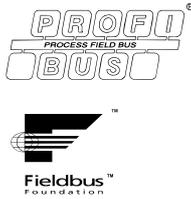


Operating Instructions

ControlCare Application Designer

Overview



The screenshot displays the ControlCare Application Designer interface. The main workspace shows a ladder logic diagram with four control modules: Control Module 1_AI_1, Control Module 1_PID_1, Control Module 1_PID_2, and Control Module 1_AO_1. Connections include OUT, IN, CAS_IN, CAS_OUT, BKCAL_IN, and BKCAL_OUT. The bottom table lists the following data:

Device Tag	Device Class	Device Address	Device ID	Manufacturer ID	Type ID	Dev. Rev.	DB Rev.
Device_1	Basic	24 (0x18)	452B4010F-43120010D	452B40 (Endress+Hauser GmbH)	100F (Phoslock 5)	03	01
Device_2	Basic	25 (0x19)	452B401009-8217901BCC	452B40 (Endress+Hauser GmbH)	1009 (Delbar 5)	05	01
Device_3	Basic	243 (0xF3)	452B401007-5070196	452B40 (Endress+Hauser GmbH)	1007 (Carbar 5)	02	01
Bridge_1	Bridge	145 (0x91)	452B401010E-HH-PC145271003024030	452B40 (Endress+Hauser GmbH)	2010 (SPC145)	03	04
LV03		250 (0xFA)	452B401057-7A061802000	452B40 (Endress+Hauser GmbH)			
TT101	Basic	34 (0x22)	452B4010CC-62009F04223	452B40 (Endress+Hauser GmbH)	10CC (TM1162)	01	01

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Revision History

Product version	Manual	Changes	Remarks
1.00.xx	BA017S/04/en/07.02	Original manual	
2.01.xx	BA017S/04/en/11.05	Complete revision	<ul style="list-style-type: none"> ■ Software renamed Application Designer ■ FOUNDATION Fieldbus operation essential unchanged, but with additional functions ■ PROFIBUS components and operation added ■ IEC 61131 hybrid function block programming added
2.01.xx	BA017S/04/en/03.06	2.01.xx SP1	<ul style="list-style-type: none"> ■ No changes, "official" launch with release
2.02.xx	BA017S/04/en/07.06	Program	<ul style="list-style-type: none"> ■ FB schedule configured by drag&drop (Chap 5.4.7, 5.5.8, 5.7.8) ■ Incremental download now active (Chap 5.1.5 - 5.1.9)
		Editorial	<ul style="list-style-type: none"> ■ Update Version and documentation tables
2.03.xx	BA017S/04/en/06.07	Project File	<ul style="list-style-type: none"> ■ Pack&Go deleted, Workspace Layout configurable ■ New Project Packing and Unpacking procedures
		Communication	<ul style="list-style-type: none"> ■ Multiple assignment of tags with Assign All Tags ■ Backup LAS set with Configure Device Class
		Project management	<ul style="list-style-type: none"> ■ Device exchange procedures improved ■ HSE Network Setup tool added ■ Field Controller Web Server added ■ New Version of FC Tools for firmware download
2.04.xx	BA017S/04/en/12.08	Project management	<ul style="list-style-type: none"> ■ New aliasing function implemented ■ Copy & paste of project structures
		Drawing tool	<ul style="list-style-type: none"> ■ Drawing tool description added
		I/O Mapping Tool	<ul style="list-style-type: none"> ■ I/O mapping tool dialogues added
2.05.xx	BA017S/04/en/06.10	Modbus	<ul style="list-style-type: none"> ■ Master-slave can be configured and mapped
		Upload	<ul style="list-style-type: none"> ■ Device parameters can now be uploaded online ■ Uploaded parameters can be shown or hidden
		Web Server	<ul style="list-style-type: none"> ■ Revised Web server described, Chapter 6.8
		Visitor	<ul style="list-style-type: none"> ■ SFC162 can be used as visitor (with FieldCare)

Product Version

Details of product version and the individual components of Application Designer Suite can be seen in the About ControlCare dialog:

Start=>Programs=>Endress+Hauser=>ControlCare=>Tools=>About ControlCare

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FOUNDATION™ Fieldbus

Trademark of the Fieldbus Foundation, Austin, TX 78759, USA

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1 Safety

1.1 Designated use

ControlCare is a field-based control system comprising hardware and software components. It can be used to visualize, monitor and control production processes. The approved usage of the individual units that comprise the system can be taken from the appropriate operating instructions.

ControlCare Application Designer

ControlCare Application Designer allows the engineering, configuring, commissioning and set-up of a ControlCare field-based control system comprising SFC162 FOUNDATION Fieldbus and/or SFC173 PROFIBUS Field Controller together with the associated field instrumentation. It allows control strategies to be created for FOUNDATION Fieldbus and PROFIBUS I/O applications using FF function blocks and the programming of hybrid function blocks with IEC 61131-3 programming languages.

This manual provides a functional description of the program only. Workflows and practical examples for the the engineering of FOUNDATION Fieldbus, PROFIBUS, Modbus projects as well as for the programming of hybrid function blocks are to be found in the appropriate tutorial, see Table 1.1 in Chapter 1.4.

1.2 Operational Safety

The control system hardware must be installed according to the instructions in the hardware and device manuals, taking into account all precautions regarding location, operation in hazardous areas, EMC etc..

It is recommended that ControlCare Field Controllers and OPC servers are not installed in an office network, as the large data packets exchanged between office equipment may lead to timeouts and intermittent communication errors. Ideally, the ControlCare system network should operate within its own IP domain; if this is not possible it should be separated from other parts of the network by a managed switch.

Since the system can be accessed and manipulated through ControlCare Application Designer, it is essential that the persons using the tool are authorised, suitably qualified and fully trained in its use. It is also advisable to control access to both the workstation and the folders in which the configuration is stored. Always make a back-up of the project folder.

Technical improvement

Endress+Hauser reserves the right to make technical improvements to ControlCare Application Designer at any time and without prior notification. Software improvements not relevant to operation are issued as a Service Pack – the documentation is not changed. If the improvements effect operation, the product version is incremented at the first or second position. In both cases, a new version of the operating instructions issued. The product version is to be found on the front cover of the manual and the changes are recorded in the Revision Index.

1.3 Conventions and icons

In order to highlight safety relevant or alternative operating procedures in the manual, the following conventions have been used, each indicated by a corresponding icon in the margin.

Safety conventions

Icon	Meaning
	A note highlights actions or procedures which, if not performed correctly, may indirectly affect operation or may lead to an instrument response which is not planned
	Caution! Caution highlights actions or procedures which, if not performed correctly, may lead to personal injury or incorrect functioning of the instrument
	Warning! A warning highlights actions or procedures which, if not performed correctly, will lead to personal injury, a safety hazard or destruction of the instrument

1.4 ControlCare documents

Table 1.1 indicates the documents, planned and realized, containing safety relevant information, installation, commissioning and operating instructions for the equipment and software associated with ControlCare.

All documentation available at the time of release is included on the ControlCare CD-ROM and is installed in **Start=>Programs=>Endress+Hauser=ControlCare=Manuals** during set-up.

Component	Description	Document type	Designation	Order No.
System	ControlCare System Overview	Operating manual	BA016S/04/en	56004883
	ControlCare System Design	Operating manual	BA039S/04/en	Planned
	ControlCare System Specifications	Operating manual	BA040S/04/en	56004888
Software	Application Designer Overview	Operating manual	BA017S/04/en	70104301
	Application Designer: Local I/O Tutorial	Operating manual	BA032S/04/en	71095009
	Application Designer: FF Tutorial	Operating manual	BA019S/04/en	70101151
	Application Designer: PROFIBUS Tutorial	Operating manual	BA036S/04/en	70101152
	Application Designer: MODBUS Tutorial	Operating manual	BA037S/04/en	70101153
	Application Designer: IEC 61131-3 Ladder Logic Tutorial	Operating manual	BA038S/04/en	70101386
	Application Designer: IEC 61131-3 Structured Text Tutorial	Operating manual	BA056S/04/en	71060063
	Field Control (OPC) Servers	Operating manual	BA018S/04/en	71031428
SFC162 Visitor	Operation manual	BA069S/04/en	71113457	
Field Controller	Hardware Installation Guide	Operating manual	BA021S/04/en	56004885
	Commissioning and Configuration	Operating manual	BA035S/04/en	56004887
Function Blocks	Function Block Manual	Operating manual	BA022S/04/en	56004886
Set-Up	Getting Started	Operating manual	BA020S/04/en	56004884
General	FOUNDATION Fieldbus Guidelines	Operating manual	BA013S/04/en	70100707
	PROFIBUS Guidelines	Operating manual	BA034S/04/en	56004242

Tab. 1-1: ControlCare Documentation

2 Getting Started

2.1 Introduction

ControlCare Application Designer allows the engineering, configuring, commissioning and set-up of a ControlCare field-based control system comprising SFC162 FOUNDATION Fieldbus and/or SFC173 PROFIBUS Field Controller together with the associated field instrumentation.

ControlCare Application Designer runs on a number of different Windows versions, see Chapter 2.2, System Requirements:

- You need to have administrator rights for the installation.
- Application Designer Suite operates with a license protection key. Any licence keys already used on your computer should be unplugged before the software is installed.
- Download and Online operation procedures require an Ethernet connection between your computer and the Field Controller SFC162 and/or SFC173.

2.2 System requirements

Operation system	<ul style="list-style-type: none"> ■ Windows 2000, Windows XP, Windows Server 2003, Windows Server 2008, Windows 7 and Windows Vista ■ See Setup program and/or manufacturers instructions for tested service packs 	
Hardware (recommended)	<ul style="list-style-type: none"> ■ Processor Type ■ Main Memory (RAM) ■ Hard-disk (HDD) Capacity ■ Recommended Monitor ■ Monitor Resolution ■ Data Updating Cycle ■ CD-ROM Drive 	Pentium IV or better, 500 MHz 256 MB RAM 40 GB IDE or Higher, 310 MB free space on the installation directory 300 MB on the system drive 40 MB temporarily in the TEMP folder 21", SVGA 1280 x 1024, 64k colours 1 sec - 2 sec CD-RW 40x/10x/40-IDE

2.3 Installing ControlCare Application Designer

Install ControlCare Application Designer and the associated programs and manuals in accordance with the instructions in:

- BA020S/04/en: Getting Started or
- BA035S/04/en: Field Controller, Commissioning and Configuration

After successful installation and insertion of the hard key supplied with the software, the program is started either with the icon on the desktop or from the **Start** button of Windows, see Fig. 2-1. Application designer opens with a empty workspace.

If you have no hard key the program runs in demo mode, having full capability but a limited project size.



Fig. 2-1: Starting Application Designer from the Windows Start button

2.4 Program suite

2.4.1 ControlCare Application Designer

ControlCare Application Designer allows you to engineer and configure a project off-line, go on-line, download to a Field Controller and devices as well as to commission, operate and optimise the system. A project comprises three main components:

- The physical project, or fieldbus view, which maps the "hardware" used in the project, e.g. host computer, Field Controller, local or remote I/O, measuring instruments and actuators. For ease of handling, the fieldbus network expands into a HSE network and one or more Fieldbus and/or Profibus networks
- The logical project or plant view, which is structured according to the ISA S88 model and divides the plant into areas, process cells and control modules (loops). For ease of handling, the plant network expands into one or more process cells, each with one or more control modules
- The control strategy, which contains the function blocks and links required to perform the desired control function. Each control module has its own control strategy, which is programmed in its own window.

The complete project is contained within a single navigation tree, which is always the starting point when a project is opened or created.

Engineering

A project can be engineered from different starting points. For example, it is possible to engineer the physical project first, creating fieldbus segments, devices and function blocks, then to attach the function blocks to the logical project in the control strategy window. Alternatively, the logical project including the control strategy can be created first: the physical project is then created and the function blocks (previously created in the logical part) are attached afterwards to the Field Controller and field devices.

Download

When complete, the entire project is downloaded to the Field Controller SFC162 or SFC173. At this stage the virtual devices in the offline project are connected to their real counterparts in the plant, and the application is started up. Application Designer can now be used to optimise the project on-line or to intervene in the process, e.g. by changing setpoints and other parameters.

2.4.2 ControlCare PROFIBUS Configurator

ControlCare PROFIBUS Configurator is an auxiliary program that is invoked from the network view of a PROFIBUS project. It allows the configuration of the cyclic communication parameters and tags of virtual PROFIBUS devices connected to the SFC173 PROFIBUS Field Controller. The program then maps the information into PROFIBUS function blocks, which can then be used to build control strategies in the normal way. The resulting off-line application is downloaded to the SFC173 controller and the cyclic data is configured in the connected PROFIBUS devices.

More information on ControlCare PROFIBUS Configurator is to be found in the Application Designer PROFIBUS Tutorial, BA036S/04/en.

2.4.3 OpenPCS

OpenPCS is an auxiliary program that is called from any hybrid function block created within ControlCare Application Designer. It allows the programming of the function block in any of the standard programming languages of IEC 61131-3. This very powerful tool allows logical control sequences and interlocking to be added to the continuous and discrete control possibilities of standard FOUNDATION Fieldbus function blocks. The resulting hybrid function blocks can then be used to build control strategies in the normal way.

More information on OpenPCS is to be found in the Application Designer IEC 61131-3 Tutorial, BA038S/04/en.

2.5 User interface

ControlCare Application Designer uses the latest Windows technology to provide simple operation of the software. In many cases, functions can be called by menu, context menu (right-click on a program object), double-clicks or a button on the toolbar.

Note!



- ControlCare Application Designer includes a complete tool for drawing control strategies. This is described in detail in ControlCare Application Designer: Drawing Tool, BA022S/04/en.

2.5.1 Workspace

When you work with the program you will be concerned with six basic elements:

- The menu bar, in which the main menus are called, and which may change according to the window you are working in.
- The toolbar, which may change according to the window you are working in
- The project window or view, which shows the entire topology of the project
- The process cell window or plant view, which shows the logical project
- The fieldbus window or view, which shows the physical project. Separate windows open for the HSE network and the each Fieldbus (PROFIBUS DP and/or FOUNDATION Fieldbus H1)
- The control module/strategy window or view, which allows you to build a control strategy by creating and linking function blocks

In addition, auxiliary windows, e.g. live lists, appear when the appropriate function is invoked.

ControlCare Application Designer also uses context menus, which offer the functions relevant for the object currently selected only.

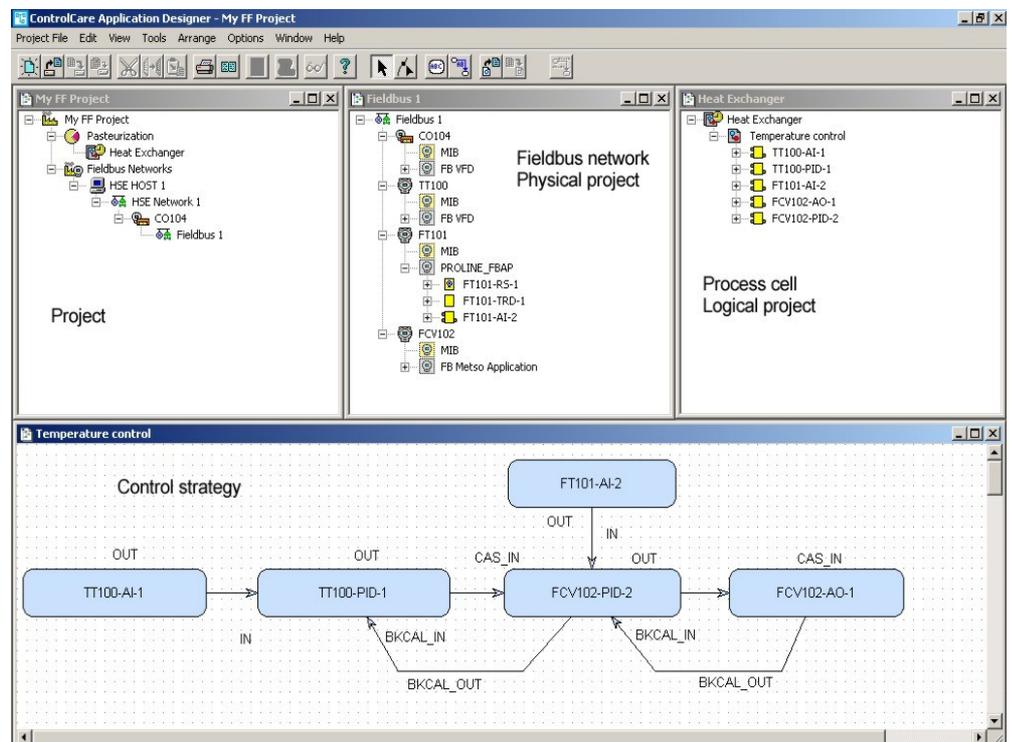


Fig. 2-2: Application Designer workspace showing Project, Fieldbus network, Process Cell and Control Module windows

2.5.2 Menu operation

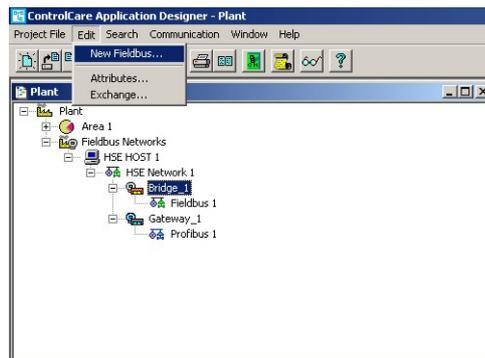
The menu bar contains the main menus required for engineering, configuring, commissioning and operating your project. The content changes according to which particular window is activated or the position in the main project tree. Table 2-1 lists the menus and functions: full details are to be found in Chapter 3.

Name	Function
Project File	Contains all project management functions, e.g. open, save, print, preferences etc.
Edit	Allows the editing of the project, e.g. adding and deleting of bridges, gateways, process cells, control modules, function blocks, links etc. in the appropriate windows
Search	Searches for the item entered in the project tree or control strategy
View	Opens the live list in the network window or allows zooming in the strategy window
Export	When the plant node (HSE Host) is selected in the project window, updates OPC server, tags etc.
Communication	Allows selection of OPC server in the Project window, and when on-line, the downloading of the project to the Field Controller in the Project or Network windows
Tools	Selects drawing tools and toolbars in the strategy window
Options	Allows preferences to be set for the graphical objects used in the strategy window
Window	Provides the standard Windows functions for window management in all windows
Help	Opens the Controlcare Online Help and About functions in all windows

Tab. 2-1: Main menus and basic functions

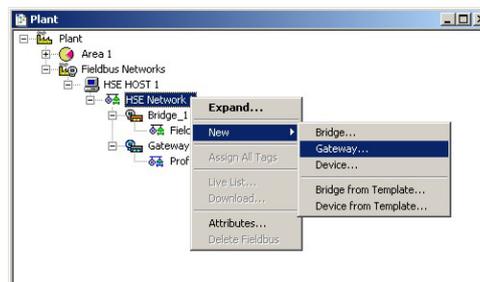
Main menu

Open a menu by moving the mouse across the menu name, and if necessary clicking. Menu items that are not available for the particular element selected are greyed:



Context menus

Open context menus by selecting an object and right-clicking. Menu items that are not available for the particular element selected are greyed:



2.5.3 Toolbar operation

The toolbar provides short cuts to selected menu functions. When the functions are not available in a particular window, the buttons become grey. When the cursor is placed on a tool bar button, a tooltip explaining its function appears. A detailed explanation of the functions that can be called by from the toolbars is to be found in Chapter 4.

Fig 2-3 shows the general toolbar, which is always active in Application designer.



Fig. 2-3: General operation toolbar

Also active by default when the control strategy window is open is the strategy tool bar. This is used in the creation of the control strategy.



Fig. 2-4: Control strategy toolbar

Other toolbars

Four other tool bars, which are associated with the drawing tool, see operating instructions BA032S/04/en, can be opened by selecting **Tools => Tool Boxes => Toolbox Name**. When open, a tick appears next to the toolbox name. The toolboxes are closed by reselecting the toolbox name.

These toolboxes are active only when a graphical element is selected in the strategy window.

2.6 Documentation

2.6.1 PDFs

The current set of ControlCare documentation is installed as PDFs during the setup procedure at the default location **Endress+Hauser => ControlCare => Manuals => English =>...** . They can be accessed though **Start => Programs =>Endress+Hauser =>** etc.

The manuals with content relevant to the use of Application Designer are as follows:

- BA019S/04/en – Application Designer: FOUNDATION Fieldbus Tutorial
- BA022S/04/en – Application Designer: Function Blocks
(contains details on the parameters and configuration of function blocks)
- BA035S/04/en – Field Controller: Commissioning and Configuration
(contains details of configuring the local I/O in Application Designer)
- BA036S/04/en – Application Designer: PROFIBUS Tutorial
- BA037S/04/en – Application Designer: MODBUS Tutorial
- BA038S/04/en – Application Designer: IEC 61131-3 Ladder Logic Tutorial
- BA056S/04/en – Application Designer: IEC 61131-3 Structured Text Tutorial
- BA062S/04/en – Application Designer: Local I/O Tutorial

2.6.2 Online Help

ControlCare Application Designer provides an Online Help which can be called from the **Help** menu, by pressing the **Contents** button  or by pressing the Help button in the specific dialog box.

