



ILX56-PBM

Installing Logix v20 and Below

February 15, 2024

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ILX56-PBM Installing Logix v20 and Below Technical Note
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February 15, 2024

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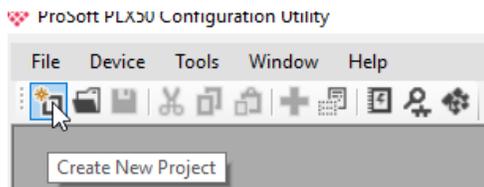
1 Studio 5000 Configuration

The ILX56-PBM can be integrated with Logix controllers using a **Generic 1756 Module** profile.

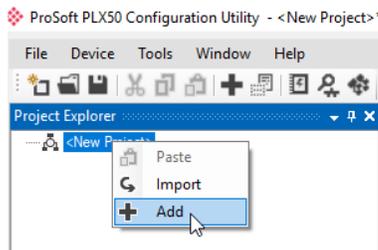
Note: When Studio 5000 v20 and below is used, the ILX56-PBM can only utilize a single I/O connection.

1.1 Creating a New ILX56-PBM Project

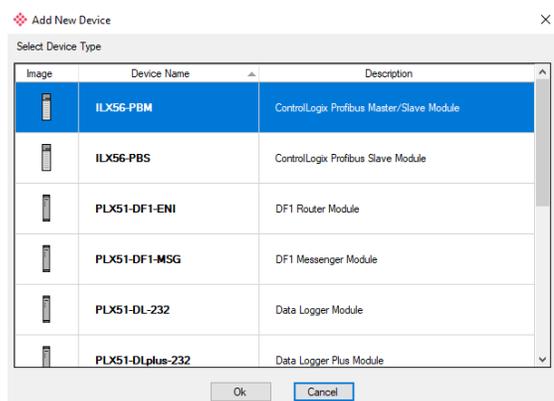
- 1 Launch the **PLX50 Configuration Utility (PLX50CU)**.
- 2 Click on the **CREATE NEW PROJECT** button.



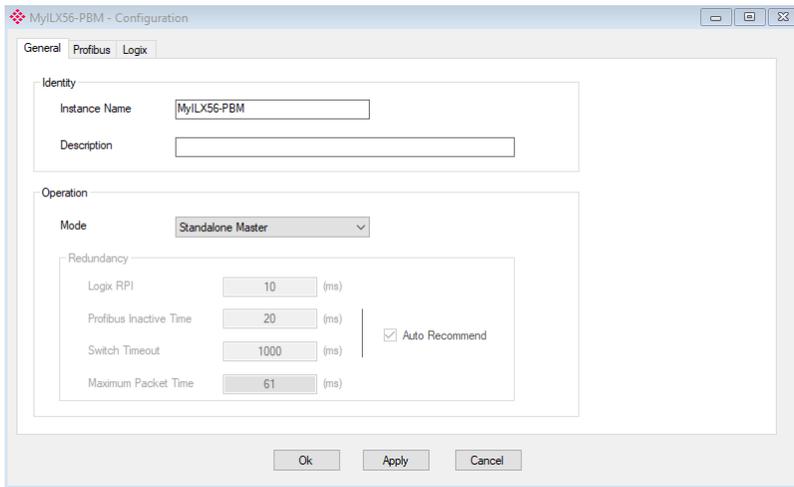
- 3 Once the new project is created, right-click on **<NEW PROJECT>** and select **ADD**.



- 4 When the *Add New Device* dialog opens, select the **ILX56-PBM** and click **OK**.

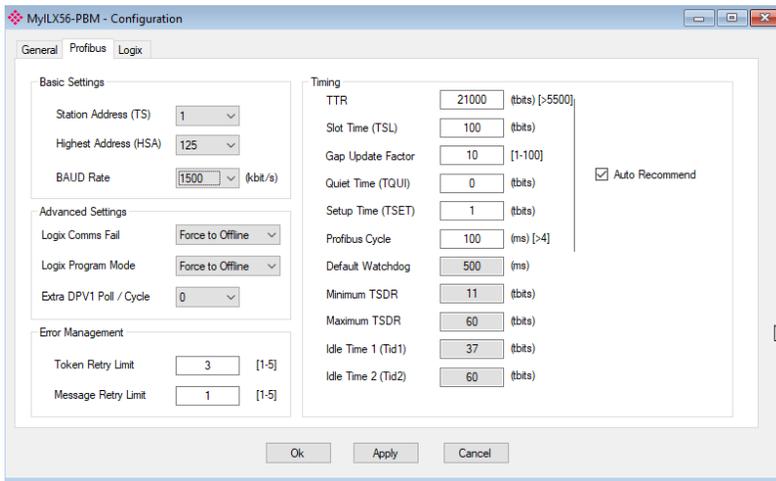


- 5 In the *Configuration* window, edit the *Instance Name*, *Description* and *Mode* as needed. This document describes the process for *Standalone Master* mode.

