TechTip: PLC data transfer from Version 2.3 to 2.4 and higher
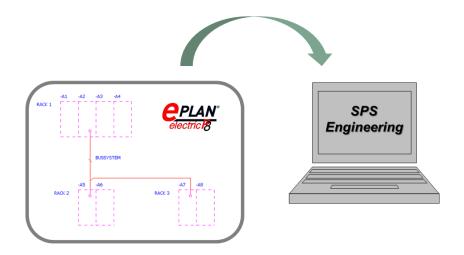
Contents

EPLAN PLC / bus interface

Beginning PLC planning in EPLAN Electric P8 is the standard procedure at our customers. This has been simplified for users as of Version 2.4 of Electric P8 (September 2014).

- ✓ Easy planning of the bus structure:
  The management of PLC in EPLAN is based on the hardware.
  Through single-line drawing of the bus EPLAN recognizes the bus structure.
  (similar to PLC configuration programs)

- ✓ Extension of devices with bus port:
  Frequency inverters, motors, sensors, etc.

- ✓ Devices with several equal bus systems are supported better.

- ✓ During importing simply traceable messages instead of complicated synchronization dialog.

Do I as a user have to take any action?

If you use exclusively assignment lists in the field of PLC, you do not have to do anything.

If you wish to exchange the bus structure with PLC configuration programs or if you have used the data at communication units, please observe the following information.

Past concept

Up to and including Version 2.3. fields has to be filled with PLC-internal information into "communication units" in EPLAN in order to make bus data exchange with the PLC configuration programs possible. However, the EPLAN user does not usually know the required contents. In addition, the fields of the "communication units" in EPLAN are named differently (universal) that to the PLC software (manufacturer-specifically).

Concept as of Version 2.4

With Version 2.4 the "Communication units" become obsolete and the users work in EPLAN with the data of the PLC cards and connection points, with which they are familiar.

As of EPLAN 2.4 the users plan bus systems graphically through connections of single-line bus ports. A single-line bus port represents a plug on the device (for example RJ45). The properties at the bus ports correspond to those of the previous "Communication units".

During the importing of bus systems from PLC configuration programs, bus ports and messages on connections are generated. The user can connect the bus ports on the basis of these messages graphically by means of single-line lines.

Detailed multi-line representations of the bus cables can be created by means a cable assignment diagram.

Procedure for transferring Version 2.3 to Version 2.4 and higher

1. Adapting PLC parts data
2. Adapting PLC macros
3. Adapting projects

Adapting parts data

In order to use the new concept EPLAN recommends first updating the parts data and macros that contain bus ports. To this purpose check whether up-to-date manufacturer data are available in Data Portal.

Note: Please also consult the device manual of the manufacturer for the entry of individual data.

Parts management > Function templates

Device selection (function templates)

Row	Function definition	Bus system	Connection point designations	Connection point descriptions	Plug designation
1	PLC box	Other bus systems			
2	Network / bus cable connection point, source	MPI bus		MPI	X1
3	Network / bus cable connection point, source	PROFIBUS		DP	X2
4	PLC connection point, PLC-CS (+)		L+		
5	PLC connection point, PLC-CS (M)		M1		
6	PLC connection point, PLC-CS (M)		M2		
7	PLC connection point, PLC-CS (PE)		PE		

Devices that have bus ports require corresponding function definitions.

1) Enter a "Network / bus cable-connection point" function definition per bus port.

   a) Source: This is where the bus system begins.

   b) End: This is where the bus system ends. Use this function definition, for example, to identify the end of a ring bus system.

   c) Input: The input is used to connect a device to a bus system. An additional device can be connected to the bus system via a further output. Inputs and outputs are mostly used on a card in pairs.

   d) Output: Here a bus system that was previously supplied at an input of the same device is forwarded. EPLAN assigns an output to its input.

   e) Switch connection point: These connection points are used for so called "switches" and are treated like busbar connection points. This way all connection points are connected to each other.

   f) General: Is used for *Ethernet-based* bus systems or for bus ports if these are *both input and output*, for example for ASi or PROFIBUS. For Ethernet-based bus systems enter the designation of the corresponding interface into the **Bus interface: Name** property.

2) Select the corresponding bus system in the **Bus system** column.

3) Enter the **Plug designation** and, if necessary, a **Connection point description**. Leave the **Connection point designation** empty.

Parts management > PLC data

During importing PLC configuration programs use the PLC type designation to find the component in their hardware catalog. During importing EPLAN supplements data from the parts management, the PLC type designation is identifying in this context.

1) Specify the PLC type designation and – depending on the manufacturer – object description, version or device description data (file name and if appropriate index).

Adapting macros

Macros only have to be revised if

1) A PLC box with "communication units" is used in the macro.

2) Bus ports are located in the macro.

Revise the macro by

1) Placing new single-line bus ports or assigning the "single-line" representation type to existing bus ports.

2) Selecting the suitable function definition at a single-line bus port.
Edit > Properties > Symbol / function data

3) Carrying out the suitable settings at a single-line bus port:
Edit > Properties > Bus data

Adapting projects

If a project from a previous version is opened in Version 2.4, data at "communication units" are transferred into the new version, but are not displayed or evaluated. Unfortunately an automatic conversion of the data from the "communication units" to the bus ports is not possible. The check run "004045 Communication unit at PLC box" is available to find these data.

The simplest way to transfer data from the "communication units" to the bus ports is to export them from Version 2.3 and import them to Version 2.4 and later.

PLC export in the previous version

1) Open the project with EPLAN Version 2.3.

2) Export the PLC data: **Project data > PLC > Export data**
Export all the configuration projects with the respectively suitable format.

3) Close the project

PLC import into Version 2.4 and higher

1) Open the project with EPLAN Version 2.4 and higher.
When you are asked whether the project is to be imported into the new version, confirm the query with **[Yes]**.

2) Update the parts data:
Utilities > Parts > Update current project

3) Ensure that all the bus ports are configured single-line.

4) Ensure that all the single-line bus ports belonging to a bus are connected graphically with each other.

5) Import the PLC data:
Project data > PLC > Import data
Select the **Synchronize functions** option and start the importing process by clicking the **[OK]7** button.

> *Consecutively import all the previously exported files with the format of the associated import file.*

6) The data is imported. Data that were located beforehand at the "communication units" are now available at the single-line bus ports.

7) Open the message management and check the import messages. Correct the bus ports that may be listed.

Moving data from communication units into the user-defined properties

Data from "communication units" can be moved automatically into user-defined properties. This is helpful when the PLC data exchange is not used, but the schematic contains, for example bus addresses.

To this purpose the action "XPlcMoveComEntityPropertiesAction" can be placed on a button in the toolbar.

Cleaning a project

After the data at bus ports has been transferred, the "communication units" can be deleted by using the compression run "Remove project data – Remove communication units at PLC boxes".