

# The Migration Guide for the NPort IA5000/IA5000A Series

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### About Moxa

Moxa is a leading provider of edge connectivity, industrial computing, and network infrastructure solutions for enabling connectivity for the Industrial Internet of Things. With over 35 years of industry experience, Moxa has connected more than 111 million devices worldwide and has a distribution and service network that reaches customers in more than 91 countries. Moxa delivers lasting business value by empowering industry with reliable networks and sincere service for industrial communications infrastructures. Information about Moxa’s solutions is available at [www.moxa.com](http://www.moxa.com).

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## 1 Introduction

This document helps users of the NPort IA5000/IA5000A Series easily switch to the NPort IA5000-G2 Series. It addresses all aspects of the transition, from dimensions and mounting types to software configurations. We strongly recommend reviewing this guide and considering the NPort IA5000-G2 Series as part of the next generation of your comprehensive solution.

## 2 Appearance, Dimensions, and Mounting Types

Before switching from the NPort IA5000/IA5000A to the NPort IA5000-G2, users might wonder what caused the change. Was it triggered by an application update or a system update, or just a small update of the device server?

If it is a solution or system-wide change, the appearance, dimensions, or mounting types may not be as critical, as users can redesign based on the new system or application. Chapter 2 provides all the information for designing a new system.

However, if it is only a minor change involving the device server, the dimensions and interfaces of the NPort IA5000-G2 Series become crucial. Any differences in these aspects could lead to additional costs if the new models require users to change connection cables or allocate extra space.

## 2.1 Dimensions

To avoid additional costs when switching from an NPort IA5000/IA5000A device server to an NPort IA5000-G2, the dimensions of the NPort IA5000-G2 are designed to be smaller than those of the NPort IA5000/IA5000A. This ensures that users do not need to modify their existing designs. Only the NPort IA-5150/IA-5250 is an exception as it is a little bigger. Below are the detailed dimensions for both the NPort IA5000/IA5000A and NPort IA5000-G2.

	<b>NPort IA-5150/IA-5250</b>	<b>NPort IA5150-G2/IA5250-G2</b>
Dimensions	29 x 118.5 x 89.2 mm NPort IA-5150 NPort IA-5150I NPort IA-5250 NPort IA-5250I NPort IA-5150I-M-SC NPort IA-5150I-S-SC NPort IA-5150I-M-ST	25 x 129 x 89 mm
	<b>NPort IA5150A/IA5250A</b>	<b>NPort IA5150-G2/IA5250-G2</b>
Dimensions	36 x 140 x 105 mm NPort IA5150A NPort IA5150AI NPort IA5250A NPort IA5250AI	25 x 129 x 89 mm
	<b>NPort IA5450A</b>	<b>NPort IA5450-G2</b>
Dimensions	45.8 x 105 x 134 mm NPort IA5450A NPort IA5450AI	42 x 89 x 129 mm

All of them can be mounted on the same DIN-rail type.

## 2.2 Appearance

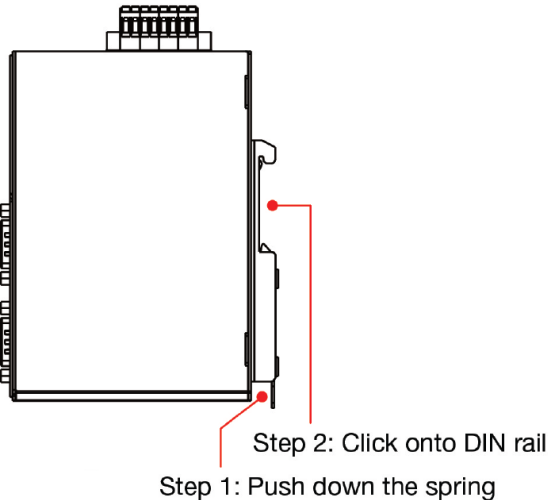
The redesign made the LED indicators easy to understand.