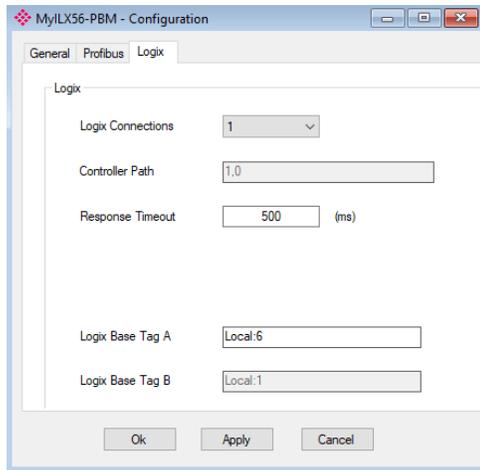


- 6 In the *Profibus* tab, configure the PROFIBUS DP network. Then click **OK**.

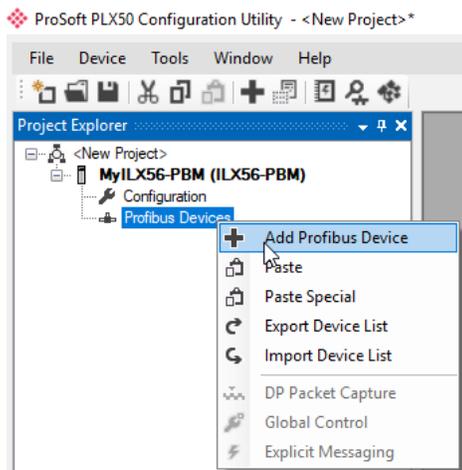
Note: It is recommended to leave **AUTO RECOMMEND** checked.



- 7 In the *Logix* tab, edit *Logix Base Tag A* to reflect the slot number of the ILX56-PBM location in the ControlLogix chassis, then click **OK**. In the following image, the ILX56-PBM is in slot 6 (Local:6)

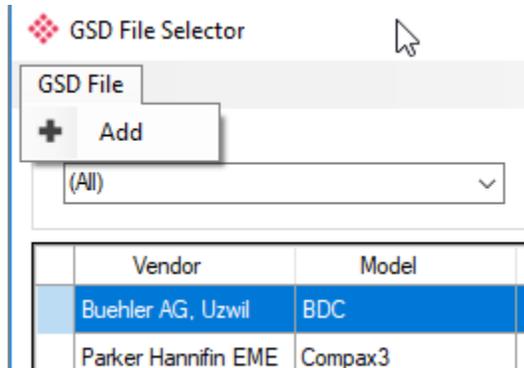


- 8 In the *Project Explorer*, right-click on **PROFIBUS DEVICES** and choose **ADD PROFIBUS DEVICE**.

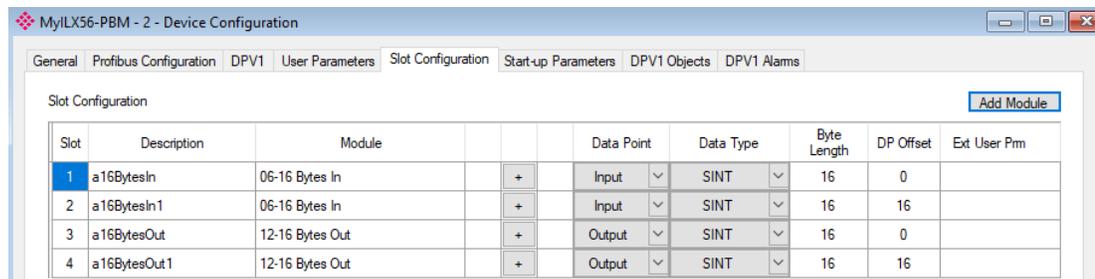


- 9 In the *GSD File Selector* dialog, select your slave device from the list and click **OK**.

