm Counters, Exp. Alarms, and Controls. The main content area displays a table of notifications with columns for Id, Notify On, Type, and Details. Each row includes 'Edit' and 'Test' links. Below the table, the 'Notification 1' configuration page is shown, featuring a 'Status' dropdown menu set to 'Notify on both Alarms and Clears', a 'Type' section with radio buttons for 'Send Email', 'Send SNMP' (selected), 'Relay Groups', and 'Speaker', and a 'Back | Save and Next' button.

| Id | Notify On | Type            | Details          | Edit | Test |
|----|-----------|-----------------|------------------|------|------|
| 1  | Both      | SNMP            | 126.10.218.204   | Edit | Test |
| 2  | Both      | Onboard Speaker | Sound: Beep High | Edit | Test |
| 3  | Disabled  | Email           | ?                | Edit | Test |
| 4  | Disabled  | Email           | ?                | Edit | Test |
| 5  | Disabled  | Email           | ?                | Edit | Test |
| 6  | Disabled  | Email           | ?                | Edit | Test |
| 7  | Disabled  | Email           | ?                | Edit | Test |
| 8  | Disabled  | Email           | ?                | Edit | Test |



Clicking the **Save and Next** button does not save your settings. You will be required to **Write** your settings to the device in order for your configurations to be saved. The NetGuardian 832A G6 will provide a prompt reminding you of this requirement. You will access the Write option via the **Device Access > Write** menu.

## 6.7.1 Notification Settings

### Email Notification Fields

*Editing Email Notification Settings*

| Email Notification                 |   |
|------------------------------------|---|
| <b>SMTP Server IP or Host Name</b> | The IP address of your email server.  |
| <b>Port Number</b>                 | The port used by your email server to receive emails, usually set to 25.  |
| <b>Use TLS</b>                     | <p>Check this box to use TLS encryption. Currently, this feature has been tested with common email providers, like Gmail, Yahoo!, and others. As an example, to send via Gmail SMTP server, do the following:</p> <ul style="list-style-type: none"> <li>• SMTP Server IP or Host Name should be set to "smtp.gmail.com"</li> <li>• Port number must be set to 587.</li> <li>• SMTP authentication radio button must be selected.</li> <li>• User name and password (below under "How to Authenticate") are the user name and password for the Gmail account in use.</li> </ul> |
| <b>"From" E-mail Address</b>       | Displays the email address (defined in the Edit menu > System) that the NetGuardian will send emails from. Not editable from this screen. For interoperability with SMTP servers, this defaults to the authentication username.   |
| <b>"To" E-mail Address</b>         | The email address of the person responsible for this NetGuardian, who will receive email alarm notifications.   |
| How to Authenticate                |   |
| <b>User Name</b>                   | Full email address for the account (such as Gmail) being used.  |
| <b>Password</b>                    | Password will be updated if the "Update Password" and "Confirm Password" fields contain an identical new password. If these are blank, the password will not change. If the two fields do not contain the same new password, an alert message will appear when you attempt to save.   |

## SNMP Notification Fields

*Editing SNMP notification settings*

| SNMP Notification                        |   |
|--|---|
| <b>SNMP Trap Server IP</b>               | The SNMP trap manager's IP address.   |
| <b>Trap Port No.</b>                     | The SNMP port (UDP port) set by the SNMP trap manager to receive traps, usually set to 162.   |
| <b>Trap Community</b>                    | Community name for SNMP TRAP requests.  |
| <b>Trap Type</b>                         | Indicate whether you would like to send SNMP v1, v2c, v2c inform, or v3 traps.  |
| <b>Trap Granularity (v2c/v3)</b>         | Set whether traps generated by this notification type are sent with generic (*.8999 for sets, *.9999 for clears) OIDs, or if they are generated using granular OIDs designated in the G6 display mapping.   |
| <b>Legacy (G5) Trap Set/Clear Values</b> | Set whether traps generated by this notification type are sent using G6 granular OIDs, or if they are sent using G5 granular OIDs. Note that the trap granularity setting takes priority over this field. Note also that generic trap OIDs (*.8999 for sets, *.9999 for clears) will be used in G5 mode when a trap cannot be uniquely mapped to a G5 granular OID. |
| <b>SNMPv3 user (see SNMP menu)</b>       | When Trap Type v3 is selected, this determines the username, authentication, and privacy settings to be applied to the trap. These must be configured on the SNMP provisioning page.  |

## Relay Group Notification Fields

The screenshot shows the 'NetGuardian 832A G6' web interface. On the left is a navigation menu with categories like Monitor, Provisioning, System, User Profiles, Ethernet, RADIUS, Serial Ports, SNMP, Notifications, Alarms, Persistent Alarm Counters, Exp. Alarms, Controls, Exp. Controls, Battery, Analogs, Exp. Analogs, Sensors, Wireless Sensors, HVAC Units, HVAC Alarm Assoc, HVAC Controls, HVAC Controller, Ping Targets, Modbus Devices, Modbus Registers, SNMP Alarms, and Variable Bindings. The main content area is titled 'Notification 3 (Relay Group)'. Under 'Operation Type', 'Momentary Latch' is selected. Below this is a list of 48 relays, each with a checkbox. The 'Active Relays' section is currently empty. At the bottom of the form are 'Back' and 'Save and Next' buttons.

*Editing Relay Group notification settings*

| SNMP Notification     |  |
|-----------------------|--|
| <b>Operation Type</b> | When a notification event occurs, selected active relays will momentarily latch for the momentary time configured on the controls provisioning page. |
| <b>Active Relays</b>  | Momentary latch configured inside the control. Briefly latch and release a rely contact  |

## Speaker Notification Fields

*Editing Speaker Sound notification settings*

| SNMP Notification      |  |
|------------------------|--|
| <b>Sound Selection</b> | Enter the drop box to select the type of sound alarm from the speaker.<br>Select from the following: <ul style="list-style-type: none"> <li>• Speaker Off</li> <li>• Speaker Tone</li> <li>• Speaker Siren</li> <li>• Speaker Beep Low</li> <li>• Speaker Beep High</li> </ul> |

### 6.7.2 Notification Schedule

The notifications scheduling menu is where you will tell the G6 exactly which days and times you want to receive alarm notifications. You set 2 different schedules for each.

*The Schedule creation screen*

| Notification Scheduling  |   |
|--------------------------|---|
| <b>Days of the week</b>  | From either Schedule 1 or 2, check which days you want to receive notifications.                      |
| <b>Any Time</b>          | Select this is if you want to receive alarm notifications at any time for the day(s) you've selected. |
| <b>Notification Time</b> | Tells the unit to only send notifications during certain hours on the day(s) you've selected.         |

## 6.8 Alarms

Discrete alarms are configured from the **Provisioning > Alarms** and **Provisioning > Exp. Alarms** menus.

**Alarms**

| Alarms  |  | Rev.                                | 1                        | 2                        | 3                        | 4                        | 5                        | 6                        | 7                        | 8                        |
|---|--|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <b>Id</b>   | <b>Description</b> <a href="#">Display Map</a>         | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 1   | West A Failure <a href="#">Advanced&lt;&lt;</a>        | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| On Set: <input type="text" value="Alarm"/> Qual. Time: <input type="text" value="0sec"/><br>On Clear: <input type="text" value="Clear"/> Qual. Type: <input type="text" value="OnSet"/> |  |                                     |                          |                          |                          |                          |                          |                          |                          |                          |
| 2   | West B Failure <a href="#">Advanced&gt;&gt;</a>        | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3   | East A Failure <a href="#">Advanced&gt;&gt;</a>        | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 4   | East B Failure <a href="#">Advanced&gt;&gt;</a>        | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 5   | Central Failure <a href="#">Advanced&gt;&gt;</a>       | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 6   | Gen Room HVAC Failure <a href="#">Advanced&gt;&gt;</a> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 7   | Zone 1 Smoke <a href="#">Advanced&gt;&gt;</a>          | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 8   | Zone 2 Smoke <a href="#">Advanced&gt;&gt;</a>          | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 9   | Gen Room Smoke <a href="#">Advanced&gt;&gt;</a>        | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 10  | User Alarm 10 <a href="#">Advanced&gt;&gt;</a>         | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 11  | User Alarm 11 <a href="#">Advanced&gt;&gt;</a>         | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 12  | User Alarm 12 <a href="#">Advanced&gt;&gt;</a>         | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| <input type="button" value="Save"/>   |  |                                     |                          |                          |                          |                          |                          |                          |                          |                          |

*The Provisioning > Alarms menu*

| Basic Alarm Configuration                 |   |
|---|---|
| <b>ID</b>                                 | Alarm ID number.  |
| <b>Description</b>                        | User-definable description for the discrete alarm point.  |
| <b>Rev (Reverse)</b>                      | Reverse: Check this box to reverse the polarity of the alarm point.<br>Unchecked (Normally Open): Alarm is clear when contact is open and set when contact is closed.<br>Checked (Normally Closed): Alarm is clear when contact is closed and set when contact is open. |
| <b>Notification Devices</b>               | Check which notification device(s), 1 through 8, you want to send alarm notifications for that alarm point.   |
| Advanced Alarm Configuration (Advanced>>) |   |
| <b>On Set</b>                             | User-definable description (condition) that will appear for the discrete alarm input on Set. Example: "Alarm".  |
| <b>On Clear</b>                           | User-definable description (condition) that will appear for the discrete alarm input on Clear: "Example: "Alarm Cleared".   |
| <b>Qual. Time (Qualification Time)</b>    | The length of time that must pass, without interruption, in order for the condition to be considered an Alarm or a Clear.   |
| <b>Qual. Type (Qualification Type)</b>    | Allows you to choose whether you want to apply the Qualification Time to the alarm Set, Clear, or Both.   |

## 6.9 Persistent Alarm Counters

Persistent alarm counters are configured from the **Provisioning > Persistent Alarm Counters** menus. Configure specific alarm points to track alarm events over time, with event counters that persist across device reboots. To configure the Persistent Alarm, locate the alarm description and click the corresponding **Advanced** link to expand.

The screenshot shows the NetGuardian 832A G6 web interface. On the left is a navigation menu with 'Alarms' and 'Persistent Alarm Counters' highlighted. The main content area is titled 'Persistent Alarm Counters' and contains a table of counters. The first counter, 'Persistent Alarm Counter 1', has its 'Details<<' link circled in red. Below the table is a detailed configuration form for the selected counter, including fields for 'Unlock', 'Logged Point', 'Logging Config', and 'Last Configured'.

The Provisioning > Persistent Alarm Counters menu

| Persistent Alarm Counter  |  |
|---------------------------|--|
| <b>ID</b>                 | Counter ID number.   |
| <b>Enab</b>               | Enable and disable the counter.  |
| <b>Description</b>        | Description for the Persistent Alarm Counter.  |
| Details Settings          |  |
| <b>Display</b>            | Which display the counter will monitor. (See Display Mapping in Reference section, or click on Display Map at the top of the menu in the web interface).   |
| <b>Point</b>              | Which point on the above display will be counted.  |
| <b>Set Counter Value</b>  | The starting value of the counter before it begins incrementing (usually zero).  |
| <b>Counter Wrap Value</b> | How many times the alarm will be counted before resetting to zero (max 65535).   |
| <b>Limit Log Writes</b>   | Checking this box causes the alarm count to be held in RAM, and will only be written to NVRAM when the NetGuardian is rebooted by the user. <b>This means that if your NetGuardian experiences an unexpected loss of power, it will lose its count.</b> This can occur if the mains power goes out, or if the NetGuardian is unplugged during operation. Un-checking this box ensures that each count will be saved, at the cost of increased wear on the NetGuardian's NVRAM. |
| <b>Last Configured</b>    | Displays date and time this alarm counter was last configured  |

## 6.10 Expansion Alarms

**NOTE:** This menu option does not appear unless an expansion unit has been connected to your base G6.

Expansion Alarms have the same functionality as Alarms. They are added as part of an expansion unit, depending on your expansion configuration you will have the ability to select which expansion alarms to configure via the drop down box. See image below.

The screenshot displays the NetGuardian 832A G6 web interface. The sidebar menu on the left includes 'Monitor', 'Provisioning', 'System', 'User Profiles', 'Ethernet', 'RADIUS', 'Serial Ports', 'SNMP', 'Notifications', 'Alarms', 'Persistent Alarm Counters', 'Exp. Alarms' (highlighted with a red circle), 'Controls', 'Exp. Controls', 'Battery', 'Analog', 'Exp. Analog', 'Sensors', and 'Wireless Sensors'. The main content area is titled 'Expansion Alarms' and features a dropdown menu set to 'Expansion 1' (circled in red). Below this is a table with 8 columns: 'Id', 'Description', 'Display Map', 'Rev.', and 8 numbered columns (1-8). The table contains 8 rows of expansion alarms, each with a 'Rev.' checkbox and 8 numbered checkboxes. The 'Advanced<<' link for the third alarm is circled in red. Below the table are configuration fields for 'On Set' (Alarm), 'On Clear' (Clear), 'Qual. Time' (0sec), and 'Qual. Type' (OnSet).

| Id | Description | Display Map                      | Rev.                     | 1                                   | 2                        | 3                        | 4                        | 5                        | 6                        | 7                        | 8                        |
|----|-------------|----------------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1  | Exp 1 Alm 1 | <a href="#">Advanced&gt;&gt;</a> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2  | Exp 1 Alm 2 | <a href="#">Advanced&gt;&gt;</a> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3  | Exp 1 Alm 3 | <a href="#">Advanced&lt;&lt;</a> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 4  | Exp 1 Alm 4 | <a href="#">Advanced&gt;&gt;</a> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 5  | Exp 1 Alm 5 | <a href="#">Advanced&gt;&gt;</a> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 6  | Exp 1 Alm 6 | <a href="#">Advanced&gt;&gt;</a> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 7  | Exp 1 Alm 7 | <a href="#">Advanced&gt;&gt;</a> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 8  | Exp 1 Alm 8 | <a href="#">Advanced&gt;&gt;</a> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

On Set:  Qual. Time:   
 On Clear:  Qual. Type:

## 6.11 Controls

The G6 control relays can be configured in the **Provisioning > Controls** and **Provisioning Exp. Controls** menus. You can enter your own description for these relays and designate them to a notification device(s).

**Controls**

| Id                                    | Description     | Display Map                       | 1                                    | 2                        | 3                        | 4                        | 5                        | 6                        | 7                        | 8                        |
|---------------------------------------|-----------------|-----------------------------------|--------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <b>User Controls</b>                  |                 |                                   |                                      |                          |                          |                          |                          |                          |                          |                          |
| 13                                    | User Control 1  | <a href="#">Details&lt;&lt;</a>   | <input type="checkbox"/>             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Derived Description:                  |                 | <input type="text"/>              | <input type="button" value="Parse"/> |                          |                          |                          |                          |                          |                          |                          |
| Momentary time (e.g. 500ms, 5s, 1m):  |                 | <input type="text" value="1sec"/> |                                      |                          |                          |                          |                          |                          |                          |                          |
| 14                                    | User Control 2  | <a href="#">Details&gt;&gt;</a>   | <input type="checkbox"/>             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 15                                    | User Control 3  | <a href="#">Details&gt;&gt;</a>   | <input type="checkbox"/>             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 16                                    | User Control 4  | <a href="#">Details&gt;&gt;</a>   | <input type="checkbox"/>             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 17                                    | User Control 5  | <a href="#">Details&gt;&gt;</a>   | <input type="checkbox"/>             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 18                                    | User Control 6  | <a href="#">Details&gt;&gt;</a>   | <input type="checkbox"/>             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 19                                    | User Control 7  | <a href="#">Details&gt;&gt;</a>   | <input type="checkbox"/>             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 20                                    | User Control 8  | <a href="#">Details&gt;&gt;</a>   | <input type="checkbox"/>             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 21                                    | User Control 9  | <a href="#">Details&gt;&gt;</a>   | <input type="checkbox"/>             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 22                                    | User Control 10 | <a href="#">Details&gt;&gt;</a>   | <input type="checkbox"/>             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 23                                    | User Control 11 | <a href="#">Details&gt;&gt;</a>   | <input type="checkbox"/>             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 24                                    | User Control 12 | <a href="#">Details&gt;&gt;</a>   | <input type="checkbox"/>             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Reserved (User Derived Alarms)</b> |                 |                                   |                                      |                          |                          |                          |                          |                          |                          |                          |
| 31                                    | Reserved        | <a href="#">Details&gt;&gt;</a>   | <input type="checkbox"/>             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 32                                    | Reserved        | <a href="#">Details&gt;&gt;</a>   | <input type="checkbox"/>             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 33                                    | Reserved        | <a href="#">Details&gt;&gt;</a>   | <input type="checkbox"/>             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 34                                    | Reserved        | <a href="#">Details&gt;&gt;</a>   | <input type="checkbox"/>             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 35                                    | Reserved        | <a href="#">Details&gt;&gt;</a>   | <input type="checkbox"/>             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

*The Provisioning > Controls screen*

| Basic Controls Configuration        |   |
|-------------------------------------|---|
| <b>ID</b>                           | ID number for the control relay.  |
| <b>Description</b>                  | User-definable description for the NetGuardian's control relay.   |
| <b>Details: Derived Description</b> | Define simple if-then automation for this relay. Leave blank for pure manual operation. (see "Derived Controls" section for details and syntax) |
| <b>Details: Momentary Time</b>      | Control on time (in milliseconds) when you execute the MOM command. Max limit of 600 seconds.   |
| <b>Notification Devices</b>         | Check which notification device(s), 1 through 8, you want to send alarm notifications for the control relay.                                    |

### 6.11.1 Derived Controls

The G6's derived controls can be configured in the **Provisioning > Controls** screen. Each control can be configured for derived control. Click on Detail to show the derived controls setting. Enter in a derived control equation into the Derived Description field. Click on Parse to issue a parse command. The parse command is a test that will attempt to parse the derived control equation. It will return with a "Parse Successful!" or "Parse FAILED!" message. If "Parse FAILED!" is returned, there is an error in the syntax of the equation.

| Controls                              |                 | 1                                 | 2                                    | 3                        | 4                        | 5                        | 6                        | 7                        | 8                        |
|---------------------------------------|-----------------|-----------------------------------|--------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <b>User Controls</b>                  |                 |                                   |                                      |                          |                          |                          |                          |                          |                          |
| 13                                    | User Control 1  | <a href="#">Details&lt;&lt;</a>   | <input type="checkbox"/>             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Derived Description:                  |                 | <input type="text"/>              | <input type="button" value="Parse"/> |                          |                          |                          |                          |                          |                          |
| Momentary time (e.g. 500ms, 5s, 1m):  |                 | <input type="text" value="1sec"/> |                                      |                          |                          |                          |                          |                          |                          |
| 14                                    | User Control 2  | <a href="#">Details&gt;&gt;</a>   | <input type="checkbox"/>             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 15                                    | User Control 3  | <a href="#">Details&gt;&gt;</a>   | <input type="checkbox"/>             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 16                                    | User Control 4  | <a href="#">Details&gt;&gt;</a>   | <input type="checkbox"/>             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 17                                    | User Control 5  | <a href="#">Details&gt;&gt;</a>   | <input type="checkbox"/>             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 18                                    | User Control 6  | <a href="#">Details&gt;&gt;</a>   | <input type="checkbox"/>             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 19                                    | User Control 7  | <a href="#">Details&gt;&gt;</a>   | <input type="checkbox"/>             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 20                                    | User Control 8  | <a href="#">Details&gt;&gt;</a>   | <input type="checkbox"/>             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 21                                    | User Control 9  | <a href="#">Details&gt;&gt;</a>   | <input type="checkbox"/>             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 22                                    | User Control 10 | <a href="#">Details&gt;&gt;</a>   | <input type="checkbox"/>             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 23                                    | User Control 11 | <a href="#">Details&gt;&gt;</a>   | <input type="checkbox"/>             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 24                                    | User Control 12 | <a href="#">Details&gt;&gt;</a>   | <input type="checkbox"/>             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Reserved (User Derived Alarms)</b> |                 |                                   |                                      |                          |                          |                          |                          |                          |                          |
| 31                                    | Reserved        | <a href="#">Details&gt;&gt;</a>   | <input type="checkbox"/>             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 32                                    | Reserved        | <a href="#">Details&gt;&gt;</a>   | <input type="checkbox"/>             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 33                                    | Reserved        | <a href="#">Details&gt;&gt;</a>   | <input type="checkbox"/>             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 34                                    | Reserved        | <a href="#">Details&gt;&gt;</a>   | <input type="checkbox"/>             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 35                                    | Reserved        | <a href="#">Details&gt;&gt;</a>   | <input type="checkbox"/>             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Configure derive Controls in the Provisioning menu > Controls screen > Details > Derived Description

Virtual alarms and control relays can be created from derived formulas using the following operations:

- \_OR** : Set the current operation to OR.
- \_AN** : Set the current operation to AND.
- \_NO** : Set the current operation to NOT
- \_XR** : Set the current operation to XOR.
- D** : Tag to change the active display number.
- C#** : Used as a constant where # is either a 1 or a 0.
- .** : Used like a comma to delimit numbers.
- : Used to specify a range of points.
- S** : Used like an open parentheses.
- F** : Used to end or close parentheses (All open parentheses must have a matching close parentheses).

(Spaces included here are for readability purposes only.)

- Precedence of the operations are always left to right unless using **S** and **F** for parentheses.
- 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))

\_AN D1-2 : Control will parse

\_OR S\_AND1.1-2FS\_AND1.3-4F is logically equivalent to (1.1 && 1.2) || (1.3 && 1.4)

\_OR C1 D1.1 is logically equivalent to (1 || 1.1)

## 6.12 Expansion Controls

**NOTE:** This menu option does not appear unless an expansion unit has been connected to your base G6.

Derived Expansion Controls have the same functionality as Derived Controls. They are added as part of an expansion unit, such as the NetGuardian E16 DX G2, which extends your available quantity of control relays. When available, they will appear on this additional page of control relays. Depending on your expansion configuration you will have the ability to select which expansion controls to configure via the drop down box. See image below.

The screenshot shows the NetGuardian 832A G6 web interface. The sidebar menu on the left has 'Exp. Controls' highlighted. The main content area is titled 'Expansion Controls' and features a dropdown menu set to 'Expansion 1'. Below this is a table with columns for 'Id', 'Description', 'Display Map', and relays 1 through 8. The table lists six expansion controls (Exp 1 Ctl 1 to Exp 1 Ctl 6). A 'Derived Description' field and a 'Momentary time' field (set to 1sec) are also visible.

| Id   | Description | Display Map                     | 1                        | 2                        | 3                        | 4                        | 5                        | 6                        | 7                        | 8                        |
|--|-------------|---------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1  | Exp 1 Ctl 1 | <a href="#">Details&gt;&gt;</a> | <input type="checkbox"/> |
| 2  | Exp 1 Ctl 2 | <a href="#">Details&gt;&gt;</a> | <input type="checkbox"/> |
| 3  | Exp 1 Ctl 3 | <a href="#">Details&lt;&lt;</a> | <input type="checkbox"/> |
| Derived Description: <input type="text"/> <input type="button" value="Parse"/> |             |                                 |                          |                          |                          |                          |                          |                          |                          |                          |
| Momentary time (e.g. 500ms, 5s, 1m): <input type="text" value="1sec"/>         |             |                                 |                          |                          |                          |                          |                          |                          |                          |                          |
| 4  | Exp 1 Ctl 4 | <a href="#">Details&gt;&gt;</a> | <input type="checkbox"/> |
| 5  | Exp 1 Ctl 5 | <a href="#">Details&gt;&gt;</a> | <input type="checkbox"/> |
| 6  | Exp 1 Ctl 6 | <a href="#">Details&gt;&gt;</a> | <input type="checkbox"/> |

The Provisioning > Exp. Controls screen

## 6.13 Battery

1. In the “**Provisioning**” section click the **Battery** link.
2. If you opened this menu after adding a new BVM Sensor to the D-Wire, a new ROM ID will be visible and highlighted in yellow (indicating “detected and NOT configured”). If you add a new BVM Sensor while this menu is open, simply click the ‘Rediscover’ button.
3. Select a String name and Jar number for this BVM Sensor.
4. Name the Voltage, Temperature, and Resistance sensors as desired (ex. “Jar 1 Voltage”)
5. Each time you add your first sensor to a new battery string, configure the string’s options at the top portion of this menu (use the dropdown menu to select a string to change its settings). These string settings (including the 4 major & minor, over & under alarm thresholds) are common to all sensors in the string. Some settings, like the Analog Channel for string voltage, are not directly related to your BVM Sensors but instead are related to a separate analog input used to independently measure to total string voltage. 7. Repeat this process for each sensor you add. Consider that, unless your PC is not easily accessible during installation, it is usually easiest to plug in one sensor, configure it, then plug in the next sensor, and so on. This makes it obvious which physical sensor you are configuring in the web interface.



