

**Industrial<sup>IT</sup>  
Freelance**

## **CBF Viewer 2013 (Build 158) Operating Instructions**



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## 1. Introduction

The CBF Viewer shows the function block diagrams of Control Builder F in the control system or in the independent program (CBFViewer.exe).

### Function scope:

- The function block diagrams are not changed when displayed but are shown in exactly the form in which they are displayed by Control Builder F.
- The CBF Viewer supports the programming languages function block diagram (FBD), instructions list (IL) and sequential function charts (SFC). Ladder diagram and structured text are only supported in offline mode in this version. Additionally the CBF Viewer is able to indicate the Project Tree and the variable and Tag Lists.
- Furthermore, support for several projects is possible.
- The operator can navigate within the project at any time and call up other views (full license mode only)
- Convenient navigation within the project is possible with the help of the cross-references list. Detailed tool tips in the function block diagrams make diagnostics easier.
- If the user has the necessary rights to change parameters, he can change the values of individual signals. These can be, for example, variables - or parameter values such as Kp, Tn, or Tv of a controller.
- The CBF Viewer can be put into lock mode. Then the CBF Viewer only shows those signals and modules of a function block diagram that belong to the protection input signals of a module, e.g. of an IDF. All other signals are hidden.

### License modes:

This version supports two different license modes:

- Full license: All features available
- Light license or DigiVis mode: Only read access to all signals possible. Display of other diagrams, views or diagnostics are not allowed. Can only be used with DigiVis or 800xA.

### Software structure:

The CSV-Export file of Control Builder F is used to configure the CBF Viewer. Configuration in the function block diagrams is not necessary. Likewise, no user-defined modules (UFB's) are necessary. An OPC-Gateway of Control Builder F is necessary to display the online values in the function block diagrams.

### Configuration:

All the important settings of the CBF Viewer are undertaken with the help of the configuration wizard. This goes through the configuration data step by step and enables testing of the CBF Viewer and its settings.

The CBF Viewer can be integrated into the control systems System 800xA and DigiVis.

The Variable List, Tag List and Parameter List cannot be called up in demo mode (CBF Viewer without licence). Furthermore, the commissioning mode is disabled.

## **2. System requirements**

The control systems 800xA (SV5.1), DigiVis (as of Version 9.2) and HT600 (WinMation) are supported. The Viewer can be installed on the operating systems Windows7 and Windows Server 2008 and is available in German, English, Chinese, Portuguese, French, Russian and Japanese. Additional languages can be added by generating a text file.

These operating instructions apply to the CBF Viewer Version 2013.

## **3. Start of the CBF Viewer**

### **3.1 Start in System 800xA**

After complete installation of the CBF Viewer for the control system *System 800xA* (see CBF Viewer installation instructions), the two aspects *CBF Function* and *CBF Viewer* are available for all objects of AC 800F. These can be called up in the aspect menu or incorporated into a graphic.

### **3.2 Start in DigiVis**

To be opened by means of the context menu of the selected object (right mouse click).

### **3.3 Start as individual program**

CBF Viewer as an independent program is called up as follows:  
*Start -> Program -> ABB Industrial IT -> CBF Viewer -> CBF Viewer*

## 4. Display of the CBF Viewer

The CBF Viewer consists of the three display components header, readout range and footer.

### 4.1 Header








The header is as follows:




Depending on the current display and mode, the buttons may be visible, disabled or enabled.

#### 4.1.1 Display accessing

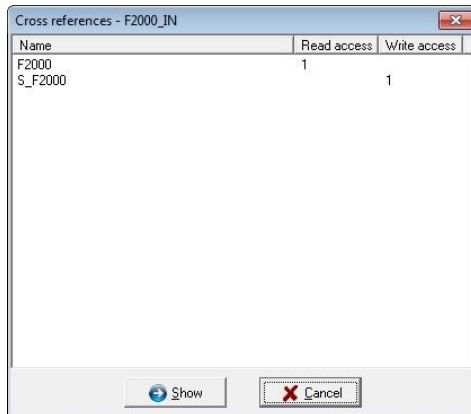
In the first part of the header the different displays can be called up by clicking on the symbol.

-  Project List, display of all projects loaded: Project name and project description are displayed.
-  Project Tree of the selected project: The Control Builder F Project Tree is displayed. All resource types except process stations are hidden.
-  Variable List of the selected project: The Control Builder F Variable List is displayed. It contains the columns name, comment, data type, station (resource), initial value and current value (only in online mode).
-  Tag List of the selected project: The Control Builder F Tag List is displayed. It contains the columns name, short text, long text, plant area, type, function block diagram and current value (only in online mode).
-  Parameter List of the selected project: Here selected parameters of blocks in different groups are displayed in list form. These include limit values, control parameters and measuring ranges.
-  Hardware Structure of the selected project (from Version 7.2): The Hardware Structure of Control Builder F is displayed. It contains the hardware tree as well as a display of the most important parameters and messages of the hardware object.
-  Event page of the selected project (from Version 7.2): All messages from the Alarm and Event-OPC server are displayed in list form. These include priority, date/time, tag, short text, message condition and the message text.

### 4.1.2 Cross-references

Button:  or context menu

If a tag or variable is selected (blue border around the tag or variable in the function block diagram) then the button is *Cross-reference* enabled. After activating this button a dialogue appears which displays the further use of the tag or variable.



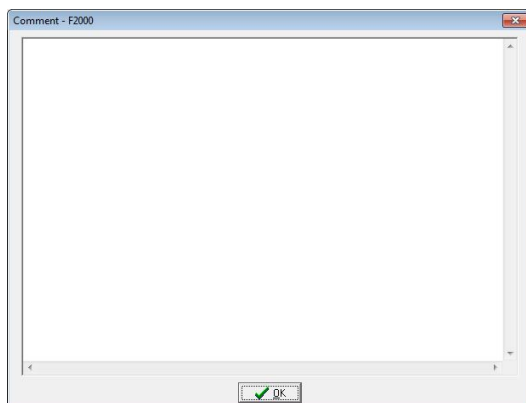
By activating the button *Show* or by double clicking on the list entry, the selected function block diagram is called up and the desired tag or variable selected (blue marking).

**Note:** When cross-referencing a tag, the columns *Read* and *Write* are not visible.

### 4.1.3 Display comments

Button: 

To display a function block diagram, the configured comment can be displayed. After activating the button *Comment* a dialogue appears which displays the configured comment of the function block/protection diagram.





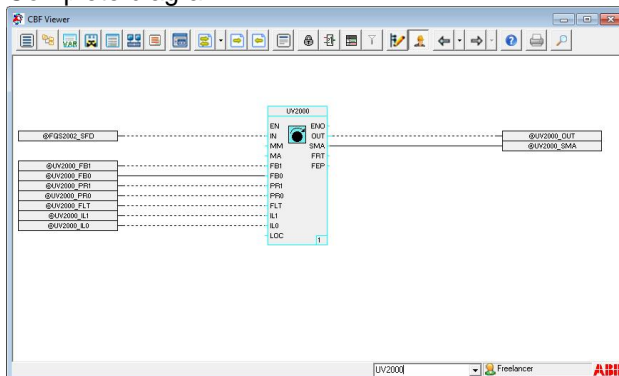
#### 4.1.4 Lock/Protection diagram

Button: 

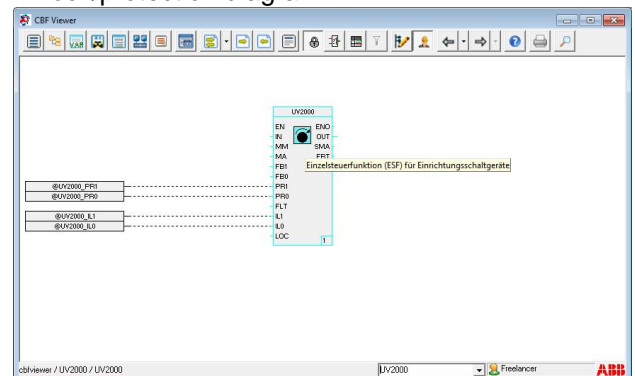
With the help of the lock/protection diagram, it is possible to hide parts of the function block diagram. The entire function block diagram is displayed if the button is not enabled. The controller and individual drive functions of the lock mode are displayed for the tag types in activated mode. Only those signal lines and blocks which are part of the locking of the selected block are shown. For the controller these are the pins *TRC*, *OTA* and *OTM* and for the individual drive modules the pins *IL 1*, *IL0*, *PR1* and *PR0*.

Example of lock/protection diagram of an individual drive function:

Complete diagram:



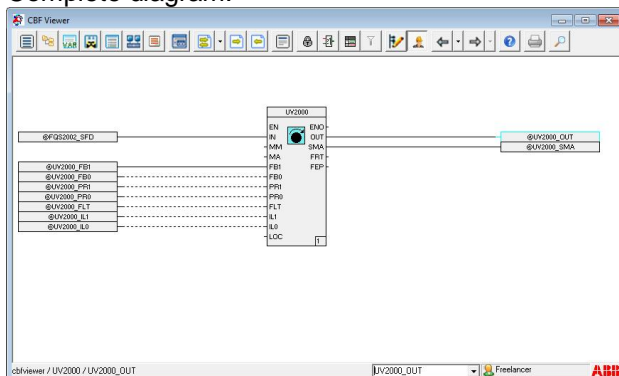
Lock/protection diagram:



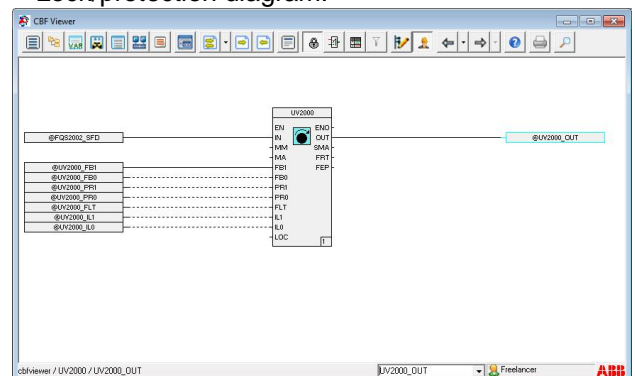
If a variable is selected with write access, then only those blocks and variables which lead to the result of the variable are displayed in lock/protection mode.

Example of the lock/protection display of a variable:

Complete diagram:



Lock/protection diagram:



### 4.1.5 Interlock Displays

Buttons: 

With the help of the interlock displays, the function block diagram (FBD) is displayed in a simplified version; however, only those signals and modules are shown that belong to the interlock of the selected module. For the closed loop controllers, it is pin *TRC* and for the individual drive functions, it is pins *LOC*, *FLT*, *IL1*, *IL0*, *PR1* und *PR0*. The interlock of these modules can be displayed as a graph or as a list. If displayed as a list, this can additionally be filtered. For each individual logic of the interlock pins, a separate tab card is available.

Standard Features:




- In the display of the interlock, only those modules and variables are shown that are on the same FBD as is the corresponding tag.
- On the interlock displays, signals with state logic false are in green and signals with state logic true are in red.
- With transitions in sequential function charts, signals with state logic false are in red and signals with state logic true are in green.
- Invalid or analogue values are displayed in black.
- In the configuration mode, all signals are always being displayed in black.
- A maximum of 15 levels can be displayed.
- As modules, all functions of the function block diagram (see p. 12) are displayed. If a tag is reached, the analysis of the function block diagram is discontinued.
- When the filter is activated in the listing, only those signals are displayed the state of which is logic true and whose exit of module is logic true. Signals with state logic true and modules with state logic false are not being displayed.
- Interlock displays are only available for logics in FBD language.
- Interlock displays can also be displayed for variable with write access.

Features with closed circuit current principle:

- In the display of the interlock, only those modules and variables are shown that are on the same FBD as is the corresponding tag.
- On the interlock displays, signals with state logic false are in red and signals with state logic true are in green.
- With transitions in sequential function charts, signals with state logic false are in green and signals with state logic true are in red.
- Invalid or analogue values are displayed in black.
- In the configuration mode, all signals are always being displayed in black.
- A maximum of 15 levels can be displayed.
- As modules, all functions of the function block diagram (see list of supported modules) are displayed. If a tag is reached, the analysis of the function block diagram is discontinued.
- When the filter is activated in the listing, only those signals are displayed the state of which is logic false and whose exit of module is logic false. Signals with state logic false and modules with state logic true are not being displayed.
- Interlock displays are only available for logics in FBD language.
- Interlock displays can also be displayed for variable with write access.



**Buttons:**

Button	Symbol	Description
View interlock display		Interlock display in graphic view
		Interlock display in list view
Filtering		Activation/deactivation of the filter in list view

**List of supported modules:**

The following Freelance module types are supported by the interlock display during the analysis of the function block diagram:

NOT, OR, XOR, AND, EQ, NE, GT, GE, LT, LE, ADD, SUB, MUL, DIV, MOD, ABS, SQRT, SIN, COS, TAN, ASIN, ACOS, ATAN, MIN, MAX, AVER, SEL, MUX, LOG, LN, EXP, TO\_BO, TO\_BY, TO\_IN, TO\_DI, TO\_UI, TO\_UD, TO\_WO, TO\_DW, TO\_RE, TO\_STR256, TO\_STR128, TO\_STR64, TO\_STR32, TO\_STR16, TO\_STR8, TO\_TI, TRUNC, FCS, PRIM/SEC, PBOBY, PBOWO, PBODW, PBYWO, PBYDW, PWODW

All other module types lead to a discontinuation of the analysis of function block diagram.

**4.1.6 Configuration and commissioning mode**

Buttons:  and 



These two buttons enable switching between configuration mode and commissioning mode (online mode). In configuration mode the configured function block diagrams are displayed. An OPC-connection to the controllers (e.g. AC 800F) is not necessary.

In commissioning mode the current values of all variables and blocks are calculated via the OPC-Gateway of the project and displayed in the same way as in Control Builder F. For this an OPC-connection to the Gateway is necessary. To configure the connection, see the CBF Viewer Installation Guide (Doc. No. 3BDA033000).