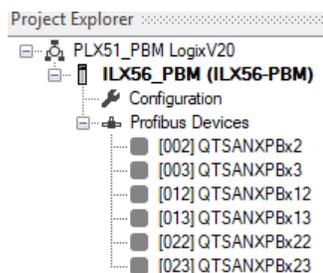
If the slave's GSD file is not listed, click on **GSD FILE > ADD**. Follow the instructions to add new GSD files.



- 10 Once the PROFIBUS slave device is added to the configuration, the *Device Configuration* window opens.
 - a) In the *General* tab, configure the name of the device.
 - b) In the *Profibus Configuration* tab, configure the Node Address.
 - c) In the *Slot Configuration* tab, configure the PROFIBUS DP I/O data. Below is an example of the *Slot Configuration*:



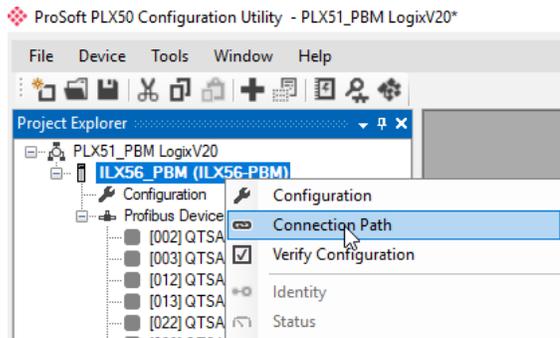
- 11 Once all the PROFIBUS DP slaves have been added and I/O configured, the *Project Explorer* displays those devices under **Profibus Devices**.



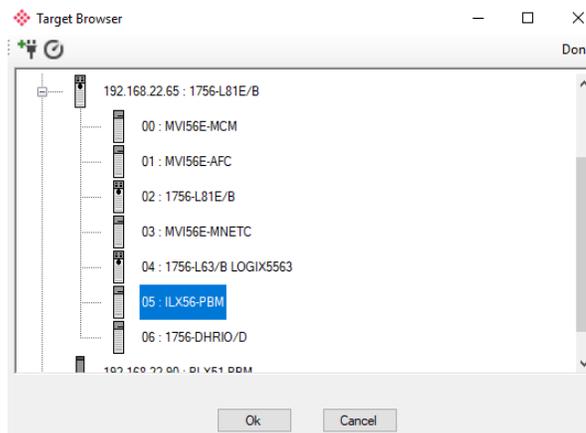
- 12 Save the project.

1.2 Downloading the Project to the ILX56-PBM

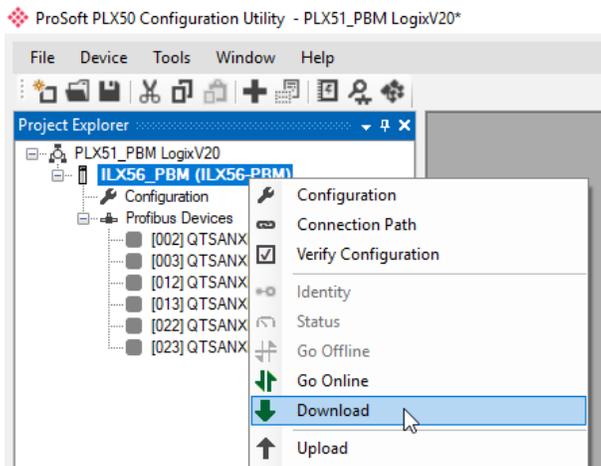
- 1 In the PLX50 Configuration Utility, right-click on the ILX56-PBM and select **CONNECTION PATH**.



- 2 In the *Connection Path* dialog, click **BROWSE**.
- 3 In the *Target Browser* dialog, find the ILX56-PBM, select it, and click **OK**.



