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Example:

Sub-Structure with Repetition = 8 applied to a Resource Node (AFDX FDS_0); Altogether there will occur 9 Sub-Structures:

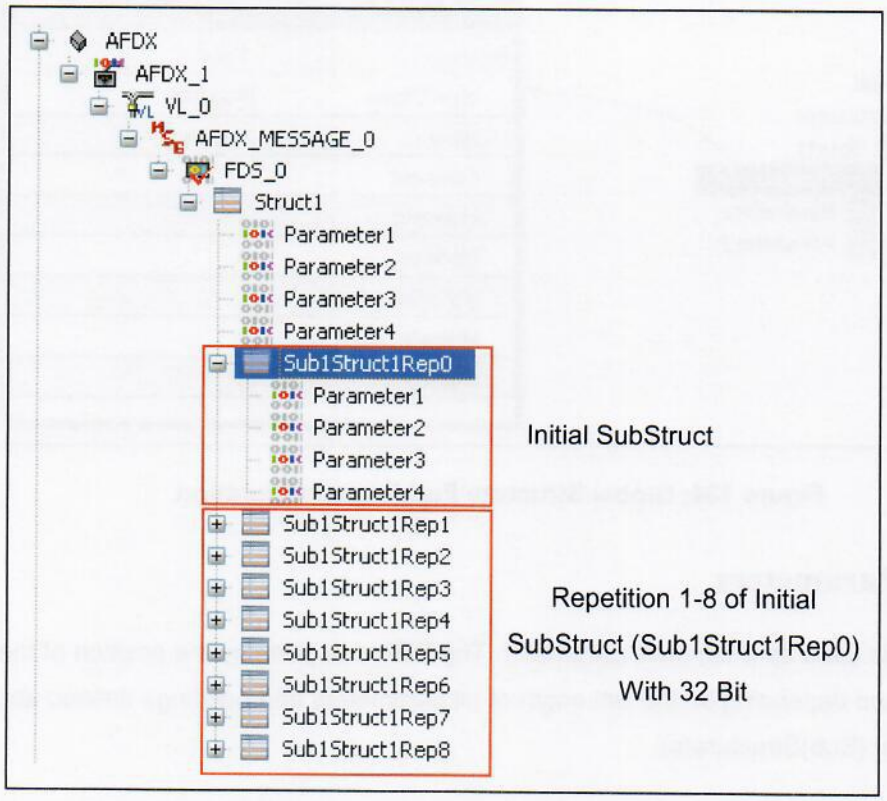


Figure 133: Global Sub-Structures-Repetitions

Note:

- If Repetition property is set to values greater > 0 the underlying Sub-Structures will be repeated after assignment
- The repetitions are not visible as Sub-Structures beneath a Structures node. They become visible after being applied to a parameter resource
- If the Repetition is set to zero the RepetitionBitOffset Property is not visible
- The parameter position is given by the BitOffset of the SubStruct and the position within the Sub-Struct

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5.1.2.2 Global Paddings

The Global Paddings are used as spacers. The most important property is the BitLength.

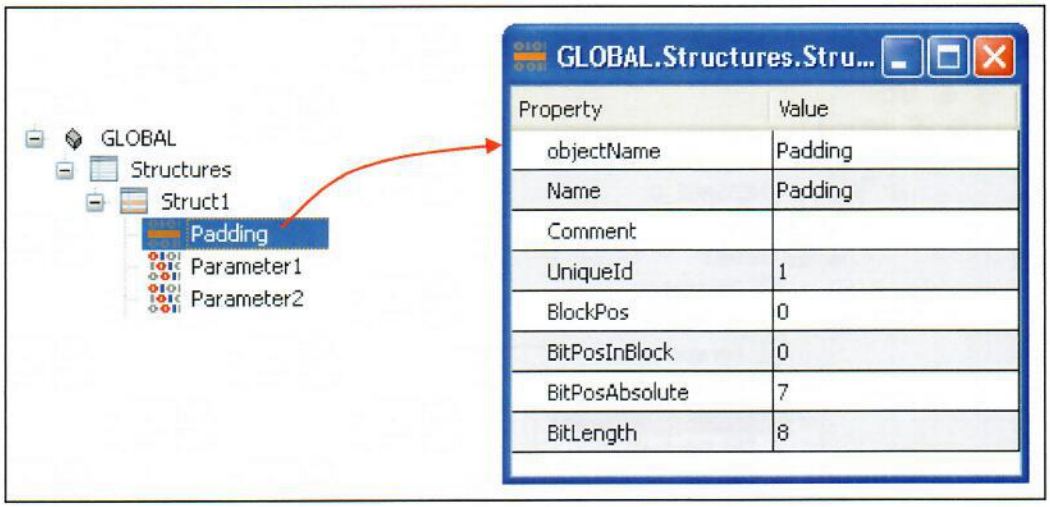


Figure 134: Global Structure Padding configuration

5.1.2.3 Global Parameters

A Global Parameter is used as a template parameter. The BitPos is given by the position of the parameter within the structure and depending on the BitLength of all parameters and paddings defined above and the BitOffset of the parent (Sub)Structure(s).

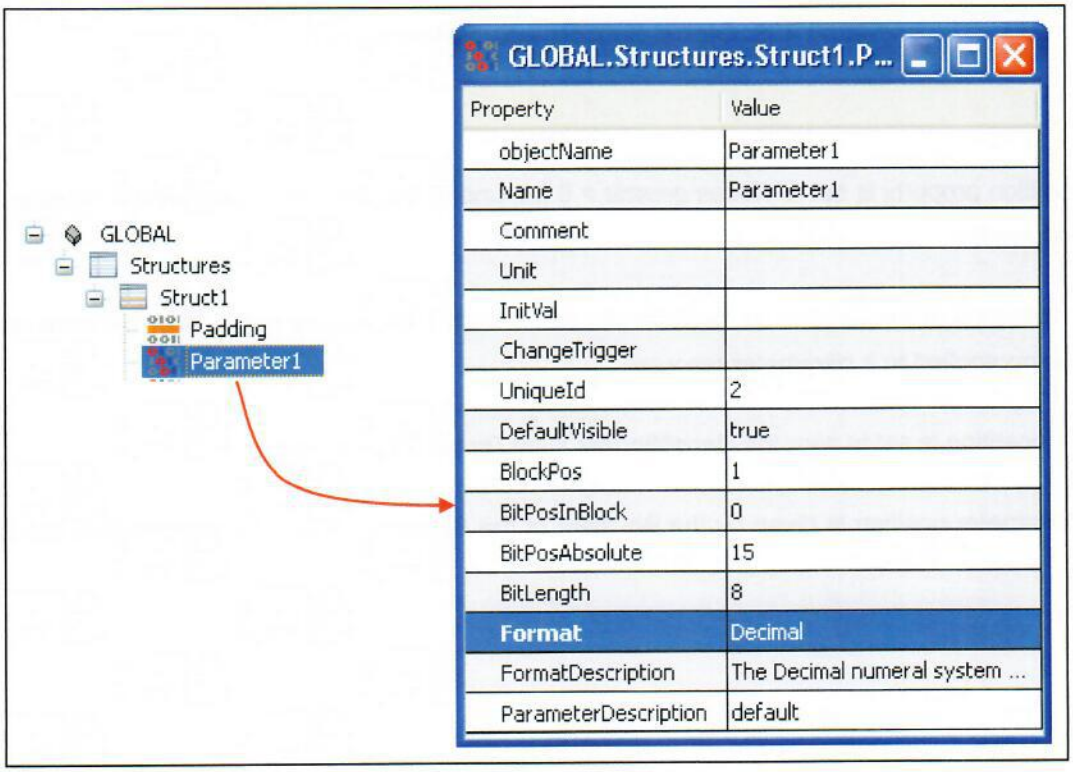


Figure 135: Global Structure Parameters configuration

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5.2 Global Parameter and Structure handling on Resource Side

The general handling will be equal to the description in the 'Parameter handling on Resource Side' in the parameter resource section. A synchronisation between the resource and the database is performed automatically if the receiver is started or if the database has been changed or modified while the receiver is already running. The hierarchical order of the structure definition will be kept:

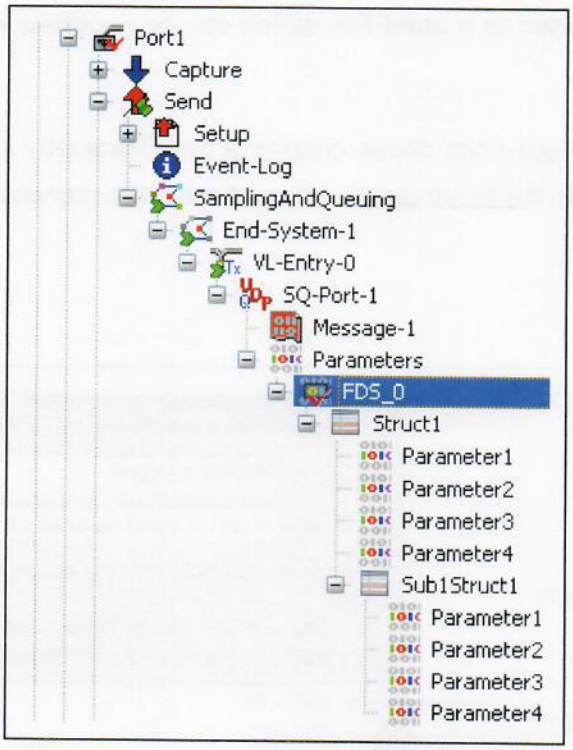


Figure 136: Global Structures on resource side

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5.3 Parameter Groups

Parameter groups can be used to collect often used parameters in one node. The defined groups may be used for Export of Parameters from the Index View, filtering Parameters in the Index View, Assign (Drag and Drop) etc.

Note that Parameter Groups are stored in the project file and not in the database file. Furthermore parameter groups may be exported to a ppref file, which can be imported via the global File Load function.

A right Click to the ParameterGroups node allows creating a New Parameter Group. After opening the Parameter Group via a double click, the group can be renamed and any parameters from the Database can be dropped into the Edit Widget.

