

Getting Connected To Acromag Ethernet I/O Devices

These instructions summarize the basic steps you will have to take in order to initially connect an [Acromag Ethernet I/O](#) product to your Personal Computer (PC) or laptop.

To connect an Ethernet device to your PC, consult with your network administrator and either temporarily change the TCP/IP configuration of your existing network adapter (see TCP/IP Properties of Network Configuration in Windows), or create a separate private network using a second network adapter installed in your PC (recommended). The necessary steps to accomplish this will vary with your operating system, but are outlined below for Windows® based computers.

You must have a PC with at least one Network Interface Card (NIC) installed.

- IP Address **128.1.1.100** is the default factory IP address setting of all Acromag Ethernet I/O devices. It is also the address that Acromag devices assume when placed in their default communication mode.
- You must set the IP address of your network interface to an address of 128.1.1.x, where x is any integer from 1 to 254, except 100, in order to initially communicate with Acromag Ethernet I/O products.

If your PC is already connected to a network, it is preferable to have a second Network Interface Card (NIC) installed. If you connect to your own network via a wireless connection, then you probably have an unused NIC connection on your PC that you can use to connect to the Acromag product. Either scenario will allow you to maintain uninterrupted connection with your own network, while creating a separate private network for communicating directly with your Acromag Ethernet product. If you only have one NIC installed and no wireless adapter, then you will temporarily lose connection with your own network when you change the IP address of your adapter to an address within the default address domain of the Acromag device.

Why you cannot initially connect the Acromag product directly to your own network?

Every Ethernet network device (including the NIC installed in your PC) must have its own unique IP address in order to differentiate itself from the other devices on the network. The IP address not only identifies the device on the network, but it also determines which other devices may communicate with it. Acromag Ethernet devices have a default IP address setting that defines an address domain that is likely outside of your own. This will prevent you from simply connecting our device to your network to begin communicating with it. However, once you establish initial communication, you can change the units IP address setting to a value compatible with your own network.

Acromag devices use a default IP address of 128.1.1.100 and a subnet mask of 255.255.255.0. This setting is also used for Acromag devices sent to their default communication mode. These settings define a Class C sub network address for the device, and only IP addresses with a prefix of "128.1.1" and a suffix from 1 to 254, except 100, can communicate with it. Once you establish initial communication with an Acromag device, you can easily change its IP address setting to something compatible with your own network.

Perform the following steps to set the IP Address of your PC's Network Interface Using Windows

To initially communicate with our product, you need to set the IP address of the Network Interface Card (NIC) installed in your PC to an address within the domain of Acromag's default address setting of 128.1.1.100. That is, you would use an IP address like 128.1.1.xxx, where xxx = a number from 1 to 254, except 100 (our own default). Once you establish communication, you can change the IP address setting of the Acromag device, as required to suit your existing network. The process for accomplishing this will differ slightly with your version of the Windows® Operating System.

1. From your Windows desktop, locate your Control Panel menu. You can typically click the **Start** button in the lower left hand corner of your desktop, then click **Control Panel**.
2. (Windows XP) Double-click the **Network Connections** icon of Control Panel and you will be presented with a panel displaying one or more network adapters or adapter icons.
(Windows ME/98) Click the **View all Control Panel Options** link on the left side of the Control Panel screen.
3. (Windows XP) Double-click the Network Adapter icon that corresponds to the one that you plan to connect the Acromag Ethernet device to.
(Windows ME/98) Double-click the Network icon. Scroll down the list of network components installed to locate the TCP/IP adapter that corresponds to the NIC that you plan to connect your Acromag Ethernet device to, then click to select it.

