Section 6.1
Local Area Network (LAN) Configuration

This section addresses configuring a local area network (LAN) to access the Network System over the internet. It is important this section is available to the Information Technology (IT) technician setting up the structure's internet service and LAN.

The Network System does not require internet access to function. However, connecting the Network System to the internet allows access to system settings without visiting the jobsite. For example, a user can change temperature settings and modes, set schedules and calendars, operate snow melt functions and access many more features all from a remote location. An internet connection also allows the contractor to fine tune Network System setup for optimal comfort and efficiency and to troubleshoot the system remotely, reducing the number of site visits. While some service calls will always require a site visit, remote access enables the contractor to preview the system remotely and prepare for the site visit, saving multiple trips for a single issue.

This section covers the following topics:

· Configuring LAN architecture to support the Network System

· Allowing User Datagram Protocol/Internet Protocol (UDP/IP) communication

· Allowing two-way communication

· Opening the correct port

Before proceeding, make sure the following steps are complete:

❏ All Uponor Configuration Tool (UCT) components are installed (**Section 1.5**).

❏ The computer is correctly connected to the Network System (**Section 1.6**).

❏ The port setting is available to the IT technician for setting up the firewall (**Section 2.3**).

LAN Architecture

You can directly connect the Network System to a modem, wired or wireless hubs or a network switch. However, there can only be one network address translation (NAT) device between the Network System and the modem. A NAT device provides internal IP addresses for each device connected to the LAN. If more than one NAT device is between the Router Main Control (RTR) (A9011000) and the modem, the RTR will be unable to route communication to the remote server. **Figures 6.1-1 through 6.1-3** illustrate three LAN configurations that will support Network System remote access. **Figure 6.1-4** shows a configuration that will not work with the Network System.
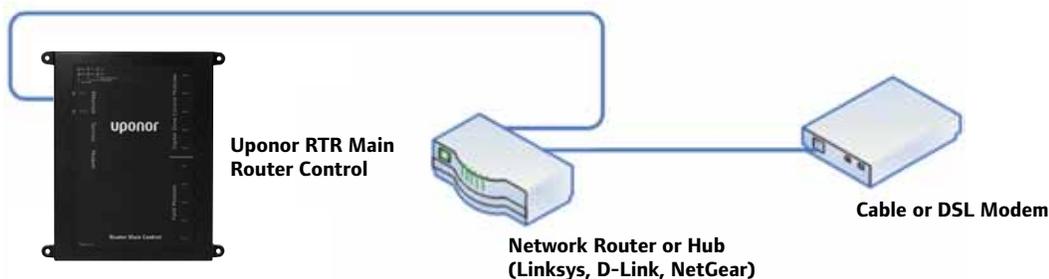

Uponor RTR Main
Router Control

Network Router or Hub
(Linksys, D-Link, NetGear)

Cable or DSL Modem

Figure 6.1-1: Typical LAN Connection

Uponor RTR Main
Router Control

Wireless Network Router or Hub
(Linksys, D-Link, NetGear)
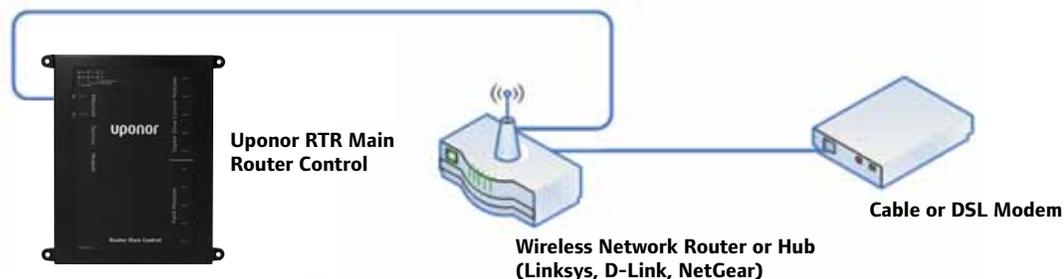
Cable or DSL Modem

Figure 6.1-2: Typical Wireless LAN

Allowing UDP/IP Communication

The LAN configuration must allow UDP/IP protocol for data packets to reach the remote server. UPD/IP must also be set up to allow bidirectional communication.

⚠️ **Important:** Failure to allow this protocol will prevent remote access to the Network System.

Allowing Two-way Communication

The Network System not only sends information to the remote server for viewing, but also receives commands to adjust and change settings. For this reason, the LAN configuration must allow two-way communication to the Network control system, specifically the RTR.

