NAPCO GEMC-NL-MOD
Network Communication Module
INSTALLATION INSTRUCTIONS

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GENERAL DESCRIPTION

The NAPCO NetLink™ GEMC-NL-MOD is a device that allows the reporting of alarms over a TCP/IP based (Intranet or Internet) network. Alarm reporting, previously performed via Telco only, can now be performed over both a TCP/IP network and/or Telco, or via the TCP/IP network as a backup. The GEMC-NL-MOD is housed in a separate plastic enclosure, and is connected to the Local Download receptacle for the Gemini C-Series control panels.

The GEMC-NL-MOD is supported by PCD-Windows Quickloader download software version 6.0 or greater. For the panels listed above, the Quickloader software will support downloading through the Internet or an intranet, as well as the uploading of logs and other data.

The GEMC-NL-MOD includes a small transient protection device (named the NL-ULBD) inside its enclosure. In addition, the GEMC-NL-MOD is one part of a larger system which includes a software package to allow its configuration before use (the NL-MODCONFIG) and a rack-mountable Receiver (the NL-RCV-RMPCUL) to allow the receipt of alarms, status and supervisory data. A short description of each is provided below:

NL-MODCONFIG Software (version 2.0 or greater):
NL-MODCONFIG is a software program allowing the configuration of the GEMC-NL-MOD with appropriate information (such as the static IP address of the module, static IP address of the NL-RCV-RMPCUL Receiver, etc.). The NL-MODCONFIG software is run on a PC (see System Requirements) and connects to the GEMC-NL-MOD via its network connection. In addition, NL-MODCONFIG allows the updating of the GEMC-NL-MOD firmware. **Note:** The NL-MODCONFIG software and its database should be retained if future access is necessary. For more information, see WI1243.

Central Station Receiver (NL-RCV-RMPCUL)
The NAPCO Net.Link™ NL-RCV-RMPCUL (Receiver) is a fully UL compliant central station receiver platform. This Receiver is rack-mountable in a standard 4U configuration. The NL-RCV-RMPCUL (Receiver) can supervise each GEMC-NL-MOD, receive alarms, provide a means of maintaining accounts and provide a means of displaying alarms and event history (opening/closing, etc.). For more information, see the NL-RCV-RMPCUL Installation and programming manual, WI1491.

Transient Protection (NL-ULBD)
The GEMC-NL-MOD includes electromagnetic protection and meets direct and indirect ESD requirements for Information Technology Equipment (ITE), however, burglary applications may call for better protection.
The NL-ULBD is a small device which gives added transient protection and mounts entirely inside the GEMC-NL-MOD housing. The NL-ULBD protects the GEMC-NL-MOD from significantly larger transients and surges which may emanate from the network cable or associated devices. It is connected in series between the Ethernet cable that provides network access and the RJ45 connector in the GEMC-NL-MOD. The NL-ULBD is required for UL compliant installations.

SPECIFICATIONS
Electrical Ratings
Input Power: Nominal 12VDC, 85mA.
Note: 12V power must be supplied from GEMC-Series motherboard **AUX PWR** terminals. Available panel 12V combined auxiliary current is reduced by 85mA.
Output Power: PGM-style open collector (negative trigger) with a maximum sink current of 50mA. Wire only to power-limited circuits less than 14VDC.
Dimensions: 1½" x 7" x 4¾" (H x W x D)

MAXIMUM WIRE LENGTH
The GEMC-NL-MOD must be mounted inside the NAPCO Gemini GEMC-Series control panel enclosure. For Fire Alarm control panels, the GEMC-NL-MOD must be installed inside a separate UL 864 Listed enclosure. In addition, no more than 20 feet of conduit can be used if connected to a fire alarm control panel. **NOTE:** For a UL Supplemental Listing, the wire length (GEMC-NL-MOD to control panel) must be no more than 20 feet and the panel shall reside in the same room as the GEMC-NL-MOD with no intervening walls or barriers. **NOTE:** For best results when making RJ-45 cable assemblies, it is recommended to use an *AMP* Brand Professional crimping tool (part # 3-231652-0), and to always match the type of cable used (stranded or solid) with the correct type of RJ-45 plug.

SYSTEM REQUIREMENTS
System Hardware:
- Compatible Gemini C-Series Control Panel.
- W1077 harness (see wiring diagram).
- Access to the local area network.

NL-MODCONFIG Software:
- Windows® XP Professional or Windows® 2000. (Windows® XP Home Edition is **not** supported).

NL-RCV-RMPCUL Rack-Mount Receiver or NL-CSRCV Software (software not for UL installations):
- See WI1491 for the NL-RCV-RMPCUL installation and programming instructions.

INSTALLATION INSTRUCTIONS

Note: Initial download must be performed locally.

Follow the steps below for *existing systems*. For new panel installations, proceed to step 2. After the mounting location and all wire paths are selected, install the GEMC-NL-MOD as follows:

1. **Save the Existing Control Panel Program.** To ensure the panel program is not lost, use PCD-Windows Quickloader software (version 6.0 or greater) to upload the existing program (User, Dealer & Descriptions). If PCD-Windows is not available, confirm written records of programming selections. **Note:** Program will be lost after Cold Start (step 3).

2. **Perform a Cold Start of the Panel.**
   a. Press the Dealer Security Code and press [FUNCTION] (or [MENU]).
   b. Press [BYPASS] until "Activate Program? Y/N" appears, then press [ON/OFF] (or [ENTER]).
   c. Press [RESET] to enter Dealer Program Mode.
   d. Press [4] [0] [9 P] [3] [ON/OFF] (or [ENTER]).

   Press [RESET] twice to exit Dealer Program Mode.

3. **Download a New Control Panel Program.** The PCD-Windows Quickloader download software can be used to configure the panel to recognize the GEMC-NL-MOD. Alternatively, the keypad can be used with Direct Address Program Mode to program the panel.