**Note:** It is not possible to establish the connection in demo mode.

**4.1.7 Jump forwards and backwards.**


Buttons:  

Using the buttons *Forward*  and *Backward* , the previous or the next display can be called up. Up to 10 displays are stored. If no corresponding display is available, the buttons are disabled.

**Note:** When changing the project in the Project List, the storage for Forward and Backward is deleted.

#### 4.1.8 Display program information


Button: 

After enabling the button: *Information*  the installed version of CBF Viewer is displayed. The following display appears:



#### 4.1.9 Print

Button: 

With the button: *Print*  the current display is printed out on the Windows default printer. The print is adjusted to the page format.

#### 4.2 Footer

The footer is as follows:



In the first part the complete path to the selected object is displayed.

In the second part an object (tag or variable) can be searched for.

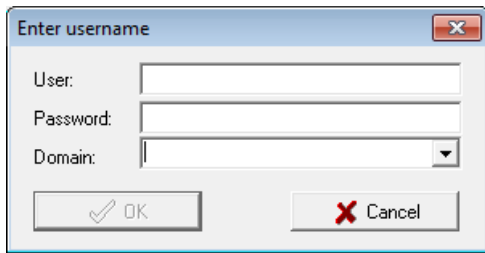
In the third part the registered user with his user name is displayed.

##### Search for object

By entering a tag name or a variable name, a tag or a variable can be searched for in all projects. Complete the entry with the Enter key. The object is then searched for and displayed in the event of a successful search.

## Display of user and change of user

In the third part of the status line, the registered user is displayed. To change the user, click on the field with the right mouse button. The following registration dialogue appears:

A standard Windows-style dialog box titled "Enter username". It contains three input fields: "User:" (a text box), "Password:" (a text box), and "Domain:" (a dropdown menu). At the bottom, there are two buttons: "OK" with a checkmark icon and "Cancel" with a red X icon.

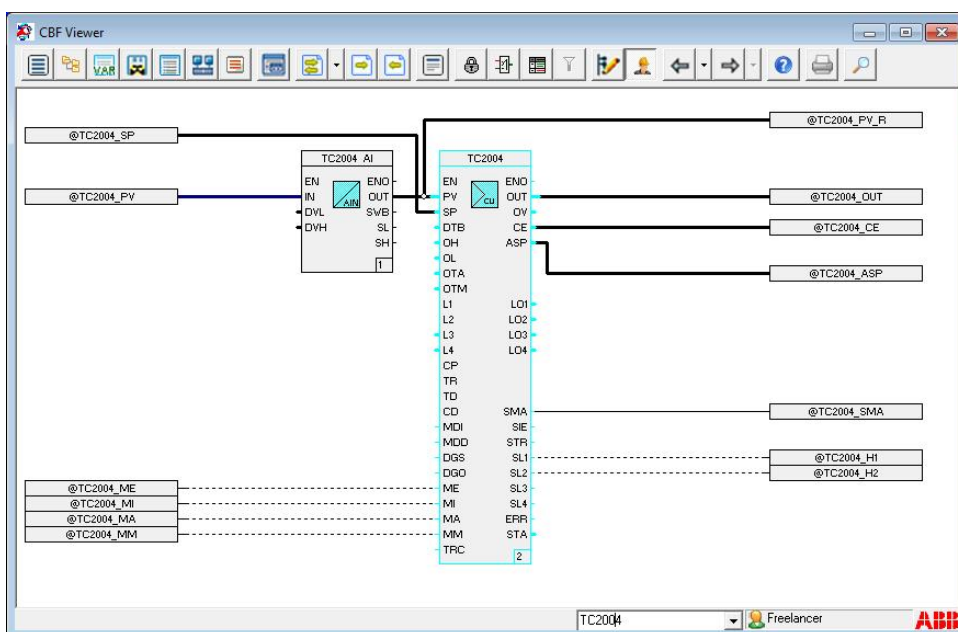
Enter a valid user name with password and domain in the corresponding entry fields. Upon successful entry, the new user rights become effective. The user rights are configured in the configuration wizard (see CBF Viewer documentation).

## 5. Function block diagram display

The CBF Viewer can display the programming language function block diagram (FBD), instructions list (IL), ladder diagram (LD), structured text (ST) and sequence flow (SF). The display in the configuration and commissioning mode corresponds to the display in Control Builder F.

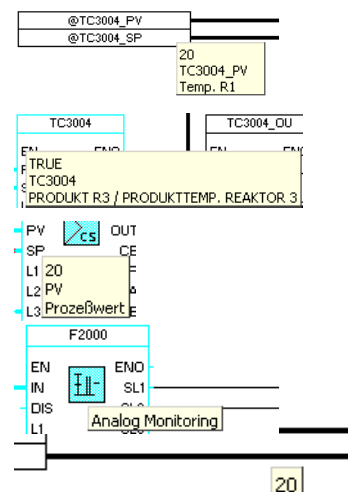
**Note:** In this version, ladder diagram and structured text can only be displayed in configuration mode (offline). If a corresponding plan is called up, CBF Viewer automatically changes to offline mode.

### 5.1 Function block diagram (FBD)



In commissioning mode the following hint texts are displayed when the mouse is placed over an object:

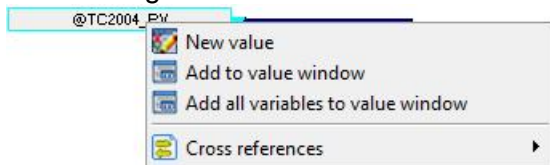
Variable:	Value, name and comment
Block:	Name, short text and long text
Block pin:	Value, pin name and description of the pin
Block symbol:	Class name of the block
Signal line:	Value



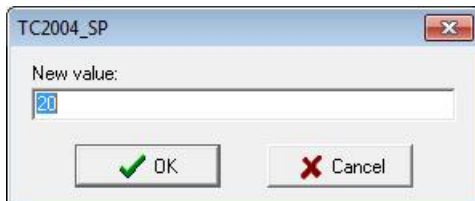
The following operator interventions can be performed in commissioning mode:

- **Changing of variable values**

After marking the desired variables in the aspect menu, select the entry *New Value*.

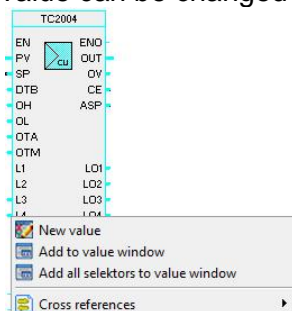


Then enter the new value and confirm with *OK*.



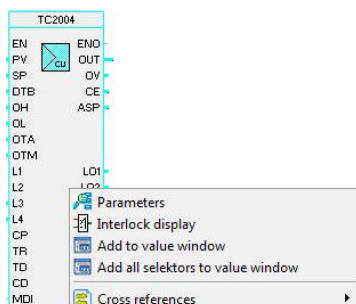
- **Changing of pin values**

With a right click on the pin, the aspect menu opens. After selecting *New Value*, the parameter value can be changed after entry and confirmation of the new value using *OK*.



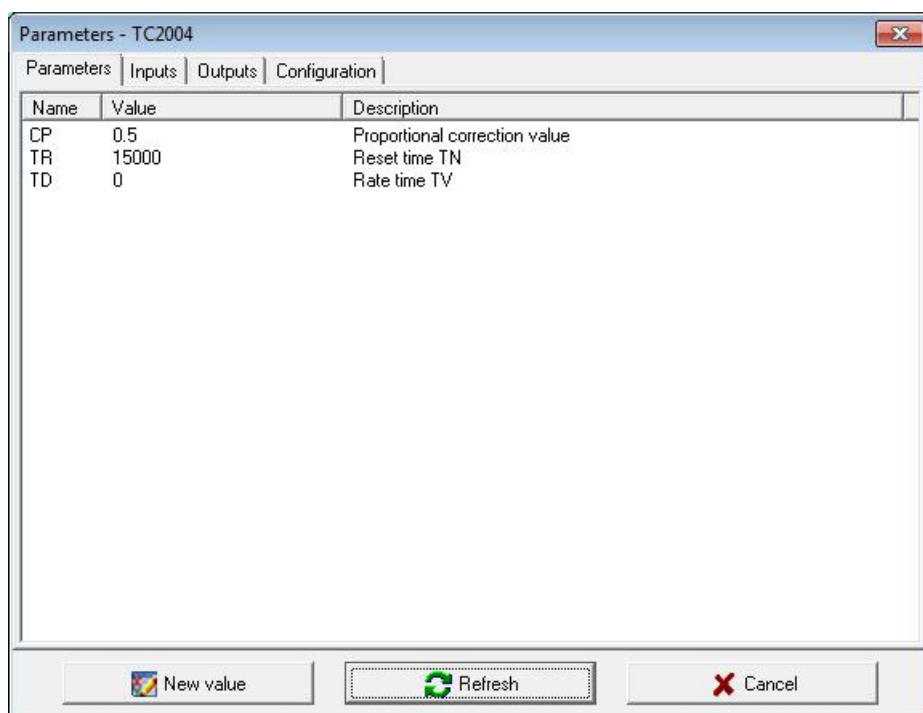
- **Changing of variable parameters**

With a right click on the tag, the aspect menu opens.





After selecting *Parameters*, the parameters of the block are displayed:



After selecting a parameter in the tabs *Parameters* or *Inputs*, the value can be changed using the button *New Value*. The parameters of the tab outputs are read-only. Write access is not possible. Using the button *Refresh*, the parameter values are updated.

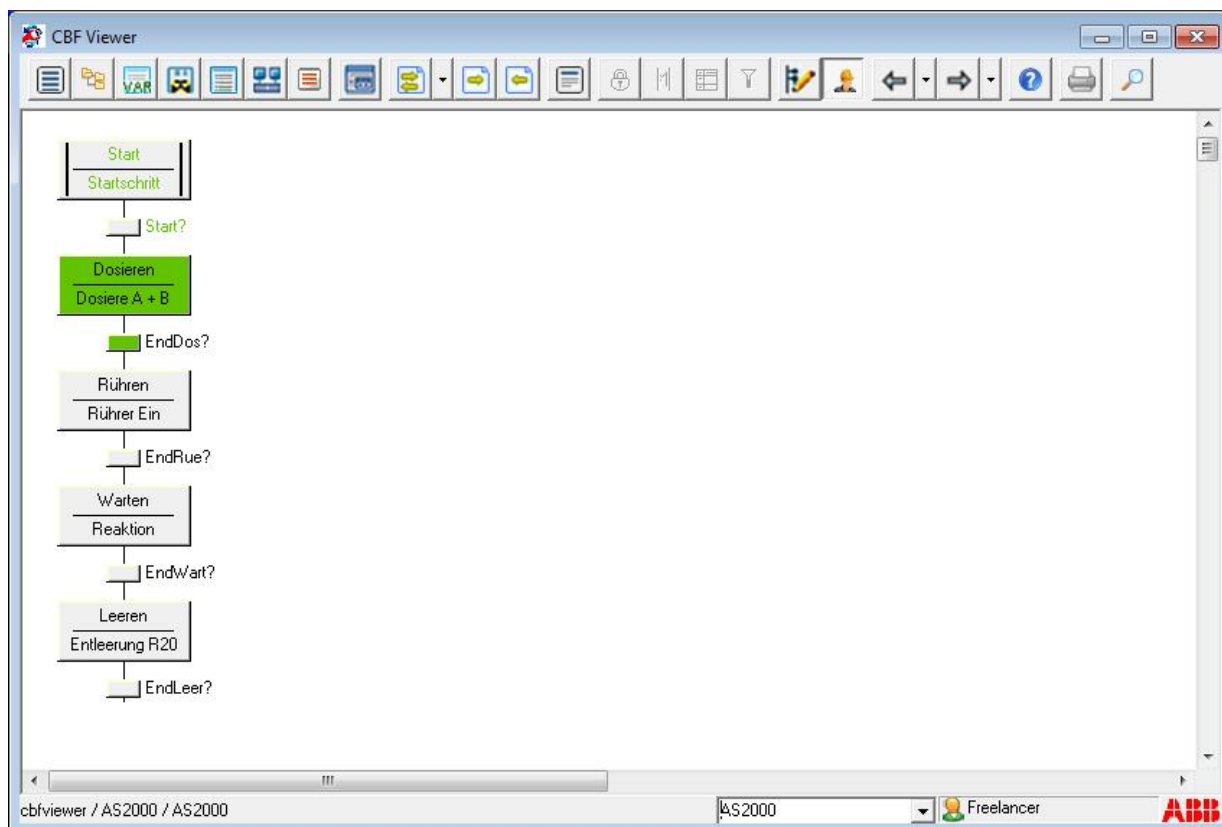
- **Accessing of faceplates**

If CBF Viewer is integrated into 800xA or DigiVis, the faceplate of the tag is called up with a double click.

**Note:** To change variable, pin or parameter values, the *Change parameters* right in the configuration wizard is required. In addition, the OPC-server used must have write access to the corresponding process station. The writing of values is a one-off action. The changed values are not cold start proof on the process station. Writing in Control Builder F corresponds to the writing of parameters in parameter masks of the blocks or the writing of variable values.

To access faceplates, the *Faceplates* access right in the configuration wizard is required.

