

IO Mapping Tool

With the IEC library “IO Mapping Tool”, the inputs and outputs of a program can be remapped via a visualization in runtime mode.

Product description

The inputs and outputs are mapped via function blocks and the corresponding visualizations. In doing so, the function blocks are simply activated between the desired inputs our outputs.

The library contains the following function blocks.

- Function blocks with eight inputs and outputs:
 - Basic function block
 - Function block for BOOL inputs and outputs
 - Function block for BYTE inputs and outputs
 - Function block for WORD inputs and outputs
- Function blocks with a variable number of inputs and outputs:
 - Basic function block
 - Function block for BOOL inputs and outputs
 - Function block for BYTE inputs and outputs
 - Function block for WORD inputs and outputs

Function blocks with eight inputs and outputs

In the function blocks `IOMappingBool`, `IOMappingByte`, and `IOMappingWord`, eight variables each of the corresponding type are used for the inputs and outputs.

Function blocks with variable inputs and outputs

In the function blocks `VarIOMappingBool`, `VarIOMappingByte`, and `VarIOMappingWord`, the inputs and outputs are mapped via arrays of length `g_iMaxIOs`. The parameter `g_iMaxIOs` can be edited via the parameter list `Param` and it can be maximum 256.

Basic function blocks

In the function blocks `IOMappingBaseFB` and `VarIOMappingBaseFB`, an array of integer values is created for each. The indices of the array represent the inputs and the values at the corresponding positions represent the outputs for these inputs. Only one input can ever point to an output. When changing the mapping of inputs and outputs, it is checked if the output has already been mapped to an input. If this is the case, then the value of the earlier input is set to -1. The array that saves the mapping of inputs to outputs is stored with the `PersistenceManager`.

More information

The package contains the library “IO Mapping Tool” and the sample project “`IOMappingExample.project`”.

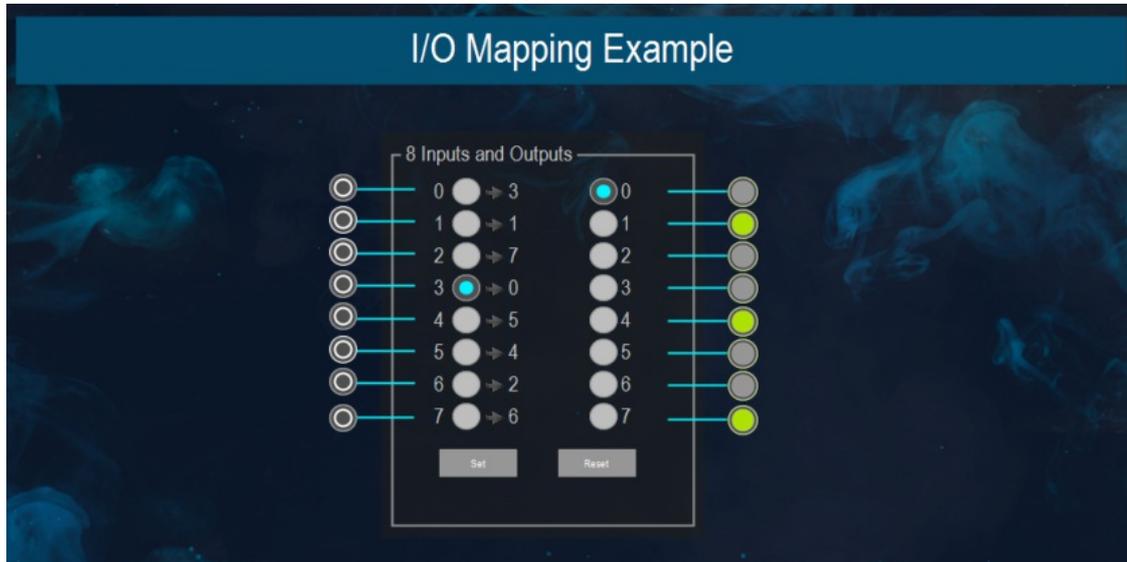
Visualization

Two visualizations are included in the library. One is for the fixed number of inputs and outputs and the other is for the variable number of inputs and outputs.

