

Overview

The NXR-ZGW (**FG5791-01**) is an Ethernet to ZigBee wireless gateway. The NXR-ZGW features a 10BaseT, half duplex Ethernet port capable of Power over Ethernet (PoE), 16 Mbytes of Flash, 16 Mbytes of SDRAM, and a ZigBee module, and is controlled via a web server interface.

The NXR-ZRP (**FG5791-02**) is a ZigBee wireless repeater.

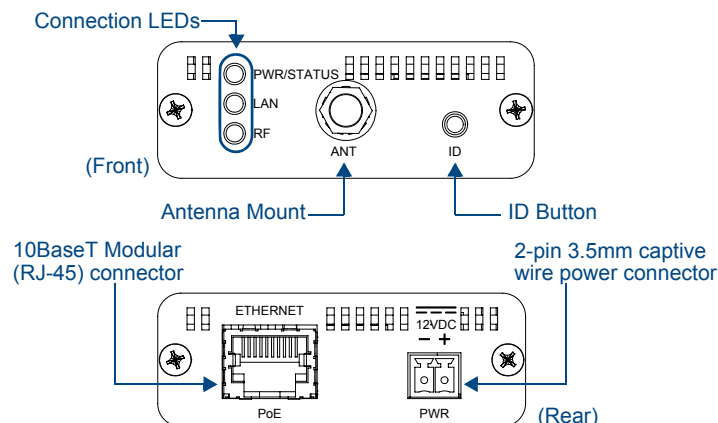


FIG. 1 The NXR-ZGW Device (front and rear)

Specifications

NXR-ZGW (FG5791-01) and NXR-ZRP (FG5791-02) Specifications	
Power:	<ul style="list-style-type: none"> 10.5 - 18 VDC; (13.5 VDC nominal operation voltage) NXR-ZGW: Power over Ethernet (PoE) Class 2
Memory:	<ul style="list-style-type: none"> 16 Mbytes of Flash 16 Mbytes of SDRAM 1 Megabit external memory
Radio Specifications:	
Frequency	2.4GHz
Operating channels	11 - 26
Modulation technique	DSS
Output power	Region/country specific
Coverage area	165 feet (50.2m)
Firmware/Software Specifications:	
Management	Built-in browser-based management with User Name/ Password authentication (NXR-ZGW only)
IP configuration	Static IP or DHCP client (default is static, 192.168.1.140)
Communications	<ul style="list-style-type: none"> ZigBee TCP/IP The NXR-ZRP communicates with a Netlinx master via a NXR-ZGW.
Front Components:	
LEDs	<ul style="list-style-type: none"> PWR/STATUS - (NXR-ZGW) A green LED that blinks to indicate the device is installed and communicating properly. Power ON, but no master connection, is indicated with a solid light, Power OFF is indicated with no light. (NXR-ZRP) Power ON is indicated with a solid light. Power OFF is indicated with no light. LAN - (NXR-ZGW) A green LED indicates an Ethernet connection is established. The LED blinks to indicate both sending and receiving information via Ethernet. RF - The LED is solid when end devices are connected; end devices not connected is indicated with no LED light; the LED blinks to indicate activity. ICSP - (NXR-ZRP) The LED is solid when ICSP connection is in place with the NetLinx master.
Antenna Mount	A reverse SMA connection that supports a 2.4GHz antenna.

NXR-ZGW and NXR-ZRP Specifications (Cont.)