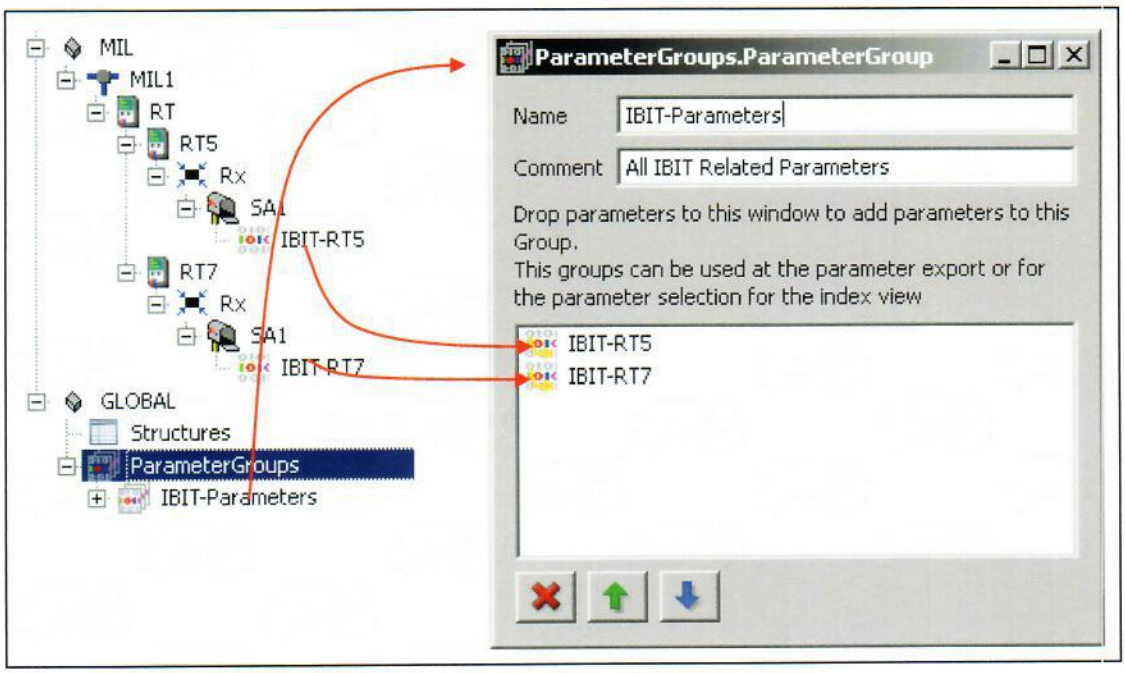


Figure 137: Parameter Groups

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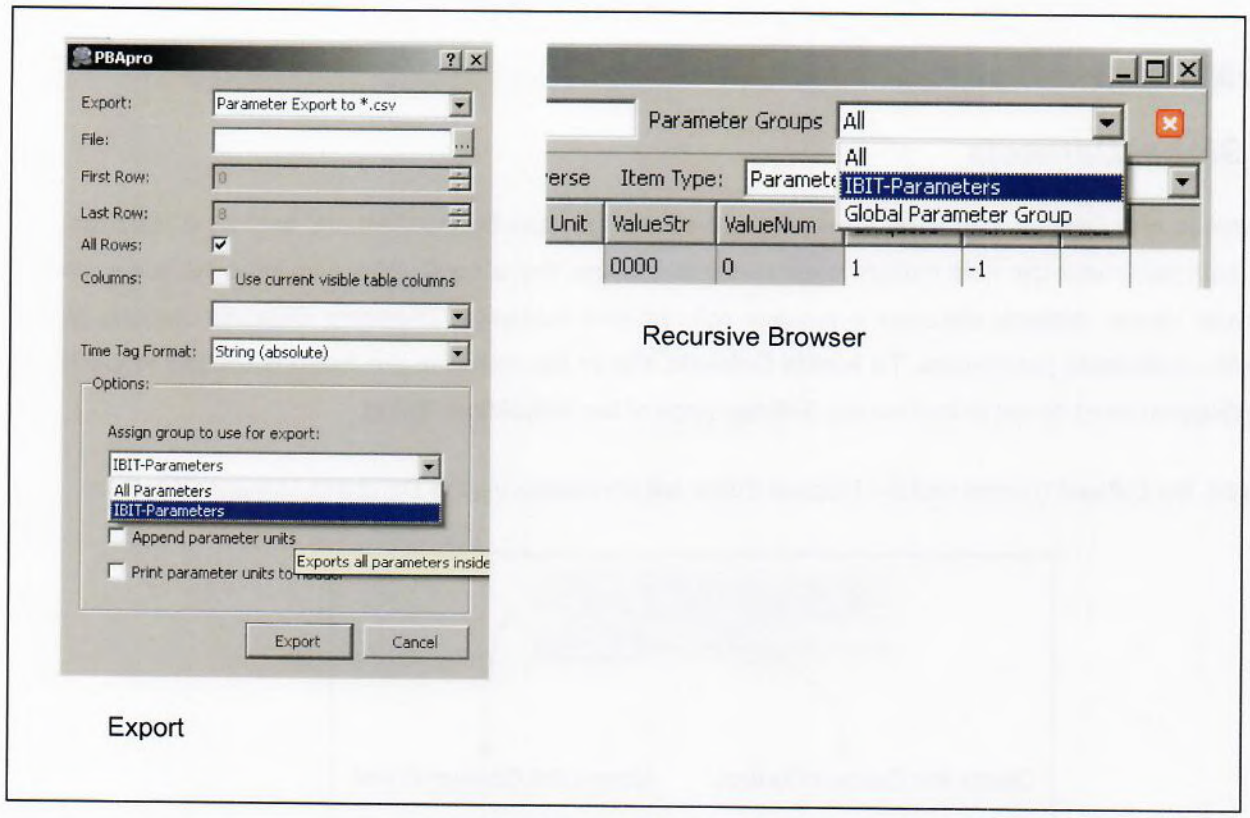


Figure 138: Parameter Group Usage

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6 Datasets

6.1 Global Datasets

The purpose of a Dataset is to have a set of parameters which can be modified and sent by a resource, where each parameter can hold multiple engineering unit values that a send buffer should be set to e.g. on each cycle. Hence, datasets are used to simulate soft real time scenarios. Therefore, Datasets can only be used with controllable parameters. To enable Datasets, the ini-file setting in the Settings section PPDBS/ DatasetSupport must be set to true via the Settings page of the Help|About dialog.

If enabled, the Dataset Control and the Dataset Editor are accessible via the Database Manager Toolbar:

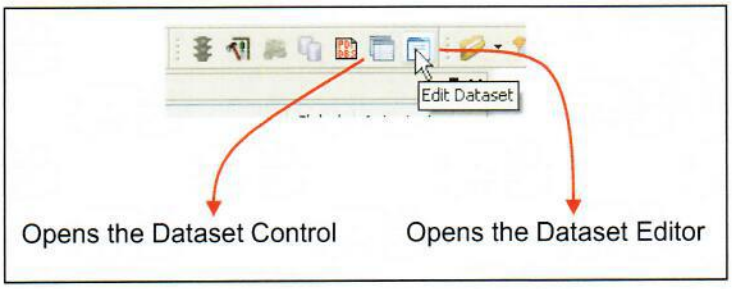


Figure 139: Dataset - Toolbar

The parameter value (in engineering units) is exchanged depending on the TriggerNextMode Property within the Dataset Control:

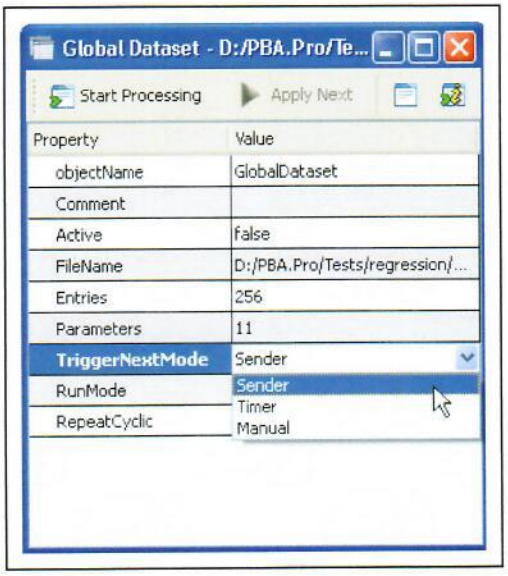


Figure 140: Dataset - Trigger Next Mode

The following modes are supported:

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- Sender: if a message (e.g. an AFDX message) or buffer (MIL) was written to the hardware a new one is requested from the dataset file
- Timer: send of a new Dataset is driven by a timer. The setting in milliseconds
- Manual: the user controls the reloading manual via a runtime dialog/ script (see also Dataset Control)

Each Trigger Event yields in a reload of a new line from the given ppds-file (with the extension *.ppds) in which the parameter values are stored. Each line in the ppds-file represents a set of parameter values which are applied to the parameter on each trigger. The ppds-file represents a text file, containing a header and a data section.

6.1.1 Dataset Editor

6.1.1.1 Creation of Global Datasets

Requirements to create a new Global Dataset:

- Be sure that the support of Datasets is enabled (see Datasets)
- Send parameters which might be used should be already defined within the parameter database

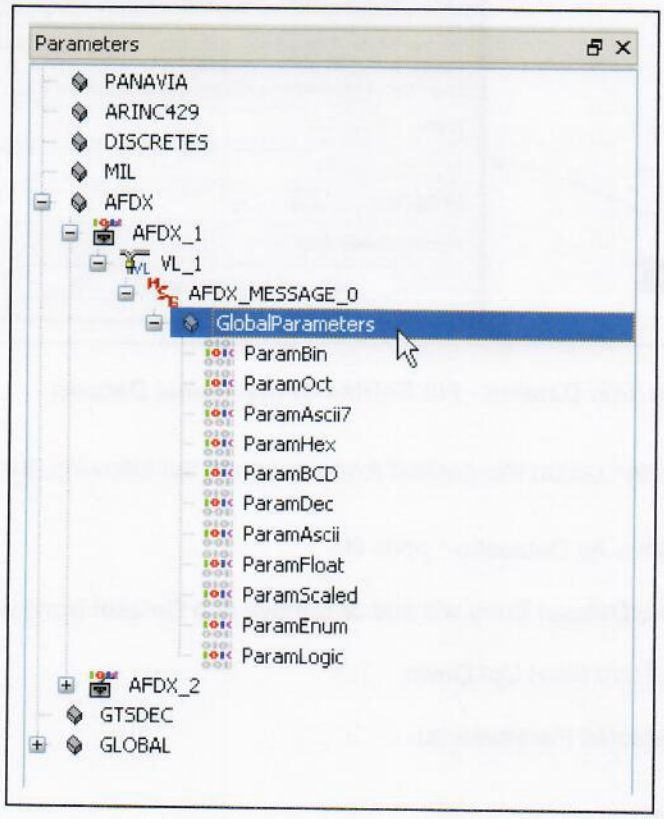


Figure 141: Resource Parameter Instances

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The following sequence defines a new Dataset:

1. Open the Dataset Editor with an empty Dataset
2. Select the "TriggerMode" (Sender, Timer or Manual), if "TriggerMode" is set to Timer optional the timer interval in milliseconds can be changed
3. Select the "RunMode": "RunDatasetWithSender", "RunAllSenderWithDataset"
4. Set "RepeatCyclic" property to "false" if the Dataset sending should not stop after all Datasets from file are sent. If "RepeatCyclic" is set to false, the "RepeatCount" property can be set. A "RepeatCount" of 5 means that the complete content of the Dataset from file will be sent 5 times
5. Add all parameter nodes from the parameter database via drag & drop to the Dataset Editor. It is also possible to select a root node to add all parameters below the root. The parameters property will show the count of all used parameters
6. Set the "Entries" property to the count of rows the Dataset should have. The result is an empty table if the added parameters do not have an "InitValue" otherwise the table is pre-filled with the init values
7. Fill the columns for each Parameter by typing from script or by the convenient use of the Fill Dialog which is accessible by the table context:

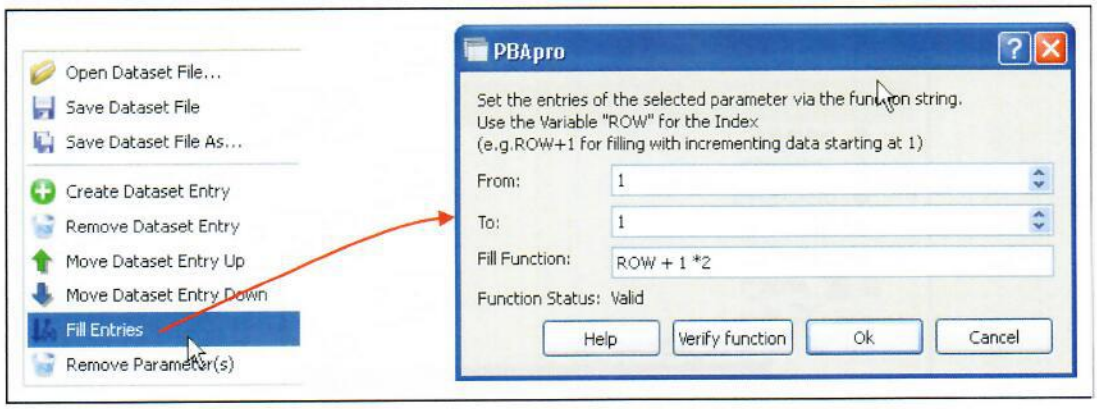


Figure 142: Dataset - Fill Entries of the Global Dataset

8. Depending on the selected cell(s) this context menu supports the following, further features:
   - Open/ Save/ Save As Dataset a *.ppds file
   - Create/ Remove Dataset Entry will add or remove one Dataset (row) within the table
   - Move Dataset Entry (row) Up/ Down
   - Remove the selected Parameter(s)
9. Finally save the Dataset

After proceeding as explained, the Dataset looks comparable to the following screenshot:

