

Subject: How to Setup Analog Sensors on a NetGuardian Platforms: Netguardian 832A, 16S, 216, 216T, and NetDog G2

How are your remote sites doing? Too hot?
Too cold? Too humid? Low battery voltage?
Low generator fuel levels?



Use the following "techno knowledge" paper to setup analog sensors on a NetGuardian. This will allow you to effectively monitor the temperature, humidity, voltage, generator fuel levels, and other analog values at your remote sites.



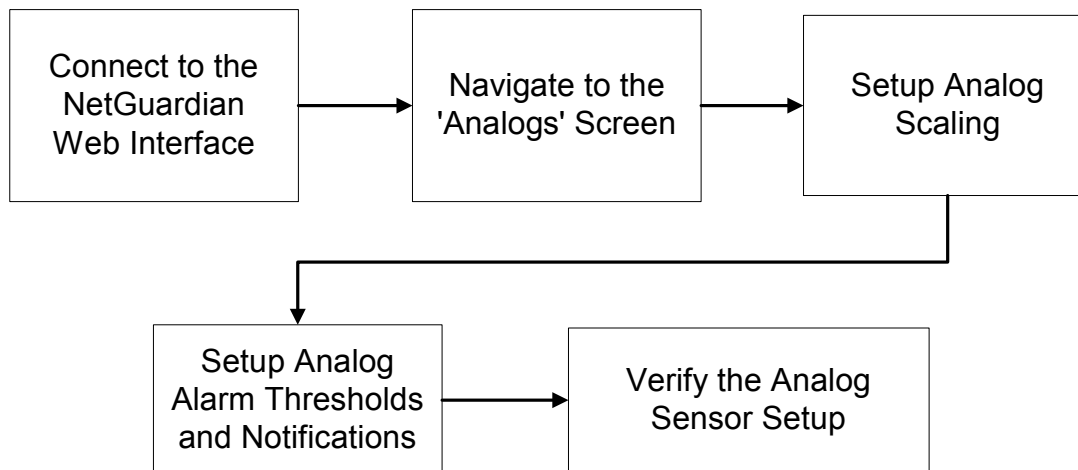
This "techno knowledge" paper can help you if:

- You want to monitor the temperature and or humidity at a remote site.
- You want to monitor liquid levels, battery voltages, etc.
- You want to use any analog sensor that outputs 4-20mA or -97 to 97 VDC.

Quick Reference Chart

(for more details, review the troubleshooting checklist, starting on page 2 of this guide)

START HERE



Troubleshooting Checklist

- ❑ **Connect to the NetGuardian Web Interface**
 - Connect to the NetGuardian with your web browser by typing the Netguardian's IP address into the address bar.
 - Log on with the NetGuardian password to reach the alarm summary screen.



The image shows a web interface for logging into NetGuardian-G4. It features a red header bar with the text "NetGuardian-G4 Logon". Below the header, there is a label "Password:" followed by a text input field and a "submit" button. At the bottom of the form, there is the DPS Telecom logo.

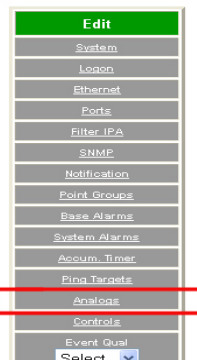
Alternative Sensor Provisioning Option: NGEEdit provisioning software for Windows may also be used to provision analog sensors in much the same way as the web interface. If you choose this option, start NGEEdit and navigate to the 'Analog' tab. Please refer to your NGEEdit user manual for details.

- ❑ **Navigate to the Analog screen**
 - Click the 'Edit' Link in the left pane



Alarm Summary	
Type	Active Alarms
Base Alarms	0
Ping Targets	0
Analog	4
System Alarms	1
Summary by Group	
Name	Active Alarms
Group 1	5
Group 2	0
Group 3	0
Group 4	0
Group 5	0
Group 6	0
Group 7	0
Group 8	0

- Click the 'Analog' link in the left pane



❑ Setup Analog Scaling

- Click on the 'Unit' link that matches the channel your sensor is wired to.

Analogs									Pagers	
ID	Description	Unit	Major Under	Minor Under	Minor Over	Major Over	Trap	primary	secondary	
1		VDC	-79.0000	-35.0000	35.0000	79.0000	<input checked="" type="checkbox"/>	0	0	
2		VDC	-78.9943	-34.9951	34.9979	78.9971	<input checked="" type="checkbox"/>	0	0	
3		VDC	-79.0000	-35.0000	35.0000	79.0000	<input checked="" type="checkbox"/>	0	0	
4		VDC	-79.0000	-35.0000	35.0000	79.0000	<input checked="" type="checkbox"/>	0	0	
5		VDC	-79.0000	-35.0000	35.0000	79.0000	<input checked="" type="checkbox"/>	0	0	
6		VDC	-79.0000	-35.0000	35.0000	79.0000	<input checked="" type="checkbox"/>	0	0	
7	TEMPERATURE	E	35.0000	45.0000	85.0000	95.0000	<input checked="" type="checkbox"/>	0	0	
8	HUMIDITY	%H	3.0000	5.0000	50.0000	70.0000	<input checked="" type="checkbox"/>	0	0	