## 5.2 Sequential Function Chart (SFC)



In commissioning mode the following tool tips are displayed when the mouse is placed on a step or a transition:

Step:            Name and status  
 Transition:    Name and status

By double clicking on a step or a transition, the corresponding function block diagram is called up. Using the aspect menu, the parameters of a step or a transition can be called up:

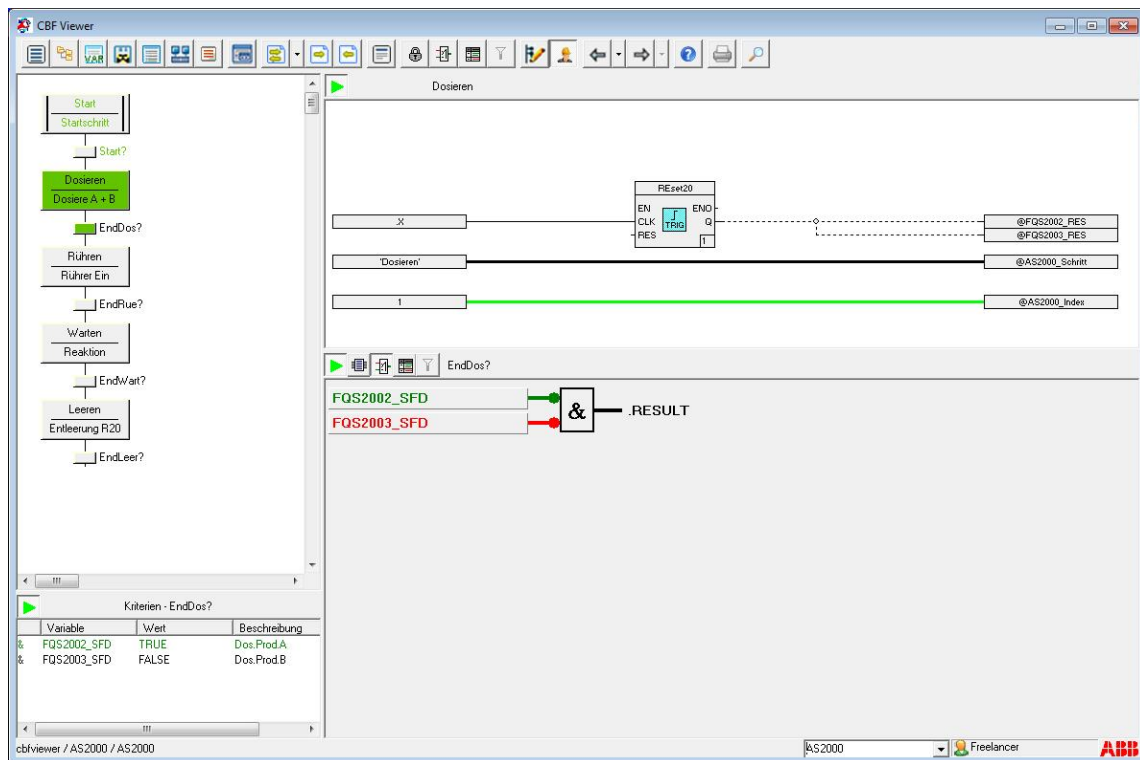
### Parameters of a step





Parameters - Warten		
Parameters   Configuration		
Name	Value	Description
RunTime	95032	Run time of step (ms)
StartT...	3/28/2013 9:44:48 AM	Last start time of step
Status	1	(0 = not executed, 1 = active, 2 = not active)
TUE	2147483647	Monitoring time of SFC (ms)
TWA	120000	Waiting time of step (ms)

### Parameters of a transition

Parameters - EndLeer?		
Parameters   Configuration		
Name	Value	Description
Status	1	(0 = not executed, 1 = active, 2 = not active)

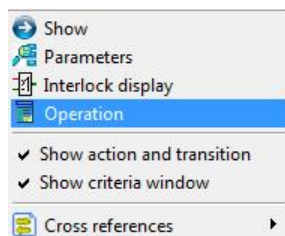
If the extended SFC display is enabled in the Configuration Wizard, the SFC is displayed as follows:



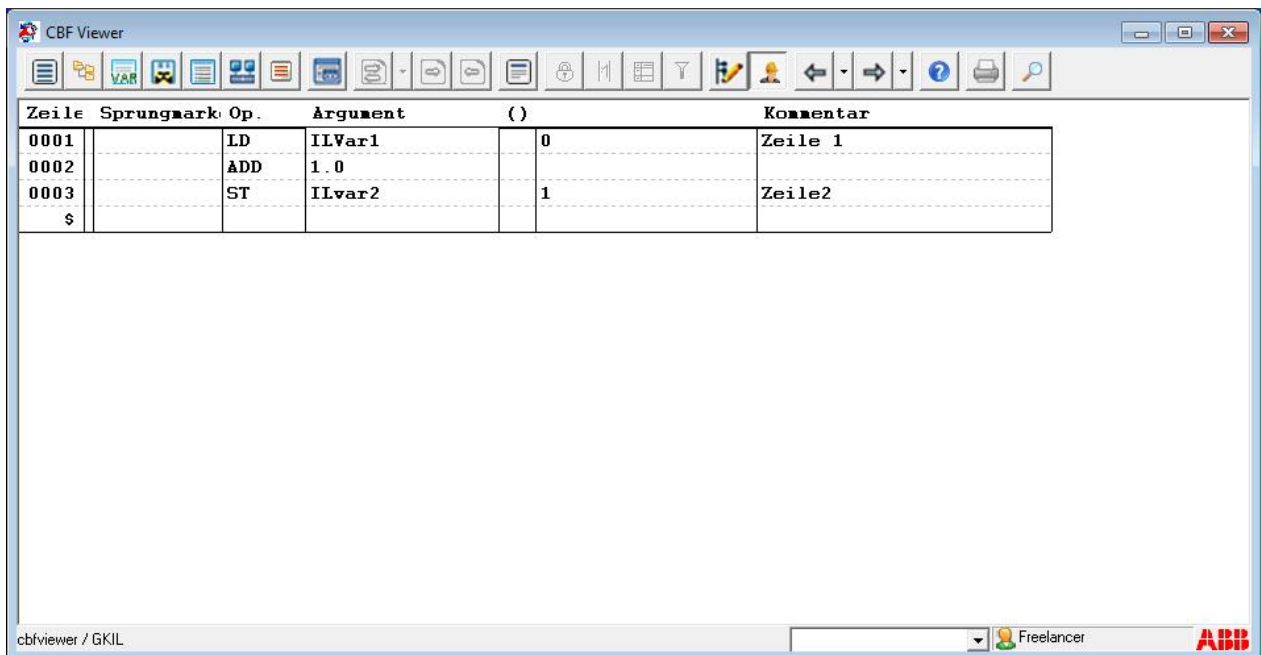
The structure of the SFC is displayed in the left-hand section as usual. The ladder diagram of the active step is displayed at the top of the right-hand section and the ladder diagram of the active transition enabling condition at the bottom. If the Button  is in state down, the analog ladder diagram is also updated during a step change. With the buttons    the function block diagram of the transition can be switched from being displayed as FBD to an interlock display as list or graphic view.

In commissioning mode can be called a dialog for operation of the sequence flow via the shortcut menu:

A dialog for operation of the sequence flow can be called via the shortcut menu:



### 5.3 Instruction List (IL)



Zeile	Sprungmark	Op.	Argument	()	Kommentar
0001		LD	ILVar1	0	Zeile 1
0002		ADD	1.0		
0003		ST	ILvar2	1	Zeile2
\$					

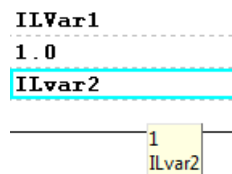
cbfviewer / GKIL

Freelancer

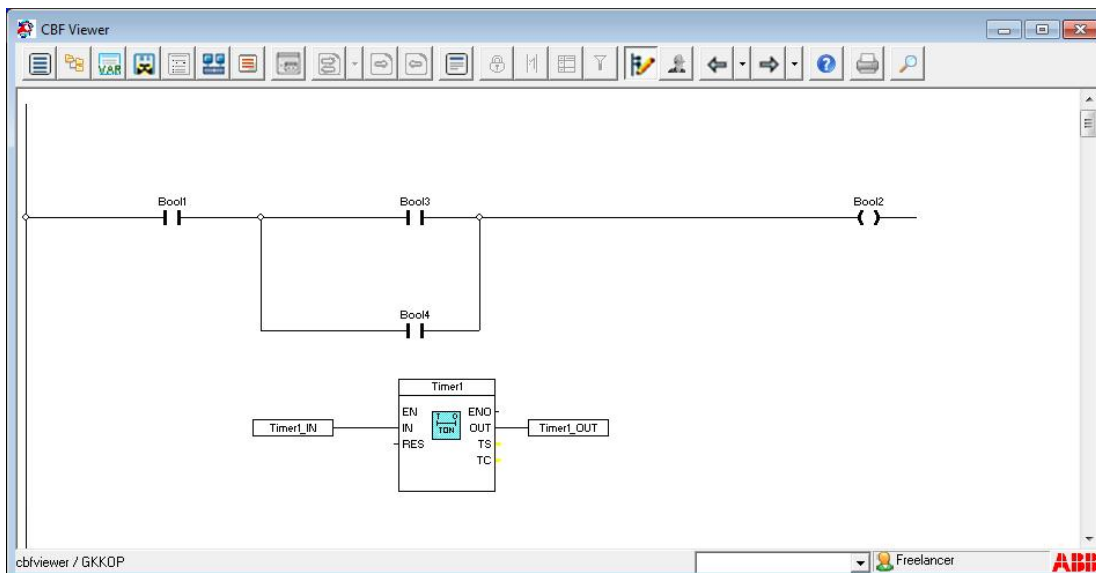
ABB

In the instructions list the columns line, jump mark, operand, argument, bracketing level, current value and comment are displayed.

As hint text the value and the name of the variable of the corresponding line appears.

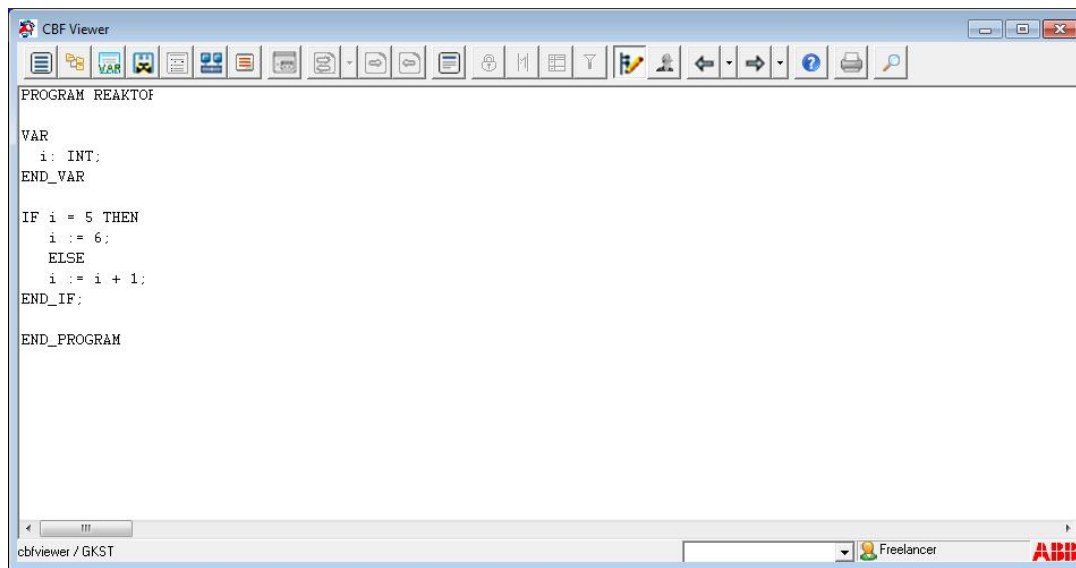


### 5.4 Ladder diagram



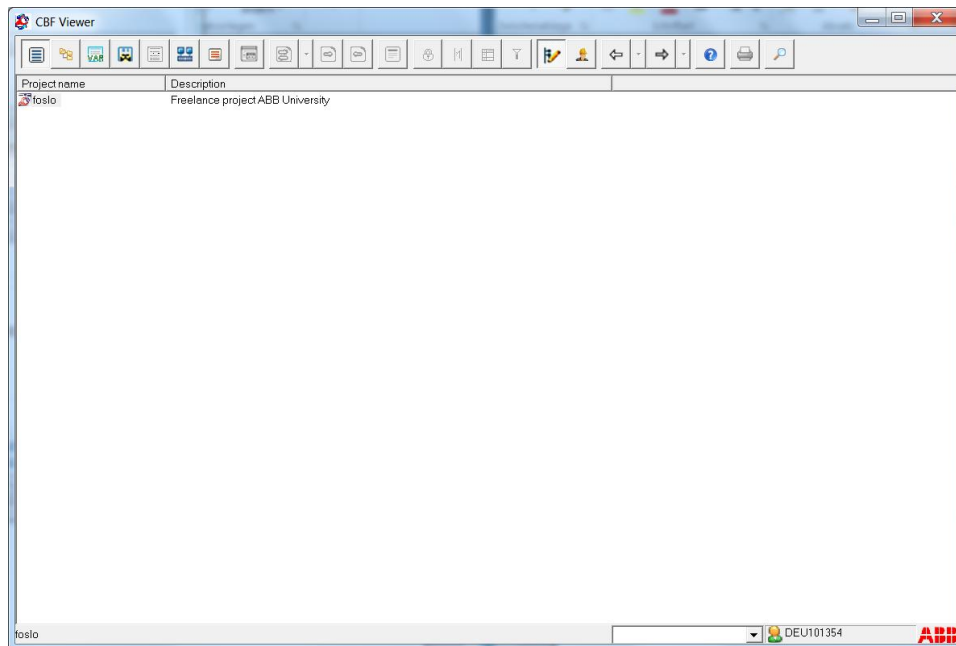
The ladder diagram only displays the signals, variables and tags in this version in configuration mode. In the case of blocks, tool tips appear for the pin, the block name and the class name.

## 5.5 Structured text



The structured text only displays the program code in configuration mode in this version.