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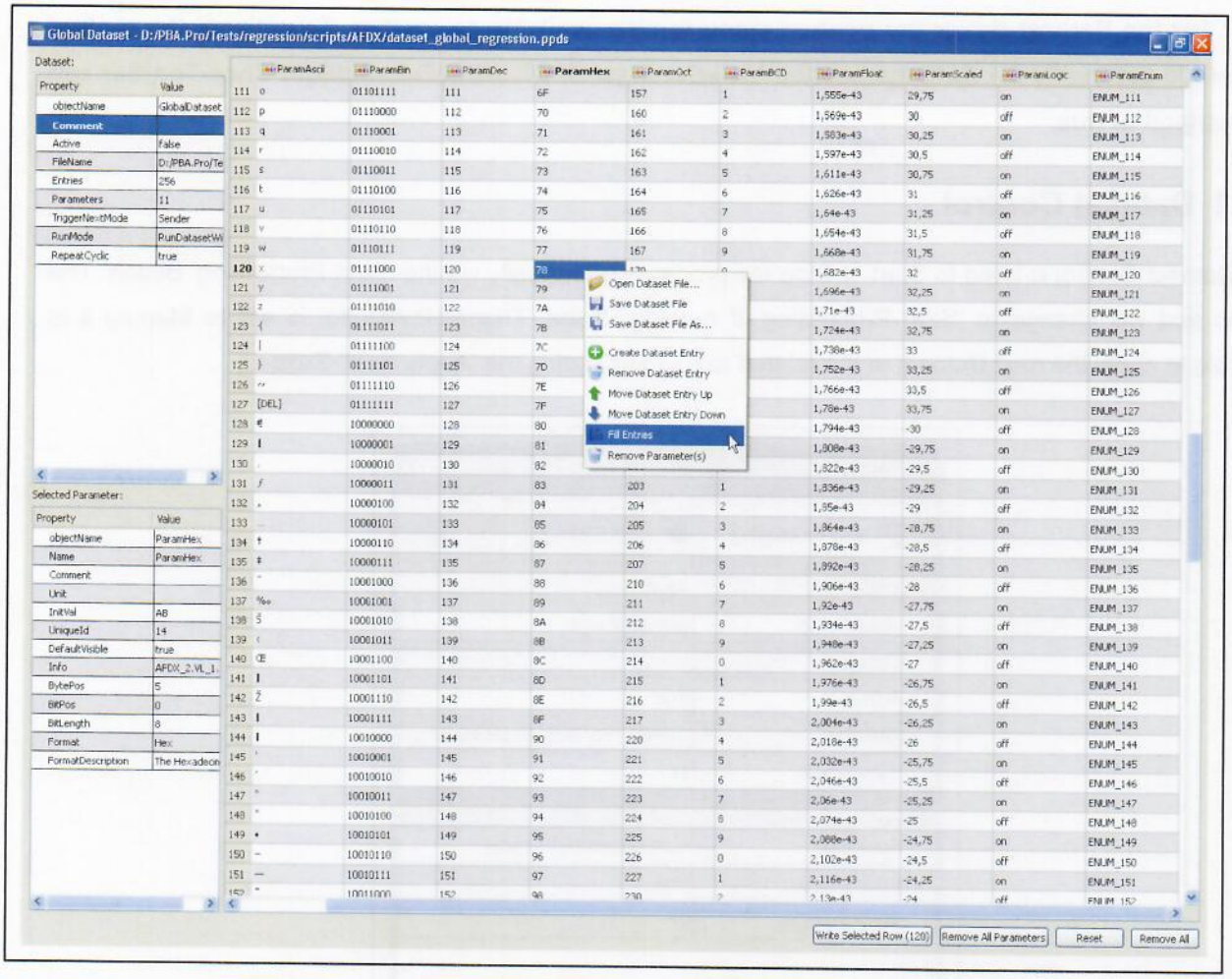


Figure 143: Dataset - Configured Global dataset

From the bottom of the Dataset Editor the following actions are possible:

Button	Description
Write Selected Row (0)	**If the related resource is active, this will write the Dataset (row) immediately to the resource.**
Remove All Parameters	**Removes all parameters from the Dataset.**
Reset	**Fills the table with the "InitVal" for each parameter. If no "InitVal" is defined the related columns are empty.**
Remove All	**Removes all Dataset entries (rows) "Entries" = 0, but the count of "Parameters" will be unchanged.**

Table 3: Dataset - Buttons

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Note: For the Dataset Editor the context menu is also available as toolbar. To activate the toolbar the ini-file setting in the Settings section ViewSettings/ PPDBSGlobDataSetEdit/ ShowToolBar can be changed to true.

6.1.2 Dataset Control

The Dataset Control is used to Start or Stop the processing manually via the 'Start Processing' Button. The Button text will change to 'Stop Processing' if running. If the 'TriggerNextMode' is set to Manual it is possible to apply the next Dataset to the related resource(s) using the 'Apply Next' Button:



Figure 144: Dataset - Control

The "RunMode" property allows to control how and when the Dataset is started:

- **RunDatasetWithSender** (default): The Dataset will start whenever the related resource is started
- **RunAllSenderWithDataset**: The Dataset itself will start the related resource(s). This might be useful if more than one resource is connected to the Dataset (multi-resource approach)

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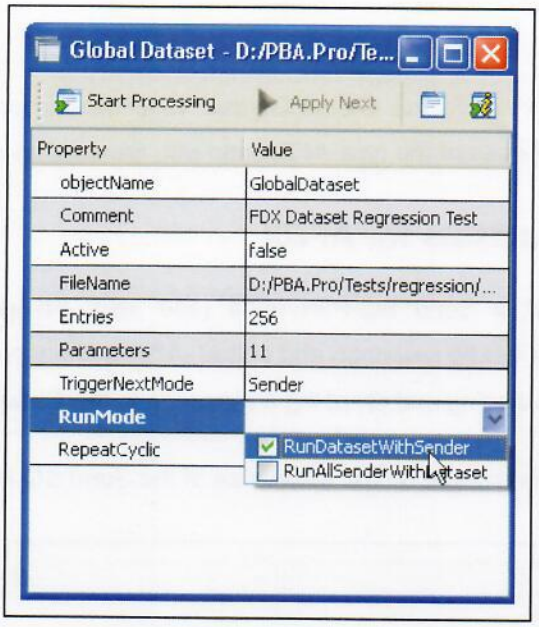


Figure 145: Dataset Run Mode configuration

6.1.3 Runtime Info View

From the Dataset Control dialog selecting -  - will open the Runtime Info View for the current Dataset, showing information about how many Dataset entries are read from file, the FileCount and how many parameters (ParamRefCount) are served by this file. Note that this view is only available if the Dataset was started before.

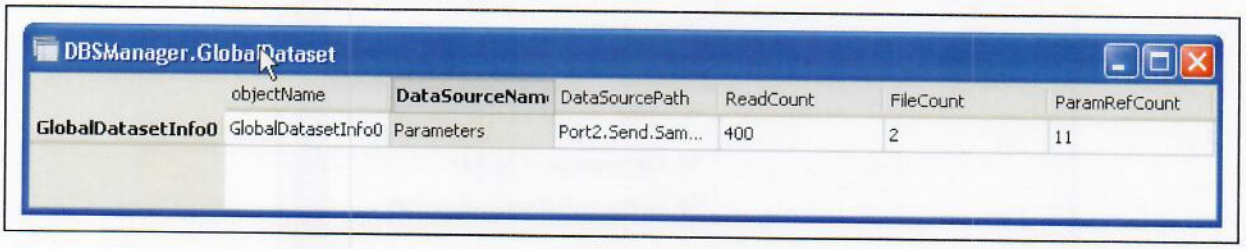


Figure 146: Dataset Runtime Info View

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6.2 Local Datasets

The setup of a local Dataset is similar to the Global Dataset (see description above). The Creation is resource dependent. Currently resources of the type AFDX and MIL are supported.

6.2.1 Creation of Local Datasets for AFDX

For creation the context menu of a Send SQ-Port node (see also: PBApro_afdx_GS.pdf) is used. Automatically all related parameters will be searched and added. After a change of the parameter database new parameters can be added by dragging and dropping a message to the Dataset Editor.

Create a new Dataset from the context menu on the setup side of the Send SQ-Port node:

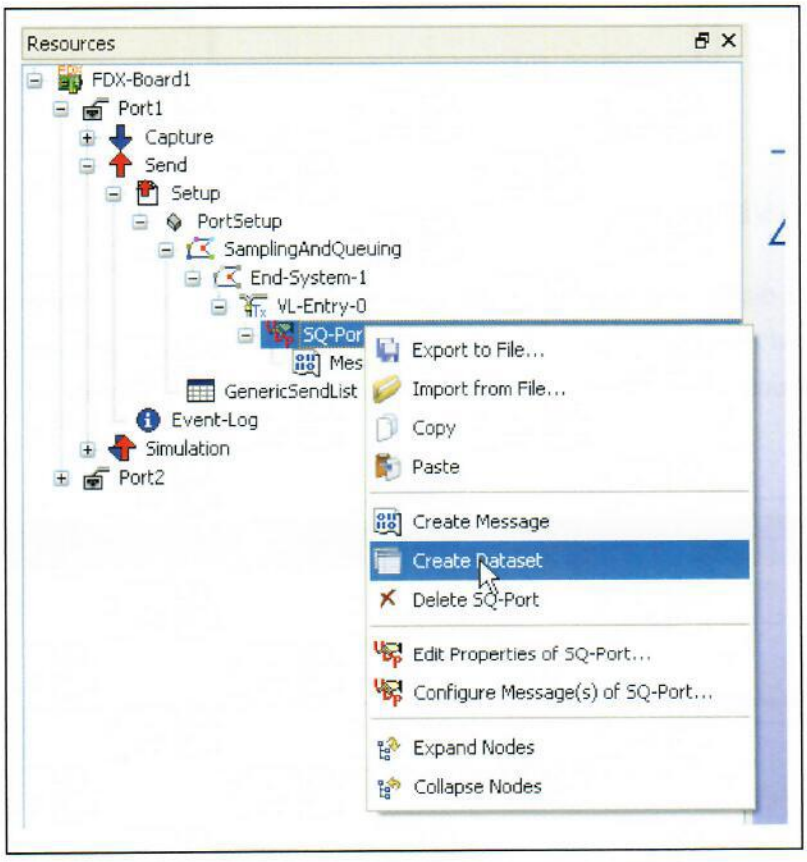


Figure 147: Dataset - Setup AFDX Dataset

Edit the existing Dataset from context menu of the created Dataset:

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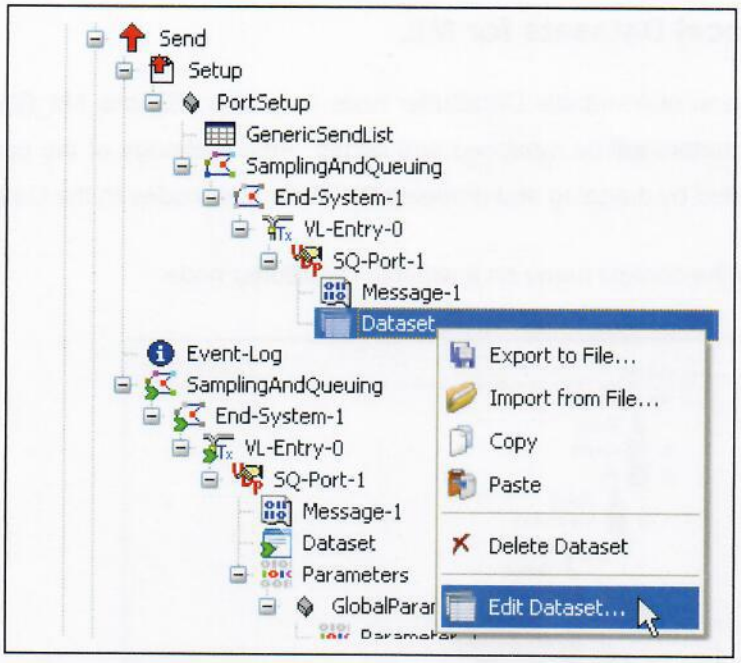


Figure 148: Dataset - AFDX Dataset configuration

Note: there is no Dataset Control on the setup side.

Runtime Dataset:

Once the "Send" is started there will be a "Runtime Dataset" which is a copy of the setup Dataset. It is controllable and also editable, but unlike the setup Dataset changes of properties are not saved in the project file.

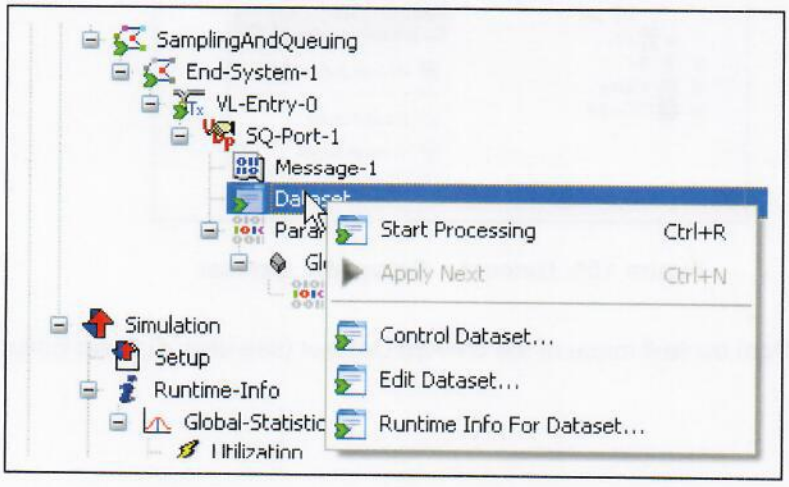


Figure 149: Dataset – AFDX Dataset Runtime control

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6.2.2 Creation of Local Datasets for MIL

For creation the context menu of a writable DataBuffer node (see also: PBApro_Mil_GS.pdf) is used. Automatically all related parameters will be searched and added. After a change of the parameter database new parameters can be added by dragging and dropping the Parameter nodes to the Dataset Editor.