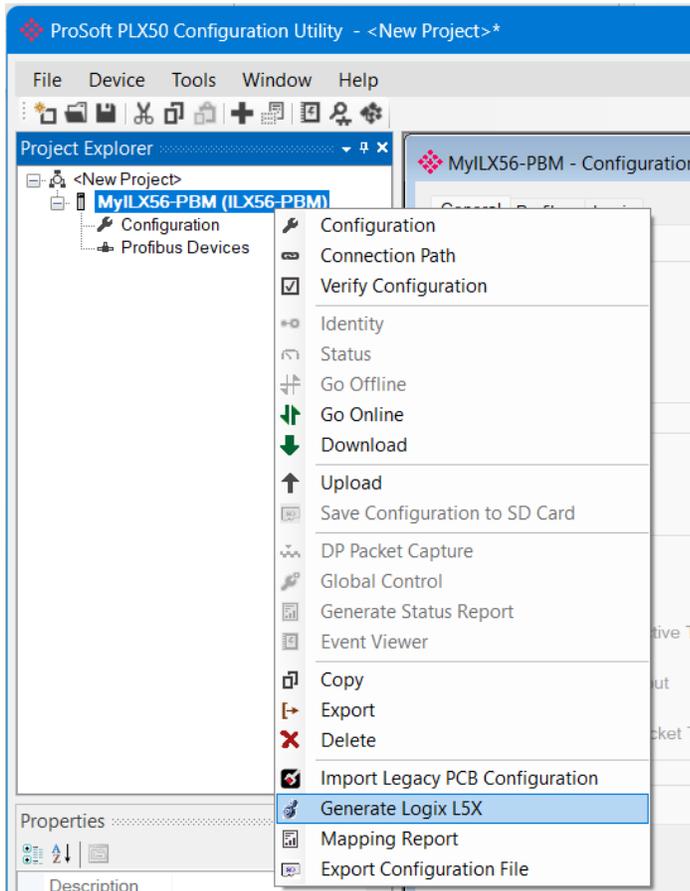
- 4 Once the Connection Path has been defined, right-click on the ILX56-PBM and select **DOWNLOAD**.



1.3 Generating the Logix .L5X File

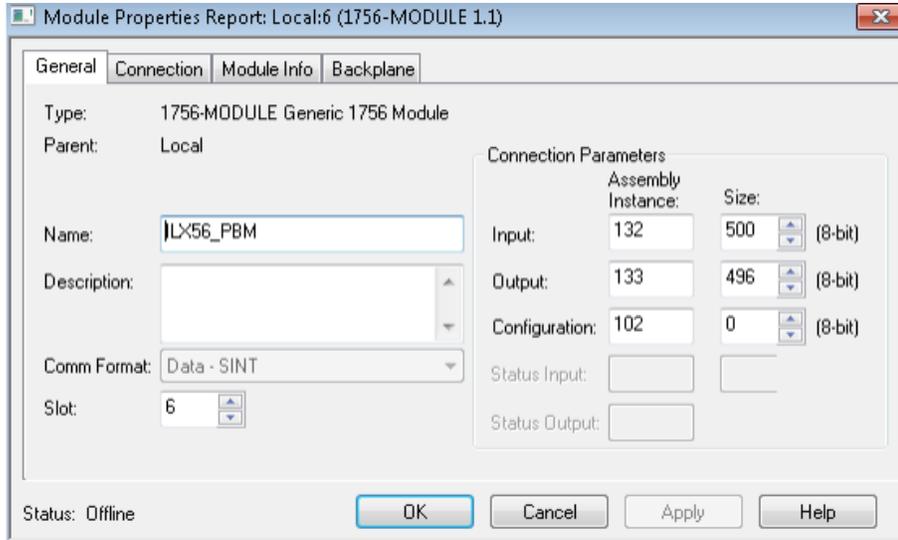
The PLX50 Configuration Utility can generate a Logix .L5X file of the ILX56-PBM project.

In the ILX56-PBM project, right-click on the **ILX56-PBM** icon and select **GENERATE LOGIX L5X**. Then save the .L5X file.

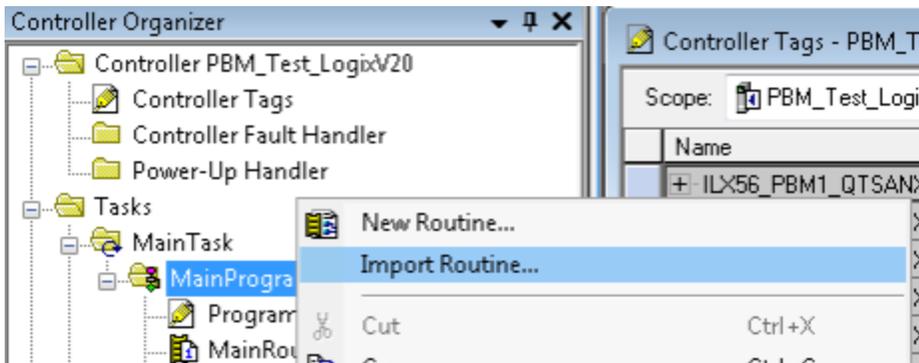


1.4 Importing the ILX56-PBM .L5X File

- 1 In a new or existing Studio 5000 (v20 and below) project, add a **GENERIC 1756 MODULE** to the I/O tree using the following *Connection Parameters*:



- 2 In the *Tasks* folder, right-click on the **MAINPROGRAM** folder and select **IMPORT ROUTINE**.