ID Button	<ul style="list-style-type: none"> NXR-ZGW: When used in conjunction with NetLinx Studio, sets the device and system numbers for the NXR-ZGW. Press and hold for approximately 30 seconds to return the NXR-ZGW to factory default settings. NXR-ZRP: Press and hold for approximately 10 seconds to return the NXR-ZRP to factory default settings.
Rear Components:	
Power connector	<ul style="list-style-type: none"> 2-pin 3.5mm captive-wire connector NXR-ZGW: Power Over Ethernet (PoE) - powers the device through the CAT5 cable. Both Power and Data can be transmitted simultaneously through the CAT5 cable when using the appropriate equipment.
Ethernet port	10BaseT Modular (RJ-45) connector - connects the NXR-ZGW to your LAN and/or to connect your third party device to the LAN when the NXR-ZGW is used as a gateway.
Certifications:	<p>NXR-ZGW:</p> <ul style="list-style-type: none"> FCC ID: CWU-ZGW IC ID: 5078A-ZGW CE IEC-60950 TELEC <p>NXR-ZRP:</p> <ul style="list-style-type: none"> FCC ID: CWU-ZRD IC ID: 5088A-ZRD CE IEC-60590 TELEC
Operating/Storage Environments:	<ul style="list-style-type: none"> Operating Temperature: -30°C (-22°F) to 70°C (158°F) Relative Humidity: 5% to 85% non-condensing; intended for indoor use only
Dimensions (HWD):	0.91" x 2.50" x 3.42" (23.01 mm x 63.50 mm x 86.96 mm) Note: depth does not include antenna
Weight:	<ul style="list-style-type: none"> NXR-ZGW: 0.35 lbs (158.75g) NXR-ZRP: 0.25 lbs (113.39g)
Included Accessories:	<ul style="list-style-type: none"> Rubber feet Velcro mounting strip 2.4GHz, MONO, RSMA, 3.5IN, 2.0DBI Antenna (70-0012-SA) Power Supply (24-5791-SA)
Other AMX Products:	<ul style="list-style-type: none"> Mio Modero R-3 Remote (FG148-03) Mio Modero R-4 Remote (FG148-04) NXA-WAP 2403A 3 dBI Antenna (FG2255-20) NXA-WAP 2405A 5.5 dBI Antenna (FG2255-21) NXA-WAP 2413A Mounting Bracket (FG2255-24)

NOTE: Connection to the Repeater device from either the NXR-ZGW or the Mio Modero® R-3 or R-4 requires download and installation to the repeater of ZigBee Module firmware version 1.01.12, available from www.amx.com.

Things To Consider Before Starting

Several factors will help decide the best place to install NXR-ZGW and NXR-ZRP devices. Before installing, consider the following:

Location and Antenna Direction

The best location for NXR-ZGW and NXR-ZRP devices are usually in the center of your wireless network, with line of sight to all of your mobile devices. Try to place the antenna in a position that can best cover your wireless network. Normally, the higher you place the antenna, the better performance you receive.

Note: For minimal interference, try to keep any installed NXR-ZGW at least 10' (3.048m) from any WiFi access points.

Connecting the Optional Accessory Antennas

Several accessory 2.4GHz antennas are available for use with NXR-ZGW and NXR-ZRP devices. Each of these antennas is uniquely suited to meet a wide variety of installation requirements.

NOTE (Mio R-3 or R-4 Users): Due to the wireless nature of the ZigBee network, temporary interference (such as leaving a room or large objects passing between the controller and its gateway device) may prevent a command from reaching the NetLinx master. **If this happens while increasing volume, the master may receive the command to increase the volume but not the command to stop increasing it.** Therefore, programmers should consider setting safeguards for volume control, either established volume limits or

timeouts with the NetLinx master or more interactive adjustment from the remote (i.e., direct volume control), to prevent issues with lost commands.

Connecting Power to the NXR-ZGW and NXR-ZRP

The NXR-ZGW receives power via either PoE or 2-pin 3.5 mm mini-captive wire connection, the NXR-ZRP only utilizes the 2-pin 3.5 mm mini-captive wire connection. If PoE is selected, the NXR-ZGW will draw power through the CAT5 Ethernet cable at approximately 60mA at 48V. If the 2-pin 3.5 mm mini-captive wire connector is selected, the following steps are necessary:

Preparing captive wires for the 2-pin 3.5 mm mini-captive wire connector

You will need a wire stripper and flat-blade screwdriver to prepare and connect the captive wires.

1. Strip 0.25 inch (6.35 mm) of wire insulation off all wires.
2. The PWR and GND cable from the 12 VDC power supply must be connected to the corresponding location on the 2-pin 3.5 mm mini-captive wire connector (FIG. 2).

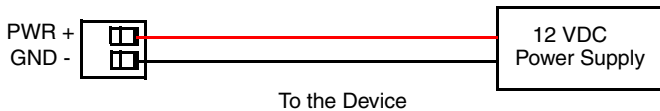


FIG. 2 12 VDC Power Connector Wiring Diagram

3. Tighten the clamp to secure the two wires. Do not over-torque the screws; doing so may strip the threads and damage the connector.
4. Verify the connection of the 2-pin 3.5mm mini-captive wire to the power supply.

Connecting the NXR-ZGW to a LAN

Insert one end of the CAT5 Ethernet cable into the rear RJ-45 jack and connect the other end of the same cable to a master or to a switch connected to a master.

