



ADD THIS DOCUMENT TO YOUR OMNIPRO II OWNER'S MANUAL

Description

The OmniPro II Version 2.4 firmware adds the following new features:

- Support for built-in Ethernet Port
- Support for new humidity zone

Built-In Ethernet Port

This firmware enables the Ethernet port (J6) that is built onto the OmniPro II controller. The Ethernet port allows a device to connect to the OmniPro II controller via a network (i.e. Ethernet, Internet) using a secure, encrypted communication link. The Ethernet port transports HAI application-level packets containing Omni-Link serial protocol messages over IP. The controller supports 3 unique client “sessions” which means 3 devices may actively be connected and communicating with the controller simultaneously over the Ethernet port.

Controller IP Address, Port Number, and Encryption Key

The controller’s local IP address and port number set the local network parameters for the OmniPro II controller. The encryption key is used to establish a private, secure connection with the connected device.

The following Setup items can only be assigned and changed from an HAI console. These items can not be assigned or changed via PC Access; although the IP address and port number may be viewed via PC Access:

Controller IP Address

The controller’s local network IP address is used to identify the OmniPro II controller on the network. To view and assign the controller’s local network IP address, from the Set Up menu, press the 6 (MISC) key. Using the down arrow key (↓), scroll to the following menu item:

```
IP ADDRESS
192.168.0.101      ↓
```

The format of the IP address is a 32-bit numeric address written as four numbers separated by periods. An IP address has two components, the network address, and the host address. The first two numbers (e.g. 192.168) represent the Class B network address and must be the same as the first two numbers of your local network. The second two numbers (e.g. 0.101) identify a particular host on the local network and may be assigned at random as long as each device on the local network has a unique address. Each number can be 0 to 255. Enter the 1, 2, or 3 digit number followed by the “#” key to move to the next number. After the 4th number has been entered, press the “#” key to store the IP address.

Controller Port Number

The controller’s local network port number identifies the logical channel to the OmniPro II controller. For example, port 80 is used for HTTP traffic; the controller’s local network port number is used for Omni-Link traffic. To view and assign the controller’s local network port number, from the previous Setup item (IP ADDRESS), press the down arrow key (↓).

```
PORT NUMBER      4369
0-65535          ↓
```

In most installations, the default port number can remain the same. Port numbers range from 0 to 65535. To change the port number, enter the new port number followed by the “#” key to store the port number. Port numbers 0 to 1024 are reserved for designated services and should not be used.

Encryption Key

Encryption and decryption of data between the OmniPro II controller and the connected device is based on the Advanced Encryption Standard (AES) using a 128-bit cryptographic key. A unique encryption key is randomly assigned to each OmniPro II controller at the factory (no records of these keys are kept at the factory). It may be left the same (recommended) or it may be changed as desired. To view and assign the encryption key, from the previous Setup item (PORT NUMBER), press the down arrow key (↓).

```
ENCRYPTION KEY PT 1 :  
6F-1B-26-A2-FF-D9-E4-12↓
```

This key consists of 16 bytes (that is 16 2-digit values from 0-9 and/or the letters A-F). It is entered into the controller in two parts (PT 1 and PT 2) consisting of 8 bytes each. Enter the 2 digit value. To enter the digits A-F, first press the “OFF” key, then press the 0-5 key respectively (i.e. A1 = OFF 0 1 and CB = OFF 2 OFF 1). After the last digit (16th digit) has been entered, press the “#” key to store “PT 1” of the encryption key. Press the down arrow key (↓) to enter “PT 2” of the encryption key.

```
ENCRYPTION KEY PT 2 :  
DC-67-48-8F-D1-3A-EF-70↑
```

After the last digit (16th digit) has been entered, press the “#” key to store “PT 2” of the encryption key.

Humidity Zone

A new “humidity” zone has been added which supports the Model 31A00-2 Indoor/Outdoor Temperature and Humidity Sensor for sensing and/or reporting the relative humidity from 0 to 100 percent.

The humidity level (0-100%), the low humidity setting, and high humidity setting can be viewed and modified using the temperature menu. To enter the temperature menu, from the top-level display or from the main menu, press the 5 (TEMP) key. The humidity zone can be specified by entering the zone number followed by the ' #' key, or by pressing the arrow keys to scroll through the list of temperature and humidity zones. Press the ' #' key when the desired temperature zone is shown.

```
INDOOR:      HUMI : 75  
LOW: 10      HIGH: 90
```

OmniPro II Ethernet Connections

Use a standard network cable to connect the controller to a hub, switch, or router. Use a network crossover cable when connecting the controller directly to the NIC card on a computer.