- 3 In the *Import Configuration* dialog, click on **TAGS** from the *Import Content* tree and change the “**Local:**” to reflect your ILX56-PBM. The example below uses the ILX56-PBM in slot 6. Therefore, the *Final Name*’s are **Local:6.I** and **Local:6.O**.

The screenshot shows the 'Import Content' dialog with the 'Tags' folder selected in the tree. The 'Configure Tag References' table is displayed with the following data:

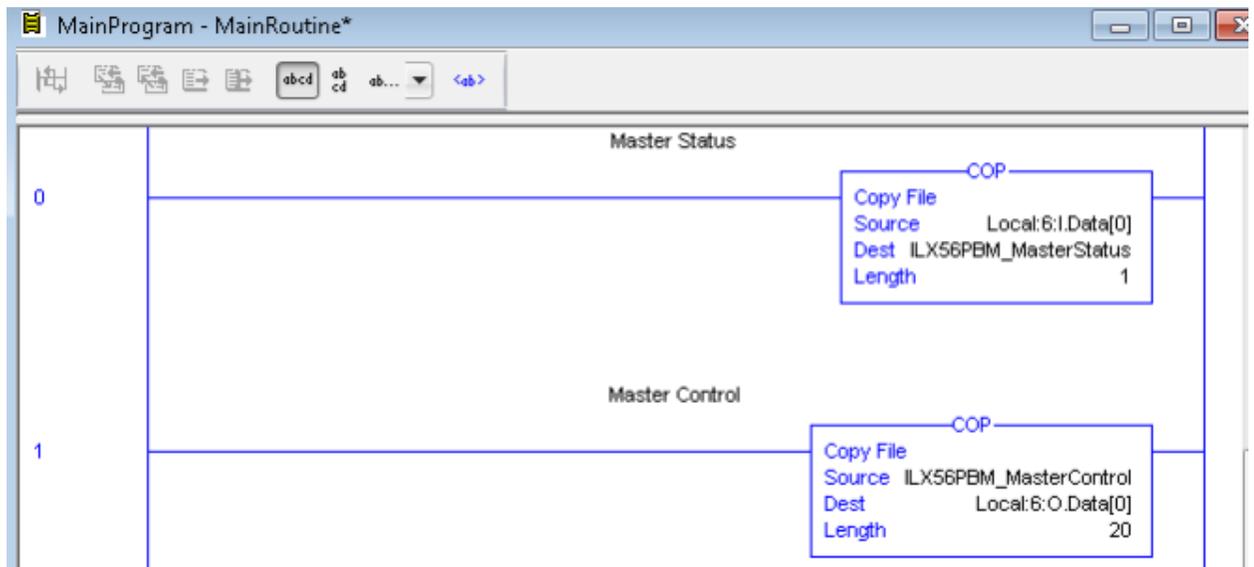
	Import Name	Operation	Final Name	Alias For	Data
	ILX56_PBM_QTSANXPBx12	Create	ILX56_PBM_QT...	...	ILX56
	ILX56_PBM_QTSANXPBx13	Create	ILX56_PBM_QT...	...	ILX56
	ILX56_PBM_QTSANXPBx2	Create	ILX56_PBM_QT...	...	ILX56
	ILX56_PBM_QTSANXPBx22	Create	ILX56_PBM_QT...	...	ILX56
	ILX56_PBM_QTSANXPBx23	Create	ILX56_PBM_QT...	...	ILX56
	ILX56_PBM_QTSANXPBx3	Create	ILX56_PBM_QT...	...	ILX56
*	Local:6:I1	Use Existing	Local:6:I	...	AB:17
*	Local:6:O1	Use Existing	Local:6:O	...	AB:17

Click **OK**.

- 4 From a scheduled routine, add a JSR to the newly-imported routine.

