

# Plus-X Dual IP-8 Adapter

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*Installation and Operation Manual*



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## Introduction

The Plus-X Dual IP-8 Adapter connects directly to existing ARC-16 IP-8 Interface Panels to allow a fast, easy upgrade from the ARC-16 to the ARC Plus Remote Control. The Plus-X Dual IP-8 Adapter communicates with the ARC Plus via LAN/WAN, allowing installation anywhere a network connection is available.

The Plus-X Dual IP-8 Adapter is part of the Plus-X family of Ethernet I/O products designed for the ARC Plus.

### Installation Note

Even though you may operate the ARC Plus and Plus-X Dual IP-8 Adapter on different subnets, Burk Technology strongly recommends installing the Plus-X Dual IP-8 Adapter on the same LAN as the ARC Plus. In a network failure, an ARC Plus can only continue to monitor and control a Plus-X device on the same LAN. If the network link between the units is not available, ARC Plus macros, alarm monitoring and telephone control will be unavailable for the Plus-X device.

## Before you Begin

Before installing the Plus-X Dual IP-8 Adapter, please have the following network settings ready:

- A static IP address for the Plus-X Dual IP-8 Adapter
- The IP address of your ARC Plus
- The subnet mask and gateway address for your LAN

If you will be importing your ARC-16 settings, be sure to save your settings in AutoLoad 2 for the ARC-16 (this will create a .a16 file). If you will be manually configuring your channels, make careful note of the following for each channel:

- Meter label
- Calibration type
- Decimal places
- High limit
- Low limit
- Alarm delays (meter and status)
- ESI meter label
- ESI meter units label
- ESI status message
- Status inversion setting
- Status alarm setting
- Command duration

## Compatibility

Before installing the Plus-X Dual IP-8 Adapter, please verify that the ARC Plus firmware, AutoPilot software and AutoLoad Plus software versions are current. Updates are available at [www.burk.com](http://www.burk.com). The following are minimum software and firmware requirements

Software	Version
<b>ARC Plus firmware</b>	2.1.0, 2.3.0 recommended
<b>AutoLoad Plus software*</b>	2.0.0, 2.3.0 recommended
<b>AutoPilot® 2010 software</b>	2.5.0, 2.6.0 recommended

*\* If using any version of AutoLoad Plus earlier than 2.3.0, you will need to download the Plus-X Dual IP-8 Adapter AutoLoad definition XML file from [www.burk.com](http://www.burk.com).*

The onboard web interface is compatible with Internet Explorer version 8 or newer, Firefox, Chrome, and other modern web browsers.

## Unpacking

The Plus-X Dual IP-8 Adapter ships with the following:

- Manual (on CD)
- Plus-X Dual IP-8 Adapter unit
- Power cord
- 10' shielded CAT5 cable

## Front Panel Indicators



Front panel of the Plus-X Dual IP-8 Adapter

Indicator	State	Description
Power LED	Off	Power is off
Power LED	Green	Power is on
Power LED	Amber	No firmware loaded (contact Customer Support)
Power LED	Flashing Green	Resetting to factory default settings
Link LED	Green	Connected to ARC Plus
Link LED	Off	No connection to ARC Plus
Link LED	Flashing Green, Red	Maintenance Mode
Link LED	Flashing Red	No connection to ARC Plus, unit is in maintenance mode

## Hardware Configuration

The Plus-X Dual IP-8 Adapter is configured via its onboard web interface. Open a web browser and navigate to **192.168.0.100**. The web page will prompt you for a username and password. Enter the username **admin** and password **password**.