<p><b>NPort IA-5150/IA-5250</b></p> 	<p><b>NPort IA5150-G2/IA5250-G2</b></p> 
<p><b>NPort IA5150A/IA5250A</b></p> 	<p><b>NPort IA5150-G2/IA5250-G2</b></p> 
<p><b>NPort IA5450A</b></p> 	<p><b>NPort IA5450-G2</b></p> 

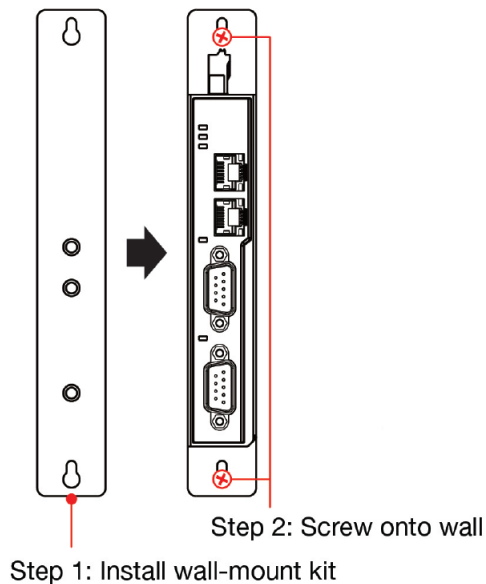
## 2.3 Mounting Types

The NPort IA5000-G2 device servers include a DIN-rail mounting kit in the box, and you can screw it onto the device server like the NPort IA5000/IA5000A, which you can use to mount the NPort to a wall or the inside of a cabinet. You can install the NPort without making any adjustments to your installation environment. You can order a wall-mounting kit (WK-178-01) separately for different placement options.

### DIN-rail mounting (with DK-89-01 in the box)



### Wall mounting (with WK-178-01, needs to be purchased separately)



## 3 Software Transition

For cybersecurity concerns, the NPort IA5000-G2 Series only supports Device Search Utility v3.x and later. Moxa develops the next generation of communication protocols between the Device Search Utility v3.x and the NPort IA5000-G2 Series. Most of the commands and responses are encrypted to secure communications. If you would like to further cooperate with Moxa about the new communication protocol, contact the sales representative in your region.

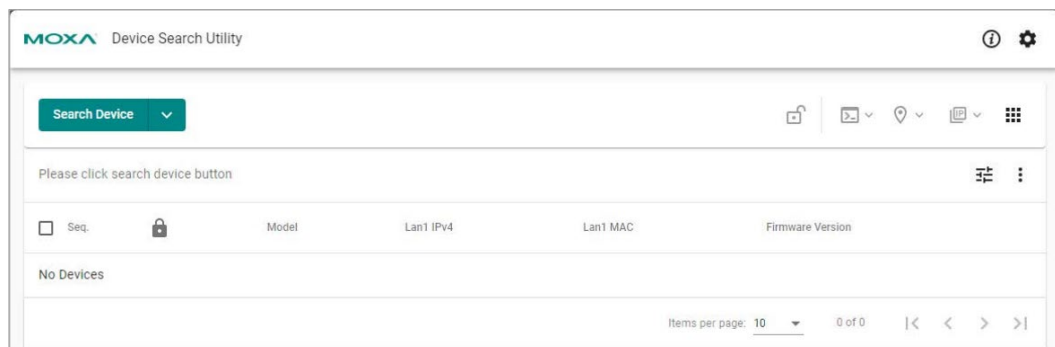
The Device Search Utility v3.x also supports the NPort 5000, NPort 6000, and other NPort Series. If you want to manage the existing NPort products, like the NPort 5000 or NPort 6000, we recommend you upgrade the Device Search Utility to version 3.x or later. It will support all the NPort products.

