

Application Note

CP600

Connecting to a Rockwell ControlLogix or CompactLogix PLC via Ethernet/IP



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1. INTRODUCTION

The purpose of this document is to explain how to use the ABB CP600 HMI panel with a Rockwell Automation ControlLogix or CompactLogix PLC. Using the CP600 as a gateway to transfer a data to other devices, such as the ABB AC500 family of PLCs, will also be discussed.

Experience with PLC programming using ABB Automation Builder and Rockwell Automation RSLogix 5000, as well as a knowledge of Ethernet network configuration is assumed.

2. REQUIREMENTS

- a) ABB CP600 HMI TouchPanel enabled with Ethernet/IP, *Revision C1 or later*
- b) Rockwell Automation ControlLogix or CompactLogix PLC
- c) ABB Panel Builder software, ver 1.90.0 (build 1058) or later
- d) Rockwell Automation RSLOGIX 5000 software
- e) Ancillary equipment; 24Vdc power supply, Cat5/6 network cable, etc...
- f) Optional: ABB AC500 PLC

3. EXPORTING TAGS FROM RSLOGIX 5000

- 3.1. Open the PLC Project in RSLogix 5000. It is not necessary, but is considered good programming practice to scope tags that are to be exported to the Controller Tags database.
- 3.2. To export tags, right-click on either the Controller tags or Program Tags menu items and select “Export Tags...”.
- 3.3. Export the tag file as a .csv file as shown in figure 1 below.

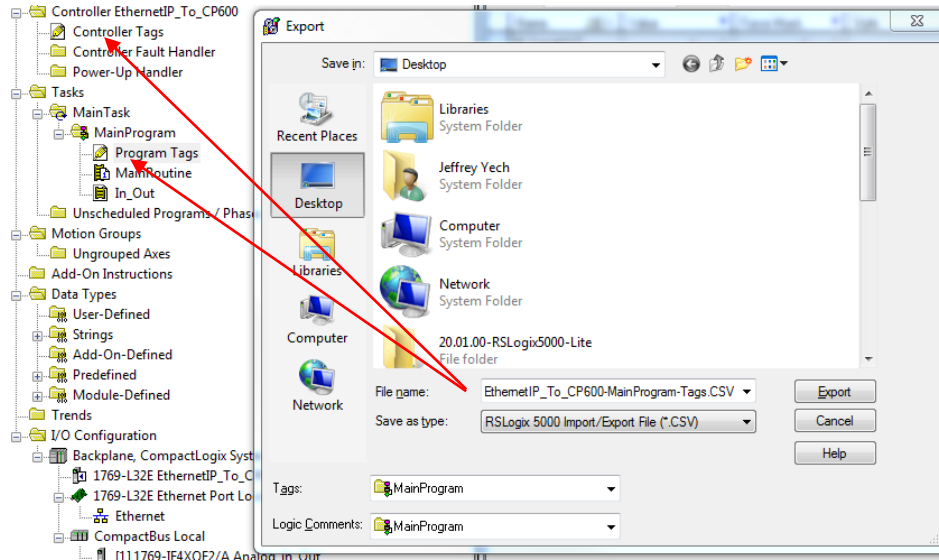


Figure 1- Export tags from the RSLogix 5000 project

- 3.4. Save the export to a location where it will be easily accessible within Panel Builder software (for example the desktop). Next, click Export.
- 3.5. Save the project as a .L5X file, as shown in figure 2 below.