*Note: The default IP address is 192.168.0.100 and the default password is "password". If either of these values have been changed and you do not know what they are, you need to perform a master initialization. Press and hold the MASTER INIT button on the rear panel for three seconds. This will reset the Plus-X Dual IP-8 Adapter to its factory default settings.*

### Settings

Click the **Settings** link on web page header to access the Plus-X Dual IP-8 Adapter settings. Fill out the following fields:

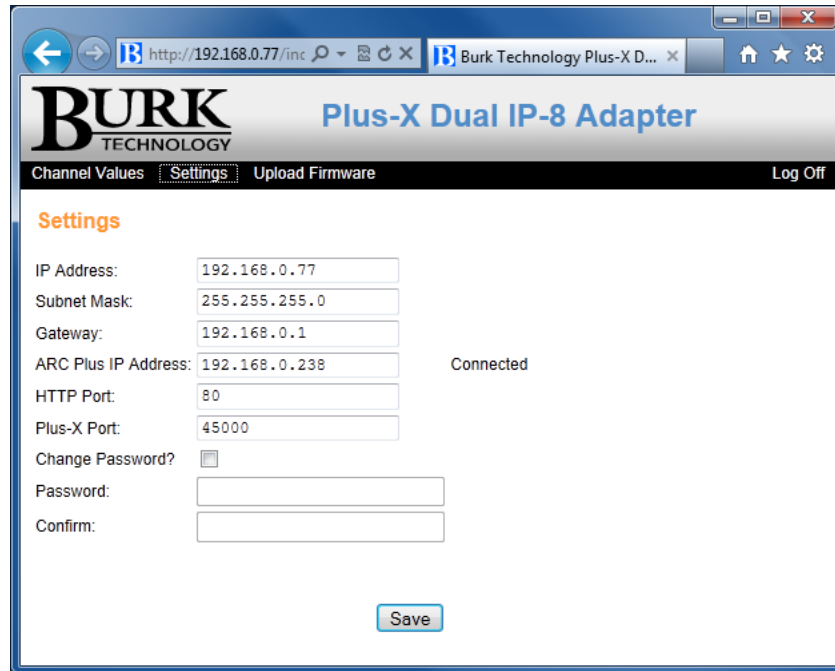
- IP Address
- Subnet Mask
- Gateway
- ARC Plus IP Address

You may optionally change the HTTP and Plus-X ports of the Plus-X Dual IP-8 Adapter. The default settings are recommended.

Burk Technology recommends changing the Plus-X Dual IP-8 Adapter password. The password is used to log on to the onboard web interface. To change the password, check the **Change Password** box and enter the new password in the **Password** and **Confirm** fields.

When you are finished, click **Save**.

*Note: If you are unsure what network settings to use, contact your network administrator.*



The screenshot shows a web browser window displaying the configuration page for a Burk Technology Plus-X Dual IP-8 Adapter. The browser's address bar shows the URL `http://192.168.0.77/inc`. The page header includes the Burk Technology logo and the title "Plus-X Dual IP-8 Adapter". Below the header, there are navigation tabs for "Channel Values", "Settings" (which is selected), and "Upload Firmware", along with a "Log Off" link. The main content area is titled "Settings" and contains several configuration fields: "IP Address" (192.168.0.77), "Subnet Mask" (255.255.255.0), "Gateway" (192.168.0.1), "ARC Plus IP Address" (192.168.0.238), "HTTP Port" (80), and "Plus-X Port" (45000). To the right of the "ARC Plus IP Address" field, the status "Connected" is displayed. Below these fields is a "Change Password?" checkbox, which is currently unchecked. Underneath the checkbox are two empty text input fields labeled "Password:" and "Confirm:". At the bottom center of the page is a "Save" button.

Plus-X Dual IP-8 Adapter Settings

## Installation

After entering the configuration settings, you are ready to install the Plus-X Dual IP-8 Adapter in its permanent location. Simply move the IP-8 cables from the ARC-16 to the Plus-X Dual IP-8 Adapter. Connect the Plus-X Dual IP-8 Adapter to the LAN/WAN, if it is not connected already.