2.6.3 This manual

This manual describes the various menus and menu items to be found within Application Designer. It does not attempt to describe practical applications – this is the purpose of the tutorials – but to provide a function description of every menu point and dialog. To aid clarity, the descriptions have been divided into the following chapters:

- Menu – functional descriptions structured according to menu
- Toolbars – functional descriptions structured according to window
- Context Menus – functional descriptions structured according to window
- Dialogs – dialog descriptions structured according to activity
- Trouble-Shooting – Error messages and responses

3 Menus

This chapter contains descriptions of the main menus and toolbars. The menus available in Application Designer are Project File, Edit, Search, Export, View, Communication, Window and Help. The menus change according to which node is selected on the project navigation tree or which window, project, fieldbus, process cell, strategy, is active. Greyed menu items are not available for the selected node or window, whereby some are also dependent upon whether a project is off- or online.

Chapter 3.9 contains a overview of the menus in PROFIBUS Configurator. More details can be found in Application Designer PROFIBUS Tutorial, BA036S/04/en and the PROFIBUS Configurator online help.

3.1 Project File

3.1.1 Opening and closing projects

Menu	Button	Function
Project File =>New=>Project		Creates new project: <ul style="list-style-type: none"> ■ Select Project from menu ■ In the Setup New Project Workspace dialog: <ul style="list-style-type: none"> – If necessary, browse to folder location – Enter file name – Press Save ■ A folder containing the project file is created
Project File =>New=>Strategy Template =>Device Template =>Bridge Template		Creates a new template of the selected type: <ul style="list-style-type: none"> ■ Select Strategy, Device or Bridge Template from menu ■ In the workspace that opens, create the template <ul style="list-style-type: none"> – See the appropriate dialogs in Chapter 6 ■ Close the workspace - you will be asked to store you template <ul style="list-style-type: none"> – If necessary, browse to folder location – Enter file name – Press Save ■ A folder containing the project file is created
Project File => Open		Opens an existing project: <ul style="list-style-type: none"> ■ In the Open dialog: <ul style="list-style-type: none"> – Browse to folder location – Select the project file – Press Open ■ The project is opened
Project File => Open default template		Opens a default device template <ul style="list-style-type: none"> ■ In the Open Default Template dialog <ul style="list-style-type: none"> – Select the device manufacturer – Select the device – If appropriate select the device revision (default = latest) – Press OK to open template ■ In the Device Default Template dialog <ul style="list-style-type: none"> – Make the changes to the template – Save changes: <ul style="list-style-type: none"> Project File => Save As Default Template – Press X in top righthand corner to close the template ■ The modified template will be used everytime a device of this type is connected to a fieldbus network
Project File => Close		Closes current project <ul style="list-style-type: none"> ■ Pressing X in top righthand corner also closes the project ■ If changes have been made to the project since the last save, you will be asked whether you want to save them

3.1.2 Saving projects

Menu	Button	Function
Project File => Save		Saves the changes in the currently active window
Project File => Save As...		Saves a copy of the project <ul style="list-style-type: none"> ■ In the Save As dialog: <ul style="list-style-type: none"> – Browse to folder location – Select the project file or enter a new file name – Press Save The project is opened
Project File => Save default template		Saves the changes to a device default template when its window is active
Project File => Save Entire Project		Saves all changes to a project made since the last save action

3.1.3 Printing

Menu	Button	Function
Project File => Printer Setup...		Sets up printing properties and selects the printer to be used <ul style="list-style-type: none"> ■ Set up the printing properties in the Page Setup dialog ■ Press OK to save the configuration
Project File => Print		Starts the printing of the project configuration <ul style="list-style-type: none"> ■ Select the properties to be printed in the Print Configuration dialog ■ Press OK to start printing The project configuration is printed out
Project File => Print to File		Prints the project configuration to file <ul style="list-style-type: none"> ■ Select the properties to be printed in the Print Configuration dialog ■ Create or select a file (*.txt) for storage in the Save As dialog ■ Press OK to start printing The project configuration is printed to the selected file
Project File => Print Preview		Opens a Print Preview <ul style="list-style-type: none"> ■ Select the properties to be printed in the Print Configuration dialog ■ Check the layout in the Print Preview dialog ■ Press  to start printing The project configuration is printed out

3.1.4 Exporting and importing projects

Menu	Button	Function
Project File =>Export => Configuration as XML		Exports the project as an XML file <ul style="list-style-type: none"> ■ In the Export Configuration as XML dialog <ul style="list-style-type: none"> – If necessary, browse to folder location – Enter file name (use default type) – Press Save The file is exported
Project File => Import => Configuration as XML		Imports a project stored as an XML file: <ul style="list-style-type: none"> ■ In the Import Project from XML dialog: <ul style="list-style-type: none"> – Browse to folder location – Select the XML file – Press Open The file is imported and the project opened

3.1.5 Transporting and commissioning projects

Menu	Button	Function
Project File =>Pack Missing Device Support		Packs device support files missing at the target computer in response to the sending of a *.DSM file (Administrator): <ul style="list-style-type: none"> ■ In the Open dialog: <ul style="list-style-type: none"> – Browse to and select the *.dsm file, press Open ■ In the Browse for Folder dialog <ul style="list-style-type: none"> – Browse to the folder where the files will be created – Press OK, the folder "Missing Files" is created ■ The folder is sent to the target site: the missing files are imported with the "Import Device Support" function
Project File =>Import Device Support		Imports device support files into ControlCare (Administrator): <ul style="list-style-type: none"> ■ In the Browse to Folder dialog <ul style="list-style-type: none"> – Browse to the folder containing the files and press OK ■ In the Import Device Support dialog, press OK ■ A message box appears confirming the successful import
Project File => Pack Project		Packs the project at the selected folder location <ul style="list-style-type: none"> ■ In the Pack Project dialog <ul style="list-style-type: none"> – Browse to the folder where the files will be created – Enter the name of the project – Press Save to save the packed project ■ Press OK to close the successful packing message dialog
Project File => Unpack Project		Unpacks the project to the selected folder location <ul style="list-style-type: none"> ■ In the Unpack Project dialog <ul style="list-style-type: none"> – Browse to the folder where the packed project is located – Click on the name of the project – Press Open to save the packed project ■ In the Browse for Folder dialog: <ul style="list-style-type: none"> – Browse to the folder where the project is to be installed – You can create a folder with the Make New Folder button – Press OK to start unpacking, a DOS window opens ■ Press OK to acknowledge the successful unpacking of the project

3.1.6 Project preferences

The table below summarizes the ControlCare functions that can be set as preferences for project engineering. The submenus appear as folders, see Chapter 6.2 for more details

Menu	Button	Function
Project File => Preferences => Block		Sets the preferences for the naming and handling of function block tags
Project File => Preferences => Device & Bridge		Sets the preferences for the creation of device and bridge/gateway function blocks
Project File => Preferences => Strategy		Sets the preference for the function block shapes in the control strategy
Project File => Preferences => Workspace Layout		Sets the preferences for the way in which the workspace is tiled and the project is presented
Project File => Preferences => Device Support		Sets the default path for the Device Support folder that is called from "Import Device Support"
Project File => Preferences => Default Project Path		Sets the preferences for the creation of device and bridge/gateway function blocks

3.2 Edit

3.2.1 Project window

Menu	Submenu	Active for Node	Function
Edit	New Process Cell	Area	<p>Adds a Process Cell to the Area node</p> <ul style="list-style-type: none"> ■ In the Process Cell dialog <ul style="list-style-type: none"> – Enter a procell cell tag – If no tag is entered, default tag is Process Cell n – Press OK to create the Process Cell
	Delete Process Cell	Process Cell	<p>Deletes the selected Process Cell from the Area node</p> <ul style="list-style-type: none"> ■ In the Process Cell confirmation message <ul style="list-style-type: none"> – Press Yes to delete – Press No to cancel the action
	New Fieldbus	Bridge	<p>Adds a Fieldbus to the selected Bridge node</p> <ul style="list-style-type: none"> ■ In the New Fieldbus dialog <ul style="list-style-type: none"> – Enter the Fieldbus tag – If no tag is entered, default tag is Fieldbus n – Enter the port to which it is connected (1 – 4) – If appropriate, check the "Is Redundant" box – Press OK to create the Fieldbus
	Delete Fieldbus	Fieldbus	<p>Deletes the selected Fieldbus from the Bridge node</p> <ul style="list-style-type: none"> ■ In the Fieldbusconfirmation message <ul style="list-style-type: none"> – Press Yes to delete – Press No to cancel the action
	New PROFIBUS...	Gateway	<p>Adds a Profibus to the selected Gateway node</p> <ul style="list-style-type: none"> ■ In the New Profibus dialog <ul style="list-style-type: none"> – Enter the Profibus tag – If no tag is entered, default tag is Profibus n – Press OK to create the Profibus
	Import PROFIBUS		<p>Adds a preconfigured PROFIBUS to the selected Gateway</p> <ul style="list-style-type: none"> ■ In the PROFIBUS dialog <ul style="list-style-type: none"> – Enter a tag name – If no entry is made the tag Profibus_n is assigned – Press OK ■ In the Importing from PROFIBUS Database dialog <ul style="list-style-type: none"> – Browse and select the project file – Press Open to import the file ■ In PROFIBUS Configurator: <ul style="list-style-type: none"> – If necessary modify the configuration – Exit the program ■ In the I/O Mapping Table <ul style="list-style-type: none"> – If necessary map the data provided by remote I/Os – Confirm the mapping <p>The information is mapped to PROFIBUS function blocks and the PROFIBUS with devices is added to the Gateway</p>
	Delete PROFIBUS	Profibus	<p>Deletes the selected Profibus from the Gateway node</p> <ul style="list-style-type: none"> ■ In the Profibusconfirmation message <ul style="list-style-type: none"> – Press Yes to delete – Press No to cancel the action
	Attributes...	Area, Bridge, Gateway	<p>Allows the attributes of the selected node to be viewed</p> <ul style="list-style-type: none"> – Normally the tag can be changed also
	Exchange	Bridge, Gateway	<p>Allows the bridge or gateway to be exchanged</p>

3.2.2 Process Cell window

Menu	Submenu	Active for Node	Function
Edit	New Control Module	Process Cell	Adds a Control Module to the selected Process Cell node <ul style="list-style-type: none"> In the Control Module dialog <ul style="list-style-type: none"> Enter the Control Module tag If no tag is entered, default tag is Control Module n Press OK to create the Control Module
	Cut Control Module	Control Module	Cuts selected control module and places it on the clipboard
	Copy Control Module		Copies selected control module and places it on the clipboard
	New Block		Adds a function block to the Control Module node <ul style="list-style-type: none"> In the New Block dialog <ul style="list-style-type: none"> Select the Manufacturer, Device Type and Block Type from the drop-down menu Enter a Block Tag If no tag is entered, the default tag is created according to the Tag Policy, Chapter 3.1.6 Press OK to create the new block
	Attach Block		Attaches a device block to the Control Module node <ul style="list-style-type: none"> In the Attach Block dialog <ul style="list-style-type: none"> Select the block from the drop-down list Press OK to attach the block to the Control Module
	Delete Control Module		Deletes the the selected Control Module node <ul style="list-style-type: none"> Confirm your action with Yes
	Off Line Characterization	<FB Tag>	Allows the properties of the function block to be changed <ul style="list-style-type: none"> In the Off Line Characterization dialog <ul style="list-style-type: none"> Expand the parameter you wish to change Double-click on the "Value" space Enter the parameter or select a value from the drop-down menu Press End Edit to store the parameter Repeat for all parameters that have to be changed Press Close to close the dialog
	Customize Characterization		Allows the user to define block parameters that appear in the Characterization dialogs <ul style="list-style-type: none"> In the Customization: <Block> dialog <ul style="list-style-type: none"> Select the Tab Default, Type or Tag Select the parameters required and move to the righthand window with the ">>" button Press Apply to apply your changes Press OK to close the dialog Default: Parameters valid for all blocks Type: Parameters valid for all blocks of the same type, Tag: Parameters valid for the particular block only <p>The default parameters are already preconfigured in ControlCare - they should not be changed.</p>
	Cut Block		Cuts selected block and places it on the clipboard <ul style="list-style-type: none"> Not possible for PROFIBUS I/O blocks
	Copy Block		Copies selected block and places it on the clipboard <ul style="list-style-type: none"> Not possible for PROFIBUS I/O blocks
	Delete Block		Deletes the selected block <ul style="list-style-type: none"> Confirm your action with Yes
	Detach Block		Detaches the selected block from the Control Module <ul style="list-style-type: none"> Active only for device blocks that have previously attached from or to FB VFD nodes If present, the block is also removed from the Control Module window
	Paste Control Module	Process Cell Control Module	Pastes a cut or copied control module to the selected node
	Paste Block	Control Module, <FB Tag>	Pastes a cut or copied block to the selected node
	Delete Parameter	<Parameter>	Deletes selected parameter from the <Function Block Tag> node
Attributes...	Process Cell, Control Module <FB Tag>	Allows the attributes of the selected node to be viewed <ul style="list-style-type: none"> Normally the tag can be changed also 	

3.2.3 Control Module window

Menu	Submenu	Active for Object	Function
Edit	Cut	Bitmap	Cuts the selected object (previously copied from the clipboard) and places it in the clipboard again – Remains grey if selected object cannot be cut
	Copy		Copies the selected object (previously copied from the clipboard) and places it in the clipboard – Remains grey if selected object cannot be copied
	Paste		Pastes an object cut or copied from an external application, e.g. a graphical object, from the clipboard to the Control Module window – Remains grey if there is nothing on the clipboard
	Rename	Parameter name	Creates an alias for the selected block parameter, provided the alias function has been activated in the Project File => Strategy preference dialog, see Chapter 6.2 <ul style="list-style-type: none"> ■ In the Rename dialog <ul style="list-style-type: none"> – Type in the alias name you require – Press OK – The name is changed in all windows containing a reference to the parameter
	Clear All	Workspace Function Block Link	Clears the complete control strategy workspace – The function blocks and links remain attached to the Control Module node in the Process Cell window – They can be dragged&dropped into the window again and the links revealed by using the Show Hidden Links context menu (links might need separating)
	Delete	Function Block Link	Deletes the selected object <ul style="list-style-type: none"> ■ In the Function Block or Link Deletion dialog <ul style="list-style-type: none"> – Select Yes or OK to delete the selected object completely from the project – Select No to remove the Function Block from the Control Module window only or to hide the link
	Select All	Workspace Function Block Link	Selects all objects in the Control Module window
Redraw	Workspace Function Block Link	Redraws all objects according to any change made in the default drawing properties	

3.2.4 HSE Network window

Menu	Submenu	Active for Node	Function
Edit	New Gateway	HSE Network	Adds a SFC173 DP gateway to the HSE Network node <ul style="list-style-type: none"> ■ In the New Gateway dialog (Default: SFC173) <ul style="list-style-type: none"> – Enter a tag name – If no tag is entered, default tag is Gateway_n – Press OK to create the gateway
	New Device		Adds a new HSE device to the HSE Network node (Currently not possible, because no HSE devices)
	New Bridge		Adds a SFC162 bridge to the HSE Network node <ul style="list-style-type: none"> ■ In the New Bridge dialog (Default: SFC162) <ul style="list-style-type: none"> – Enter a tag name – If no tag is entered, default tag is Bridge_n – Press OK to create the new bridge
	Exchange	Bridge	Allows the bridge to be exchanged
	New Block	FB VFD	Adds a function block to the FB VFD node <ul style="list-style-type: none"> ■ In the New Block dialog <ul style="list-style-type: none"> – Select the Manufacturer, Device Type and Block Type from the drop-down menu – Enter a Block Tag – If no tag is entered, the default tag is created according to the Tag Policy, Chapter 3.1.6 – Press OK to create the new block
	Attach Block		Attaches a Control Module block to the FB VFD node <ul style="list-style-type: none"> ■ In the Attach Block dialog <ul style="list-style-type: none"> – Select the block from the drop-down list – Press OK to attach the block to the FB VFD node – The "?" in the Control Module block icon disappears
	Off Line Characterization	<FB Tag>	Allows the properties of the function block to be changed <ul style="list-style-type: none"> ■ In the Off Line Characterization dialog <ul style="list-style-type: none"> – Expand the parameter you wish to change – Double-click on the "Value" space – Enter the parameter or select a value from the drop-down menu – Press End Edit to store the parameter ■ Repeat for all parameters that have to be changed ■ Press Close to close the dialog
	Customize Characterization		Allows the user to define block parameters that appear in the Characterization dialogs <ul style="list-style-type: none"> ■ In the Customization: <Block> dialog <ul style="list-style-type: none"> – Select the Tab Default, Type or Tag – Select the parameters required and move to the righthand window with the ">>" button – Press Apply to apply your changes – Press OK to close the dialog ■ Default: Parameters valid for all blocks Type: Parameters valid for all blocks of the same type, Tag: Parameters valid for the particular block only
	Cut Block		Cuts selected block and places it on the clipboard
	Copy Block		Copies selected block and places it on the clipboard
	Delete Block		Deletes the selected block <ul style="list-style-type: none"> – Confirm your action with Yes
	Detach Block		Detaches the selected block from the FB VFD node <ul style="list-style-type: none"> – Confirm your action with Yes
	OnLine Characterization		Allows the properties of the function block to be changed on line
	Paste Block	FB VFD, <FB Tag>	Pastes a cut or copied block to the selected node
	Delete Parameter	<Parameter>	Deletes selected parameter from the <FB Tag> node <ul style="list-style-type: none"> – Confirm your action with Yes
Attributes...	HSE Network, Bridge, Gateway, <FB Tag>	Allows the attributes of the selected node to be viewed <ul style="list-style-type: none"> – Normally the tag can be changed also 	

3.2.5 Fieldbus window

Menu	Submenu	Active for Node	Function
Edit	New Device	Fieldbus	Adds a new (FF H1) device to the Fieldbus node <ul style="list-style-type: none"> ■ In the New Device dialog <ul style="list-style-type: none"> – Select the manufacturer, device and device revisions – Enter a Device Tag <ul style="list-style-type: none"> If no tag is entered, the default tag is created according to the Tag Policy, Chapter 3.1.6 – Press OK to create the device
	Exchange	Bridge, Device	Allows the bridge or device to be exchanged <ul style="list-style-type: none"> ■ See description in Chapter 5.5.6
	Delete Device	Device	Deletes the selected device from the Fieldbus node <ul style="list-style-type: none"> ■ In the Device confirmation message <ul style="list-style-type: none"> – Press Yes to delete – Press No to cancel the action
	New Block	FB VFD FB Application	Adds a function block to the FB VFD node <ul style="list-style-type: none"> ■ In the New Block dialog <ul style="list-style-type: none"> – Select the Manufacturer, Device Type and Block Type from the drop-down menu – Enter a Block Tag <ul style="list-style-type: none"> If no tag is entered, the default tag is created according to the Tag Policy, Chapter 3.1.6 – Press OK to create the new block
	Attach Block		Attaches a Control Module block to the FB VFD node <ul style="list-style-type: none"> ■ In the Attach Block dialog <ul style="list-style-type: none"> – Select the block from the drop-down list – Press OK to attach the block to the FB VFD node – The "?" in the Control Module block icon disappears
	Off Line Characterization	<FB Tag>	Allows the properties of the function block to be changed <ul style="list-style-type: none"> ■ In the Off Line Characterization dialog <ul style="list-style-type: none"> – Expand the parameter you wish to change – Double-click on the "Value" space – Enter the parameter or select a value from the drop-down menu – Press End Edit to store the parameter ■ Repeat for all parameters that have to be changed ■ Press Close to close the dialog
	Customize Characterization		Allows the user to define block parameters that appear in the Characterization dialogs <ul style="list-style-type: none"> ■ In the Customization: <Block> dialog <ul style="list-style-type: none"> – Select the Tab Default, Type or Tag – Select the parameters required and move to the righthand window with the ">>" button – Press Apply to apply your changes – Press OK to close the dialog ■ Default: Parameters valid for all blocks <ul style="list-style-type: none"> Type: Parameters valid for all blocks of the same type, Tag: Parameters valid for the particular block only
	Delete Block		Deletes the selected block <ul style="list-style-type: none"> – Confirm your action with Yes
	Cut Block		Cuts selected block and places it on the clipboard
	Copy Block		Copies selected block and places it on the clipboard
	Detach Block		Detaches the selected block from the FB VFD node <ul style="list-style-type: none"> – Confirm your action with Yes
	Program Hybrid Block	<Hybrid Block Tag>	Opens OpenPCS for programming block
	Paste Block	FB VFD FB Application <FB Tag>	Pastes a cut or copied block to the selected node
Delete Parameter	<Parameter>	Deletes selected parameter from the <FB Tag> node <ul style="list-style-type: none"> – Confirm your action with Yes 	
Attributes...	Fieldbus, Bridge, Device, <FB Tag>	Allows the attributes of the selected node to be viewed <ul style="list-style-type: none"> – Normally the tag can be changed also 	

3.2.6 PROFIBUS window

The block edit functions New Block, Attach Block, Delete Block and Detach Block apply to the SFC173 gateway node only. The blocks associated with the PROFIBUS PA and DP field devices are attached and assigned in the PROFIBUS Configurator tool.