Create a new Dataset from the context menu on a writable DataBuffer node:

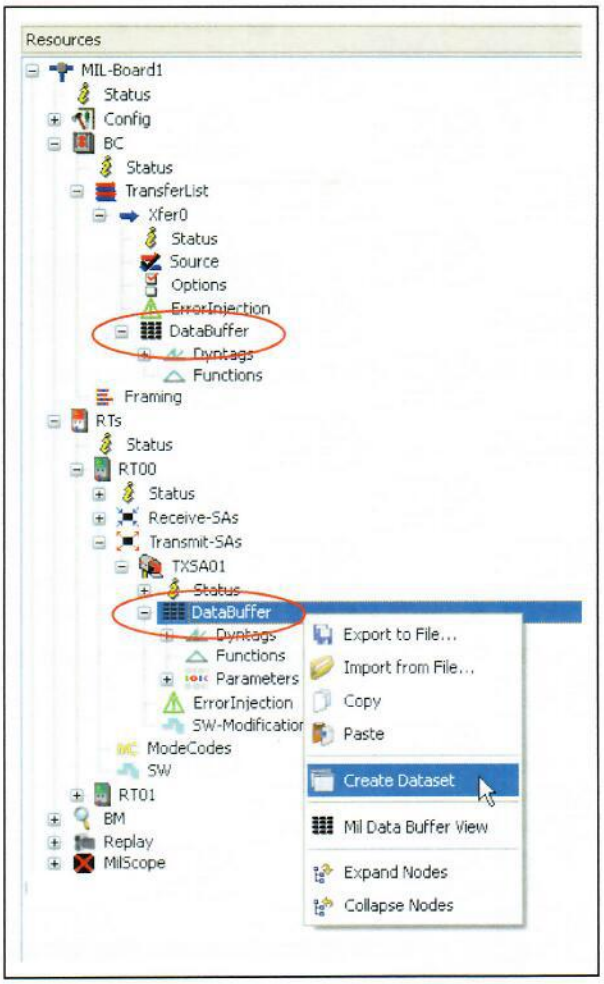


Figure 150: Dataset - Setup MIL Dataset

Edit the existing Dataset from context menu of the created Dataset (see also: Dataset Editor):

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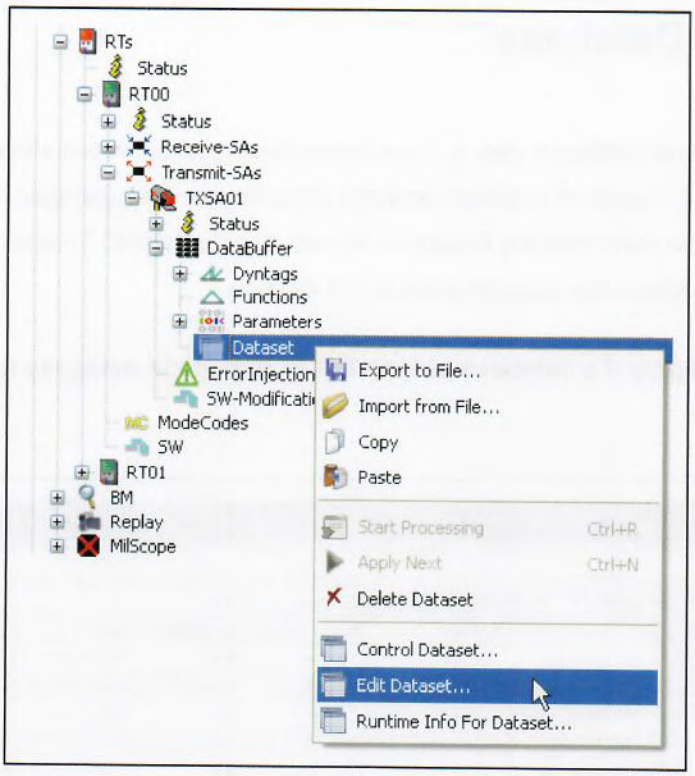


Figure 151: Dataset - Edit MIL Dataset

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7 View and Edit Database

On each level in the hierarchical database tree, a 'View Parameters' context menu entry is offered: This entry will pop up a table and provides an overview and edit capability for all parameter residing below the selected tree. Alternatively you may open the Database Viewer with the related Toolbar button . The table displays all parameters below the selected node in the left tree.

Note: The database is read only if a database of type PDI or if multiple database files are used. (See: Database Stream Assign).

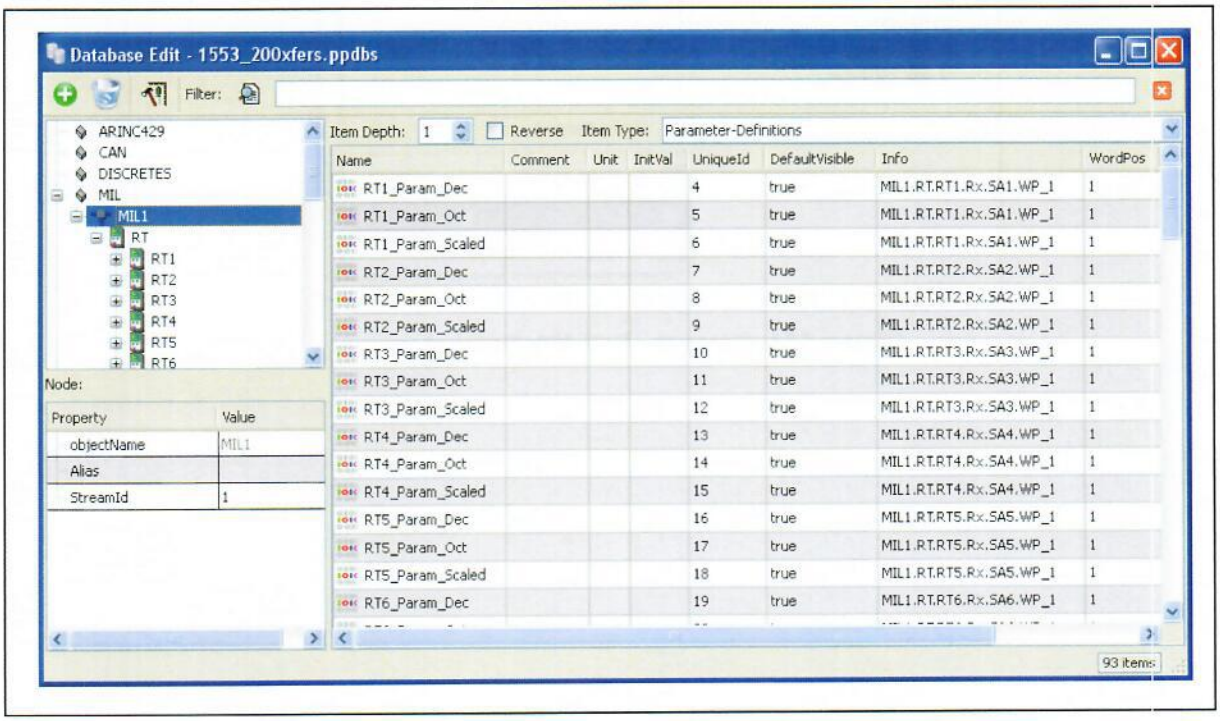


Figure 152: Database Parameter Editor

- The  button adds a new parameter, where the current selected parameter in the table is copied. This option is disabled, if no parameter is selected in the table
- The  button deletes the currently selected parameter. To delete complete database nodes, right click to the tree and select the related menu entry
- The Search Field allows searching for any substring at definable positions
- The  button is used to reset the current filter settings
- The "Item Type" control allows to select the displayed elements, which may be different for every type of parameter you have selected

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- The  Button is used to select the filter column
  For example: If "Name" and "Comment" is checked, the search of the entered filter string is performed in the Name and Comment property. If you check "Use Wildcards" the Filter String may contain Wildcards like "*" for any character or "?" for exactly one character.

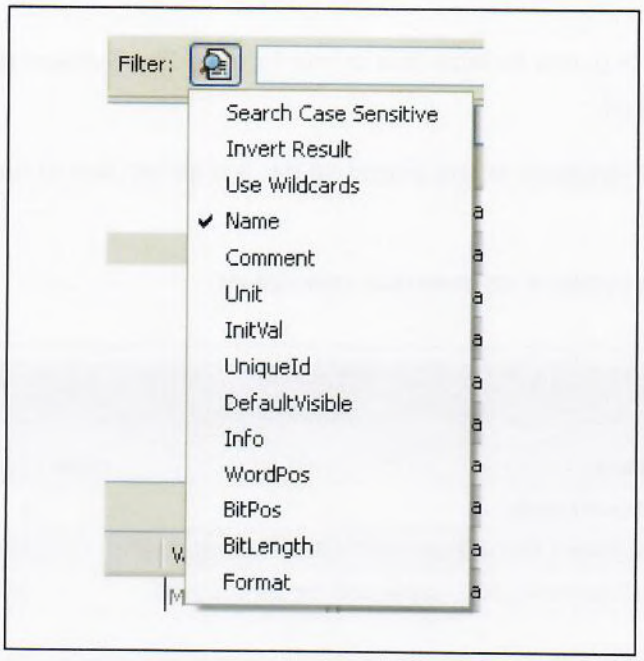


Figure 153: Display Filter configuration

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8 Database Stream Assign

The database Stream Assign is used to load more than one Database Files at once. Reasons for multiple databases might be:

- Smaller database files (e.g. one for each Bus or one for each End System) allow using them in different projects as required
- You may use the same database in one project on the first stream and at another project on a different stream (number)
- You may use the same database on more than one stream

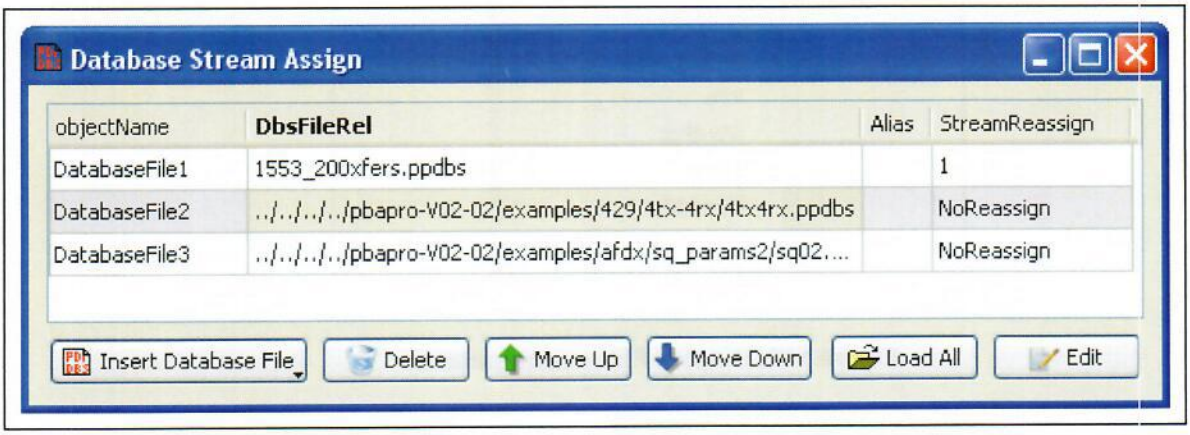


Figure 154: Assigning multiple Database files to the PBA.pro Database component

The DbsFileRel Property allows selecting a Database file. This may be either a ppdbs, pdi or a User defined Database.

If you use the "StreamReassign" property, the related database file should only contain one Stream Root node (MIL1,AFDX_1, A429_1 etc.). If you set the "StreamReassign" property to any other value than "NoReassign", the related Stream Root Nodes property "StreamId" is set to the related value. This value corresponds to DbsSteamId value of the related resource.

The Alias node is used for the Alias field of the related DBS Stream.

If a ppdbs file is selected, the file can be edited separately in an own database view, which may be saved separately and loaded again with the Load All Button.

Note: If more than one file, or another file type than a PPDBS is used, the database cannot be edited anymore. If it is required to edit the database the database needs to be saved with a "Save As.." to a ppdbs file first.

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9 Assign

9.1 Assign Elements

The Assign may contain several different elements. This are parameters, folders, system states tabs or properties of objects from e.g. the resource list.s

9.1.1 Parameters

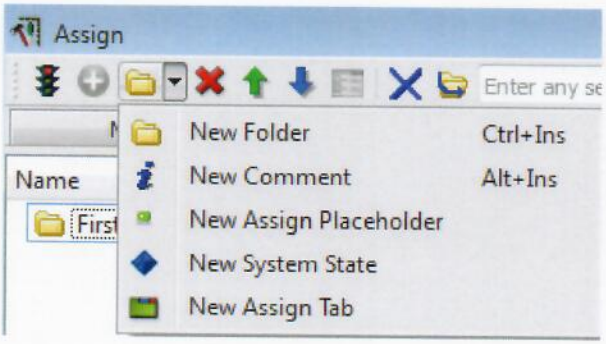
Database parameters can be added to the Assign by Drag and Drop either from the Database Manager Dock Widget, the Database View (see: 7 View and Edit Database) or the Parameters node from the Resource side. The Assign Display shows the value of the Parameter Value Instance located on the related Resource (e.g. RT Buffer, 429 Label or AFDX Message). If a Parameter value can be changed or not depends on the source of the Parameter. If the source can control values the Assign Entry can do it also.
The Comment Field of a parameter shows by default the same comment like the corresponding Database Parameter, but may be changed, without changing the original Database Parameter comment.

