# Configuration Dialog Box (D2000/Topology)

# Topology - configuration dialog box

Editing of all objects in the process D2000 CNF is being performed in the configuration dialog box, a specific part of which is common for all editable objects and another part depends on the type of edited object.

Topology configuration dialog box consists of several parts (tabs), which contains similar parameters.

General properties Groups Nodes Links

The bottom part of the configuration dialog box contains the following buttons:

- · Save saves the topology configuration
- Undo reverts performed changes
- Use Sample the button is disabled for objects of Topology type

# **General properties**

# Description

A text string describing the topology. Maximum: 128 characters. Possibility to use the Dictionary (to open press CTRL+L).

#### Nodes

The tab allows to define topological nodes. The top part of the configuration dialog box contains the table, which comprises created nodes in the given topology. Input fields, placed below the table, allow to configure each topological node. Each of the parameters is defined by means of an item placed below the particular column - for example node name is entered into the input field placed below the column Name etc.

There are three buttons placed below the input fields intended to configure parameters of nodes:

- Delete delete selected node
- Add add a new node according to defined parameters
- Update change parameters of selected node

Selecting a node in the table is performed by clicking the corresponding link in the table.

#### Name

Name of a topological node. Name entered in the input filed is automatically extended with a prefix. The prefix depends on the application configuration. Node name with prefix is to be displayed in the table after its adding.

# Туре

Types of topological nodes:

- Generator the node degree is just 1
- Transformer the node degree is just 2
- Ground the node degree is just 1
- Switch the node degree is just 2
- **Branching** the node degree is at least 2
- Terminal the node degree is just 1

# Power supply output

Value within the interval <1..10>. It is defined for topological nodes of the types Generator and Transformer. This value is to be assigned to the topological link, on which is the voltage from the given node.

# **Power supply input**

Value within the interval <1..10>. It is defined for topological nodes of the type Transformer. This value is to be assigned to the topological link, on which is the voltage from the given transformer.

# **Control object**

Control object is defined for topological nodes of Switch and Terminal type.

- A control object for a node of Switch type is obligatory and it can be an I/O tag or an Eval Tag (digital or quaternary state) or a Switch
- A control object for a node of Terminal type is optional and represents a terminal from another topology.

#### Links

The tabs allow to define topological links. A topological link represents the edge between source node and destination node. The top part of the configuration dialog box contains the table comprising created links in the given topology. Input fields, placed below the table, are used to configure parameters of topological links. Each of the parameters is defined by means of an input field placed below the corresponding column - for example a link name is entered into the input field placed below the column **Name** etc.

#### Name

Name of topological link. Name entered in the input field is extended with an prefix. The prefix depends on the application configuration. Link name with prefix are displayed in the table after its adding.

#### Source node

The source node for a topological link is defined by the selection from the dropdown box, which includes all nodes defined for the given topology.

#### **Destination node**

The destination node for a topological link is defined by the selection from the dropdown box, which includes all nodes defined for the given topology.

#### **Control object**

The control object of a topological link. Control object must be the type Qx or Boolean. If the object is of Qx type, then a value of the control object is to be directly assigned to switch. If it is Boolean type, there are the following rules:

- control object value is TRUE. Then the value of the newly created switch is to be On.
- control object value is FALSE. Then the value of the newly created switch is to be Off.

If a control object is defined for given topological link, the following conversion is to be executed after saving the link:

The topological link is divided into two links (with no control objects), between which a topological node of Switch type is inserted. The control object of the switch created in this way is the same as for the original topological link. The described conversion is demonstrated on the following example.

System configurator created a topology, which includes also the link LINK1 connecting the nodes N1 and N2.



The control object COBJ is defined for the link LINK1. Saving the configuration creates the following conversion. The original link LINK1 is divided into two links with the names LINK1\_In and LINK1\_Out; and a new switch LINK1\_Sw is created. The link LINK1\_In is defined as the edge between the nodes N1 and LINK1\_Sw and; LINK1\_Out as the edge between nodes LINK1\_Sw and N2. The switch LINK1\_Sw is controlled by the control object COBJ. The links LINK1\_In and LINK1\_Out have no control objects.