Menu	Submenu	Active for Node	Function
Edit	Modify I/O Mapping	Profibus	Opens the PROFIBUS I/O Mapping dialog <ul style="list-style-type: none"> – Click on the parameter that is to be modified – Change the configuration – Press OK to close the dialog and save the changes
	Modify PROFIBUS Configuration		Opens PROFIBUS Configurator <ul style="list-style-type: none"> – See Chapter 5.6 or BA036s/04/en for more details
	New Block	FB VFD	Adds a function block to the FB VFD node of the gateway <ul style="list-style-type: none"> ■ In the New Block dialog <ul style="list-style-type: none"> – Select the Manufacturer, Device Type and Block Type from the drop-down menu – Enter a Block Tag If no tag is entered, the default tag is created according to the Tag Policy, Chapter 3.1.6 – Press OK to create the new block
	Paste Block		Pastes a cut or copied block to the selected node
	Attach Block		Attaches a Control Module block to the FB VFD node <ul style="list-style-type: none"> ■ In the Attach Block dialog <ul style="list-style-type: none"> – Select the block from the drop-down list – Press OK to attach the block to the FB VFD node – The "?" in the Control Module block icon disappears
	Off Line Characterization	<FB Tag>	Allows the properties of the function block to be changed <ul style="list-style-type: none"> ■ See Chapter 3.2.5
	Customize Characterization		Allows the user to define block parameters that appear in the Characterization dialogs <ul style="list-style-type: none"> ■ See Chapter 3.2.5
	Delete Block		Deletes the selected block from the FB VFD node of the gateway <ul style="list-style-type: none"> – Confirm your action with Yes – Profibus blocks attached to the FB Application node of a field device cannot be deleted
	Cut Block		Cuts selected block and places it on the clipboard <ul style="list-style-type: none"> – Not possible for PROFIBUS I/O blocks
	Copy Block		Copies selected block and places it on the clipboard <ul style="list-style-type: none"> – Not possible for PROFIBUS I/O blocks
	Detach Block		Detaches the selected block from the FB VFD node of the gateway <ul style="list-style-type: none"> – Confirm your action with Yes – Profibus blocks attached to the FB Application node of a field device cannot be detached
	Program Hybrid Block	<Hybrid Block Tag>	Opens OpenPCS for programming block
	Paste Block	FB VFD <FB Tag>	Pastes a cut or copied block to the selected node <ul style="list-style-type: none"> – Not possible for PROFIBUS I/O blocks
	Delete Parameter	<Parameter>	Deletes selected parameter from the <FB Tag> node
	Attributes...	Profibus, Gateway, PROFIBUS Device, <FB Tag>	Allows the attributes of the selected node to be viewed <ul style="list-style-type: none"> – Normally the tag can be changed also

3.3 Search

Menu	Submenu	Active for Node	Function
Search	Find...	Plant (Root) Area Fieldbus Network HSE Host HSE Network MIB	Locates a device or block within the project <ul style="list-style-type: none"> ■ In the Find Tags dialog <ul style="list-style-type: none"> – Select the Device or Block Marker – Select or enter the tag to be found – The location is shown in the Location box – Press OK ■ Application Designer locates the device or block

3.4 Export

Menu	Submenu	Active for Node	Function
Export	Consolidate OPC Database	Plant (Root) HSE Host	Merges the tag lists from two or more project configuration files into a single OPC Database <ul style="list-style-type: none"> ■ In the Consolidate OPC Database dialog: <ul style="list-style-type: none"> – Press the Add This button – Confirm the action with Yes – The current project tags are added to the database ■ Repeat for all other projects involved ■ The tag lists of the projects displayed are merged
	Update OPC Database		Updates the OPC database <ul style="list-style-type: none"> – Quit the OPC Database Update message box with OK
	Export Tags...		Exports the project tags to the OPC database <ul style="list-style-type: none"> – Quit the Export Tags message box with OK
	Export Configuration...		Exports the project configuration to a file data source (shared with other machines) or to a machine data source (machine-specific), e.g. Excel. <ul style="list-style-type: none"> ■ In the Select Data Source dialog <ul style="list-style-type: none"> – Select a file or data source or create a new data source – Click OK to make the connection ■ Application Designer exports the configuration to the selected data source

3.5 View

Menu	Submenu	Active for Node	Function
View	Expand	Process Cell Control Module HSE Network Fieldbus Profibus	Opens corresponding window
	Live List	HSE Network Fieldbus Profibus	Opens corresponding Live List dialog

3.6 Communication

Menu	Submenu	Active for node	Function
Communication	Settings	Fieldbus Networks	<p>Selects the OPC server to which to process data are exported</p> <ul style="list-style-type: none"> ■ In the Communications Settings dialog <ul style="list-style-type: none"> – Select the OPC server from the pull-down menu – Press OK to make the connection
	Assign All Tags	HSE Network, Bridge, Fieldbus	<p>When online and after the all Device IDs have been set in their Attributes Dialog, downloads the tag names used in the project to the corresponding field devices</p> <ul style="list-style-type: none"> ■ Press the Online button to put the project online ■ Call the Attributes context menu of every HSE and FF device and in the Device Attribute dialog: <ul style="list-style-type: none"> – Select the Device ID from the drop-down menu – Press OK to implement changes – Wait until the red cross at the side of the device icon disappears ■ Call the Assign All Tags menu <ul style="list-style-type: none"> – A progress dialog appears – After some time, the each Device Tag changes
	Update	HSE Network, Bridge, Gateway, Device (FF)	<p>When online, updates the configuration database in the Field Controller for the devices connected to the selected node</p>
	Download...	HSE Network, Fieldbus, Profibus, Bridge, Gateway	<p>When online, downloads the project or partial project to the Field Controller SFC162 and/or SFC173</p> <ul style="list-style-type: none"> ■ Establish connection to the Field Controller ■ Press the Online button ■ In the Download - Fieldbus Networks dialog: <ul style="list-style-type: none"> – Press Start to begin the download – After a successful download the dialog closes, otherwise error messages are displayed in a log at the bottom of the screen <p>The parameters downloaded depend on the node selected when the download is started:</p> <ul style="list-style-type: none"> ■ HSE Network: entire project ■ Fieldbus/Profibus: all parameters for devices connected to the Fieldbus or Profibus network node ■ Bridge/Gateway: all parameters for the devices connected to the bridge/gateway node
	Download Bridge only	Bridge	<p>Downloads the bridge parameters only</p> <ul style="list-style-type: none"> – Required, e.g., if the bridge has to be exchanged, – For procedure see above
	Configure Device Class	Fieldbus	<p>When online, allows a device to be selected as backup LAS</p> <ul style="list-style-type: none"> ■ Press the Online button ■ Select the Fieldbus, then Configure Device Class ■ In the Device Class dialog, <ul style="list-style-type: none"> – Select the device(s) you want as backup LAS – Press >> to move them to the righthand pane – For devices with no LAS capability, an error message appears – Press Apply to download the Device Class and Traffic Schedule to the devices <p>LAS backup devices can also be selected offline, however, they do not assume the function until selected in online mode.1</p>

Menu	Submenu	Active for node	Function
Communication	Assign Tag	Bridge, Gateway, <FB Tag>	<p>When online and after the Device ID has been set in the Attributes Dialog, downloads the Tag name used in the project to the selected field device</p> <ul style="list-style-type: none"> ■ Press the Online button to put the project online ■ Call the Attributes context menu and in the Device Attribute dialog: <ul style="list-style-type: none"> – Select the Device ID from the drop-down menu – Press OK to implement changes – Wait until the red cross at the side of the device icon disappears ■ Call the Assign Tag menu <ul style="list-style-type: none"> – A progress dialog appears – After a short period of time, the Device Tag changes
	On Line Characterization	<FB Tag>	<p>Allows the properties of the device function block to be characterized and observed in online mode</p> <ul style="list-style-type: none"> ■ In the On Line Characterization dialog <ul style="list-style-type: none"> – Set MODE_BLK.TARGET to OOS – Expand the parameter you wish to change – Double-click on the "Value" space – Enter the parameter or select a value from the drop-down menu – Press End Edit to store the parameter ■ Repeat for all parameters that have to be characterized ■ Set MODE_BLK.TARGET back to its original state ■ Press Close to close the dialog

3.7 Window

Menu	Submenu	Active for node	Function
Window	Smart Tile	All nodes	Tiles all open windows (tiling algorithm)
	Cascade	All nodes	Cascades all open windows
	Tile	All nodes	Tiles all open windows (equal area)
	Arrange Icons	All nodes	Arranges iconic windows along the bottom edge of the framee
	Close All	All nodes	Closes all open windows – You will be asked to save any changes
	Active	All nodes	Lists open windows: selecting a window activates it

3.8 Help

Menu	Submenu	Active for node	Function
Help	Contents	All	Opens the Online Help
	Using help	All	Tells you how to use the Online help
	About	All	Tells you about your version of Application Designer

3.9 Drawing Tool

Application Designer has a drawing tool, which is used to create the strategy in the Control Module workspace. The following submenus are active when the workspace is open.

3.9.1 Tools

Tool Boxes

The Tool Boxes submenu places toolbars at the side and above the workspace to increase efficiency in the creation of the control strategy. Details of the toolbars themselves are to be found in Chapter 4.3.

Menu	Submenu	Option	Function
Tools	Tool Boxes	Drawing	Activates or hides the drawing toolbox, see Chapter 4.3.1
		Alignment	Activates or hides the alignment toolbox, see Chapter 4.3.2
		Ordering	Activates or hides the ordering toolbox, see Chapter 4.3.3
		Copy Attributes	Activates or hides the copy attributes toolbox, see Chapter 4.3.4
		Strategy	Activates or hides the strategy toolbox, see Chapter 4.2

Drawing

The Drawing submenu provides a number of objects which can be used to produce drawings and legends within the workspace.

Menu	Submenu	Option	Function
Tools	Drawing	Select	When active (ticked) allows an object to be selected and if necessary be modified <ul style="list-style-type: none"> ■ To select several objects at once, keep the SHIFT key pressed ■ To modify, select a handle and pull in the desired direction
		Drawing modify	When active (ticked), allows an the length, breadth and orientation of arcs, lines and pipes etc. to be modified <ul style="list-style-type: none"> ■ Select a handle and pull in the desired direction
		Rectangle	When active (ticked), allows a rectangle to be drawn <ul style="list-style-type: none"> ■ Move the cursor to the start point (top left hand corner) ■ With the right mouse button depressed, drag across to the end point (lower right hand corner) ■ Release mouse button To draw squares, drag with the SHIFT key depressed
		Rounded Rectangle	When active (ticked), allows a rounded rectangle to be drawn <ul style="list-style-type: none"> ■ Move the cursor to the start point (top left hand corner) ■ With the right mouse button depressed, drag across to the end point (lower right hand corner) ■ Release mouse button To draw rounded squares, drag with the SHIFT key depressed
		Ellipse	When active (ticked), allows an ellipse to be drawn <ul style="list-style-type: none"> ■ Move the cursor to the start point ■ With the right mouse button depressed, drag across to the end point ■ Release mouse button To draw circles, drag with the SHIFT key depressed
		Arc	When active (ticked), allows $\pi/2$ radians of an arc to be drawn <ul style="list-style-type: none"> ■ Move the cursor to the start point ■ With the right mouse button depressed, drag across to the end point ■ Release mouse button To draw circular arcs, drag with the SHIFT key depressed To extend or reduce the arc: <ul style="list-style-type: none"> ■ Select the drawing modify tool ■ Select a handle ■ With the right mouse button depressed, drag the handle to the desired position ■ Release mouse button

Menu	Submenu	Option	Function
Tools	Drawing	Pie	<p>When active (ticked), allows $\pi/2$ radians of a pie to be drawn</p> <ul style="list-style-type: none"> ■ Move the cursor to the start point ■ With the right mouse button depressed, drag across to the end point ■ Release mouse button <p>To draw circular pies, drag with the SHIFT key depressed</p> <p>To extend or reduce the pie:</p> <ul style="list-style-type: none"> ■ Select the drawing modify tool ■ Select a handle ■ With the right mouse button depressed, drag the handle to the desired position ■ Release mouse button
		Chord	<p>When active (ticked), allows $\pi/2$ radians of a chord to be drawn</p> <ul style="list-style-type: none"> ■ Move the cursor to the start point ■ With the right mouse button depressed, drag across to the end point ■ Release mouse button <p>To draw circular chords, drag with the SHIFT key depressed</p> <p>To extend or reduce the chord:</p> <ul style="list-style-type: none"> ■ Select the drawing modify tool ■ Select a handle ■ With the right mouse button depressed, drag the handle to the desired position ■ Release mouse button
		Ring	<p>When active (ticked), allows $\pi/2$ radians of a ring to be drawn</p> <ul style="list-style-type: none"> ■ Move the cursor to the start point ■ With the right mouse button depressed, drag across to the end point ■ Release mouse button <p>To draw circular rings, drag with the SHIFT key depressed</p> <p>To extend or reduce the ring:</p> <ul style="list-style-type: none"> ■ Select the drawing modify tool ■ Select an outer handle ■ With the right mouse button depressed, drag the handle to the desired position ■ Release mouse button <p>To increase or reduce the thickness of the ring:</p> <ul style="list-style-type: none"> ■ Select the drawing modify tool ■ Select an inner handle ■ With the right mouse button depressed, drag the handle to the desired position ■ Release mouse button
		Line	<p>When active (ticked), allows a line to be drawn</p> <ul style="list-style-type: none"> ■ Move the cursor to the start point <ul style="list-style-type: none"> – To draw a 45° line, drag with the SHIFT key depressed. – To draw a horizontal or vertical line, keep the CTRL key depressed ■ With the right mouse button depressed, drag across to the end point ■ Release mouse button <p>To change the length or orientation of the line, drag any handle to the required position</p>

Menu	Submenu	Option	Function
Tools	Drawing	Pipe	<p>When active (ticked), allows a pipe to be drawn</p> <ul style="list-style-type: none"> ■ Move the cursor to the start point <ul style="list-style-type: none"> – To a pipe at a 45° angle, drag with the SHIFT key depressed ■ With the right mouse button depressed, drag across to the end point ■ Release mouse button <p>To extend or reduce the pipe:</p> <ul style="list-style-type: none"> ■ Select the drawing modify tool ■ Select an outer handle ■ With the right mouse button depressed, drag the handle to the desired position ■ Release mouse button <p>To change the orientation of the pipe:</p> <ul style="list-style-type: none"> ■ Select the drawing modify tool ■ Select an inner handle ■ With the right mouse button depressed, drag the handle to the desired position ■ Release mouse button
		Polyline	<p>When active (ticked), allows a multiple line to be drawn</p> <ul style="list-style-type: none"> – To draw a 45° line, drag with the SHIFT key depressed. – To draw a horizontal or vertical line, keep the CTRL key depressed ■ Move the cursor to the start point and right click ■ Move to the required points and right click at each ■ Left click to finish the line <p>To manipulate the line as a whole:</p> <ul style="list-style-type: none"> ■ Select a handle ■ With the right mouse button depressed, drag the handle to the desired position ■ Release mouse button <p>To change the position of an individual point in the line:</p> <ul style="list-style-type: none"> ■ Select the drawing modify tool ■ Select the point ■ With the right mouse button depressed, drag the point to the desired position ■ Release mouse button
		Polygon	<p>When active (ticked), allows a polygon to be drawn</p> <ul style="list-style-type: none"> ■ Move the cursor to the start point and right click – To draw a 45° line, keep the SHIFT key depressed. – To draw a horizontal or vertical line, keep the CTRL key depressed ■ Move to the required points and right click at each ■ Left click to finish the polygon - the last point is automatically joined to the first point and the enclosed area shaded <p>To manipulate the polygon as a whole:</p> <ul style="list-style-type: none"> ■ Select a handle ■ With the right mouse button depressed, drag the handle to the desired position ■ Release mouse button <p>To change the position of an individual point in the line:</p> <ul style="list-style-type: none"> ■ Select the drawing modify tool ■ Select the point (or click to make a point) ■ With the right mouse button depressed, drag the point to the desired position ■ Release mouse button
		Text	<p>When active (ticked), allows text to be written</p> <ul style="list-style-type: none"> ■ Font size, fill etc. can be changed by a right-click on the text box and a click on the context menu Properties ■ The changes are activated by clicking on Apply then OK

Menu	Submenu	Option	Function
Tools	Drawing	Bitmap	When active (ticked), allows a bitmap to be placed in the workspace <ul style="list-style-type: none"> ■ Click with the cursor on the position where the bitmap is to be placed ■ In the Open dialog, browse to the folder and select the file ■ Press Open to position the bitmap

Alignment

The Alignment submenu allows objects in the Control Module workspace to be aligned in various ways. All options function as follows:

- 1 Select the object to be aligned with the select tool
 - Several objects can be selected at once by using the SHIFT key or
 - dragging the selection cursor across them
- 2 Select the alignment option required
- 3 Click on the object to which the selected object is to* be aligned

Menu	Submenu	Option	Function
Tools	Alignment	Left	When active (ticked), aligns the lefthand side of the first object selected to the lefthand side of the second object selected
		Center	When active (ticked), horizontally aligns the centre of the first object selected to the centre of the second object selected
		Right	When active (ticked), aligns the righthand side of the first object selected to the righthand side of the second object selected
		Top	When active (ticked), aligns the top of the first object selected to the top of tsecond object selected
		Middle	When active (ticked), vertically aligns the centre of the first object selected to the centre of second object selected
		Bottom	When active (ticked), aligns the bottom of the first object selected to the bottom side of second object selected
		Center Points	When active (ticked), aligns the center point of the first object selected to the centre point of second object selected
		Evenly Spaced - Horizontal	When active (ticked), spaces the centres of the selected objects evenly in the horizontal plane
		Evenly Spaced - Vertical	When active (ticked), spaces the centres of the selected objects evenly in the vertical plane

Ordering

The Ordering submenu allows overlapping objects to be viewed in a particular order, i.e. determines which object is to be seen fully and which objects are partially covered.

Menu	Submenu	Option	Function
Tools	Ordering	To Front	When active (ticked), brings the selected object to the front of the pile
		To Back	When active (ticked), sends the selected object to the back of the pile
		Forward One	When active (ticked), brings the selected object one position forward in the pile
		Backward One	When active (ticked), sends the selected object one position backward in the pile
		In Front Of	When active (ticked), places the selected object in front of a target object (next click)
		Behind	When active (ticked), places the selected object behind a target object (next click)
		Reverse Order	When active (ticked), reverses the viewing order to two selected objects

Copy Attributes

The Copy Attributes submenu allows the properties of a target object to be imposed on a selected object

- 1 Select the object, the attributes of which are to be changed with the select tool
 - Several objects can be selected at once by using the SHIFT key or
 - dragging the selection cursor across them
- 2 Select the copy attributes option required
- 3 Click on the object, the attributes of which are to be copied

Menu	Submenu	Option	Function
Tools	Copy Attributes	Same Width	When active (ticked), imposes the width of the second object selected on the first object selected
		Same Height	When active (ticked), imposes the height of the second object selected on the first object selected
		Same Dimensions	When active (ticked), imposes the dimensions of the second object selected on the first object selected
		Same Pen & Brush	When active (ticked), imposes the drawing attributes of the second object selected on the first object selected
		Same Font & Colors	When active (ticked), imposes the font and fill attributes of the second object selected on the first object selected
		Same Text Attributes	When active (ticked), imposes the text attributes of the second object selected on the first object selected
		Set Attributes As Default Ones	When active (ticked), takes the color and fill of the selected object as the default settings for all newly created objects

Strategy

The Strategy submenu allows function blocks links etc. to be created within the Control Module workspace, see also Chapter 4.2.

Menu	Submenu	Option	Function
Tools	Strategy	Function Block	When active (ticked), opens the New Block dialog when a click is made in the Control Module workspace
		Link	When active (ticked), allows a link to be made between two function blocks when a click is made on the source block
		Import Strategy Template	When active (ticked), opens the dialog for the importation of a previously stored strategy template
		Export Selected Strategy Template	When active (ticked), opens the dialog for storing the selected strategy as a template
		Strategy Modify	When active (ticked), allows changes to be made to the shape of objects and link lines in the strategy
		Forward Path Definition	No used
		On Line Monitoring	When active (ticked), allows control strategy values to be monitored, provided that the project on-line

3.9.2 Options

The Options menu allows the properties of selected objects and the Control Module workspace to be set. In each case the corresponding dialog is opened and the properties can be set.

Menu	Submenu	Tab	Function
Options	Object Properties	General	Allows the position and size of one or more selected objects to be changed <ul style="list-style-type: none"> ■ Enter the desired position and/or size ■ Press Apply to make the changes affective
		Line	Allows the line thickness, style and color to be changed <ul style="list-style-type: none"> ■ Enter the thickness and/or set the style and color ■ Press Apply to make the changes affective ■ If no object is selected, the changes are used as default settings for all objects created afterwards
		Fill	Allows the fill type, style and color to be changed <ul style="list-style-type: none"> ■ Set the fill type, style and/or color ■ Press Apply to make the changes affective If no object is selected, the changes are used as default settings for all objects created afterwards
		Text Attributes	Allows the text attributes of an object to be changes <ul style="list-style-type: none"> ■ Set the text attributes ■ Press Apply to make the changes affective If no object is selected, the changes are used as default settings for all objects created afterwards
	Drawing properties	General	Sets the logical unit/pixel ratio and extent of the workspace <ul style="list-style-type: none"> ■ Set the attributes ■ Press Apply to make the changes affective
		Colors	Sets the background and grid colours of the workspace <ul style="list-style-type: none"> ■ Set the attributes ■ Press Apply to make the changes affective
		Helper Tools	Sets the grid attributes and zoom factor of the workspace <ul style="list-style-type: none"> ■ Set the attributes ■ Press Apply to make the changes affective
		Background Image	Allows a background image to be imported into the workspace <ul style="list-style-type: none"> ■ Browse to the folder containing the image ■ Select the file and press Open ■ Set the background image attributes ■ Press Apply to make the changes affective
	Function Block Icon	Rectangle	When ticked, causes all function blocks to be created in the workspace as rectangles
		Rounded Rectangle	When ticked, causes all function blocks to be created in the workspace as rounded rectangles
		Ellipse	When ticked, causes all function blocks to be created in the workspace as ellipses

3.10 PROFIBUS Configurator

PROFIBUS Configurator has an online help. Please refer to this for more details of the functions offered that are not described in detail below or in Application Designer: PROFIBUS Tutorial, BA036S/04/en

3.10.1 File

The menu items displayed depend on which device is selected in the PROFIBUS tree.