**DPS Telecom**  
Network Monitoring Solutions

### NetGuardian 832A G6

Home | Upload | Logout (admin)

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- Provisioning
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- Serial Ports
- SNMP
- Notifications
- Alarms
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- Counters
- Exp. Alarms
- Controls
- Exp. Controls
- Battery
- Analog
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- Sensors
- Wireless Sensors
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- HVAC Alarm Assoc
- HVAC Controls
- HVAC Controller
- Ping Targets
- Modbus Devices
- Modbus Registers
- SNMP Alarms
- Variable Bindings
- Accum. Timers
- Analog Delta
- System Alarms
- Timers
- Date and Time

#### Battery Health Monitoring

**Battery String Configuration**

String:

Name:

Enabled:

Blink Sensors in Order:

**Sensor Settings**

| Id              | Channel | Description  | 1                        | 2                        | 3                        | 4                        | 5                        | 6                        | 7                        | 8                        |
|-----------------|---------|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Voltage         | 1       | Power Input A<br><a href="#">Details&gt;&gt;</a>   | <input type="checkbox"/> |
| Current         | 2       | Current Input A<br><a href="#">Details&gt;&gt;</a> | <input type="checkbox"/> |
| Jar Voltage     |         | Jar Voltage<br><a href="#">Details&gt;&gt;</a>     | <input type="checkbox"/> |
| Jar Temperature |         | Jar Temperature<br><a href="#">Details&gt;&gt;</a> | <input type="checkbox"/> |
| Jar Resistance  |         | Jar Resistance<br><a href="#">Details&gt;&gt;</a>  | <input type="checkbox"/> |

Resistance Read Interval: Hours:  Minutes:  (1 minute - 168 hours, 0 interval disables resistance measurement)

(ROM ID color key: ■ - detected and configured ■ - detected and NOT configured ■ - NOT detected and configured ■ - sensor type NOT supported )

Rediscover
**Sensor Association**
View Sensor
View Temperature
View Resistance

| Id | ROM ID           | String | Jar         | Description |   |
|----|------------------|--------|-------------|-------------|---|
| 1  | 28a151e10d0000fb |        | User Sensor | Internal A  | <input type="button" value="Identify"/> |
| 2  | 28545bde0d00000d |        | User Sensor | Internal B  | <input type="button" value="Identify"/> |
| 3  | 3d520e04500700d5 |        | User Sensor | Dwire1      | <input type="button" value="Identify"/> |
| 4  | 32b2120100100379 |        | User Sensor | BVM1        | <input type="button" value="Identify"/> |

## 6.14 Analogs

Analog alarms are typically used to monitor battery voltage, charging current, temperature, humidity, wind speed, or other continuously changing conditions. To configure a user analog, simply fill in your description, thresholds, and other fields listed in the table below, then click **Save**.

The screenshot shows the NetGuardian 832A G6 web interface. The left sidebar contains a menu with 'Analog' highlighted in red. The main content area is titled 'User Analogs' and displays a table of analog channels. Channel 1 is 'Power Input A' and channel 2 is 'Current Input A'. The 'Details<<' link for channel 1 is circled in red. Below the table, the 'Analog Gauge Type' section shows four gauge icons: 'None', a semi-circular gauge, a vertical bar gauge, and a circular gauge. The 'Analog Gauge Type' section is also highlighted with a red circle.

*The Provisioning > User Analogs menu*

**NOTE:** Analog channels 7 and 8 are for internal voltage monitoring (On a single power input build, channel 7 is unused.)

| User Analogs   |   |
|--|---|
| <b>Enab (Enable)</b>   | Checking the box in the <b>Enab</b> column enables monitoring of the analog channel.  |
| <b>Description</b>   | User-definable description for the analog channel   |
| <b>Notifications</b>   | Check which notification device(s), 1 through 8, you want to send alarm notifications for this analog input.  |
| Details  |   |
| <b>Record Freq</b>   | The frequency with which the TempDefender G2 will record the analog reading   |
| <b>Deadband</b>  | The additional qualifying value the TempDefender G2 requires above/below your alarm thresholds in order to set an alarm.  |
| <b>Units</b>   | The unit(s) of measurement reported by a connected analog input.  |
| <b>Low ref and High Ref</b>  | The low and high values for scaling voltage to your display units.  |
| <b>MjU (Major Under)<br/>MnU (Minor Under)<br/>MnO (Minor Over)<br/>MjO (Major Over)</b> | Threshold settings that, when crossed, will prompt the TempDefender G2 to set an alarm. Recorded values less than an under value or greater than an over value will cause alarms. |
| <b>Discrete Input</b>  | Assign the alarm point associated with this analog.   |
| <b>Qual. Time (sec)</b>  | Length of time, in seconds, that an alarm point must be set before before an analog can post.   |
| <b>Analog Gauge Type</b>   | Select the type of analog gauge represented in the <b>Monitor&gt;User Analogs&gt;Gauge View</b> menu  |

## 6.15 Expansion Analogs

**NOTE:** This menu option does not appear unless an expansion unit has been connected to your base G6.

Expansion Analogs have the same functionality as User Analogs. They are added as part of an expansion unit. When available, they will appear on this additional page of user analogs. Depending on your expansion configuration you will have the ability to select which expansion controls to configure via the drop down box. See image below.

The screenshot shows the NetGuardian 832A G6 web interface. The sidebar on the left contains a menu with 'Exp. Analogs' highlighted. The main content area is titled 'Expansion Analogs' and features a dropdown menu for 'Expansion 1'. Below this is a table of analogs:

| Id | Enab                                | Description | Display Map                     | 1                                   | 2                        | 3                        | 4                        | 5                        | 6                        | 7                        | 8                        |
|----|-------------------------------------|-------------|---------------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1  | <input checked="" type="checkbox"/> | Exp 1 Alg 1 | <a href="#">Details&gt;&gt;</a> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2  | <input checked="" type="checkbox"/> | Exp 1 Alg 2 | <a href="#">Details&lt;&lt;</a> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3  | <input checked="" type="checkbox"/> | Exp 1 Alg 3 | <a href="#">Details&gt;&gt;</a> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 4  | <input checked="" type="checkbox"/> | Exp 1 Alg 4 | <a href="#">Details&gt;&gt;</a> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 5  | <input checked="" type="checkbox"/> | Exp 1 Alg 5 | <a href="#">Details&gt;&gt;</a> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

The configuration panel for 'Exp 1 Alg 2' includes the following settings:

- Record Freq: 15min
- Deadband: 1.00
- Qual. Time: 0sec
- Qual. Type: OnSet
- Exp Alarm Mode: Expansion (Posts received alarms)
- Scaling: Actual to Display, VDC
- Units: [ ] to [ ]
- Low ref: -35 to -35
- High ref: 35 to 35
- Thresholds: MjU: -79.00, MnU: -35.00, MnO: 35.00, MjO: 79.00

The 'Analog Gauge Type' section shows four options: None, a gauge icon, a bar chart icon, and another gauge icon. The first gauge icon is selected.

The Provisioning > Exp. Analogs screen



| Sensors                     |   |
|-----------------------------|---|
| <b>ID</b>                   | The sensor point number   |
| <b>ROM ID</b>               | <p>The ID number found on the sticker of the temperature sensor node. Your HVAC Controller 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.</p> <p><b>Green</b> - The sensor is connected and properly configured.</p> <p><b>Yellow</b> - The sensor is connected but has not yet been configured (fill in your configuration fields and click <b>Save</b> to configure the sensor).</p> <p><b>Red</b> - The sensor is not detected and configured (i.e. a previous configured sensor is no longer connected).</p> <p><b>Blue</b> - The sensor is not supported by the HVAC Controller.</p> <p>To reconfigure or disable the Sensor ID, simply delete any data in this field and click <b>Save</b>.</p> <p>The unit will refresh the sensor ID on that channel.</p> |
| <b>Description</b>          | User-definable description for the sensor channel.  |
| <b>Notification Devices</b> | Check which notification, 1 through 8, you want to send alarm notifications for that alarm point.   |
| Details                     |   |
| <b>Record Frequency</b>     | The amount of time, in minutes (min) or seconds (s), between each recorded sensor value.  |
| <b>Deadband</b>             | The amount (in native units) that the channel needs to go above or below a threshold in order to cause an alarm.  |
| <b>Qualification Time</b>   | The length of time that must pass, without interruption, in order for the condition to be considered an Alarm or a Clear.   |
| <b>Qualification Type</b>   | Allows you to choose whether you want to apply the Qualification Time to the alarm Set, Clear, or Both.   |
| <b>Thresholds</b>           | 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).   |
| <b>Post On</b>              | Select the threshold alarms to post: All thresholds, Major Only, Minor Only, Major Over Only, Major Under Only.   |

## 6.17 Wireless Sensors

### Provisioning > Wireless Sensors

Configure a connected wireless receiver unit to gather analog values from a paired wireless extender unit

The screenshot shows the NetGuardian 832A G6 web interface. The left sidebar contains a menu with 'Wireless Sensors' highlighted. The main content area is titled 'Wireless Sensors' and contains the following sections:

- DSCP (XBee Wireless Sensors)**
  - Module Address High: 00000000
  - Module Address Low: 00000000
  - Update Frequency: 3hour (6 min - 720 hour)
  - Wireless Extender Type: Disabled
  - Receiver Serial Port: Serial Port 1
- Fuel Level Change Detection**
  - Read Frequency: 6hour (6 min - 720 hour)
  - Level Threshold: 2
- Generator Run Detection**
  - Generator Running Update Frequency: 1hour (6 min - 720 hour)
  - Generator Point Reference: Address 0, Display 0, Point 0

A 'Save' button is located at the bottom of the configuration area. A note below the configuration states: "Note: Configure 'Serial Port' settings for serial connection."

The Provisioning > Wireless Sensor menu

| DSCP (XBee Wireless Sensors)              |   |
|---|---|
| <b>Module Address High</b>                | 4-byte identification address that is automatically acquired when the DSCP device is sync'd with the NetGuardian.   |
| <b>Module Address Low</b>                 | 4-byte identification address that is automatically acquired when the DSCP device is sync'd with the NetGuardian.   |
| <b>Update Frequency</b>                   | The rate that the DSCP device will collect information from the sensor.   |
| <b>Wireless Extender Type</b>             | The specific type of DSCP device (Propane Monitor, Track Monitor, etc...).  |
| <b>Receiver Serial Port</b>               | Specify which the serial port (1-8)   |
| Fuel Level Change Detection               |   |
| <b>Read Frequency</b>                     | The DSCP device will read the propane level at this frequency and will remember the last read value. Input '0' to disable this feature.   |
| <b>Level Threshold</b>                    | If the propane level reading differs by the Level Threshold value from the previous reading, then the most recently read value will immediately be sent to the NetGuardian once.  |
| Generator Run Detection                   |   |
| <b>Generator Running Update Frequency</b> | When the specified alarm point (from Generator Point Reference) is set, the timer value for Generator Running Frequency will override the timer value for Update Frequency (under Module Configuration). This takes effect after the next update. |
| <b>Generator Point Reference</b>          | Specify the Address, Display and Point attached to Gen. Running Frequency. Input '0' to disable this feature.   |

## 6.18 HVAC Units

### Provisioning > HVAC Units

The G6 can configure 6 different HVAC units into 4 HVAC zones where they can be assigned. Each unit can be assigned in multiple zones. When configuring the HVAC units, it is recommended to use central units that occupy multiple zones as "Lag Only" and assign HVAC units that only occupy a single Zone as Cycle Lead. At all times, it is best to maintain at least one Lead HVAC unit in each Zone.



**NetGuardian 832A G6**

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**Monitor**

Provisioning

System

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Ethernet

RADIUS

Serial Ports

SNMP

Notifications

Alarms

Persistent Alarm Counters

Exp. Alarms

Controls

Exp. Controls

Battery

Analogs

Exp. Analogs

Sensors

Wireless Sensors

**HVAC Units**

HVAC Alarm Assoc

HVAC Controls

HVAC Controller

Ping Targets

**HVAC Units**

| HVAC Descriptions                      |  |
|--|--|
| HVAC Unit 1 <a href="#">[Collapse]</a> | HVAC Unit 1  |
| Unit Test                              | Test Cool (5m) Turn Off Test Heat (5m)   |
| Lead Behavior                          | <input checked="" type="radio"/> Cycle Lead/Lag <input type="radio"/> Lag Only |
| Lead Cycle Time                        | 24 Hour(s)   |
| Lag Priority                           | <input checked="" type="radio"/> Normal <input type="radio"/> Low (Backup/Aux) |
| Fan Mode                               | Controller Default   |
| HVAC Unit 2 <a href="#">[Advanced]</a> | HVAC Unit 2  |
| HVAC Unit 3 <a href="#">[Advanced]</a> | HVAC Unit 3  |
| HVAC Unit 4 <a href="#">[Advanced]</a> | HVAC Unit 4  |
| HVAC Unit 5 <a href="#">[Advanced]</a> | HVAC Unit 5  |
| HVAC Unit 6 <a href="#">[Advanced]</a> | HVAC Unit 6  |

| HVAC Units             |  |
|------------------------|--|
| <b>HVAC Unit #</b>     | User defined name of HVAC unit.  |
| <b>Unit Test</b>       | 5 minute tests of Cool/Heat will override the zone behavior and any "warm-up" or "cool-down" periods. "Turn off" is an option to force off a specified unit; this results in the unit having to wait for the configured cool-down time before being allowed to cool or heat again.   |
| <b>Lead Behavior</b>   | Cycle Lead/Lag = Can be assigned Lead if available<br>Lag Only = Will never be assigned as Lead  |
| <b>Lead Cycle Time</b> | Amount of time before lead HVAC is tagged out for a new unit   |
| <b>Lag Priority</b>    | If Low is selected, then this HVAC will only be activated once all other HVACs of normal priority have been chosen and there is still a need to activate another unit.   |
| <b>Fan Mode</b>        | Fan Mode relates to an HVAC units blower behavior: "Controller default" means that the blower will be on only if cooling or heating. "Always on while lead" will keep blower on if the unit is a lead unit, even when cooling or heating is not enabled. "Always on" will turn the blower on permanently, unless some other error condition forces the blower off (e.g. presence of smoke, HVAC unit reports a fault). |



## 6.20 HVAC Controls

This section contains the set of control relays that are dedicated to HVAC unit control relays. This are separate from the general-purpose controls.

**HVAC System Relays**

| Id | Description <a href="#">Display Map</a> | 1                        | 2                        | 3                        | 4                        | 5                        | 6                        | 7                        | 8                        |
|----|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1  | HVAC 1 Compressor                       | <input type="checkbox"/> |
| 2  | HVAC 1 Blower                           | <input type="checkbox"/> |
| 3  | HVAC 1 Heater                           | <input type="checkbox"/> |
| 4  | HVAC 2 Compressor                       | <input type="checkbox"/> |
| 5  | HVAC 2 Blower                           | <input type="checkbox"/> |
| 6  | HVAC 2 Heater                           | <input type="checkbox"/> |
| 7  | HVAC 3 Compressor                       | <input type="checkbox"/> |
| 8  | HVAC 3 Blower                           | <input type="checkbox"/> |
| 9  | HVAC 3 Heater                           | <input type="checkbox"/> |
| 10 | HVAC 4 Compressor                       | <input type="checkbox"/> |
| 11 | HVAC 4 Blower                           | <input type="checkbox"/> |
| 12 | HVAC 4 Heater                           | <input type="checkbox"/> |
| 25 | HVAC 5 Compressor                       | <input type="checkbox"/> |
| 26 | HVAC 5 Blower                           | <input type="checkbox"/> |
| 27 | HVAC 5 Heater                           | <input type="checkbox"/> |
| 28 | HVAC 6 Compressor                       | <input type="checkbox"/> |
| 29 | HVAC 6 Blower                           | <input type="checkbox"/> |
| 30 | HVAC 6 Heater                           | <input type="checkbox"/> |

Save

Provisioning > HVAC Controls

| HVAC/Base Controls          |  |
|-----------------------------|--|
| <b>Num</b>                  | ID number for the control relay.   |
| <b>Description</b>          | Description for the HVAC Controller's control relay.   |
| <b>Notification Devices</b> | Check which notification device(s), 1 through 8, you want to send alarm notifications for the control relay. |

## 6.21 HVAC Controller

See the Lead/Lag Behavior section for information on the HVAC's cooling and heating logic.

| HVAC Controller   |  |                           |    |   |
|---|--|---------------------------|----|---|
| <b>HVAC Zone</b> HVAC Zone 1 ▼  |  |                           |    |   |
| <b>Unit Association</b>   | <input checked="" type="checkbox"/> 1 - West A<br><input checked="" type="checkbox"/> 2 - West B<br><input type="checkbox"/> 3 - East A<br><input type="checkbox"/> 4 - East B<br><input checked="" type="checkbox"/> 5 - Central<br><input type="checkbox"/> 6 - Generator Room |                           |    |   |
| <b>Operational Limit</b>  | Commercial Power: No Limit ▼<br>Generator Power: No Limit ▼  |                           |    |   |
| <b>Zone Role</b>  | <input type="radio"/> Cool <input type="radio"/> Heat <input checked="" type="radio"/> Auto  |                           |    |   |
| Standard Mode Temperature Targets   |  |                           |    |   |
| Standard Temp Control (Cooling)   | Begins cooling   | Any ambient sensor above  | 88 | F |
|   | Stops cooling  | All ambient sensors below | 74 | F |
| Standard Temp Control (Heating)   | Begins heating   | Any ambient sensor below  | 50 | F |
|   | Stops heating  | All ambient sensors above | 55 | F |
| Comfort Mode Temperature Targets  |  |                           |    |   |
| Comfort Temp Control (Cooling)  | Begins cooling   | Any ambient sensor above  | 75 | F |
|   | Stops cooling  | All ambient sensors below | 72 | F |
| Comfort Temp Control (Heating)  | Begins heating   | Any ambient sensor below  | 67 | F |
|   | Stops heating  | All ambient sensors above | 72 | F |
| <b>Comfort Mode Duration</b>  | Use Comfort temperature targets for 1 Hour(s) ▼  |                           |    |   |
| Lead/Lag Configuration  |  |                           |    |   |
| <b>Lag Call</b>   | After 1 Min(s) ▼: Zone calls next lag unit only if there is an ambient sensor above the high threshold (when cooling) or below the low threshold (when heating)  |                           |    |   |
| <b>Note (Lag Support to finish run cycle):</b> If a zone is running and all ambient sensors are below the high threshold but have not reached the low threshold (when cooling), or above the low threshold but have not reached the high threshold (when heating), a lag unit is called after 2 hours as support to finish a run cycle, so the zone is not perpetually running. |  |                           |    |   |

| Lead Adjustment Configuration                       |  |  |
|---|--|--|
| <input type="checkbox"/> Adjust Lead Swap Date/Time |  |  |
| <b>Swap Date/Time</b>                               | Aug / 25 / 2021 11 : 00 AM ▼   |  |
| <b>Swap Timestamp Configuration [?]</b>             | <input type="radio"/> Maintain Swap Time <input type="radio"/> Record Swap Time<br><input type="button" value="Update Zone Swap Date/Time"/> |  |
| Indoor Temperature Sensors                          |  |  |
| <b>Ambient Sensors</b>                              | <b>Ambient 1</b>   | 288664ff0b000062 - Zone 1 Indoor Ambient 1 ▼ |
|   | <b>Ambient 2</b>   | --No Sensor Selected-- ▼                     |
|   | <b>Ambient 3</b>   | --No Sensor Selected-- ▼                     |
|   | <b>Ambient 4</b>   | --No Sensor Selected-- ▼                     |
| Vent Temperature Monitoring                         |  |  |
| <b>Vent Sensors</b>                                 | <b>Unit 1 Vent</b>   | 288664ff0b000062 - Zone 1 Indoor Ambient 1 ▼ |
|   | <b>Unit 2 Vent</b>   | --No Sensor Selected-- ▼                     |
|   | <b>Unit 3 Vent</b>   | --No Sensor Selected-- ▼                     |
|   | <b>Unit 4 Vent</b>   | --No Sensor Selected-- ▼                     |
|   | <b>Unit 5 Vent</b>   | --No Sensor Selected-- ▼                     |
|   | <b>Unit 6 Vent</b>   | --No Sensor Selected-- ▼                     |
| <b>HVAC Failure Threshold [?]</b>                   | Failure when not 10 F beyond target temperature.   |  |
| Outdoor Temperature Sensors                         |  |  |
| <b>Ambient Sensors</b>                              | <b>Ambient 1</b>   | --No Sensor Selected-- ▼                     |
|   | <b>Ambient 2</b>   | --No Sensor Selected-- ▼                     |
| Generator Configuration                             |  |  |
| <b>Generator</b>                                    | <input checked="" type="radio"/> Disable <input type="radio"/> Enable  |  |
|   | <b>Warm-up Time (0s-60m):</b>  | 0 Sec(s) ▼                                   |
|   | <b>Cool-down Time (0s-60m):</b>  | 0 Sec(s) ▼                                   |
| Update Generator Control Association                |  |  |
| <b>Generator Run Output</b>                         | Select Control Output (No change) ▼  |  |
| <b>Generator Load Apply Output</b>                  | Select Control Output (No change) ▼  |  |
| <input type="button" value="Save"/>                 |  |  |

| <b>HVAC Zone</b>                            |  |
|---|--|
| <b>HVAC Zone</b>                            | Select which zone to configure.  |
| <b>Unit Association</b>                     | Assign HVAC units to the selected zone. Units can be assigned to multiple zones. A zone with no assigned units will appear as "Not Configured" or "Suspended" in monitor interfaces.   |
| <b>Operational Limit</b>                    | Restricts the number of HVACs that can be active under commercial or generator power.  |
| <b>Standard Mode Temperature Targets</b>    |  |
| <b>Standard Temp Controller (Cooling)</b>   | Set the temperature thresholds at which HVACs will begin and end cooling   |
| <b>Standard Temp Controller (Heating)</b>   | Set the temperature thresholds at which HVACs will begin and end heating   |
| <b>Comfort Mode</b>                         |  |
| <b>Comfort Mode</b>                         | Similar to Standard cooling, comfort mode is designed to hold ranges more comfortable for people when they are within the HVAC Zone.   |
| <b>Comfort Mode Duration</b>                | Time Comfort Mode will be active before switching to Standard Mode.  |
| <b>Lead Adjustment Configuration</b>        |  |
| <b>Adjust Lead Swap Date/Time</b>           | Select this to change the timestamp of last swap. Useful for testing purposes: by setting timestamp to 24 hours before the current timestamp, you can trigger the lead swap.   |
| <b>Swap Date/Time</b>                       | Timestamp of the last HVAC lead swap.  |
| <b>Maintain Unit Swap Time</b>              | When updating lead unit, swap time will be updated by adding the previous lead unit's cycle time. This mode is better for scheduling lead cycles at a fixed time; this mode prevents an expected forward drift in swap date/time that accumulates when lead swap is delayed due to HVAC zone activity at time of swap. |
| <b>Record Unit Swap Time</b>                | When updating lead unit, swap time is set to the current unit time.  |
| <b>Indoor Temperature Sensors</b>           |  |
| <b>Ambient Sensors</b>                      | Sensors used to monitor temperature within the HVAC Zone.  |
| <b>Vent Temperature Monitoring</b>          |  |
| <b>Vent Sensors</b>                         | Sensors used to monitor how effective the HVAC is at reaching target temperatures.   |
| <b>HVAC Failure Threshold</b>               | Triggers a failure alarm when the vent sensors are not within the threshold.   |
| <b>Outdoor Temperature</b>                  |  |
| <b>External Sensors</b>                     | Optional sensors to monitor temperatures outside of the HVAC Zone.   |
| <b>Generator Configuration</b>              |  |
| <b>Generator</b>                            | Enable if your HVAC environment will rely on generator power, otherwise disable.   |
| <b>Warm-up Time</b>                         | The length of buffer time between when the generator starts running and when the the generator is ready to handle the power load.  |
| <b>Cool-down Time</b>                       | The length of buffer time between when the generator load apply is switched off and when the generator stops running.  |
| <b>Update Generator Control Association</b> |  |
| <b>Generator Run Output</b>                 | Assign the control you want to use to turn on and off the generator.   |
| <b>Generator Load Apply Output</b>          | Assign the control you want to use to turn on and off generator load apply.  |

## 6.22 Ping Targets

Each of the 32 ping targets can be provisioned with a description and an IP address. The G6 will issue a call to the notification device configured in the Notifications section in the event a ping alarm occurs.\*

Use the following steps to configure the ping targets:

1. From the **Provisioning** menu select **Ping Targets**.
2. Check the **Enab** box to designate that an SNMP trap will be sent when an alarm condition exists. Leaving the box blank designates that an SNMP trap will not be sent when an alarm condition exists.
3. In the **Description** field, enter a description of the device to be pinged.
4. In the **Server (IP or Hostname)** field enter the IP address or DNS hostname of the device to be pinged.
5. Under the **Notification Devices**, check which notification device(s), 1 through 8, will send alarm notifications in response to this alarm.
6. Click **Save** link to save the configuration settings.