   PROGRAM USING PCD-WINDOWS SOFTWARE.
   On the **Digital Communications** menu, there are five areas that relate to the GEMC-NL-MOD operation. Configure as follows:

   a. **Enable TCP/IP Communications**. In PCD-Windows, click the **Digital Communications** button, and select the *Digital/Dialing Options* tab (see image below). Check "TCP/IP Communications". This feature informs the control panel that an GEMC-NL-MOD will be installed in the system, and thus will make the appropriate adjustments to various downloading timeouts and to reporting properties. Click **Apply** to save.

   b. **Enable Report to AES-TCP/IP**. Select the *Central*

Station Receivers tab (see image below). For each telephone number desired, **NET-LINK** from the pull-down list (located under the telephone number field) to enable the panel to report alarms via the GEMC-NL-MOD accessory. **Note:** All parameters apply as they normally would for Telco reporting. For backup reporting Telephone No. 2 should be enabled. Click **Apply** and **OK** to save.

   c. **Enable Handshake Local Telemetry** (Optional). In the *Digital Communications Options* tab (see previous image), check "Handshake Local Telemetry". This enables the panel to wait for a transmission acknowledgment from the NL-RCV-RMPCUL Receiver. (If the acknowledgment fails to occur within the allotted time, that control panel will generate a "Telemetry Failure" system trouble). Click **Apply** to save. **Note:** The GEMC-NL-MOD can queue up to 50 alarms and will continuously attempt to transmit the alarm to the NL-RCV-RMPCUL Receiver.

   d. **Enable TCP/IP Panel/Site Functions** (Optional). In the same *Digital Communications Options* tab, check "TCP/IP Panel/Site Initiated Functions" to enable the panel to connect via TCP (rather than dialup) for Auto Event Log Dumps, AutoDL ID, Function 6 and Site Initiated PCPreset connections. Click **Apply** to save.

   e. **Enable Callback Select and Options** (Optional). Click the **Panel Selection** button, and select the *Download/Callback Info* tab (see image below). The **Callback Select and Options** radio buttons for Call-

back #1 or #2 will cause PCPreset IP address #1 or PCPreset IP address #2 to be used, respectively. Therefore, when "TCP/IP Panel/Site Initiated Functions" (see "d" above) is selected, the GEMC-NL-MOD will try to connect to a PCPreset computer using an IP address determined by the Callback # selection. Click **OK** to save.

Download to Control Panel. Before proceeding, save the information (**File**, **Save Work**). On the toolbar, click either the **Local** or **Remote Communications** buttons. **Note:** The **TCP/IP Communications** button can be selected only after the initial panel download. In addition, the panel download cannot be performed via TCP/IP until the GEMC-NL-MOD itself is programmed by the NL-MODCONFIG software.
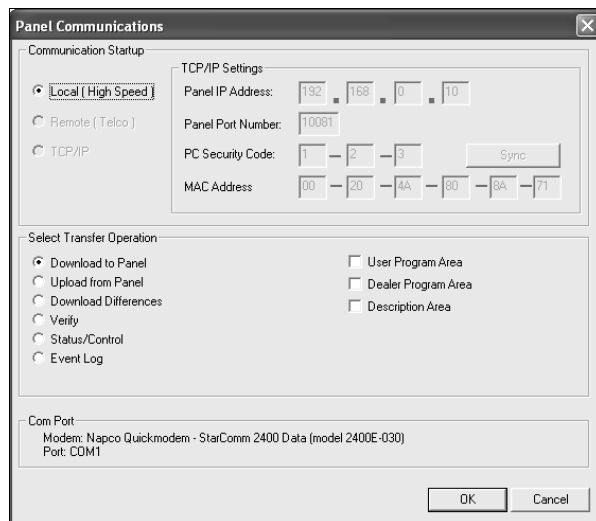
In the **Select Transfer Operation** area, click the *Download to Panel* radio button. Check **User Program Area**, **Dealer Program Area** and **Description Area**. Click **OK** to initiate the data transfer to the control panel. In UL installations, disable remote downloading (UL does not allow unattended downloading) and after changing the program, always verify panel operation at the panel site.

PROGRAM USING THE KEYPAD

Instead of using PCD-Windows Quickloader download software to program the panel, access the control panel directly through the keypad as detailed below. See previous descriptions for each address.

a. Enable "TCP/IP Communications" via address 5328, option 3 (press 3 on the keypad).
b. Enable "Handshake for Local Telemetry" via address 1718, option 8 (press 8 on the keypad).
c. Enable "TCP/IP Panel/Site Initiated Functions" via address 5328, option 4 (press 4 on the keypad).
d. For each telephone number desired, enable "Report to TCP/IP Receiver or AES" via addresses 0526 (option 7), 0551 (option 7) and 0576 (option 7) for Telco 1, Telco 2 and Telco 3 respectively.
e. Enable "Callback Select Options" via address 1713. Press either "1" for Callback Telephone Number 1 or "2" for Callback Telephone Number 2.

4. **Mount GEMC-NL-MOD.** Remove power to panel. The GEMC-NL-MOD must be mounted inside the NAPCO Gemini control panel enclosure. **NOTE:** For a UL Supplemental Listing, the wire length (GEMC-NL-MOD to the control panel) must be no more than 20 feet and the control panel shall reside in the same room as the GEMC-NL-MOD with no intervening walls or barriers. Mount using the mounting flanges on both sides of the GEMC-NL-MOD enclosure using the screws appropriate for the location.

5. **GEMC-NL-MOD Jumper.** Make sure jumper JP2 is installed for normal operation. Refer to "Load Factory Defaults" below for JP2 operation.

6. **GEMC-NL-MOD Wiring and Connections.** Refer to the wiring diagram.
   a. Insert the LAN Ethernet connector (RJ45 style) into the receptacle marked "Ethernet" on the GEMC-NL-MOD circuit board. Insert the other end into the local network connector.
   b. Insert the W1077 harness (supplied) into either the "RJ25 #1" or "RJ25 #2" of the C-Series control panel motherboard. Insert the other end into the "LOCAL DNLD" receptacle on the GEMC-NL-MOD circuit board.
   c. Connect the red flying lead of the W1077 harness into terminal 1 (+) of the GEMC-NL-MOD. See wiring diagram.