Menu	Submenu	Function
File	New	Creates new project: not used with Application Designer!
	Open	Opens existing project: not used with Application Designer!
	Close	Closes project: not used with Application Designer!
	Save	Saves changes to project
	Save As..	Saves project under another name
	Export...	<p>DBM: Exports project configuration to DBM file (master selected)</p> <p>PDD: Exports selected project (master selected) or slave (slave selected) to file (it is recommended that a PDD folder is created for these files)</p> <ul style="list-style-type: none"> ■ Select the predefined device, then call the menu or press the PDD button ■ In the Open dialog <ul style="list-style-type: none"> – Enter a file name with PDD extension, press Open ■ In the Predefined Devices dialog, <ul style="list-style-type: none"> – Select the information you want to save – Press OK to create the file – Press OK to acknowledge the subsequent message <p>CSV: Exports project configuration to a CSV file (master selected)</p> <ul style="list-style-type: none"> – Save the project prior to Export
	Copy GSD	<p>Copies the GSD of a missing devices into the program library</p> <ul style="list-style-type: none"> – GSD files can be found at www.profibus.org
	Print	Prints project details
	Print Preview	Previews print pages
	Print Setup	Sets up paper and printing
	Recent	Lists last four projects opened
	Exit	Closes PROFIBUS Configurator and calls the PROFIBUS I/O Mapping dialog

3.10.2 Edit

Menu	Submenu	Function
Edit	Cut	Cuts selected device from bus
	Copy	Copies selected device
	Paste	Pastes device from clipboard onto the bus <ul style="list-style-type: none"> – Paste with the Paste menu or Ctrl V – Move the "M" or "S" cursor to the desired position – Left-click and confirm with OK
	Delete	Deletes the selected device Confirm your action with Yes
	Replace	Replaces a device with another <ul style="list-style-type: none"> – Confirm the action, select the replacement device and press OK
	Optimize Buslayout	Optimizes bus layout

3.10.3 View

Menu	Submenu	Function
View	Device Table	Calls the Device Table dialog, which lists all devices in the project together with the associated information
	Address Table	Calls the Address Table dialog, which list all devices in the project together with the associated I/O address information
	Logical Network View	Toggles to logical network view
	Toolbars	Shows/hides toolbars, see also Chapter 4.4 <ul style="list-style-type: none"> ■ Standard: File management buttons ■ Fieldbus: Device insertion buttons
	Status Bar	Shows/Hides status bar

3.10.4 Insert

Menu	Submenu	Function
Insert	Master	Inserts Master <ul style="list-style-type: none"> – Move the "M" cursor to the location on the bus and mouse-click
	Slave	Inserts Slave <ul style="list-style-type: none"> – Move the "S" cursor to the location on the bus and mouse-click
	Predefined Slave	Inserts Slave from file (also PDD button) <ul style="list-style-type: none"> – Browse to and select the PDD file with the predefined device – Press Open – Move the cursor to the location on the bus and mouse-click

3.10.5 Online

The Online menu offers many advanced functions relevant to debugging a PROFIBUS project. For ControlCare users, the most important are:

- **Debug Mode**, which shows whether the bus is functioning or not
- **Set Slave Address**, which allows a slave address to be changed online, provided the selected device is configured to accept it.
- **Live List**, which shows all devices available online

For all other diagnostic functions, please refer to the PROFIBUS Configurator online help. The menu items displayed depend on which device is selected in the PROFIBUS tree.

Menu	Submenu	Function
Online	Download	Downloads project to Field Controller SFC173 – Do not use: Downloads should be made from Application Designer
	Start Debug Mode	Shows status of devices connected to selected master
	Firmware Download	Downloads firmware to Field Controller SFC173 – Do not use: Firmware downloads should be made from Application Designer
	Image Download	Downloads the selected process image – Do not use
	Extended Device Diagnostic	Shows current diagnostic messages received from the devices
	Global State Field	Shows the cyclic status and bus condition of the selected device
	Live List	Shows the live list of the devices connected to the Field Controller SFC173
	I/O Monitor	Displays the first 32 bytes of the process data image – Output data can be written by entering a value and pressing Update
	Message Monitor	Allows access to the mailbox of the selected device
	Automatic Network Scan	Scans the network for connected devices – Do not use: accepting the configuration leads to conflicts in the PROFIBUS I/O mapping
	Set Slave Address	Opens the Slave Configuration dialog where the address can be set
	Start Communication	Starts communication on the bus
	Stop Communication	Stops communication on the bus
	Device Info	Display information about the selected device
	Activate Driver	Activates the selected driver
	Read Project Information	Reads the information stored in the Project Information dialog
	Activate Bootstrap Loader	Do not use: will cause the program to crash

3.10.6 Settings

Menu	Submenu	Function
Settings	Device Assignment	Selects driver for PROFIBUS <ul style="list-style-type: none"> – CIF Serial Driver: for communication via COM port – CIF TCP/IP Driver: for communication via Ethernet port
	Bus Parameter	Sets PROFIBUS DP parameters: <ul style="list-style-type: none"> ■ For the SK2 power link, in the Bus Parameters dialog: <ul style="list-style-type: none"> – Select the baudrate from the drop-down menu – Select Standard – Press OK ■ For applications requiring parameter tuning, e.g. SK1 coupler, 2 masters, in the Bus Parameter dialog: <ul style="list-style-type: none"> – Select By User – Select Edit – Edit the bus parameters in the Edit Bus Parameters dialog – Press OK to exit the dialog – Press OK to store your changes
	Master Settings	Calls the DP Master Settings dialog for configuration of the master <ul style="list-style-type: none"> – The Master Settings are preconfigured for the Field Controller SFC173 when PROFIBUS Configurator is invoked from Application Designer
	Master Configuration	Sets the Tag name and PROFIBUS address of the master <ul style="list-style-type: none"> ■ In the Master Configuration dialog: <ul style="list-style-type: none"> – Enter a tag (no spaces allowed, use underscore) in the description field – Enter a DP address (SFC173 has 1 by default) – Press OK to save the changes and close the dialog
	Group Membership	Acts as a filter for the Sync and Freeze global commands <ul style="list-style-type: none"> ■ In the Group Membership dialog: <ul style="list-style-type: none"> – Name and set up and configure the groups – Press the Group Assignment button to open the corresponding dialog – Assign the DP slaves to the groups – Press OK to return to the Group Membership dialog – Press OK to close the dialog and save the changes
	Slave Settings	Not active
	Slave Configuration	Sets up the selected DP slave <ul style="list-style-type: none"> ■ In the Slave Configuration dialog <ul style="list-style-type: none"> – Enter the slave address – Enter the slave tag (no spaces allowed, use underscore) in the description field – Insert the data modules for cyclic communication: use EMPTY_MODULE/FREE_SPACE to fill in gaps left by unused modules – Press the DPV1 Settings button and check that the DPV1 Activated box is not checked: press OK to save the setting – Press OK to close the dialog and save the settings
	Parameter Data	Opens the Parameter Data dialog for the selected slave <ul style="list-style-type: none"> – Required for Remote I/O, information supplied by manufacturer
	Project Information	Opens the Project Information dialog <ul style="list-style-type: none"> – Stores descriptive data about the current project
	Path	Selects default directory for GSD and Project files
Language	Selects language of user interface <ul style="list-style-type: none"> – The program must be restarted to effect the change 	

3.10.7 Tools

Menu	Submenu	Function
Tools	GSD Viewer	Allows the contents of GSD files to be viewed <ul style="list-style-type: none"> ■ In the Open dialog <ul style="list-style-type: none"> – Select the GSD file you want to view – Press Open ■ The GSD Viewer dialog opens

3.10.8 Window

Menu	Submenu	Function
Window	Cascade	Cascades all open windows
	Tile	Tiles all open windows
	Active	Lists open windows: selecting a window activates it

3.10.9 Help

Menu	Submenu	Function
Help	Help Topics	Opens the Online Help
	About	Tells you about your version of PROFIBUS Configurator

4 Toolbars

4.1 General toolbar

The general toolbar allows functions such as opening and saving of files, printing and putting the project online to be done at the touch of a button. Which buttons are active depends upon the window that is currently active. When the mouse cursor is placed on a button, a tooltip with explanation appears.

Button	Name	Where active	Function
	New	Project Network* Process Cell Strategy	Depending on selection in context menu, creates a new: <ul style="list-style-type: none"> ■ Project File ■ Strategy template ■ Device template ■ Bridge template After creation of a template, it can be stored with the save button
	Open	Project Network* Process Cell Strategy	Opens a new Project File. Any active project must be closed before a new project can be opened
	Save	Project Network* Process Cell Strategy	Saves the content of the window in which you are operating The button greys after it has been pressed
	Save entire configuration	Project Network* Process Cell Strategy	Saves the entire configuration of the project The button greys after it has been pressed
	Print	Project Strategy	Click over this button to print the project configuration, or the drawing objects at the Strategy window.
	Print Preview	Project Strategy	Click over this button to see how your project will look when you print it. You can change the print configuration, and select the objects you want to print
	Online Mode	Project Network* Process Cell	Click over this button to toggle between the Online and Offline operation mode. If the button is depressed, you are in Online mode.
	Log Window	Project Network* Process Cell	Click over this button to open the Error Log window
	Details	Project Network* Process Cell	Click over this button to show or hide detailed information about Blocks types, Blocks Parameters, Devices types and Fieldbus Macrocycle.
	Check	Project Network Process Cell Strategy	Click over this button to check whether the project configuration can be handled by the resources declared in the capability files <ul style="list-style-type: none"> – An system capability control message is output – Press the Details button in the message dialog to learn more
	Contents	Project Network Process Cell Strategy	Click over this button to open the ControlCare Online Help

* Network = HSE Network, Fieldbus Network, Profibus as well as subsidiary windows such as Live Lists and Block Lists

4.2 Strategy toolbar

The Strategy toolbar is used in connection with the Control Strategy window. It is activated by default, and can also be switched on and off from **Tools => Tool Boxes => Strategy**. More details on the creating strategies are to be found in the Application Designer Tutorials BA019S/04/en, BA035S/04/en, BA036S/04/en, BA037S/04/en and BA038S/04/en.

Button	Name	Function
	Cut	Cuts an object pasted into the strategy window from an external program, e.g. from Word or a graphics program
	Copy	Copies an object pasted into the strategy window from an external program, e.g. from Word or a graphics program
	Paste	Pastes an object into the strategy window from an external program, e.g. from Word or a graphics program, or placed on the clipboard by the Cut or Copy function
	Select	Activates the Select tool.. Click on the object you require. To select more than one object, either hold down the Shift key and click each object or drag the mouse across the objects while holding down the left mouse button.
	Strategy Modify	Activates the Modify tool. First select the object, click over any handle, then drag the mouse until the new shape is obtained. For labels, the texts can be modified after being clicked.
	Function Block	Creates new Function Blocks. Just click over the drawing area and the Function Block Characterization dialog box will show up. Choose the Block attributes and it will be automatically draw after you click the OK button.
	Link	Creates Links between the Function Blocks. Click over one of the Blocks, choose the Output Parameter, then click over another Block, choosing the Input Parameter.
	Import Strategy Template	Adds a Template to your Strategy window. An Open dialog box appears. Select the file that contains the Template you want and click Open. The Template will be automatically added to your Strategy window..
	Export Selected Strategy as Template	Creates a Template file. Select the Blocks and Links that will be part of your Template, and select this button. A Save dialog box will show up. Type a name for your Template file and click Save.
	On Line Monitoring	Puts the control strategy into on line mode. The project must also be put on line before the button can be used.

4.3 Drawing Tool toolbars

The drawing toolbars provide a quick means of drawing and formatting objects in the Control Strategy window.

4.3.1 Drawing

The Drawing toolbar allows objects to be drawn in the Control Module workspace

Button	Name	Function
	Select	Activates the Select tool. Click on the object you require. To select more than one object, either hold down the Shift key and click each object or drag the mouse across the objects while holding down the left mouse button.
	Drawing Modify	Activates the Modify Drawing tool. First select the object, click over any handle, then drag the mouse until the new shape is obtained. For labels, the texts can be modified after being clicked.
	Rectangle	Creates a rectangle. Click at the position of the top lefthand corner and drag&drop to the lower righthand corner. Hold down the Shift key to create a square.
	Rounded Rectangle	Creates a rounded rectangle Click at the position of the top lefthand corner and drag&drop to the lower righthand corner. Hold down the Shift key to create a rounded square.
	Ellipse	Creates an ellipse. Click at the start position and drag&drop to the end position. Hold down the Shift key to create a circle.
	Arc	Creates an arc ($\pi/2$ radians) Click at the start position and drag&drop to the end position. Hold down the Shift key to create a circular arc. Use the Drawing Modify cursor to extend or reduce the arc.
	Pie	Creates a pie ($\pi/2$ radians) Click at the start position and drag&drop to the end position. Hold down the Shift key to create a circular pie. Use the Drawing Modify cursor to extend or reduce the piec.
	Chord	Creates a chord ($\pi/2$ radians) Click at the start position and drag&drop to the end position. Hold down the Shift key to create a circular chord. Use the Drawing Modify cursor to extend or reduce the chord.
	Ring	Creates a ring ($\pi/2$ radians) Click at the start position and drag&drop to the end position. Hold down the Shift key to create a circular ring. Use the Drawing Modify cursor to extend or reduce the ring.
	Line	Creates a line Click at the start position and drag&drop to the end position. Hold down the Shift key to create a 45° line. Hold down the CTRL key to create a horizontal or vertical line.
	Pipe	Creates a pipe Click at the start position and drag&drop to the end position. Hold down the Shift key to create a 45° pipe. Hold down the CTRL key to create a horizontal or vertical pipe.
	Polyline	Creates a multiple line Left click at all nodes the and right click to create the line. Hold down the Shift key to create a 45° line. Hold down the CTRL key to create a horizontal or vertical line.
	Polygon	Creates a polygon Left click at all nodes the and right click to create the polygon. Hold down the Shift key to create a 45° line. Hold down the CTRL key to create a horizontal or vertical line.
	Text	Creates text Click at the start position, then after entering the text, left click to create the text box.
	Bitmap	Loads a bitmap into the Strategy window Left click at the position where the bitmap is to start, browse to the folder containing the file, then press Open to create the bitmap.

4.3.2 Alignment

The Alignment toolbar allows objects in the Control Module workspace to be aligned in various ways:

Button	Name	Function
	Left	Aligns the lefthand side of the first object selected to the lefthand side of the second object selected. Hold down the SHIFT key to select several objects.
	Center	Horizontally aligns the centre of the first object selected to the centre of the second object selected. Hold down the SHIFT key to select several objects
	Right	Aligns the righthand side of the first object selected to the righthand side of the second object selected. Hold down the SHIFT key to select several objects
	Top	Aligns the top of the first object selected to the top of tsecond object selected. Hold down the SHIFT key to select several objects
	Middle	Vertically aligns the centre of the first object selected to the centre of second object selected. Hold down the SHIFT key to select several objects
	Bottom	Aligns the bottom of the first object selected to the bottom side of second object selected. Hold down the SHIFT key to select several objects
	Center Points	Aligns the center point of the first object selected to the centre point of second object selected. Hold down the SHIFT key to select several objects
	Evenly Spaced - Horizontal	Spaces the centres of the selected objects evenly in the horizontal plane. Hold down the SHIFT key to select several objects
	Evenly Spaced - Vertical	Spaces the centres of the selected objects evenly in the vertical plane,. Hold down the SHIFT key to select several objects

4.3.3 Ordering

The Ordering toolbar allows the order of objects in the Control Module workspace to be changed:

Button	Name	Function
	To Front	Brings the selected object to the front of the pile
	To Back	Sends the selected object to the back of the pile
	Forward One	Brings the selected object one position forward in the pile
	Backward One	Sends the selected object one position backward in the pile
	In Front Of	Places the selected object in front of a target object (next click)
	Behind	Places the selected object behind a target object (next click). Hold down the SHIFT key to select both objects
	Reverse Order	Reverses the viewing order to two selected objects.

4.3.4 Copy Attributes

The Copy Attributes toolbar allows the properties of an objects in the Control Module workspace to be transferred to others:

Button	Name	Function
	Same Width	Imposes the width of the second object selected on the first object selected. Hold down the SHIFT key to select several objects.
	Same Height	When active (ticked), imposes the height of the second object selected on the first object selected. Hold down the SHIFT key to select several objects.
	Same Dimensions	When active (ticked), imposes the dimensions of the second object selected on the first object selected. Hold down the SHIFT key to select several objects.
	Same Pen & Brush	When active (ticked), imposes the drawing attributes of the second object selected on the first object selected. Hold down the SHIFT key to select several objects.
	Same Font & Colors	When active (ticked), imposes the font and fill attributes of the second object selected on the first object selected. Hold down the SHIFT key to select several objects.
	Same Text Attributes	When active (ticked), imposes the text attributes of the second object selected on the first object selected. Hold down the SHIFT key to select several objects.
	Set Attributes As Default Ones	When active (ticked), takes the color and fill of the selected object as the default settings for all newly created objects. Hold down the SHIFT key to select several objects.

4.4 Characterization toolbar

The characterization toolbar allows you to filter and display parameters according to their function. It appears at the top of both the On Line Characterization and Off Line Characterization dialog

4.4.1 Parameter display filters

Parameter display filters show or hide particular parameter types

Button	Name	Function
	Input	Shows/hides all input parameters of the block available with the selected customization filter
	Output	Shows/hides all output parameters of the block available with the selected customization filter
	Contained	Shows/hides all contained parameters of the blocks available with the selected customization filter
	Dynamic	Shows/hides all dynamic parameters of the block available with the selected customization filter
	Diagnostic	Shows/hides all diagnostic parameters of the block available with the selected customization filter
	Service	Shows/hides all service parameters of the block available with the selected customization filter
	Operate	Shows/hides all operational parameters of the block available with the selected customization filter
	Alarm	Shows/hides all alarm parameters of the block available with the selected customization filter
	Tune	Shows/hides all tuning parameters of the block available with the selected customization filter
	Local	Shows/hides all local parameters of the block available with the selected customization filter

4.4.2 Edit confirmation

Edit confirmation confirms a change in parameter

Button	Name	Function
	Confirmed Edit	<ul style="list-style-type: none"> ■ If this button is pressed, parameter changes are confirmed by the End Edit button or by pressing the Enter key on the keyboard ■ If this button is not pressed, parameter changes are confirmed by the End Edit button, by pressing the Enter key on the keyboard or by clicking on any other parameter

4.4.3 Column display

Column display hides or displays particular columns

Button	Name	Function
	Column Relative Index	Shows/hides the Relative Index column
	Column Handling	Shows/hides the Handling column
	Column Standard Parameter Name	Shows/hides the Standard Parameter Name column when aliases are in use

4.4.4 Customization filters

Customization filters determines which parameters are shown in the characterization dialogs

Button	Name	Function
	No Customization	When no parameter filter is active, displays all available block parameters
	Customization by Type (Default)	When no parameter filter is active, displays all available block parameters that are defined by Application Designer as active by default
	Customization by Type	When no parameter filter is active, displays all available block parameters that have been defined by the user
	Customization by Tag	When no parameter filter is active, displays all available block parameters that have been defined by the user

4.4.5 Value filters

Value filters determine how particular values are to be displayed

Button	Name	Function
	Mark to Save	<ul style="list-style-type: none"> ■ This button is only available in the On Line Characterization Toolbar. ■ Click to save a parameter value even if it was not edited. <ul style="list-style-type: none"> – The parameter will be marked with a V in the Changed column. – The user can also use the button to unmark a parameter that changed value but the changes are not to be saved
	Show Value as Symbol	<ul style="list-style-type: none"> – Toggles between hexadecimal and decimal representation of the parameter value. – Can be used to display strings such as those in status or mode block information as hexadecimal values or to enter values via SCADA/HMI
	Show/Hide DD Help	Shows/hides the DD online help text to the selected parameter (appears at foot of dialog)

4.5 Device Exchange Deviations toolbar

The Device Exchange Deviations toolbar allows you to display and classify differences between parameters and blocks of an existing and exchange device. It is used when a device is exchanged for a new device via the "Exchange" function.

If there are no differences between the devices to be exchanged, the toolbar does not appear.

Button	Name	Function
	Refresh Nodes	Displays all nodes
	Expand Nodes	Expands the nodes of the device at the point of selection
	Collapse Nodes	Collapses the nodes of the device at the point of selection
	OK	Accepts the exchange and closes the dialog
	Cancel	Cancels the exchange
	Help	Opens the appropriate page of the Online Help
	Not Apply Severity Filter	<ul style="list-style-type: none"> ■ As icon: Attribute is compliant with the old device. ■ As key: Display all non-critical parameters in righthand pane, starting at selected node
	Low Severity Filter	<ul style="list-style-type: none"> ■ As icon: Attribute is not compliant with the old device, but the information will not be lost. ■ As key: Display all low severity parameters in righthand pane, starting at selected node
	High Severity Filter	<ul style="list-style-type: none"> ■ As icon: Attribute is not compliant with the old device <ul style="list-style-type: none"> – The information must be converted or, if this is not possible, will be lost ■ As key: Display all high severity parameters in righthand pane, starting at selected node
	All Severity Filter	Displays all attributes in righthand pane, starting at selected node

4.6 PROFIBUS Configurator toolbar

The toolbar in the PROFIBUS Configurator program allows you to add masters and slaves to the PROFIBUS create, open and save projects should the program be opened independent of Application Designer.