\*See Section 'Timers' to set ping response and fail times.

The screenshot shows the 'Ping Targets' configuration page in the NetGuardian 832A G6 interface. The sidebar menu on the left includes various provisioning options, with 'Ping Targets' highlighted in red. The main content area displays a table with 32 rows, each representing a ping target. The table columns are: Id, Enab, Description, Display Map, Server (IP or Hostname), and eight checkboxes for notification devices (1-8). A 'Save' button is located at the bottom of the table.

| Id | Enab                     | Description | Display Map | Server (IP or Hostname) | 1                        | 2                        | 3                        | 4                        | 5                        | 6                        | 7                        | 8                        |
|----|--------------------------|-------------|-------------|-------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1  | <input type="checkbox"/> |             |             |                         | <input type="checkbox"/> |
| 2  | <input type="checkbox"/> |             |             |                         | <input type="checkbox"/> |
| 3  | <input type="checkbox"/> |             |             |                         | <input type="checkbox"/> |
| 4  | <input type="checkbox"/> |             |             |                         | <input type="checkbox"/> |
| 5  | <input type="checkbox"/> |             |             |                         | <input type="checkbox"/> |
| 6  | <input type="checkbox"/> |             |             |                         | <input type="checkbox"/> |
| 7  | <input type="checkbox"/> |             |             |                         | <input type="checkbox"/> |
| 8  | <input type="checkbox"/> |             |             |                         | <input type="checkbox"/> |
| 9  | <input type="checkbox"/> |             |             |                         | <input type="checkbox"/> |
| 10 | <input type="checkbox"/> |             |             |                         | <input type="checkbox"/> |
| 11 | <input type="checkbox"/> |             |             |                         | <input type="checkbox"/> |
| 12 | <input type="checkbox"/> |             |             |                         | <input type="checkbox"/> |
| 13 | <input type="checkbox"/> |             |             |                         | <input type="checkbox"/> |
| 14 | <input type="checkbox"/> |             |             |                         | <input type="checkbox"/> |
| 15 | <input type="checkbox"/> |             |             |                         | <input type="checkbox"/> |
| 16 | <input type="checkbox"/> |             |             |                         | <input type="checkbox"/> |
| 17 | <input type="checkbox"/> |             |             |                         | <input type="checkbox"/> |
| 18 | <input type="checkbox"/> |             |             |                         | <input type="checkbox"/> |
| 19 | <input type="checkbox"/> |             |             |                         | <input type="checkbox"/> |
| 20 | <input type="checkbox"/> |             |             |                         | <input type="checkbox"/> |
| 21 | <input type="checkbox"/> |             |             |                         | <input type="checkbox"/> |
| 22 | <input type="checkbox"/> |             |             |                         | <input type="checkbox"/> |
| 23 | <input type="checkbox"/> |             |             |                         | <input type="checkbox"/> |
| 24 | <input type="checkbox"/> |             |             |                         | <input type="checkbox"/> |
| 25 | <input type="checkbox"/> |             |             |                         | <input type="checkbox"/> |
| 26 | <input type="checkbox"/> |             |             |                         | <input type="checkbox"/> |
| 27 | <input type="checkbox"/> |             |             |                         | <input type="checkbox"/> |
| 28 | <input type="checkbox"/> |             |             |                         | <input type="checkbox"/> |
| 29 | <input type="checkbox"/> |             |             |                         | <input type="checkbox"/> |
| 30 | <input type="checkbox"/> |             |             |                         | <input type="checkbox"/> |
| 31 | <input type="checkbox"/> |             |             |                         | <input type="checkbox"/> |
| 32 | <input type="checkbox"/> |             |             |                         | <input type="checkbox"/> |

Configure the ping target parameters from the Ping Info page

## 6.23 Modbus Devices

**Modbus Devices**

**Modbus Interrogator Global Settings**

|  |                          |                        |
|--|--------------------------|------------------------|
| Modbus Poll Delay                          | 50                       | ms (10 - 16000)        |
| Modbus Poll Timeout                        | 1                        | sec (1 - 255)          |
| Send Notification on every register update | <input type="checkbox"/> | <a href="#">Readme</a> |
| Send Modbus Data via DCP                   | <input type="checkbox"/> | <a href="#">Readme</a> |

**Device Settings** [Display Map](#)

| Id | Device Type  | Description |                                 |
|----|--------------|-------------|---------------------------------|
| 1  | Modbus RTU ▼ | Testing     | <a href="#">Details&gt;&gt;</a> |
| 2  | Modbus RTU ▼ | Test 2      | <a href="#">Details&gt;&gt;</a> |
| 3  | Modbus RTU ▼ | Test 3      | <a href="#">Details&gt;&gt;</a> |
| 4  | Modbus RTU ▼ | Test 7      | <a href="#">Details&gt;&gt;</a> |

**Note:** Configure "Serial Port" settings for serial connection.

*The Provisioning > MODBUS Devices*

| Global Settings                                   |  |
|---|--|
| <b>MODBUS Poll Delay</b>                          | Delay between Modbus polls in milliseconds.  |
| <b>MODBUS Poll Timeout</b>                        | Time duration before the MODBUS response time fails in seconds.  |
| <b>Send Notification of every register update</b> | This option is used to send a notification whenever a MODBUS register is polled. If the poll delay is too low this may cause some notifications to be lost.  |
| Device Settings                                   |  |
| <b>ID</b>   | MODBUS device ID.  |
| <b>Device Type</b>                                | MODBUS device type.  |
| <b>Connection</b>                                 | TCP or Serial connection.  |
| <b>Host Name or IP</b>                            | IP used for polling when using TCP Modbus. Unused otherwise.   |
| <b>TCP Port or Serial Port</b>                    | TCP or physical serial port used when performing Modbus polling.   |
| <b>Modbus Address</b>                             | Address of MODBUS device.  |
| <b>Device Register Offset</b>                     | Amount to offset "MODBUS Address" by.  |
| <b>Threshold Mode</b>                             | <p>This will configure different threshold values based on MODBUS register values. Threshold mode options:</p> <ol style="list-style-type: none"> <li>1) "standard thresholds" - default threshold setting. Only one value of thresholds will be used</li> <li>2) "Idle/Running Thresholds: Status Register" - device idle thresholds will be triggered based on the value of a status register.</li> <li>3) "Idle/Running Thresholds: Point Reference" - device idle thresholds will be triggered based on the value of a point reference.</li> </ol> |

## 6.24 SNMP Alarms

The Provisioning > SNMP Alarms menu  
Provisioning > SNMP Alarms > Details

| SNMP Alarms Settings                      |  |
|---|--|
| <b>ID</b>                                 | SNMP Alarm ID number.  |
| <b>Description</b>                        | User-definable description for the SNMP alarm.   |
| <b>Notification Devices</b>               | Check which notification device(s), 1 through 8, will send alarm notifications in response to this SNMP alarm.   |
| Advanced SNMP Alarms Settings (Details>>) |  |
| <b>Enterprise/OID</b>                     | Enterprise OID for SNMPv1 or Trap OID for SNMPv2c.   |
| <b>Generic</b>                            | Generic Trap number for <b>SNMP v1 only</b> .  |
| <b>Specific</b>                           | Specific Trap number for <b>SNMPv1 only</b> .  |
| <b>Variable Binding OID</b>               | If defined, additional OID (from equipment connected to control relay) to uniquely identify the SNMP trap.   |
| <b>Value (Contains)</b>                   | Value of the variable binding. Must be integer or string (when searching for a specific string, the string must be contained within the received trap variable binding value). <b>NOTE:</b> Using a * in this field is like a "wild card" - any value is accepted. |

## 6.25 Variable Bindings

Variable bindings for the Trap Relay can be added using the **Provisioning > Variable Bindings** menu. Variable bindings are additional OIDs (supplied by the manufacturer of the product connected to the control relay) used to uniquely identify the SNMP trap.

The screenshot shows the NetGuardian 832A G6 web interface. The left sidebar contains a menu with the following items: Monitor, Provisioning, System, User Profiles, Ethernet, RADIUS, Serial Ports, SNMP, Notifications, Alarms, Persistent Alarm Counters, Exp. Alarms, Controls, Exp. Controls, Battery, Analogs, Exp. Analogs, Sensors, Wireless Sensors, HVAC Units, HVAC Alarm Assoc, HVAC Controls, HVAC Controller, Ping Targets, Modbus Devices, Modbus Registers, SNMP Alarms, Variable Bindings (highlighted in red), Accum. Timers, Analog Delta, System Alarms, and Timers. The main content area is titled 'Variable Bindings' and features a 'Save' button and a table with the following structure:

| Id | OID |
|----|-----|
| 1  | 0   |
| 2  | 0   |
| 3  | 0   |
| 4  | 0   |
| 5  | 0   |
| 6  | 0   |
| 7  | 0   |
| 8  | 0   |
| 9  | 0   |
| 10 | 0   |
| 11 | 0   |
| 12 | 0   |
| 13 | 0   |
| 14 | 0   |
| 15 | 0   |
| 16 | 0   |
| 17 | 0   |
| 18 | 0   |
| 19 | 0   |
| 20 | 0   |
| 21 | 0   |

*The Provisioning > Variable Bindings menu*

| Editing Variable Bindings |  |
|---------------------------|--|
| <b>Idx</b>                | Index number for the binding.  |
| <b>OID</b>                | OID of the variable binding. <b>NOTE:</b> Using a * in this field is like a "wild card" - any value is accepted. |

## 6.26 Accumulation Timers

The G6's **Accumulation Timer** keeps a running total of the amount of time a point is in an alarm state to send an Accumulation Event system alarm once the total time exceeds a defined threshold. Refer to Table 2.1 for field descriptions.

1. Use the following steps to configure the accumulation timer settings:
2. Go to the **Provisioning** menu and select the **Accum. Timers** link, see picture below.
3. Click on the Advanced link of the Accumulation timer you are going to configure.
4. In the **Point Reference** field enter the corresponding alarm point to be monitored.
5. In the **Display Reference** field enter the corresponding display number to be monitored.
6. In the **Event Threshold** row enter the appropriate running total days, hours and minutes a point is in a alarm state in order to send an accumulation event system alarm.
7. Click the **Save** link to save the configuration settings.

The **Point Description**, **Point Status**, **Accumulated Time**, and **Accumulated Since** fields are not configurable. These fields will show the corresponding data of the point you configure for the accumulation timer after you have hit the **Submit Data** button.

**NetGuardian 832A G6**

Network Monitoring Solutions Home | Upload | Logout (admin)

**Monitor**

- Provisioning
- System
- User Profiles
- Ethernet
- RADIUS
- Serial Ports
- SNMP
- Notifications
- Alarms
- Persistent Alarm Counters
- Exp. Alarms
- Controls
- Exp. Controls
- Battery
- Analogs
- Exp. Analogs
- Sensors
- Wireless Sensors
- HVAC Units
- HVAC Alarm Assoc
- HVAC Controls
- HVAC Controller
- Ping Targets
- Modbus Devices
- Modbus Registers
- SNMP Alarms
- Variable Bindings
- Accum. Timers**
- Analog Delta
- System Alarms
- Timers
- Date and Time

**Accumulation Timers**

**Accumulation Alarms**

| Id | Description          | Display Map                      | 1                        | 2                        | 3                        | 4                        | 5                        | 6                        | 7                        | 8                        |
|----|----------------------|----------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1  | Accumulation Alarm 1 | <a href="#">Advanced&lt;&lt;</a> | <input type="checkbox"/> |
| 2  | Accumulation Alarm 2 | <a href="#">Advanced&gt;&gt;</a> | <input type="checkbox"/> |
| 3  | Accumulation Alarm 3 | <a href="#">Advanced&gt;&gt;</a> | <input type="checkbox"/> |
| 4  | Accumulation Alarm 4 | <a href="#">Advanced&gt;&gt;</a> | <input type="checkbox"/> |
| 5  | Accumulation Alarm 5 | <a href="#">Advanced&gt;&gt;</a> | <input type="checkbox"/> |
| 6  | Accumulation Alarm 6 | <a href="#">Advanced&gt;&gt;</a> | <input type="checkbox"/> |
| 7  | Accumulation Alarm 7 | <a href="#">Advanced&gt;&gt;</a> | <input type="checkbox"/> |
| 8  | Accumulation Alarm 8 | <a href="#">Advanced&gt;&gt;</a> | <input type="checkbox"/> |

Point Reference:  Address:  Display:  Point:

Point Description:

Alarm Threshold:  Days  Hours  Minutes

Define the Accumulation Timer settings to send an Accumulation Event alarm.

| Field   | Description  |
|---|--|
| <b>ID</b>                                     | Accumulation Alarm ID number.  |
| <b>Description</b>                            | Description for the Accumulation alarm.  |
| <b>Notification Devices</b>                   | Check which notification device(s), 1 through 8, will send alarm notifications in response to this Accumulation alarm. |
| Advanced Detail                               |  |
| <b>Address, Display and Point Reference</b>   | Indicates which alarm point is to be monitored   |
| <b>Point Description</b>                      | The user-defined description of the monitored alarm point.   |
| <b>Alarm Threshold (Days, Hours, Minutes)</b> | The amount of time allowed to accumulate before the "Accumulation Event" system alarm is set. Maximum is 45 days.      |

*Table 2.1. Fields in the Accumulation Timer screen*

## 6.27 Analog Delta

Sometimes, simply checking the alarm threshold values of your analog sensors is not enough. The Analog Delta feature allows you to define a discrete alarm to be triggered when your analog value changes too quickly, even if it does not reach an alarm threshold. For example, if temperature or pressure begins rapidly changing, which can cause damage to sensitive equipment.

The screenshot shows the NetGuardian 832A G6 web interface. The left sidebar contains a menu with 'Analog Delta' highlighted. The main content area is titled 'Analog Delta Monitoring' and contains a table of 'Analog Delta Alarms'. The first alarm, 'Analog Delta Alarm 1', is expanded to show configuration options: 'Analog Type' (Disabled), 'Channel' (0), 'Channel Description' (Disabled - Unknown Channel), and 'Analog Alarm Behavior' (This alarm will be set if the difference between the highest and lowest observed values exceeds 0 units in a 0sec interval. This alarm will self-heal and continue monitoring after standing for 1 minute.).

In the **Provisions > Analog Delta** menu, you can define a time period and maximum acceptable delta that will let your G6 know how quickly a value is allowed to change, and how often to check for a change.

| Field                        | Description   |
|------------------------------|---|
| <b>Analog Type</b>           | What kind of analog sensor is being monitored (Base, Expansion, D-wire).  |
| <b>Channel</b>               | Which analog channel of the above type is being monitored.<br><b>Ex.</b> "Base Analogs" and "1" would correspond to the first base analog in <b>Edit &gt; Analogs</b> . "D-Wire Sensors" and "4" would correspond to the fourth D-wire sensor field in <b>Edit &gt; Sensors</b> (which may not be the fourth node in the daisy chain, if any previous node uses more than one field). |
| <b>Analog Alarm Behavior</b> | The maximum amount that the analog reading can change within the given time period, in either direction, before the Analog Delta alarm is triggered.<br><br><b>NOTE:</b> The difference measured is computed from the scaled reading of the analog channel, not the raw voltage difference. See "Analog Sensors" for more info on linear scaling using Reference 1 and Reference 2.   |

|                 |   |
|-----------------|---|
| <b>Interval</b> | How often the NetGuardian checks the analog value for a change. |
|-----------------|---|

## 6.28 System Alarms

See "Display Mapping" in the Reference Section for a complete description of system alarms.

| System Alarms |   |       |
|---------------|---|-------|
| Pnt           | Description <a href="#">Display Map</a> | State |
| 33            | Unit reset                              | Clear |
| 34            | NTP failed                              | Clear |
| 35            | Timed tick                              | Clear |
| 36            | Serial RcvQ full                        | Clear |
| 37            | Dynamic memory full                     | Clear |
| 38            | Notification 1 failed                   | Clear |
| 39            | Notification 2 failed                   | Clear |
| 40            | Notification 3 failed                   | Clear |
| 41            | Notification 4 failed                   | Clear |
| 42            | Notification 5 failed                   | Clear |
| 43            | Notification 6 failed                   | Clear |
| 44            | Notification 7 failed                   | Clear |
| 45            | Notification 8 failed                   | Clear |
| 46            | HVAC Zone 1 Total Failure               | Clear |
| 47            | HVAC Zone 2 Total Failure               | Clear |
| 48            | HVAC Zone 3 Total Failure               | Clear |
| 49            | HVAC Zone 4 Total Failure               | Clear |
| 51            | Expansion 1 failed                      | Clear |
| 54            | DCP poller inactive                     | Alarm |
| 57            | Default configuration                   | Clear |
| 58            | Dipswitch Configuration                 | Clear |
| 59            | MAC address not set                     | Clear |
| 60            | IP address not set                      | Clear |
| 61            | LAN hardware error                      | Clear |
| 62            | SNMP processing error                   | Clear |
| 63            | SNMP community error                    | Clear |
| 64            | LAN TX packet drop                      | Clear |

*The Provisioning > System Alarms menu*

| Editing System Alarms |  |
|-----------------------|--|
| <b>Pnt (Point)</b>    | The system alarm point number                                  |
| <b>Description</b>    | Non-editable description for this System (housekeeping) Alarm. |
| <b>Silence</b>        | Check this box to choose to silence this alarm.                |

## 6.29 Timers

Enter the amount of time in seconds (sec) or minutes (min), in each value field and click **Save**.

| Timers  |                                    |
|---|------------------------------------|
| <b>Web Refresh (1s-60s):</b><br>How often web browser is refreshed when in monitor mode.  | <input type="text" value="1sec"/>  |
| <b>Sound Duration (0s-30m, 0s=off)</b><br>How long the speaker will sound when a reportable alarm occurs.   | <input type="text" value="0sec"/>  |
| <b>DCP Poller Timeout (1m-30m, 0s=off):</b><br>DCP polls must be received within this time interval or the DCP poller inactive alarm will set.  | <input type="text" value="5min"/>  |
| <b>Ping Cycle (5s-30m, 0s=off):</b><br>Time interval between each ping cycle (0 seconds disables, 30 seconds minimum)   | <input type="text" value="4min"/>  |
| <b>Web Timeout (1m-30m):</b><br>Maximum idle time allowed before the web interface will automatically logout.   | <input type="text" value="10min"/> |
| <b>HVAC Startup Delay (1m-30m)</b><br>Time between RTU power on and when HVAC Controller is able to process sensor status. Note that HVAC units may not immediately go active after this time, as HVAC minimum offtime is also enforced on startup.   | <input type="text" value="1min"/>  |
| <b>HVAC Qualification Delay (1s-15s)</b><br>Qualification Timer when an HVAC unit is switching modes (e.g. Idle to Cooling). This is the amount of time that passes between an impulse to change state (e.g. High Temp Cooling Set, HVAC test button press) and when the new state is physically activated; this can serve as an additional buffer in certain cases, such as an additional delay between a generator load apply signal and a following cooling trigger. | <input type="text" value="1min"/>  |
| <b>HVAC Trigger Delay (Global) (0s-5m)</b><br>Minimum trigger time between HVAC Units entering into Heating or Cooling mode. This will prevent a steep current spike if multiple zones simultaneously enter into cooling mode, where multiple compressors could be enabled in a short span of time; in this case, subsequent cooling calls will be delayed until the trigger delay timer elapses.   | <input type="text" value="1min"/>  |
| <b>HVAC Minimum Offtime (1m-30m)</b><br>Enforced minimum off time for HVAC unit after running. Note this does not apply to comfort mode and HVAC tests.   | <input type="text" value="0sec"/>  |
| <b>HVAC Minimum Runtime (1m-30m)</b><br>Enforced minimum run time for HVAC unit when it begins running. Note this does not apply to comfort mode and HVAC tests.  | <input type="text" value="0sec"/>  |
| <b>Proxy Timeout (5m-30m)</b><br>Inactivity timeout that applies to serial proxy reach through connections established from the Craft or Telnet/SSH interface; a proxy connection will be expired after receiving no data for this period.  | <input type="text" value="0sec"/>  |
| <b>Timed Tick (0s-60m, 0s=off):</b> <input checked="" type="radio"/><br>This is a 'heartbeat' function that can be used by masters who don't perform integrity checks.  |                                    |
| <b>Timed Tick Variation (used for daily or weekly timed tick):</b> <input type="radio"/><br>Format: Day of Week (optional), Time of Day (military time), Duration.<br>For example: "Mon, 17:10, 10min" or just "17:10, 10min".  | <input type="text" value="0sec"/>  |
| Use this format to toggle "Timed tick" system alarm at specified time and for specified duration. "Timed tick" alarm will be in Alarm for specified duration at a specified time.   |                                    |
| <input type="button" value="Save"/>   |                                    |

The Provisioning > Timers menu

## 6.30 Date and Time

**Date and Time**

**Unit Time**

Date Month  Day  Year

Time Hour  Minute

**Automatic Time Adjustment (NTP)**

Enable NTP

NTP Server Address or Host Name

Time Zone

**Adjust Clock for Daylight Saving Time (DST)**

Enable DST

Start Day Month  Weekday  Hour

End Day Month  Weekday  Hour

*The Provisioning > Date and Time menu*

| Unit Time                                   |  |
|---|--|
| Date  | Set today's date.  |
| Time  | Set the current time.  |
| 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 <b>Sync</b> . Example: us.pool.ntp.org. <b>NOTE:</b> Make sure to configure DNS before using host name instead of IP address. |
| Time Zone                                   | Select your time zone from the drop-down menu.   |
| Adjust Clock for Daylight Saving Time (DST) |  |
| Enable DST                                  | Check this box to have the NetGuardian observe Daylight Saving.  |
| 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.  |

# 7 Monitoring via the Web Browser

Monitoring mode provides an interactive look at the status of the G6. Click on the blue **Monitor** button on the left to expand the Monitoring list.

