TechTip: Plug with modular structure

Some plug manufacturers offer the possibility to configure a plug in a modular way. Modular means that nearly each individual component of such a plug can represent a separate product and can be separately acquired.

This document describes how the plugs with modular structure are configured in Eplan. To this purpose the parts data for the components from the manufacturer are used and transfered to the parts management via Eplan Data Portal. These components are then combined as Module in the parts management for the respective plug.

The module represents a black box for the modular plug. In addition the module contains a list of the individual subparts that are identified with a subordinate DT. Since Version 2.9 it is possible to use a DT ID alternatively to the DT. DT IDs make the used macros and modules independent of a device identification standard, so that different standards can be used as a result.

In some cases it is feasible to combine such a plug as Assembly. You can find details on this in the section "Creation of a plug as an assembly in the parts management".

You can find example parts data with associated macros in the file *Plugs-with-modular-structure.edz*.

Preparation of the components

The parts data of the components can be obtained from the manufacturer via Eplan Data Portal.

It is alternatively possible to manually create the parts data of the components. You can find further information in the "Creating Parts" section in the online help system.

Creation of a plug as an assembly in the parts management

It makes sense to create a plug as an assembly if it consists of components such as male pins or female pins in large numbers.

Pro: The pins of the assembled plug are output together in the reports.

Contra: The pin designations can not be specified by the part.

Proceed as follows.

1. Tab **Master data** > Command group **Part** > **Management**

2. Create a new assembly by using the popup menu items **New > Assembly**.

General tab

3. Assign the generic product group "Electrical engineering" and the product group "Plugs" to the assembly and enter a part number.

4. Confirm the entries with the **[Apply]** button, and update the display with the **[F5]** key.

Assembly tab

5. Add the components (=subparts) that belong to the plug. To do this generate a row for each subpart.

Row	Quantity	Part number	Variant
1	n	Part number of the subpart. Can be inserted via the part selection.	Variant of the subpart. Can be inserted via the part selection.

Technical data tab

6. Enter the name for the macro to be used here in the **Macro** entry field. Ensure when creating the macro that the plug definition is the main function. For further information please refer to the online help system in the section "Converting Auxiliary Functions into Main Functions".

Function templates tab

7. The function definitions that belong to the plug must be listed to this purpose. To do this call up the **Sum up function templates** menu item via the **[Extras]** button.

Creation of a plug as a module in the parts management

It makes sense to create a plug as a module if it consists of components such as integrable standard plugs.

In the parts management the components are combined as subparts in a module.

1. Tab **Master data** > Command group **Part** > **Management**

2. Create a new module via the popup menu items **New** > **Module**.

General tab

3. Assign the generic product group "Electrical engineering" and the product group "Plugs" to the module and enter a part number.

4. Confirm the entries with the **[Apply]** button and update the display with the **[F5]** key.

Module tab

5. Add the components (=subparts) that belong to the plug. To do this generate a row for each subpart. To uniquely identify the subpart within the module, a DT or a DT ID must be assigned.

Row	Quantity	Part number	Variant	DT	DT ID*
1	n	Part number of the subpart. Can be inserted via the part selection.	Variant of the subpart. Can be inserted via the part selection.	Sub-identifier	Alphanumeric value

*: Alternative to DT, as of Version 2.9

Technical data tab

6. Enter the name for the macro to be used here in the **Macro** entry field.
    The creation of a macro takes place in a later step.

Function templates tab

7. The function definitions that belong to the plug must be listed to this purpose. To do this call up the **Sum up function templates** menu item via the **[Extras]** button.

Creation of a matching macro - graphical editor

1. Open the device navigator and insert a new device via the popup menu item **New device**.

2. Drag the function templates individually from the device navigator into the graphical editor and place them.

3. Then select the black box with all the placed devices and save the selection as a window macro under the name stored in the module (menu item **Create window macro / symbol macro**).

Configuration - graphical editor

1. Insert the combined plug as a device via the Insert center.

2. Select the respective module in the **Part selection** dialog.

   ⇨ The macro stored at the module is attached to the mouse pointer and can be placed in the schematic.

Configuration - reports

The reports are effected per device. Since a modularly structured plug consists of multiple devices, multiple reports are generated.

Reports can be summarized for dynamic forms (such as plug diagram, pin-connection diagram). To this purpose call up the settings for the output to pages (**Settings** > **Output to pages**) in the **Reports** dialog (Tab **Tools** > Command group **Reports** > **Generate**) and activate the check box **Combine** for the respective report.