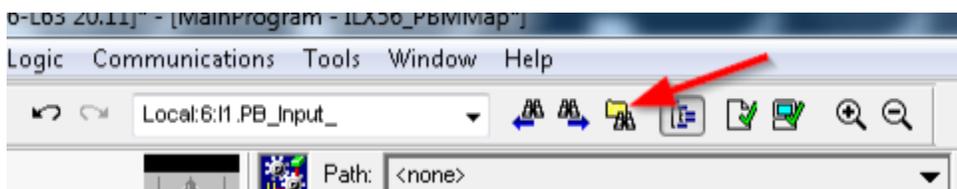
The screenshot shows the 'Controller Organizer' on the left with the 'MainRoutine' selected. The 'MainRoutine' editor on the right shows a JSR instruction: 'Jump To Subroutine Routine Name ILX56_PBMMAP'. The routine starts at address 0 and ends at '(End)'.

- At the top of the ILX56PBM routine, right-click on an empty rung, and choose **IMPORT RUNG** and import the *ILX56_PBM_ImportRung_tags_for_V20.L5X* file.



If the **Local:<slot>** does not match the actual ILX56-PBM slot number, there will be errors on each rung. Once the **Local:<slot>** is corrected, these errors will disappear.

- Within the ILX56-PBM routine, click on the **FIND ALL** button and click on the **REPLACE** button to open up the *Replace With* field.



In the example below, the ILX56-PBM is in slot 6, so be sure to change this to reflect your ILX56-PBM slot number.

Find What: Local:6:O.PB_Output_

Replace With: Local:6:O.Data[

Find What: Local:6:I.PB_Input_

Replace With: Local:6:I.Data[

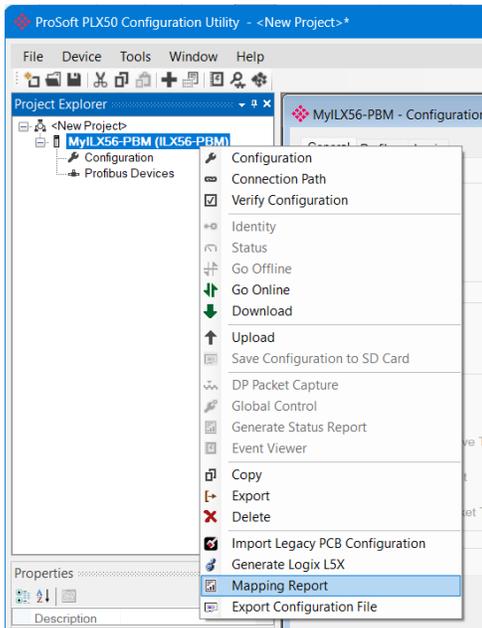
You may need to modify the *Find What* to “I1” and “O1” for the Input/Output designation. Example: **Find What:** Local:6:I1.PB_Input_

The number of search/replaces found should equal the number of PROFIBUS slaves.

1.5 Mapping Report

The imported rungs for each PROFIBUS slave node must be updated to reflect the specific device mapping assignments. The *Mapping Report* contains the I/O Connection and Device Mapping Assignments for the ILX56-PBM project.

- 1 Within the PLX50CU, right-click on the module and select **MAPPING REPORT** to open the *Mapping Report* dialog.