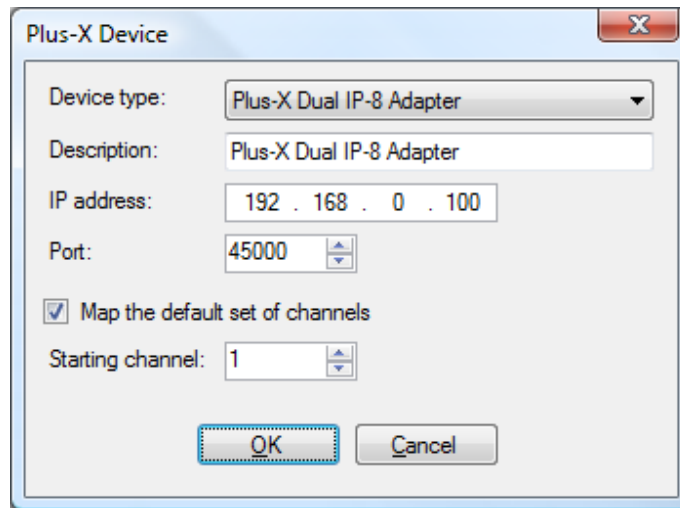
## Software Configuration

Now that the Plus-X Dual IP-8 Adapter is installed on the network, you are ready to add the unit to the ARC Plus using AutoLoad Plus. AutoLoad Plus is included with the ARC Plus, and may also be downloaded from [www.burk.com](http://www.burk.com).

Configuration involves:

- Adding the Plus-X Dual IP-8 Adapter unit to the ARC Plus
- Mapping Plus-X Dual IP-8 Adapter channels to unused ARC Plus channels
- Importing settings from your ARC-16 (optional)

### Adding the Plus-X Dual IP-8 Adapter to the ARC Plus



Adding a Plus-X device in AutoLoad Plus

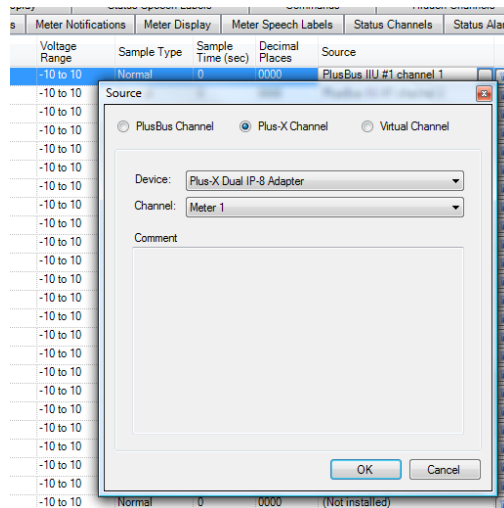
In order for the ARC Plus to recognize the Plus-X Dual IP-8 Adapter, the Plus-X Dual IP-8 Adapter must be added to the site:

1. Open AutoLoad Plus and connect to the ARC Plus site to which you are adding the Plus-X Dual IP-8 Adapter.
2. From the **Edit** menu, select **Plus-X Devices** to open the Plus-X device configuration dialog.
3. Click **Add** to add the Plus-X Dual IP-8 Adapter to the site.
4. AutoLoad Plus will prompt you to select the device type. Select **Plus-X Dual IP-8 Adapter**. You may optionally change the description for the Plus-X device. The description appears in AutoLoad Plus to identify each Plus-X device.
5. Enter the IP address and port number of the Plus-X Dual IP-8 Adapter. These should be the same settings you used when you configured the Plus-X Dual IP-8 Adapter via the web.

6. Check the **Map default set of channels** box if you wish to automatically add the Plus-X Dual IP-8 Adapter channels to the ARC Plus (recommended). **The ARC Plus must have 16 consecutive unused channels, including the starting channel.**
7. Click **OK**.

*Note: The above instructions are for AutoLoad version 2.3 or above. Earlier versions vary slightly in appearance and labeling only.*

## Manually Mapping Plus-X Dual IP-8 Adapter Channels



Overriding channels in AutoLoad Plus

If desired, you may manually map Plus-X Dual IP-8 Adapter channels to ARC Plus channels in AutoLoad Plus by selecting the **Meter Channels**, **Status Channels** or **Commands** tab, as appropriate:

1. Within any of these tabs, click the **Source** button to configure a channel to use a Plus-X device channel as its source.
2. When the Source dialog appears, select **Plus-X channel** and choose the Plus-X device from the list.
3. Select the Plus-X Dual IP-8 Adapter channel you wish to use.
4. Click **OK**.