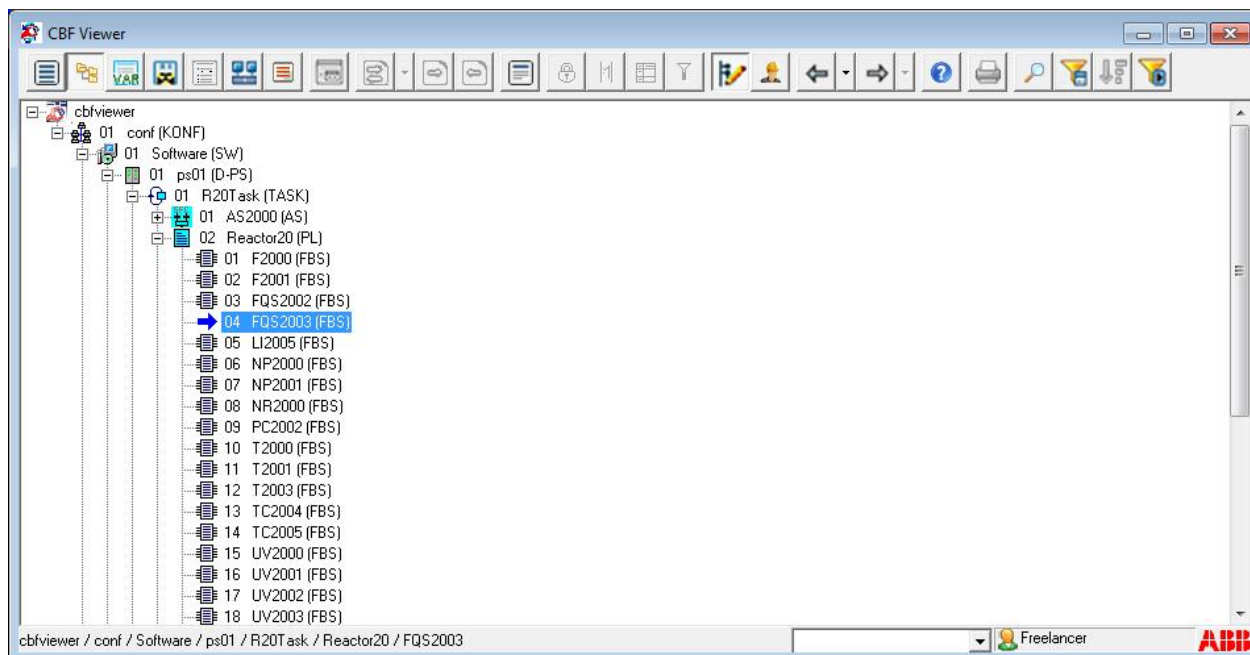
## 6. Project List



The list of all loaded projects is displayed.


**Note:** When the Project List is called up, the configuration mode is automatically switched to.

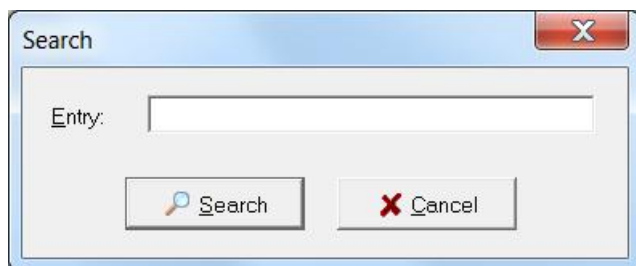
## 7. Project Tree



In the Project Tree all the function block diagrams of the process stations are displayed. The list entry consists of the name and type (in brackets). At configuration level and at process station level, diagnostics can be called up via the aspect menu.

### 7.1 Search in Project Tree

With the help of the *Search*  button a function block diagram can be searched for. After activating the button, the following dialogue appears:




Enter the desired name and activate the *Search* button. In a successful search, the function block diagram in the Project Tree is selected. The initial letters of the function block diagrams are compared with the desired entry. By means of repeated activation of the *Search* button, the next function block diagram which corresponds to the entry is searched for.

**Note:** Wildcards such as, for example interrogation mark '?' are not allowed.

## 7.2 Filter Project Tree


To hide undesired function block diagrams, the Project Tree can be filtered.

To do so, activate the button: *Define search arguments* .

A dialogue for entry of the search arguments appears.

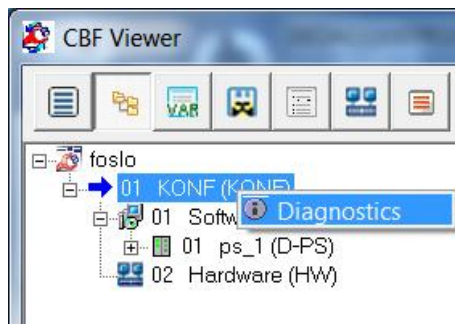


Using the *Activate* option, the search can be enabled. The Project Tree is only filtered in selected condition. For the search argument *Name*, wildcards (interrogation mark '?') can be used. After enabling the *OK* button, the Project Tree is filtered. If a function block diagram matches the desired search argument, the parent objects are also displayed in the Project Tree.

**Note:** The filter can be switched on or off via the *Activate Search*  button. This corresponds to the option *Activate* in the *Filter* dialogue.

## 7.3 Display diagnostic data in Project Tree

If a process station is selected, diagnostics information regarding the process station can be displayed via the aspect menu.





After selecting Diagnostics, the following dialogue appears:

**Diagnostics ps\_1**

Process station | Statistics

**Station load**

CPU: 0%

PRAM: 0%

RAM: 22%

**Version**

Project name: foslo

Process station: 49.0.0

ControlBuilder F: 0.0

Gateway / OS: 0.0.0

**State**

Date / Time: 02.04.2013 07:25:01

☐ Control Builder F online

☐ Stopped by Controller

☐ Stopped by user

☐ Radio clock available

☒ Primary CPU active

**Error**

Number: 0

Program: 0

Task: 0

☒ Send error

OK Save

Tab process station:

All system variables of the selected process station are displayed. For display, the OPC-Gateway must have read access to the system variables (access is defined in the Variable List in Control Builder F).

**Diagnostics ps\_1**

Process station | Statistics

No.	Type	Description
3	ABS	Absolute value
31	ADD	Addition
99	AND	Logical AND
15	AS	SFC
127	AS.STEP	SFC step
123	AS.TRANS	SFC transition
49	CSTBO	Constants, Boolean
1	CSTBY	Constants, Byte
105	CSTRE	Constants, Real
7	CSTTI	Constants, Time
7	CT_P	Pulse counter
3	C_CS	Continuous controller, standard
17	C_CU	Continuous controller, universal
7	C_PS	Three-position controller, standard
28	DELAY	Delay function
121	EQ	Comparator equal
7	FF	Flip-flop
6	FPX	
21	GF	Comparator greater equal

OK Save

Tab *Analysis*:

The number of configured objects is displayed.

Using the Save button, the current diagnostic information is stored in the *Parameters.cfg* file in the installation folder. If Excel is installed on the PC, this file is automatically opened with Excel. There the diagnostic information is available for further processing.

**Note:** To display diagnostic information, the *Diagnostic* right is required. This is configured in the Configuration Wizard.

## 8. Variable List

Variable name	Comment	Type	Resource	Initial value	Value
201_FPX0300_V21	Materiale-Kennung	STR32	ps_1	'Stoff_X'	Stoff_X
201_HALTEN	1 = Halten	INT	ps_1		0
201_INTG_OUT	Ausgang Integrator	REAL	ps_1		0
201_M0301_FB0	Rückmeldung Aus	BOOL	ps_1		TRUE
201_M0301_FB1	Rückmeldung Ein	BOOL	ps_1		FALSE
201_M0301_IN	Stellbefehl I/O	BOOL	ps_1		FALSE
201_M0301_MA	BA Automatik	BOOL	ps_1		FALSE
201_M0301_MM	BA Hand	BOOL	ps_1		FALSE
201_M0301_SMA	Status H/A	BOOL	ps_1		FALSE
201_S020_M_TWA	Wartezeit im Schritt S020	TIME	ps_1		0
201_S060_TWA	Wartezeit im Schritt S050	TIME	ps_1		60000
201_TIC0300_ASP	Wirksamer Sollwert	REAL	ps_1		0
201_TIC0300_CE	Regeldifferenz	REAL	ps_1		0
201_TIC0300_CESL	W=X	BOOL	ps_1		TRUE
201_TIC0300_DGS	Sollwertrampe aktiv	BOOL	ps_1		FALSE
201_TIC0300_DGS1	Rampe aktivieren	INT	ps_1		0
201_TIC0300_HOLD	Stoppen des Batchprozesses	BOOL	ps_1		FALSE
201_TIC0300_HV	Ansteuerung Heizventil	REAL	ps_1		0
201_TIC0300_KV	Ansteuerung Kühlventil	REAL	ps_1		100
201_TIC0300_MA	Regler nach Automatik	BOOL	ps_1		FALSE
201_TIC0300_ME	Regler nach Extern	BOOL	ps_1		FALSE
201_TIC0300_MI	Regler nach Intern	BOOL	ps_1		FALSE
201_TIC0300_MM	Regler nach Hand	BOOL	ps_1		FALSE
201_TIC0300_OTM	Stelleingriff 50%	REAL	ps_1		0
201_TIC0300_OUT	Stellgröße	REAL	ps_1		0
201_TIC0300_PV	Temperatur Istwert	REAL	ps_1		0
201_TIC0300_SIE	Reglerstatus I/E SIE=0 bei I	BOOL	ps_1		FALSE
201_TIC0300_SL1	Temperatur > Max2	BOOL	ps_1		FALSE
201_TIC0300_SL2	Temperatur > Max1	BOOL	ps_1		FALSE
201_TIC0300_SL3	Regeldifferenz < 5%	BOOL	ps_1		FALSE
201_TIC0300_SL4		BOOL	ps_1		FALSE
201_TIC0300_SMA	Reglerstatus H/A SMA=0 bei H	BOOL	ps_1		FALSE
201_TIC0300_SP	Externer Temp. Sollwert	REAL	ps_1		25
201_TIC0300_STR	Tracking ist aktiv	BOOL	ps_1		FALSE
201_TIC0300_TRC	Tracking	BOOL	ps_1		FALSE
202_FPX0300_V21	Materiale-Kennung	STR32	ps_1	'Stoff_X'	Stoff_X
202_HALTEN	1 = Halten	INT	ps_1		0
202_INTG_OUT	Ausgang Integrator	REAL	ps_1		0
202_M0301_FB0	Rückmeldung Aus	BOOL	ps_1		TRUE

All variables of the selected project are displayed in the Variable List. The system variables are not displayed. For all variables the name, comment, data type, resource (station), initial value and current value (only in online mode) are displayed. By double clicking on the variable, the cross-references are displayed.

### 8.1 Search in the Variable List


With the help of the **Search** button, a variable can be searched for. After enabling the button, the following dialogue appears:

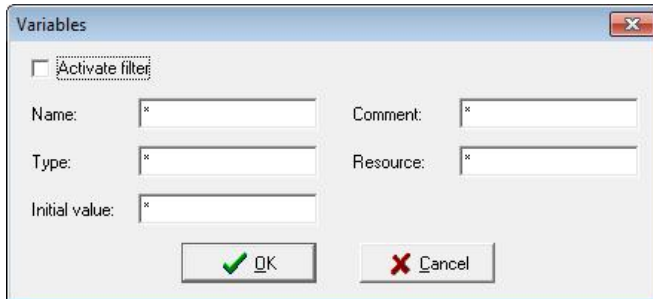
Enter the desired name and activate the **Search** button. In a successful search, the variable is selected in the Variable List. The initial letters of the variables are compared with the desired entry. By means of repeated activation of the **Search** button, the next variable which corresponds to the entry is searched for.

**Note:** Wildcards such as, for example, interrogation mark '?' are not allowed.

## 8.2 Filter Variable List


To hide undesired variables, the Variable List can be filtered.

To do so, activate the button: *Define search arguments* . A dialog for entry of the search arguments appears.




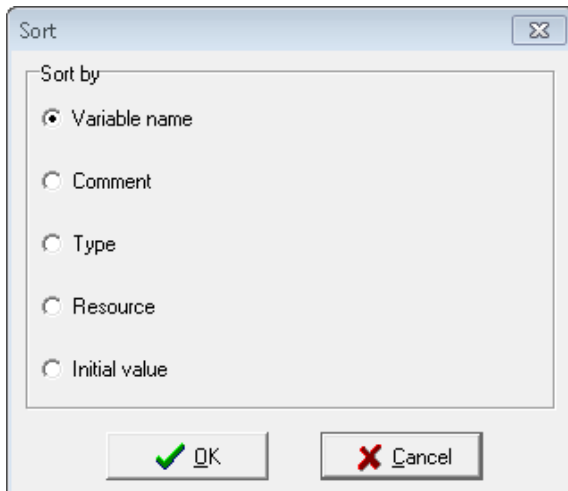
The Variables dialog box has a title bar with a close button. It contains a checkbox labeled "Activate filter". Below this are four input fields: "Name:", "Type:", "Initial value:", "Comment:", and "Resource:". Each field has a small "x" icon to its left. At the bottom are "OK" and "Cancel" buttons.

Using the *Activate* option, the search can be enabled. The Variable List is only filtered in selected condition. For the search arguments *name*, *comment*, *station*, *type* and *initial value*, wildcards (interrogation mark '?') can be used. After enabling the OK button, the Variable List is filtered.

**Note:** The filter can be switched on or off via the *Activate Search*  button. This corresponds to the option *Activate* in the *Filter* dialogue.

## 8.3 Sort Variable List

The Variable List can be sorted. To do so, activate the *Sort*  button. The following dialog appears:




The Sort dialog box has a title bar with a close button. It contains a "Sort by" section with five radio button options: "Variable name", "Comment", "Type", "Resource", and "Initial value". "Variable name" is selected. At the bottom are "OK" and "Cancel" buttons.