9.1.2 Property Values

You may drag and drop any (Non Database) Object into the Assign Display. After this you may have to select the related property of the object. This may be for example any object form the Resource Tree.

9.1.3 Other Assign Elements

The following objects can be added via the related button in the Assign Display:



9.1.3.1 Assign Folders

An assign Folder allows you to add Groups of different other Assign Entries.
The Folders may be opened or closed by clicking on the triangle on the left side of the folder Icon.



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9.1.3.2 Assign Comment

An assign comment allows you to add any informational message into the assign. The comments may consist of more than one line. Just hit enter during edit and continue writing. Press escape, when you are finished with editing.
An assign comment spreads over the complete width of the assign display.



9.1.3.3 Placeholder Assign Entries

Placeholder assign Entries are just empty assign entries, which may be feed by a script or a 9.3.6

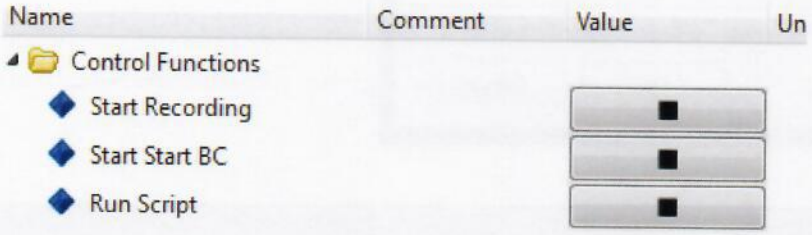
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Assign Calculation Formula.



9.1.3.4 System State

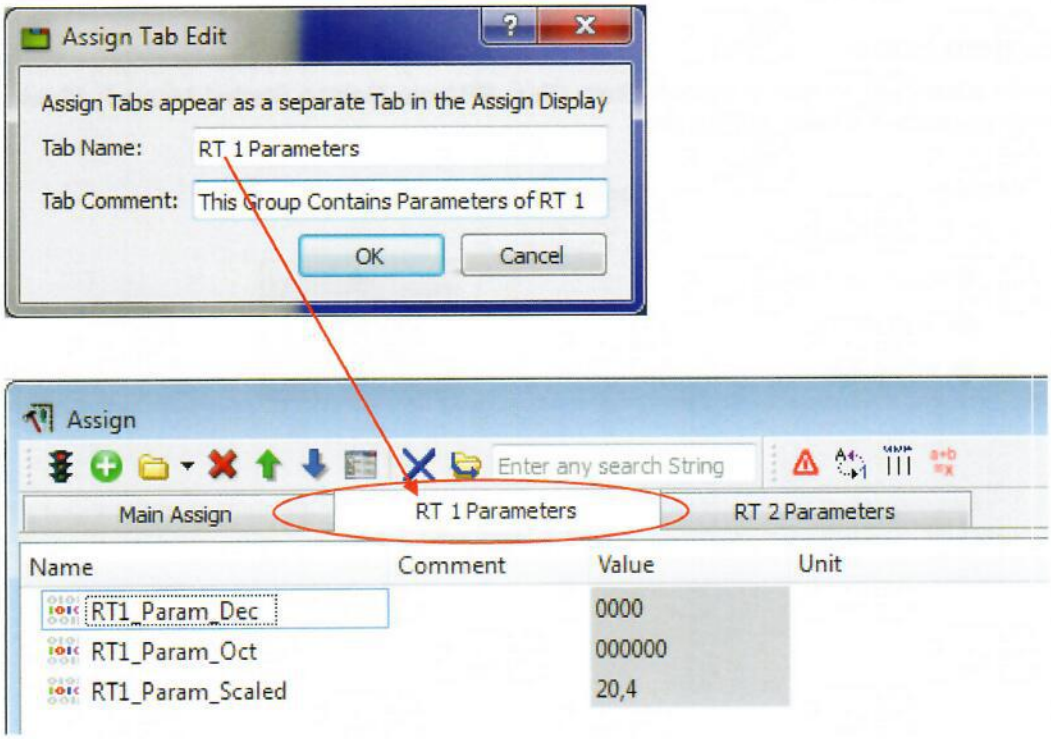
A system state allows you to add a System State (See: PBA.pro Getting Started Manual) allowing you to control almost any other Function of PBA.pro



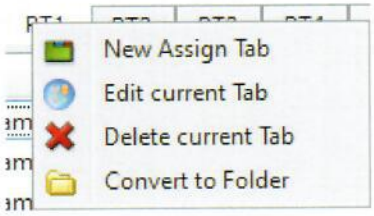
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9.1.3.5 Assign Tab

An Assign Tab allows you to Create Assign Groups of Assign entries, which are displayed as separate Tab within the Assign Display.



Assign Tabs may be renamed by Double Clicking to the Tab, respectively via the “Edit current Tab” in the popup menu accessible via a right click to the Tab.

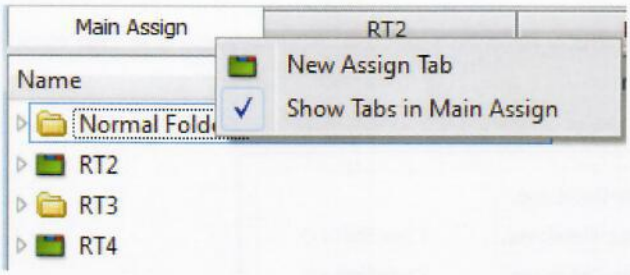


Tabs may be converted back to normal Assign Folders (via the popup menu of the tab).
Folders located on the first level may also be converted to a Tab (vial the popup menu within the Assign Display).

The Main Assign contains the Parameters not associated to a Tab. You may move Assign Entries between the different Tabs by Cut/Copy and Paste, or you select “Show Tabs in Main Assign” in the popup menu of the Main Assign Tab.

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Furthermore you may select “Show Tabs in Main Assign“ in the popup menu of the Main Assign Tab. This will show Tabs as normal Folders in the Main Assign, which allows you to easyly move elements from or to Tabs.



You may move the Tabs by Drag and Drop, but the Main Assign (elements not in a Tab) stays always the first.

If the Main Assign contains only tabs the Main Assign is only represented by a small tab without text, so it stays accessible, for the case, you want to add elements again.



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9.2 General Assign Functions

The Assign displays data from different sources within one common View. It is accessible via right click on the Database Manager, where the Edit Assign menu is to be selected. Alternatively one can click on  of the Main Window's toolbar.

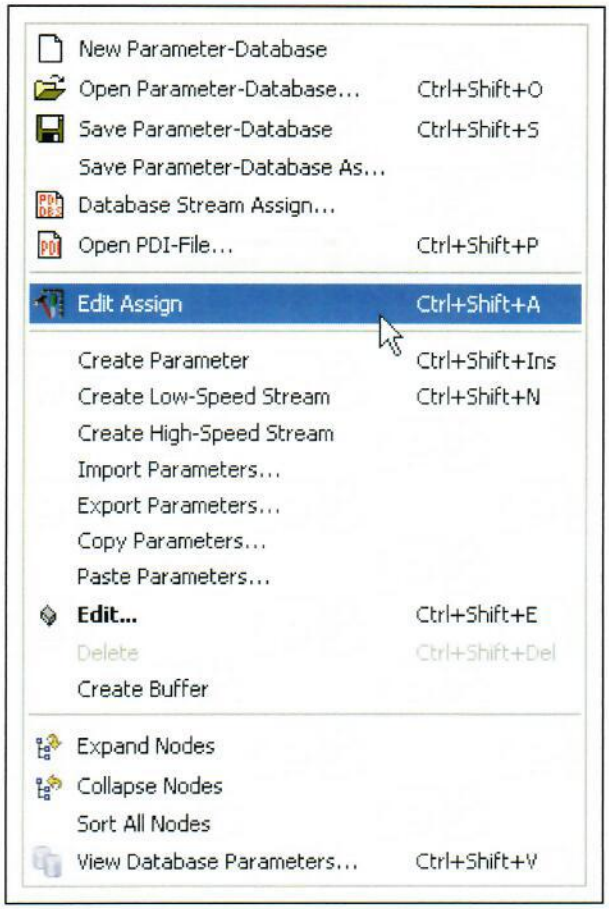


Figure 155: Edit the Assign

To add an object, drag and drop it from the Resource- or the Database Manager Tree to the display. If an object of the resource tree, which is not of type Parameter, is dropped, the property of the object to be displayed is to be specified. If a Database Parameter definition is dropped, the related Parameter instance (Parameter below a buffer of e.g. MIL RT Sub address, ARINC Label etc.) should be enabled resp. available on the related resource.

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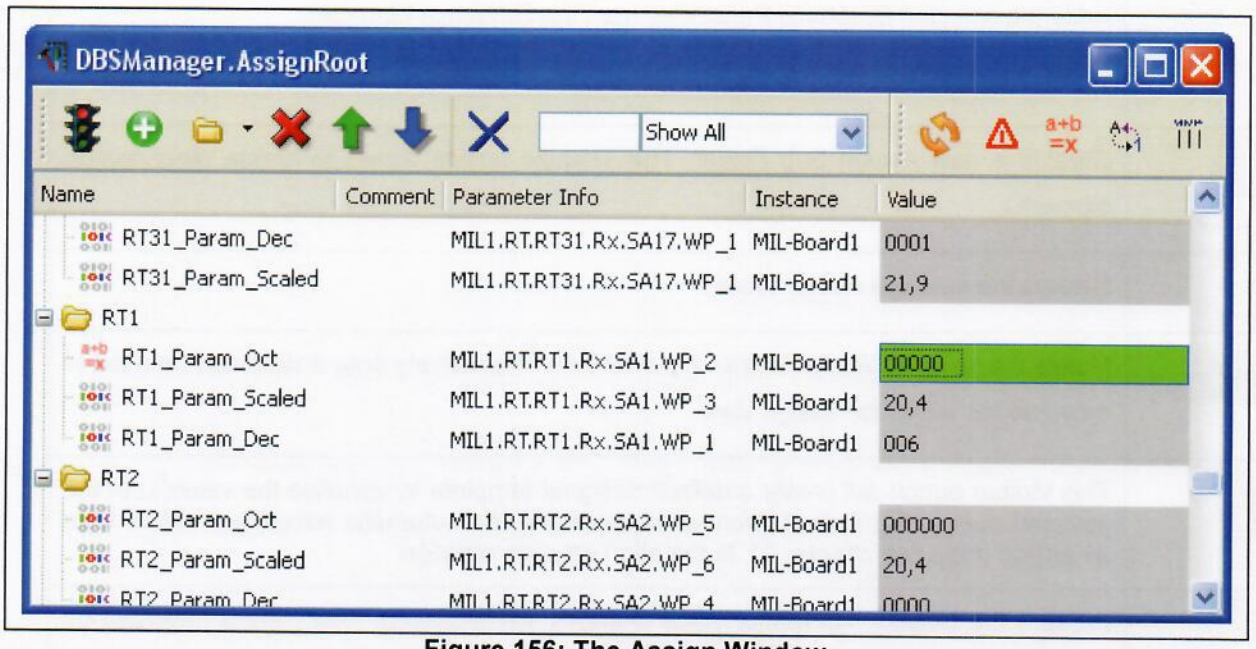


Figure 156: The Assign Window

The Column "**Instance**" indicates the currently used Parameter instance of the related Parameter definition of which the value is to be displayed. A Parameter definition might have multiple Instances of parameters on resource side, if for example multiple resource streams use the same Parameter StreamId. For ARINC429 or AFDX Parameters one may additionally have *Online* respectively *Setup* Instances, which can be assigned. The Online Instances reflect the Online Value of the Parameter, the Setup Instances reflect the Setup Values of the Parameter on the Setup side of the Related Channel or Port.

The Instance of a Parameter can be selected via the context menu of an added parameter. The Column "**Parameter Info**" is used to distinguish between parameters with equal names, located on different Parameter Sources.

The columns of the assign can be shown or hidden by a right click to the header of the table and checking/ un-checking the related column.