Button	Name	Function
	New	Creates a new project
	Open	Opens an existing project
	Save	Saves the project
	–	Not used with Application Designer
	About	Opens the About window of PROFIBUS Configurator
	Insert Master	Inserts a master device in the PROFIBUS – Press on the button, move the "M" cursor to the position on the bus, then right-click
	Insert Slave	Inserts a slave in the PROFIBUS Press on the button, move the "S" cursor to the position on the bus, then right-click
	–	Not used with Application Designer
	Insert Slave from PDD File	Inserts a slave in the PROFIBUS based on a PDD file

5 Context Menus

The context menus are described with reference to the default names assigned to the nodes in the plant tree by Application Designer as the project is created and bridges, gateways etc. added. The chapter is subdivided into seven sections each describing a particular window.

5.1 Project window

The Project window is the entry point of every project and contains both the logical and physical projects in one navigation tree. The various auxiliary windows can be opened by **double-clicking** on the Process Cell, HSE Network, Fieldbus and Profibus nodes or using the **Expand...** context menu.



Fig. 5-1: Project window showing project "Plant" with bridge, gateway, Fieldbus and Profibus added

5.1.1 Plant node

Node	Context menu	Function
Plant	Consolidate OPC Database	Merges the tag lists from two or more configuration files into a single OPC Database <ul style="list-style-type: none"> ■ In the Consolidate OPC Database dialog: <ul style="list-style-type: none"> – Press the Add This button – Confirm the action with Yes – The current project tags are added to the database ■ Repeat for all other projects involved ■ The tag lists of the projects displayed are merged
	Update OPC Database	Updates the OPC database <ul style="list-style-type: none"> – Quit the OPC Database Update message box with OK
	Export Tags...	Exports the project tags to the OPC database <ul style="list-style-type: none"> – Should be done before every on-line operation unless automatic export of tags has been set in Preferences – Quit the Export Tags message box with OK
	Export Configuration...	Exports the project configuration to a file data source (shared with other machines) or to a machine data source (machine-specific), e.g. Excel. <ul style="list-style-type: none"> ■ In the Select Data Source dialog <ul style="list-style-type: none"> – Select a file or data source or create a new data source – Click OK to make the connection ■ Application Designer exports the configuration to the selected data source
	Attribute...s	Allows the attributes of the Plant node to be changed <ul style="list-style-type: none"> ■ In the Plant dialog: <ul style="list-style-type: none"> – Enter an plant tag name – Press OK to save the changes ■ The plant name is changed

5.1.2 Area node

Node	Context menu	Function
Area	New Process Cell	Adds a new Process Cell to the Area node <ul style="list-style-type: none"> ■ In the Process Cell dialog <ul style="list-style-type: none"> – Enter a Process Cell tag name – If no name is entered, default tag is Process Cell n – Press OK to create the Process Cell
	Attributes...	Allows the tag name of the Area node to be changed: <ul style="list-style-type: none"> ■ In the Area dialog <ul style="list-style-type: none"> – Enter an area tag name – Press OK ■ The area name is changed

5.1.3 Process Cell node

Node	Context menu	Function
Process Cell	Expand	Opens Process Cell window (logical project)
	Delete Process Cell	Deletes the selected Process Cell from the Area node <ul style="list-style-type: none"> ■ In the Process Cell confirmation message <ul style="list-style-type: none"> – Press Yes to delete – Press No to cancel the action

5.1.4 Fieldbus Networks node

Node	Context menu	Function
Fieldbus Networks	Communication Settings	Selects the OPC server to which to process data are exported <ul style="list-style-type: none"> ■ In the Communications Settings dialog <ul style="list-style-type: none"> – Select the OPC server from the pull-down menu – Press OK to make the connection

5.1.5 HSE Network node

Node	Context menu	Function
HSE Network	Expand	Opens HSE Network window (physical project)
	New => Bridge	<p>Adds a new (FF H1) bridge to the HSE Network node</p> <ul style="list-style-type: none"> ■ In the New Bridge dialog (Default: SFC162) <ul style="list-style-type: none"> – Enter a tag name – If no tag is entered, default tag is Bridge_n – Press OK to create the new bridge
	New => Gateway	<p>Adds a new (PB DP) gateway to the HSE Network node</p> <ul style="list-style-type: none"> ■ In the New Gateway dialog (Default: SFC173) <ul style="list-style-type: none"> – Enter a tag name – If no tag is entered, default tag is Gateway_n – Press OK to create the gateway
	New => Device	Adds a new HSE device to the HSE Network node (Currently not possible, because no HSE devices available)
	New => Bridge from Template	<p>Adds a new (FF H1) bridge from a template to the HSE Network node</p> <ul style="list-style-type: none"> ■ In the Open dialog, browse to and select the bridge template file <ul style="list-style-type: none"> – Click Open to confirm the selection – Click OK to import the template ■ In the Tag Table dialog <ul style="list-style-type: none"> – Right click on "Bridge" to rename, is required – Press OK to add the bridge to the HSE Network
	New => Device from Template	Adds a new HSE device from a template to the HSE Network node (Currently not active because no HSE devices are available)
	Assign All Tags	<p>When online and after the all Device IDs have been set in their Attributes Dialog, downloads the tag names used in the project to the corresponding field devices</p> <ul style="list-style-type: none"> ■ Press the Online button to put the project online ■ Call the Attributes context menu of every HSE and FF device and in the Device Attribute dialog: <ul style="list-style-type: none"> – Select the Device ID from the drop-down menu – Press OK to implement changes – Wait until the red cross at the side of the device icon disappears ■ Call the Assign All Tags menu <ul style="list-style-type: none"> – A progress dialog appears – After some time, the each Device Tag changes
	Live List...	When online, generates the HSE live list in a separate window
	Download	<p>When online, downloads the project to the Field Controller SFC162 or SFC173</p> <ul style="list-style-type: none"> ■ Establish connection to the Field Controller ■ Press the Online button ■ In the Download - Fieldbus Networks dialog: <ul style="list-style-type: none"> – If appropriate, check Incremental Download and Compare Parameters to download changes to strategy (unaffected local I/O retain last value during download) – Press Start to begin the download <p>After a successful download the dialog closes, otherwise error messages are displayed at the bottom of the screen</p>
	Attributes...	<p>Allows the HSE Network attributes to be changed</p> <ul style="list-style-type: none"> ■ In the Fieldbus Attributes dialog <ul style="list-style-type: none"> – Change the tag name of the fieldbus or – If online, change the Schedule – Press OK to implement the changes

5.1.6 Bridge node

Node	Context menu	Function
Bridge	New Fieldbus...	Adds a new H1 fieldbus to the Bridge node <ul style="list-style-type: none"> ■ In the Fieldbus Attributes dialog <ul style="list-style-type: none"> – Enter a tag name – If no tag is entered, default tag is Fieldbus_n – Enter the port on the SFC162 to which the fieldbus is connected – Press OK to attach fieldbus to bridge
	Delete Bridge	Deletes the selected bridge from the Fieldbus node <ul style="list-style-type: none"> ■ In the Bridge confirmation message <ul style="list-style-type: none"> – Press Yes to delete – Press No to cancel the action
	Assign All Tags	When online, assigns all tags on the fieldbus to the appropriate devices For details see Chapter 5.1.5
	Update	When online, updates the configuration database in the Field Controller for the device connected to the bridge
	Download	When online, downloads the partial project starting at the selected bridge to the Field Controller SFC162 <ul style="list-style-type: none"> – If the bridge has HSE links, download from HSE Network only ■ Establish connection to the Field Controller ■ Press the Online button ■ In the Download - Fieldbus Networks dialog: <ul style="list-style-type: none"> – If appropriate, check Incremental Download and – Compare Parameters to download changes to strategy (unaffected local I/O retain last value during download) – Press Start to begin the download After a successful download the dialog closes, otherwise error messages are displayed in a log at the bottom of the screen
	Download Bridge Only...	When online, downloads the bridge configuration only to the Field Controller SFC162, see Download above.
	FB Schedule Download...	When online, downloads the FB Cycle Time after: <ul style="list-style-type: none"> ■ optimization of execution time of hybrid block function ■ change in the order of execution of the function blocks, see 5.4.7
	Attributes...	Allows the tag name of the bridge and FB cycle time to be changed and when on-line, the Device ID to be assigned <ul style="list-style-type: none"> ■ In the Bridge Attributes dialog: <ul style="list-style-type: none"> – Enter the new bridge tag – Select the bridge Device ID from the drop-down menu – Press OK to implement changes ■ When the Device ID is assigned, the red cross at the side of the icon disappears
	Exchange...	When Offline , allows the bridge type to be exchanged: <ul style="list-style-type: none"> ■ Select the bridge and call the Exchange context menu ■ In the Exchange dialog <ul style="list-style-type: none"> – Edit the bridge attributes and click OK. – On successful exchange, press OK to close the message ■ If the Incompatibilities dialog appears <ul style="list-style-type: none"> – Press Yes to automatically update the project or – Press No to manually update the project - the Device Exchange Deviations dialog appears – On successful exchange, press OK to close the message When Online , allows exchange with a bridge of the same type <ul style="list-style-type: none"> ■ Select the bridge and call the Exchange context menu ■ In the Exchange dialog <ul style="list-style-type: none"> – Select the Device ID from the drop-down menu and click OK. – On successful exchange, press OK to open the Assign Tag and Download dialog – Press Start to start the download – On successful completion press Close to close the dialog

5.1.7 Gateway node

Node	Context menu	Function
Gateway	New PROFIBUS	<p>Starts Profibus Configurator and adds a Profibus to the Gateway node, see Chapter 5.6 and Application Designer: PROFIBUS Tutorial, BA036S/04/en</p> <ul style="list-style-type: none"> ■ In the PROFIBUS dialog: <ul style="list-style-type: none"> – Enter a tag name – If no entry is made the tag Profibus_n is assigned – Press OK ■ In Profibus Configurator: <ul style="list-style-type: none"> – Add the devices to the PROFIBUS network – Assign the PROFIBUS addresses – Configure the cyclic communication – Configure the bus parameters and exit the program ■ In the PROFIBUS I/O Mapping Table <ul style="list-style-type: none"> – If necessary map the data provided by remote I/Os – Confirm the mapping ■ The information is mapped to PROFIBUS function blocks and the PROFIBUS with devices is added to the Gateway
	Import PROFIBUS Project	<p>Adds a preconfigured PROFIBUS to the Gateway node</p> <ul style="list-style-type: none"> ■ In the PROFIBUS dialog: <ul style="list-style-type: none"> – Enter a tag name – If no entry is made the tag Profibus_n is assigned – Press OK ■ In the Importing from PROFIBUS Database dialog: <ul style="list-style-type: none"> – Browse and select the project file – Press Open to import the file ■ In PROFIBUS Configurator: <ul style="list-style-type: none"> – If necessary modify the configuration – Exit the program ■ In the PROFIBUS Mapping Table: <ul style="list-style-type: none"> – If necessary map the data provided by remote I/Os – Confirm the mapping ■ The information is mapped to PROFIBUS function blocks and the PROFIBUS with devices is added to the Gateway
	Delete Gateway	<p>Deletes the selected Gateway from the Profibus node</p> <ul style="list-style-type: none"> ■ In the Gateway confirmation message: <ul style="list-style-type: none"> – Press Yes to delete – Press No to cancel the action
	Download	<p>When online, downloads the partial project starting at the selected gateway to the Field Controller SFC173</p> <ul style="list-style-type: none"> – If the gateway has HSE links, download from HSE Network only ■ Establish connection to the Field Controller ■ Press the Online button ■ In the Download dialog: <ul style="list-style-type: none"> – If appropriate, check Incremental Download and Compare Parameters to download changes to strategy (unaffected local I/O retain last value during download) – Press Start to begin the download <p>After a successful download the dialog closes, otherwise error messages are displayed in a log at the bottom of the screen</p>
	FB Schedule Download...	<p>When online, downloads the FB Cycle Time after:</p> <ul style="list-style-type: none"> ■ optimization of execution time of hybrid block function ■ change in the order of execution of the function blocks, see 5.4.7
	Attributes...	<p>Allows the tag name of the bridge and FB cycle time to be changed and when on-line, the Device ID to be assigned</p> <ul style="list-style-type: none"> ■ In the Gateway Attribute dialog: <ul style="list-style-type: none"> – Enter the new gateway tag – Select the gateway Device ID from the drop-down menu – Press OK to implement changes ■ When the Device ID is assigned, the red cross at the side of the icon disappears
	Exchange...	Allows the Gateway to be exchanged, see 5.1.6

5.1.8 Fieldbus node

Node	Context menu	Function
Fieldbus	Expand	Opens Fieldbus window
	Assign All Tags	When online, assigns all tags on the fieldbus to the appropriate devices For details see Chapter 5.1.5
	Download	Downloads the partial project starting at the selected fieldbus to the Field Controller SFC162 <ul style="list-style-type: none"> ■ Establish connection to the Field Controller ■ Press the Online button ■ In the Download dialog: <ul style="list-style-type: none"> – If appropriate, check Incremental Download and Compare Parameters to download changes to strategy (unaffected local I/O retain last value during download) – Press Start to begin the download After a successful download the dialog closes, otherwise error messages are displayed in a log at the bottom of the screen
	Configure Device Class	When online, allows a device to be selected as backup LAS <ul style="list-style-type: none"> ■ Press the Online button ■ Select the Fieldbus, then Configure Device Class ■ In the Device Class dialog, <ul style="list-style-type: none"> – Select the device(s) you want as backup LAS – Press >> to move them to the righthand pane – For devices with no LAS capability, an error message appears – Press Apply to download the Device Class and Traffic Schedule to the devices LAS backup devices can also be selected offline, however, they do not assume the function until selected in online mode.1
Delete Fieldbus	Deletes the selected Fieldbus from the Bridge node <ul style="list-style-type: none"> ■ In the Fieldbus confirmation message <ul style="list-style-type: none"> – Press Yes to delete – Press No to cancel the action 	

5.1.9 Profibus node

Node	Context menu	Function
Profibus	Expand	Opens Profibus window
	Download	When online, downloads the partial project starting at the selected fieldbus to the Field Controller SFC173 <ul style="list-style-type: none"> ■ Establish connection to the Field Controller ■ Press the Online button ■ In the Download dialog: <ul style="list-style-type: none"> – If appropriate, check Incremental Download and Compare Parameters to download changes to strategy (unaffected local I/O retain last value during download) – Press Start to begin the download After a successful download the dialog closes, otherwise error messages are displayed in a log at the bottom of the screen
	Delete Profibus	Deletes the selected Profibus from the Gateway node <ul style="list-style-type: none"> ■ In the Profibus confirmation message <ul style="list-style-type: none"> – Press Yes to delete – Press No to cancel the action

5.2 Process Cell window

The Process Cell window contains the logical project and includes the Control Modules and the function blocks available or already used to construct the control strategies. Every Control Module is associated with a Strategy window, which is opened by a **double-click** on the node or the **Strategy...** context menu. Since the Strategy window takes the tag of the associated Control Module by default, it is referred to as the "Control Module window" throughout this manual.

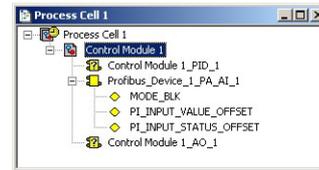


Fig. 5-2: Process Cell window showing Control Module with a block created for the Field Controller SFC173 and Metso valve as well as a block attached from a PROFIBUS device. The "?" in the block icon indicates that the block has still to be attached to the physical device in the Profibus network.

5.2.1 Process Cell node

Node	Context menu	Function
Process Cell	New Control Module	Adds a new Control Module to the Process Cell node <ul style="list-style-type: none"> ■ In the Control Module dialog <ul style="list-style-type: none"> – Enter a Control Module tag – If no entry is made the tag Control Module n is assigned – Press OK to create the new module
	Paste Control Module	Pastes a cut or copied control module to the selected node
	Attributes	Allows the tag of the Process Cell to be changed

5.2.2 Control Module node

Node	Context menu	Function
Control Module	Strategy	Opens the Control Module window
	New Block	Adds a function block to the Control Module node <ul style="list-style-type: none"> ■ In the New Block dialog <ul style="list-style-type: none"> – Select the Manufacturer, Device Type and Block Type from the drop-down menu – If appropriate, enter a Block Tag – If no tag is entered, the Block is created with its generic tag according to the settings of the Block Preferences, Chapter 3.1.6 ■ The new block is added to the Control Module node
	Paste Block	Pastes a cut or copied block to the selected node
	Attach Block	Attaches a device block to the Control Module node <ul style="list-style-type: none"> ■ In the Attach Block dialog <ul style="list-style-type: none"> – Select the block from the drop-down list – Press OK to attach the block to the Control Module ■ The block is attached and renamed as appropriate
	Cut Control Module	Cuts selected control module and places it on the clipboard
	Copy Control Module	Copies selected control module and places it on the clipboard
	Paste Control Module	Pastes a cut or copied control module to the current node
	Delete Control Module	Deletes the the selected Control Module node <ul style="list-style-type: none"> – Confirm your action with Yes
	Attributes...	Allows the attributes of the Control Module to be changed <ul style="list-style-type: none"> – Tag: the tag of the control mdule – Stale Count: number of macrocycles that may elapse in the link publisher before a signal is sent indicating that there has been no update of the link data.

5.2.3 <FB Tag> node

Node	Context menu	Function
<FB Tag> node	Off Line Characterization	<p>Allows the properties of the device function block to be characterized</p> <ul style="list-style-type: none"> ■ In the Off Line Characterization dialog <ul style="list-style-type: none"> – Expand the parameter you wish to change – Double-click on the "Value" space – Enter the parameter or select a value from the drop-down menu – Press End Edit to store the parameter ■ Repeat for all parameters that have to be characterized ■ Press Close to close the dialog
	Customize Characterization	<p>Allows the user to define block parameters that appear in the Characterization dialogs</p> <ul style="list-style-type: none"> ■ In the Customization: <Block> dialog <ul style="list-style-type: none"> – Select the Tab Default, Type or Tag – Select the parameters required and move to the righthand window with the ">" button – Press Apply to apply your changes – Press OK to close the dialog ■ Default: Parameters valid for all blocks Type: Parameters valid for all blocks of the same type, Tag: Parameters valid for the particular block only
	Cut Block	<p>Cuts selected block and places it on the clipboard</p> <ul style="list-style-type: none"> – Not possible for PROFIBUS I/O blocks
	Copy Block	<p>Copies selected block and places it on the clipboard</p> <ul style="list-style-type: none"> – Not possible for PROFIBUS I/O blocks
	Paste Block	<p>Pastes a cut or copied block to the current node</p>
	Delete Block	<p>Deletes the selected block from the Control Module node</p> <ul style="list-style-type: none"> – Confirm your action with Yes in the message box that appears – Not applicable to PROFIBUS function blocks
	Detach Block	<p>Detaches the selected block from the Control Module node</p> <ul style="list-style-type: none"> – The block is still present in the control strategy – The block is still present in the device
	On Line Characterization	<p>Allows the properties of the device function block to be characterized and observed in online mode</p> <ul style="list-style-type: none"> ■ In the On Line Characterization dialog <ul style="list-style-type: none"> – Set MODE_BLK.TARGET to OOS – Expand the parameter you wish to change – Double-click on the "Value" space – Enter the parameter or select a value from the drop-down menu – Press End Edit to store the parameter ■ Repeat for all parameters that have to be characterized ■ Set MODE_BLK.TARGET back to its original state ■ Press Close to close the dialog
	Attributes	<p>Allows the block attributes to be viewed and the Block Tag to be changed</p>

5.2.4 <Hybrid FB Tag> node

Node	Context menu	Function
<Hybrid FB Tag> node	Map I/Os to Hybrid Block	Opens the I/O Mapping tool dialogue <ul style="list-style-type: none"> See Chapter 6.5.14 and 6.11
	Program Hybrid Block	Allows the Hybrid Function Block to be programmed <ul style="list-style-type: none"> Create the block and/or strategy Activate the menu by attaching the block to both a Control Module node and a Bridge or Gateway node In the Hybrid I/O block Attributes dialog <ul style="list-style-type: none"> Select the IEC 61131-3 programming language Tick whether the a FF datat structure mapping is required Right click and select Program Hybrid Block In Open PCS <ul style="list-style-type: none"> Program the block in accordance with the Ladder Logic Tutorial BA038S/04/en, Structured Text Tutorial BA056S/04/en or the instructions in the OpenPCS manual After connecting to the Field Controller <ul style="list-style-type: none"> Download the project from Application Designer Download the block configuration from Open PCS Close OpenPCS
	Off Line Characterization	See Chapter 5.2.3
	Customize Characterization	See Chapter 5.2.3
	Cut Block	Cuts selected block complete with IEC 61131 programming and places it on the clipboard
	Copy Block	Copies selected block complete with IEC 61131 programming and places it on the clipboard
	Paste Block	Pastes a cut or copied complete with IEC 61131 programming block to the current node
	Delete Block	See Chapter 5.2.3
	Detach Block	See Chapter 5.2.3
	On Line Characterization	See Chapter 5.2.3
Attributes	Allows the block attributes to be viewed and the Block Tag to be changed, sets programming language and data mapping	

5.2.5 <Parameter> node

Node	Context menu	Function
<Parameter>	Rename	Creates an alias for the block parameter, provided the alias function has been activated in the Project File => Strategy preference dialog, see Chapter 6.2 <ul style="list-style-type: none"> In the Rename dialog <ul style="list-style-type: none"> Type in the alias name you require Press OK The name is changed in all windows containing a reference to the parameter
	Delete Parameter	Deletes the selected parameter <ul style="list-style-type: none"> Confirm your action with Yes in the message box

5.2.6 Drag&Drop

Node	Context menu	Function
<FB Tag> node	Drag&Drop	<ul style="list-style-type: none"> Creates the selected function block in the Control Module window <ul style="list-style-type: none"> Drag the block to the Control Module window and drop it Assigns the selected function block to a device in the physical project <ul style="list-style-type: none"> Drag the block from the Control Strategy window to the Fieldbus, Profibus (controller only) or HSE Network window Place it on the FB VFD node of the target device and drop it Depending on your tag naming policy the name will change in the Control Module window The question mark in the block icon disappears

5.3 Control Module window

In comparison to the other windows, the Control Module window has no navigation tree, but a graphical workspace for the construction of control strategies. Most users will be happy to use the toolbar keys to create their strategies, see Chapter 4.2, but there are a number of context menus and other functions that can also be called from the graphical elements themselves: these are described here.