The screenshot shows the web interface for the NetGuardian 832A G6. On the left sidebar, the 'Monitor' button is highlighted with a red circle. The main content area is titled 'Date and Time' and contains several sections: 'Unit Time' with date and time pickers; 'Automatic Time Adjustment (NTP)' with an 'Enable NTP' checkbox, an NTP server address field, and a 'Time Zone' dropdown; and 'Adjust Clock for Daylight Saving Time (DST)' with an 'Enable DST' checkbox and start/end day pickers. A 'Save' button is located at the bottom of the configuration area.

## 7.1 Standing Alarms

This selection provides an top-level summary of the unit and any detected problems. It's an excellent place to start when accessing the web interface to monitor your systems.

**NetGuardian 832A G6**

Network Monitoring Solutions Home | Upload | Logout (admin)

**Standing Alarms**

NetGuardian\_832A\_G6\_Display\_Map

**Expansion Alarms** Expansion 1

| Id | Description  | State |
|----|--------------|-------|
| 2  | Exp 1 Alm 2  | Alarm |
| 27 | Exp 1 Alm 27 | Alarm |
| 75 | Exp 1 Alm 75 | Alarm |
| 77 | Exp 1 Alm 77 | Alarm |
| 88 | Exp 1 Alm 88 | Alarm |
| 94 | Exp 1 Alm 94 | Alarm |

**Expansion Controls** Expansion 1

| Id | Description  | State   | Command         |
|----|--------------|---------|-----------------|
| 11 | Exp 1 Ctl 11 | Latched | OPR   RLS   MOM |
| 13 | Exp 1 Ctl 13 | Latched | OPR   RLS   MOM |
| 24 | Exp 1 Ctl 24 | Latched | OPR   RLS   MOM |
| 30 | Exp 1 Ctl 30 | Latched | OPR   RLS   MOM |

**Expansion Analogs** Expansion 1

| Id | Description | Thresholds  | Reading |
|----|-------------|-------------|---------|
| 5  | Exp 1 Alg 5 | Minor Under | -45.97  |

**Sensors**

ROM ID Key: ( ■ - detected and configured ■ - configured but NOT detected )

| Id | ROM ID           | Description | Thresholds  | Reading  |
|----|------------------|-------------|-------------|----------|
| 3  | 3d520e0450070045 | Dwire1      | Major Under | 0.00 VDC |
| 4  | 32b2120100100379 | BVM1        | Major Under | 0.00 V   |
| 5  | 3d8ef60150070062 | Dwire2      | Major Under | 0.00 VDC |
| 6  | 32e0120100100339 | BVM2        | Major Under | 0.00 V   |
| 36 | 32b2120100100379 |             | Major Over  | 343.45 F |
| 38 | 32e0120100100339 |             | Major Over  | 347.55 F |
| 68 | 32b2120100100379 |             | Major Under | 0.00 OHM |
| 70 | 32e0120100100339 |             | Major Under | 0.00 OHM |

**Modbus Registers**

Enable Modbus Test Mode

| Id | Description   | Thresholds | Reading | Last cycle ended |
|----|---------------|------------|---------|------------------|
| 1  | Test Register | Major Over | 2048    | 1 sec ago        |

**System Alarms**

| Pnt | Description         | State |
|-----|---------------------|-------|
| 37  | DCP poller inactive | Alarm |

Click "Standing Alarms" to view a summary of active alarms and important analog values.

## 7.2 Alarm Overview

This screen provides an expanding/contracting "accordion-style" view of your alarms, controls, sensors, and more. This is handy when you want to see multiple items at once, such as the immediate effect of alarm states on your automatic Derived Control outputs.

The screenshot shows the NetGuardian 832A G6 interface. The top left corner features the logo for DPS Telecom, Network Monitoring Solutions. The top right corner has navigation links: Home | Upload | Logout (admin). The main title is "NetGuardian 832A G6".

On the left is a vertical navigation menu under the heading "Monitor". The menu items are: Standing Alarms, Alarm Overview (highlighted with a red circle), Alarms, Persistent Alarm Counters, Exp. Alarms, Controls, Exp. Controls, Battery, Analogs, Exp. Analogs, Sensors, Wireless Sensors, HVAC Controller, Ping Targets, Modbus Registers, SNMP Alarms, Accum. Timers, Analog Delta, System Alarms, Alarm History, Graph, Routing Table, and Stats.

The main content area is titled "Alarm Overview" and includes a link for "NetGuardian 832A G6 Display Map". Below this is an accordion-style list of categories, each in a blue bar:

- Alarms
- Persistent Alarm Counters
- Expansion Alarms
- Controls
- Expansion Controls
- Analogs
- Expansion Analogs
- Sensors
- Ping Targets
- Modbus Registers
- System Alarms

Click "Alarm Overview" to access this list of alarms, controls, and other status information. More information is available here in one glance than in the more detailed sections of the left-pane menu.

## 7.3 Alarms

This selection provides the status of the base and expansion 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.

| Alarms |   |       |
|--------|---|-------|
| Id     | Description <a href="#">Display Map</a> | State |
| 1      | West A Failure                          | Clear |
| 2      | West B Failure                          | Clear |
| 3      | East A Failure                          | Clear |
| 4      | East B Failure                          | Clear |
| 5      | Central Failure                         | Clear |
| 6      | Gen Room HVAC Failure                   | Clear |
| 7      | Zone 1 Smoke                            | Clear |
| 8      | Zone 2 Smoke                            | Clear |
| 9      | Gen Room Smoke                          | Clear |
| 10     | User Alarm 10                           | Clear |
| 11     | User Alarm 11                           | Clear |
| 12     | User Alarm 12                           | Clear |

Click on Alarms or Exp. Alarms in the Monitor menu to see if any discrete alarms have been triggered.

| Expansion Alarm Monitoring |  |
|----------------------------|--|
| <b>ID</b>                  | Alarm ID number.   |
| <b>Description</b>         | User-definable description for the discrete alarm point.                               |
| <b>State</b>               | The current state of the alarm. (Clear or Alarm; user-defined in Provisioning section) |

## 7.4 Persistent Alarm Counters

The status of your Alarm Counters can be viewed in the Monitor > Persistent Alarm Counters menu. You can see whether the discrete event is currently Set or Clear, as well as the number of times that it has been set since configuration.

| Persistent Alarm Counters |         |       |   |             |               |             |
|---------------------------|---------|-------|---|-------------|---------------|-------------|
| Id                        | Display | Point | Description <a href="#">Display Map</a> | Point State | Pulse Counter | Config Date |
| 1                         | 1       | 18    | Persistent Alarm Counter 1              | Clear       | 1             | 07/02/2018  |
| 2                         | 1       | 1     | Persistent Alarm Counter 2              | Set         | 1             | 07/02/2018  |
| 3                         | N/A     | N/A   | Persistent Alarm Counter 3              | Disabled    | 0             | 07/02/2018  |

**NOTE:** A Persistent Alarm Counter will record the number of alarm pulses received on a specified point from the device's display mapping. A pulse is recorded when the point is set from a clear state.

Ex. The above picture indicates that display 1.18 (control #2) is Released, but was at one point Latched, and that display 1.1 (discrete #1) is in Alarm for the first time since reset. (see Controls for more info on control states, or Display Mapping for more info on how Display and Point values map to specific modules)

## 7.5 Expansion Alarms

**NOTE:** This menu option does not appear unless an expansion unit has been connected to your base G6.

Expansion Alarm Monitoring have the same functionality as Alarms Monitoring. They are added as part of an expansion unit, depending on your expansion configuration you will have the ability to select which expansion alarms to configure via the drop down box. See image below.


DPS Telecom

### NetGuardian 832A G6

[Home](#) | [Upload](#) | [Logout \(admin\)](#)

**Monitor**

- Standing Alarms
- Alarm Overview
- Alarms
- Persistent Alarm Counters
- Exp. Alarms
- Controls
- Exp. Controls
- Battery
- Analogs
- Exp. Analogs
- Sensors
- Wireless Sensors
- HVAC Controller
- Ding Targets

**Expansion Alarms**

Expansion 1
▼

| Id | Description <a href="#">Display Map</a> | State |
|----|---|-------|
| 1  | Exp 1 Alm 1                             | Clear |
| 2  | Exp 1 Alm 2                             | Alarm |
| 3  | Exp 1 Alm 3                             | Clear |
| 4  | Exp 1 Alm 4                             | Clear |
| 5  | Exp 1 Alm 5                             | Clear |
| 6  | Exp 1 Alm 6                             | Clear |
| 7  | Exp 1 Alm 7                             | Clear |
| 8  | Exp 1 Alm 8                             | Clear |
| 9  | Exp 1 Alm 9                             | Clear |

## 7.6 Controls

Use the following rules to operate the G6's control:

1. Select **Controls** (or **Exp. Controls**) from the **Monitor** menu.
2. Under the **State** field, 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)

The screenshot shows the NetGuardian 832A G6 web interface. On the left is a navigation menu with 'Controls' highlighted in red. The main content area shows a table of controls under the heading 'Base User Controls'. Each row includes an ID, a description, a state (all 'Released'), and three command buttons: OPR, RLS, and MOM.

| Id                        | Description <a href="#">Display Map</a> | State    | Command     |
|---------------------------|---|----------|-------------|
| <b>Base User Controls</b> |   |          |             |
| 1                         | User Control 1                          | Released | OPR RLS MOM |
| 2                         | User Control 2                          | Released | OPR RLS MOM |
| 3                         | User Control 3                          | Released | OPR RLS MOM |
| 4                         | User Control 4                          | Released | OPR RLS MOM |
| 5                         | User Control 5                          | Released | OPR RLS MOM |
| 6                         | User Control 6                          | Released | OPR RLS MOM |
| 7                         | User Control 7                          | Released | OPR RLS MOM |
| 8                         | User Control 8                          | Released | OPR RLS MOM |
| 9                         | User Virtual Control                    | Released | OPR RLS MOM |
| 10                        | User Virtual Control                    | Released | OPR RLS MOM |

*View and operate control relays from the Monitor > Controls menu*

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

## 7.7 Expansion Controls

**NOTE:** This menu option does not appear unless an expansion unit has been connected to your base G6.

Expansion Controls Monitoring have the same functionality as Controls Monitoring. They are added as part of an expansion unit, such as the NetGuardian E16 DX G2, which extends your available quantity of control relays. Depending on your expansion configuration you will have the ability to select which expansion controls to monitor via the drop down box. See image below.

**NetGuardian 832A G6**

Home | Upload | Logout (admin)

**Monitor**

- Standing Alarms
- Alarm Overview
- Alarms
- Persistent Alarm Counters
- Exp. Alarms
- Controls
- Exp. Controls**
- Battery
- Analogs
- Exp. Analogs
- Sensors
- Wireless Sensors
- HVAC Controller
- Ping Targets
- Modbus Registers
- SNMP Alarms
- Accum. Timers
- Analog Delta
- System Alarms
- Alarm History
- Graph
- Routing Table

**Expansion Controls**

Expansion 1 ▼

| Id | Description <a href="#">Display Map</a> | State    | Command     |
|----|---|----------|-------------|
| 1  | Exp 1 Ctl 1                             | Released | OPR RLS MOM |
| 2  | Exp 1 Ctl 2                             | Released | OPR RLS MOM |
| 3  | Exp 1 Ctl 3                             | Released | OPR RLS MOM |
| 4  | Exp 1 Ctl 4                             | Released | OPR RLS MOM |
| 5  | Exp 1 Ctl 5                             | Released | OPR RLS MOM |
| 6  | Exp 1 Ctl 6                             | Released | OPR RLS MOM |
| 7  | Exp 1 Ctl 7                             | Released | OPR RLS MOM |
| 8  | Exp 1 Ctl 8                             | Released | OPR RLS MOM |
| 9  | Exp 1 Ctl 9                             | Released | OPR RLS MOM |
| 10 | Exp 1 Ctl 10                            | Released | OPR RLS MOM |
| 11 | Exp 1 Ctl 11                            | Latched  | OPR RLS MOM |
| 12 | Exp 1 Ctl 12                            | Released | OPR RLS MOM |
| 13 | Exp 1 Ctl 13                            | Latched  | OPR RLS MOM |
| 14 | Exp 1 Ctl 14                            | Released | OPR RLS MOM |
| 15 | Exp 1 Ctl 15                            | Released | OPR RLS MOM |

## 7.8 Battery

Monitoring Your Batteries from the G6 web interface

1. In the “Monitoring” menus of the G6 web interface (blue), you may view the status of your battery strings at any time.
2. You may choose to view a graph of each jar’s temperature, voltage, internal ohmic resistance, or a combined view of multiple readings simultaneously.
3. If you see a bar in any color other than green (which will be above/below a dotted horizontal threshold line of the same color), that jar is in an alarm state (either major or minor, either over or under the “normal” range you configured in the Provisioning menu earlier).
4. You may click any bar to view a graph of the last 30 days of readings. This can help you distinguish sudden changes from a gradual deterioration.

The screenshot displays the NetGuardian 832A G6 web interface. The top navigation bar includes the DPS Telecom logo, the product name, and user options (Home, Upload, Logout (admin)). A left sidebar menu lists various monitoring and provisioning options, with 'Battery' highlighted in red. The main content area is titled 'String Info' and shows data for 'Battery String 1'. It features two gauge charts: 'Power Input A' at -47.68 VDC and 'Current Input A' at 53.17 mA. Below these are 'Jar Info' tables for Voltage, Temperature, and Resistance, each with 'Clear' buttons for MJU, MNU, MNO, and MJO. A 'View' dropdown is set to 'Voltage', and a 'Measure Resistance' button is visible.

**NetGuardian 832A G6**

Home | Upload | Logout (admin)

**Monitor**

- Standing Alarms
- Alarm Overview
- Alarms
- Persistent Alarm Counters
- Exp. Alarms
- Controls
- Exp. Controls
- Battery**
- Analogs
- Exp. Analogs
- Sensors
- Wireless Sensors
- HVAC Controller
- Ping Targets
- Modbus Registers
- SNMP Alarms
- Accum. Timers
- Analog Delta
- System Alarms
- Alarm History
- Graph
- Routing Table
- Stats

**Provisioning**

- Device Access

**Tooltips On**

- Tooltips Float
- Export Tooltips to Help File

**String Info**

Battery String 1

|         |     |
|---------|-----|
| Channel | 1   |
| Units   | VDC |
| MjU     |     |
| MnU     |     |
| MnO     |     |
| MjO     |     |

**-47.68 VDC**  
Power Input A

|         |    |
|---------|----|
| Channel | 2  |
| Units   | mA |
| MjU     |    |
| MnU     |    |
| MnO     |    |
| MjO     |    |

**53.17 mA**  
Current Input A

**Jar Info**

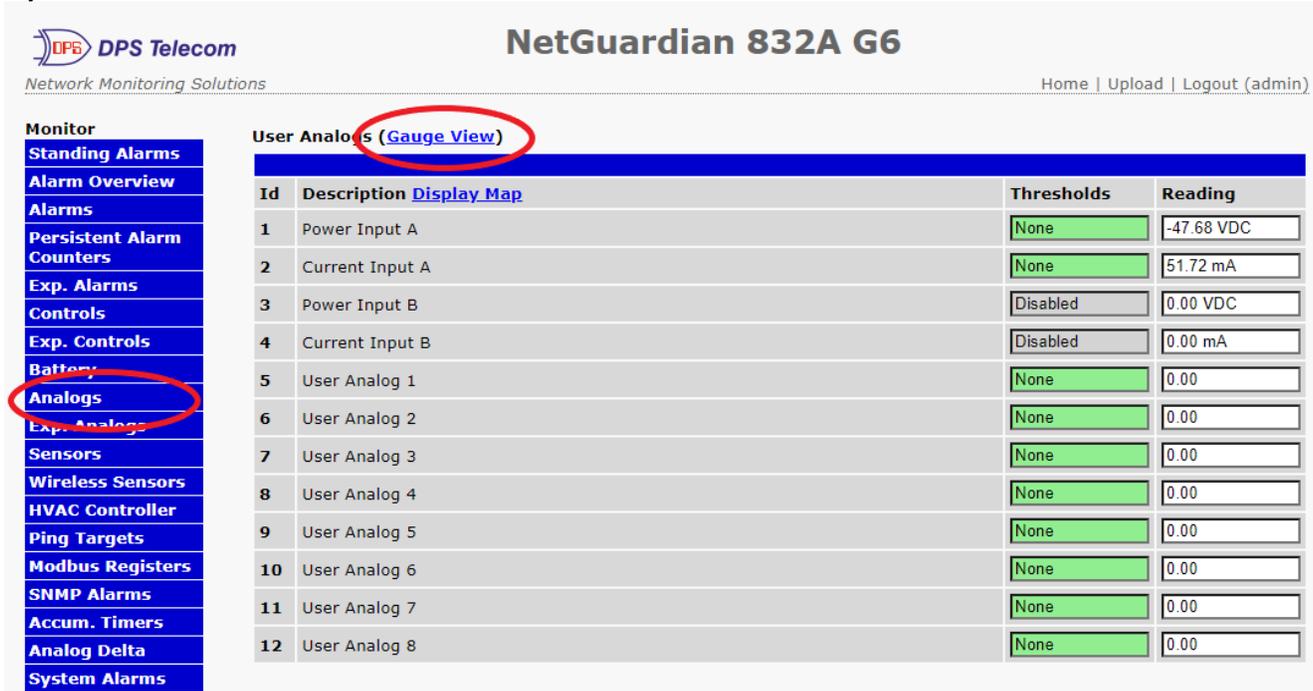
|              |              |            |            |            |            |
|--------------|--------------|------------|------------|------------|------------|
| Voltage:     | Avg: 0.00VDC | MJU: Clear | MNU: Clear | MNO: Clear | MJO: Clear |
| Temperature: | Avg: 0.00F   | MJU: Clear | MNU: Clear | MNO: Clear | MJO: Clear |
| Resistance:  | Avg: 0.00OHM | MJU: Clear | MNU: Clear | MNO: Clear | MJO: Clear |

View: Voltage Measure Resistance

3.5 V  
3 V  
2.5 V  
2 V  
1.5 V  
1 V  
0.5 V  
0 V

## 7.9 Analogs

On the **Monitor > Analogs** menu, you can monitor all analog inputs. The most recent measurement will be shown, and any alarm thresholds crossed will be shown in either orange for minor alarms or red for major alarms.



**NetGuardian 832A G6**

Home | Upload | Logout (admin)

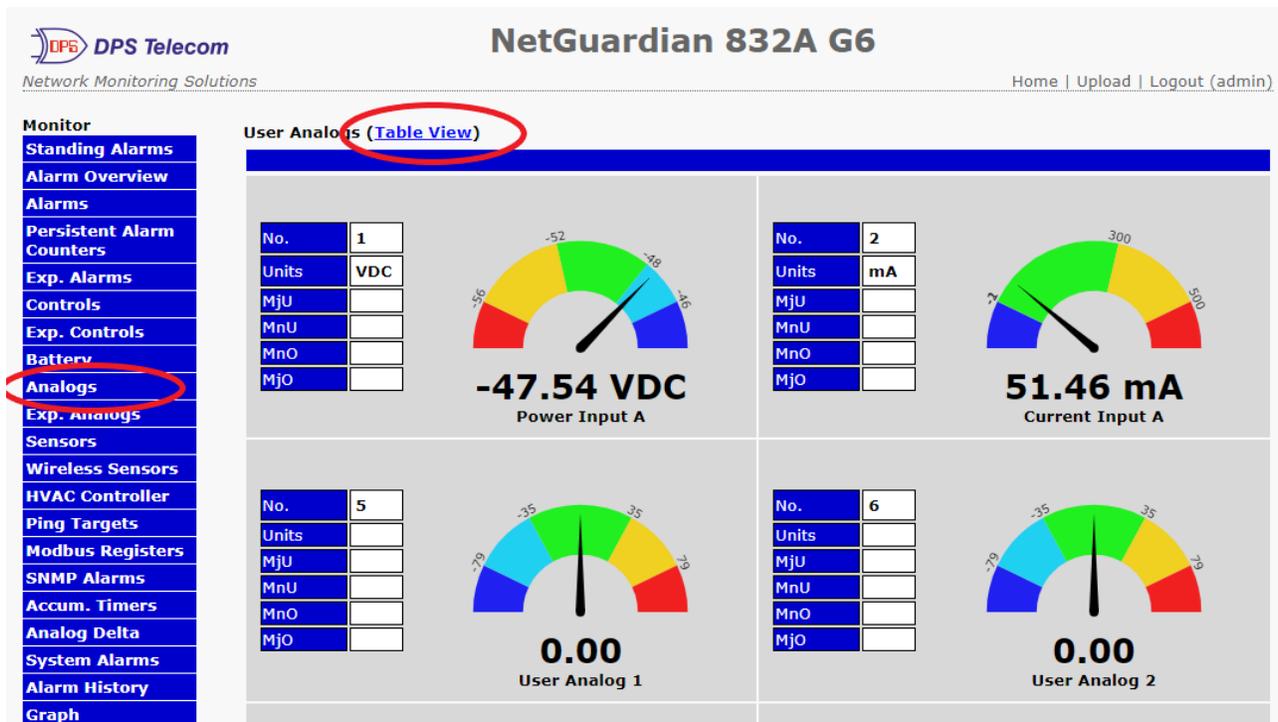
**Monitor**

- Standing Alarms
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- Exp. Alarms
- Controls
- Exp. Controls
- Battery
- Analogs**
- Exp. Analogs
- Sensors
- Wireless Sensors
- HVAC Controller
- Ping Targets
- Modbus Registers
- SNMP Alarms
- Accum. Timers
- Analog Delta
- System Alarms

**User Analogs (Gauge View)**

| Id | Description <a href="#">Display Map</a> | Thresholds | Reading    |
|----|---|------------|------------|
| 1  | Power Input A                           | None       | -47.68 VDC |
| 2  | Current Input A                         | None       | 51.72 mA   |
| 3  | Power Input B                           | Disabled   | 0.00 VDC   |
| 4  | Current Input B                         | Disabled   | 0.00 mA    |
| 5  | User Analog 1                           | None       | 0.00       |
| 6  | User Analog 2                           | None       | 0.00       |
| 7  | User Analog 3                           | None       | 0.00       |
| 8  | User Analog 4                           | None       | 0.00       |
| 9  | User Analog 5                           | None       | 0.00       |
| 10 | User Analog 6                           | None       | 0.00       |
| 11 | User Analog 7                           | None       | 0.00       |
| 12 | User Analog 8                           | None       | 0.00       |

Current status of all analog inputs in the Monitor > Analogs in Table View.