Icon / Button	Description
	Starts/ Stops the required component functionality (e.g. RT Simulation, ARINC429 Channels etc). The values of the related parameters may be valid even if the assign is not started. Pressing this button will enable the required functionality on the related resources. Furthermore the assign options (e.g. Stored Signal Values, Default Preset Values) are reset to the default state.

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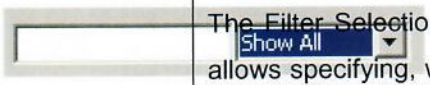
	Adds the selected Database Parameter from the Database Manager
	Creates a new Assign Sub Folder. The Triangle beside allows to create other assign elements.
	Deletes the selected Assign Node
	Moves the selected Assign entries Up or Down. Alternatively drag & drop can be used to move nodes within the assign view
	This toolbar button will create a default designer template to visualise the value(s) of the selected nodes. For further information regarding the automatic template creation from an assign node see chapter 11 Automatic Template creation
	Freezes the Display. No further value changes are displayed. This state is indicated by displaying a blue frame around the value property. This may be used to have a snapshot of the values at a dedicated time point
	Writes the Init Values of **ALL** Database Parameters of the Assign to the Target. See also: **Preset Value**
	Writes the Init Values of the **selected** Database Parameters to the target.
	 Shows a Dialog allowing to direct jump to a dedicated Group within the assign
	The Filter Selection Toolbar allows filtering by any string. A right click to the Text Edit allows specifying, where to search (Name, Comment, Value etc). The combo box allows to filter for parameters with dedicated options set e.g. all parameters with an Assign Signal Option (see next Chapter) or all parameters, which are signalled etc.

Table 4: The Assign Toolbar

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A right click to the assign list displays the following menu, which allows selecting some further options, like Copy/ Paste etc.

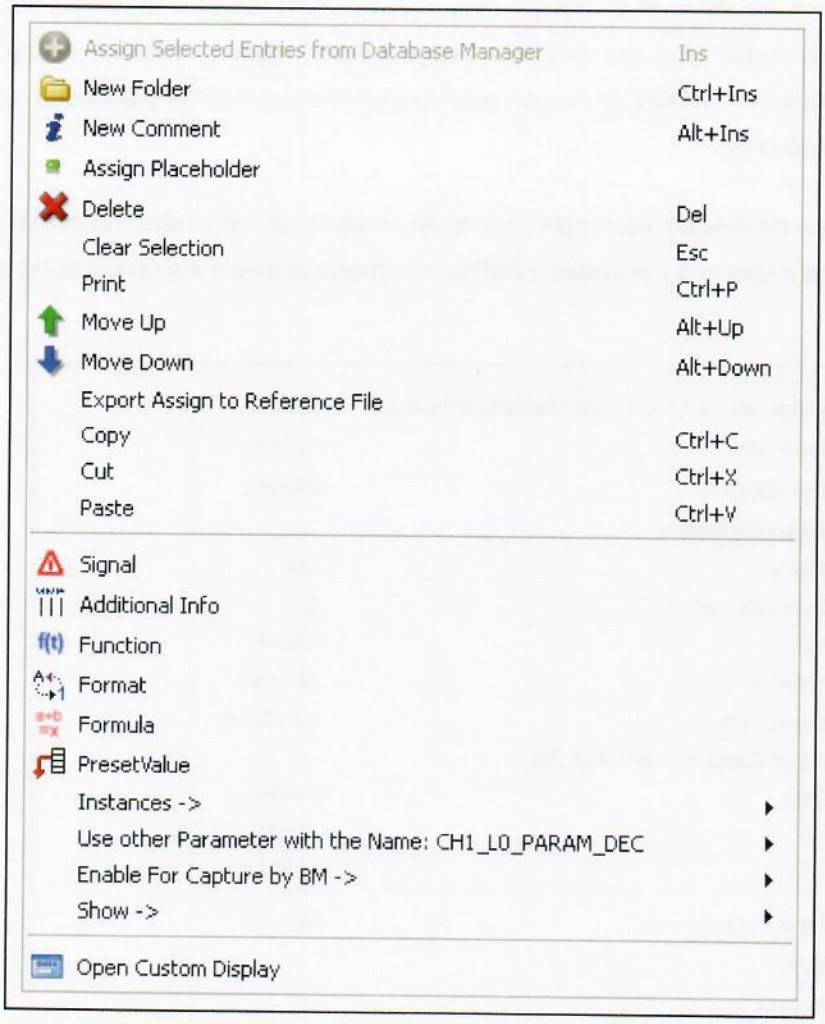


Figure 157: Assign Context Menu

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9.3 Assign Options

Assign options are special functions, which can be used in conjunction with an assign entry. As an example they can be used to check if a value of an assign entry is in a certain range or to control the assigned value. Depending on the parameter type, the available assign options might be different. As an example, it is not possible to add an option to modify an assign resp. parameter value if the parameter is a receive parameter and therefore read only.

All configured options can be deleted via a right click to an assign entry and selection of the 'Delete Assign Options' menu entry. This menu entry provides a further sub-menu to select the option to be deleted.

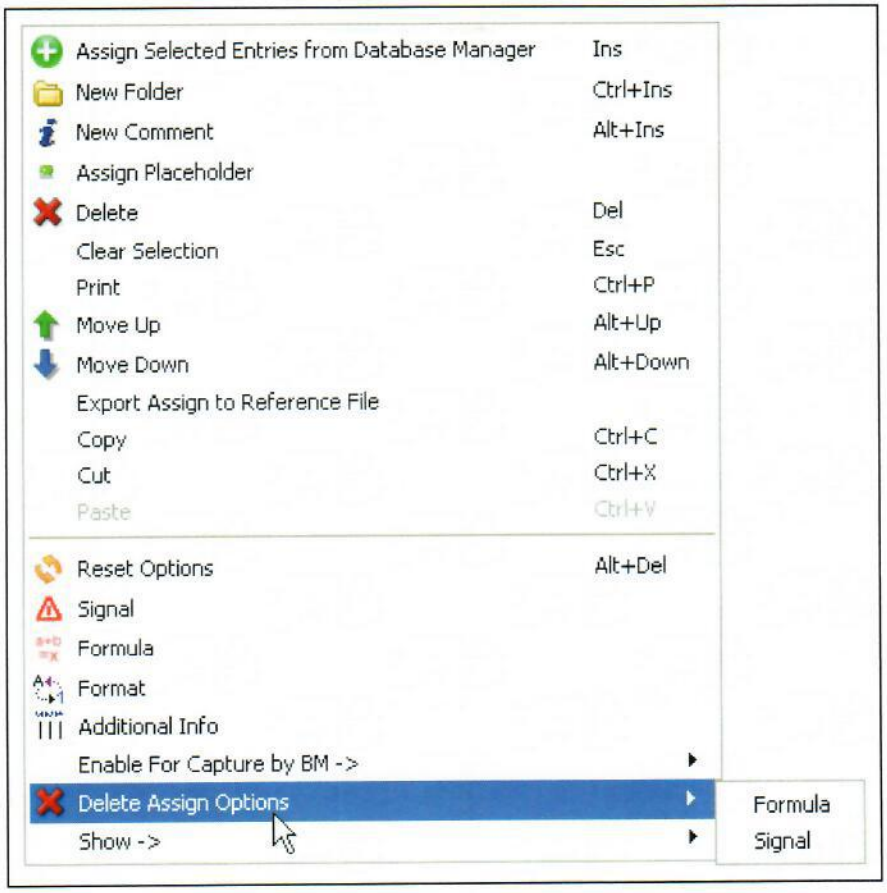


Figure 158: Deleting Assign Options

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9.3.1 Assign Signal

Allows to setup a Signal for a dedicated parameter value. This option signals a dedicated parameter condition in a user selectable colour. As an example, this can be used to setup Alarm, Pass, Warning or Fail states for dedicated parameter values.

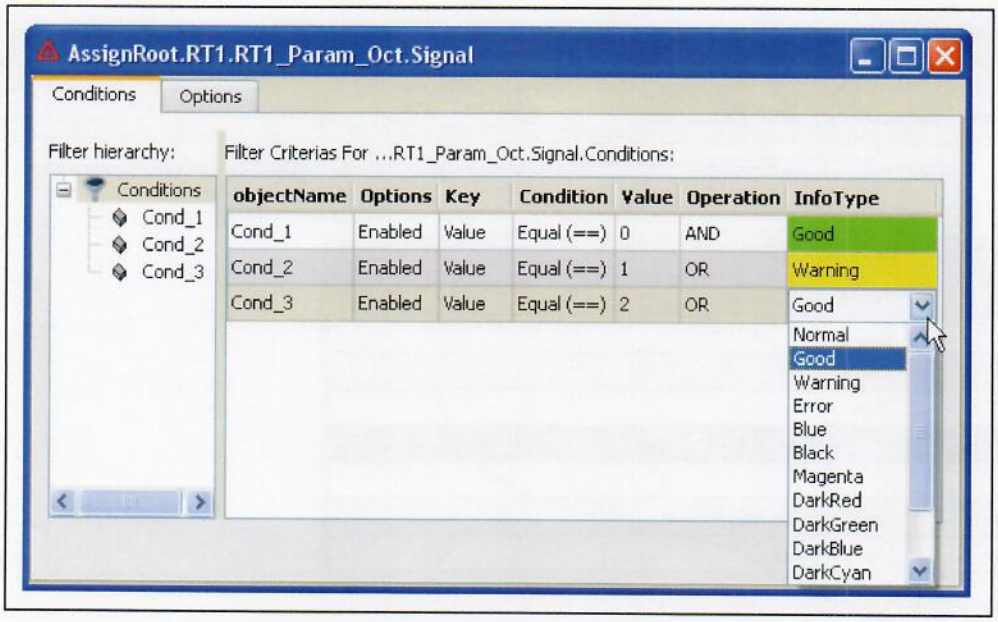


Figure 159: Setting up Assign display conditions

If multiple conditions are set up, the conditions are evaluated in a sequence from top to bottom, where the first matching condition will be used as signal condition. The parameter will be displayed in the colour of this matching condition.

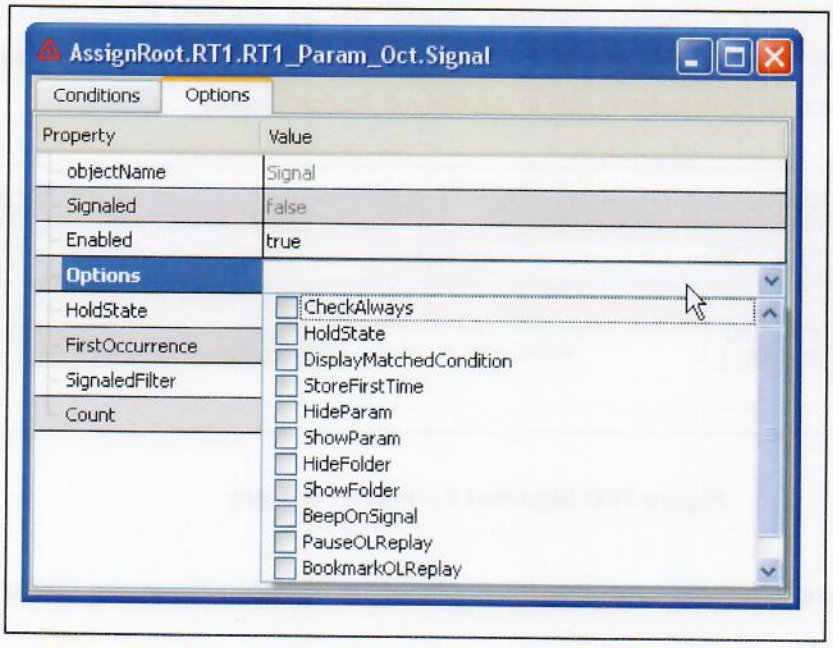


Figure 160: Assign Display Signal Options

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The second page of the Signal Edit allows specifying dedicated options for the Signal. Move the mouse over the related item, and you will get the description of the related option.

Note that some options store the last value/time or colour, which did match the condition. To reset the related values, the reset button in the assign display can be used.