Setting Up A Network

After you have established the location of the gateway, connected it, provided power, and placed the device in either a rack or wall installation, you can then begin configuring the NXR-ZGW and adding an NXR-ZRP and ZigBee-compatible devices to the network.

1. Confirm the NXR-ZGW is receiving power by checking the PWR LED shown in FIG. 1.
2. Using a PC connected to your NetLinx system, navigate to the NXR-ZGW Browser-based Configuration Manager in your preferred Web browser. The default IP address for the NXR-ZGW is **192.168.1.140**.
3. Go to the NetLinx setup page and configure the NXR-ZGW to communicate with the master.
4. Go to the PAN page and change the PAN ID.
5. Turn on AMX ZigBee-compatible devices one at a time, e.g., Mio R-3, Mio R-4 or NXR-ZRP. Select the correct new PAN ID.
6. For devices that do not have displays (NXR-ZRP), or not enough display to select the PAN ID to join a network, place each device one at a time near the gateway, turn one of them on, and configure it using the gateway web pages before turning on the next one. Then use the PAN pages to change the devices over to a new PAN ID.
This method may also be used if you do not want to go to each ZigBee compatible device to set the PAN ID; however, once each device is set, the change must be done to the gateway itself. It may be necessary to cycle power on each device for them to come online.

NXR-ZGW Configuration Manager Pages

To access the Configuration Manager pages, enter the IP address of the NXR-ZGW into your web browser.

The default IP address for the NXR-ZGW is **192.168.1.140**.

Setting the IP Address

1. Upon accessing the NXR-ZGW Browser-based Configuration Manager, the user must enter a username and password. The default entries are "Admin" and "1988"; changing the password as soon as possible is highly recommended.
2. In the menu at the top of the Configuration Manager, select *IP Settings* under the section *Configuration*.

3. Click the radio button for either *Dynamic* or *Static*. If your network has a DHCP server you may select 'Dynamic', and the gateway will request IP information from the server.
4. If configured for Static, type the IP address in the field provided.
5. If necessary, type the subnet mask and gateway in the fields provided.
6. Click **Accept**.

Setting the ICSP connection to the Netlinx master

1. In the menu at the top of the NXR-ZGW Browser-based Configuration Manager, select *NetLinx Settings* under the section *Configuration*.
2. Enter the device number to be assigned to the NXR-ZGW in the *Device Number* field.
3. Enter the IP address of the master that the NXR-ZGW is to connect with in the *Master IP/URL* field.
4. Click **Accept**.
5. In the *The system will need to reboot for changes to take effect* window, click **OK**.

Setting a new username and password

1. Select *User Settings* under the section *Configuration*.
2. In the text field next to *New Username*, type the new name.
3. In the text field next to *New Password*, type the new password.
4. Confirm the password in the field *Re-type Password*.
5. Click **Accept**.

Personal Area Network

Enabling and disabling the wireless network

1. In the menu on the top of the NXR-ZGW Browser-based Configuration Manager, select *Network* under the section *Pan*.
2. Click the radio button next to *Enable* to enable the wireless network or select *Disable* to disable the network.
3. Click **Accept**.

Connecting an NXR-ZRP to the network for the first time

1. In the menu on the top of the NXR-ZGW Browser-based Configuration Manager, select *Network* under the section *Pan*.
2. In the *PAN ID* field, enter the default PAN ID for the repeater: **3FFF**.
3. Click **Accept**.
4. Select the *Connections* tab; the repeater should appear on the router.
5. Click on the *EUI-64* link to open the *Device Details* page.
6. In the *PAN ID* field, enter the desired PAN ID for the repeater within the network.
7. Click **Update Settings**.
8. Repeat steps 1-6 for each repeater to be added to the network.
9. Select the *Network* tab under the section *Pan* and enter the desired PAN ID in the *Change PAN ID* field.
10. Click **Accept**.

Utilities

Allowing firmware updates to devices

1. In the menu on the top of the NXR-ZGW Browser-based Configuration Manager, select *Device Firmware* under the section *Utilities*.
2. Choose the device to be updated by its EUI-64 number.
3. To allow updates to individual devices, click the button next to the device's EUI-64 number in the *Allow Updates* column. The page will automatically refresh, displaying the device's new status.
4. To update all of the devices on a network, click *All On* or *All Off* in the *Allow Updates* column to allow or block upgrades to all devices on the network. The page will automatically refresh, displaying the new status of all network devices.
5. Some devices cannot have their firmware update status changed; these devices will continue to read *Off* even after selecting to allow new updates.