### 3.1 Device Search Utility

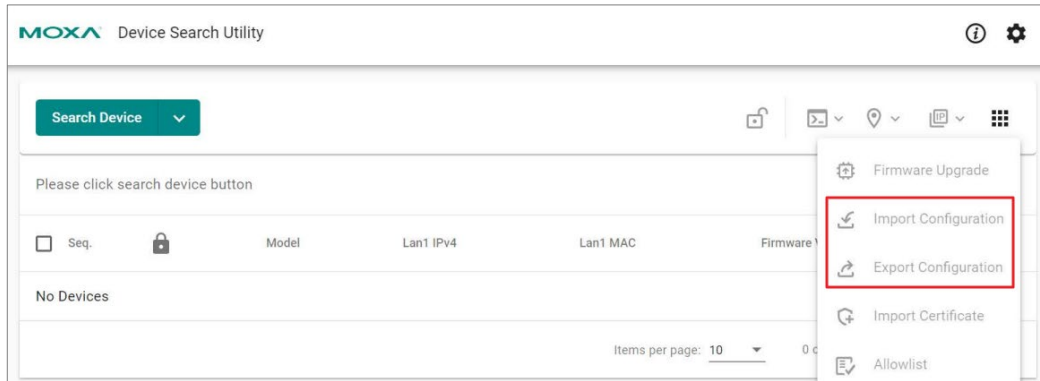
NPort IA5000-G2 can only be supported by Device Search Utility v3.x. You may download the utility from NPort's product support page. The major changes in Device Search Utility v3.x are as below:

1. Web user interface
2. Support import certificate
3. Batch configuration, including import/export configuration, import certificate, firmware update, restart, reset, etc.
4. COM Mapping support
5. Multilingual support
6. Saving the searched list to a file

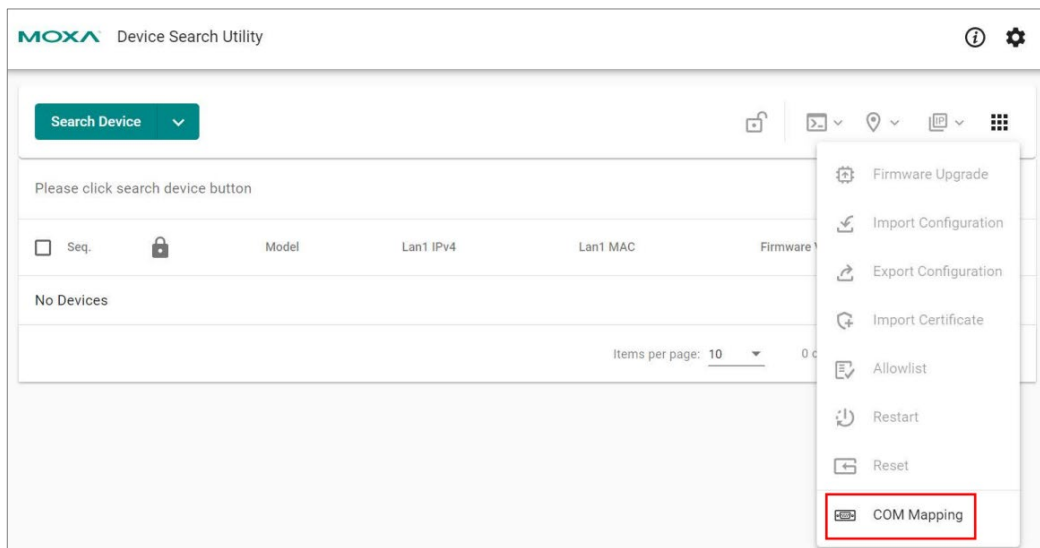
After upgrading to Device Search Utility v3.x, it's easy to find the new web user interface.



When Device Search Utility v3.x executes, it will automatically search if there are any NPort device servers in the network. You can select multiple NPort IA5000/IA5000A devices and export the configuration files and then import it to the NPort IA5000-G2 models to complete configuration transition.



If you want to add the NPort IA5000-G2 to the network and map new virtual COM ports, select the COM Mapping function to execute the NPort Windows Driver Manager (introduced in the next section) to complete it.



For instructions on using Device Search Utility v3.x, refer to the user manual on the NPort’s product support page—Device Search Utility v3.x User Manual.