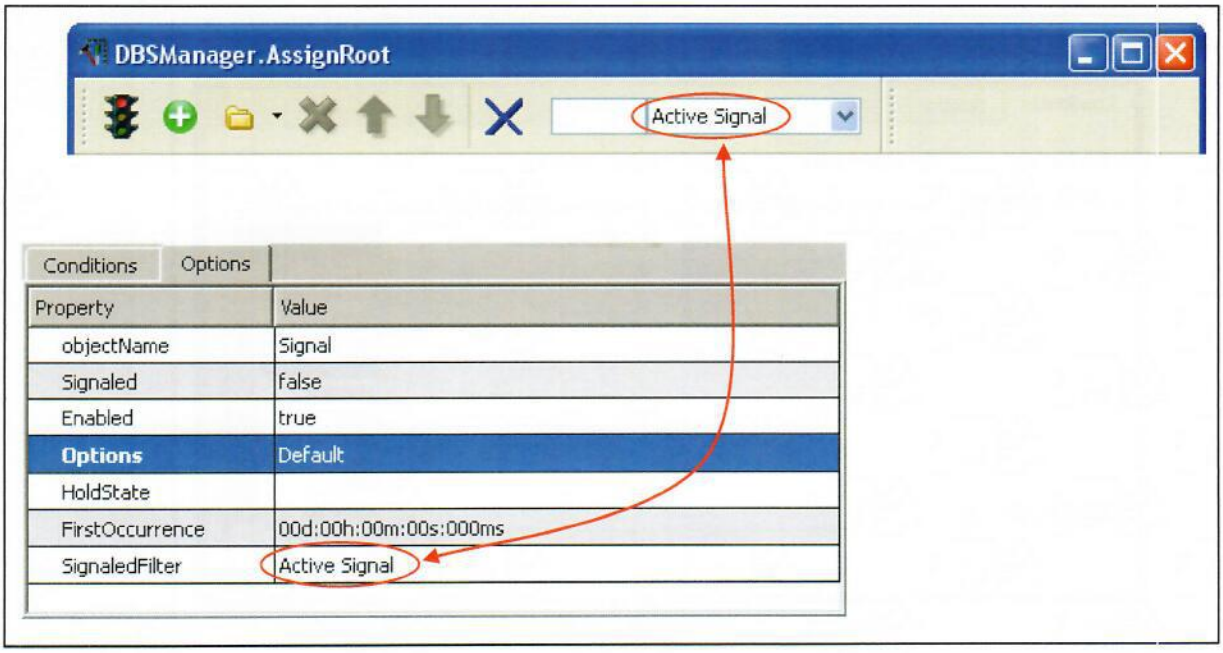


Figure 161: Signaled Filters of the Assign

If an assign option is set up, an editor for SignaledFilter property will appear in the Filter Selection Toolbar of the Assign Display. This enables the user to setup different sort modes for "Signaled Parameters" (corresponds to the Alarm Display of the former tool ParaView). When the Option "ShowInSignaledDisplay" is set, the SignaledFilter Property is fixed to "Signaled Display" and the Signaled Parameter Display will automatically popup if such a parameter goes to the Signaled state, when the Assign is started. The corresponding Parameter does not have to be visible in the Default Assign Display.

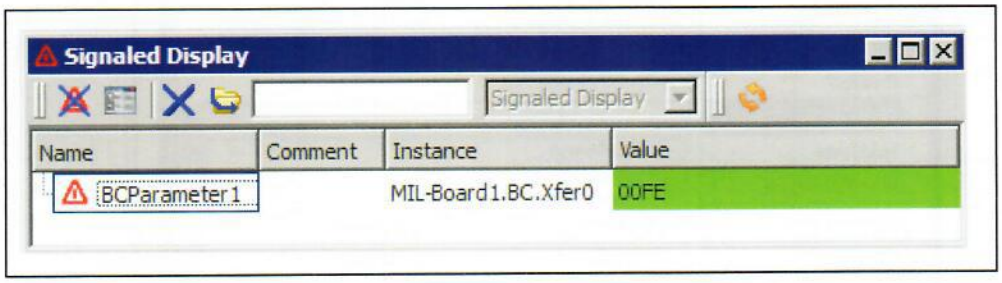


Figure 162: Signaled Parameter Display

The Icon can be used to disable temporary the popup of the Signalled Parameter Display until the assign is started again.

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9.3.2 Assign Function

The button f(t) allows defining a user definable function. The return value of the function is used to modify the value of the corresponding assign entry.

- The "Rate" is the time in ms, in which the value "t" is incremented. Hence "t" can be used as counter value within the function property
- The result type must match the property type of the assigned property. As an example, if the property is of type double, the result of the "Function" needs to be a numeric type as well
- The Function is started if the assign is enabled and the "Enabled" property is set to true, otherwise the function may be toggled with the button in the assign view manually (Note: this is only applicable if a related parameter is selected)

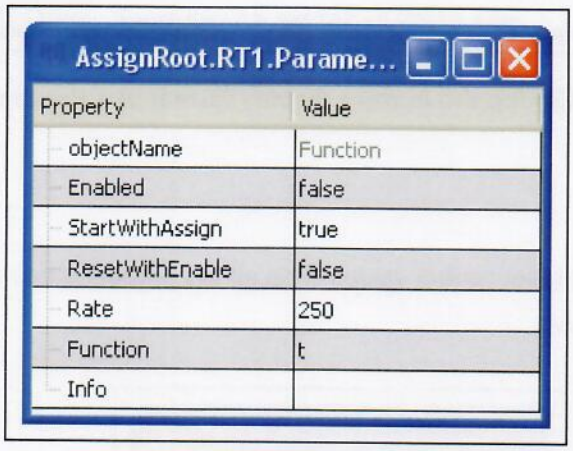


Figure 163: The Function editor

To get further information regarding the function, open the function editor as shown above and Press F1. The online help will provide an actual list of all available function expressions (link PPFunction).

Note:

- A detailed Function syntax can be found in the "Designer Getting Started" manual, chapter "User Definable Function" as well
- The returned value has to match to the range of the corresponding assign entry resp. value of the assigned property, otherwise the result is undefined. Example: The Function is set to SIN(t). This will return a floating point value in the range between -1 and 1. The value range to the assigned property expects a decimal value between 0 and 255. Hence, the result does not match the property type. In this case adapt the function to e.g. SIN(t)*10 + 10 to have a Sine Wave return value between 0 and 20

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9.3.3 Format

The  tool button can be used to change the display format of the related parameter to hexadecimal (hex), decimal (dec), octal (oct) or binary (bin) notation. If a display format is set, the current value is appended by the format identifier as shown in the figure below. Note that the display format will be switched for all currently selected assign entries.

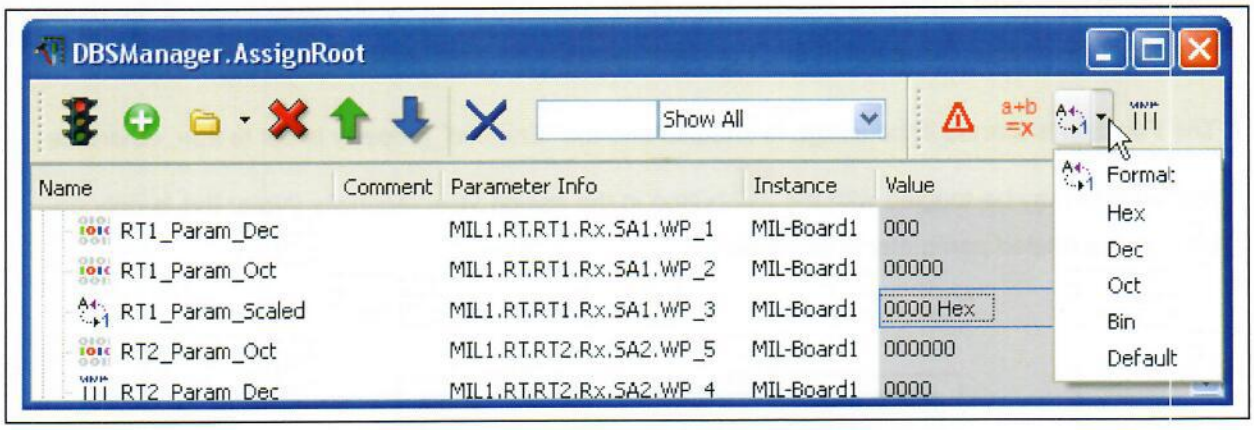


Figure 164: Editing the current display format of a Parameter

9.3.4 Preset Value

The  button is used to define preset control values. This allows preparing dedicated values for parameters which may be written on request.

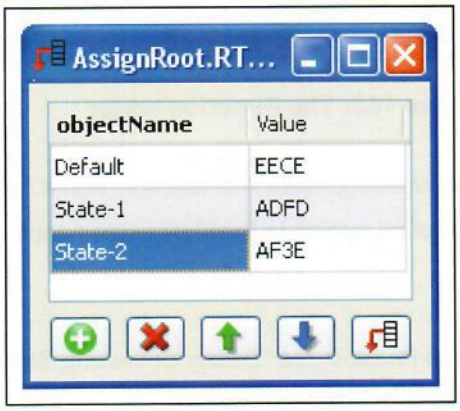


Figure 165: Setting a Preset Value for a Parameter

For each parameter several pairs of a value name and a value state are to be set up. If “Default” is used as “objectName”, the corresponding “Value” is written on start of the assign or on reset  button. All other values can be written either via the dialog above, via the assign window or by clicking on the arrow symbol

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beside the related button in the button bar. Note: this button is available for assign entries, for which preset values have been configured, only.

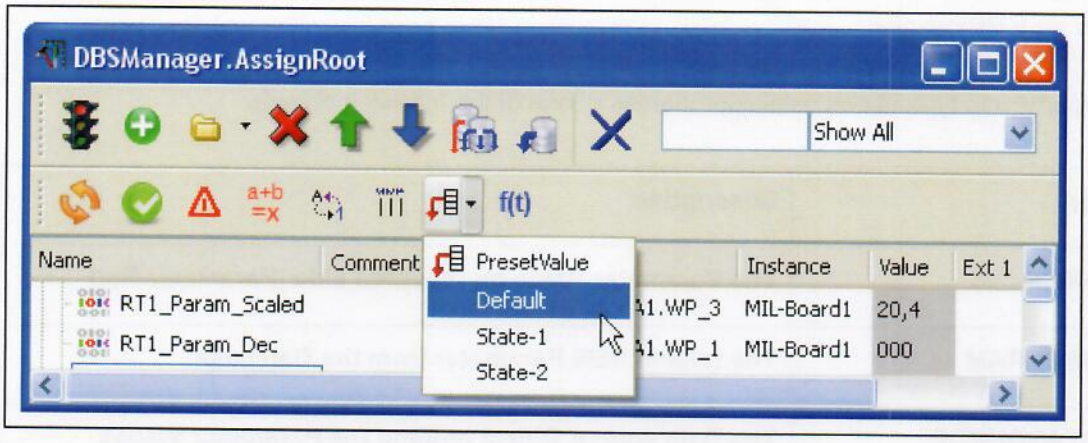


Figure 166: Using a Preset Value of a Parameter

This menu is also displayed if an assign folder is selected, containing assign parameters with preset values. In that case the menu contains all names of the states, which are present in the related group. Hence, it is possible to write preset values to more than one parameter with one menu selection, if the related states have the same name.

Note: If a preset value named "Default" is set up, this value will be used as initial value for the assigned property. The "Default" value will even be used if the assigned object is of type parameter and provides a dedicated init value (defined the database).

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9.3.5 Assign Additional Info Row

Allows adding dedicated info rows displaying e.g. properties of the parameter or connections between different values via a PPFunction.

The "RefProperty" info type allows display properties of one of the following objects:

Key	Description
PARAM	The Parameter Value on resource side (Parameter Ref)
DBSPARAM	The related DBS Parameter from the Database
DATASOURCE	The Data source Object holding the Parameter Values
DATASOURCE_PARENT	The Parent Object of the Data Source
REF	The Assign Entry Itself
REFOBJ	The Reference Object (Non Parameter assign entries)

Table 5: Function Reference Properties

As example, the following image will show the unit of the DBS parameter:

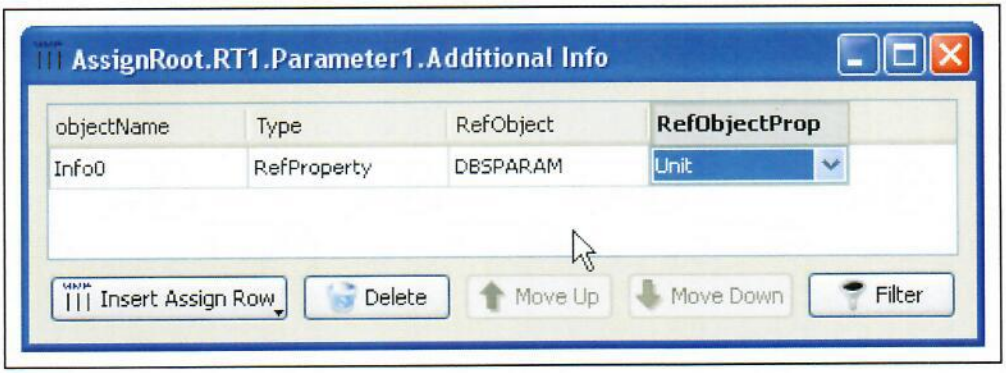


Figure 167: Displaying the Unit of a Parameter in the Assign

The "Function" extension may be used for any other purpose, which is supported by the PPFunction. Select an entry in the list above, press F1 and follow the link to PPFunction for a list of Supported Functions.