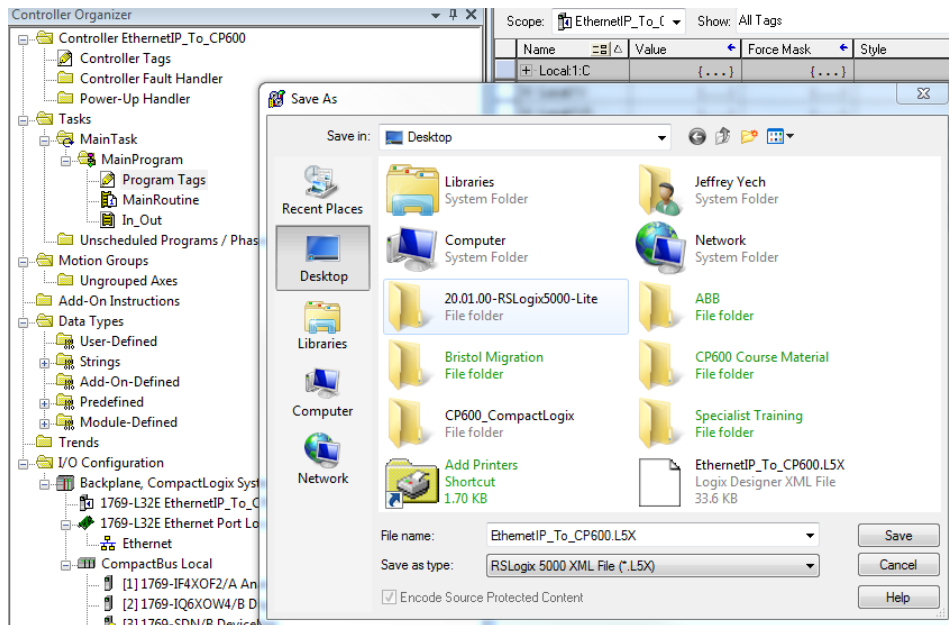



Figure 2- Save project as a .L5X file.

- 3.6. If not already done, download the project to the PLC.
- 3.7. Close RSLogix 5000.

4. IMPORTING TAGS TO PANEL BUILDER

- 4.1. Open the Panel Builder project.
- 4.2. Double-click “Protocols” in the “Config” folder to open the Protocols tab.
- 4.3. Click the  icon in the Protocols tab to add a new protocol to the project.
- 4.4. Select “Ethernet/IP CIP” from the drop-down in the PLC column, as shown in figure 3.

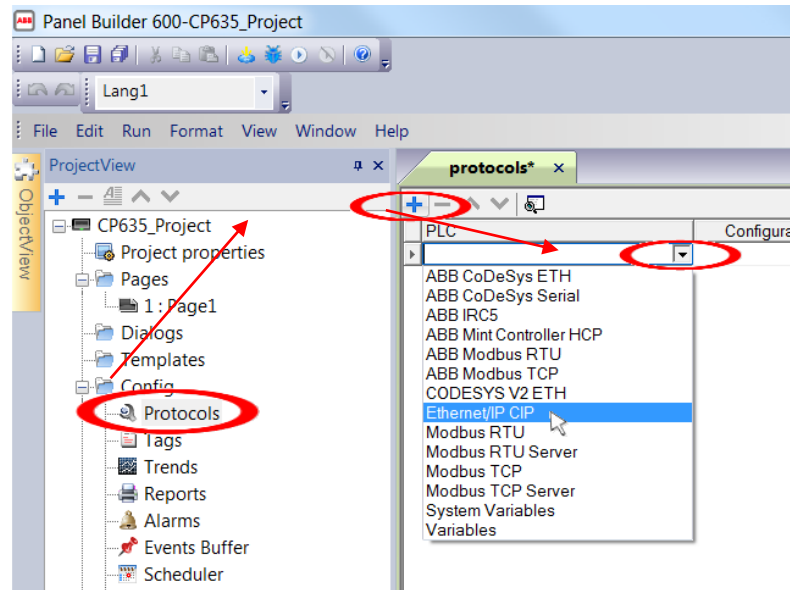


Figure 3- Adding the Ethernet/IP CIP protocol to the Panel Builder project.

- 4.5. Enter the IP Address of the PLC in the Ethernet/IP configuration pop-up dialog and click OK.
- 4.6. For our application the slot will remain zero as shown in figure 4.

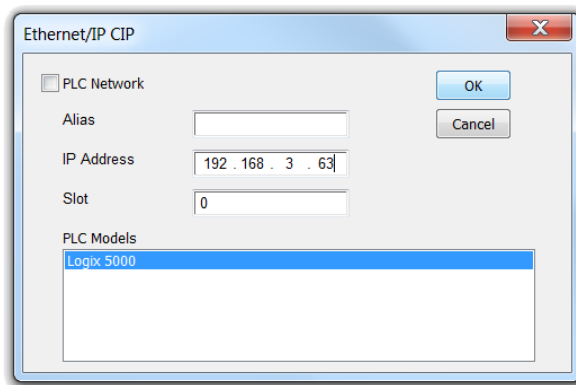



Figure 4- Configure the Ethernet/IP CIP connection.