**NetGuardian 832A G6**

Home | Upload | Logout (admin)

**Monitor**

- Standing Alarms
- Alarm Overview
- Alarms
- Persistent Alarm Counters
- Exp. Alarms
- Controls
- Exp. Controls
- Battery
- Analogs**
- Exp. Analogs
- Sensors
- Wireless Sensors
- HVAC Controller
- Ping Targets
- Modbus Registers
- SNMP Alarms
- Accum. Timers
- Analog Delta
- System Alarms
- Alarm History
- Graph

**User Analogs (Table View)**

|            |   |               |     |     |  |     |  |       |  |     |  |
|------------|---|---------------|-----|-----|--|-----|--|-------|--|-----|--|
| No.        | 1 | Units         | VDC | MjU |  | MnU |  | MnO   |  | MjO |  |
| -47.54 VDC |   | Power Input A |     | No. |  | 2   |  | Units |  | mA  |  |
| -52        |   | -18           |     | -3  |  | 300 |  | 500   |  | -3  |  |
| -36        |   | -46           |     | -79 |  | 35  |  | 35    |  | -79 |  |
| 0.00       |   | User Analog 1 |     | No. |  | 6   |  | Units |  | MjU |  |
| -35        |   | -35           |     | -79 |  | -35 |  | 35    |  | -79 |  |
| 0.00       |   | User Analog 2 |     | MnU |  | MnO |  | MjO   |  |     |  |

Current status of all analog inputs in the Monitor > Analogs in Gauge View.

**NOTE:** The analog gauges do not account for the user definable Deadband. This may result in an alarm threshold to appear crossed in the gauge animation when the point has not set or cleared.

## 7.10 Expansion Analogs

**NOTE:** This menu option does not appear unless an expansion unit has been connected to your base G6.

Expansion Analogs Monitoring have the same functionality as Analogs Monitoring. They are added as part of an expansion unit. When available, they will appear on this additional page of user analogs. Depending on your expansion configuration you will have the ability to select which expansion controls to configure via the drop down box. See image below.

**NetGuardian 832A G6**

Home | Upload | Logout (admin)

Monitor

- Standing Alarms
- Alarm Overview
- Alarms
- Persistent Alarm Counters
- Exp. Alarms
- Controls
- Exp. Controls
- Battery
- Analogs
- Exp. Analogs**
- Sensors
- Wireless Sensors
- HVAC Controller
- Ping Targets
- Modbus Registers
- SNMP Alarms
- Accum. Timers
- Analog Delta
- System Alarms
- Alarm History
- Graph
- Routing Table
- Stats

Expansion Analogs (Gauge View)

Expansion 1 ▾

| Id | Description  | Display Map | Thresholds  | Reading |
|----|--------------|-------------|-------------|---------|
| 1  | Exp 1 Alg 1  |             | None        | 0.00    |
| 2  | Exp 1 Alg 2  |             | None        | 0.00    |
| 3  | Exp 1 Alg 3  |             | None        | 0.00    |
| 4  | Exp 1 Alg 4  |             | None        | 19.71   |
| 5  | Exp 1 Alg 5  |             | Minor Under | -45.62  |
| 6  | Exp 1 Alg 6  |             | None        | 0.00    |
| 7  | Exp 1 Alg 7  |             | None        | 0.00    |
| 8  | Exp 1 Alg 8  |             | None        | 0.00    |
| 9  | Exp 1 Alg 9  |             | None        | 0.00    |
| 10 | Exp 1 Alg 10 |             | None        | 0.00    |
| 11 | Exp 1 Alg 11 |             | None        | 0.00    |
| 12 | Exp 1 Alg 12 |             | None        | 0.00    |
| 13 | Exp 1 Alg 13 |             | None        | 0.00    |
| 14 | Exp 1 Alg 14 |             | None        | 0.00    |
| 15 | Exp 1 Alg 15 |             | None        | 0.00    |
| 16 | Exp 1 Alg 16 |             | None        | 0.00    |

Provisioning

Current status of all analog inputs in the Monitor > Exp. Analogs in Table View.

**NetGuardian 832A G6**

Home | Upload | Logout (admin)

Monitor

- Standing Alarms
- Alarm Overview
- Alarms
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- Exp. Alarms
- Controls
- Exp. Controls
- Battery
- Analogs
- Exp. Analogs**
- Sensors
- Wireless Sensors
- HVAC Controller
- Ping Targets
- Modbus Registers
- SNMP Alarms
- Accum. Timers
- Analog Delta
- System Alarms
- Alarm History
- Graph

Expansion Analogs (Table View)

Expansion 1 ▾

|       |   |  |  |  |  |  |  |  |  |
|-------|---|--|--|--|--|--|--|--|--|
| No.   | 1 |  |  |  |  |  |  |  |  |
| Units |   |  |  |  |  |  |  |  |  |
| MjU   |   |  |  |  |  |  |  |  |  |
| MnU   |   |  |  |  |  |  |  |  |  |
| MnO   |   |  |  |  |  |  |  |  |  |
| MjO   |   |  |  |  |  |  |  |  |  |

**0.00**  
Exp 1 Alg 1

|       |   |  |  |  |  |  |  |  |  |
|-------|---|--|--|--|--|--|--|--|--|
| No.   | 2 |  |  |  |  |  |  |  |  |
| Units |   |  |  |  |  |  |  |  |  |
| MjU   |   |  |  |  |  |  |  |  |  |
| MnU   |   |  |  |  |  |  |  |  |  |
| MnO   |   |  |  |  |  |  |  |  |  |
| MjO   |   |  |  |  |  |  |  |  |  |

**0.00**  
Exp 1 Alg 2

|       |   |  |  |  |  |  |  |  |  |
|-------|---|--|--|--|--|--|--|--|--|
| No.   | 3 |  |  |  |  |  |  |  |  |
| Units |   |  |  |  |  |  |  |  |  |
| MjU   |   |  |  |  |  |  |  |  |  |
| MnU   |   |  |  |  |  |  |  |  |  |
| MnO   |   |  |  |  |  |  |  |  |  |
| MjO   |   |  |  |  |  |  |  |  |  |

**0.00**  
Exp 1 Alg 3

|       |   |  |  |  |  |  |  |  |  |
|-------|---|--|--|--|--|--|--|--|--|
| No.   | 4 |  |  |  |  |  |  |  |  |
| Units |   |  |  |  |  |  |  |  |  |
| MjU   |   |  |  |  |  |  |  |  |  |
| MnU   |   |  |  |  |  |  |  |  |  |
| MnO   |   |  |  |  |  |  |  |  |  |
| MjO   |   |  |  |  |  |  |  |  |  |

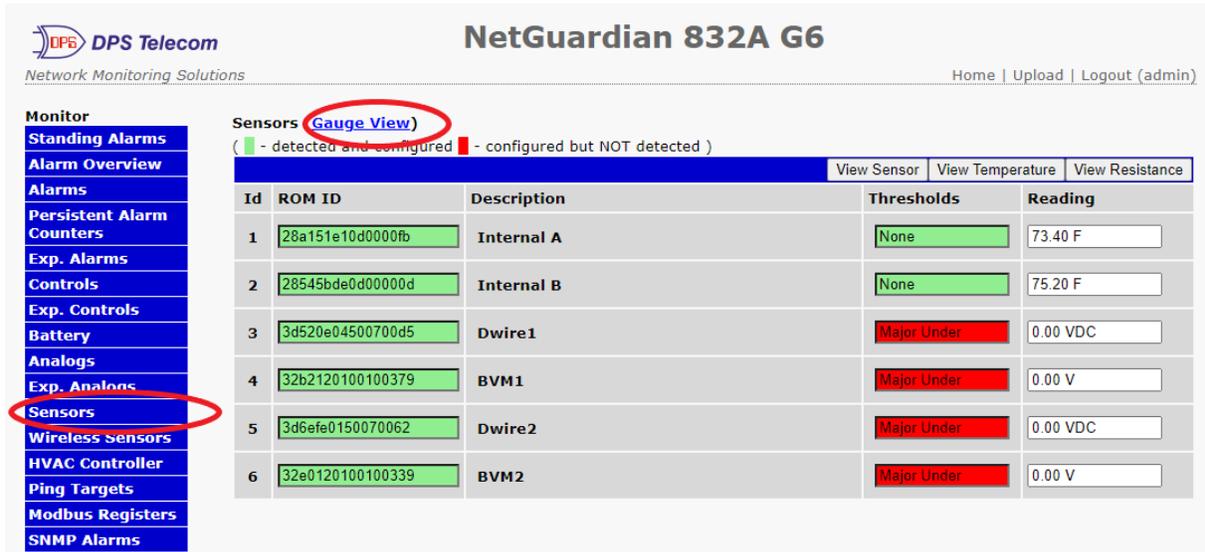
**19.71**  
Exp 1 Alg 4

Current status of all analog inputs in the Monitor > Exp. Analogs in Gauge View.

**NOTE:** The analog gauges do not account for the user definable Deadband. This may result in an alarm threshold to appear crossed in the gauge animation when the point has not set or cleared.

## 7.11 Sensors

This selection provides the status of the system's sensors by indicating if an alarm has been triggered. The **Monitor > Sensors** screen provides a description of each sensor, the current reading, the units being read, and alarm conditions (major under, minor under, major over, minor over) according to your temperature settings. If configured under **Provisioning > Sensors**, your sensor values will be displayed as a graphical gauge. Selecting **Table View** will display a non-graphical interface of your values.



**NetGuardian 832A G6**

Home | Upload | Logout (admin)

Monitor

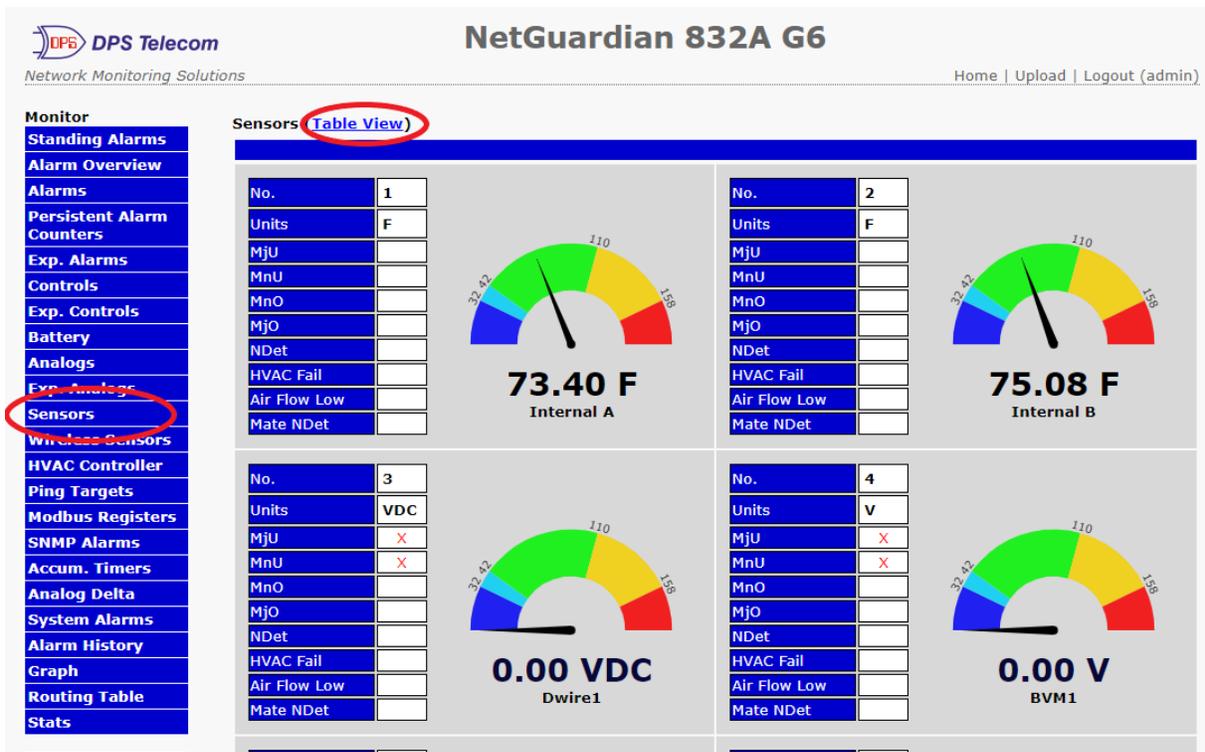
- Standing Alarms
- Alarm Overview
- Alarms
- Persistent Alarm Counters
- Exp. Alarms
- Controls
- Exp. Controls
- Battery
- Analogs
- Exp. Analogs
- Sensors**
- Wireless Sensors
- HVAC Controller
- Ping Targets
- Modbus Registers
- SNMP Alarms

Sensors **Gauge View**

( ■ - detected and configured ■ - configured but NOT detected )

|           |                  | View Sensor        | View Temperature | View Resistance |
|-----------|------------------|--------------------|------------------|-----------------|
|           |                  | Thresholds         |                  | Reading         |
| <b>Id</b> | <b>ROM ID</b>    | <b>Description</b> |                  |                 |
| 1         | 28a151e10d0000fb | Internal A         |                  | 73.40 F         |
| 2         | 28545bde0d00000d | Internal B         |                  | 75.20 F         |
| 3         | 3d520e04500700d5 | Dwire1             |                  | 0.00 VDC        |
| 4         | 32b2120100100379 | BVM1               |                  | 0.00 V          |
| 5         | 3d6efe0150070062 | Dwire2             |                  | 0.00 VDC        |
| 6         | 32e0120100100339 | BVM2               |                  | 0.00 V          |

Current status of all sensor inputs in the Monitor > Sensors in Table View.



**NetGuardian 832A G6**

Home | Upload | Logout (admin)

Monitor

- Standing Alarms
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- Wireless Sensors
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- Ping Targets
- Modbus Registers
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- Accum. Timers
- Analog Delta
- System Alarms
- Alarm History
- Graph
- Routing Table
- Stats

Sensors **Table View**

|              |   |              |   |
|--------------|---|--------------|---|
| No.          | 1 | No.          | 2 |
| Units        | F | Units        | F |
| MjU          |   | MjU          |   |
| MnU          |   | MnU          |   |
| MnO          |   | MnO          |   |
| MjO          |   | MjO          |   |
| NDet         |   | NDet         |   |
| HVAC Fail    |   | HVAC Fail    |   |
| Air Flow Low |   | Air Flow Low |   |
| Mate NDet    |   | Mate NDet    |   |

**73.40 F**  
Internal A

|              |     |              |   |
|--------------|-----|--------------|---|
| No.          | 3   | No.          | 4 |
| Units        | VDC | Units        | V |
| MjU          | X   | MjU          | X |
| MnU          | X   | MnU          | X |
| MnO          |     | MnO          |   |
| MjO          |     | MjO          |   |
| NDet         |     | NDet         |   |
| HVAC Fail    |     | HVAC Fail    |   |
| Air Flow Low |     | Air Flow Low |   |
| Mate NDet    |     | Mate NDet    |   |

**0.00 VDC**  
Dwire1

**0.00 V**  
BVM1

Current status of all sensor inputs in the Monitor > Sensors in Gauge View.

## 7.12 Wireless Sensors

Monitor current status of a paired wireless receiver or extender and associated analog inputs.

The screenshot shows the NetGuardian 832A G6 web interface. The top navigation bar includes the DPS Telecom logo, the product name "NetGuardian 832A G6", and links for "Home | Upload | Logout (admin)". On the left, a "Monitor" sidebar menu lists various monitoring options, with "Wireless Sensors" highlighted in red. The main content area is titled "Wireless Sensors" and contains a table with columns for "Id", "Description", and "Reading". The "Reading" column shows "Never". Below the table is a note: "Note: A DPS Wireless Receiver can be configured for communication with a DPS Wireless Extender to support certain wireless sensor communications, such as wireless propane monitoring."

The Monitor > Wireless Sensor menu

## 7.13 HVAC Controller

The HVAC Controller in the Monitoring menu gives you a quick overview of the status of your G6. The Control, Temperature, HVAC Units, and Status views can be toggled between show or hide.

In the event that your G6 is unable to read the temperature sensors, a warning message "Using Internal Temp Sensor as Ambient" will appear.

The screenshot shows the NetGuardian 832A G6 web interface. The top navigation bar is identical to the previous screenshot. The "Monitor" sidebar menu on the left has "HVAC Controller" highlighted in red. The main content area is titled "HVAC Controller" and features a dropdown menu for "HVAC Zone" set to "HVAC Zone 1". Below this is a table with four columns: "Control", "Temperature", "HVAC Units", and "Status". The "Control" column shows "Suspended" with a "Toggle Comfort Mode" button. The "Temperature" column has "Cooling Settings" (Low: 74 F, Current: Suspended - Error, High: 88 F) and "Heating Settings" (Low: 50 F, Current: Suspended - Error, High: 55 F).

The Monitor > HVAC Controller menu

## 7.14 Ping Targets

Ping Targets can be viewed by going to **Monitor** > **Ping Targets**. Here you can view the state (either **Clear** or **Alarm**) for each of your configured Ping Targets.

 **DPS Telecom**  
Network Monitoring Solutions

**NetGuardian 832A G6**  
[Home](#) | [Upload](#) | [Logout \(admin\)](#)

**Monitor**  
[Standing Alarms](#)  
[Alarm Overview](#)  
[Alarms](#)  
[Persistent Alarm Counters](#)  
[Exp. Alarms](#)  
[Controls](#)  
[Exp. Controls](#)  
[Battery](#)  
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[Exp. Analog](#)  
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[Wireless Sensors](#)  
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[Modbus registers](#)  
[SNMP Alarms](#)  
[Accum. Timers](#)  
[Analog Delta](#)  
[System Alarms](#)  
[Alarm History](#)

**Ping Targets**

| Id | Description <a href="#">Display Map</a> | State |
|----|---|-------|
| 1  |   | Clear |
| 2  |   | Clear |
| 3  |   | Clear |
| 4  |   | Clear |
| 5  |   | Clear |
| 6  |   | Clear |
| 7  |   | Clear |
| 8  |   | Clear |
| 9  |   | Clear |
| 10 |   | Clear |
| 11 |   | Clear |
| 12 |   | Clear |
| 13 |   | Clear |

## 7.15 Modbus Registers

NetGuardian 832A G6

Home | Upload | Logout (admin)

Monitor

- Standing Alarms
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- Ping Targets
- Modbus Registers**
- SNMP Alarms
- Accum. Timers

Modbus Registers [Enable Test Mode](#)

| Id | Description <a href="#">Display Map</a> | Thresholds | Reading | Last cycle ended |
|----|---|------------|---------|------------------|
| 1  | Test Register                           | Major Over | 2048    | 1 sec ago        |
| 2  |   | Disabled   | 0       | Disabled         |
| 3  |   | Disabled   | 0       | Disabled         |
| 4  |   | Disabled   | 0       | Disabled         |
| 5  |   | Disabled   | 0       | Disabled         |
| 6  |   | Disabled   | 0       | Disabled         |
| 7  |   | Disabled   | 0       | Disabled         |
| 8  |   | Disabled   | 0       | Disabled         |
| 9  |   | Disabled   | 0       | Disabled         |
| 10 |   | Disabled   | 0       | Disabled         |
| 11 |   | Disabled   | 0       | Disabled         |

Monitor > MODBUS Registers

This selection provides the status of the MODBUS registers being polled by the unit. The **Monitor > MODBUS Registers** screen provides a description of each MODBUS register, the current response value along with the units, and alarm conditions (major under, minor under, minor over, major over) according to your settings.

## 7.16 SNMP Alarms

This selection provides the status of the SNMP 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.

NetGuardian 832A G6

Home | Upload | Logout (admin)

Monitor

- Standing Alarms
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- Battery
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- Exp. Analogs
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- Wireless Sensors
- HVAC Controller
- Ping Targets
- Modbus Registers
- SNMP Alarms**
- Accum. Timers
- Analog Delta
- System Alarms
- Alarm History

SNMP Alarms

| Id | Description <a href="#">Display Map</a> | State |
|----|---|-------|
| 1  |   | Clear |
| 2  |   | Clear |
| 3  |   | Clear |
| 4  |   | Clear |
| 5  |   | Clear |
| 6  |   | Clear |
| 7  |   | Clear |
| 8  |   | Clear |
| 9  |   | Clear |
| 10 |   | Clear |
| 11 |   | Clear |
| 12 |   | Clear |
| 13 |   | Clear |

The Monitor > SNMP Alarms menu

## 7.17 Accumulation Timers

On the **Monitor > Accum. Timers** menu, monitor accumulated time in alarm state for configured alarm points



**DPS Telecom**  
Network Monitoring Solutions

# NetGuardian 832A G6

[Home](#) | [Upload](#) | [Logout \(admin\)](#)

**Monitor**

- Standing Alarms
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- Exp. Alarms
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- Exp. Controls
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- Analogs
- Exp. Analogs
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- Ping Targets
- Modbus Registers
- SNMP Alarms
- Accum. Timers**
- Analog Delta
- System Alarms
- Alarm History
- Graph
- Routing Table

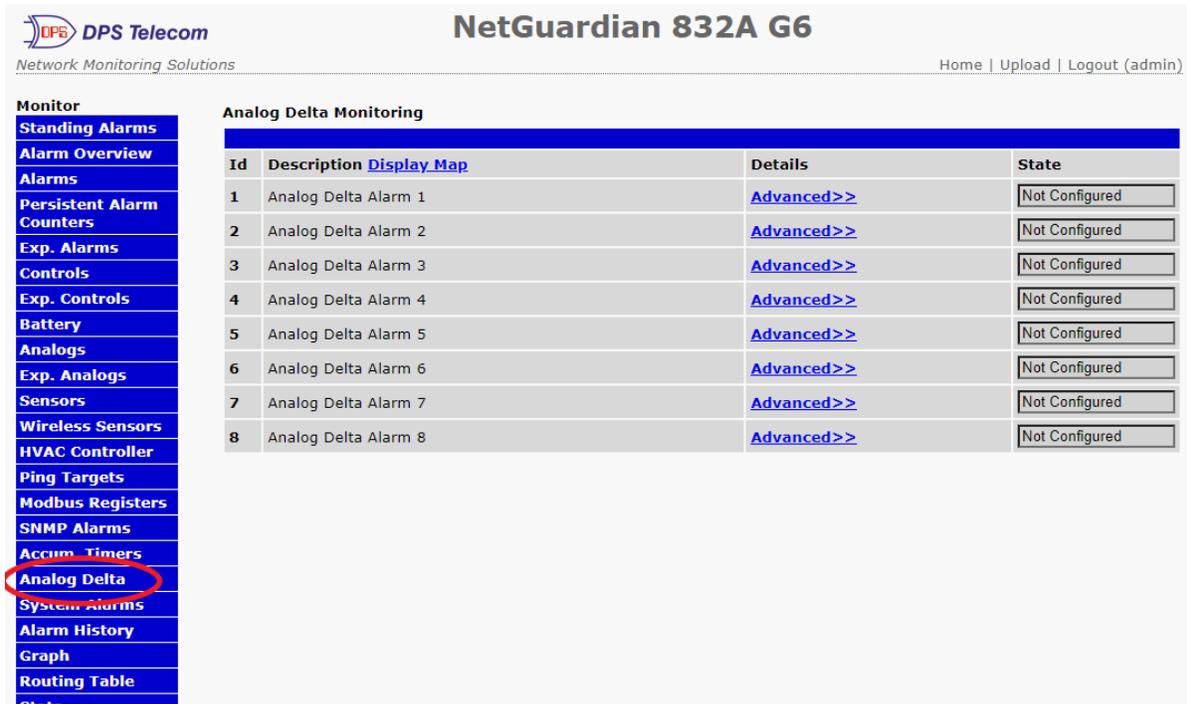
### Accumulation Timer Alarms

| Id | Description <a href="#">Display Map</a> | Point State    | Accumulation Timer Alarm | Last Reset     |  |
|----|---|----------------|--------------------------|----------------|--|
| 1  | Accumulation Timer 1                    | Not Configured | Not Configured           | Not Configured | <input type="button" value="Reset Timer"/> |
| 2  | Accumulation Timer 2                    | Not Configured | Not Configured           | Not Configured | <input type="button" value="Reset Timer"/> |
| 3  | Accumulation Timer 3                    | Not Configured | Not Configured           | Not Configured | <input type="button" value="Reset Timer"/> |
| 4  | Accumulation Timer 4                    | Not Configured | Not Configured           | Not Configured | <input type="button" value="Reset Timer"/> |
| 5  | Accumulation Timer 5                    | Not Configured | Not Configured           | Not Configured | <input type="button" value="Reset Timer"/> |
| 6  | Accumulation Timer 6                    | Not Configured | Not Configured           | Not Configured | <input type="button" value="Reset Timer"/> |
| 7  | Accumulation Timer 7                    | Not Configured | Not Configured           | Not Configured | <input type="button" value="Reset Timer"/> |
| 8  | Accumulation Timer 8                    | Not Configured | Not Configured           | Not Configured | <input type="button" value="Reset Timer"/> |

*The Monitor > Accumulation Timers menu*

## 7.18 Analog Delta

On the **Monitor > Analog Delta** menu, monitor configured analog or sensor channels for rapid changes in input value.