7. **Power Up GEMC-NL-MOD.** Upon applying power, the DS1 LED on the GEMC-NL-MOD will turn on and remain on during the GEMC-NL-MOD startup sequence (duration is approximately 15 seconds). The LED will turn off for up to 20 seconds while the GEMC-NL-MOD verifies its configuration. The LED will then flash continuously indicating the unit has not been programmed. **Note:** Once the unit has been programmed with an acceptable program, the DS1 LED will flash for 1 second and not continuously. After the power up sequence ends and normal operation begins, the LED will turn on only when the GEMC-NL-MOD is communicating over the network.

8. **Program the GEMC-NL-MOD with NL-MODCONFIG.** The NL-MODCONFIG software is used to program the GEMC-NL-MOD. Before using the NL-MODCONFIG software, obtain a static IP address, subnet mask and gateway that will be dedicated to network communication. This information can be obtained from your network administrator. In addition, the Receiver static IP address must be obtained from the monitoring center. Install the NL-MODCONFIG software on a PC (see System Requirements on page 2). Then use NL-MODCONFIG to program the GEMC-NL-MOD. Use one of two methods:

   a. Connect to the GEMC-NL-MOD through the LAN.
   b. Use a laptop or a PC connected to a network crossover cable (not supplied).

   Be sure to have the IP address, subnet mask and gateway address. See WI1243 for more information regarding programming with the NL-MODCONFIG software.

Refer to the parallel **Input Setup** section on page 8 for more information.

9. **Test Installation.** Test the system by sending a Digital Dialer Test report out through the LAN (Ethernet) into the NL-RCV-RMPCUL Receiver. **Note:** The GEMC-NL-MOD will attempt to send check-in signals immediately after the unit is configured with NL-MODCONFIG software. Therefore, if the NL-MODCONFIG programming was performed via a crossover cable, then the control panel will indicate a System Trouble E91 within two minutes of GEMC-NL-MOD programming.

LOAD FACTORY DEFAULTS (Erase)

(if needed)

"Defaulting" the GEMC-NL-MOD will return it to its original "out of box" condition. Default the GEMC-NL-MOD as follows:

1. Remove power from the GEMC-NL-MOD device.
2. Remove jumper JP2
3. Re-apply power. After about 40 seconds, the GEMC-NL-MOD will flash the LED continuously indicating the default configuration has been loaded.
4. Upon continuous flashing of the LED, replace jumper JP2.

Once the GEMC-NL-MOD has been reprogrammed using the NL-MODCONFIG software, the LED will flash once (for 1 second) upon power-up indicating the GEMC-NL-MOD has a valid configuration programmed.

INSTALLATION INSTRUCTIONS
OTHER GENERIC PANELS

The instructions in this section below apply to other generic control panels.

After the mounting location and all wire paths are selected, install the GEMC-NL-MOD as follows:

1. **Mount GEMC-NL-MOD.** Remove power to panel. For a UL Supplemental Listing for the panels, it is required that the GEMC-NL-MOD be installed in the same housing or in the same room as the control panel, with no intervening walls or barriers.
Mount using the mounting flanges on both sides of the GEMC-NL-MOD box using the screws appropriate for the location.

2. **GEMC-NL-MOD Jumper.** Make sure jumper JP2 is installed for normal operation. Refer to "**Load Factory Defaults**" on page 4 for JP2 operation.

3. **GEMC-NL-MOD Wiring and Connections.** Refer to the wiring diagram.

a. Insert the LAN Ethernet connector (RJ-45 style) into the receptacle marked "Ethernet" on the GEMC-NL-MOD circuit board. Insert the other end into the local network connector.
b. Connect the panel positive and negative Aux Power outputs to the GEMC-NL-MOD terminals 1 (+) and 2 (–) respectively. See wiring diagram on page 11.

The Supervisory Output (SUPV) will be active low if the GEMC-NL-MOD fails to check in with the NL-RCV-RMPCUL Receiver four consecutive times. Connect this output to a 24 hour supervisory zone in the control panel.

The Ringback Output (R.B.) will be active low for 2 seconds if the GEMC-NL-MOD receives an acknowledgement from the NL-RCV-RMPCUL Receiver after reporting a closing.

4. **Power Up GEMC-NL-MOD.** Upon applying power, the DS1 LED on the GEMC-NL-MOD will turn on and remain on during the GEMC-NL-MOD startup sequence (duration is approximately 15 seconds). The LED will turn off for up to 20 seconds while the GEMC-NL-MOD verifies its configuration. The LED will then flash continuously indicating the unit has not been programmed. **Note:** Once the unit has been programmed with an acceptable program, the DS1 LED will flash for 1 second and not continuously. After the power up sequence ends and normal operation begins, the LED will turn on only when the GEMC-NL-MOD is communicating over the network.

5. **Program the GEMC-NL-MOD with NL-MODCONFIG.** The NL-MODCONFIG software is used to program the GEMC-NL-MOD. Before using the NL-MODCONFIG software, obtain a static IP address, subnet mask and gateway that will be dedicated to network communication. This information can be obtained from your network administrator. In addition, the Receiver static IP address must be obtained from the monitoring center.
Install NL-MODCONFIG software on a PC (see System Requirements on page 2). Then use NL-MODCONFIG to program the GEMC-NL-MOD.
Use one of two methods:

a. Connect to the GEMC-NL-MOD through the LAN.
b. Use a laptop or a PC connected to a network crossover cable (not supplied).

Be sure to have the IP address, subnet mask and gateway address. See WI1243 for more information regarding programming with the NL-MODCONFIG software.