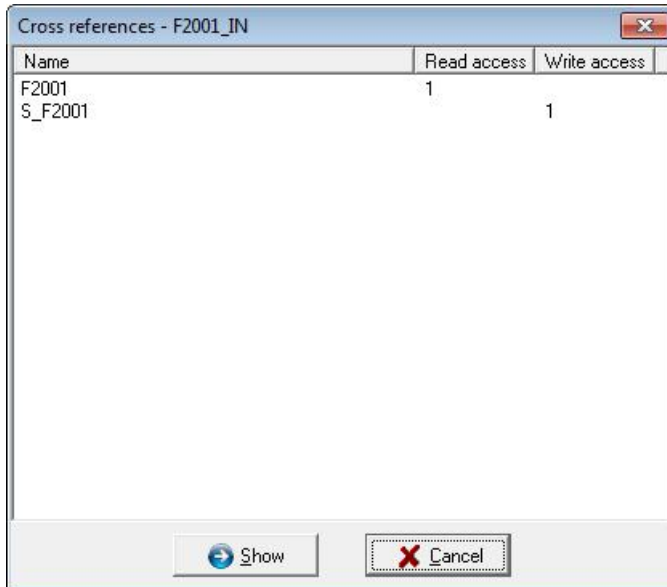
After selection of the desired sort criterion for sorting, activate the OK button.

**Note:** The Variable List can also be sorted by clicking on the corresponding column header. By clicking on the same column header again, the list is sorted in reverse order.

## 8.4 Call up cross-references

Button:  or context menu

If a variable is selected, then the *Cross-references* button is enabled. After activating this button, a dialog which displays the further use of the variable appears.

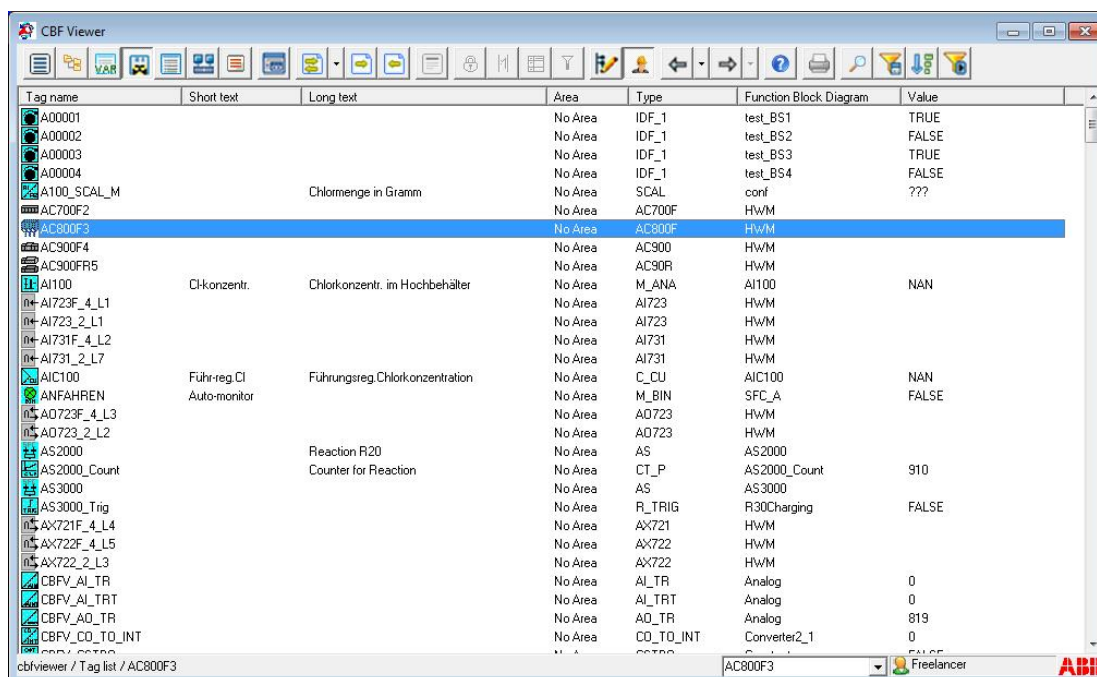


By enabling the *Display* button again or by double clicking on the list entry, the selected function block diagram is called up and the desired variable selected (blue marking).

Button:  

If a variable is selected in function block diagram, then the *Go to the next cross reference* button and *Go to the previous cross reference* button are enabled. After activating of these buttons the next respectively previous cross-references will display.

## 9. Tag List

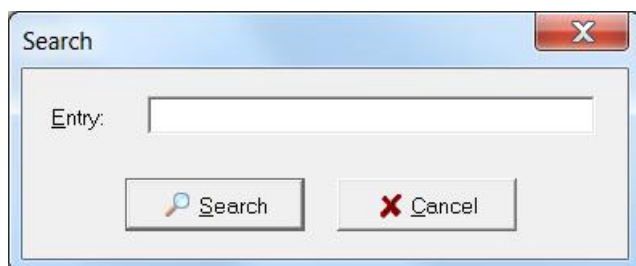


Tag name	Short text	Long text	Area	Type	Function Block Diagram	Value
A00001			No Area	IDF_1	test_BS1	TRUE
A00002			No Area	IDF_1	test_BS2	FALSE
A00003			No Area	IDF_1	test_BS3	TRUE
A00004			No Area	IDF_1	test_BS4	FALSE
A100_SCAL_M		Chlormenge in Gramm	No Area	SCAL	conf	???
AC700F2			No Area	AC700F	HWM	
AC800F3			No Area	AC800F	HWM	
AC900F4			No Area	AC900	HWM	
AC900FR5			No Area	AC90R	HWM	
AI100	Ch-konzentr.	Chlorkonzentr. im Hochbehälter	No Area	M_ANA	AI100	NAN
AI723F_4_L1			No Area	AI723	HWM	
AI723_2_L1			No Area	AI723	HWM	
AI731F_4_L2			No Area	AI731	HWM	
AI731_2_L7			No Area	AI731	HWM	
AIC100	Führ-reg CI	Führungsreg.Chlorkonzentration	No Area	C_CU	AIC100	NAN
ANFAHREN	Auto-monitor		No Area	M_BIN	SFC_A	FALSE
AO723F_4_L3			No Area	AO723	HWM	
AO723_2_L2			No Area	AO723	HWM	
AS2000		Reaction R20	No Area	AS	AS2000	
AS2000_Count		Counter for Reaction	No Area	CT_P	AS2000_Count	910
AS3000			No Area	AS	AS3000	
AS3000_Trig			No Area	R_TRIG	R30charging	FALSE
AX721F_4_L4			No Area	AX721	HWM	
AX722F_4_L5			No Area	AX722	HWM	
AX722_2_L3			No Area	AX722	HWM	
CBFV_AI_TR			No Area	AI_TR	Analog	0
CBFV_AI_TRT			No Area	AI_TRT	Analog	0
CBFV_AO_TR			No Area	AO_TR	Analog	819
CBFV_CO_TO_INT			No Area	CO_TO_INT	Converter2_1	0
CBFV_CO_TO			No Area	CO_TO	Converter2_1	0

All tags of the selected project are displayed in the Tag List. For all tags the name, short text, long text, plant area, function block diagram and current value (only in online mode) are displayed. By double clicking on the tag, the corresponding function block diagram is called up and the tag selected.

### 9.1 Search in the Tag List

With the help of the *Search* button, a tag can be searched for. After enabling the button, the following dialogue appears:




Enter the desired name and activate the *Search button*. In a successful search, the tag is selected in the Tag List. The initial letters of the tag are compared with the desired entry. By activating the *Search button* again, the next tag which corresponds to the entry is searched for.

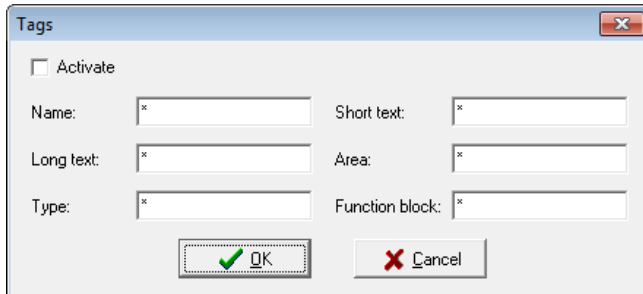
**Note:** Wildcards such as, for example, interrogation mark ‘?’ are not allowed.

## 9.2 Filter Tag List

To hide undesired tags, the Tag List can be filtered.


To do so, activate the button: *Define search arguments* .

A dialogue for entry of the search arguments appears.




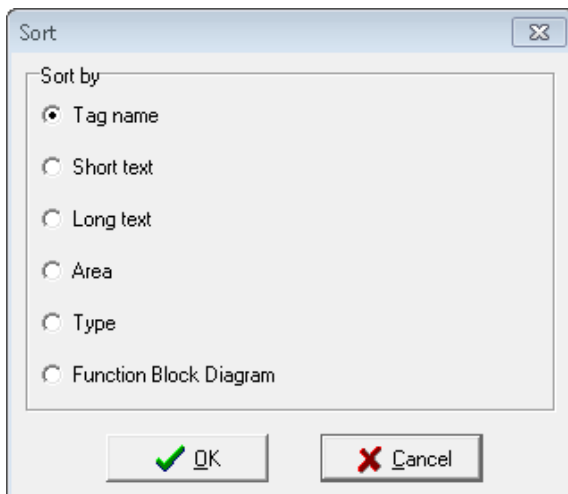
The 'Tags' dialog box contains an 'Activate' checkbox at the top left. Below it are six text input fields arranged in two columns: 'Name:', 'Short text:', 'Long text:', 'Area:', 'Type:', and 'Function block:'. Each field has a small asterisk (\*) on its right side. At the bottom, there are two buttons: 'OK' with a green checkmark icon and 'Cancel' with a red X icon.

Using the *Activate* button, the search can be enabled. The Tag List is only filtered in marked condition. With the search arguments *name*, *short text*, *long text*, *plant area*, *type* and *function block diagram*, wildcards (interrogation mark '?') can be used. After activating the *OK* button, the Tag List is filtered.

**Note:** The filter can be switched on or off via the *Activate Search*  button. This corresponds to the option *Activate* in the *Filter* dialogue.

## 9.3 Sort Tag List

The Tag List can be sorted. To do so, activate the *Sort*  button. The following dialog appears:




The 'Sort' dialog box features a 'Sort by' section with a list of radio button options: 'Tag name', 'Short text', 'Long text', 'Area', 'Type', and 'Function Block Diagram'. The 'Tag name' option is selected. At the bottom, there are two buttons: 'OK' with a green checkmark icon and 'Cancel' with a red X icon.

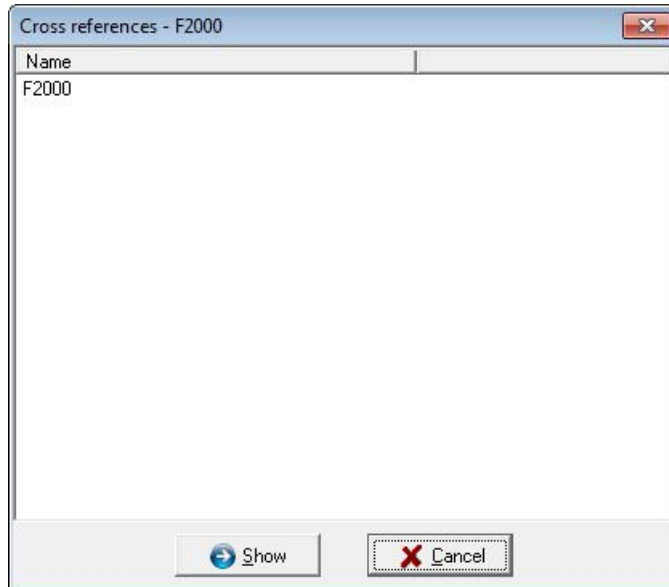
After selection of the desired sort criterion for sorting, activate the *OK* button.

**Note:** The Tag List can also be sorted by clicking on the corresponding column header. By clicking on the same column header again, the list is sorted in reverse order.

## 9.4 Call up cross-references

Button:  or context menu

If a tag is selected, then the *Cross-references* button is enabled. After activating this button, a dialog which displays the further use of the tag appears.



By activating the *Show* button or by double clicking on the list entry, the selected function block diagram is called up and the desired tag selected (blue marking).

Button:  

If a variable is selected in function block diagram, then the *Go to the next cross reference* button and *Go to the previous cross reference* button are enabled. After activating of these buttons the next respectively previous cross-references will display.

## 10. Parameter List

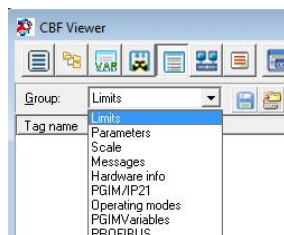
Tag name	Type	Function Block Diagram	Limit 1 (L1)	Limit 2 (L2)	Limit 3 (L3)	Limit 4 (L4)
FIC300	C_CR	FIC300	0	0	0	0
Konstanten	C_CS	PL_P0310A	0	0	0	0
LI100	M_ANA	LI100	7.8	7.2	0.8	0.15
LI2005	M_ANA	LI2005	195	1	0	0
LI300	M_ANA	LI300	1500	1400	200	50
LI400	M_ANA	LI400	490	450	50	10
LIC100	C_CU	LIC100	0	0	0	0
PC2002	C_CU	PC2002	1	3.5	4	0
PI100	M_ANA	PI100	0	10	0	0
PI200	M_ANA	PI200	0	0	0	0
PI300	M_ANA	VI300	1	0.1	0	0
REGler1	C_CU	Diverses	10	20	30	40
REGler2	C_CU	Diverses2	0	0	0	0
T2000	M_ANA	T2000	190	10	0	0
T2001	M_ANA	T2001	35	1	0	0
T2003	M_ANA	T2003	95	1	0	0
TC2004	C_CU	TC2004	84	95	0	0
TC2005	C_CU	TC2005	93	95	0	0
TC2005C	M_ANA	TC2005	1	0	0	0
TC2005H	M_ANA	TC2005	1	0	0	0
TIC7654	C_CS	Heizer	150	150	5	0
Y_Split_NP200	M_ANA	FIC_SPLITT	0	0	0	0
Y_Split_NV100	M_ANA	FIC_SPLITT	0	0	0	1
Regler1	C_CU	Diverses	50	0	0	0

In the Parameter List the parameters of tags are displayed in groups. By double clicking on the tag, the corresponding function block diagram is called up and the tag selected. The parameter can be changed by double clicking on it.