## 3.2 Windows Driver Manager

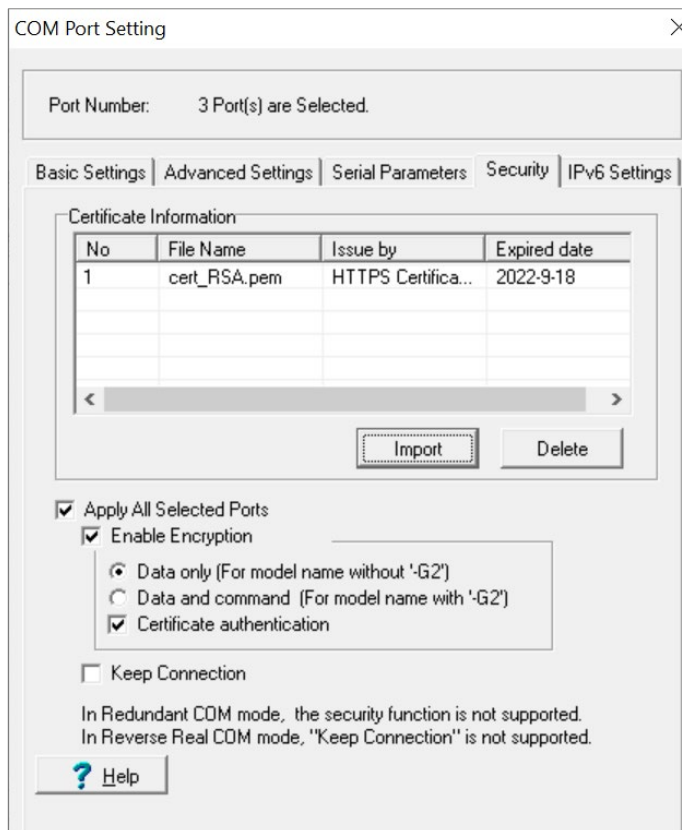
The NPort IA5000-G2 is required to use Windows Driver Manager v3.6 (supporting Windows 7 to 10, Server 2008 R2 to Server 2019) and v4.3 (supporting Windows 11 and later, Windows Server 2022 and later).

If your computer has already installed earlier versions with some mapped COM ports, there are no worries. All the COM mapping will remain kept after upgrading the software to v3.6 or v4.3.

Most of the utility's functions remain the same. Because of the cybersecurity concerns, all the TCP sessions between the NPort IA5000-G2 and the NPort Windows Driver Manager will be encrypted, including the data port and command port.

Select the virtual COM port (mapped for NPort IA5000-G2) and click the **COM Port Settings**. Switch to **Security** tab to enable the **Enable Encryption** and **Data and command** option.

- **Data only** is for the NPort 6000 models.
- **Data and command** is for the NPort 6000-G2/IA5000-G2 models.



## 4 Configuration Transition

The NPort IA5000 Series, introduced to the market more than 20 years ago, has a notably long product life cycle. Given its extensive history, engineers may not be familiar with every detail of their configuration settings. This unfamiliarity can lead to hesitation when transitioning to the new NPort IA5000-G2 Series, as engineers might be concerned about replicating the settings of the original NPort IA5000/IA5000A. To address this issue, the NPort IA5000-G2 Series offers a solution by allowing engineers to directly import configuration files from the NPort IA5000/IA5000A Series. This feature facilitates the seamless transfer of existing settings from the NPort IA5000/IA5000A to the new NPort IA5000-G2 Series.

### 4.1 Exporting the Configuration File From an NPort IA5000/IA5000A

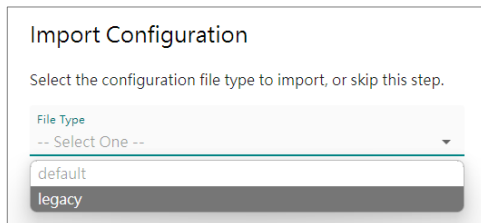
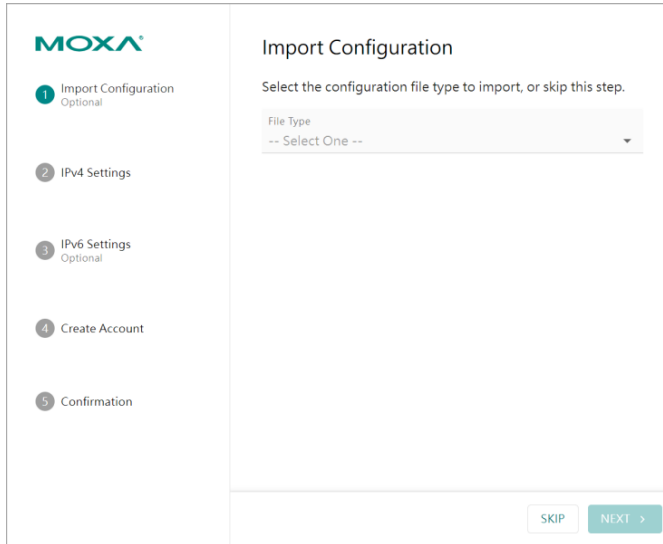
Log in to the web console of the NPort IA5000/IA5000A and navigate to the **Backup/Restore > Pre-shared Key** page. Enter the pre-shared key as the password for the other NPort to import the file. Select the **Submit** button to set up the password. Switch to the **Backup/Restore > Configuration Export** page. Click the **Download** button to save the existing configuration settings.

