APPLICATION NOTE: AN-1284

AC500 FW UPDATE
HOW TO UPDATE THE CI50X-PNIO FIRMWARE
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1 Introduction

1.1 Scope of the document

This application note describes how to update the firmware of the CI50x-PNIO PROFINET communication interface modules in the field.

Note: A firmware (FW) update is only possible since FW version 3.3.3 or newer of the CI50x-PNIO. If the CI50x-PNIO has a former FW version, then an update is not possible on site. The FW version can be identified by the Index of the sticker of the module. All CI50x-PNIO modules with Index F1 or higher are capable for an update.

In this document, CI50x-PNIO stands only for CI501-PNIO and CI502-PNIO. The CI504-PNIO and CI506-PNIO are excluded.

The described process in this application note shows the update of a CI502-PNIO with FW version 3.3.3 to FW version 3.3.4.

1.2 Compatibility

The application note explained in this document has been used with the below engineering system versions. They should also work with other versions, nevertheless some small adaptations may be necessary for future versions.

- CI501-PNIO ; CI502-PNIO (since FW 3.3.3) → Index F1 or higher
- IP Configuration Tool (stand-alone)

1.3 Overview

For the FW Update, a peer to peer connection is required.
2 Firmware update of the CI50x-PNIO module

For the FW update of the CI50x-PNIO modules, we need the IP-Configuration Tool.

Note: Only the stand-alone version of the IP-Configuration Tool can be used for the update. Please consider that the IP-Configuration Tool inside Automation Builder will not work for the update.

To install the tool, we use the Installation Manager in the Automation Builder. Alternatively, you can also start the Installation Manager directly without using Automation Builder.

2.1 Installation of the IP-Configuration Tool as stand-alone version

Open Automation Builder and click on menu item Tools/Installation Manager to start the tool.

Wait until the Installation Manager is ready and then close Automation Builder. Then click on the "Modify" button in the Installation Manager tool.
### Installed Packages

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<th>Name</th>
<th>Time</th>
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<th>Installation date</th>
</tr>
</thead>
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<tr>
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</table>
Activate the “IP configuration tool” checkbox as shown below and then click on the "Continue" button.

The tool is downloaded and installed. This may take a few minutes…

After successful installation, click on button “Close” and then close the Installation Manager.
2.2 Connection of the CI50x-PNIO module

Before we can start, it is necessary to connect the CI50x-PNIO in the right way. It is mandatory to connect the device directly (peer to peer) to your PC with a network cable.

Note: The update does not work if a switch or something else is connected between the CI50x-PNIO and the PC.

2.3 Start IP-Configuration Tool

To open the IP configuration Tool, double click on the shortcut that is now available on your desktop. Activate the checkbox “Profinet Dynamic Configuration Protocol (DCP)” and click on button “Scan”.

It could happen that the below message appears to ask for the required NPcap driver. If this happens, then click on the link and follow the instructions to install the driver.

Note: For copyright reasons, ABB is not permitted to integrate the driver automatically. This must therefore be carried out independently by the user.

After successful installation of the driver, click again on button “Scan” and wait until the scan is finished.
2.4 Appearance of the CI50x-PNIO module after the scan

If the module is recognized, it appears in the list as follows.

In order to communicate, the module requires an IP address and a subnet mask. To do this, click anywhere on the device line. The "IP settings" field opens, as shown below in the screenshot, in which you must enter a unique and valid IP address and the subnet mask of your network. A setting for the gateway is not necessary.

For example, the following settings were made and used in the application.

When you have made your settings, click on the "Send settings" button.

After a few seconds, we shall get the confirmation “Send succeeded” and the IP address appears in the filed “Config. IP Address”.

![Configuration tool interface](image)
Now, it is important to click again on button “Scan” and wait until the scan is completed. After that, we get the complete information of the CI50x-PNIO module including the currently installed FW version.

When we click again anywhere on the device line, the button “Update Firmware” appears in the bottom right corner.

### 2.5 Update the Firmware

Click on the “Update firmware” button. The file explorer opens, in which you can select the folder where the desired update file is located. Select the file and click on the “Open” button.
Clicking on the “Open” button starts the FW update process, which may take some time.

After successful completion, we receive confirmation in the bottom left corner and the “FW Version” field reports “UPDATED”.

To see the updated FW, we can click again on button “Scan” and wait until the scan is finished. As the result, we can see the new installed FW version of the CI50x-PNIO in the “FW Version” field.

The FW update procedure is completed, and you can use the CI50x-PNIO with the new FW in your application.

### 2.6 Troubleshooting

Before the CI50x-PNIO switches to the new FW, the correctness of the FW is checked first. If an error is detected during the check, the FW is discarded and the CI50x-PNIO retains its previous FW status. An interruption in the supply voltage or other errors during the transmission of the FW therefore do not lead to a defect in the module.

If such a case occurs, please repeat the update process again.