- If you wish to use units other than VDC for this sensor (e.g., degrees Fahrenheit or Celsius, % relative humidity, etc.), you must input a unit label, VDC value, and custom unit value for Reference values 1 and 2. You should find the information you need in the calibration section of your sensor documentation or on the sensor itself. This information relates voltage/current to native units (e.g., degrees, percentage). You will need this information to configure unit scaling on the NetGuardian.

Analog Scaling Setup Example:

Analog Chan 7									
ID	Reference 1		Reference 2		Group				Polarity
	VDC	F	VDC	F	MjU	MnU	MnO	MjO	
7	1.0000	23.0000	5.0000	131.0000	1	1	1	1	Normal

Here, a sensor has been configured to display degrees Fahrenheit (unit label = "F"). A sensor reading of 1.0000VDC translates to 23 degrees Fahrenheit, and this information has been entered as 'Reference 1'. A sensor reading of 5.0000 VDC translates to 131 degrees Fahrenheit, and this information has been entered as 'Reference 2'.

- After you have input the appropriate scaling values, click "Submit Data" to write them to the NetGuardian.



IMPORTANT: If you are using a 4-20mA sensor, you need to configure the corresponding hardware shunt in the NetGuardian. See your NetGuardian user manual for details.

❑ Setup Analog Alarm Thresholds and Notifications

- Click the 'Analog' link in the left pane once more to return to the 'Analog' screen.

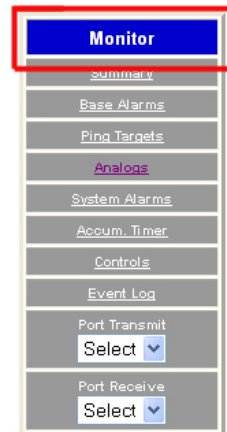
Analog									Pagers	
ID	Description	Unit	Major Under	Minor Under	Minor Over	Major Over	Trap	primary	secondary	
1		VDC	-79.0000	-35.0000	35.0000	79.0000	<input checked="" type="checkbox"/>	0	0	
2		VDC	-78.9943	-34.9951	34.9979	78.9971	<input checked="" type="checkbox"/>	0	0	
3		VDC	-79.0000	-35.0000	35.0000	79.0000	<input checked="" type="checkbox"/>	0	0	
4		VDC	-79.0000	-35.0000	35.0000	79.0000	<input checked="" type="checkbox"/>	0	0	
5		VDC	-79.0000	-35.0000	35.0000	79.0000	<input checked="" type="checkbox"/>	0	0	
6		VDC	-79.0000	-35.0000	35.0000	79.0000	<input checked="" type="checkbox"/>	0	0	
7	TEMPERATURE	E	35.0000	45.0000	85.0000	95.0000	<input checked="" type="checkbox"/>	0	0	
8	HUMIDITY	%H	3.0000	5.0000	50.0000	70.0000	<input checked="" type="checkbox"/>	0	0	

Submit Data

- On the 'Analog' screen, enter a description for the channel and 4 alarm threshold values:
 - **Major Under:** A lower boundary that, when crossed, triggers a major alarm.
 - **Minor Under:** A lower boundary that, when crossed, triggers a minor alarm.
 - **Minor Over:** An upper boundary that, when crossed, triggers a minor alarm.
 - **Major Over:** An upper boundary that, when crossed, triggers a major alarm.
- You may check or uncheck the 'Trap' box for a channel to select whether SNMP traps will be sent for related alarms.
- You may also setup automatic alarm notification to a primary and secondary pager by entering the ID number of the pager(s) in the appropriate box.

Sensor setup should now be complete, but DPS recommends that you verify the setup with the final step on the following page.

- ❑ **Verify the Analog Sensor Setup**
 - Click the 'Monitor' link in the left pane



- Then, click the 'Analogs' link in the left pane
- Check the values displayed for the sensor you just set up.

Analogs							
Chn	Description	Reading	Units	MjU	MnU	MnO	MjO
1		-25.0000	%H				
2		-17.5000	F				
3		0.0000	VDC				
4		0.0000	VDC				
5		0.0000	VDC				
6		0.0000	VDC				
7	TEMPERATURE	87.9380	F			x	
8	HUMIDITY	23.6000	%H				

If you can see appropriate readings, similar to those on channels 7 and 8 above, your sensor has been set up appropriately.

If you have a problems setting up analog sensor on a Netguardian , please contact DPS Telecom Tech Support.