The screenshot shows the 'Pre-shared Key' configuration page. On the left is a navigation menu with the following items: Overview, Quick Setup, Basic Settings, Network Settings, - Serial Settings, - Operating Settings, Accessible IP Settings, - Administration, - Backup/Restore, Pre-shared Key (highlighted), Configuration Import, and Configuration Export. The main content area has a title 'Pre-shared Key' and a label 'Pre-shared Key' above a text input field. Below the input field is the text 'Cipher key for encrypting the configuration file' and a 'Submit' button.

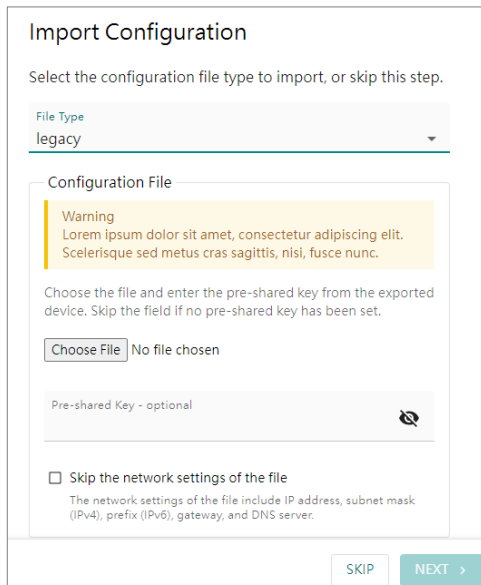
The screenshot shows the 'Configuration Export' page. On the left is a navigation menu with the following items: Overview, Quick Setup, Basic Settings, Network Settings, - Serial Settings, - Operating Settings, Accessible IP Settings, - Administration, - Backup/Restore, Pre-shared Key, Configuration Import, Configuration Export (highlighted), System Log Settings, - Auto Warning Settings, Upgrade Firmware, and - Monitor. The main content area has a title 'Configuration Export' and a 'Download' button.

## 4.2 Importing the Configuration File to an NPort IA5000-G2

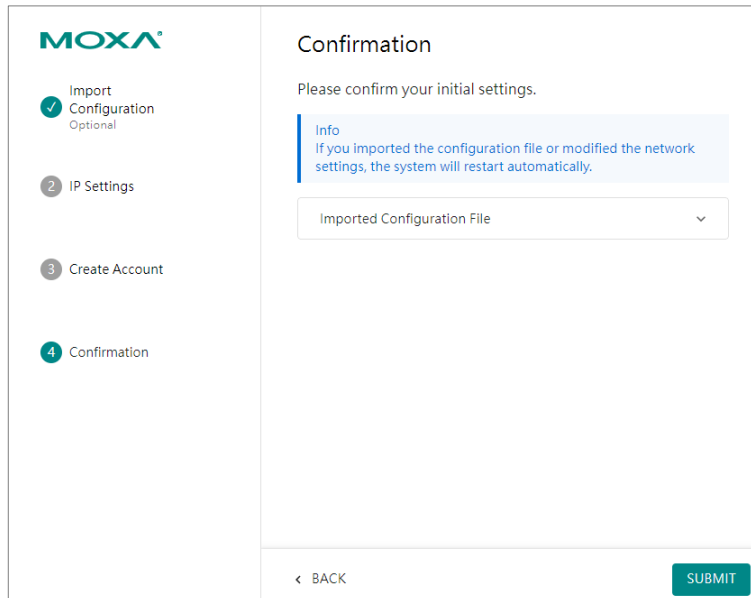
When an engineer logs into the web console of an NPort IA5000-G2 for the first time by entering **https://192.168.127.254**, the first-time login process will be triggered. The first step in this process is to prompt the engineer to import an existing configuration file.