- 2 Below is an example *Mapping Report*.

```

♦♦♦ Mapping Report for: ILX56_PBM

IO Connection Assignment for: ILX56_PBM
Device Mapping Assignment

#002 Connection=1 InputOffset=76 InputLength=40 OutputOffset=20 OutputLength=36 Ident= 0x08A5 MapCRC= 0x2EDA 'QTSANXPBx2'
#003 Connection=1 InputOffset=116 InputLength=40 OutputOffset=56 OutputLength=36 Ident= 0x08A5 MapCRC= 0x2EDA 'QTSANXPBx3'
#012 Connection=1 InputOffset=156 InputLength=40 OutputOffset=92 OutputLength=36 Ident= 0x08A5 MapCRC= 0x2EDA 'QTSANXPBx12'
#013 Connection=1 InputOffset=196 InputLength=40 OutputOffset=128 OutputLength=36 Ident= 0x08A5 MapCRC= 0x2EDA 'QTSANXPBx13'
#022 Connection=1 InputOffset=236 InputLength=40 OutputOffset=164 OutputLength=36 Ident= 0x08A5 MapCRC= 0x2EDA 'QTSANXPBx22'
#023 Connection=1 InputOffset=276 InputLength=40 OutputOffset=200 OutputLength=36 Ident= 0x08A5 MapCRC= 0x2EDA 'QTSANXPBx23'

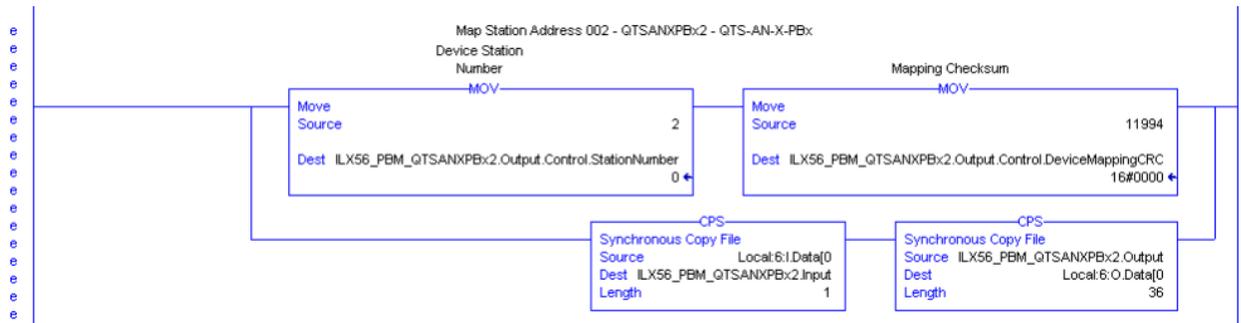
Requires 1 connection/s.
    
```

The nodes are listed as #002, #003, etc.

- 3 In the imported routine, each PROFIBUS DP slave node has its own rung. Each rung starts with a **MOV** instruction, where the **MOV Source** is the PROFIBUS DP slave address.

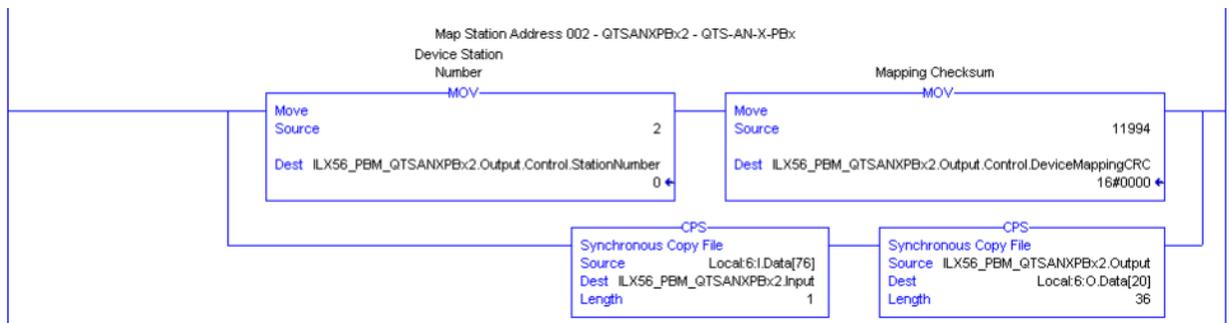
For each rung, modify the **CPS** instructions to reflect the *InputOffset* and *OutputOffset* as shown in the *Mapping Report* above.

Example: Below is the original rung for node 2 after the search/replace.



- 4 Modify each CPS *Source* “**Local:<slot>.I**” to match the *InputOffset*, and *Dest* “**Local:<slot>.O**” to match the *OutputOffset*.

This rung now becomes:



- 5 Repeat steps 3 and 4 for every imported rung.
- 6 Save the .L5X file and download to the processor when ready.

For Master Control, Diagnostics, Slave Status, refer to the ILX56-PBM user manual.

2 Support, Service, and Warranty

2.1 Contacting Technical Support

ProSoft Technology, Inc. is committed to providing the most efficient and effective support possible. Before calling, please gather the following information to assist in expediting this process:

- 1 Product Version Number
- 2 System architecture
- 3 Network details

If the issue is hardware related, we will also need information regarding:

- 1 Module configuration and associated ladder files, if any
- 2 Module operation and any unusual behavior
- 3 Configuration/Debug status information
- 4 LED patterns
- 5 Details about the interfaced serial, Ethernet or Fieldbus devices

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