The menu items available are:

- Limit values:** list of all blocks with limit values such as, for example, controller, monitor, counter...
- Parameters:** list of all blocks with the control parameters amplification (KP), reset time (TN) and derivative action time (TV).
- Scaling:** list of all blocks with measuring range start and end such as, for example, controller, monitor, counter...
- Messages:** list of all configured alarms with its aspects for limit value, priority and alarm text. Alarms of the following blocks are not indicated: Modbus, TCP/IP, telecontrol system, Interbus. Depending on the number of blocks the indication can take some seconds.
- HardwareInfo:** Serial number and hardware index of the controller modules
- PGIM/IP21:** list of all tags whose signals are used for PGIM or IP21
- Operation Modes:** list of all modules in mode auto or manual.
- PGIMVariables:** list of all variables which are used for PGIM or IP21 (REAL and BOOL).
- PROFIBUS:** list of all PROFIBUS devices with device information

The selection of the desired group is made in the field "Group":




**Note:** - The Parameter List is only available in commissioning mode (online).



- The writing of parameters is a one-off action. The changed values are not cold start fixed on the process station. Writing in Control Builder F corresponds to the writing of parameters in parameter masks of blocks.

## 10.1 Store Parameters

With the **Save** button  the current parameters are saved in the *Parameters.cfg* file (in the installation folder). If Excel is installed, this file is then opened with Excel. There the parameters for further processing or documentation are then available. This version does not support the re-reading of the Excel parameters.

**Note:** The groups and the associated parameters can be changed or advanced (see CBF Viewer Installation guide).

## 10.2 Change Parameters


The parameters can be changed directly from the Parameter List. By double clicking on the corresponding parameters, a dialog for the entry of a new value appears.

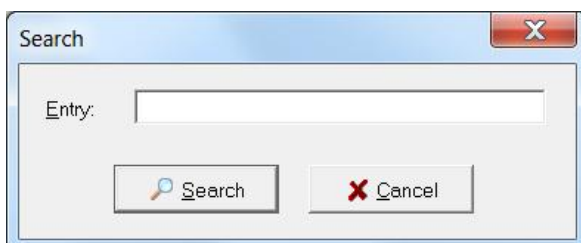


After entry of the new value and acknowledgement with OK, the parameter is written to the controller.

**Note:** To write parameters, the OPC-Gateway must have write access to the controller, as must the registered user.

## 10.3 Search in the Parameter List

With the help of the **Search**  button, a tag can be searched for. After activating the button, the following dialogue appears:




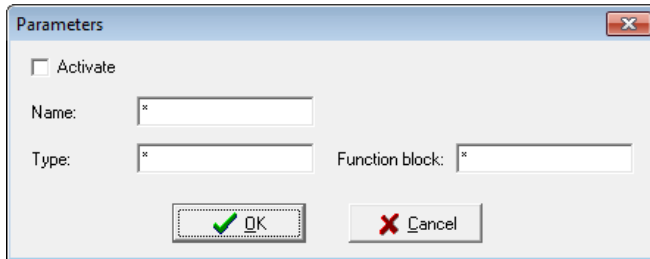
Enter the desired name and activate the **Search** button. In a successful search, the tag is selected in the Parameter List. The initial letters of the tag are compared with the desired entry. By activating the **Search** button again, the next tag which corresponds to the entry is searched for.

**Note:** Wildcards such as, for example, interrogation mark '?' are not allowed.

## 10.4 Filter the Parameter List


To hide undesired tags, the Parameter List can be filtered.

To do so, activate the button: *Define search arguments* . A dialogue for entry of the search arguments appears.




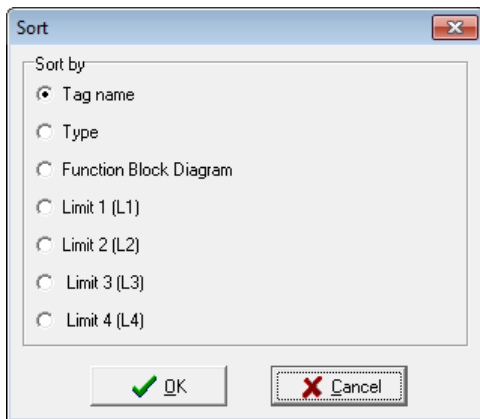
The 'Parameters' dialog box contains an 'Activate' checkbox, which is currently unchecked. Below it are three input fields: 'Name:', 'Type:', and 'Function block:', each with a small 'x' icon in its text box. At the bottom are 'OK' and 'Cancel' buttons.

Using the *Activate* button, the search can be enabled. The Parameter List is only filtered in marked condition. With the search arguments *name*, *type* and *function block diagram*, wildcards (interrogation mark '?') can be used. After activating the *OK* button, the Parameter List is filtered.

**Note:** The filter can be switched on or off via the *Activate Search*  button. This corresponds to the option *Activate* in the *Filter* dialogue.

## 10.5 Sort Parameter List

The Parameter List can be sorted. To do so, activate the *Sort*  button. The following dialog appears:



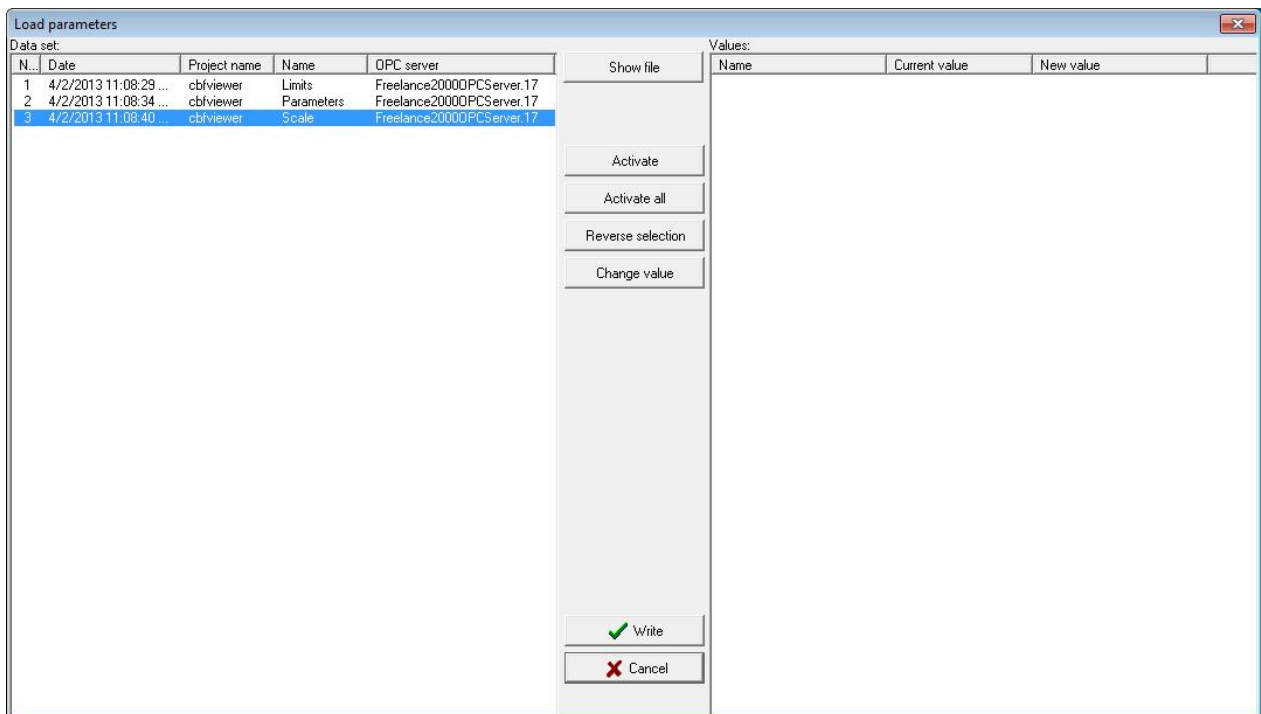
The 'Sort' dialog box has a 'Sort by' section with several radio button options: 'Tag name' (selected), 'Type', 'Function Block Diagram', 'Limit 1 (L1)', 'Limit 2 (L2)', 'Limit 3 (L3)', and 'Limit 4 (L4)'. At the bottom are 'OK' and 'Cancel' buttons.

After selection of the desired sort criterion for sorting, activate the *OK* button. The number of sort arguments depends on the selected parameter group.

**Note:** The Tag List can also be sorted by clicking on the corresponding column header. By clicking on the same column header again, the list is sorted in reverse order.

## 10.6 Loading Parameter List

With the button *Load*  Parameter Lists can be retrieved and written into the controllers.



In the list „data set“, all stored data sets are displayed.

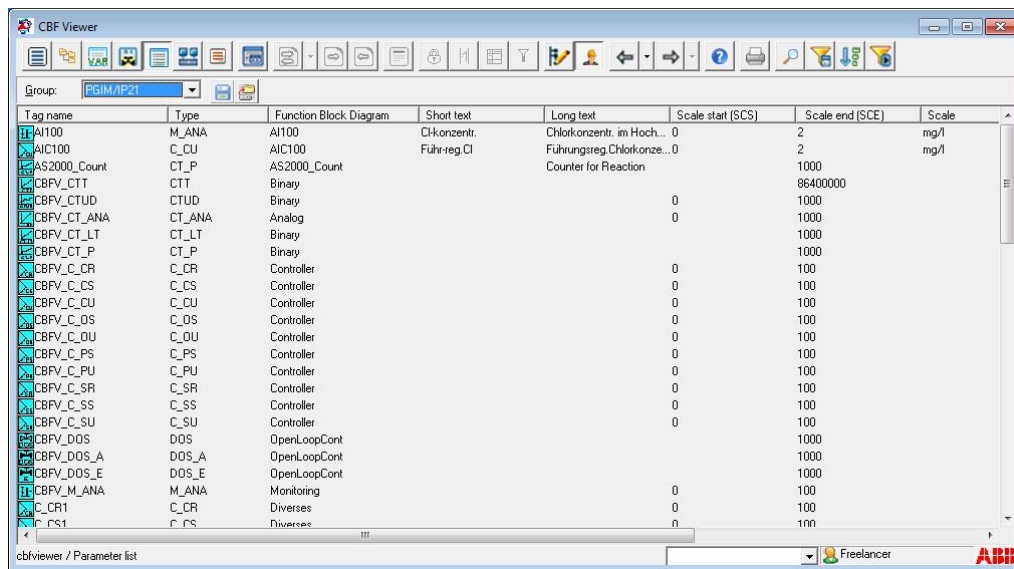
In order to load a data set, the following steps have to be taken:

1. Select data set
2. Press button „*Show file*“
3. Activate or deactivate parameters to be loaded (buttons *Activate*, *Activate all* and *Reverse selection*)
4. If necessary, change value of the data set (button *Change value*)
5. Press button *Write*.




When the values have been successfully written, the corresponding symbol is displayed in the list of parameter names.

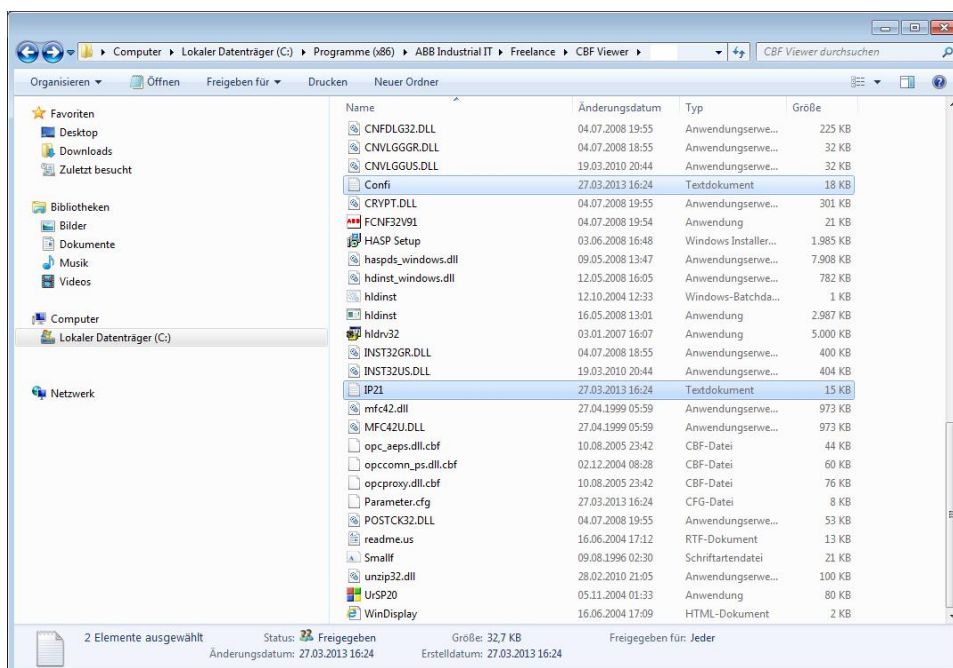
**Note:** Only those Parameter Lists can be loaded whose configuration is similar with the present configuration. Thus, OPC server name and project name have to be equal. Moreover, the parameters have to exist and must be writable.