Select the **File Type > legacy** and the advanced options will be displayed.



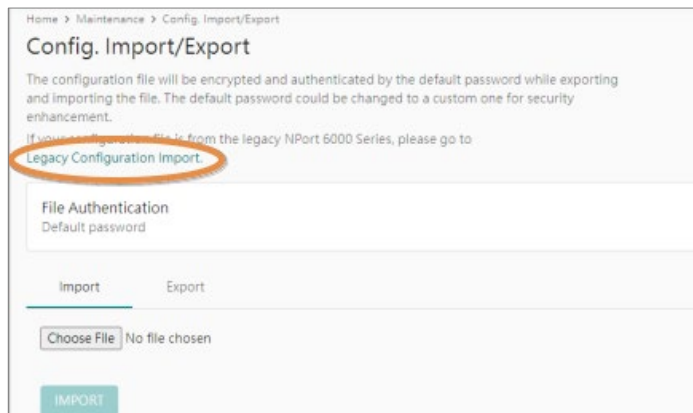
Click the **Choose File** button to select the configuration file from the NPort IA5000/IA5000A and enter the pre-shared key while exporting the configuration file. Click the **NEXT** button to continue to next step.



The screenshot shows the Moxa web console interface. On the left, a sidebar contains a progress indicator with four steps: 1. Import Configuration (Optional), 2. IP Settings, 3. Create Account, and 4. Confirmation (highlighted). The main content area is titled "Confirmation" and contains the text "Please confirm your initial settings." Below this is an "Info" box with the text: "If you imported the configuration file or modified the network settings, the system will restart automatically." Underneath the info box is a dropdown menu labeled "Imported Configuration File". At the bottom of the page, there are two buttons: "< BACK" and "SUBMIT".

Click the **SUBMIT** button, and the device will import the configuration file and restart itself. All the configuration settings will be imported after the process.

If you missed the first-time login process, you can still log in to the web console and navigate to **Maintenance > Config. Import/Export**. Locate the **Legacy Configuration Import** function and click the hyperlink.



The screenshot shows the "Config. Import/Export" page in the Moxa web console. The breadcrumb trail is "Home > Maintenance > Config. Import/Export". The page title is "Config. Import/Export". Below the title, there is a paragraph of text: "The configuration file will be encrypted and authenticated by the default password while exporting and importing the file. The default password could be changed to a custom one for security enhancement." Below this is another paragraph: "If you use a configuration file from the legacy NPort 6000 Series, please go to Legacy Configuration Import." The "Legacy Configuration Import" text is circled in orange. Below the text is a "File Authentication" section with a "Default password" input field. There are two tabs: "Import" (selected) and "Export". Below the tabs is a "Choose File" button with the text "No file chosen" next to it. At the bottom, there is an "IMPORT" button.

Home > Maintenance > Config. Import/Export > Legacy Configuration Import

### ← Legacy Configuration Import

**Warning**  
When importing configuration files from an older product version, compatibility issues may arise. Please review and verify all settings to ensure they are correct and function as expected after the import.

Choose the file and enter the pre-shared key from the exported device. Skip the field if no pre-shared key has been set.

Configuration File

No file chosen

Pre-shared Key - optional

Click the **Choose File** button to select the configuration file from the NPort IA5000/IA5000A and enter the pre-shared key while exporting the configuration file. Click the **IMPORT** button and the configuration settings will be replicated.

## 5 Frequently Asked Questions

### 5.1 Why Some Configuration may not be Imported from an NPort IA5000/IA5000A to NPort IA5000-G2

Certain functions are not supported by the NPort IA5000-G2 Series. When a user imports a configuration file from the NPort IA5000/IA5000A, the NPort IA5000-G2 Series will retain the default settings for these unsupported functions. Here are the functions not supported by the NPort IA5000-G2 Series:

- BOOTP
- Ethernet Modem mode of Operation Modes
- Cipher setting
- The unsupported event settings