- 4.7. Double-click “Tags” in the Config folder to open the Tags tab.
- 4.8. Click the import icon  in the Tags tab to import the RSLogix 500 controller tag file, as shown in figure 5.

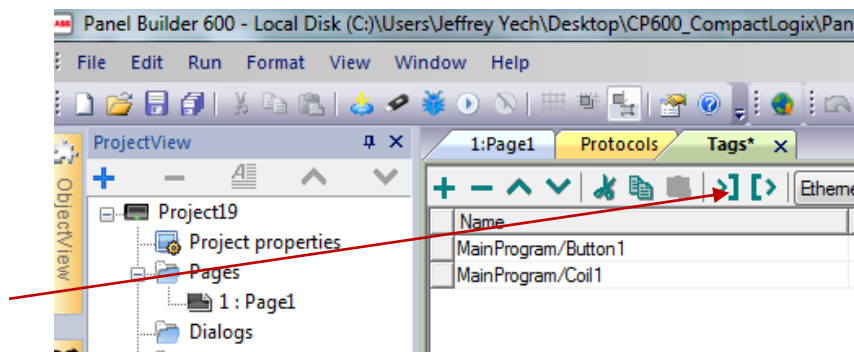


Figure 5- import the Rslogix 5000 tags

4.9. Ensure the import file type is .csv and click OK, as shown in figure 6.

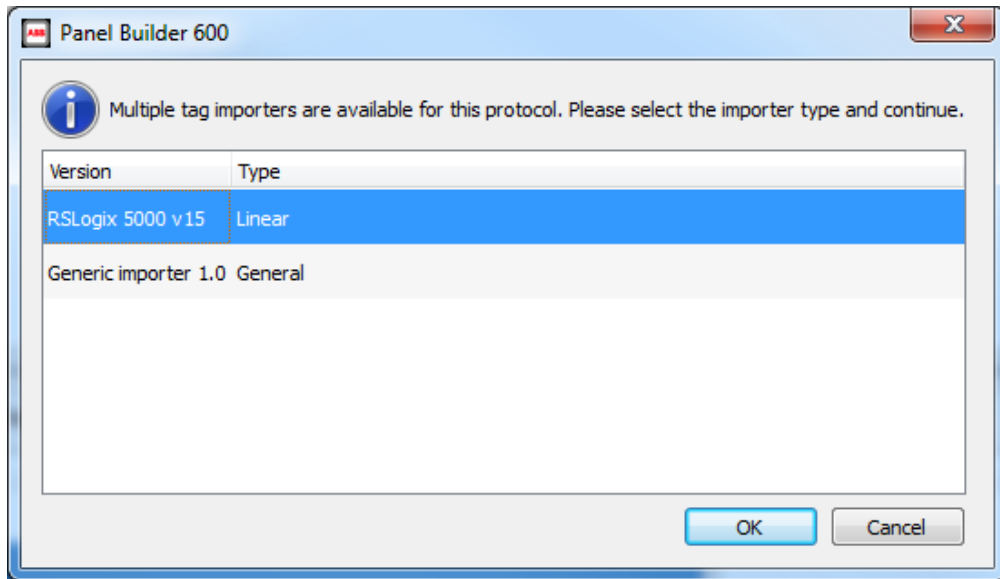
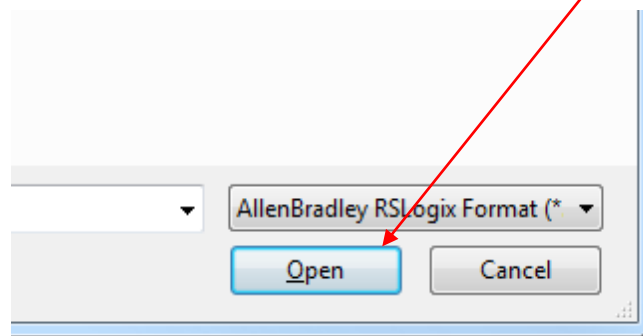
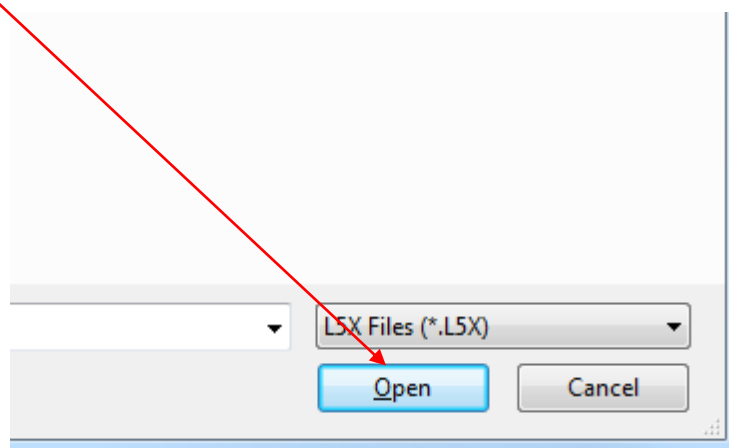