Note: detailed Function syntax can be found in the "Designer Getting Started" Manual, Chapter "User Definable Function" as well.

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9.3.6 Assign Calculation Formula

The Assign Calc Formula $\overset{a+b}{=x}$ allows to:

- Combine different assign values with a function (e.g. Add Parameter Values)
- Controlling assign values with a formula
- Display information in additional rows (e.g. display a change rate of a parameter)
- Modify the colour of a parameter value
- Implement special parameter formats

Note: detailed Function syntax can be found in the "Designer Getting Started" Manual, Chapter "User Definable Function" as well.

Example 1:

Add the Parameter values of Parameter0 and 1 and display the Result

1. *Create an Assign Placeholder Value, and rename the new entry to FunctionResult (or any other name)*

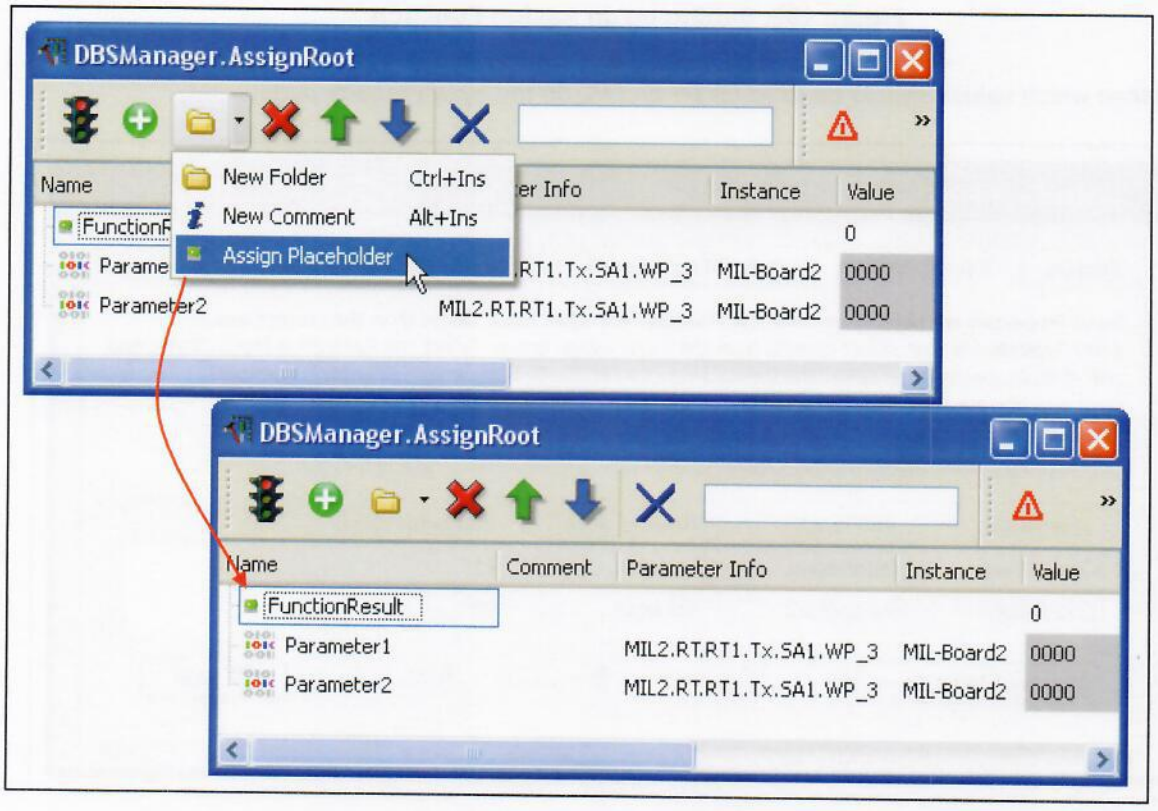


Figure 168: Adding a Custom entry to the Assign

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2. *Select the New Entry and create an Assign Calculation Formula* $\overset{a+b}{=x}$

3. *Enter the Formula:*

   DISP:=P1+P2

   This will add the two input parameters P1 and P2 and assigns the result to the property DISP. If DISP is used in the function, the Assign will show the value of DISP instead of the assign value. Alternatively you may create the formula on an assign folder instead of a placeholder.

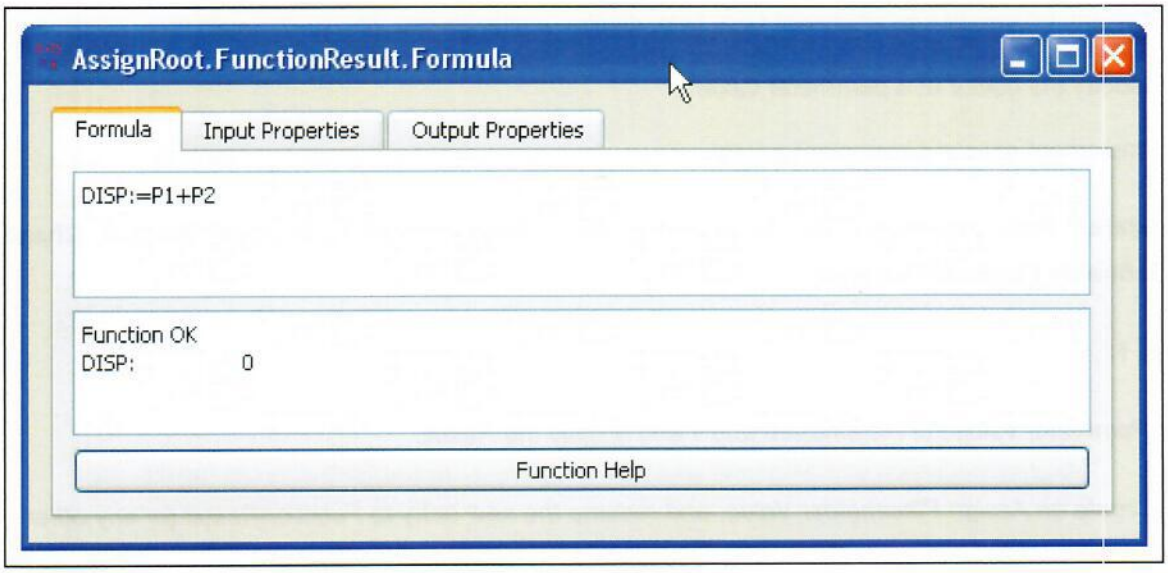


Figure 169: Setting up an Assign Function

4. *Define which values should be used for P1 and P2 on the input property page.*

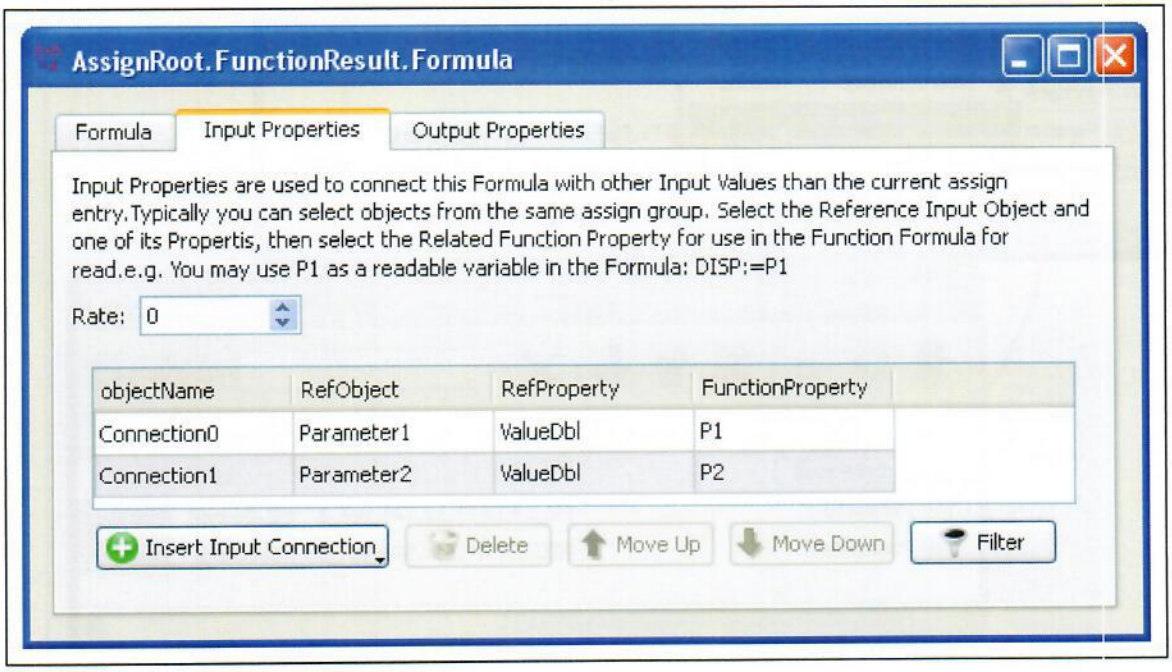


Figure 170: Adding Parameters to the Function

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This defines that property ValueDbl of Parameter0 should be used as function parameter P1 (and Parameter1 for P2). Each time the value of Parameter0 or Parameter1 changes, the value is transferred to the related function property (P1 and P2) and the formula is evaluated

Note:

- **The Rate Value defines which rate should be used to calculate the result. If Rate is 0 (the Default) the result is calculated, whenever an input value changes. If Rate is not equal 0 the Result is calculated with the given Rate in ms. If you use this, the assign has to be active to calculate the values**
- **When Using DISP:=<Value> the value is displayed in the assign, but cannot be used e.g. by an Assign Signal Option (Alarm)**
- **If you assign the Value P1 + P2 to DISP, the result is a Double Value, which is displayed in Decimal. If you want to display the value in Hex, you may write:**

  DISP:=STR(P1+P2,H)

  which converts the Result of P1+P2 to a string in Hex format

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Example 2:

You want to add two values and assign the result to another (controllable) Parameter. Same as above, but you create the formula on the parameter to control. You change the formula to

ValueDbl:= P1+P2

This will assign the sum of P1 and P2 to the property ValueDbl of the assign entry, which holds the function. If the related parameter is a controllable parameter, the value is written to the Hardware.

Note: if you assign a value to a property of the assign entry (ValueDbl, ValueStr, ValueRaw or Value), the value is modified. Due to this, you may use e.g. an assign signal option to verify the value.

Example 3:

You want to distribute more than one value. For example to add the sum of P1 and P2 to parameter3, and the difference of P1 and P2 to Parameter4:

1. *Create the Function on Parameter3*
2. *Add the Formula*
   // This modifies directly the Property of the Assign Value holding the function
   ValueDbl:=P1+P2;
   // This assigns the Result to the Output Property Result, which is related to Parameter4
   // in the "Output Properties" Page
   Result:=P1-P2;
   Remind the ; (Semicolon) behind each statement if you use more than one statement
3. *Input Properties like in Example 1*
4. *Add an Output Property, which combines the Function Property Result with Parameter4*

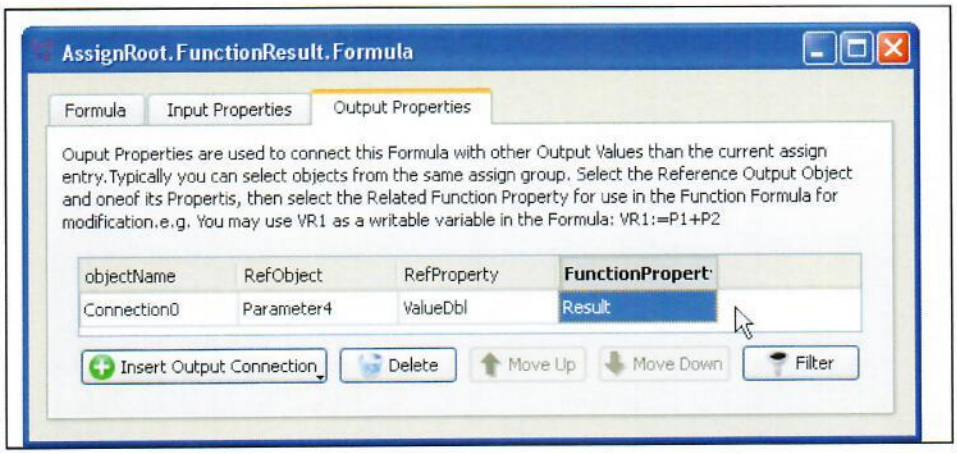


Figure 171: Setting up an Output Parameter of the Assign Function

This entry causes, that every modification of the variable Result in the function (e.g. Result:=10) is transferred to the ValueDbl of Parameter4

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