

# Creating ports

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## Introduction

You can create the following kinds of ports by using the SysML Plugin:


- [Proxy Ports](#) - expose features of the owning Block or its internal Part Properties.
- [Full Ports](#) - support their own features.
- [Flow Port](#) - since it is deprecated, you use the Proxy Port typed by the Interface Block instead of the non-atomic Flow Port.

## Creating ports

The procedure below is suitable for all kinds of ports.

To create a port, do one of the following:

- From the diagram palette, select the **Proxy Port**, **Full Port**, or **Flow Port** button and click the element on the diagram pane.
- Select an element on the diagram pane and from the smart manipulator toolbar, click the **Proxy Port**, **Full Port**, or **Flow Port** button.
- In the Block [Specification window](#), select the **Ports/Interfaces** property group, click the **Create** button, and select **Proxy Port**, **Full Port**, or **Flow Port** button.

 You can also create [Proxy Ports](#) at both ends of the [Connector](#) by dragging the [Interface Block](#). [Learn how to connect parts through interface >>](#)

## Converting the Part Property to Full Port

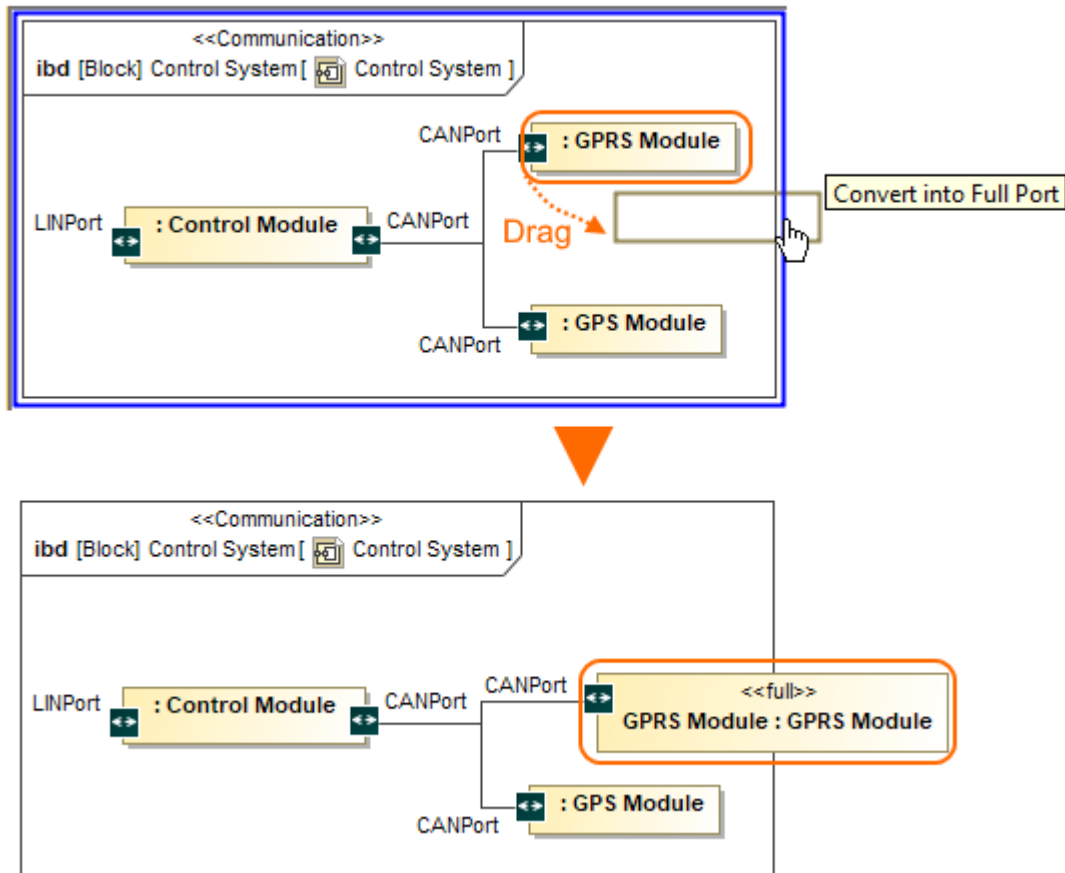
A Full Port is a part on a boundary. You can convert your Parts Properties into Full Ports by dragging them to the diagram frame.