The screenshot shows the NetGuardian 832A G6 web interface. The top navigation bar includes the DPS Telecom logo, the product name 'NetGuardian 832A G6', and user options: 'Home | Upload | Logout (admin)'. The left sidebar contains a 'Monitor' menu with various options, and the 'Analog Delta' option is circled in red. The main content area is titled 'Analog Delta Monitoring' and contains a table with the following data:

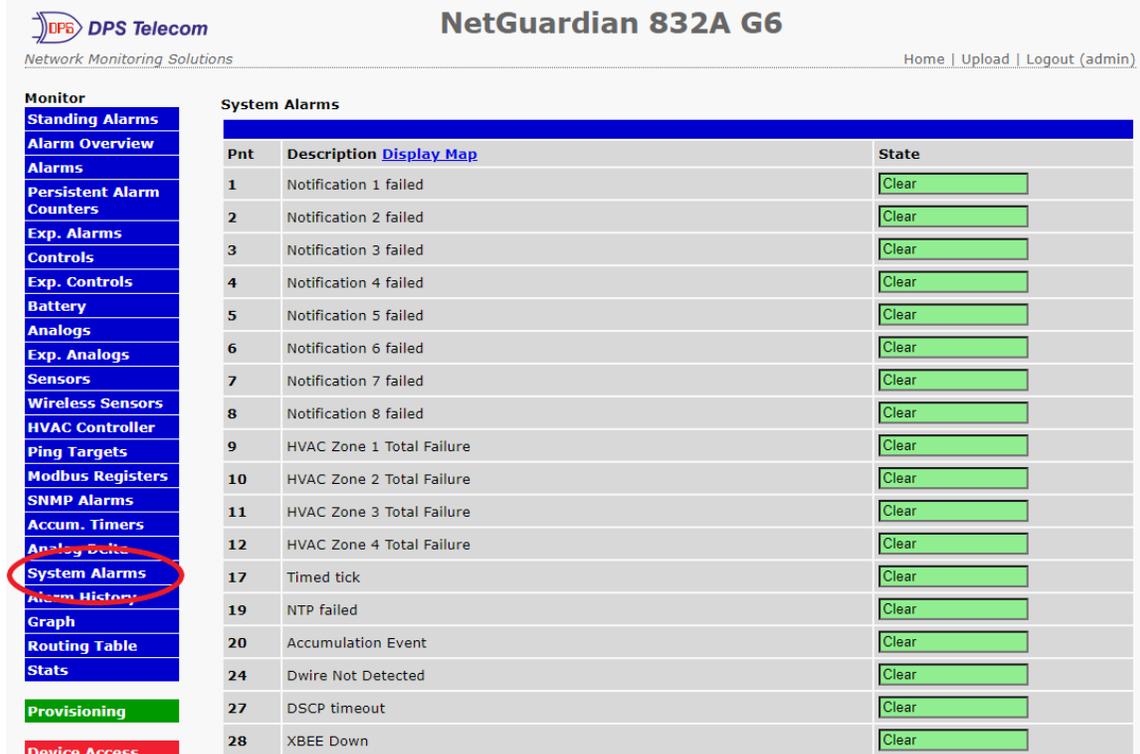
| Id | Description <a href="#">Display Map</a> | Details                          | State          |
|----|---|----------------------------------|----------------|
| 1  | Analog Delta Alarm 1                    | <a href="#">Advanced&gt;&gt;</a> | Not Configured |
| 2  | Analog Delta Alarm 2                    | <a href="#">Advanced&gt;&gt;</a> | Not Configured |
| 3  | Analog Delta Alarm 3                    | <a href="#">Advanced&gt;&gt;</a> | Not Configured |
| 4  | Analog Delta Alarm 4                    | <a href="#">Advanced&gt;&gt;</a> | Not Configured |
| 5  | Analog Delta Alarm 5                    | <a href="#">Advanced&gt;&gt;</a> | Not Configured |
| 6  | Analog Delta Alarm 6                    | <a href="#">Advanced&gt;&gt;</a> | Not Configured |
| 7  | Analog Delta Alarm 7                    | <a href="#">Advanced&gt;&gt;</a> | Not Configured |
| 8  | Analog Delta Alarm 8                    | <a href="#">Advanced&gt;&gt;</a> | Not Configured |

*The Monitor > Analog Delta menu*

## 7.19 System Alarms

System alarms are non-editable, housekeeping alarms that are programmed into G6. The **Monitor > System Alarms** screen provides the status of the system 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.

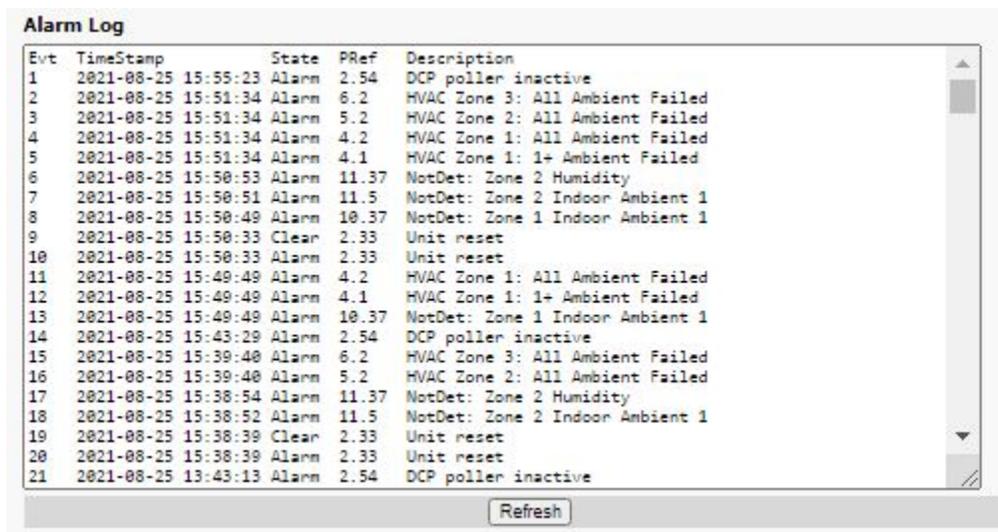
See "Reference" > "System Alarms" in this manual for a complete description of each system alarm.



The screenshot shows the NetGuardian 832A G6 web interface. On the left is a navigation menu with the "System Alarms" option highlighted in red. The main content area displays a table of system alarms.

| Pnt | Description <a href="#">Display Map</a> | State |
|-----|---|-------|
| 1   | Notification 1 failed                   | Clear |
| 2   | Notification 2 failed                   | Clear |
| 3   | Notification 3 failed                   | Clear |
| 4   | Notification 4 failed                   | Clear |
| 5   | Notification 5 failed                   | Clear |
| 6   | Notification 6 failed                   | Clear |
| 7   | Notification 7 failed                   | Clear |
| 8   | Notification 8 failed                   | Clear |
| 9   | HVAC Zone 1 Total Failure               | Clear |
| 10  | HVAC Zone 2 Total Failure               | Clear |
| 11  | HVAC Zone 3 Total Failure               | Clear |
| 12  | HVAC Zone 4 Total Failure               | Clear |
| 17  | Timed tick                              | Clear |
| 19  | NTP failed                              | Clear |
| 20  | Accumulation Event                      | Clear |
| 24  | Dwire Not Detected                      | Clear |
| 27  | DSCP timeout                            | Clear |
| 28  | XBEE Down                               | Clear |

*View the status of System Alarms from the Monitor > System Alarms menu.*



The screenshot shows the "Alarm Log" window with a list of events. A "Refresh" button is located at the bottom of the window.

| Evt | TimeStamp           | State | Pref  | Description                     |
|-----|---------------------|-------|-------|---------------------------------|
| 1   | 2021-08-25 15:55:23 | Alarm | 2.54  | DCP poller inactive             |
| 2   | 2021-08-25 15:51:34 | Alarm | 6.2   | HVAC Zone 3: All Ambient Failed |
| 3   | 2021-08-25 15:51:34 | Alarm | 5.2   | HVAC Zone 2: All Ambient Failed |
| 4   | 2021-08-25 15:51:34 | Alarm | 4.2   | HVAC Zone 1: All Ambient Failed |
| 5   | 2021-08-25 15:51:34 | Alarm | 4.1   | HVAC Zone 1: 1+ Ambient Failed  |
| 6   | 2021-08-25 15:50:53 | Alarm | 11.37 | NotDet: Zone 2 Humidity         |
| 7   | 2021-08-25 15:50:51 | Alarm | 11.5  | NotDet: Zone 2 Indoor Ambient 1 |
| 8   | 2021-08-25 15:50:49 | Alarm | 10.37 | NotDet: Zone 1 Indoor Ambient 1 |
| 9   | 2021-08-25 15:50:33 | Clear | 2.33  | Unit reset                      |
| 10  | 2021-08-25 15:50:33 | Alarm | 2.33  | Unit reset                      |
| 11  | 2021-08-25 15:49:49 | Alarm | 4.2   | HVAC Zone 1: All Ambient Failed |
| 12  | 2021-08-25 15:49:49 | Alarm | 4.1   | HVAC Zone 1: 1+ Ambient Failed  |
| 13  | 2021-08-25 15:49:49 | Alarm | 10.37 | NotDet: Zone 1 Indoor Ambient 1 |
| 14  | 2021-08-25 15:43:29 | Alarm | 2.54  | DCP poller inactive             |
| 15  | 2021-08-25 15:39:40 | Alarm | 6.2   | HVAC Zone 3: All Ambient Failed |
| 16  | 2021-08-25 15:39:40 | Alarm | 5.2   | HVAC Zone 2: All Ambient Failed |
| 17  | 2021-08-25 15:38:54 | Alarm | 11.37 | NotDet: Zone 2 Humidity         |
| 18  | 2021-08-25 15:38:52 | Alarm | 11.5  | NotDet: Zone 2 Indoor Ambient 1 |
| 19  | 2021-08-25 15:38:39 | Clear | 2.33  | Unit reset                      |
| 20  | 2021-08-25 15:38:39 | Alarm | 2.33  | Unit reset                      |
| 21  | 2021-08-25 13:43:13 | Alarm | 2.54  | DCP poller inactive             |

*Monitor > Alarm History menu*

## 7.20 Alarm History

The **Monitor > Alarm History** screen provides the historical status of any and all alarms that have been triggered as well as when they are cleared.

The screenshot displays the NetGuardian 832A G6 web interface. The top navigation bar includes the DPS Telecom logo, the product name "NetGuardian 832A G6", and links for "Home", "Upload", and "Logout (admin)". A left-hand menu lists various monitoring categories, with "Alarm History" highlighted by a red circle. The main content area is titled "Alarm Log" and contains a table of alarm events.

| Evt | TimeStamp           | State | PRef    | Description         |
|-----|---------------------|-------|---------|---------------------|
| 1   | 2010-01-20 22:16:32 | Alarm | 3.2.30  | Exp 1 Alm 94        |
| 2   | 2010-01-20 22:14:36 | Clear | 3.2.30  | Exp 1 Alm 94        |
| 3   | 2010-01-20 17:49:18 | Clear | 1.11.56 | Expansion 1 failed  |
| 4   | 2010-01-20 17:49:15 | Alarm | 1.11.56 | Expansion 1 failed  |
| 5   | 2010-01-20 17:14:18 | Alarm | 1.11.37 | DCP poller inactive |
| 6   | 2010-01-20 17:09:55 | Alarm | 4.1.4   | MjO: Test Register  |
| 7   | 2010-01-20 17:09:55 | Alarm | 4.1.2   | MnO: Test Register  |
| 8   | 2010-01-20 17:09:35 | Alarm | 3.3.1   | Exp 2 Alm 1         |
| 9   | 2010-01-20 17:09:33 | Alarm | 3.2.30  | Exp 1 Alm 94        |
| 10  | 2010-01-20 17:09:33 | Alarm | 3.2.24  | Exp 1 Alm 88        |
| 11  | 2010-01-20 17:09:33 | Alarm | 3.2.13  | Exp 1 Alm 77        |
| 12  | 2010-01-20 17:09:33 | Alarm | 3.2.11  | Exp 1 Alm 75        |
| 13  | 2010-01-20 17:09:33 | Alarm | 3.9.1   | MnU: Exp 1 Alg 5    |
| 14  | 2010-01-20 17:09:33 | Alarm | 3.1.27  | Exp 1 Alm 27        |
| 15  | 2010-01-20 17:09:33 | Alarm | 3.1.2   | Exp 1 Alm 2         |
| 16  | 2010-01-20 17:09:25 | Alarm | 2.3.3   | MjU: Dwire2         |
| 17  | 2010-01-20 17:09:25 | Alarm | 2.3.1   | MnU: Dwire2         |
| 18  | 2010-01-20 17:09:25 | Alarm | 2.2.3   | MjU: Dwire1         |
| 19  | 2010-01-20 17:09:25 | Alarm | 2.2.1   | MnU: Dwire1         |
| 20  | 2010-01-20 17:09:24 | Alarm | 2.35.35 | MjU:                |
| 21  | 2010-01-20 17:09:24 | Alarm | 2.35.33 | MnU:                |

Below the table is a "Refresh" button.

*Monitor > Alarm History menu*

## 7.21 Graph

The Graph section of the monitor menu lets you build a graph of past sensor measurements, which gives you a visual indication of data over time and points out trending values. To create your Graph, specify the Channel (Sensors 1-32), Group Interval (1-120 minutes, hours, days, or weeks), the Group Function (Average, Min, Max), and Start & End Times. Once you have entered all of the desired values, click "Build Graph."

The screenshot shows the 'Graph Parameters' section of the NetGuardian 832A G6 web interface. The interface includes a navigation menu on the left with options like 'Monitor', 'Standing Alarms', 'Alarm Overview', 'Alarms', 'Persistent Alarm Counters', 'Exp. Alarms', 'Controls', 'Exp. Controls', 'Battery', 'Analog', 'Exp. Analog', 'Sensors', 'Wireless Sensors', 'HVAC Controller', 'Ping Targets', 'Modbus Registers', 'SNMP Alarms', 'Accum. Timers', 'Analog Delta', 'System Alarms', 'Alarm History', 'Graph', 'Routing Table', 'Stats', 'Provisioning', and 'Device Access'. The 'Graph' option is circled in red. The 'Graph Parameters' section includes a 'Channel' dropdown menu (circled in red), a 'Group Interval' dropdown set to '1 weeks', a 'Group Function' dropdown set to 'Average', and 'Start Time' and 'End Time' fields. Both time fields are set to '2021-11-24 00:00:00'. A 'Build Graph' button is circled in red at the bottom right of the form.

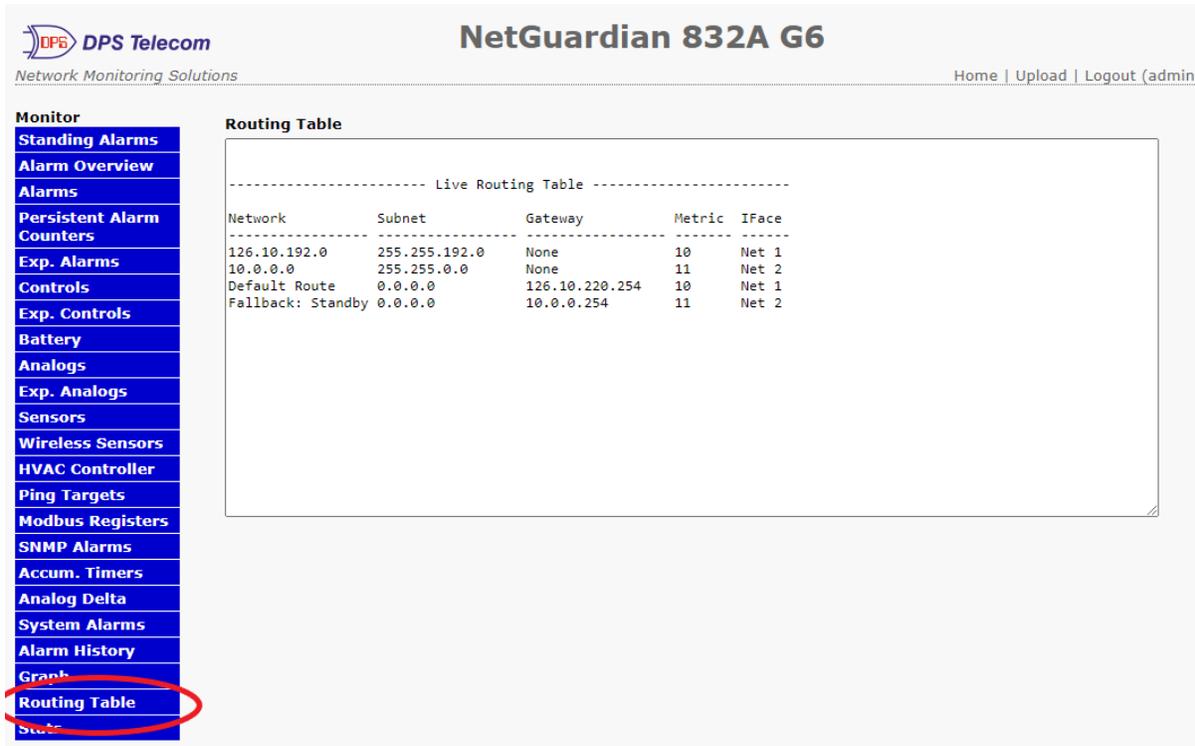
*Provision the Channels, Group Interval, Group Function and more - all from the Graph Parameters section of the web browser interface.*

Your graph will appear on the next screen. This graph is dynamic allows you to mouse over the lines to quickly view measurements (date, time, and value) within their context of the overall graphing trend. Below the graph is a full textual list of all indexed points with their dates and values.

## 7.22 Routing Table

### Monitor > Routing Table

The routing table shows which route the G6 is connected to based on the ethernet settings, static routes, and user metrics assigned within the **Provisioning > Ethernet** menu.



The screenshot displays the NetGuardian 832A G6 web interface. The top navigation bar includes the DPS Telecom logo, the product name "NetGuardian 832A G6", and links for "Home", "Upload", and "Logout (admin)". A left-hand menu under the "Monitor" heading lists various system components, with "Routing Table" highlighted by a red circle. The main content area, titled "Routing Table", displays a "Live Routing Table" with the following data:

| Network           | Subnet        | Gateway        | Metric | Iface |
|-------------------|---------------|----------------|--------|-------|
| 126.10.192.0      | 255.255.192.0 | None           | 10     | Net 1 |
| 10.0.0.0          | 255.255.0.0   | None           | 11     | Net 2 |
| Default Route     | 0.0.0.0       | 126.10.220.254 | 10     | Net 1 |
| Fallback: Standby | 0.0.0.0       | 10.0.0.254     | 11     | Net 2 |

View the G6's routing table from the Monitor > Routing Table menu.

## 8 Device Access Menu

### 8.1 Rebooting the NetGuardian

Rebooting the the NetGuardian unit maybe necessary after writing changes to the NVRAM. The window footer will display the text **Reboot Needed** if a reboot is necessary to initiate changes.

To Reboot the unit follow these steps:

1. Click on the **Reboot** link from the **Device Access** menu
2. A prompt "This Action will reboot the unit. Continue?"
3. Click OK to reboot the unit, Click Cancel to cancel the operation.

The screenshot shows the web interface for the NetGuardian 832A G6. A modal dialog box is open in the center, displaying the text "10.0.6.86 says This Action will reboot the unit. Continue?" with "OK" and "Cancel" buttons. The background interface includes a left sidebar with a "Device Access" menu where "Reboot" is highlighted with a red circle. The main content area features a "Welcome!" message, a description of the device, and a "NetGuardian 832A G6 Overview" section with a list of provisioning options. The top right corner shows navigation links: "Home | Upload | Logout (admin)".

10.0.6.86 says  
This Action will reboot the unit. Continue?

OK Cancel

Home | Upload | Logout (admin)

**Monitor**

**Provisioning**

**Device Access**

Backup Config

Read

Write

Initialize

Get Log

Purge Log

**Reboot**

Tooltips Off

Export Tooltips to Help File

**Welcome!**

The NetGuardian 832A G6 is a Remote Telemetry Unit designed to perform a wide array of input monitoring tasks, and provide an interface which allows the user to monitor real-time sensor readings, review history of past alarm events, and forward alarm data to technicians and/or a NOC.

Review the options below for a brief overview of the NetGuardian 832A G6's system capabilities.

**NetGuardian 832A G6 Overview**

Provisioning options allow you to customize the configuration of the NetGuardian 832A G6 and the inputs it monitors.

- System is used to designate the device's name, set responder properties, and grab downloadable copies of logs.
- User Profiles is used to configure passwords and access permissions for users who access the NetGuardian 832A G6.
- Ethernet provides options for configuring Network Interfaces, including Static Routes.
- RADIUS is used to configure user authentication via an external RADIUS server.
- Serial Port is used to configure serial port communication and reach through functionality for

**Monitor**

**Provisioning**

**Device Access**

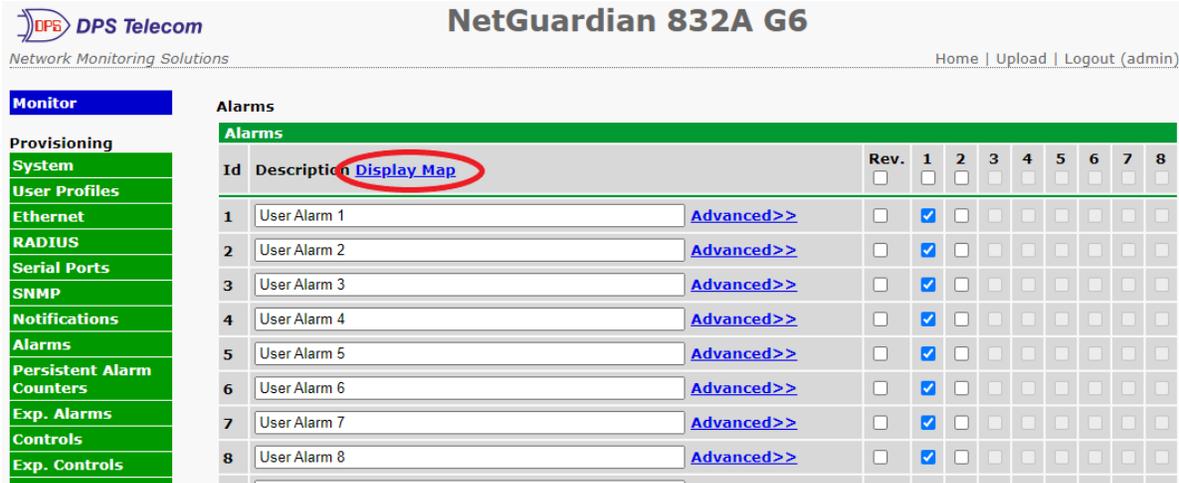
**Optional Features**

# 9 Appendixes

## 9.1 Appendix A — Display Mapping

Display mapping can be accessed throughout various parts of the web interface. Access the display mapping by clicking on the hyperlink labeled "Display Map" (see image below).