## 10.7 Generate Configuration Files for PGIM and IP21

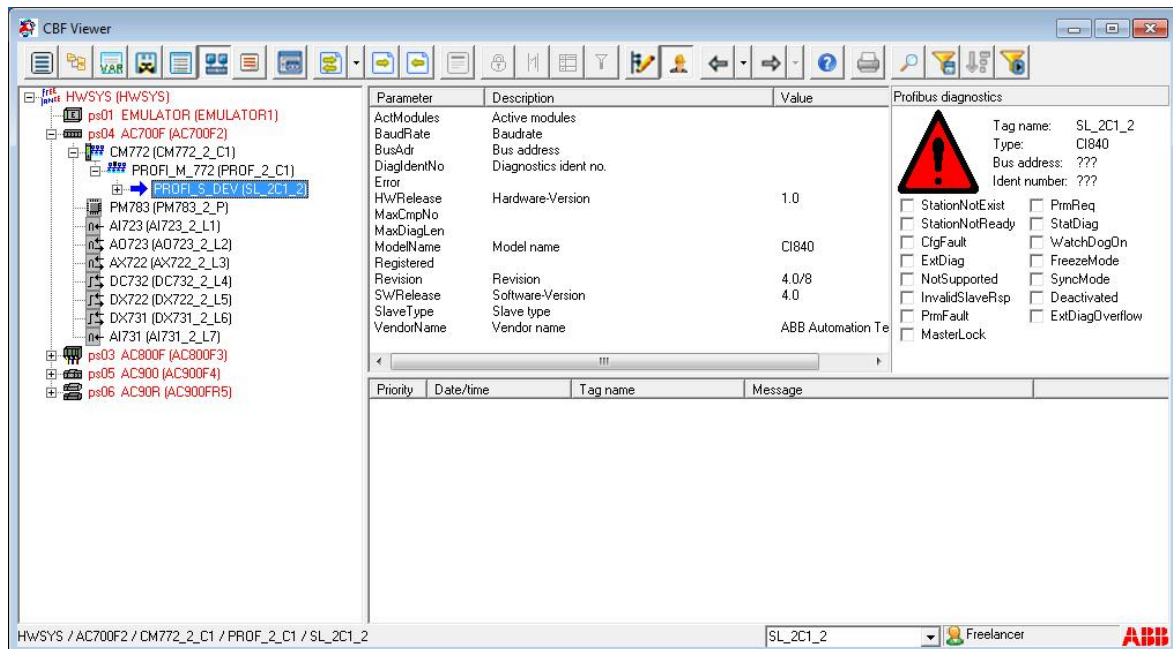


To create the configuration files for PGIM or IP21, follow these instructions:

1. Open full version of CBF Viewer (Windows Start Menu *Programme* -> *ABB Industrial IT* -> *CBF Viewer* -> *CBF Viewer*).
2. Goto Online Mode (Button .
3. Select view parameters (Button .
4. Select group "PGIM/IP21" for tags or "PGIMVariables" for Variables, used for PGIM or IP21. A combined list is not possible.
5. Hold Shift key and press Button Save (.
6. Open windows explorer and navigate to CBF Viewer installation folder (C:\Program Files\ABB Industrial IT\CBF Viewer).
7. For PGIM copy file *Confi.txt* to the PGIM server. For IP21 copy file *IP21.txt* to the IP21 server.




## 11. Hardware Structure

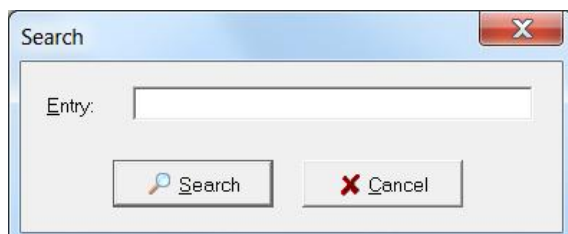


The Hardware Structure represents the hardware tree of Control Builder F. In the area on the left, the objects are displayed hierarchically in a tree structure. In the part on the right, the standard parameters and the messages of the selected hardware object are displayed. If there is a message for an object, then the corresponding entry and its parent objects are checked in red in the hardware tree. The message is displayed with acknowledgement status, priority, date/time, tag and message text. By clicking on the acknowledgement symbol (🟢) the message is acknowledged. If a Profibus slave is selected on the left-hand side, the standard Profibus diagnostics appears in the right-hand section.

**Note:** To acknowledge messages, the *Change parameters* (see configuration wizard) right is necessary.

### 11.1 Search in Hardware Structure

With the help of the *Search*  button, a hardware object can be searched for. After activating the button, the following dialogue appears:




Enter the desired name and activate the *Search button*. In a successful search, the hardware object is selected in the Hardware Structure. The initial letters of the hardware objects are compared with the desired entry. By activating the *Search* button again, the next hardware object which corresponds to the entry is searched for.

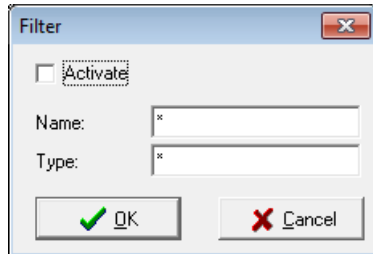
**Note:** Wildcards such as, for example, interrogation mark ‘?’ are not allowed.

## 11.2 Filter Hardware Structure


To hide undesired hardware objects, the Hardware Structure can be filtered.

To do so, activate the button: *Define search arguments* .

A dialogue for entry of the search arguments appears.

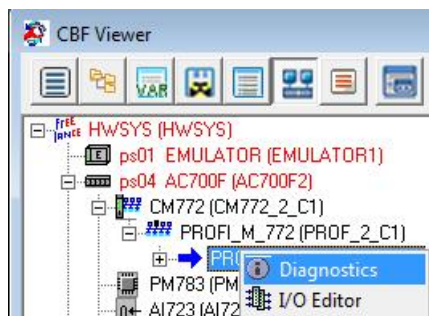


Using the *Activate* button, the search can be enabled. The Hardware Structure is only filtered in marked condition. For the search argument *Name*, wildcards (interrogation mark ‘?’) can be used. After activating the *OK* button, the Hardware Structure is filtered. If a hardware object corresponds to the desired search argument, the parent objects are also displayed in the Hardware Structure.

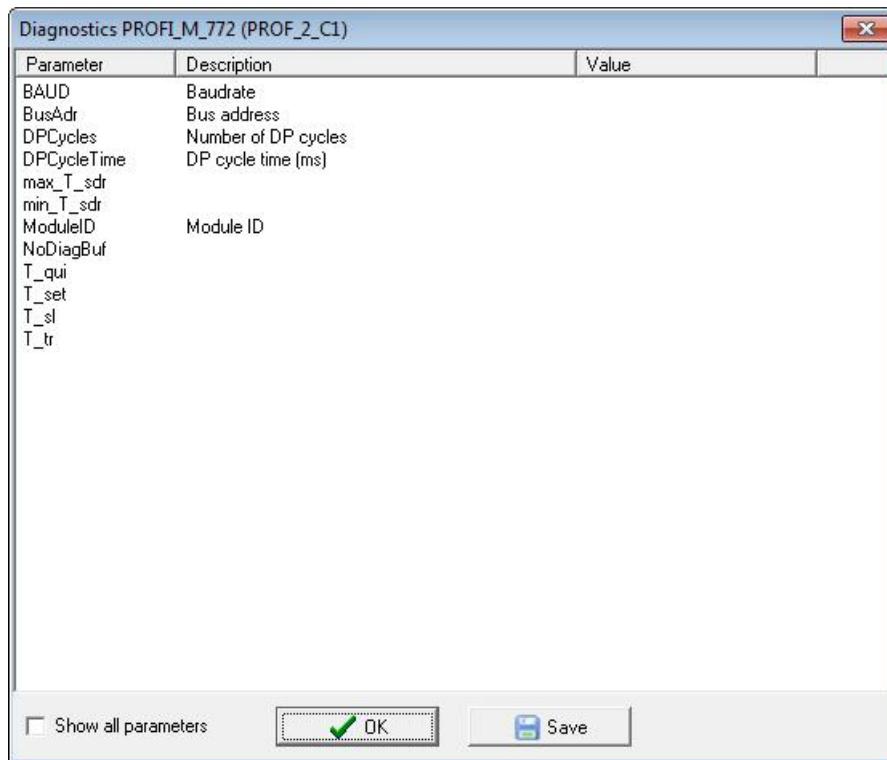
**Note:** The filter can be switched on or off via the *Activate Search*  button. This corresponds to the option *Activate* in the *Filter* dialogue.

## 11.3 Diagnostics in Hardware Structure

If a hardware object is marked, diagnostic information about the object can be displayed via the aspect menu.



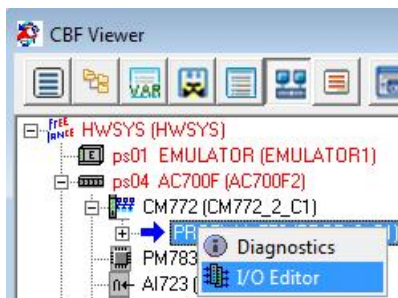
Depending on the type of hardware object selected, a dialog appears for diagnostics. For the remaining types the following diagnostics appear:



The list of parameters depends on the type of hardware object. With the *Display all parameters* band, all the parameters of the object can be displayed.

## 11.4 I/O editor accessing

If a hardware object is checked, the corresponding I/O editor can be displayed via the aspect menu.





The following dialog appears:

Path	Module	Component	Data type	Byte	Bit	Length	Variable	Comment	Value
AC900F4	DA701F_4_L6	DI0	BOOL	0	0	1			
AC900F4	DA701F_4_L6	DI1	BOOL	4	0	1			
AC900F4	DA701F_4_L6	DI2	BOOL	8	0	1			
AC900F4	DA701F_4_L6	DI3	BOOL	12	0	1			
AC900F4	DA701F_4_L6	DI4	BOOL	16	0	1			
AC900F4	DA701F_4_L6	DI5	BOOL	20	0	1			
AC900F4	DA701F_4_L6	DI6	BOOL	24	0	1			
AC900F4	DA701F_4_L6	DI7	BOOL	28	0	1			
AC900F4	DA701F_4_L6	DI8	BOOL	32	0	1			
AC900F4	DA701F_4_L6	DI9	BOOL	36	0	1			
AC900F4	DA701F_4_L6	DI10	BOOL	40	0	1			
AC900F4	DA701F_4_L6	DI11	BOOL	44	0	1			
AC900F4	DA701F_4_L6	DI12	BOOL	48	0	1			
AC900F4	DA701F_4_L6	DI13	BOOL	52	0	1			
AC900F4	DA701F_4_L6	DI14	BOOL	56	0	1			
AC900F4	DA701F_4_L6	DI15	BOOL	60	0	1			
AC900F4	DA701F_4_L6	DC0_I	BOOL	64	0	1			
AC900F4	DA701F_4_L6	DC1_I	BOOL	68	0	1			
AC900F4	DA701F_4_L6	DC2_I	BOOL	72	0	1			
AC900F4	DA701F_4_L6	DC3_I	BOOL	76	0	1			
AC900F4	DA701F_4_L6	DC4_I	BOOL	80	0	1			
AC900F4	DA701F_4_L6	DC5_I	BOOL	84	0	1			
AC900F4	DA701F_4_L6	DC6_I	BOOL	88	0	1			
AC900F4	DA701F_4_L6	DC7_I	BOOL	92	0	1			
AC900F4	DC732F_4_L7	I0	BOOL	0	0	1			
AC900F4	DC732F_4_L7	I1	BOOL	1	0	1			
AC900F4	DC732F_4_L7	I2	BOOL	2	0	1			
AC900F4	DC732F_4_L7	I3	BOOL	3	0	1			
AC900F4	DC732F_4_L7	I4	BOOL	4	0	1			
AC900F4	DC732F_4_L7	I5	BOOL	5	0	1			
AC900F4	DC732F_4_L7	I6	BOOL	6	0	1			
AC900F4	DC732F_4_L7	I7	BOOL	7	0	1			
AC900F4	DC732F_4_L7	I8	BOOL	8	0	1			
AC900F4	DC732F_4_L7	I9	BOOL	9	0	1			
AC900F4	DC732F_4_L7	I10	BOOL	10	0	1			
AC900F4	DC732F_4_L7	I11	BOOL	11	0	1			

☐ Show only I/O channels in use  
☒ Show all modules

OK Cross reference Save

Depending on the hardware object, the tabs input, output or diagnostics are available. With the *Display only occupied channels* band, only occupied I/O channels are displayed. All other signals are hidden. If a channel is occupied, further use of the variables can be ascertained via the *Cross-references* button.

With the *Show all modules* band, all IO-Signals from the selected object and his child objects will be displayed.

Using the Save button, the current IO information is stored in the *Parameters.cfg* file in the installation folder. If Excel is installed on the PC, this file is automatically opened with Excel. There the IO information is available for further processing



## 12. Message List

Priority	Date/time	Tag name	Short text	Condition	Message
✓ 1	3/28/2013 8:41:23 AM	ps01		MSR_RES_BO...	Error: system message text dll not loaded!
✓ 1	3/28/2013 8:41:29 AM	LI100	Niveau B100	LL	zu tief
✓ 4	3/28/2013 8:41:29 AM	FI400		LL	NIEDRIG
✓ 3	3/28/2013 8:41:29 AM	LI300	Ansetzbeh.	L	WENIG
✓ 4	3/28/2013 8:41:29 AM	FI901	Summe Zul.	L	Sperr CI
✓ 1	3/28/2013 8:41:29 AM	PL_P0310A	Pompe	ERROR	DEFAULT
✓ 3	3/28/2013 8:41:29 AM	LI100	Niveau B100	L	tief
✓ 2	3/28/2013 8:41:29 AM	FI300		L	TIEF
✓ 5	3/28/2013 8:41:29 AM	PL_P0310A	Pompe	LOC_OP	LOCAL
✓ 3	3/28/2013 8:41:29 AM	TIC7654	Temp.	L	Hugos
✓ 4	3/28/2013 8:41:29 AM	ConDis4	Kurz 4	PROTECT	Schutz
✓ 4	3/28/2013 8:41:29 AM	Y_Split_NV100	Regelventil	LL	ZU
✓ 2	3/28/2013 8:41:29 AM	RATIO		L	TIEF
✓ 3	3/28/2013 8:41:29 AM	CBFV_DST_TO_LT		NO_DST	Error: system message text dll not loaded!
✓ 1	3/28/2013 8:41:29 AM	NS010		PROTECT	PROTECT
✓ 1	3/28/2013 8:41:30 AM	NP021	Vers-Ppe.21	PROTECT	SCHUTZ
✓ 1	3/28/2013 8:41:30 AM	NP051	Vers-Ppe.51	PROTECT	SCHUTZ
✓ 1	3/28/2013 8:41:30 AM	NP011	Vers-Ppe.11	PROTECT	SCHUTZ
✓ 1	3/28/2013 8:41:30 AM	NP022	Vers-Ppe.22	PROTECT	SCHUTZ
✓ 5	3/28/2013 8:41:31 AM	PL_P0310A	Pompe	PROTECT	FORCAGE
✓ 3	3/28/2013 8:41:49 AM	CBFV_SR_IBREC		L	
✓ 1	3/28/2013 8:46:24 AM	T2003		H	Hoch
✓ 1	4/2/2013 9:01:01 AM	CBFV		ps06_READ_W...	Invalid message text !
✓ 1	4/2/2013 9:01:01 AM	CBFV		ps04_CONNEC...	Invalid message text !