The drawing functions are described in Chapters 3.9 and 4.3. These affect only the colors, shapes, font, alignment etc. and have no relevance to the project itself.

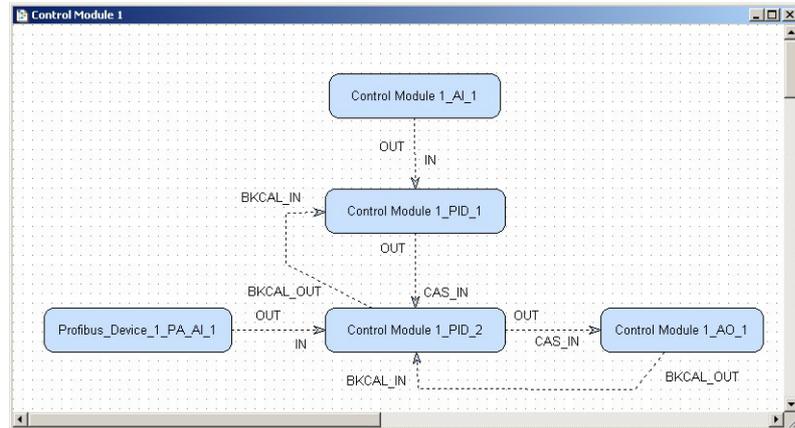


Fig. 5-3: Control Module window showing the workspace, Function Blocks and Function Block links

5.3.1 Workspace

Element	Context menu	Function
Workspace	Object Properties - Default	Sets the default line thickness, fill colour and text attributes of the graphical objects – See Chapters 3.9 and 4.3
	Drawing Properties	Sets the drawing properties of the workspace (grid, colors, background image etc.) – See Chapters 3.9 and 4.3

5.3.2 Function Block

Element	Context menu	Function
Function block object	Delete	Deletes the selected block <ul style="list-style-type: none"> ■ In the Function Block Deletion dialog <ul style="list-style-type: none"> – Select Yes to delete the block completely – Select No to delete the block from the drawing only
	Off Line Characterization	Allows the properties of the device function block to be characterized <ul style="list-style-type: none"> ■ In the Off Line Characterization dialog <ul style="list-style-type: none"> – Expand the parameter you wish to change – Double-click on the "Value" space – Enter the parameter or select a value from the drop-down menu – Press End Edit to store the parameter ■ Repeat for all parameters that have to be characterized ■ Press Close to close the dialog
	Show Hidden Links	Restores any links "deleted" with OK in the Link Deletion dialog
	Same Width and Height	Redraws the function block object as a square, a square with rounded corners or a circle
	Show Info	Adds the block description to the block tag
	Properties	Allows the line thickness, fill colour and text attributes of the function block object to be changed <ul style="list-style-type: none"> – See Chapters 3.9 and 4.3

5.3.3 Function Block link

Element	Context menu	Function
Function Block link object	Delete	Deletes the selected link <ul style="list-style-type: none"> ■ In the Link Deletion dialog <ul style="list-style-type: none"> – Select OK to delete the link completely
	Labels	Sets the labels to be shown in the strategy <ul style="list-style-type: none"> ■ Show Output Parameter ■ Show Input Parameter
	Properties	Allows the line thickness, fill colour and text attributes of the function block object to be changed <ul style="list-style-type: none"> – See Chapters 3.9 and 4.3

5.3.4 Function Block Link label

Element	Context menu	Function
Function Block link label	Rename	Creates an alias for the block parameter (= link label), provided the alias function has been activated in the Project File => Strategy preference dialog, see Chapter 6.2 <ul style="list-style-type: none"> ■ In the Rename dialog <ul style="list-style-type: none"> – Type in the alias name you require – Press OK – The name is changed in all windows containing a reference to the parameter
	Delete	Deletes the selected link <ul style="list-style-type: none"> ■ In the Link Deletion dialog <ul style="list-style-type: none"> – Select OK to delete the link completely
	Properties	Allows the line thickness, fill colour and text attributes of the function block object to be changed <ul style="list-style-type: none"> – See Chapters 3.9 and 4.3

5.4 HSE Network window

The HSE Network window opens when the **HSE Network node** in the **Project window** is double-clicked or the **Expand...** command is called from the View or context menu. It can be used to engineer and/or configure all HSE devices in the project, i.e. bridges, gateways and HSE equipment. To this end, it gives access to the function blocks and parameters associated with the bridges and gateways and allows additional devices and blocks to be added to the project. The chapter is structured according to the navigation tree hierarchy and starts with the HSE Network node.

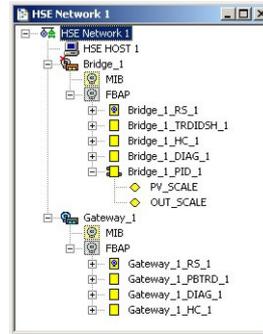


Fig. 5-1: HSE window showing project HSE network, bridge, gateway nodes with associated blocks and parameters

5.4.1 HSE Network node

The context menus offered by the HSE Network node are identical to those described in Chapter 5.1.5.

Node	Context menu	Function
HSE Network	New => Bridge	Creates a new bridge for a FOUNDATION Fieldbus network For details see Chapter 5.1.5
	New => Gateway	Creates a new gateway for a PROFIBUS DP network For details see Chapter 5.1.5
	New => Device	Creates a new HSE device For details see Chapter 5.1.5
	New => Bridge from Template	Creates a new bridge from a bridge template For details see Chapter 5.1.5
	New => Device from Template	Creates a new HSE device from a HSE device template For details see Chapter 5.1.5
	Assign All Tags	When online, assigns all tags on the fieldbus to the appropriate devices For details see Chapter 5.1.5
	Live List...	When online, generates the HSE live list in a separate window
	Update	When online, updates the configuration database in the Field Controller for the devices connected to the HSE Network
	Download	When online, downloads the project to the Field Controller SFC162 or SFC173 For details see Chapter 5.1.5
	Attributes...	Allows the HSE Network attributes to be changed For details see Chapter 5.1.5

5.4.2 Bridge node

The context menus offered by the Bridge node in the HSE Network window are, with the exception of Delete Bridge (not available) and Assign Tag, the same as those described in Chapter 5.1.6.

Node	Context menu	Function
Bridge	Assign Tag	When online and after the Device ID has been set in the Attributes Dialog, downloads the Tag name used in the project to the field device <ul style="list-style-type: none"> ■ Press the Online button to put the project online ■ Call the Attributes context menu and in the Bridge Attributes dialog: <ul style="list-style-type: none"> – Select the Device ID from the drop-down menu – Press OK to implement changes – Wait until the red cross at the side of the bridge icon disappears ■ Call the Assign Tag menu <ul style="list-style-type: none"> – A progress dialog appears – After a short period of time, the Bridge Tag in the HSE Live List and Network windows changes
	Download	When online, downloads the partial project starting at the selected bridge to the Field Controller SFC162 For details see Chapter 5.1.6
	FB Schedule Download...	When online, downloads the FB Cycle Time after: <ul style="list-style-type: none"> ■ optimization of execution time of hybrid block function ■ change in the order of execution of the function blocks, see 5.4.7
	Attributes...	Allows the tag name of the bridge to be changed and when on-line, the Device ID to be assigned. For details see Chapter 5.1.6
	Exchange...	Allows the bridge to be exchanged. For details see Chapter 5.1.6

5.4.3 Gateway node

The context menus offered by the gateway node in the HSE Network are, with the exception of Delete Gateway (greyed) and Assign Tag, the same as those described in Chapter 5.1.7.

Node	Context menu	Function
Gateway	Assign Tag	When online and after the Device ID has been set in the Attributes Dialog, downloads the Tag name used in the project to the field device <ul style="list-style-type: none"> ■ Press the Online button to put the project online ■ Call the Attributes context menu and in the Gateway Attributes dialog: <ul style="list-style-type: none"> – Select the gateway Device ID from the drop-down menu – Press OK to implement changes – Wait until the red cross at the side of the gateway icon disappears ■ Call the Assign Tag menu <ul style="list-style-type: none"> – A progress dialog appears – After a short period of time, the Gateway Tag in the HSE Live List and Network windows changes
	Download	When online, downloads the partial project starting at the selected gateway to the Field Controller SFC173 For details see Chapter 5.1.7
	FB Schedule Download...	When online, downloads the FB Cycle Time after: <ul style="list-style-type: none"> ■ optimization of execution time of hybrid block function ■ change in the order of execution of the function blocks, see 5.4.7
	Attributes...	Allows the tag name of the gateway to be changed and when on-line, the Device ID to be assigned. For details see Chapter 5.1.7
	Exchange...	Allows the gateway to be exchanged. For details see Chapter 5.1.6

5.4.4 FBAP node

Node	Context menu	Function
FBAP	New Block	<p>Adds a new block to the Bridge, Gateway or HSE device node</p> <ul style="list-style-type: none"> ■ In the New Block dialog <ul style="list-style-type: none"> – Select the Block Type from the drop-down menu – If appropriate, enter a Block Tag – If no tag is entered, the Block is created with its generic tag according to the settings of the Block Preferences, Chapter 3.1.6 ■ The new block is added to the FB VFD node of the bridge/gateway
	Paste Block	Pastes a cut or copied block to the selected node
	Attach Block	<p>Attaches a block from the Control Module node to a bridge or gateway</p> <ul style="list-style-type: none"> ■ In the Attach Block dialog <ul style="list-style-type: none"> – Select the block from the drop-down list – Press OK to attach the block to the bridge/gateway ■ The block is attached and renamed as appropriate
	Block List	When online, lists in the Block List dialog, the blocks that are instantiated in the selected device

5.4.5 <FB Tag> node

Node	Context menu	Function
<FB Tag> node	Off Line Characterization	<p>Allows the properties of the device function block to be characterized</p> <ul style="list-style-type: none"> ■ In the Off Line Characterization dialog <ul style="list-style-type: none"> – Expand the parameter you wish to change – Double-click on the "Value" space – Enter the parameter or select a value from the drop-down menu – Press End Edit to store the parameter ■ Repeat for all parameters that have to be characterized ■ Press Close to close the dialog
	Customize Characterization	<p>Allows the user to define block parameters that appear in the Characterization dialogs</p> <ul style="list-style-type: none"> ■ In the Customization: <Block> dialog <ul style="list-style-type: none"> – Select the Tab Default, Type or Tag – Select the parameters required and move to the righthand window with the ">>" button – Press Apply to apply your changes – Press OK to close the dialog ■ Default: Parameters valid for all blocks Type: Parameters valid for all blocks of the same type, Tag: Parameters valid for the particular block only
	Cut Block	Cuts selected block and places it on the clipboard
	Copy Block	Copies selected block and places it on the clipboard
	Paste Block	Pastes a cut or copied block to the current node
	Delete Block	<p>Deletes the selected block from the Bridge or Gateway node</p> <ul style="list-style-type: none"> – Confirm your action with Yes in the message box that appears
	Detach Block	<p>Detaches the selected block from the Bridge or Gateway node</p> <ul style="list-style-type: none"> – The block is still present in the control strategy
	On Line Characterization	<p>Allows the properties of the device function block to be characterized and observed in online mode</p> <ul style="list-style-type: none"> ■ In the On Line Characterization dialog <ul style="list-style-type: none"> – Set MODE_BLK.TARGET to OOS – Expand the parameter you wish to change – Double-click on the "Value" space – Enter the parameter or select a value from the drop-down menu – Press End Edit to store the parameter ■ Repeat for all parameters that have to be characterized ■ Set MODE_BLK.TARGET back to its original state ■ Press Close to close the dialog
	Attributes	Allows the block attributes to be viewed and the Block Tag to be changed

5.4.6 <Hybrid FB Tag> node

Node	Context menu	Function
<Hybrid FB Tag> node	Map I/Os to Hybrid Block	Opens the I/O Mapping tool dialogue <ul style="list-style-type: none"> ■ See Chapter 6.5.14 and 6.11
	Program Hybrid Block	Allows the Hybrid Function Block to be programmed, see Chapter 5.2.4
	Off Line Characterization	See Chapter 5.4.5
	Customize Characterization	See Chapter 5.4.5
	Cut Block	Cuts selected block complete with IEC 61131 programming and places it on the clipboard
	Copy Block	Copies selected block complete with IEC 61131 programming and places it on the clipboard
	Paste Block	Pastes a cut or copied complete with IEC 61131 programming block to the current node
	Delete Block	Deletes the selected block from the Bridge or Gateway node <ul style="list-style-type: none"> – Confirm your action with Yes in the message box that appears
	Detach Block	See Chapter 5.4.5
	On Line Characterization	See Chapter 5.4.5
	Attributes	See Chapter 5.4.5

5.4.7 <Parameter> node

Node	Context menu	Function
<Parameter>	Rename	Creates an alias for the block parameter (= link label), provided the alias function has been activated in the Project File => Strategy preference dialog, see Chapter 6.2 <ul style="list-style-type: none"> ■ In the Rename dialog <ul style="list-style-type: none"> – Type in the alias name you require – Press OK – The name is changed in all windows containing a reference to the parameter
	Delete Parameter	Deletes the selected parameter <ul style="list-style-type: none"> – Confirm your action with Yes in the message box

5.4.8 Drag&Drop

Node	Context menu	Function
<FB Tag> node	Drag&Drop	<ul style="list-style-type: none"> ■ Creates the selected function block in the Control Module window <ul style="list-style-type: none"> – Drag the block to the Control Strategy window and drop it – A Function Block object is created in the Control Module window – The block is added to the associated Control Module node in the Process Cell window ■ Assigns the selected function block to a Control Module <ul style="list-style-type: none"> – Drag the block to the Process Cell window – Drop it on the target Control Module node – The block is attached to the Control Module ■ Repositions the selected function block of a bridge or gateway to determine the order of execution (AI blocks first) <ul style="list-style-type: none"> – Drag the block to the required position – Schedule can be checked with the File=>Print preview option ■ If a block is repositioned after the project has been downloaded to the bridge or gateway <ul style="list-style-type: none"> – If necessary, go on-line – Click on the bridge or gateway note and open the FB Schedule Download context menu – Press Yes to download the new schedule

5.5 Fieldbus window

The Fieldbus window opens when the **Fieldbus node** in the **Project window** is double-clicked or the **Expand...** command is called from the View or context menu. It can be used to engineer and/or configure all FOUNDATION Fieldbus H1 devices in the project, i.e. measuring devices, actuators etc. To this end, it gives access to the function blocks and parameters associated with the fieldbus devices and allows additional devices and blocks to be added to the project. The chapter is structured according to the navigation tree hierarchy and starts with the Fieldbus node.

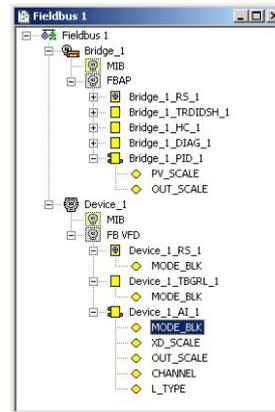


Fig. 5-2: Fieldbus window showing Fieldbus, Bridge and Device nodes with associated blocks and parameters

5.5.1 Fieldbus node

Node	Context menu	Function
Fieldbus	New => Device	Adds a new (FF H1) device to the Fieldbus node <ul style="list-style-type: none"> ■ In the New Device dialog <ul style="list-style-type: none"> – Select the manufacturer, device and device revisions – Enter a Device Tag If no tag is entered, the default tag is created according to the Tag Policy, Chapter 3.1.6 – Press OK to create the device
	New => Device from Template	Adds a new (FF H1) device from a template to the Fieldbus node <ul style="list-style-type: none"> ■ In the Open dialog <ul style="list-style-type: none"> – Browse to and select the device template (*.dtp) – Press Open to create the device – In the Importing Device Template message click OK – In the Tag Table dialog, rename tags if required, the press OK ■ The device is created with the associated blocks
	Assign All Tags	When online, assigns all tags on the fieldbus to the appropriate devices For details see Chapter 5.1.5
	Configure Device Class	When online, allows a device to be selected as backup LAS For details see Chapter 5.1.81
	Live List...	When online, generates the Fieldbus live list in a separate window
	Update	When online, updates the configuration database in the Field Controller for the devices connected to the Fieldbus
	Upload	When online, uploads configuration of all connected devices <ul style="list-style-type: none"> ■ Right-click on node and select Upload ■ Press OK to confirm the upload ■ After successful upload, right-click on plant node and select Export Tags
	Download	Downloads the partial project to the Field Controller SFC162 <ul style="list-style-type: none"> ■ Establish connection to the Field Controller ■ Press the Online button ■ In the Download - Fieldbus Networks dialog: <ul style="list-style-type: none"> – Press Start to begin the download After a successful download the dialog closes, otherwise error messages are displayed in a log at the bottom of the screen
	Attributes...	Allows the Fieldbus attributes to be viewed and changed

5.5.2 Bridge node

The context menus offered by the Bridge node in the Fieldbus window are, with the exception of Delete Bridge (not available) and Assign Tag, the same as those described in Chapter 5.1.6.

