

Introduction

This document provides instructions for connecting a NetComm Wireless NTC-140W series wireless router to one of the following Eaton connectivity cards:

- Power Xpert Gateway UPS (PXGX-UPS)
- PXGMS Power Xpert Gateway Minislot UPS (PXGMS)
- Network-MS

Prerequisites

- Eaton UPS with a PXGX-UPS, PXGMS, or Network-MS card
- PuTTy or HyperTerminal software
- USB-to-USB (Type B) cable for PXGX-UPS
- USB-to-USB (MiniTypeB) for PXGMS
- RJ-45 to 9-pin female serial (D shell) for Network-MS
- Serial COM port or USB-to-serial 9-pin male adapter

NTC-140W Series Router Installation Guidelines

Refer to the *Quick Start Guide* provided with the NetComm Wireless NTC-140W Series Router for instructions on mounting the router and connecting power.

Note: The router must be powered by a 120V outlet powered by the UPS. This ensures that the router is protected during a power outage.

Connecting the Router to a PXGX-UPS or PXGMS Card

Connect the NTC-140W Series router and Eaton network card. Use the included Ethernet cable or equivalent.

For a PXGX-UPS card:

 Connect the Ethernet cable from the LAN port on the NTC-140W Series router to the Upstream port on the card (Figure 1)

For a PXGMS card:

Connect the Ethernet cable from the Ethernet port on the card (Figure 2) to the LAN part on the NTC-140W Series router

Route the Ethernet cable into the UPS via the appropriate conduit holes.

Once connected, the LEDs on the active Ethernet port, as well as the green **Power** LED, should light.

Figure 1. Power Xpert Gateway UPS (PXGX-UPS) Card



Figure 2. Power Xpert Gateway UPS (PXGX-UPS) Card



Configuring a PXGX-UPS or PXGMS Card

To troubleshoot or set up the PXGX-UPS or PXGMS card, refer to Sections 3–5 of the card's *Quick Start Guide* for instructions on connecting a Windows-based computer to the card's **Setup** port using a USB cable.

For a new installation, the PXGX-UPS or PXGMS card will use default configuration settings. The only steps necessary are to add the SMTP relay information (*mail.eaton.com*) and to verify that the e-mail recipient (*monitor@v2.monitor.com*) is properly configured as described below. The router does not require any additional setup steps.

If installing on an existing PXGX-UPS or PXGMS card, reset the card to factory default settings as follows:

- · Locate the onboard DIP switch and set switch 6 to ON
- Reboot the card to restore the factory defaults
- Return switch 6 to OFF and reboot the card

For more information on restoring the factory default settings, refer to the *User's Guide* provided with the card.

To configure the PXGX-UPS or PXGMS card, connect to the card's **Set-up** port using a USB cable. Once connected, open an internet browser and navigate to http://192.168.200.101.

Log in using the default credentials:

Username: admin Password: admin

From the Configuration menu (Figure 3), select E-mail to display the E-mail tab (Figure 4).

Figure 3. Configuration Menu



Ensure that the SMTP server/IP hostname is *mail.eaton.com* and that an e-mail recipient is set up for *monitor@v2.pwmonitor.com*.

Proceed to the section titled, Run the PredictPulse Wizard.

Figure 4. E-Mail Tab

- E-Mail	
SMTP server IP/hostname:	mail.eatoh.com × Test SMTP server connection Advanced SMTP configuration
Event triggers for all recipients:	Configure
Recipient:	02: monitor@v2.pwmonitor ¥
Recipient Settings	
Send on event active:	
Send on event clear:	
Attach event log file to event e-mails:	
Attach interval log file to event e-mails:	¥
Attach ID file to event e-mails:	
Send periodic status e-mails:	V
Days between periodic status e-mails:	1 🗘
Time of the day (gateway time) for periodic status e-mail (HH:MM):	12 😴 15 🗘
To:	monitor@v2.pwmonitor.com
Auto Name	
Appiy Discard	

Connecting the Router to a Network-MS Card

To connect the NTC-140W Series router to a Network-MS card:

- Connect an Ethernet cable from the ETHERNET port on the Network-MS card (Figure 5) to the LAN port on the NTC-140W Series router. Use the included Ethernet cable or equivalent.
- If the Network-MS is located inside the UPS chassis, route the cable out of the chassis via a conduit hole that is protected by a rubber grommet

Once connected, the LEDs on the Network-MS card's **ETHERNET** port should light and the green LED at the top left of the **Settings/Sensor** port should blink.