This is just the first part of the reference table, which would cover dozens of printed pages. To keep this manual to a manageable length, and to allow for dynamic updates based on build options purchased, only a few selected sections are presented here.



The Display Map that is visible from many points of the web interface, covers every alarm in the G6, including:

- Discrete alarms
- Analog thresholds
- HVAC controls
- Ping Targets 1-32
- Accumulation Timers
- MODBUS Registers

Here is an example of what you will see:

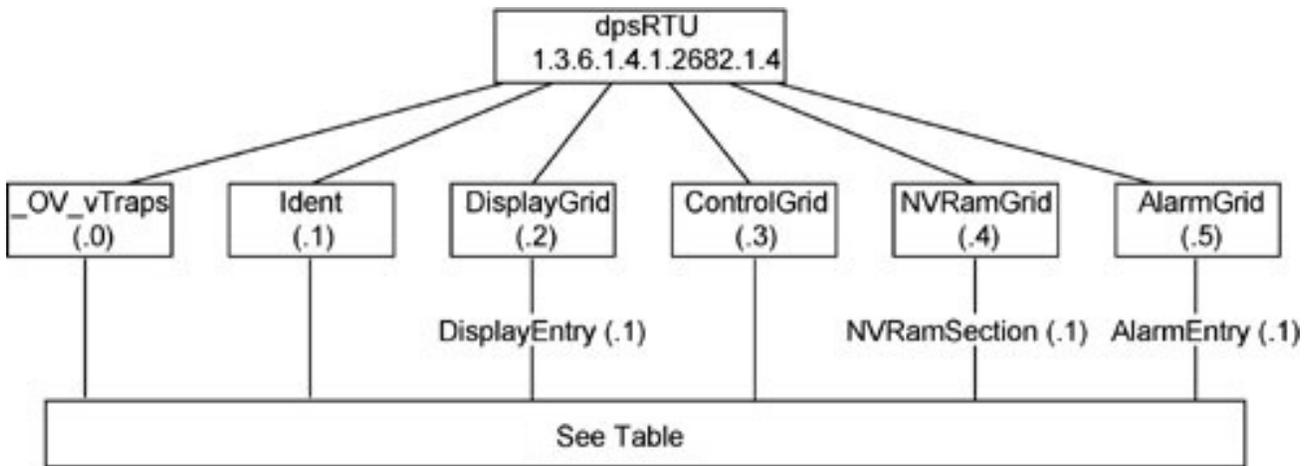
| Port | Addresses | Display | Point       | Description                 | Trap (Set, Clear)                  | Description Get OID                                    | State Get OID   |
|------|-----------|---------|-------------|-----------------------------|------------------------------------|--|---|
| 99   | 1         | 1       | <b>1-32</b> | Discrete Alarms <b>1-32</b> | Set: 8001-8032<br>Clear: 9001-9032 | .1.3.6.1.4.1.2682.1.2.5.1.<br>.5.99.1.1. <b>{1-32}</b> | .1.3.6.1.4.1.2682.1.2.5.1.6.<br>99.1.1. <b>{1-32}</b> |
| 99   | 1         | 11      | 24          | Dwire not Detected          | Set: 8664<br>Clear: 9664           | .1.3.6.1.4.1.2682.1.2.5.1.<br>.5.99.1.11.24            | .1.3.6.1.4.1.2682.1.2.5.1.6.<br>99.1.11.24            |
| 99   | 1         | 11      | 28          | XBee Down                   | Set: 8668<br>Clear: 9668           | .1.3.6.1.4.1.2682.1.2.5.1.<br>.5.99.1.11.28            | .1.3.6.1.4.1.2682.1.2.5.1.6.<br>99.1.11.28            |
| 99   | 1         | 11      | 38          | Net 1 Down                  | Set: 8678<br>Clear: 9678           | .1.3.6.1.4.1.2682.1.2.5.1.<br>.5.99.1.11.38            | .1.3.6.1.4.1.2682.1.2.5.1.6.<br>99.1.11.38            |
| 99   | 1         | 11      | 39          | Net 2 Down                  | Set: 8679<br>Clear: 9679           | .1.3.6.1.4.1.2682.1.2.5.1.<br>.5.99.1.11.39            | .1.3.6.1.4.1.2682.1.2.5.1.6.<br>99.1.11.39            |

**Table A.1.** Small excerpt of *alarm point Displays/Points and System Alarms Trap numbers for the G6.*

\* The number ranges shown in these reference tables cover every integer in the range. For example, the SNMP Trap "Set" number for alarm 1 (in Display 1) is 8001, "Set" for alarm 2 is 8002, "Set" for alarm 3 is 8003, etc.

## 9.2 Appendix B — SNMP Manager Functions

The SNMP Manager allows the user to view alarm status, set date/time, issue controls, and perform a resync. The display and tables below outline the MIB object identifiers. Table B.1 begins with dpsRTU; however, the MIB object identifier tree has several levels above it. The full English name is as follows: root.iso.org.dod.internet.private.enterprises.dps-Inc.dpsAlarmControl.dpsRTU. Therefore, dpsRTU's full object identifier is 1.3.6.1.4.1.2682.1.4. Each level beyond dpsRTU adds another object identifying number. For example, the object identifier of the Display portion of the Control Grid is 1.3.6.1.4.1.2682.1.4.3.3 because the object identifier of dpsRTU is 1.3.6.1.4.1.2682.1.4 + the Control Grid (.3) + the Display (.3).



|   |
|---|
| <b>Tbl. B1 (0.)_OV_Traps points</b>         |
| <b>_OV_vTraps (1.3.6.1.4.1.2682.1.4.0)</b>  |
| PointSet (.20)                              |
| PointClr (.21)                              |
| SumPSSet (.101)                             |
| SumPClr (.102)                              |
| ComFailed (.103)                            |
| ComRestored (.014)                          |
| P0001Set (.10001) through P0064Set (.10064) |
| P0001Clr (.20001) through P0064Clr (.20064) |

|  |
|--|
| <b>Tbl. B2 (.1) Identity points</b>  |
| <b>Ident (1.3.6.1.4.1.2682.1.4.1)</b>  |
| Manufacturer (.1)  |
| Model (.2)   |
| Firmware Version (.3)  |
| DateTime (.4)  |
| ResyncReq (.5)*  |
| * Must be set to "1" to perform the resync request which will resend TRAPs for any standing alarm. |

|  |
|--|
| <b>Tbl. B3 (.2) DisplayGrid points</b>         |
| <b>DisplayEntry (1.3.6.1.4.1.2682.1.4.2.1)</b> |
| Port (.1)                                      |
| Address (.2)                                   |
| Display (.3)                                   |
| DispDesc (.4)*                                 |
| PntMap (.5)*                                   |

|   |
|---|
| <b>Tbl. B3 (.3) ControlGrid points</b>      |
| <b>ControlGrid (1.3.6.1.4.1.2682.1.4.3)</b> |
| Port (.1)                                   |
| Address (.2)                                |
| Display (.3)                                |
| Point (.4)                                  |
| Action (.5)                                 |

|  |
|--|
| <b>Tbl. B5 (.5) AlarmEntry points</b>      |
| <b>AlarmEntry (1.3.6.4.1.2682.1.4.5.1)</b> |
| Aport (.1)                                 |
| AAddress (.2)                              |
| ADisplay (.3)                              |
| APoint (.4)                                |
| APntDesc (.5)*                             |
| AState (.6)                                |
| * For specific alarm points, see Table B6  |

|        | Description     | Port | Addresses | Display | Points |
|--------|-----------------|------|-----------|---------|--------|
| Disp 1 | Discrete Alarms | 99   | 1         | 1       | 1-32   |
|        | Undefined**     | 99   | 1         | 1       | 33-64  |
| Disp   | Ping Targets    | 99   | 1         | 2       | 1-32   |

|                  |                                |    |    |    |       |
|------------------|--------------------------------|----|----|----|-------|
| 2                | Undefined**                    | 99 | 1  | 2  | 33-64 |
| Disp<br>3        | Analog 1                       | 99 | 1  | 3  | 1-4   |
|                  | Undefined**                    | 99 | 1  | 3  | 5-64  |
| Disp<br>4        | Analog 2                       | 99 | 1  | 4  | 1-4   |
|                  | Undefined**                    | 99 | 1  | 4  | 5-64  |
| Disp<br>5        | Analog 3                       | 99 | 1  | 5  | 1-4   |
|                  | Undefined**                    | 99 | 1  | 5  | 5-64  |
| Disp<br>6        | Analog 4                       | 99 | 1  | 6  | 1-4   |
|                  | Undefined**                    | 99 | 1  | 6  | 5-64  |
| Disp<br>7        | Analog 5                       | 99 | 1  | 7  | 1-4   |
|                  | Undefined**                    | 99 | 1  | 7  | 5-64  |
| Disp<br>8        | Analog 6                       | 99 | 1  | 8  | 1-4   |
|                  | Undefined**                    | 99 | 1  | 8  | 5-64  |
| Disp<br>9        | Analog 7                       | 99 | 1  | 9  | 1-4   |
|                  | Undefined**                    | 99 | 1  | 9  | 5-64  |
| Disp<br>10       | Analog 8                       | 99 | 1  | 10 | 1-4   |
|                  | Undefined**                    | 99 | 1  | 10 | 5-64  |
| Disp<br>11       | Relays 1-8                     | 99 | 1  | 11 | 1-8   |
|                  | Relays 9-16                    | 99 | 1  | 11 | 9-16  |
|                  | Timed Tick                     | 99 | 1  | 11 | 17    |
|                  | Exp. Module Callout            | 99 | 1  | 11 | 18    |
|                  | Network Time Server            | 99 | 1  | 11 | 19    |
|                  | Accumulation Event             | 99 | 1  | 11 | 20    |
|                  | Duplicate IP Address           | 99 | 1  | 11 | 21    |
|                  | WAN Disconnected               | 99 | 1  | 11 | 22    |
|                  | ECU<br>EmergencyUnlock         | 99 | 1  | 11 | 23    |
|                  | D-Wire Sensor Not<br>Detected  | 99 | 1  | 11 | 24    |
|                  | Undefined                      | 99 | 1  | 11 | 25-26 |
|                  | DSCP Timeout                   | 99 | 1  | 11 | 27    |
|                  | Wireless Sensor<br>Power Fault | 99 | 1  | 11 | 28    |
|                  | Wireless Sensor<br>Power Low   | 99 | 1  | 11 | 29    |
|                  | Undefined**                    | 99 | 1  | 11 | 30-32 |
|                  | Unit Reset                     | 99 | 1  | 11 | 33    |
|                  | Undefined**                    | 99 | 1  | 11 | 34-35 |
|                  | Lost                           | 99 | 1  | 11 | 36    |
|                  | DCP poll inactive              | 99 | 1  | 11 | 37    |
|                  | NET 1 not active               | 99 | 1  | 11 | 38    |
| NET 2 not active | 99                             | 1  | 11 | 39 |       |
| NET link down    | 99                             | 1  | 11 | 40 |       |

|                  |    |   |    |       |
|------------------|----|---|----|-------|
| Modem not        | 99 | 1 | 11 | 41    |
| No dial-tone     | 99 | 1 | 11 | 42    |
| SNMP trap not    | 99 | 1 | 11 | 43    |
| Pager Que        | 99 | 1 | 11 | 44    |
| Notification     | 99 | 1 | 11 | 45    |
| Craft RCVQ full  | 99 | 1 | 11 | 46    |
| Modem RCVQ       | 99 | 1 | 11 | 47    |
| Data 1-8 RCVQ    | 99 | 1 | 11 | 48-55 |
| NGDdx 1-3 fail   | 99 | 1 | 11 | 56-58 |
| GLD/BSU 1-3 fail | 99 | 1 | 11 | 59-61 |
| CHAN timeout     | 99 | 1 | 11 | 62    |
| CRFT timeout     | 99 | 1 | 11 | 63    |

**Table B.6.** Alarm Point Descriptions

\* "No data" indicates that the alarm point is defined but there is no description entered.

\*\* "Undefined" indicates that the alarm point is not used.

### 9.3 Appendix C — SNMP Granular Trap Packets

Tables C.1 and C.2 provide a list of the information contained in the SNMP Trap packets sent by the NetGuardian.

SNMP Trap managers can use one of two methods to get alarm information:

1. Granular traps (not necessary to define point descriptions for the NetGuardian)

**OR**

2. The SNMP manager reads the description from the Trap.

| UDP Header | Description      |
|------------|------------------|
| 1238       | Source port      |
| 162        | Destination port |
| 303        | Length           |
| 0xBAB0     | Checksum         |

**Table C.1.** UDP Headers and descriptions

| SNMP Header                       | Description   |
|-----------------------------------|---------------|
| 0                                 | Version       |
| Public                            | Request       |
| Trap                              | Request       |
| 1.3.6.1.4.1.2682.1.4              | Enterprise    |
| 126.10.230.181                    | Agent address |
| Enterprise Specific               | Generic Trap  |
| 8001                              | Specific Trap |
| 617077                            | Time stamp    |
| 1.3.7.1.2.1.1.1.0                 | Object        |
| NetGuardian 216 v1.0K             | Value         |
| 1.3.6.1.2.1.1.6.0                 | Object        |
| 1-800-622-3314                    | Value         |
| 1.3.6.1.4.1.2682.1.4.4.1.0        | Object        |
| 01-02-1995 05:08:27.760           | Value         |
| 1.3.6.1.4.1.2682.1.4.5.1.1.99.1.1 | Object        |
| 99                                | Value         |
| 1.3.6.1.4.1.2682.1.4.5.1.2.99.1.1 | Object        |
| 1                                 | Value         |
| 1.3.6.1.4.1.2682.1.4.5.1.3.99.1.1 | Object        |
| 1                                 | Value         |
| 1.3.6.1.4.1.2682.1.4.5.1.4.99.1.1 | Object        |
| 1                                 | Value         |
| 1.3.6.1.4.1.2682.1.4.5.1.5.99.1.1 | Object        |
| Rectifier Failure                 | Value         |
| 1.3.6.1.4.1.2682.1.4.5.1.6.99.1.1 | Object        |
| Alarm                             | Value         |

**Table C.2.** SNMP Headers and descriptions

## 9.4 Appendix D — ASCII Conversion

The information contained in Table D.1 is a list of ASCII symbols and their meanings. Refer to the bulleted list below to interpret the ASCII data transmitted or received through the data ports. Port transmit and receive activity can be viewed from the Web Browser Interface.

- Printable ASCII characters will appear as ASCII.
- Non-printable ASCII characters will appear as labels surrounded by { } brackets (e.g. {NUL}).
- Non-ASCII characters will appear as hexadecimal surrounded by [ ] brackets (e.g. [IF]).
- A received BREAK will appear as <BRK>.

| Abbreviation | Description           | Abbreviation | Description               |
|--------------|-----------------------|--------------|---------------------------|
| NUL          | Null                  | DLE          | Data Link Escape          |
| SOH          | Start of Heading      | DC           | Device Control            |
| STX          | Start of Text         | NAK          | Negative Acknowledge      |
| ETX          | End of Text           | SYN          | Synchronous Idle          |
| EOT          | End of Transmission   | ETB          | End of Transmission Block |
| ENQ          | Enquiry               | CAN          | Cancel                    |
| ACK          | Acknowledge           | EM           | End of Medium             |
| BEL          | Bell                  | SUB          | Substitute                |
| BS           | Backspace             | ESC          | Escape                    |
| HT           | Horizontal Tabulation | FS           | File Separator            |
| LF           | Line Feed             | GS           | Group Separator           |
| VT           | Vertical Tabulation   | RS           | Record Separator          |
| FF           | Form Feed             | US           | Unit Separator            |
| CR           | Carriage Return       | SP           | Space (blank)             |
| SO           | Shift Out             | DEL          | Delete                    |
| SI           | Shift In              | BRK          | Break Received            |

*Table D.1. ASCII symbols*

## 9.5 Appendix E - RADIUS Dictionary File (Available on Resource Disk)

```

# -*- text -*-
#
# dictionary.dps
#
#     DPS Telecom, Inc
#     For assistance or support, please contact support@dpstele.com
#     v1.0 Released - 1/23/09 (CBH/DPS)

VENDOR          DPS          2682

#
# Standard attribute for NetGuardian RTU.
# All values are integer with 1 = True, 0 = False.
# If attribute does not exist in Access-Accept packet, default value will be 0.
#
BEGIN-VENDOR    DPS

ATTRIBUTE  dps-admin          1      integer
ATTRIBUTE  dps-edit          2      integer
ATTRIBUTE  dps-monitor       3      integer
ATTRIBUTE  dps-SD-monitor    4      integer
#To allow monitor of data port buffer/activity
ATTRIBUTE  dps-reach-through  5      integer
#To allow proxy to serial ports via TTY interface
ATTRIBUTE  dps-telnet        6      integer
#To allow telnet in and out of NetGuardian
ATTRIBUTE  dps-control       7      integer
#To allow manipulation of dry contact relay outputs
ATTRIBUTE  dps-modem         8      integer
#To allow dial in and out of NetGuardian
ATTRIBUTE  dps-ppp           9      integer
#To allow this user PPP (inbound) access to the NetGuardian

END-VENDOR      DPS

```

## 9.6 Appendix F - Modbus Registers

| Function Code | Action  |
|---------------|---|
| 1             | Coil Status (Reads the current status of Relays)                |
| 2             | Input Status (Reads the current status of Discrete Alarms)      |
| 3             | Holding Register (Returns the raw value and control of Analogs) |
| 4             | Input Register (Returns the raw value and control of Analogs)   |
| 5             | Write Single Coil (Changes the state of the Relays)             |

| Function Code | Register | Description |
|---------------|----------|-------------|
| 1             | 0-7      | Relay 1-8   |

| Function Code | Register | Description                                      |
|---------------|----------|--|
| 2             | 0-31     | Discrete Alarm 1-32<br><b>(NetGuardian 832A)</b> |
| 2             | 0-63     | Discrete Alarm 1-64<br><b>(NetGuardian 864A)</b> |

| Function Code | Register | Description            | Scaling | Bits      |
|---------------|----------|------------------------|---------|-----------|
| 3             | 0        | Analog 1 Value         | *       | 16        |
| 3             | 1        | Analog 1 Scaling Range | *       | 1/16-3/16 |
| 3             | 1        | Analog 1 Sign          | *       | 7/16      |
| 3             | 2        | Analog 2 Value         | *       | 16        |
| 3             | 3        | Analog 2 Scaling Range | *       | 1/16-3/16 |
| 3             | 3        | Analog 2 Sign          | *       | 7/16      |
| 3             | 4        | Analog 3 Value         | *       | 16        |
| 3             | 5        | Analog 3 Scaling Range | *       | 1/16-3/16 |
| 3             | 5        | Analog 3 Sign          | *       | 7/16      |
| 3             | 6        | Analog 4 Value         | *       | 16        |
| 3             | 7        | Analog 4 Scaling Range | *       | 1/16-3/16 |
| 3             | 7        | Analog 4 Sign          | *       | 7/16      |
| 3             | 8        | Analog 5 Value         | *       | 16        |
| 3             | 9        | Analog 5 Scaling Range | *       | 1/16-3/16 |
| 3             | 9        | Analog 5 Sign          | *       | 7/16      |
| 3             | 10       | Analog 6 Value         | *       | 16        |
| 3             | 11       | Analog 6 Scaling Range | *       | 1/16-3/16 |
| 3             | 11       | Analog 6 Sign          | *       | 7/16      |
| 3             | 12       | Analog 7 Value         | *       | 16        |
| 3             | 13       | Analog 7 Scaling Range | *       | 1/16-3/16 |
| 3             | 13       | Analog 7 Sign          | *       | 7/16      |

| Function Code | Register | Description            | Scaling | Bits      |
|---------------|----------|------------------------|---------|-----------|
| 3             | 14       | Analog 8 Value         | *       | 16        |
| 3             | 15       | Analog 8 Scaling Range | *       | 1/16-3/16 |
| 3             | 15       | Analog 8 Sign          | *       | 7/16      |

\* See Scaling Range Table Below

| Function Code | Register | Description            | Scaling | Bits      |
|---------------|----------|------------------------|---------|-----------|
| 4             | 0        | Analog 1 Value         | *       | 16        |
| 4             | 1        | Analog 1 Scaling Range | *       | 1/16-3/16 |
| 4             | 1        | Analog 1 Sign          | *       | 7/16      |
| 4             | 2        | Analog 2 Value         | *       | 16        |
| 4             | 3        | Analog 2 Scaling Range | *       | 1/16-3/16 |
| 4             | 3        | Analog 2 Sign          | *       | 7/16      |
| 4             | 4        | Analog 3 Value         | *       | 16        |
| 4             | 5        | Analog 3 Scaling Range | *       | 1/16-3/16 |
| 4             | 5        | Analog 3 Sign          | *       | 7/16      |
| 4             | 6        | Analog 4 Value         | *       | 16        |
| 4             | 7        | Analog 4 Scaling Range | *       | 1/16-3/16 |
| 4             | 7        | Analog 4 Sign          | *       | 7/16      |
| 4             | 8        | Analog 5 Value         | *       | 16        |
| 4             | 9        | Analog 5 Scaling Range | *       | 1/16-3/16 |
| 4             | 9        | Analog 5 Sign          | *       | 7/16      |
| 4             | 10       | Analog 6 Value         | *       | 16        |
| 4             | 11       | Analog 6 Scaling Range | *       | 1/16-3/16 |
| 4             | 11       | Analog 6 Sign          | *       | 7/16      |
| 4             | 12       | Analog 7 Value         | *       | 16        |
| 4             | 13       | Analog 7 Scaling Range | *       | 1/16-3/16 |
| 4             | 13       | Analog 7 Sign          | *       | 7/16      |
| 4             | 14       | Analog 8 Value         | *       | 16        |
| 4             | 15       | Analog 8 Scaling Range | *       | 1/16-3/16 |
| 4             | 15       | Analog 8 Sign          | *       | 7/16      |