INSTALLATION INSTRUCTIONS
## FIRE ALARM CONTROL PANELS

The instructions in this section below apply to generic fire alarm control panels. (For the GEM-P3200, GEM-P9600 and GEM-X255 panels, turn to page 2; for the GEM-P816, GEM-P1632 and GEM-P1664 panels, turn to page 4. For other (generic) control panels, turn to page 6).

Note: The cable modem at the premises requires standby power, therefore a UL 1481 Listed UPS must be used at the premises to power the modem. In addition, the installation must meet the requirements of NFPA 72. All external circuits must be electrically rated to permit proper installation of this product using wiring methods permitted by the National Electrical Code, ANSI/NFPA 70.

After the mounting location and all wire paths are selected, install the NL-MOD-UL as follows:

1. **Mount NL-MOD-UL.** Remove power to panel. The NL-MOD-UL must be mounted in an adjacent UL 864 Listed enclosure, and no more than 20 feet of conduit can be used.
   Mount using the mounting flanges on both sides of the NL-MOD-UL box using the screws appropriate for the location.

2. **NL-MOD-UL Jumper.** Make sure jumper JP2 is installed for normal operation. Refer to "Load Factory Defaults" on page 4 for JP2 operation.

3. **NL-MOD-UL Wiring and Connections.** Refer to the wiring diagram.

   a. Insert the LAN Ethernet connector (RJ45 style) into the receptacle marked "Ethernet" on the NL-MOD-UL circuit board. Insert the other end into the local network connector.
   b. Connect the panel positive and negative Aux Power outputs to the NL-MOD-UL terminals 1 (+) and 2 (–) respectively. See wiring diagram on page 11.
   c. Connect dry contacts into the parallel inputs. See parallel **Input Setup** on page 8 for more information.
   d. Be sure fire alarm panel is programmed for delayed AC Fail Report for 1-3 hours.

   The Supervisory Output (SUPV) will be active low if the NL-MOD-UL fails to check in with the NL-RCV-RMPCUL four consecutive times. Connect this Supervisory Output to control an *Air Products and Controls* "PAM-4" relay. Wire the relay contact to a zone that can be programmed for a trouble or supervisory

Supervisory Output (SUPV)
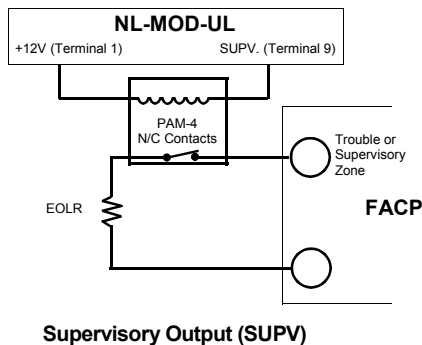
4. **Power Up NL-MOD-UL.** Upon applying power, the DS1 LED on the NL-MOD-UL will turn on and remain on during the NL-MOD-UL startup sequence (duration is approximately 15 seconds). The LED will turn off for up to 20 seconds while the NL-MOD-UL verifies its configu-ration. The LED will then flash continuously indicating the unit has not been programmed. **Note:** Once the unit has been programmed with an acceptable program, the DS1 LED will flash for 1 second and not continuously. After the power up sequence ends and normal operation begins, the LED will turn on only when the NL-MOD-UL is communicating over the network.

5. **Program the NL-MOD-UL with NL-MODCONFIG.** The NL-MODCONFIG software is used to program the NL-MOD-UL. Before using the NL-MODCONFIG software, obtain a static IP address, subnet mask and gateway that will be dedicated to network communication. This information can be obtained from your network administrator.
   Install NL-MODCONFIG software on a PC (see System Requirements on page 2). Then use NL-MODCONFIG to program the NL-MOD-UL.
   Use one of two methods:

   a. Connect to the NL-MOD-UL through the LAN.
   b. Use a laptop or a PC connected to a network cross-over cable (not supplied).

   Be sure to have the IP address, subnet mask and gateway address. See WI1243 for more information regarding programming with the NL-MODCONFIG software.
   Refer to the parallel **Input Setup** section on page 8 for more information.

6. **Test Installation.** Test the system into the NL-RCV-RMPCUL Receiver.

INPUT SETUP
(IN0 - IN3)

In the NL-MODCONFIG software, use the **Optional Input Setup** button (located at the bottom of the NL-MODCONFIG main screen) to allow the configuration of four parallel inputs located on the GEMC-NL-MOD board terminal strip. In the **Input Setup** dialog, use the **Input Type** drop down to select as follows:

- If **Active-low** selected from the drop-down list, the input is considered normal if it is above the upper threshold ("High Limit") and faulted if it is below the lower threshold ("Low Limit"). An input value between the lower and upper thresholds maintains the current state.

- If **Active-high** is selected from the drop-down list, the input is considered normal if it is below the lower threshold ("Low Limit") and faulted if it is above the upper threshold ("High Limit"). An input value between the lower and upper thresholds maintains the current state. A 2.2k EOL resistor is needed. See diagram below.
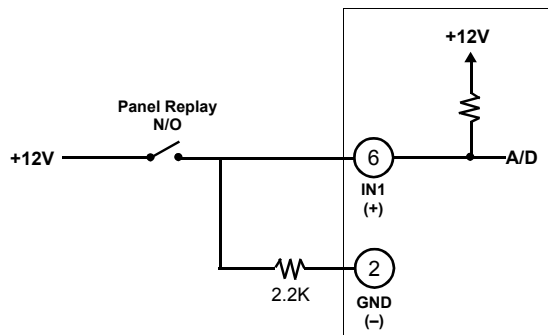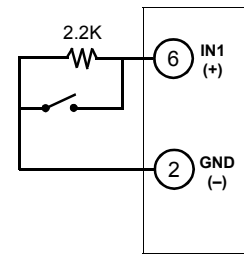

Active high Example: N/O Relay Contact

- If **EOLR** is selected from the drop-down list, this enables the 2.2K EOL Resistor. The default input is in a normal state if the input is between the lower threshold ("Low Limit") and the upper threshold ("High Limit"). If not between these two thresholds the input is considered faulted.