All the active messages of the process stations are displayed in the Message List with acknowledgement status, priority, date/time, tag names, short text, conditions and message text. The total number of messages is displayed in the state line. In un-acknowledged state, the acknowledgement symbol (✓) is displayed before the priority. If the message is acknowledged, no acknowledgement symbol appears. By double clicking on a message, the corresponding function block diagram or the Hardware Structure is called up. In the case of messages which cannot be assigned to a tag, no function block diagram is called up.

**Note:** In systems with DigiVis V8.x messages are not displayed.

### 12.1 Search in Message List


With the help of the *Search* button, a message can be searched for. After activating the button, the following dialogue appears:

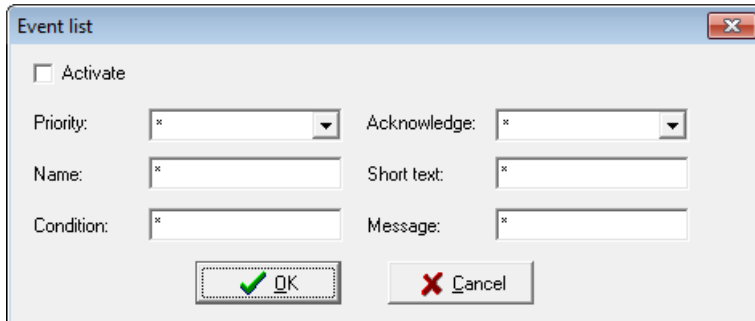
Enter the desired name and activate the *Search* button. In a successful search, the tag is selected in the Message List. The initial letters of the tags are compared with the desired entry. By activating the *Search* button again, the next tag which corresponds to the entry is searched for.

**Note:** Wildcards such as, for example, interrogation mark ‘?’ are not allowed.

## 12.2 Filter Message List

To hide undesired messages, the Message List can be filtered.


To do so, activate the button: *Define search arguments* .  
A dialogue for entry of the search arguments appears.




The 'Event list' dialog box contains the following fields and controls:

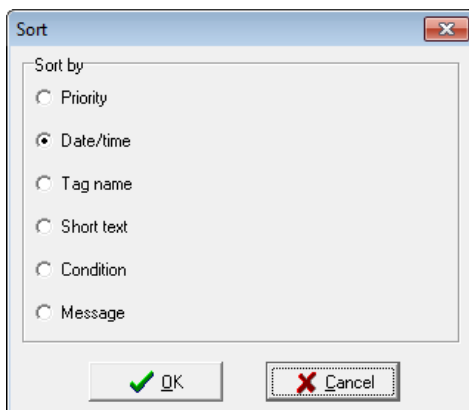
- ☐ Activate
- Priority:  (dropdown arrow)
- Acknowledge:  (dropdown arrow)
- Name:
- Short text:
- Condition:
- Message:
- (with green checkmark icon)
- (with red X icon)

Using the *Activate* button, the search can be enabled. The Hardware Structure is only filtered in marked condition. In the case of the search arguments *Priority* and *Acknowledgement*, selection may be made from a list of search arguments. In the case of the search arguments *name*, *short text*, *condition* and *message*, wildcards (interrogation mark '?') can be used. After activating the *OK* button, the Event page is filtered.

**Note:** The filter can be switched on or off via the *Activate Search*  button. This corresponds to the option *Activate* in the *Filter* dialogue.

## 12.3 Sort Message List

The Message List can be sorted. To do so, activate the *Sort*  button. The following dialog appears:



The 'Sort' dialog box contains the following controls:

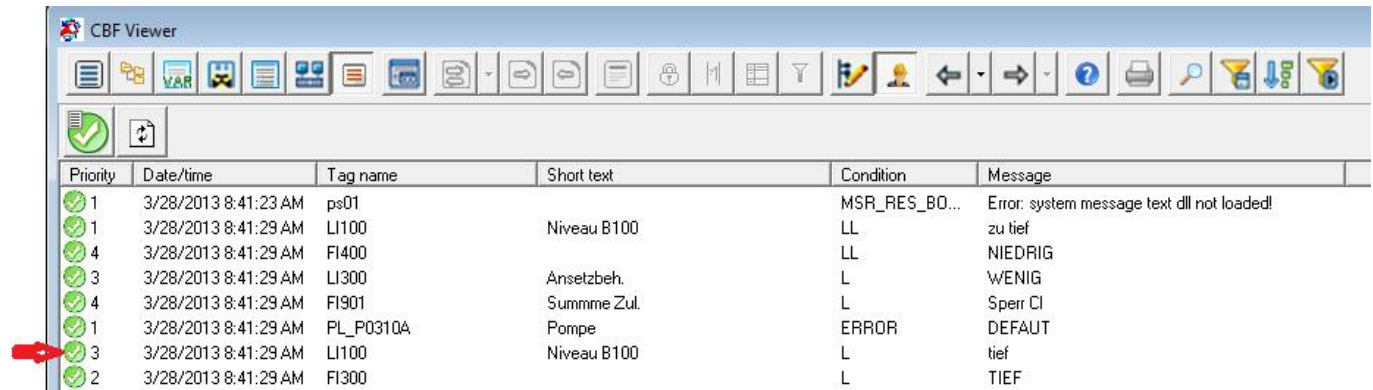
- Sort by:
  - ☐ Priority
  - ☒ Date/time
  - ☐ Tag name
  - ☐ Short text
  - ☐ Condition
  - ☐ Message
- (with green checkmark icon)
- (with red X icon)

After selection of the desired sort criterion for sorting, activate the *OK* button.

**Note:** The Message List can also be sorted by clicking on the corresponding column header. By clicking on the same column header again, the list is sorted in reverse order.

## 12.4 Acknowledge messages

An individual message can be acknowledged by clicking on the acknowledge symbol (✔) of the message if the user has the right to acknowledge. This right must be assigned to the user in the configuration wizard.



All visible messages can be acknowledged using the *Acknowledgement* button.

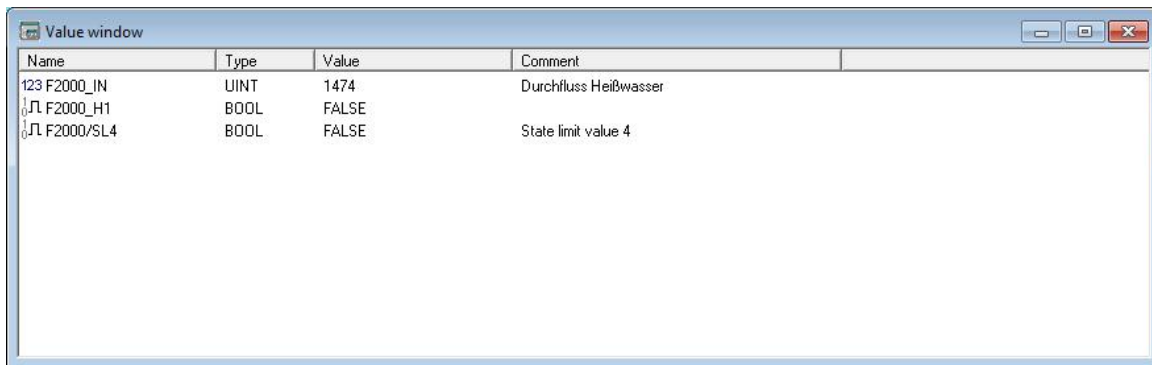
**Note:** No messages are displayed in configuration mode. In this case it is therefore not possible to make an acknowledgement.


## 12.5 Refresh Message List

The Message List can be requested again from the OPC-Alarm&Event server (Refresh). To do so, activate the *Refresh* button.

**Note:** No messages are displayed in configuration mode. In this case updating is therefore not possible. When switching to commissioning mode (online), the list is automatically updated.

## 13. Value Window



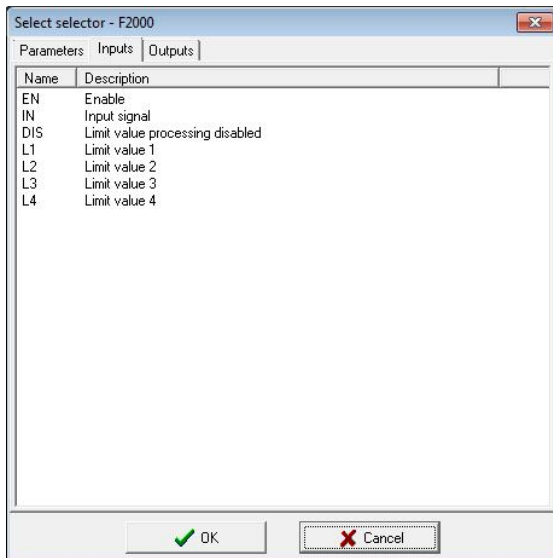
In the Value Window selected signals are displayed with name, data type, current value and comment. The desired signals (variables or parameters of tags) can be moved from the function block diagrams to the Value Window using drag & drop. The configuration of the Value Window can be saved and reloaded. The Value Window can be shown or be hidden via the Value Window (  ) button.

**Note:** When calling up the Project List, the Value Window is automatically closed.

### 13.1 Enter signals in a Value Window

To enter a signal, mark the variable or tag in the Variable List, Tag List, Parameter List, function block diagram, Hardware Structure or Event page and then move to the Value Window using drag & drop.

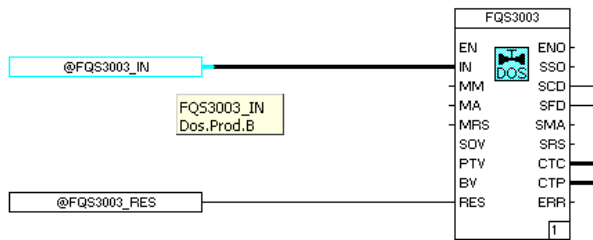
**Note:** With drag & drop of a tag, a dialog appears for selection of the selector:



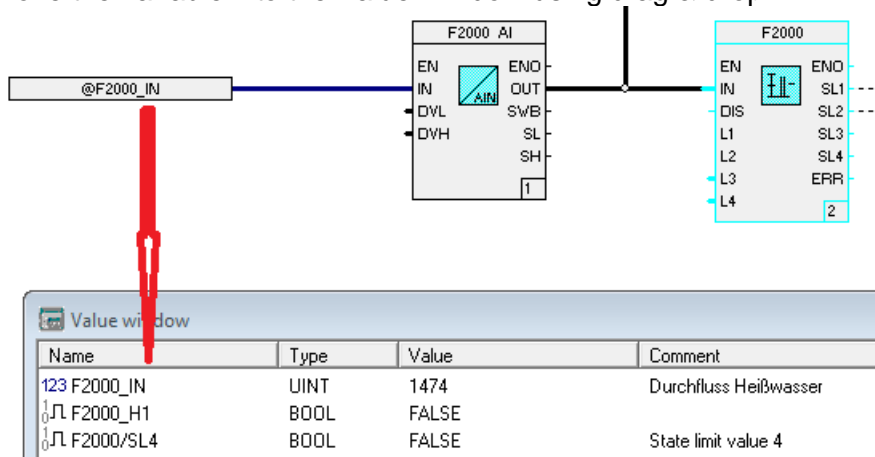
After selecting the desired selector of the tabs *parameters*, *inputs* or *outputs*, activate the *OK* button.

**Example** of the insertion of a variable from the function block diagram into the Value Window:

a) Mark variable:



b) Move the variable into the Value Window using drag & drop:



c) Release the left mouse button, the variable appears in the Value Window:

Value window			
Name	Type	Value	Comment
F2000_IN	UINT	1474	Durchfluss Heißwasser
0 F2000_H1	BOOL	FALSE	
0 F2000_SL4	BOOL	FALSE	State limit value 4

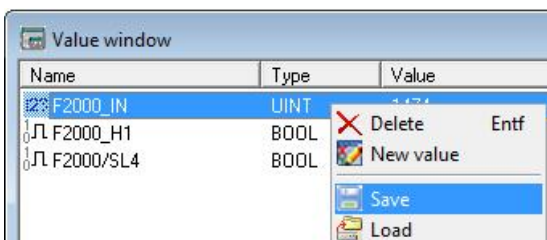
### 13.2 Remove signals from Value Window

To remove a signal from the Value Window, mark the signal and then select the command *Delete* from the aspect menu.

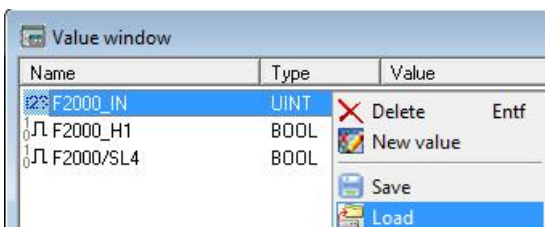


### 13.3 Save and load Value Window

To store the configuration of the Value Window, select the command *Save* from the aspect menu.



To load a stored configuration of the Value Window, select the command *Load* from the aspect menu.





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