\* See Scaling Range Table Below

| Function Code | Register | Description |
|---------------|----------|-------------|
| 5             | 0-7      | Relay 1-8   |

| Function Code | Register  | Description                                  |
|---------------|-----------|--|
| 2             | 1200-1215 | NetGuardian E16 DX Expansion<br>1 Alarm 1-16 |
| 1             | 1300-1315 | NetGuardian E16 DX Expansion<br>1 Relay 1-16 |
| 2             | 1400-1415 | NetGuardian E16 DX Expansion<br>2 Alarm 1-16 |

| Function Code | Register  | Description                                  |
|---------------|-----------|--|
| 1             | 1500-1515 | NetGuardian E16 DX Expansion<br>2 Relay 1-16 |
| 2             | 1600-1615 | NetGuardian E16 DX Expansion<br>3 Alarm 1-16 |
| 1             | 1700-1715 | NetGuardian E16 DX Expansion<br>3 Relay 1-16 |

| Function Code | Register  | Description                                  |
|---------------|-----------|--|
| 5             | 1300-1315 | NetGuardian E16 DX Expansion<br>1 Relay 1-16 |
| 5             | 1500-1515 | NetGuardian E16 DX Expansion<br>2 Relay 1-16 |
| 5             | 1700-1715 | NetGuardian E16 DX Expansion<br>3 Relay 1-16 |

| Function Code | Register  | Description                            |
|---------------|-----------|--|
| 2             | 1200-1263 | NetGuardian 480 (as DX) Alarm<br>1-64  |
| 2             | 1316-1331 | NetGuardian 480 (as DX) Alarm<br>65-80 |
| 1             | 1300-1303 | NetGuardian 480 (as DX) Relay<br>1-4   |

| Function Code | Register | Description                          |
|---------------|----------|--------------------------------------|
| 5             | 0-7      | NetGuardian 480 (as DX) Relay<br>1-4 |

| Function Code | Register  | Description                                |
|---------------|-----------|--|
| 2             | 1200-1247 | NetGuardian DX48 Expansion 1<br>Alarm 1-48 |
| 1             | 1300-1307 | NetGuardian DX48 Expansion 1<br>Relay 1-8  |
| 2             | 1400-1447 | NetGuardian DX48 Expansion 2<br>Alarm 1-48 |
| 1             | 1500-1507 | NetGuardian DX48 Expansion 2<br>Relay 1-8  |
| 2             | 1600-1647 | NetGuardian DX48 Expansion 3<br>Alarm 1-48 |
| 1             | 1700-1707 | NetGuardian DX48 Expansion 3<br>Relay 1-8  |

| Function Code | Register  | Description                               |
|---------------|-----------|---|
| 5             | 1300-1315 | NetGuardian DX48 Expansion 1<br>Relay 1-8 |
| 5             | 1500-1515 | NetGuardian DX48 Expansion 2<br>Relay 1-8 |
| 5             | 1700-1715 | NetGuardian DX48 Expansion 3<br>Relay 1-8 |

| Function Code | Register  | Description              |
|---------------|-----------|--------------------------|
| 2             | 1200-1231 | NetGuardian 832A (as DX) |

| Function Code | Register  | Description  |
|---------------|-----------|--|
|               |           | Expansion 1 Alarm 1-32                             |
| 1             | 1300-1307 | NetGuardian 832A (as DX)<br>Expansion 1 Relay 1-8  |
| 2             | 1400-1431 | NetGuardian 832A (as DX)<br>Expansion 2 Alarm 1-32 |
| 1             | 1500-1507 | NetGuardian 832A (as DX)<br>Expansion 1 Relay 1-8  |
| 2             | 1600-1631 | NetGuardian 832A (as DX)<br>Expansion 3 Alarm 1-32 |
| 1             | 1700-1707 | NetGuardian 832A (as DX)<br>Expansion 1 Relay 1-8  |

| Function Code | Register  | Description  |
|---------------|-----------|--|
| 2             | 1200-1263 | NetGuardian 864A (as DX)<br>Expansion 1 Alarm 1-64 |
| 1             | 1300-1307 | NetGuardian 864A (as DX)<br>Expansion 1 Relay 1-8  |
| 2             | 1400-1463 | NetGuardian 864A (as DX)<br>Expansion 2 Alarm 1-64 |
| 1             | 1500-1507 | NetGuardian 864A (as DX)<br>Expansion 1 Relay 1-8  |
| 2             | 1600-1663 | NetGuardian 864A (as DX)<br>Expansion 3 Alarm 1-64 |
| 1             | 1700-1707 | NetGuardian 864A (as DX)<br>Expansion 1 Relay 1-8  |

| Function Code | Register  | Description   |
|---------------|-----------|---|
| 5             | 1300-1307 | NetGuardian 832/864(as DX)<br>Expansion 1 Relay 1-8 |
| 5             | 1500-1507 | NetGuardian 832/864(as DX)<br>Expansion 2 Relay 1-8 |
| 5             | 1700-1707 | NetGuardian 832/864(as DX)<br>Expansion 3 Relay 1-8 |

| Function Code | Register | Description   | Scaling | Bits      |
|---------------|----------|---|---------|-----------|
| 3             | 100      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>1 Value   | *       | 16        |
| 3             | 101      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>1 Scaling | *       | 1/16-3/16 |
| 3             | 101      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>1 Sign    | *       | 7/16      |
| 3             | 102      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>2 Value   | *       | 16        |
| 3             | 103      | NetGuardian   | *       | 1/16-3/16 |

| Function Code | Register | Description   | Scaling | Bits      |
|---------------|----------|---|---------|-----------|
|               |          | (832/864 as DX)<br>Expansion 1 Analog<br>2 Scaling                |         |           |
| 3             | 103      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>2 Sign    | *       | 7/16      |
| 3             | 104      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>3 Value   | *       | 16        |
| 3             | 105      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>3 Scaling | *       | 1/16-3/16 |
| 3             | 105      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>3 Sign    | *       | 7/16      |
| 3             | 106      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>4 Value   | *       | 16        |
| 3             | 107      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>4 Scaling | *       | 1/16-3/16 |
| 3             | 107      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>4 Sign    | *       | 7/16      |
| 3             | 108      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>5 Value   | *       | 16        |
| 3             | 109      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>5 Scaling | *       | 1/16-3/16 |
| 3             | 109      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>5 Sign    | *       | 7/16      |
| 3             | 110      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>6 Value   | *       | 16        |
| 3             | 111      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>6 Scaling | *       | 1/16-3/16 |
| 3             | 111      | NetGuardian<br>(832/864 as DX)                                    | *       | 7/16      |

| Function Code | Register | Description   | Scaling | Bits      |
|---------------|----------|---|---------|-----------|
|               |          | Expansion 1 Analog<br>6 Sign                                      |         |           |
| 3             | 112      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>7 Value   | *       | 16        |
| 3             | 113      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>7 Scaling | *       | 1/16-3/16 |
| 3             | 113      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>7 Sign    | *       | 7/16      |
| 3             | 114      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>8 Value   | *       | 16        |
| 3             | 115      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>8 Scaling | *       | 1/16-3/16 |
| 3             | 115      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>8 Sign    | *       | 7/16      |

\* See Scaling Range Table Below

| Function Code | Register | Description   | Scaling | Bits      |
|---------------|----------|---|---------|-----------|
| 3             | 200      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>1 Value   | *       | 16        |
| 3             | 201      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>1 Scaling | *       | 1/16-3/16 |
| 3             | 201      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>1 Sign    | *       | 7/16      |
| 3             | 202      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>2 Value   | *       | 16        |
| 3             | 203      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>2 Scaling | *       | 1/16-3/16 |
| 3             | 203      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>2 Sign    | *       | 7/16      |

| Function Code | Register | Description   | Scaling | Bits      |
|---------------|----------|---|---------|-----------|
| 3             | 204      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>3 Value   | *       | 16        |
| 3             | 205      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>3 Scaling | *       | 1/16-3/16 |
| 3             | 205      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>3 Sign    | *       | 7/16      |
| 3             | 206      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>4 Value   | *       | 16        |
| 3             | 207      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>4 Scaling | *       | 1/16-3/16 |
| 3             | 207      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>4 Sign    | *       | 7/16      |
| 3             | 208      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>5 Value   | *       | 16        |
| 3             | 209      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>5 Scaling | *       | 1/16-3/16 |
| 3             | 209      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>5 Sign    | *       | 7/16      |
| 3             | 210      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>6 Value   | *       | 16        |
| 3             | 211      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>6 Scaling | *       | 1/16-3/16 |
| 3             | 211      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>6 Sign    | *       | 7/16      |
| 3             | 212      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>7 Value   | *       | 16        |
| 3             | 213      | NetGuardian   | *       | 1/16-3/16 |

| Function Code | Register | Description   | Scaling | Bits      |
|---------------|----------|---|---------|-----------|
|               |          | (832/864 as DX)<br>Expansion 2 Analog<br>7 Scaling                |         |           |
| 3             | 213      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>7 Sign    | *       | 7/16      |
| 3             | 214      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>8 Value   | *       | 16        |
| 3             | 215      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>8 Scaling | *       | 1/16-3/16 |
| 3             | 215      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>8 Sign    | *       | 7/16      |

\* See Scaling Range Table Below

| Function Code | Register | Description   | Scaling | Bits      |
|---------------|----------|---|---------|-----------|
| 3             | 300      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>1 Value   | *       | 16        |
| 3             | 301      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>1 Scaling | *       | 1/16-3/16 |
| 3             | 301      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>1 Sign    | *       | 7/16      |
| 3             | 302      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>2 Value   | *       | 16        |
| 3             | 303      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>2 Scaling | *       | 1/16-3/16 |
| 3             | 303      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>2 Sign    | *       | 7/16      |
| 3             | 304      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>3 Value   | *       | 16        |
| 3             | 305      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog              | *       | 1/16-3/16 |

| Function Code | Register | Description   | Scaling | Bits      |
|---------------|----------|---|---------|-----------|
|               |          | 3 Scaling   |         |           |
| 3             | 305      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>3 Sign    | *       | 7/16      |
| 3             | 306      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>4 Value   | *       | 16        |
| 3             | 307      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>4 Scaling | *       | 1/16-3/16 |
| 3             | 307      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>4 Sign    | *       | 7/16      |
| 3             | 308      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>5 Value   | *       | 16        |
| 3             | 309      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>5 Scaling | *       | 1/16-3/16 |
| 3             | 309      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>5 Sign    | *       | 7/16      |
| 3             | 310      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>6 Value   | *       | 16        |
| 3             | 311      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>6 Scaling | *       | 1/16-3/16 |
| 3             | 311      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>6 Sign    | *       | 7/16      |
| 3             | 312      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>7 Value   | *       | 16        |
| 3             | 313      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>7 Scaling | *       | 1/16-3/16 |
| 3             | 313      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>7 Sign    | *       | 7/16      |

| Function Code | Register | Description   | Scaling | Bits      |
|---------------|----------|---|---------|-----------|
| 3             | 314      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>8 Value   | *       | 16        |
| 3             | 315      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>8 Scaling | *       | 1/16-3/16 |
| 3             | 315      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>8 Sign    | *       | 7/16      |

\* See Scaling Range Table Below

| Function Code | Register | Description   | Scaling | Bits      |
|---------------|----------|---|---------|-----------|
| 4             | 100      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>1 Value   | *       | 16        |
| 4             | 101      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>1 Scaling | *       | 1/16-3/16 |
| 4             | 101      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>1 Sign    | *       | 7/16      |
| 4             | 102      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>2 Value   | *       | 16        |
| 4             | 103      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>2 Scaling | *       | 1/16-3/16 |
| 4             | 103      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>2 Scaling | *       | 7/16      |
| 4             | 104      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>3 Value   | *       | 16        |
| 4             | 105      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>3 Scaling | *       | 1/16-3/16 |
| 4             | 105      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>3 Scaling | *       | 7/16      |
| 4             | 106      | NetGuardian<br>(832/864 as DX)                                    | *       | 16        |

| Function Code | Register | Description   | Scaling | Bits      |
|---------------|----------|---|---------|-----------|
|               |          | Expansion 1 Analog<br>4 Value                                     |         |           |
| 4             | 107      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>4 Scaling | *       | 1/16-3/16 |
| 4             | 107      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>4 Scaling | *       | 7/16      |
| 4             | 108      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>5 Value   | *       | 16        |
| 4             | 109      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>5 Scaling | *       | 1/16-3/16 |
| 4             | 109      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>5 Scaling | *       | 7/16      |
| 4             | 110      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>6 Value   | *       | 16        |
| 4             | 111      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>6 Scaling | *       | 1/16-3/16 |
| 4             | 111      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>6 Scaling | *       | 7/16      |
| 4             | 112      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>7 Value   | *       | 16        |
| 4             | 113      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>7 Scaling | *       | 1/16-3/16 |
| 4             | 113      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>7 Scaling | *       | 7/16      |
| 4             | 114      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>8 Value   | *       | 16        |
| 4             | 115      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog              | *       | 1/16-3/16 |

| Function Code | Register | Description   | Scaling | Bits |
|---------------|----------|---|---------|------|
|               |          | 8 Scaling   |         |      |
| 4             | 115      | NetGuardian<br>(832/864 as DX)<br>Expansion 1 Analog<br>8 Scaling | *       | 7/16 |

\* See Scaling Range Table Below

| Function Code | Register | Description   | Scaling | Bits      |
|---------------|----------|---|---------|-----------|
| 4             | 200      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>1 Value   | *       | 16        |
| 4             | 201      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>1 Scaling | *       | 1/16-3/16 |
| 4             | 201      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>1 Sign    | *       | 7/16      |
| 4             | 202      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>2 Value   | *       | 16        |
| 4             | 203      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>2 Scaling | *       | 1/16-3/16 |
| 4             | 203      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>2 Sign    | *       | 7/16      |
| 4             | 204      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>3 Value   | *       | 16        |
| 4             | 205      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>3 Scaling | *       | 1/16-3/16 |
| 4             | 205      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>3 Sign    | *       | 7/16      |
| 4             | 206      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>4 Value   | *       | 16        |
| 4             | 207      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>4 Scaling | *       | 1/16-3/16 |
| 4             | 207      | NetGuardian   | *       | 7/16      |

| Function Code | Register | Description   | Scaling | Bits      |
|---------------|----------|---|---------|-----------|
|               |          | (832/864 as DX)<br>Expansion 2 Analog<br>4 Sign                   |         |           |
| 4             | 208      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>5 Value   | *       | 16        |
| 4             | 209      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>5 Scaling | *       | 1/16-3/16 |
| 4             | 209      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>5 Sign    | *       | 7/16      |
| 4             | 210      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>6 Value   | *       | 16        |
| 4             | 211      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>6 Scaling | *       | 1/16-3/16 |
| 4             | 211      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>6 Sign    | *       | 7/16      |
| 4             | 212      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>7 Value   | *       | 16        |
| 4             | 213      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>7 Scaling | *       | 1/16-3/16 |
| 4             | 213      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>7 Sign    | *       | 7/16      |
| 4             | 214      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>8 Value   | *       | 16        |
| 4             | 215      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>8 Scaling | *       | 1/16-3/16 |
| 4             | 215      | NetGuardian<br>(832/864 as DX)<br>Expansion 2 Analog<br>8 Sign    | *       | 7/16      |

\* See Scaling Range Table Below

| Function Code | Register | Description   | Scaling | Bits      |
|---------------|----------|---|---------|-----------|
| 4             | 300      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>1 Value   | *       | 16        |
| 4             | 301      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>1 Scaling | *       | 1/16-3/16 |
| 4             | 301      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>1 Sign    | *       | 7/16      |
| 4             | 302      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>2 Value   | *       | 16        |
| 4             | 303      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>2 Scaling | *       | 1/16-3/16 |
| 4             | 303      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>2 Sign    | *       | 7/16      |
| 4             | 304      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>3 Value   | *       | 16        |
| 4             | 305      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>3 Scaling | *       | 1/16-3/16 |
| 4             | 305      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>3 Sign    | *       | 7/16      |
| 4             | 306      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>4 Value   | *       | 16        |
| 4             | 307      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>4 Scaling | *       | 1/16-3/16 |
| 4             | 307      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>4 Sign    | *       | 7/16      |
| 4             | 308      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>5 Value   | *       | 16        |
| 4             | 309      | NetGuardian   | *       | 1/16-3/16 |

| Function Code | Register | Description   | Scaling | Bits      |
|---------------|----------|---|---------|-----------|
|               |          | (832/864 as DX)<br>Expansion 3 Analog<br>5 Scaling                |         |           |
| 4             | 309      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>5 Sign    | *       | 7/16      |
| 4             | 310      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>6 Value   | *       | 16        |
| 4             | 311      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>6 Scaling | *       | 1/16-3/16 |
| 4             | 311      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>6 Sign    | *       | 7/16      |
| 4             | 312      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>7 Value   | *       | 16        |
| 4             | 313      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>7 Scaling | *       | 1/16-3/16 |
| 4             | 313      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>7 Sign    | *       | 7/16      |
| 4             | 314      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>8 Value   | *       | 16        |
| 4             | 315      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>8 Scaling | *       | 1/16-3/16 |
| 4             | 315      | NetGuardian<br>(832/864 as DX)<br>Expansion 3 Analog<br>8 Sign    | *       | 7/16      |

\* See Scaling Range Table Below

| Scaling Range Table |                |
|---------------------|----------------|
| Scaling Range       | Scaling Value* |
| 0                   | 0.001522821    |
| 1                   | 0.003863678    |
| 2                   | 0.008098398    |
| 3                   | 0.01819765     |
| 4                   | 0.02306719     |

\*Get correct Scaling Value by using corresponding Scaling Range

## Example 1:

Modbus Response:

Analog 1 Value: [08][72] = 2162

Analog 1 Scaling Range: 2 = 0.008098398

Analog 1 Sign = 0

Scaled Value:

 $2162 * 0.008098398 = 17.5087$ 

(if Analog Sign = 1 then multiply by -1)

**Scaled Value = 17.5087**

## Example 2:

Modbus Response:

Analog 1 Value: [0A][47] = 2631

Analog 1 Scaling Range: 3 = 0.01819765

Analog 1 Sign = 1

Scaled Value:

 $2631 * 0.01819765 = 47.8780$ 

(if Analog Sign = 1 then multiply by -1)

Scaled Value =  $47.8780 * -1$ **Scaled Value = -47.8780**

# 10 Frequently Asked Questions

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

If you have a question about the NetGuardian, please call us at **(559) 454-1600** or e-mail us at [support@dpstele.com](mailto:support@dpstele.com)

## 10.1 General FAQs

### Q. How do I Telnet to the NetGuardian?

A. You must use **Port 2002** to connect to the NetGuardian. 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 NetGuardian and Port 2002. For example, to connect to the NetGuardian using the standard Windows Telnet client, click Start, click Run, and type Telnet <NetGuardian IP address> 2002.

### Q. How can I back up the current configuration of my NetGuardian?

A. There are two ways. NGEEdit can read the configuration of your NetGuardian and save the configuration to your PC's hard disk or a flash drive. With NGEEdit you can also make changes to the configuration file and write the changed configuration to the NetGuardian's NVRAM.

### Q. Can I use my NetGuardian as a proxy server to access TTY interfaces on my third-party serial equipment?

A. You can use Data Ports 1–8, located on the back of the NetGuardian, to connect to serial devices, as long as your devices support RS-232. To make a proxy connection, you must define the correct TCP port for each serial port. To define TCP ports, you must first connect directly to the NetGuardian through its IP address. Once you have connected to the NetGuardian, you can define the TCP ports through the NetGuardian's TTY or Web Browser Interface configuration interfaces.

### 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 NetGuardian reports internal alarms on Port 99, address 1.

### Q. What characteristics of an alarm point can I configure through software? For instance, can I configure Point 4 to sense an active-low (normally closed) signal, or Point 5 to sense a level or edge?

A. The NetGuardian alarm points are level sensed and can be software-configured to generate an alarm on either a high (normally open) or low (normally closed) level.

### Q. When I connect to the NetGuardian 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 NetGuardian.

### Q. I just changed the port settings for one of my data ports, but the changes did not seem to take effect even after I wrote the NVRAM.

A. In order for data port and craft port changes (including changes to the baud rate and word format) to take effect, the NetGuardian must be rebooted. Whenever you make changes, remember to write them to the NetGuardian's NVRAM so they will be saved when the unit is rebooted.

### Q. How do I get my NetGuardian on the network?

A. Before the NetGuardian 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 NetGuardian's IP configuration will also require a reboot.

- Q. I'm using HyperTerminal to connect to the NetGuardian through the craft port, but the unit won't accept input when I get to the first level menu.**
- A.** Make sure you turn off all handshaking in HyperTerminal.
- Q. The LAN line LED is green on my NetGuardian, but I can't poll it from my T/MonXM master.**
- A.** Some routers will not forward to an IP address until the MAC address has been registered with the router. You need to enter the IP address of your T/MonXM system or your gateway in the ping table.

## 10.2 SNMP FAQs

**Q. Which version of SNMP is supported by the SNMP agent on the NetGuardian?**

A. SNMP v1, v2C, and v3 on the NetGuardian G6 series.

**Q. How do I configure the NetGuardian to send traps to an SNMP manager? Is there a separate MIB for the NetGuardian? How many SNMP managers can the agent send traps to? And how do I set the IP address of the SNMP manager and the community string to be used when sending traps?**

A. The NetGuardian begins sending traps as soon as the SNMP managers are defined. The NetGuardian MIB is included on the NetGuardian Resource CD. The MIB should be compiled on your SNMP manager. (**NOTE:** MIB versions may change in the future.) The unit supports a main SNMP manager, which is configured by entering its IP address in the trap address field of Ethernet Port Setup. You can also configure up to eight secondary SNMP managers, which is configured by selecting the secondary SNMP managers as pager recipients. Community strings are configured globally for all SNMP managers. To configure the community strings, choose System from the Edit menu, and enter appropriate values in the Get, Set, and Trap fields.

**Q. Does the NetGuardian support MIB-2 and/or any other standard MIBs?**

A. The NetGuardian supports the bulk of MIB-2.

**Q. Does the NetGuardian SNMP agent support both NetGuardian and T/MonXM variables?**

A. The NetGuardian SNMP agent manages an embedded MIB that supports only the NetGuardian's RTU variables. The T/MonXM variables are included in the distributed MIB only to provide SNMP managers with a single MIB for all DPS Telecom products.

**Q. How many traps are triggered when a single point is set or cleared? The MIB defines traps like major alarm set/cleared, RTU point set, and a lot of granular traps, which could imply that more than one trap is sent when a change of state occurs on one point.**

A. Generally, a single change of state generates a single trap, but there are two exceptions to this rule. Exception 1: the first alarm in an all clear condition generates an additional summary point set trap. Exception 2: the final clear alarm that triggers an all clear condition generates an additional summary point clear trap.

**Q. What does point map mean?**

A. A point map is a single MIB leaf that presents the current status of a 64-alarm-point display in an ASCII-readable form, where a "." represents a clear and an "x" represents an alarm.

**Q. The NetGuardian manual talks about eight control relay outputs. How do I control these from my SNMP manager?**

A. The control relays are operated by issuing the appropriate set commands, which are contained in the DPS Telecom MIB. For more information about the set commands, see Reference Information, Display Mapping, in any of the NetGuardian software configuration guides.

**Q. How can I associate descriptive information with a point for the RTU granular traps?**

A. The NetGuardian alarm point descriptions are individually defined using the Web Browser Interface, TTY, or NGEEdit configuration interfaces.

**Q. My SNMP traps aren't getting through. What should I try?**

A. Try these three steps:

1. Make sure that the trap address (IP address of the SNMP manager) is defined. (If you changed the trap address, make sure you saved the change to NVRAM and rebooted.)
2. Make sure all alarm points are configured to send SNMP traps.
3. Make sure the NetGuardian and the SNMP manager are both on the network. Use the NetGuardian's ping command to ping the SNMP manager.

# 11 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**.

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