  If EOLR is selected, the values programmed are identical to the values used in the panel. For example, to install a panic button, connect between the GEMC-NL-MOD terminals 2 and 6. If button is normally closed, connect EOL resistor in series. If button is normally open, then connect EOL resistor in parallel. See diagrams below.
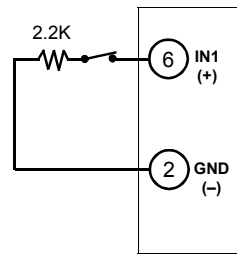
N/C Panic Switch in Series   **N/O Panic Switch in Parallel**

Example: Select EOLR in the I/O Setup Screen

Note: For advanced users, the upper and lower voltage limits can be programmed into the GEMC-NL-MOD. To enable these settings to be changed, check **Edit Thresholds**.

☞ *Do NOT check Edit Thresholds for Fire Installations.*

- If **Disabled** is selected from the drop-down list, the input is disabled and will not respond to any input voltage. The Optional Inputs (IN1, IN2 and IN3 on the GEMC-NL-MOD terminal strip) are configured with the lower limits set to zero and the upper limits set to 255. This results in all the Optional Inputs being normal (i.e. "non-activated") regardless of the actual input voltage.

Reporting Code
Select a Contact ID Code (E130 =Burglary, E110 = Fire, etc.) to be displayed by the Receiver or the automation system.
Note: If **E301 A.C. Trouble** is selected for input **IN3,** and the **IN3** input is tripped, reporting for this input will be delayed 2 hours (if the input opens before the 2 hour delay ends, the **E301 A.C. Trouble** report will not be sent). If **E301 A.C. Trouble** is selected for the other inputs (**IN0**-**IN2**) the report is sent immediately.

Zone #
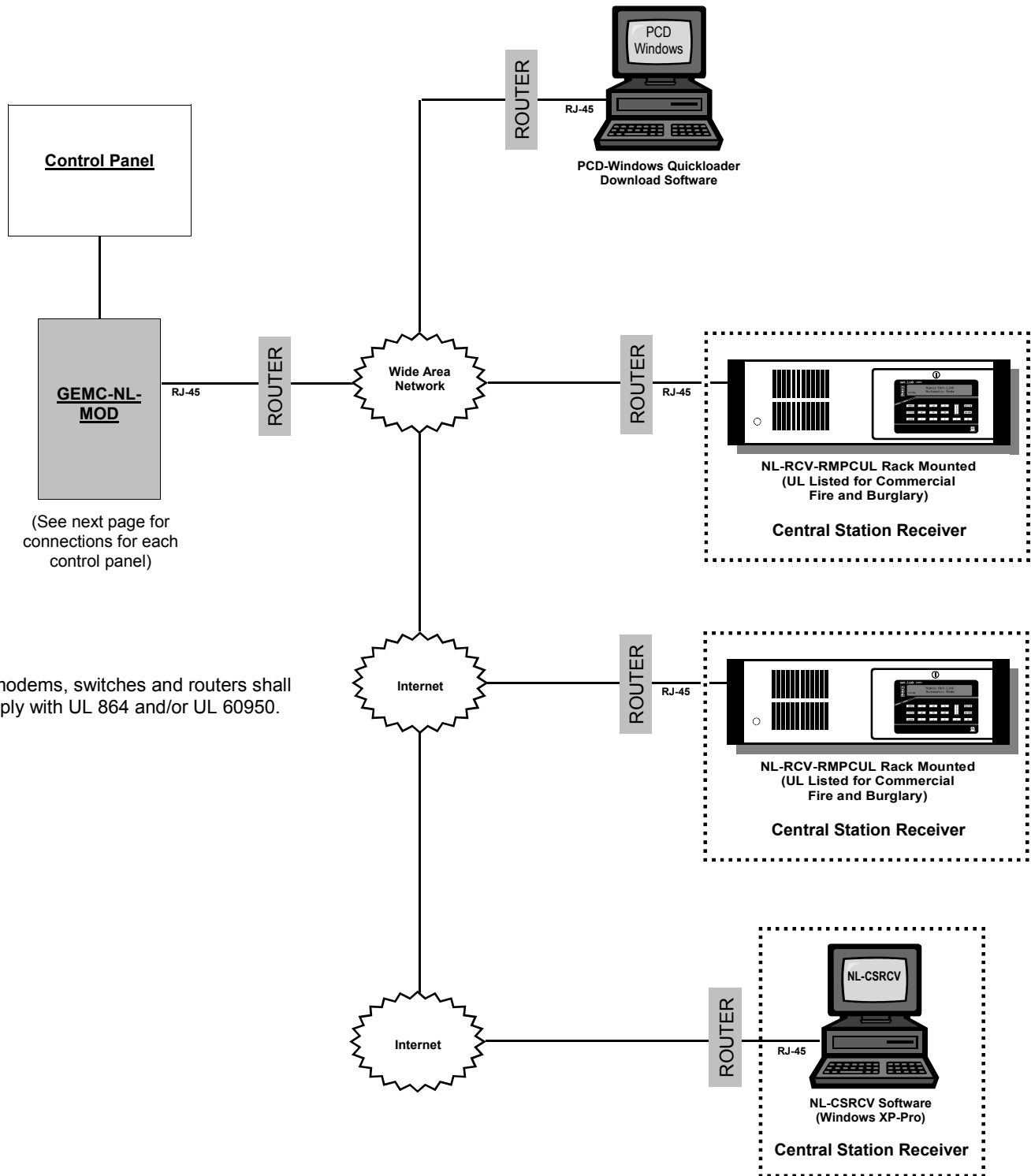Assign a Zone number to the input.

Area #
Assign the input to an area number.