When connected to a switch or router, port forwarding must be configured. Port forwarding sets up public services on your network. The OmniPro II controller listens for all IP/UDP communications addressed to it on the specified UDP port number. The router will forward all communications on the specified port to the OmniPro II controller.

See the attached diagrams for additional information.

Connecting to Network via PC Access

To access the controller over the network via PC Access:

1. Open an OmniPro II account file.
2. Click *Configure >> Network*.
 - If you are connecting from the local network, enter the controller's IP address under "Network IP Address or Domain Name".
 - If you are connecting from the Internet, enter either the public IP address (the way to reach your local network via the Internet) or domain name (e.g. www.homeauto.com).
3. Enter the port number that is configured for the controller.
4. Select the *Encryption* tab. Enter the two part encryption key as it is displayed on the console.
5. Select *OK*.
6. Click *Connect >> Network >> Connect*. PC Access should change from "Off-Line" to "On-Line".

The "Modem" item on the main menu has been replaced with the "Connect" item. The submenu under "Connect" then allows selection of "Modem", "Serial" or "Network". When an account file is opened, the connection type will default to "Serial".

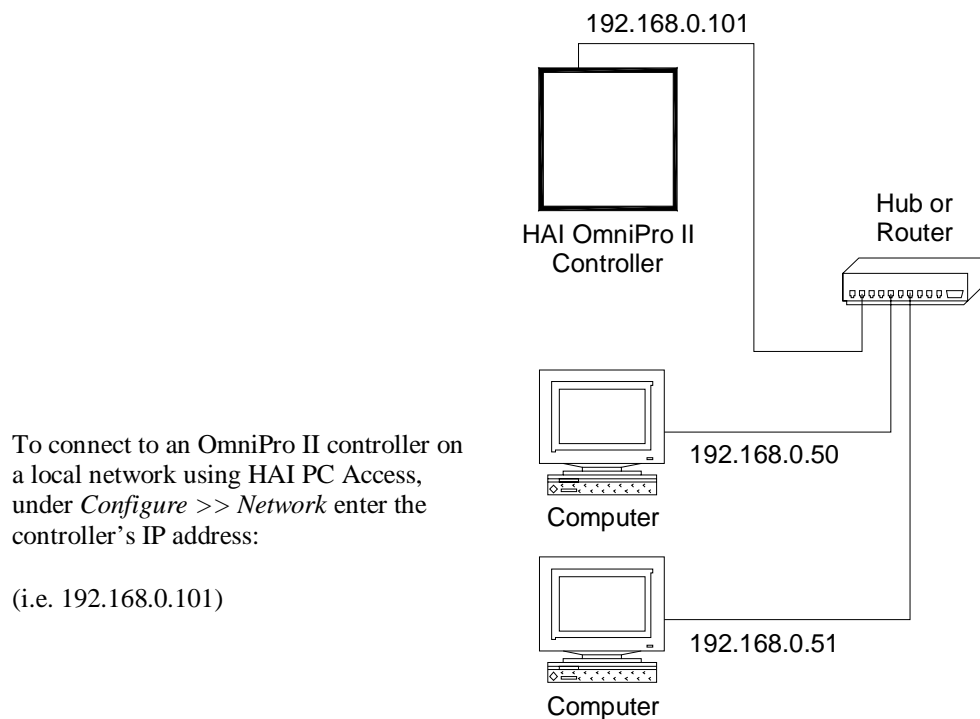
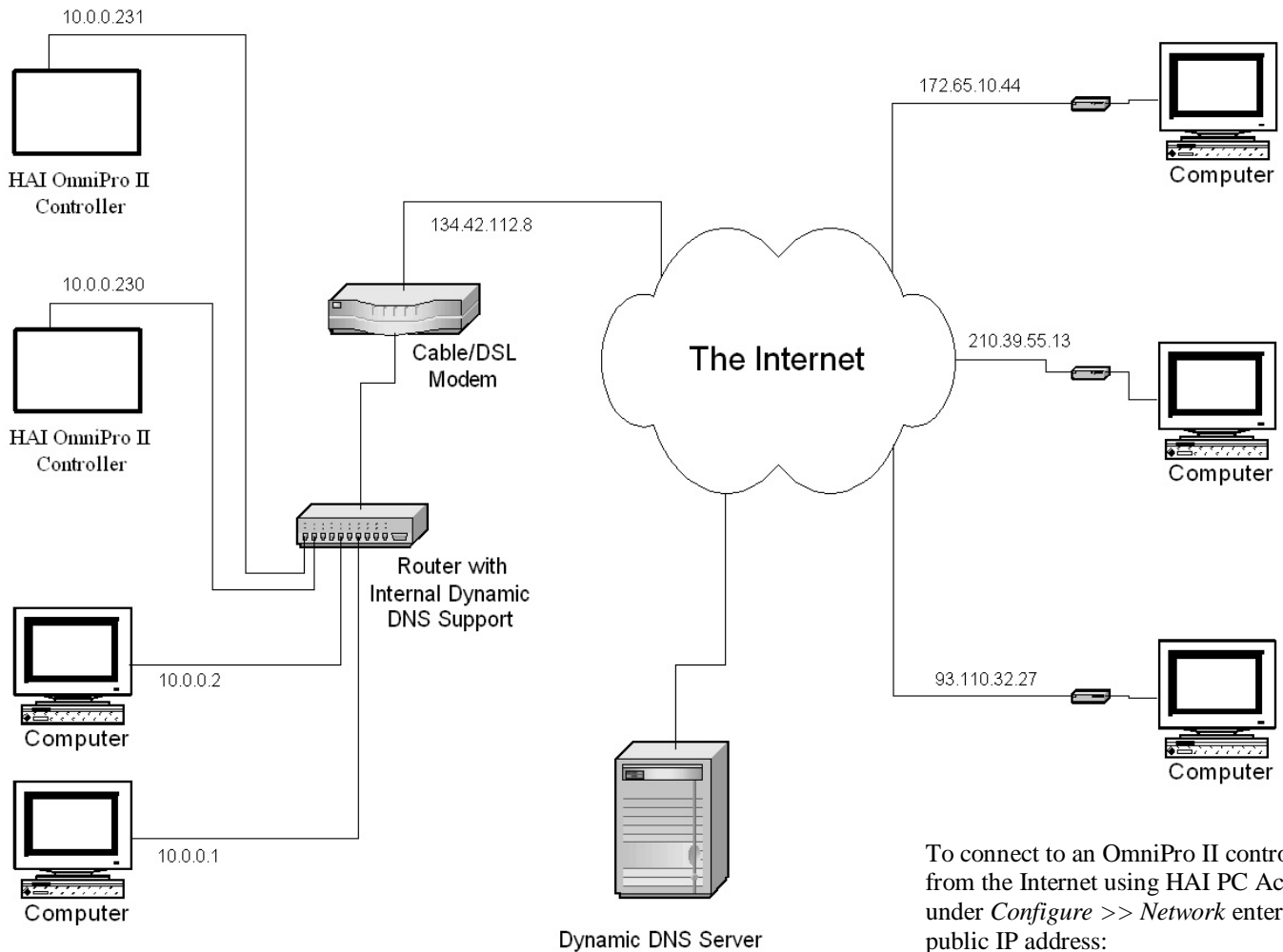


Figure 1 - Local Network



To connect to an OmniPro II controller from the Internet using HAI PC Access, under *Configure >> Network* enter the public IP address:

(i.e. 134.42.112.8)

To connect to an OmniPro II controller on a local network using HAI PC Access, under *Configure >> Network* enter the controller's IP address:

(i.e. 10.0.0.230)

Figure 2 – Local / Wide Area Network

If the controller is connected to the Internet via a dynamic IP address, to locate and communicate with the controller from remote locations over the Internet using HAI PC Access, you must subscribe to a Dynamic DNS (Domain Name Service). Dynamic DNS is a service that maps your dynamic (changing) IP address to a static (permanent) hostname, allowing you to access your OmniPro II controller over the Internet using your static hostname instead of an IP address.

A “client” program (typically provided by the Dynamic DNS provider) runs on a PC on your local network and is used to automatically update your Dynamic DNS provider with your current IP address. Several router/switch manufacturers have embedded a Dynamic DNS client into their router firmware. These devices work with several of the Dynamic DNS providers, including both free and commercial services. These devices are especially beneficial because the router can be powered up all the time, so the dynamic update is always current and is handled by a single device (the router/switch) in the local network. This allows you to locate and connect to the OmniPro II controller without having a computer on the local network powered up and running.