Node	Context menu	Function
Bridge	Update	When online, updates the data base in the selected bridge – May help if a download cannot be made to particular devices
	Download	When online, downloads the partial project starting at the selected bridge to the Field Controller SFC162 For details see Chapter 5.1.6
	FB Schedule Download...	When online, downloads the FB Cycle Time after: <ul style="list-style-type: none"> ■ optimization of execution time of hybrid block function ■ change in the order of execution of the function blocks, see 5.4.7
	Attributes...	Allows the tag name of the bridge to be changed and when on-line, the Device ID to be assigned For details see Chapter 5.1.6
	Exchange	Allows the bridge to be exchanged For details see Chapter 5.1.6
	Assign Tag	When online and after the Device ID has been set in the Attributes Dialog, downloads the Tag name used in the project to the field device <ul style="list-style-type: none"> ■ Press the Online button to put the project online ■ Call the Attributes context menu and in the Bridge Attribute dialog: <ul style="list-style-type: none"> – Select the Device ID from the drop-down menu – Press OK to implement changes – Wait until the red cross at the side of the bridge icon disappears ■ Call the Assign Tag menu <ul style="list-style-type: none"> – A progress dialog appears – After a short period of time, the Bridge Tag in the HSE Live List and Network windows changes

5.5.3 Device node

Node	Context menu	Function
Device	Update	When online, updates the data base in the selected bridge – May help if a download cannot be made to particular devices
	Upload	When online, uploads configuration of all connected devices ■ For procedure see Chapter 5.5.1
	Show all parameters Hide parameters	Shows or hides the function block parameters beneath the <FB Tag> node in the Fieldbus and Process Cell windows
	Download	When online, downloads the partial project starting at the selected device to the Field Controller SFC162 ■ Select the device and call the Download menu – Press Start to start the download
	Attributes...	Allows the tag name of the device to be changed and when on-line, the Device ID to be assigned
	Exchange	Allows the device to be exchanged for one of the same type <ul style="list-style-type: none"> ■ In the Device Exchange Deviations dialog <ul style="list-style-type: none"> – Check the severity of the device deviations – Press OK if you decide to proceed with the exchange – Confirm your decision with Yes to exchange the device ■ Call the Device Attributes dialog and update the Device ID ■ Make any adjustments to the project engineering necessitated by the exchange
	Delete Device	Deletes the selected device from the Fieldbus node <ul style="list-style-type: none"> ■ In the Device confirmation message <ul style="list-style-type: none"> – Press Yes to delete – Press No to cancel the action
	Assign Tag	When online and after the Device ID has been set in the Attributes Dialog, downloads the Tag name used in the project to the field device ■ See description in Chapter 5.5.2

5.5.4 FBAP/FB VFD

Node	Context menu	Function
FBAP FB VFD	New Block	Adds a function block to the bridge or fieldbus device <ul style="list-style-type: none"> ■ In the New Block dialog <ul style="list-style-type: none"> – Select the Manufacturer, Device Type and Block Type from the drop-down menu – Enter a Block Tag <ul style="list-style-type: none"> If no tag is entered, the default tag is created according to the Tag Policy, Chapter 3.1.6 – Press OK to create the new block
	Paste Block	Pastes a cut or copied block to the selected node
	Attach Block	Attaches a Control Module block to the bridge or fieldbus device. The order in which blocks are attached determines the sequence in which they are executed. <ul style="list-style-type: none"> ■ In the Attach Block dialog <ul style="list-style-type: none"> – Select the block from the drop-down list – Press OK to attach the block to the bridge or fieldbus device – The "?" in the Control Module block icon disappears
	Block List	When online, lists in the Block List dialog the blocks that are instantiated in the selected device as well as the sequence in which they will be executed

5.5.5 <FB Tag> node

Node	Context menu	Function
<FB Tag> node	Off Line Characterization	Allows the properties of the device function block to be characterized <ul style="list-style-type: none"> ■ In the Off Line Characterization dialog <ul style="list-style-type: none"> – Expand the parameter you wish to change – Double-click on the "Value" space – Enter the parameter or select a value from the drop-down menu – Press End Edit to store the parameter ■ Repeat for all parameters that have to be characterized ■ Press Close to close the dialog
	Customize Characterization	Allows the user to define block parameters that appear in the Characterization dialogs <ul style="list-style-type: none"> ■ In the Customization: <Block> dialog <ul style="list-style-type: none"> – Select the Tab Default, Type or Tag – Select the parameters required and move to the righthand window with the ">>" button – Press Apply to apply your changes – Press OK to close the dialog ■ Default: Parameters valid for all blocks <ul style="list-style-type: none"> Type: Parameters valid for all blocks of the same type, Tag: Parameters valid for the particular block only
	Cut Block	Cuts selected block and places it on the clipboard
	Copy Block	Copies selected block and places it on the clipboard
	Paste Block	Pastes a cut or copied block to the current node
	Delete Block	Deletes the selected block from the FB VFD node <ul style="list-style-type: none"> – Confirm your action with Yes in the message box that appears
	Detach Block	Detaches the selected block from FB VFD node <ul style="list-style-type: none"> – The block is still present in the control strategy
	On Line Characterization	Allows the properties of the device function block to be characterized and observed in online mode <ul style="list-style-type: none"> ■ In the On Line Characterization dialog <ul style="list-style-type: none"> – Set MODE_BLK.TARGET to OOS – Expand the parameter you wish to change – Double-click on the "Value" space – Enter the parameter or select a value from the drop-down menu – Press End Edit to store the parameter ■ Repeat for all parameters that have to be characterized ■ Set MODE_BLK.TARGET back to its original state ■ Press Close to close the dialog
	Attributes	Allows the block attributes to be viewed and the Block Tag to be changed

5.5.6 <Parameter> node

Node	Context menu	Function
<Parameter>	Rename	Creates an alias for the block parameter (= link label), see Chapter 5.4.6 and 6.2
	Delete Parameter	Deletes the selected parameter – Confirm your action with Yes in the message box

5.5.7 <Hybrid FB Tag> node

Node	Context menu	Function
<Hybrid FB Tag> node	Map I/Os to Hybrid Block	Opens the I/O Mapping tool dialogue ■ See Chapter 6.5.14 and 6.11
	Program Hybrid Block	Allows the Hybrid Function Block to be programmed, see Chapter 5.2.4
	Off Line Characterization	See Chapter 5.5.5
	Customize Characterization	See Chapter 5.5.5
	Cut Block	Cuts selected block complete with IEC 61131 programming and places it on the clipboard
	Copy Block	Copies selected block complete with IEC 61131 programming and places it on the clipboard
	Paste Block	Pastes a cut or copied complete with IEC 61131 programming block to the current node
	Delete Block	See Chapter 5.5.5
	Detach Block	See Chapter 5.5.5
	On Line Characterization	See Chapter 5.5.5
Attributes	See Chapter 5.5.5	

5.5.8 Drag&Drop

Node	Context menu	Function
<FB Tag> node	Drag&Drop	<ul style="list-style-type: none"> ■ Creates the selected function block in the Control Module window <ul style="list-style-type: none"> – Drag the block to the Control Strategy window and drop it – A Function Block object is created in the Control Module window – The block is added to the associated Control Module node in the Process Cell window ■ Assigns the selected function block to a Control Module <ul style="list-style-type: none"> – Drag the block to the Process Cell window – Drop it on the target Control Module node – The block is attached to the Control Module ■ Repositions the selected function block of a bridge or gateway to determine the order of execution (AI blocks first) <ul style="list-style-type: none"> – Drag the block to the required position – Schedule can be checked with the File=>Print preview option ■ If a block was repositioned after the project was downloaded: <ul style="list-style-type: none"> – If necessary, go on-line – Click on on the device and open the Download context menu – Press Yes to download the new configuration
<Parameter>		<ul style="list-style-type: none"> ■ Changes the order of the function block parameters in the block list <ul style="list-style-type: none"> – This is occasionally needed when the parameters are characterized in the wrong order for a proper download

5.6 PROFIBUS Configurator window

PROFIBUS Configurator is invoked when the context menus **New PROFIBUS...** is called from the **Gateway** node in the Project window or **Modify PROFIBUS Configuration** is called from the **Profibus** node in the Profibus window.

PROFIBUS Configurator is used to configure the bus parameters of the PROFIBUS Field Controller SFC173 as well as the slave addresses and cyclic communication parameters of the PROFIBUS slaves. The resulting configuration is mapped into PROFIBUS function blocks, which can be used to build control strategies in combination with other blocks in Application Designer.

The use of PROFIBUS Configurator is described in the Application Designer PROFIBUS Tutorial, BA036S/04/en.



Fig. 5-3: PROFIBUS Configurator window showing a PROFIBUS network with master (Gateway) and slaves

5.6.1 Master node

Node	Context menu	Function
Master	Cut	Cuts selected device from bus
	Copy	Copies selected device
	Paste	Pastes device from clipboard onto the bus <ul style="list-style-type: none"> – Paste with the Paste menu or Ctrl V – Move the "M" cursor to the desired position – Left-click and confirm with OK
	Delete	Deletes the selected device Confirm your action with Yes
	Replace	Replaces a device with another <ul style="list-style-type: none"> – Confirm the action, select the replacement device and press OK
	Master Settings	Calls the DP Master Settings dialog for configuration of the master <ul style="list-style-type: none"> – The Master Settings are preconfigured for the Field Controller SFC173 when PROFIBUS Configurator is invoked from Application Designer
	Master Configuration	Sets the Tag name and PROFIBUS address of the master <ul style="list-style-type: none"> ■ In the Master Configuration dialog: <ul style="list-style-type: none"> – Enter a tag – Enter a DP address (SFC173 has 1 by default) – Press OK to save the changes and close the dialog
Group Assignment	Acts as a filter for the Sync and Freeze global commands <ul style="list-style-type: none"> ■ In the Group Membership dialog: <ul style="list-style-type: none"> – Name and set up and configure the groups – Press the Group Assignment button to open the corresponding dialog – Assign the DP slaves to the groups – Press OK to return to the Group Membership dialog – Press OK to close the dialog and save the changes 	

5.6.2 Slave node

Node	Context menu	Function
Slave	Cut	Cuts selected device from bus
	Copy	Copies selected device
	Paste	Pastes device from clipboard onto the bus <ul style="list-style-type: none"> – Paste with the Paste menu or Ctrl V – Move the "S" cursor to the desired position – Left-click and confirm with OK
	Delete	Deletes the selected device Confirm your action with Yes
	Replace	Replaces a device with another <ul style="list-style-type: none"> – Confirm the action, select the replacement device and press OK
	Slave Configuration	Sets up the selected DP slave <ul style="list-style-type: none"> ■ In the Slave Configuration dialog <ul style="list-style-type: none"> – Enter the slave address – Enter the slave tag (no spaces allowed, use underscore) – Insert the data modules for cyclic communication: use EMPTY_MODULE/FREE_SPACE to fill in gaps left by unused modules – Press the DPV1 Settings button and check that the DPV1 Activated box is not checked: press OK to save the setting – Press OK to close the dialog and save the settings
	Parameter Data	Opens the Parameter Data dialog for the selected slave <ul style="list-style-type: none"> – Required for Remote I/O, information supplied by manufacturer

5.7 Profibus window

The Profibus window opens when the **Profibus node** in the **Project window** is selected and the **Expand...** command is called from the View or context menu. It can be used to engineer and/or configure the cyclic communication of all PROFIBUS devices in the project, i.e. measuring devices, actuators etc. To this end, it gives access to the function blocks and parameters associated with the PROFIBUS DP/PA devices and allows the devices and blocks to be added to the project. The chapter is structured according to the navigation tree hierarchy and starts with the Profibus node.

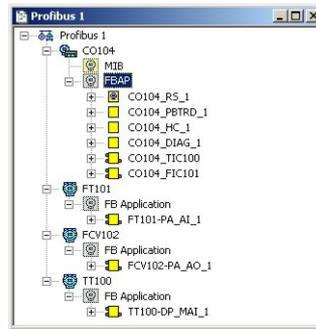


Fig. 5-4: Profibus window showing Profibus, Gateway and Device nodes with associated blocks and parameters

5.7.1 Profibus node

Node	Context menu	Function
Profibus	Modify I/O Mapping	Opens the PROFIBUS I/O Mapping dialog <ul style="list-style-type: none"> – Click on the parameter that is to be modified – Change the configuration – Press OK to close the dialog and save the changes
	Modify Profibus Configuration	Opens PROFIBUS Configurator <ul style="list-style-type: none"> – See Chapter 5.6 or BA036s/04/en for more details
	Live List...	When online, generates the Profibus live list in a separate window
	Download	Downloads the partial project to the Field Controller SFC173 <ul style="list-style-type: none"> ■ Establish connection to the Field Controller ■ Press the Online button ■ In the Download - Fieldbus Networks dialog: <ul style="list-style-type: none"> – Press Start to begin the download After a successful download the dialog closes, otherwise error messages are displayed in a log at the bottom of the screen
	Attributes...	Allows the Profibus attributes to be viewed and changed

5.7.2 Gateway node

The context menus offered by the gateway node in the Profibus are, with the exception of Delete Gateway (greyed) and Assign Tag, the same as those described in Chapter 5.1.7.

Node	Context menu	Function
Gateway	Assign Tag	When online and after the Device ID has been set in the Attributes Dialog, downloads the Tag name used in the project to the field device <ul style="list-style-type: none"> ■ Press the Online button to put the project online ■ Call the Attributes context menu and in the Gateway Attributes dialog: <ul style="list-style-type: none"> – Select the gateway Device ID from the drop-down menu – Press OK to implement changes – Wait until the red cross at the side of the gateway icon disappears ■ Call the Assign Tag menu <ul style="list-style-type: none"> – A progress dialog appears – After a short period of time, the Gateway Tag in the HSE Live List and Network windows changes
	Download	When online, downloads the partial project starting at the selected gateway to the Field Controller SFC173 For details see Chapter 5.1.7
	FB Schedule Download...	When online, downloads the FB Cycle Time after: <ul style="list-style-type: none"> ■ optimization of execution time of hybrid block function ■ change in the order of execution of the function blocks, see 5.4.7
	Attributes...	Allows the tag name of the gateway to be changed and when on-line, the Device ID to be assigned. For details see Chapter 5.1.7
	Exchange	Allows the gateway to be exchanged. For details see Chapter 5.1.6

5.7.3 PROFIBUS device node

Node	Context menu	Function
Device	Attributes...	Allows attributes of the PROFIBUS device to be view <ul style="list-style-type: none"> – Changes can be made in the PROFIBUS I/O Mapping and Slave Configuration dialogs (PROFIBUS Configurator) only

5.7.4 FBAP node (Gateway)

Node	Context menu	Function
FBAP	New Block	Adds a new block for to gateway <ul style="list-style-type: none"> ■ In the New Block dialog <ul style="list-style-type: none"> – Select the Block Type from the drop-down menu – If appropriate, enter a Block Tag – If no tag is entered, the Block is created with its generic tag according to the settings of the Block Preferences, Chapter 3.1.6 ■ The new block is added to the FB VFD node of the bridge/gateway
	Paste Block	Pastes a cut or copied block to the selected node
	Attach Block	Attaches a Control Module block to gateway. The order in which blocks are attached determines the sequence in which they are executed. <ul style="list-style-type: none"> ■ In the Attach Block dialog <ul style="list-style-type: none"> – Select the block from the drop-down list – Press OK to attach the block to the gateway – The "?" in the Control Module block icon disappears
	Block List	When online, lists in the Block List dialog, the blocks that are instantiated in the delected device

5.7.5 <FB Tag> node

Node	Context menu	Function
<FB Tag> node	Off Line Characterization	Allows the properties of the device function block to be characterized <ul style="list-style-type: none"> ■ In the Off Line Characterization dialog <ul style="list-style-type: none"> – Expand the parameter you wish to change – Double-click on the "Value" space – Enter the parameter or select a value from the drop-down menu – Press End Edit to store the parameter ■ Repeat for all parameters that have to be characterized ■ Press Close to close the dialog
	Customize Characterization	Allows the user to define block parameters that appear in the On Line Characterization and Off Line Characterization dialogs <ul style="list-style-type: none"> ■ In the Customization: <Block> dialog <ul style="list-style-type: none"> – Select the Tab Default, Type or Tag – Select the parameters required and move to the righthand window with the ">>" button ("<<" moves them back again) – Press Apply to apply your changes – Press OK to close the dialog ■ Type parameters are valid for all blocks of the same type, Tag parameters are valid for the particular block only
	Cut Block	Gateway only: Cuts selected block and places it on the clipboard
	Copy Block	Gateway only: Copies selected block and places it on the clipboard
	Paste Block	Gateway only: Pastes a cut or copied block to the current node
	Delete Block	Deletes the selected block <ul style="list-style-type: none"> – Confirm your action with Yes in the message box that appears – Not applicable to PROFIBUS devices
	Detach Block	Detaches the selected block from FB VFD node <ul style="list-style-type: none"> – The block is still present in the control strategy – Not applicable to PROFIBUS devices (FB Application)
	On Line Characterization	Allows the properties of the device function block to be characterized and observed in online mode <ul style="list-style-type: none"> ■ In the On Line Characterization dialog <ul style="list-style-type: none"> – Set MODE_BLK.TARGET to OOS – Expand the parameter you wish to change – Double-click on the "Value" space – Enter the parameter or select a value from the drop-down menu – Press End Edit to store the parameter ■ Repeat for all parameters that have to be characterized ■ Set MODE_BLK.TARGET back to its original state ■ Press Close to close the dialog
Attributes	Allows the block attributes to be viewed and the Block Tag to be changed	

5.7.6 <Hybrid FB Tag> node (Gateway)

Node	Context menu	Function
<Hybrid FB Tag> node	Map I/Os to Hybrid Block	Opens the I/O Mapping tool dialogue <ul style="list-style-type: none"> ■ See Chapter 6.5.14 and 6.11
	Program Hybrid Block	Allows the Hybrid Function Block to be programmed, see Chapter 5.2.4
	Off Line Characterization	See Chapter 5.7.5
	Customize Characterization	See Chapter 5.7.5
	Cut Block	Cuts selected block complete with IEC 61131 programming and places it on the clipboard
	Copy Block	Copies selected block complete with IEC 61131 programming and places it on the clipboard
	Paste Block	Pastes a cut or copied complete with IEC 61131 programming block to the current node
	Delete Block	See Chapter 5.7.5
	Detach Block	See Chapter 5.7.5
	On Line Characterization	See Chapter 5.7.5
	Attributes	See Chapter 5.7.5

5.7.7 <Parameter> node

Node	Context menu	Function
<Parameter>	Rename	Creates an alias for the block parameter (= link label), see Chapter 5.4.6 and 6.2
	Delete Parameter	Deletes the selected parameter – Confirm your action with Yes in the message box

5.7.8 Drag&Drop

Node	Context menu	Function
<FB Tag> node	Drag&Drop	<ul style="list-style-type: none"> ■ Creates the selected function block in the Control Module window <ul style="list-style-type: none"> – Drag the block to the Control Strategy window and drop it – A Function Block object is created in the Control Module window – The block is added to the associated Control Module node in the Process Cell window ■ Assigns the selected function block to a Control Module <ul style="list-style-type: none"> – Drag the block to the Process Cell window – Drop it on the target Control Module node – The block is attached to the Control Module ■ Repositions the selected function block of a bridge or gateway to determine the order of execution (AI blocks first) <ul style="list-style-type: none"> – Drag the block to the required position – Schedule can be checked with the File=>Print preview option ■ If a block was repositioned after the project was downloaded: <ul style="list-style-type: none"> – If necessary, go on-line – Click on on the device and open the Download context menu – Press Yes to download the new configuration
<Parameter>		<ul style="list-style-type: none"> ■ Changes the order of the function block parameters in the block list <ul style="list-style-type: none"> – This is occasionally needed when the parameters are characterized in the wrong order for a proper download

5.8 Live Lists

5.8.1 HSE Live List

Node	Context menu	Function
Device Tag node	Assign Tag	Allows a device tag to be assigned to the selected device <ul style="list-style-type: none"> ■ In the Assign Tag dialog <ul style="list-style-type: none"> - Enter the desired Tag - Press OK to confirm the entry - The device tag is downloaded to the device (this may take several minutes)

5.8.2 Fieldbus Live List

The context menus are active only when the Device ID of one of the devices has not yet been assigned.

ControlCare Application Designer automatically assigns H1 addresses to the field devices. The context Set H1 Address is intended only for cases where Application Designer is being used as a maintenance tool to set address of devices for later operation in systems requiring fixed addresses, e.g. for Emerson or Yokogawa systems.

Node	Context menu	Function
Device Tag node	Assign Tag	Allows a device tag to be assigned to the selected device <ul style="list-style-type: none"> ■ In the Assign Tag dialog <ul style="list-style-type: none"> - Enter the desired Tag - Press OK to confirm the entry - The device tag is downloaded to the device (this may take several minutes)
	Configure Device Class	Allows the device class of the selected device to be changed <ul style="list-style-type: none"> ■ In the Device Class dialog <ul style="list-style-type: none"> - Select the device class from the drop-down menu - Press Change to start the download to the device - The device class is downloaded to the device (this may take several minutes)
	Set H1 Address	Allows a H1 address to be assigned to the selected device <ul style="list-style-type: none"> ■ In the Set Address dialog <ul style="list-style-type: none"> - Select an address that is not used by any other device and is not in the "unused address range" - Press Change to start the download to the device - The H1 address is downloaded to the device (this may take several minutes)
		<p>The diagram illustrates the distribution of node addresses in the range 0 to FF. It is divided into four segments: <ul style="list-style-type: none"> 0 to X: standard, global and flat node addresses. X to Y: usable addresses. Y to F8: No. of unused node addresses. F8 to FF: usable addresses. Annotations: <ul style="list-style-type: none"> 'First unused node address' points to X. 'non-visitor addresses i.e. default addresses of devices requiring address assignment)' points to the Y-F8 range. 'visitor addresses for temporary (handheld) devices' points to the F8-FF range. </p>

6 Dialogs

This Chapter is structured according to the function of the dialog, i.e. project management, preferences, building the logical project, building the physical project, building the control strategy, configuring the function blocks, going on line. The dialogs in each section are listed in alphabetical order.

6.1 Project management

6.1.1 Browse for Folder

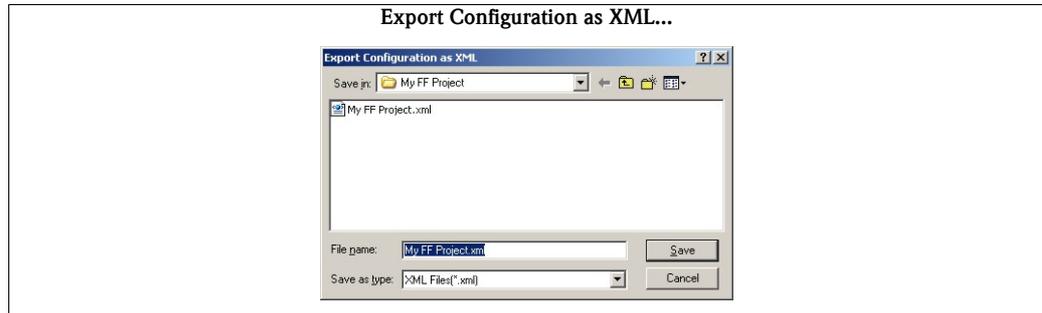
Browses to the folder in which a file is to be stored.



Property/Button	Attribute	Function/Action
Workspace	–	Browse to folder in which project is to be saved
Make New Folder	–	Create a new folder in the navigation tree
OK	–	Save file at position selected and close dialog
Cancel	–	Close dialog without saving file

6.1.2 Export Configuration as XML

Exports the entire project into an XML file.