Once mapped, each Plus-X Dual IP-8 Adapter channel will appear on the front panel of the ARC Plus, in AutoPilot, on the ARC Plus web page, and will be accessible via the ESI.



## Importing ARC-16 Settings

AutoLoad Plus version 2.3 or later can import your ARC-16 settings using the .a16 file created by AutoLoad 2 for the ARC-16. To import your settings, choose **Import ARC-16...** from the **File** menu in AutoLoad Plus.

The wizard will prompt you for your ARC-16 settings file, and then allow you to choose which settings to import. For each setting, use the **Import** checkbox to indicate that AutoLoad should import that setting. Follow the onscreen instructions to complete the wizard. For more information, consult the AutoLoad Plus Manual or help file.

## Uploading New Firmware

You can load new firmware to the Plus-X Dual IP-8 Adapter using its onboard web interface. Navigate to the IP address of the Plus-X Dual IP-8 Adapter, log on and click the **Upload Firmware** link. Click the **Browse** button to select the firmware file, then click **Upload** to load the new firmware. The Plus-X Dual IP-8 Adapter will reboot after the firmware upload is complete.



Uploading Firmware to the Plus-X Dual IP-8 Adapter

*For the latest firmware updates, visit [www.burk.com](http://www.burk.com).*

## Troubleshooting

If the network connection between the Plus-X Dual IP-8 Adapter and ARC Plus is lost, the ARC Plus will log an alarm after three minutes of network failure. The Plus-X Dual IP-8 Adapter Link LED will also turn off. Check your network settings on both the ARC Plus and Plus-X Dual IP-8 Adapter.

*Note: Plus-X Dual IP-8 Adapter events and errors are logged to the ARC Plus event list, which is accessible by the ARC Plus front panel and from AutoPilot.*

## Getting Help

For customer support, please email [support@burk.com](mailto:support@burk.com) or call our direct customer support line at 978-486-3711. We will be glad to assist you. The customer support office is open Monday – Friday, 9AM to 5PM Eastern time.

## Warranty

Burk Technology, Inc. warrants the Plus-X Dual IP-8 Adapter to be free of defects in materials and workmanship for a period of 24 months from the date of purchase. Equipment will be repaired or replaced at the option of Burk Technology and returned freight prepaid to the customer. Damage due to abuse or improper operation or installation of the equipment or caused by fire or flood or harsh environment is not to be covered by this warranty. Damage in shipping is not the responsibility of Burk Technology. A return authorization must be obtained before returning any equipment. Materials returned under this warranty must be shipped freight prepaid and insured in the original shipping carton or suitable substitute to Burk Technology, Inc., 7 Beaver Brook Road, Littleton, MA 01460. Repairs not covered under this warranty will be made at prevailing shop rates established by Burk Technology.

THE WARRANTY SET FORTH ABOVE IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. BURK TECHNOLOGY, INC. SHALL NOT BE LIABLE TO ANY PARTY FOR ANY INCIDENTAL, SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES ARISING FROM THE USE OF THIS EQUIPMENT.

## Appendix A: Specifications

### Dimensions:

1.75" (4.45cm) H  
19" (48.26cm) W  
12" (30.48cm) D

### Operating Temperature:

0° to 40°C

### Power Requirements:

100 to 240VAC, 47-63Hz, 1A; power entry module with standard, grounded power cord supplied; 1A fuse protection

### Connectivity:

Ethernet connection to ARC Plus; DB37 cables to IP-8 (not included)

### Channel Capacity:

8 metering, 8 status and 8 command channels per IP-8 (up to 2 IP-8s)  
**Existing IP-8(s) required**

### Metering Input Range:

-4.5VDC to +4.5VDC

### Metering Input Accuracy:

>99.75% accuracy, full scale

### Status Input Range:

>0 to +28VDC or switch closure

### Output Types:

32 Open collector outputs (16 raise, 16 lower); maximum 250mA, 28V