Status Type
Select the status category to be assigned to the zone when the GEMC-NL-MOD reports a status to the Receiver. The Receiver Service Application **Panel Status** screen displays the attribute selected here, including **Check-In Status.**
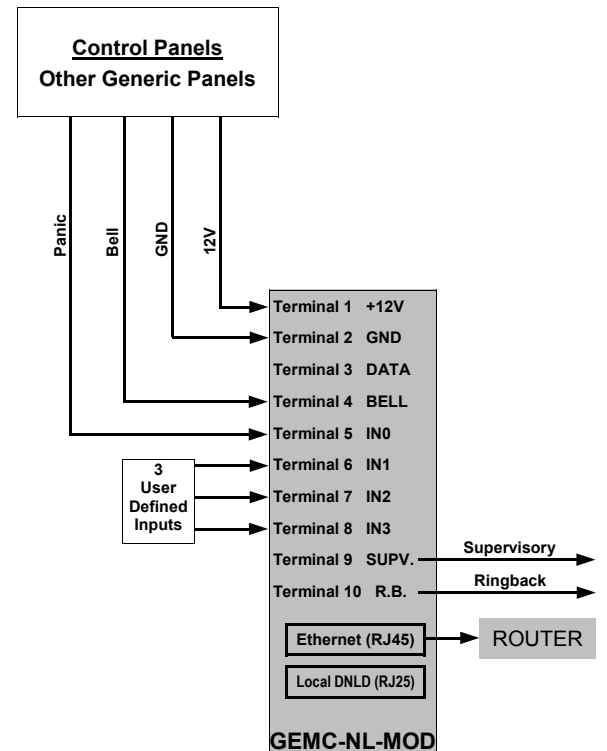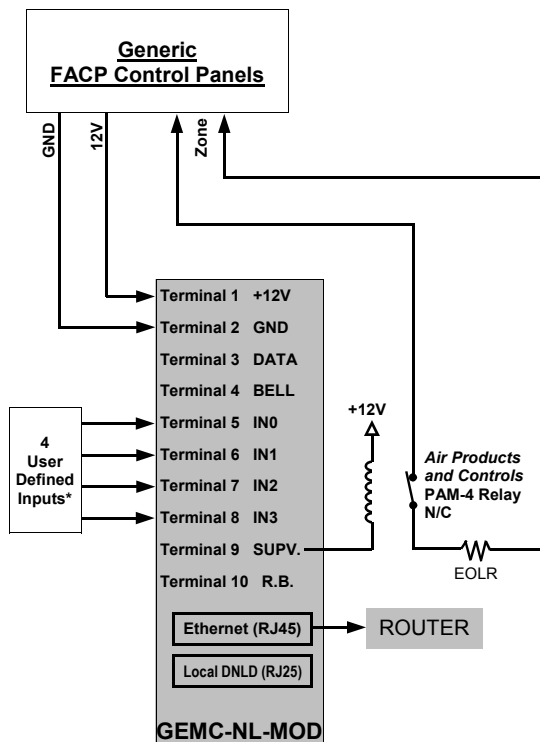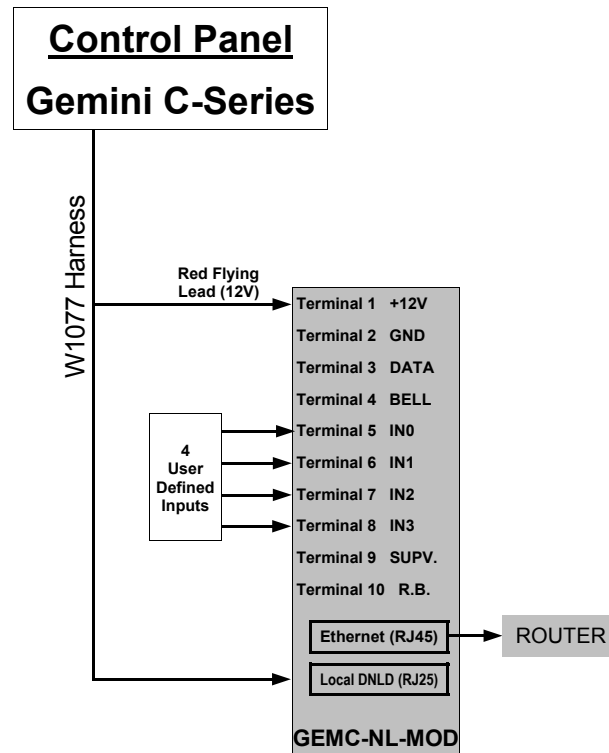**Note:** If **Fire Trouble** is selected for any input, the GEMC-NL-MOD will *retransmit* the reporting code signal every 24 hours as long the associated input remains tripped.

GEMC-NL-MOD Configuration Overview

Control Panel

GEMC-NL-MOD

RJ-45   ROUTER

(See next page for connections for each control panel)

All modems, switches and routers shall comply with UL 864 and/or UL 60950.

ROUTER   RJ-45

PCD Windows

PCD-Windows Quickloader Download Software

Wide Area Network

ROUTER   RJ-45

NL-RCV-RMPCUL Rack Mounted (UL Listed for Commercial Fire and Burglary)

Central Station Receiver

Internet

ROUTER   RJ-45

NL-RCV-RMPCUL Rack Mounted (UL Listed for Commercial Fire and Burglary)

Central Station Receiver

Internet

ROUTER   RJ-45

NL-CSRCV

NL-CSRCV Software (Windows XP-Pro)

Central Station Receiver

Detailed GEMC-NL-MOD Connections

Control Panel

Gemini C-Series

W1077 Harness

Red Flying
Lead (12V)

**4
User
Defined
Inputs**

Terminal 1   +12V
Terminal 2   GND
Terminal 3   DATA
Terminal 4   BELL
Terminal 5   IN0
Terminal 6   IN1
Terminal 7   IN2
Terminal 8   IN3
Terminal 9   SUPV.
Terminal 10   R.B.