Setting the IP Address of your NIC Using the Windows Operating System...continued

4. (Windows XP) Click the **Properties** button to set the properties of this adapter and double-click the **Internet Protocol (TCP/IP)** item.
(Windows ME/98) With your network component selected, click the **Properties** button and the TCP/IP Properties dialog will be displayed.
5. Click the "Use the following IP address" button (XP) or "Specify an IP Address" button (ME), set the IP address field to 128.1.1.x, where x is an integer from 1-254, except 100 (for example, enter 128.1.1.25).
6. Change the subnet mask field to **255.255.255.0**. Leave the other fields unchanged and click **OK** of the Internet Protocol Properties dialog. Click **OK** of the Local Area Connection Properties or Network Properties screen. Close the Local Area Connection Status screen.
Windows ME and Windows 98 users must reboot the PC in order for the new settings to take effect.
The address of your Network Interface Card is now set to a compatible address within the default address domain of the Acromag device and you can begin communicating with it directly via your web browser.
7. Ethernet devices require that their transmit line be crossed over to the receive line of the receiving device. An Ethernet port may be wired MDI or MDI-X, and this will determine whether you can use a straight or crossover cable to connect to it. The Ethernet port of Acromag 9xxEN devices is wired MDI and does not include automatic crossover. The Ethernet port of Acromag EtherStax devices are wired MDI-X, but include automatic crossover. The Ethernet port of your PC is also wired MDI, but may not include automatic crossover. If true, then you will have to use a CAT-5 crossover cable to connect your PC to Acromag 9xxEN devices.
Acromag EtherStax devices include automatic crossover, so you can connect using a straight or crossover CAT5 cable.
8. Once connected, make sure that power is ON for your Acromag device. Then you can execute your web browser software and simply enter **http://128.1.1.100** into its address window, and click **GO** to access the Home Page of your Acromag Ethernet device.
If the Home page is visible in your web browser, you are now communicating with the Acromag device over an Ethernet network connection. You can click the Network Configuration page button to begin setting up your unit. You will need a User Name and Password to access the other screens. Please refer to your User's Manual for this information and additional details on setting unit parameters.
If you happen to set the unit's IP address incorrectly, or you forget which address you selected, all Acromag Ethernet devices maintain a separate default operating mode with a fixed IP address setting of 128.1.1.100. Refer to your User's Manual for information on how to place your Acromag Ethernet device into its default communication mode.

If you would like more detail on this process, please refer to your User's Manual and Acromag [Application Note 8500-734](#) located on the CDROM shipped with your unit, or optionally via download from our web site at www.acromag.com.

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Below is a list of application notes & white paper documents included on the CDROM shipped with your product. These can be found under the folder: "CD_DRIVE:/misc/App Notes and White Papers." You can also obtain these via download from our web site at www.acromag.com.

| Document | Title |
|-----------------------|--|
| 8400-495 ¹ | Communicating To Acromag Series 9xxEN-6xxx Ethernet Modules In An Allen Bradley CLX5555 Control System |
| 8500-734 | Connecting Acromag Ethernet Modules To Your PC |
| 8500-747 ¹ | Introduction to Ethernet/IP™ |
| 8500-761 ¹ | Communicating To Acromag Series 9xxEN-60xx Ethernet Modules From Legacy Allen Bradley or Rockwell Automation Devices |
| 8500-762 ¹ | Communicating To Acromag Series 9xxEN-60xx Ethernet Modules From Compact Logix Devices |
| 8500-765 | Introduction to Modbus TCP/IP |
| 8500-766 | Configuring the Wonderware® MBENET I/O Server To Communicate With The Acromag Ethernet Modules |
| 8500-770 | Connecting Acromag Ethernet Modules Via RadioLinx Ethernet Modems |
| 8500-880 | Configuring Kepware KepserverEX 5.0 for use with Acromag Modbus Modules |
| 8500-881 | Configuring LabVIEW 2009 for use with Acromag Modbus TCP Modules via an OPC Server |
| 8500-882 | Configuring the Acromag Modbus TCP OPC Server |
| 8500-883 ¹ | Configuring Omron CJ2H-EIP PLC's to Work with Acromag E/IP Modules |

Note: These documents are not included on the EtherStax™ CDROM