

TechTip: Multi-line distributed representation of a PLC bus port

Planning and representation of bus structures has been simplified with Version 2.4 of EPLAN Electric P8. The bus structures required for a PLC configuration data exchange are taken solely from the single-line drawing of the bus.

Detailed multi-line representation of standard bus cables can be realized by means of a cable assignment diagram.

If it should be necessary to represent a bus cable in multi-line, EPLAN recommends increasing the number of connections at the single-line "Network / bus cable-connection point" and in addition using a suitable multi-line symbol with the set number of connections. For more information on this, see the section [Displaying Bus Ports in Multi-line](#) in the EPLAN help system.

Display individual connection points of the bus port in a distributed manner

If it is necessary to display individual pins of the bus port graphically variable or on different pages, you can in addition place multi-line bus ports as of EPLAN Electric P8 Version 2.7.

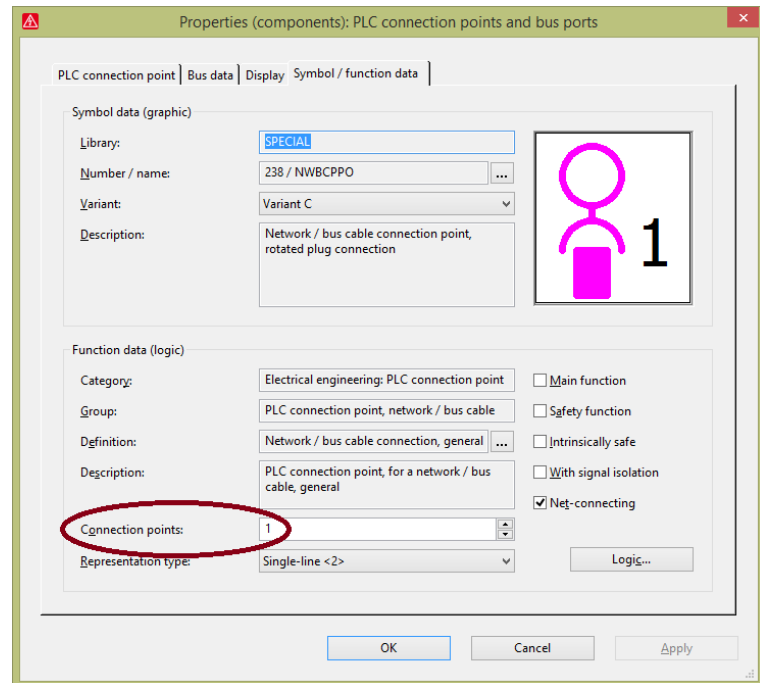
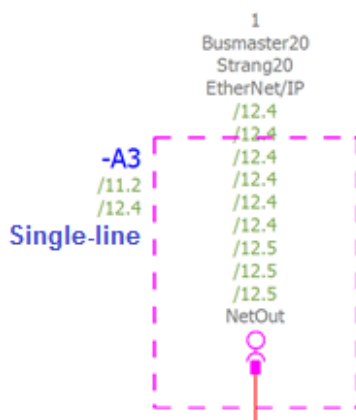
The following rule also applies here:

- Only one function template is created for each bus port in the part.
- Enter the plug designation here.
- Enter the bus interface name here for Ethernet-based bus systems.
- Leave the fields for the connection point description and connection point designation empty.
- The single-line representation of the bus ports is always required for the PLC configuration data exchange.

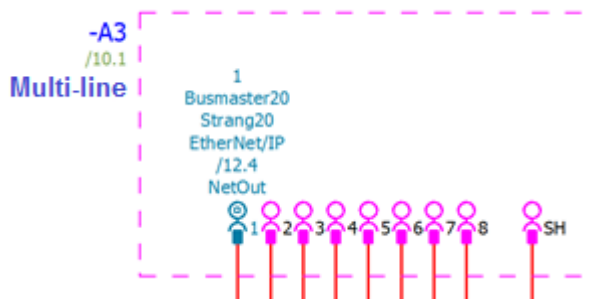
The plug designation and the bus interface name, together with the DT, are the identifying characteristic for associated bus ports.

Procedure:

- Place the single-line bus port and assign a plug designation. For Ethernet-based bus systems assign the bus interface name.



- The number of connection points is set to "1" at each bus port (single-line and multi-line).
- Consecutively place all multi-line bus ports that you require as individual pins. Ensure that the plug designation does not change.



In the navigator you recognize for the example above:

- The function templates for the single-line bus port and the first multi-line bus port overlap (single-line "X1" with multi-line "X1:1").
- Additional functions were generated for the other multi-line bus ports (multi-line "X1:2" and "X1:3").

Advantages:

- The individual connection points (pins) of a bus port can be displayed in the graphical editor as you wish.
- With the **Display** tab, properties of the single-line bus ports of the **Bus data** (e.g. **Physical network: Bus ID / item number**) tab can be displayed at multi-line bus ports.

Disadvantage:

- A further function is generated in the navigator for each displayed multi-line bus port (pin).
- These additional functions message in the check run "007001 The device uses more functions than provided by the associated part".