 **Note**  
All ports, connectors, and other information, including the layout, will remain unchanged.

To convert a Part Property to the Full Port

1. Select the Part Property shape and drag it to the diagram frame.
2. When the diagram frame is highlighted in blue, drop the shape.  
The Full Port is created on the diagram frame.

 **Note**  
When the Full Port is created on the diagram frame, you cannot drag it back (except to Undo the conversion).




The Part Property converted to the Full Port.

## Creating a port while creating a Connector

The procedure below is suitable for all kinds of ports.

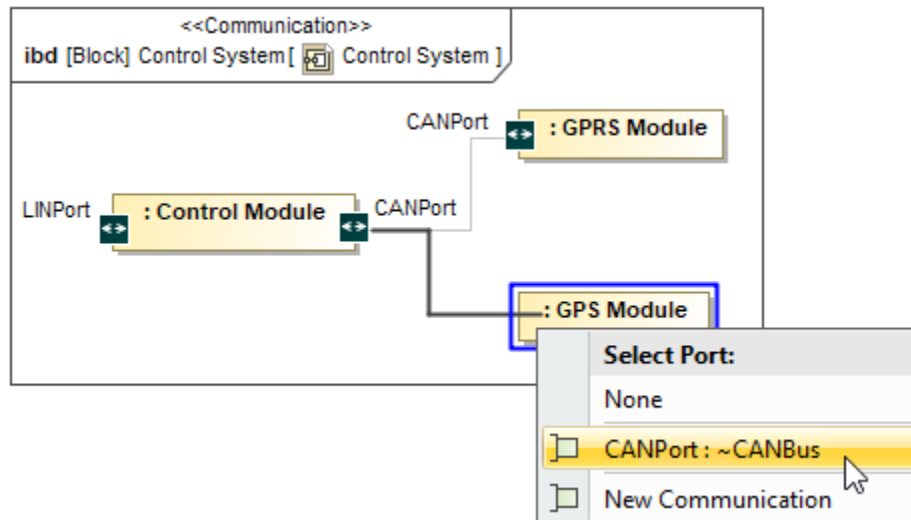
To create a port automatically when drawing a Connector from a port to a Part Property

1. Select a port shape on the diagram pane.
2. On the smart manipulator toolbar, click . Select Part Property shape appears.

 The menu appears if a new port can be created on the Part Property or it has hidden ports.

3. From the **Select Port** menu, select one of the following commands:
  - **None** - if you want to connect the Connector straight to the part.
  - On a port in the list. Hidden ports of the part are listed. The selected port will be represented on the diagram and the connector will be connected to it.
  - **New Port** - to create a new port with the same name, type, and multiplicity as the port from which the connector is drawn.
  - **New Nested Port** - to create a new nested port. Note that the command exists only if the connector is drawn from the nested port.

 You can draw a Connector to a port, too, and the menu appears. As a result, the nested port is created.



The **Select Port** menu opens after drawing the Connector from the *CANPort* Port to Part Property typed by *GPS Module* Block.

#### Related pages

- [Displaying parts and ports](#)
- [Connecting parts through interface](#)
- [Autowiring function](#)
- [Layout templates](#)
- [Refactoring](#)
- [Proxy Port](#)
- [Full Port](#)
- [Flow Port](#)
- [Connector](#)
- [Interface Block](#)
- [Block](#)

#### Port features

- [Selecting port type](#)
- [Direction prefixes](#)
- [Hiding direction arrow on port shape](#)
- [Hiding the multiplicity](#)
- [Enabling Part compartments on Port shape](#)

#### Sample model

The model used in the figures on this page is the **diagram aspects** sample model. To open this sample do one of the following:

- Download [diagram aspects.mdzip](#).
- Find in modeling tool <modeling tool installation directory>\samples\SysML\diagram aspects.mdzip.