Opening the Correct Port

The Network System follows the Building Automation and Control Network (BACnet) standard for communication. Typically, ports 47807 and 47808 are reserved for BACnet communication. However, it is possible for the Network System, specifically the RTR, to use any port within the range of 47800 to 47824.

Identify the port number for the RTR through the UCT software (A9090000). See **Section 2.3: Network Setup** for additional information about network settings.

Note: If the specific port is not known, all ports within the range of 47800 to 47824 can be opened to allow two-way communication and UDP/IP traffic. As a security precaution, however, Uponor recommends opening only the specific port the RTR is using.
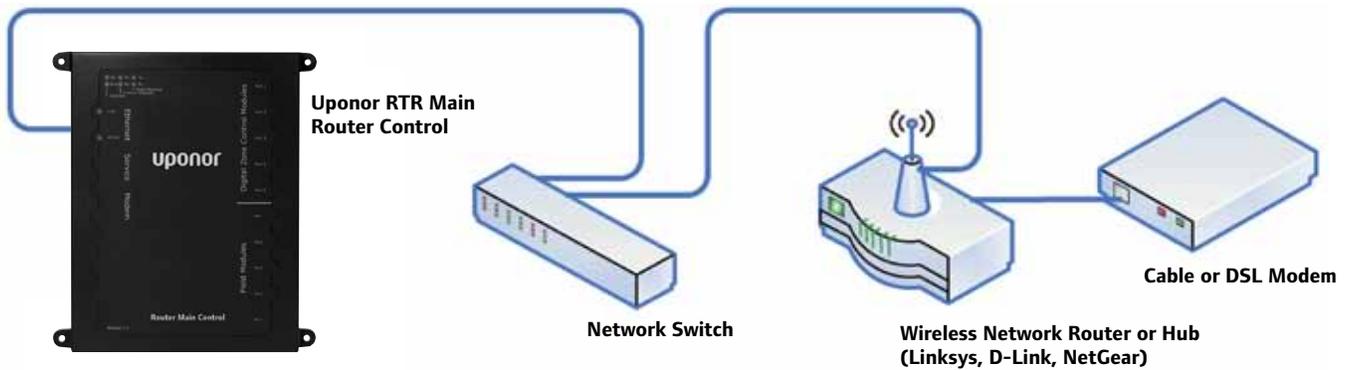

Uponor RTR Main Router Control

Network Switch

Wireless Network Router or Hub (Linksys, D-Link, NetGear)

Cable or DSL Modem

Figure 6.1-3: Typical Wireless LAN Connection Using a Switch

Uponor RTR Main Router Control

Network Hub

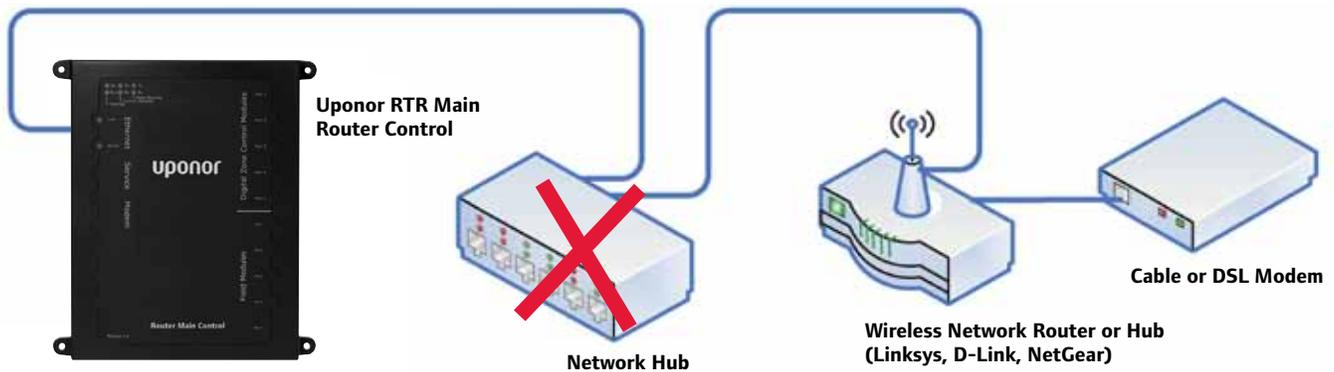**Wireless Network Router or Hub (Linksys, D-Link, NetGear)**

Cable or DSL Modem

Figure 6.1-4: Incorrect LAN Configuration

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