Figure 6- select the correct import

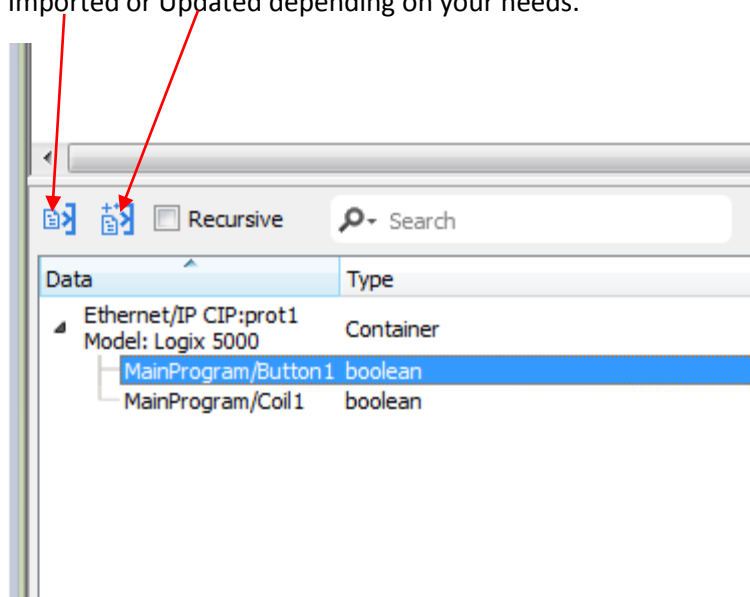
4.10. Navigate to the .csv export file form RSLogix 5000. Select it and click Open.



4.11. After importing the .csv file, another dialog will prompt you to import the .L5X file from RSLogix 5000. Select it and click Open.



- 4.12. Select the tags that are to be added to the project (multiple tags can be selected using Shift-click) from the bottom list and then click the Add Tags icon.
- 4.13. The tags can either be Imported or Updated depending on your needs.



- 4.14. The imported tags can now be used with the project.

---END---

5. SHARING DATA WITH OTHER NETWORKS

Panel Builder allows passing values from one tag to another. In this way the CP600 can be used as a network gateway. However, it should be noted that the amount of data that can be passed quickly is limited to a maximum of 32/second (that number may be lower depending on how heavily the rest of the project taxes the panel's processor). Therefore care must be taken when copying data from one tag to another. It is a good practice to initiate each tag data transfer at the lowest frequency that the system can tolerate.

There are several methods that can be used in Panel Builder to initiate tag data transfers including:

- Data Transfers
- Scheduler
- Data Transfer Event Actions

Revision/Version history			
Rev/Ver	Date	Author	Comments
1.0	24-09-2014	JDK	First revision
1.1	08/05/15	JDK	Added graphic on cover page, updated revision information in the Requirements section.