Configuring a Network-MS Card

To troubleshoot or set up the Network-MS card, refer to Sections 3–5 of the card's *Quick Start Instructions* for information on connecting a computer running a terminal emulation program (such as PuTTy or HyperTerminal) to the card's **Settings/Sensor** port using the supplied serial-to-RJ-45 cable.

The Network-MS default configuration includes a DHCP network configuration. For a new installation, no changes are necessary on the Network-MS card. The only steps necessary are to add the SMTP relay information (*mail.eaton.com*) and verify that the e-mail recipient (*moni*tor@v2.monitor.com) is properly configured. The router does not require any additional setup steps.

To configure the Network-MS card, connect to the **Settings/Sensor** port with the serial-to-RJ-45 cable and launch a terminal emulation session. Use the serial settings 9600 baud, 8 data bits, 1 stop bit, no parity, and no flow control (Figure 6).

Figure 6. Network-MS Card Serial Communications Settings



At the blinking screen, press **Enter**. You should be prompted to enter a password. Enter the password (default is admin) to display the Network-MS card main menu (Figure 7).

Figure 7. Network-MS Card Main Menu

🛃 COM5 - Pu	uΠ	<u>с</u>	3
Enter pass	SW	ord to activate Maintenance Menu :	ſ

EATON NET	WO	RK MANAGEMENT CARD	
1	:	Reset	
2		Network configuration	
3		Set Login Password to Default	
4		Return to Default Configuration	
0		Exit	

From the Network-MS card main menu, press **2** (Network configuration). The *Network settings* menu displays (Figure 8).

Figure 8. Network-MS Card Network Settings Menu



From The *Network settings* menu, press **1** (Read Network settings). The *Network configuration* displays (Figure 9).

Figure 9. Network-MS Card Network Configuration

etwork	configuration :
	MAC address : 00:20:85:F0:C4:37
	Mode : DHCP
	IP address : 192.168.1.123
	Subnet mask : 255.255.255.0
	Gateway IP address : 192.168.1.1
	Link Local IPv6 address : FE80::220:85FF:FEF0:C437 /64

Record the IP address to access the Network-MS card's graphical user interface (GUI). Launch a web browser and navigate to the Network-MS card's IP address (Figure 10).

Ensure that *monitor@v2.pwmonitor.com* is listed in the *Recipient list*, that the address is *Enabled*, and that all of the checkboxes in the *Notified events* list are checked. Click **Test** to send an email to any recipient listed.

Proceed to the section titled, Run the PredictPulse Wizard.

Figure 10. Network-MS Card GUI

recipient1@d	Recipient list	Notified events for the selected Recipient	
recipient2@de	Save	Battery operation	
recipient4@di	omain.com	UPS on battery	V
		UPS on normal AC	V
Recipient :	monitor@v2.pwmonitor.com	UPS Off sequence in progress	
	Enabled -	Low battery	V
	Enotify	UPS alarms	
Attached		Battery fault	
files :	Measurements	Battery OK	
	V Event Log	UPS overload	
	System Log	UPS returns to normal load	
Periodic	Every 1 day(s) at: 01:00 -	UPS fault	V
report :	day of next report: - 👻	UPS OK	V
		UPS communication failed	
Test		UPS communication restored	V
		Charger fault	V
	Email Message Settings	Output on by-pass	V
	Configure SMTP Server on	Return from by-pass	-

Run the PredictPulse Wizard

To run the PredictPulse Wizard (ActivatePredictPulse.exe), connect a laptop or personal computer as follows.

For a PXGX-UPS card:

 Using an RJ-45 Ethernet cable, connect the laptop or personal computer to the card's **Downstream** port

For a PXGMS or Network-MS card:

 Using an RJ-45 Ethernet cable, connect the laptop or personal computer to the LAN/WAN port on the NTC-140W Series router

Run the PredictPulse Wizard (ActivatePredictPulse.exe). The Eaton PredictPulse window displays (Figure 11).

Figure 11. PredictPulse Wizard, Initial Display

FAT•N	PredictPulse [™]	analyzes data from connected power infrastructu insight needed to make recommendations and to Questions? Call 800-843-9433 (USA) or www.ee	are devices, providing Eaton with the ake action on your behalf.
Let us locate the serial nu	mber of your PredictPulse™ device		
IP Addre	ss: • • •		
Serial Numbe	ent	Find My Serial Number	Start Over
Enter the following contac	t information		
Contact:	Last Name	Contact Email:	
Country: United St	tates	Confirm Email:	

Enter the IP address assigned by DHCP to the network card.