Ethernet (RJ45) → ROUTER

Local DNLD (RJ25)

GEMC-NL-MOD

**Generic
FACP Control Panels**

GND 12V Zone

**4
User
Defined
Inputs***

Terminal 1   +12V
Terminal 2   GND
Terminal 3   DATA
Terminal 4   BELL
Terminal 5   IN0
Terminal 6   IN1
Terminal 7   IN2
Terminal 8   IN3
Terminal 9   SUPV.
Terminal 10   R.B.

+12V

*Air Products
and Controls*
**PAM-4 Relay
N/C**

EOLR

Ethernet (RJ45) → ROUTER

Local DNLD (RJ25)

GEMC-NL-MOD

*See **Reporting Code** on page 8 for more information regarding IN3 reporting delays.

**Control Panels
Other Generic Panels**

Panic Bell GND 12V

**3
User
Defined
Inputs**

Terminal 1   +12V
Terminal 2   GND
Terminal 3   DATA
Terminal 4   BELL
Terminal 5   IN0
Terminal 6   IN1
Terminal 7   IN2
Terminal 8   IN3
Terminal 9   SUPV. → Supervisory
Terminal 10   R.B. → Ringback

Ethernet (RJ45) → ROUTER

Local DNLD (RJ25)

GEMC-NL-MOD

GEMC-NL-MOD WIRING DIAGRAM

REFER TO WI1523
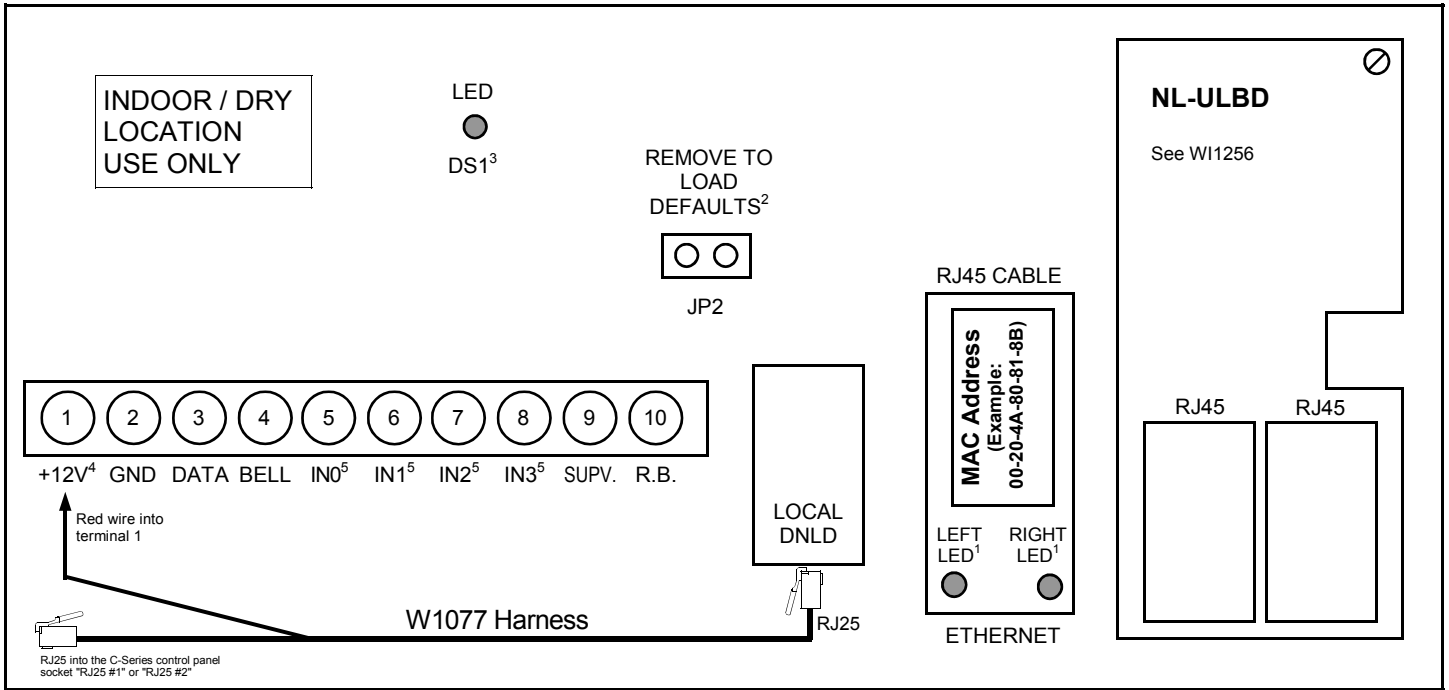
GEMC-NL-MOD Wiring Diagram Notes:
1. See table below for description of right and left Ethernet Connection LED Functions.
2. Normal operation requires this shunt connector to be placed on top of JP2.
3. See pages 4, 6 and 7 for DS1 LED operation.
4. **Voltage Input**: 12VDC **Input Current**: 85mA.
5. **Rated Current**: 6.5mA **Rated Voltage**: 12VDC.

GEMC-NL-MOD TERMINAL DESCRIPTIONS	
TERMINAL NUMBER	**DESCRIPTION**
1	**Positive 12 Volts**
2	**Ground**
3	**Data (not currently used)**
4	**Bell**
5	**User Defined Parallel Input 0.** Configured by the **Optional Input Setup** screen.
6	**User Defined Parallel Input 1.** Configured by the **Optional Input Setup** screen.
7	**User Defined Parallel Input 2.** Configured by the **Optional Input Setup** screen.
8	**User Defined Parallel Input 3.** Configured by the **Optional Input Setup** screen.
9	**Supervisory (Active Low)**
10	**Ringback (Active Low)**

ETHERNET CONNECTION LED FUNCTIONS			
LEFT LED		**RIGHT LED**	
COLOR	**MEANING**	**COLOR**	**MEANING**
OFF	NO LINK	OFF	NO ACTIVITY
SOLID AMBER	10 MBPS	MOMENTARY AMBER	HALF DUPLEX
SOLID GREEN	100 MBPS	MOMENTARY GREEN	FULL DUPLEX

NOTES

NOTES

NAPCO LIMITED WARRANTY

NAPCO SECURITY SYSTEMS, INC. (NAPCO) warrants its products to be free from manufacturing defects in materials and workmanship for *thirty-six months* following the date of manufacture. NAPCO will, within said period, at its option, repair or replace any product failing to operate correctly without charge to the original purchaser or user.