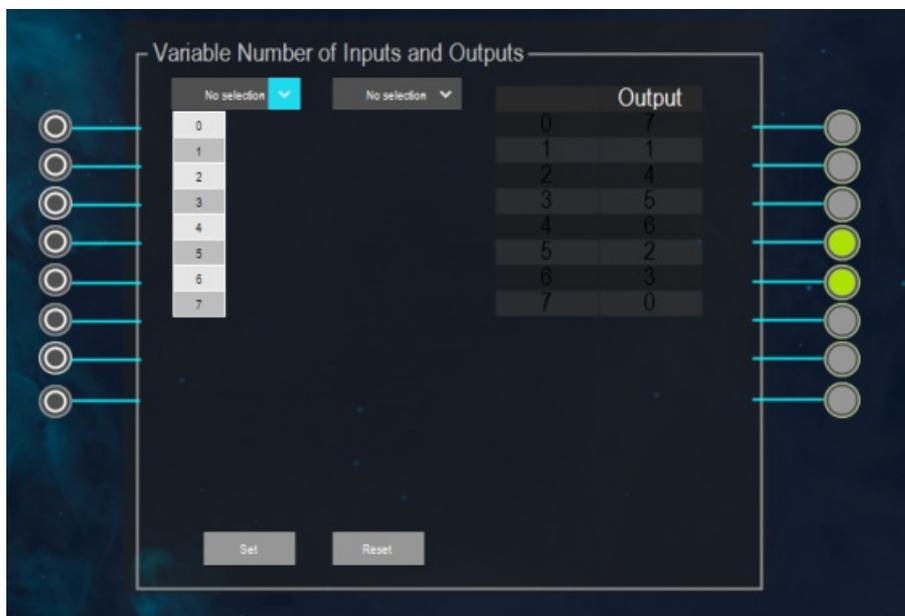
The eight inputs and outputs in the visualization `IOMappingVisu` are each represented by eight radio buttons. When a radio button is selected on the left side, the corresponding output is selected automatically on the right side. By default, the outputs are ordered according to the inputs. After changing the mapping, the new mapping is saved by clicking the “Set” button. Clicking the “Reset” button discards all changes after the last save.

In the visualization `VarIOMappingVisu`, the mapping is represented and editable by means of combo boxes. The left box represents the inputs and the right box represents the outputs. The current mapping is displayed clearly in the adjacent table.

The "Set" and "Reset" buttons function in the same way as for IOMappingVisu.



Visualization with eight inputs and outputs



Visualization for a variable number of inputs and outputs

Sample project

The sample project "IOMappingExample" demonstrates how to use the function blocks IOMappingBoolFB and VarIOMappingBoolFB. the mapping of values is saved by means of the PersistenceManager. For this purpose, the library AC_Persistence has to be linked in the POU pool and added as a module instance (see also: "Persistence Manager" in the CODESYS help).

General information

Manufacturer:

3S-Smart Software Solutions GmbH
 Memminger Strasse 151
 87439 Kempten
 Germany

Support:

<https://support.codesys.com>

Item:

IO Mapping Tool

Item number:

000092

Sales:

CODESYS Store

<https://store.codesys.com>

Included in delivery:

CODESYS Package with library and example project

System requirements and restrictions

Programming System	CODESYS Development System V3.5.10.0 or higher
Runtime System	CODESYS Control V3.5.10.0
Supported Platforms/ Devices	Note: Use the project "Device Reader" to find out the supported features of your device. "Device Reader" is available for free in the CODESYS Store.
Additional Requirements	-
Restrictions	-
Licensing	-
Required Accessories	-

Note: Not all CODESYS features are available in all territories. For more information on geographic restrictions, please contact sales@codesys.com.

Note: Technical specifications are subject to change. Errors and omissions excepted. The content of the current online version of this document applies.