Click Find My Serial Number to populate the Serial Number field.

Enter the contact information and click **Next**. The PredictPulse Wizard requests additional information for the contact (Figure 12).

Figure 12. PredictPulse Wizard, Additional Information

		ProdictD is	e is a monitoring and ma	nonement subscription	service that collects and
		analyzes da	its from connected powe	r infrastructure devices,	providing Eaton with the
Fil•N	PredictPu	Se ^m Questions?	Call 800-843-9433 (USA	l) or www.eaton.com/pre	dictpulse
The shades a state					
Enter the following infor	mation about seveny Po	wei			
Title:	Business Phor	ne:	Mobi	e Phone:	
Enter the following infor	mation about your busni	ness name and equip	ment location		
Busines	ss Name:			•	
Equipment	Address:				*
	City:	•	State: 👻	Zip Code:	
Functional Locatio	in Name:				
					* Required

Enter the requested contact information and click Next.

A file named *unit.xml* is now saved on the computer in the folder *C:\Users\Administrator\Documents*.

Create a new e-mail message and copy and paste the following as the subject line:

PredictPulse Installation Information: S/N XXXXXXXX

Leave the body of the message blank.

Attach the *unit.xml* file to the e-mail message and send it to: *install@v2.pwmonitor.com*.

Troubleshooting

The biggest risk for the router is low signal quality. As an initial test, observe cell phone signal strength in the area of installation. If the cell phone signal is weak, an external antenna may be required.

To quantify the signal, connect an Ethernet cable to the modem. Once connected, open an internet browser and navigate to *http://192.168.1.1*.

Log into the router's **Status** page (Figure 13) using the credentials: Username: *admin*

Password: admin

Figure 13. NetComm Wireless Status Page

🚖 NetCommW	ireless Status	Networking Services	System Help
			💄 root 💽
 System information 	on		^ LAN
System up time	Device version Board version 1.0 Serial number 164199131700017 Firmware version X0000000	Cellular module Model PH8 Module firmware REVISION 03.001 IMEI 337347050000177	IP 192.168.1.1 / 255.255.255.0 MAC address 00:50:64.82:04:22 Ethernet port status Ø Up / 10.0 Mbps / HDX
 Cellular connectio 	n status		Notification count
SIM status SIM OK	Operator selection Automatic	Allowed bands All bands	
Signal strength (dBm) -75 dBm (High) _stl	Current operator xxxxxxxx	Current band WCDMA850	
Network registration status Registered, home network	Roaming status Not roaming	Coverage UMTS	

On the **Status** page, observe the *Signal strength (dBm)* and position the router to maximize the value.

If the signal is weak, an external antenna may be required. The external antenna replaces the 3G antennas provided with the router. Once connected, position the external antenna to maximize the signal strength.

The wireless router can only use the profile stored on the SIM. On the router's **Networking** page (Figure 14), verify that *Profile1* is selected and that the APN is *eatonpredictpulse01.com.attz*, as shown.

Figure 14. NetComm Wireless Networking Page

in NetComm	Wireless Status Networking Services System Help	E
Wireless WAN Data connection Connect on demand	Data connection Transparent bridge (PPpot) OFF	
Operator settings SIH security settings	Profile name	
LAN	Profile1	2
Routing		

The wireless router can be rebooted from the router's **System** page (Figure 15). The connection will be interrupted momentarily while the SIM data is loaded. Removing and reapplying power or a reboot will affect loading the default configuration.

When troubleshooting, if a problem remains following a reboot, download and save the log file to submit to technical support.

Figure 15. NetComm Wireless Status Page

🚔 NetComm	Wireless Status Networking Services System Help
Log	Log file
Administration	Display level Notice
Watchdogs	Select page Page 1 of 114 >
Power management	Download Clear
Reboot	Date & Time Machine Level Process Message
	Aug 2 00:25:32 ntc_6200 user.notice cns_profile POP command processed - (www.o.o.profile.cmd.com/ wwite

Additional Information and Support

For additional information about PredictPulse, visit Eaton.com/PredictPulse.

If you have specific questions, contact Eaton (in the US) by calling **800.843.9433** or sending an email to *predictpulsesupport@eaton.com*.