This warranty shall not apply to any equipment, or any part thereof, which has been repaired by others, improperly installed, improperly used, abused, altered, damaged, subjected to acts of God, or on which any serial numbers have been altered, defaced or removed. Seller will not be responsible for any dismantling or reinstallation charges.

THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. THERE IS NO EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR A WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. ADDITIONALLY, THIS WARRANTY IS IN LIEU OF ALL OTHER OBLIGATIONS OR LIABILITIES ON THE PART OF NAPCO.

Any action for breach of warranty, including but not limited to any implied warranty of merchantability, must be brought within the six months following the end of the warranty period. IN NO CASE SHALL NAPCO BE LIABLE TO ANYONE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR BREACH OF THIS OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, EVEN IF THE LOSS OR DAMAGE IS CAUSED BY THE SELLER'S OWN NEGLIGENCE OR FAULT.

In case of defect, contact the security professional who installed and maintains your security system. In order to exercise the warranty, the product must be returned by the security professional, shipping costs prepaid and insured to NAPCO. After repair or replacement, NAPCO assumes the cost of returning products under warranty. NAPCO shall have no obligation under this warranty, or otherwise, if the product has been repaired by others, improperly installed, improperly used, abused, altered, damaged, subjected to accident, nuisance, flood, fire or acts of God, or on which any serial numbers have been altered, defaced or removed. NAPCO will not be responsible for any dismantling, reassembly or reinstallation charges.

This warranty contains the entire warranty. It is the sole warranty and any prior agreements or representations, whether oral or written, are either merged herein or are expressly cancelled. NAPCO neither assumes, nor authorizes any other person purporting to act on its behalf to modify, to change, or to assume for it, any other warranty or liability concerning its products.

In no event shall NAPCO be liable for an amount in excess of NAPCO's original selling price of the product, for any loss or damage, whether direct, indirect, incidental, consequential, or otherwise arising out of any failure of the product. Seller's warranty, as hereinabove set forth, shall not be enlarged, diminished or affected by and no obligation or liability shall arise or grow out of Seller's rendering of technical advice or service in connection with Buyer's order of the goods furnished hereunder.

NAPCO RECOMMENDS THAT THE ENTIRE SYSTEM BE COMPLETELY TESTED WEEKLY.

Warning: Despite frequent testing, and due to, but not limited to, any or all of the following; criminal tampering, electrical or communications disruption, it is possible for the system to fail to perform as expected. NAPCO does not represent that the product/system may not be compromised or circumvented; or that the product or system will prevent any personal injury or property loss by burglary, robbery, fire or otherwise; nor that the product or system will in all cases provide adequate warning or protection. A properly installed and maintained alarm may only reduce risk of burglary, robbery, fire or otherwise but it is not insurance or a guarantee that these events will not occur. CONSEQUENTLY, SELLER SHALL HAVE NO LIABILITY FOR ANY PERSONAL INJURY, PROPERTY DAMAGE, OR OTHER LOSS BASED ON A CLAIM THE PRODUCT FAILED TO GIVE WARNING. Therefore, the installer should in turn advise the consumer to take any and all precautions for his or her safety including, but not limited to, fleeing the premises and calling police or fire department, in order to mitigate the possibilities of harm and/or damage.

NAPCO is not an insurer of either the property or safety of the user's family or employees, and limits its liability for any loss or damage including incidental or consequential damages to NAPCO's original selling price of the product regardless of the cause of such loss or damage.

Some states do not allow limitations on how long an implied warranty lasts or do not allow the exclusion or limitation of incidental or consequential damages, or differentiate in their treatment of limitations of liability for ordinary or gross negligence, so the above limitations or exclusions may not apply to you. This Warranty gives you specific legal rights and you may also have other rights which vary from state to state.
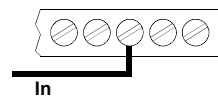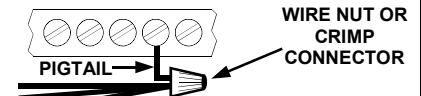
IMPORTANT WIRING METHODS

For single-conductor terminal blocks (like the type shown at left), to terminate more than one conductor to a terminal, use the wiring methods shown at right:
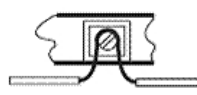
In — Out — **Incorrect**
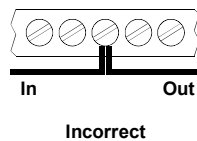
In — **Correct -- Single incoming and/or pigtail with wire nut / crimp connectors**
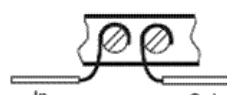
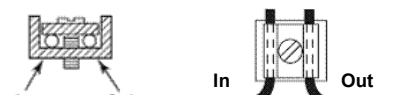PIGTAIL — WIRE NUT OR CRIMP CONNECTOR

For "barrier" type terminal blocks (like the type shown at left), to terminate two conductors to a terminal, use the wiring methods shown at right:
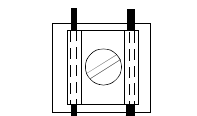
Incorrect

In — Out — In — Out — In — Out — **Correct -- Separate incoming and outgoing conductors**

To terminate more than two conductors or conductors of different wire sizes to a terminal, use the "pigtail" type wiring method as shown at right. Use insulated wire for the pigtail, and firmly secure the conductors to the pigtail using an appropriate wire nut or crimp connector for the number and gauge of conductors used.

Incorrect

WIRE NUT OR CRIMP CONNECTOR

PIGTAIL — PIGTAIL — **Correct -- Use pigtail and wire nut / crimp connector**