Property/Button	Attribute	Function/Action
Save in	–	Browse to folder in which project is to be saved
File name	–	Enter name under which project is to be saved
Save as type	–	Enter type of file (use default string here)
Save	–	Close dialog and export configuration
Cancel	–	Close dialog without exporting configuration

6.1.3 Import Device Support

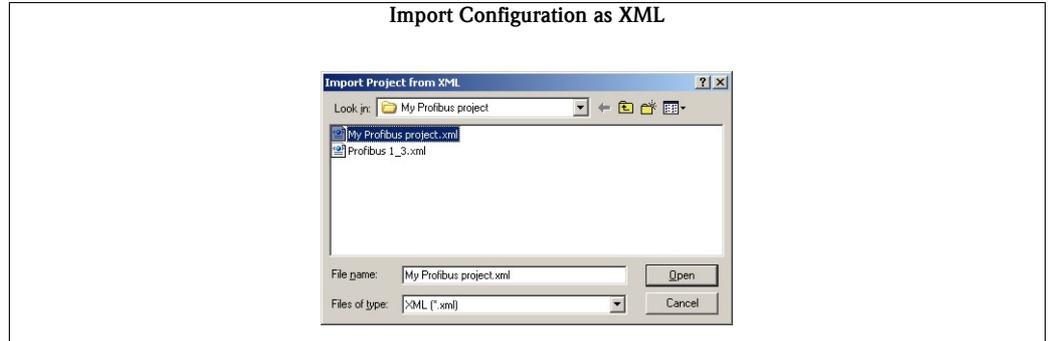
Imports new or missing DD, CF and GSD files into the project.



Property/Button	Attribute	Function/Action
Manufacturer	–	Indicates manufacturer of device
Device Type	–	Indicates device type ID of device
Files	–	Lists the files contained in the folder – If not all files are required, select the ones you require
OK	–	Import the files – A message box confirms the successful import
Cancel	–	Close dialog without importing device support
Help	–	Open the the corresponding online help page

6.1.4 Import Project from XML

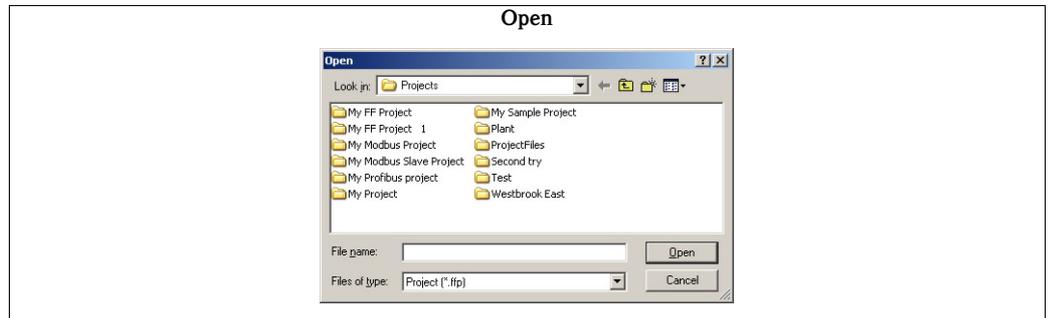
Imports and opens a previously exported project from an XML file.



Property/Button	Attribute	Function/Action
Look in	–	Browse to folder in which XML file is to be found
File name	–	Enter name of file <ul style="list-style-type: none"> ■ A double-click on the file located in look in fills this property
Files of type	–	Accept default setting
Open	–	Imports the selected configuration
Cancel	–	Close dialog without importing selected configuration

6.1.5 Open

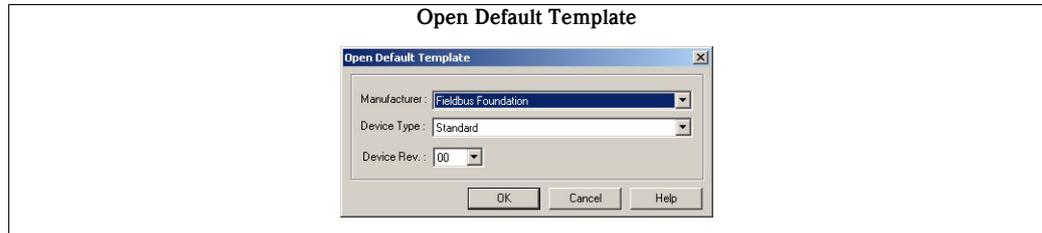
Opens an existing project.



Property/Button	Attribute	Function/Action
Look in	–	Browse to folder in which project is to be found
File name	–	Enter name of project <ul style="list-style-type: none"> ■ A double-click on the file located in look in fills this property
Files of type	–	Applies filter to file type: <ul style="list-style-type: none"> ■ Project files: *.ffp ■ Strategy templates: *.fft ■ Device templates: *.dtp ■ Bridge templates: *.btp
Open	–	Open the selected file
Cancel	–	Close dialog without opening selected file

6.1.6 Open Default Template

Opens a default template.



Property/Button	Attribute	Function/Action
Manufacturer	–	Select the manufacturer from the drop-down menu
Device Type	–	Select the device type from the drop-down menu
Device Rev.	–	Select the device revision from the drop-down menu <ul style="list-style-type: none"> ■ The latest revision is shown by default
OK	–	Close dialog and save changes
Cancel	–	Close dialog without saving changes
Help	–	Call the on-line help for this dialog

6.1.7 Pack Project

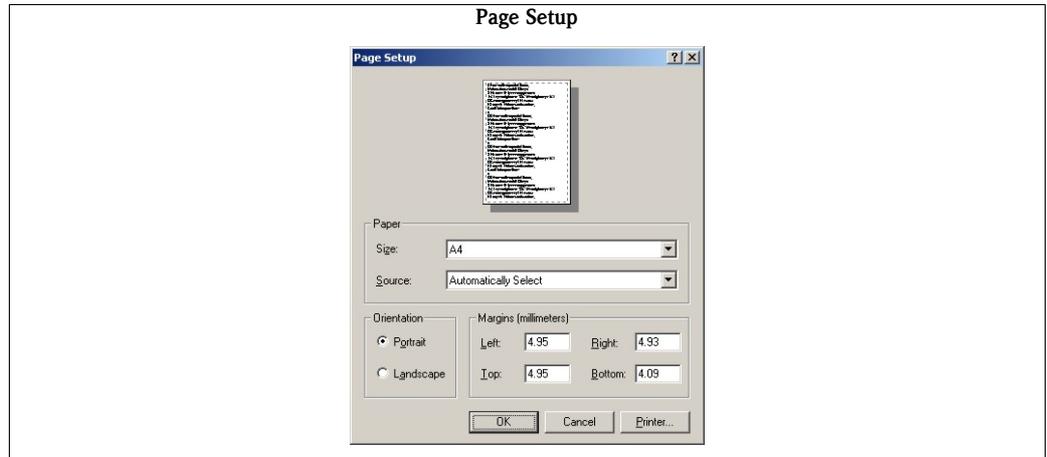
Packs a project ready for portation to the site computer



Property/Button	Attribute	Function/Action
Save In		Browse to folder in which project is to be saved <ul style="list-style-type: none"> ■ A click on  allows a new folder to be created
File Name		Enter the name under which the project is to be packed
Save as type		Apply filter to file type (in this case .pcc only)
Save	–	Close dialog and save changes
Cancel	–	Close dialog without saving changes

6.1.8 Page Setup

Sets up a margins, size etc. for project printouts.



Property/Button	Attribute	Function/Action
Paper	Size	Select paper size from drop-down menu
	Source	Select paper source from drop-down menu
Orientation	Portrait	Check the radio button for portrait printing
	Landscape	Check the radio button for landscape printing
Margins	Left, Right	Set up the width of each margin in millimeters
	Top, Bottom	
Printer	–	Select printer (other printer functions can be accessed from here)
OK	–	Close dialog and save changes
Cancel	–	Close dialog without saving changes

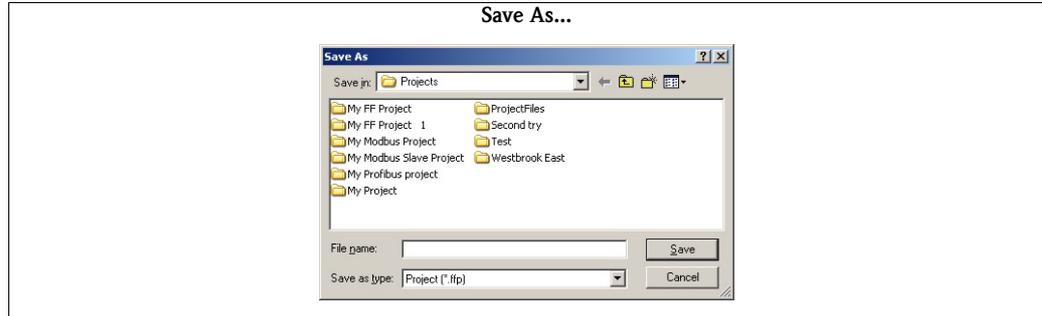
6.1.9 Print Configuration

Sets up the items to be included in a project printout.

Property/Button	Attribute	Function/Action
Process Control Configuration	General Information Blocks FB Links Other Components	Lists the logical project (Plant view) objects <ul style="list-style-type: none"> ■ Tick the properties required in the printout
Multi Link Topology	–	Prints the control strategy and lists the project links <ul style="list-style-type: none"> ■ Tick if required in the printout
Fieldbus Configuration	General Information Blocks FB Links Other Components	Lists the physical project (Network view) objects <ul style="list-style-type: none"> ■ Tick the properties required in the printout
Device List	–	Lists all devices in the project with IDs and addresses <ul style="list-style-type: none"> ■ Tick if required in the printout
Block list	General Information Parameter Values FB Links	Lists all blocks in the project together with attributes <ul style="list-style-type: none"> ■ Tick the properties required in the printout
FB Link List	General Information Connected Parameter	Lists all the function block links in the project <ul style="list-style-type: none"> ■ Tick the properties required in the printout
Schedule	–	Lists all objects involved with function block execution together with the associated schedule <ul style="list-style-type: none"> ■ Tick if required in the printout
OK	–	Close dialog and save changes
Cancel	–	Close dialog without saving changes
Help	–	Call the on-line help for this dialog

6.1.11 Save As

Saves a copy of the current project under a new name.



Property/Button	Attribute	Function/Action
Save in	–	Browse to folder in which project is to be saved
File name	–	Enter name under which project is to be saved
Save as type	–	Enter type of file (use default setting here)
Save	–	Close dialog and save the copy
Cancel	–	Close dialog without saving a copy

6.1.12 Setup New Project Workspace

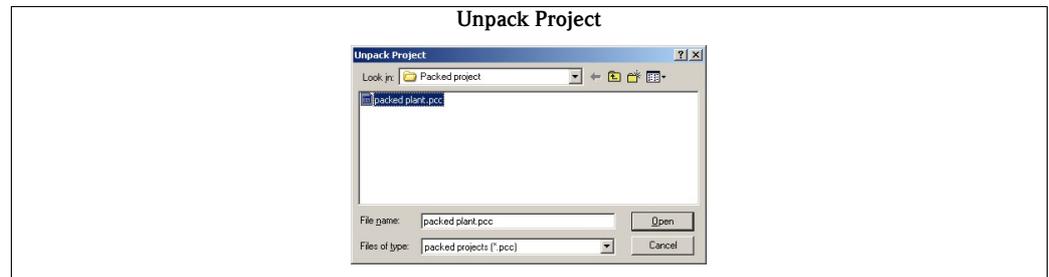
Opens a new project with preliminary navigation tree.



Property/Button	Attribute	Function/Action
Save in	–	Browse to folder in which project is to be saved
File name	–	Enter name under which project is to be saved
Save as type	–	Enter type of file (use default stting here)
Save	–	Close dialog and set up new project
Cancel	–	Close dialog without setting up new project

6.1.13 Unpack Project

Unpacks a project to the selected folder of the site computer



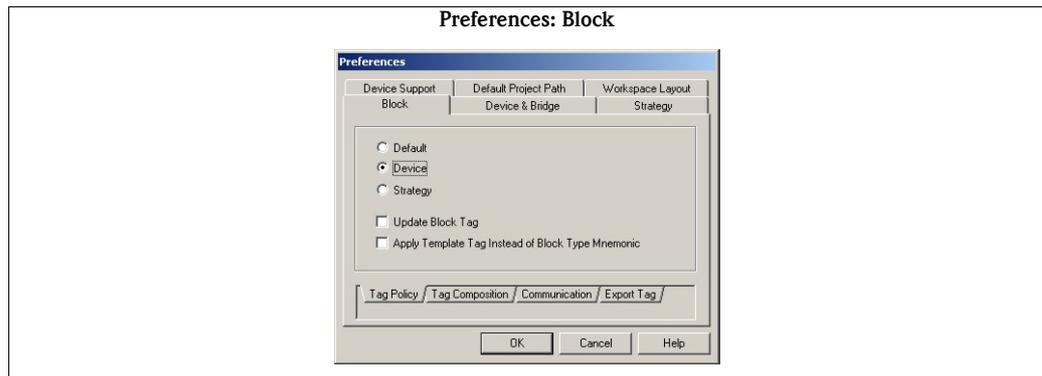
Property/Button	Attribute	Function/Action
Look In		Browse to folder in which project is to be found
File Name		Enter the name under which the project is to be packed
Files of type		Apply filter to file type (in this case .pcc only)
Open	–	Open the selected file and start the unpacking procedure
Cancel	–	Close dialog without saving changes

6.2 Project Preferences

6.2.1 Block

Sets the preferences for the naming and handling of function block tags:

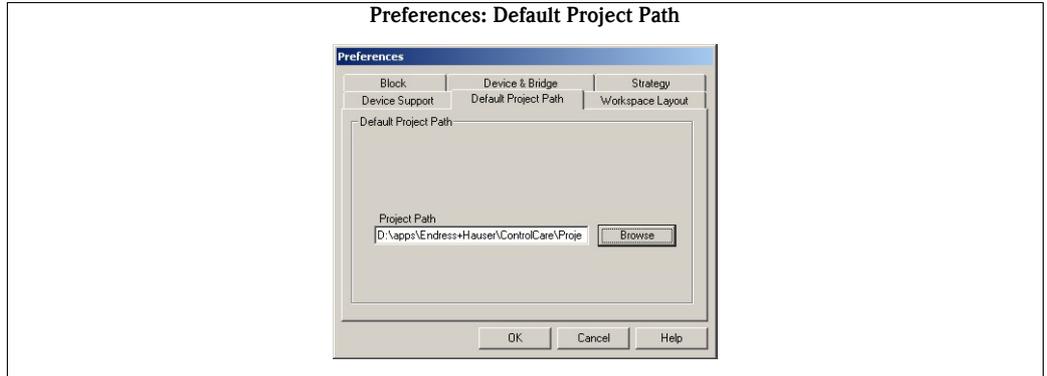
- If a new block is created in the control strategy and the user does not define a tag, the block tag will be generated based on the strategy tag since the block is not yet attached to any device.
- If the block is moved from one device to another, its tag will be automatically updated to that of the destination device.
- If the user changes the device tag, the tag of all blocks attached to it will be updated.



Property/Button	Attribute	Function/Action
Tag Policy	Default Device Strategy	Sets the automatic tag format for new blocks <ul style="list-style-type: none"> ■ Default: Blocks attached to a strategy or device are assigned the tag format ["block" + separator + id number] ■ Device: Blocks attached to a device are assigned the tag format [device tag + separator + block mnemonic + id number] ■ Strategy: Blocks attached to a strategy are assigned the tag format [strategy tag + separator + block mnemonic + id number]
	Update Block Tag	Causes the block tag to be updated as per the tsg policy: <ul style="list-style-type: none"> ■ when the block is moved to another device or control module ■ when the device tag or the control module tag is changed
	Apply Template Tag...	Causes the block tag from the template file to be used instead of the block mnemonic, when a Device, Bridge or Strategy template is imported
Tag Composition	Mnemonic Separator	Determines the separator used in the block tag <ul style="list-style-type: none"> – If hybrid function blocks are used, underscore "_" is mandatory
	Use Device or Strategy...	Sets the position of the device or strategy tag <ul style="list-style-type: none"> ■ Prefix: Device or Strategy tag is prefixed to the block tag ■ Suffix: Device or Strategy tag is suffixed to the block tag
Communication	Block List Events	Causes Application Designer to compare the blocks attached to a virtual device to those attached to its counterpart in the field, for all devices in the Fieldbus windows that are open. If the option is not selected, the comparison is made when Block List is opened.
Export Tag	Manual Automatic	<ul style="list-style-type: none"> ■ Manual: Export Tags must be used to update the tag database ■ Automatic: Export Tags is excuted automatically every time a relevant online procedure requires the tag to be exported
	Path	Shows the location of the tag database file
OK	–	Close dialog and save preferences
Cancel	–	Close dialog and discard changes
Help	–	Open the the corresponding online help page

6.2.2 Default Project Path

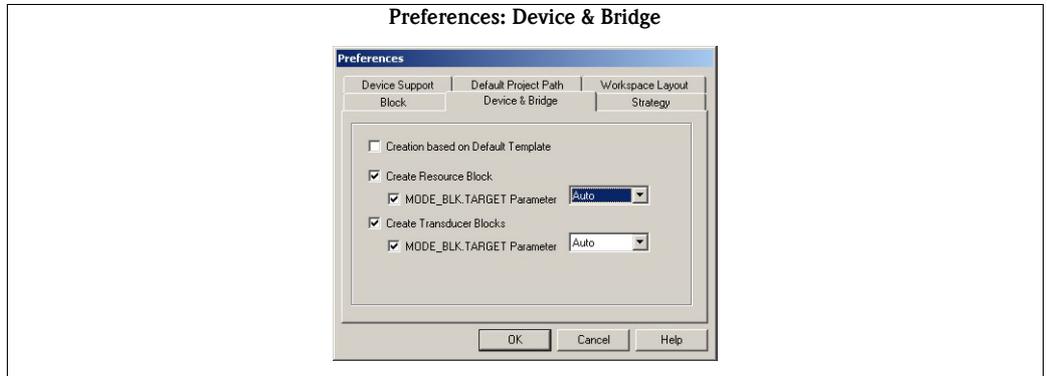
Sets the default project path (Setting: Endress+Hauser\ControlCare\Projects).



Property/Button	Attribute/Subfolder	Function/Action
Default Project Path	Project Path	Type in or browse to the default path for the project – If the path is changed during operation, the new path is taken as default
Browse		Press to browse your computer
OK	–	Close dialog and save preferences
Cancel	–	Close dialog and discard changes
Help	–	Open the the corresponding online help page

6.2.3 Device & Bridge

Sets the preferences for the creation of device/bridge/gateway resource and transducer blocks.

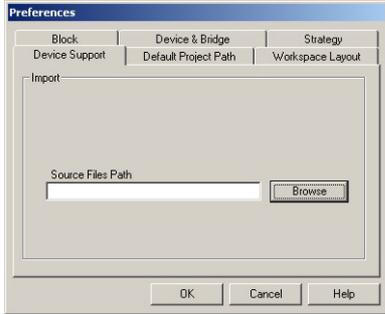


Property/Button	Attribute/Subfolder	Function/Action
... Default Template	–	Creates new devices and bridges/gateways using default templates – Default setting, when selected the other options are grey – If no template found, creates Resource and Transducer block
Create Resource Block	Create...	Creates resource block
	MODE_BLK.TARGET	Adds MODE_BLK.TARGET as selected from drop-down menu
Create Transducer Block	Create....	Creates transducer block
	MODE_BLK.TARGET	Adds MODE_BLK.TARGET as selected from drop-down menu
OK	–	Close dialog and save preferences
Cancel	–	Close dialog and discard changes
Help	–	Open the the corresponding online help page

6.2.4 Device Support

Sets the default path for importing device support files (DD and CF). This is required when the device or DD revision is not in the standard ControlCare library.

Preferences: Device Support

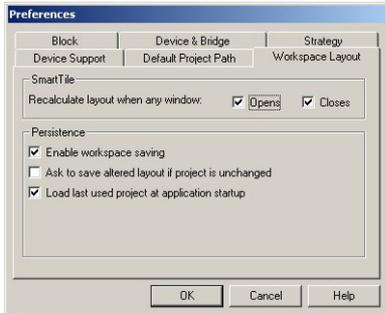


Property/Button	Attribute/Subfolder	Function/Action
Import	Source Files Path	Type in or browse to the default path for Device Support imports – If the path is changed during operation, the new path is taken as default
Browse	–	Press to browse your computer
OK	–	Close dialog and save preferences
Cancel	–	Close dialog and discard changes
Help	–	Open the the corresponding online help page

6.2.5 Workspace Layout

Determines how the workspace for the project is managed.

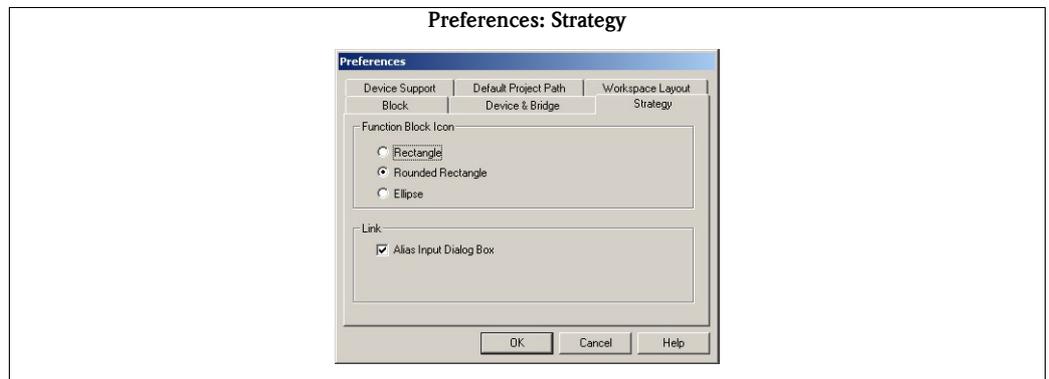
Preferences: Workspace Layout



Property/Button	Attribute/Subfolder	Function/Action
Smart Tile	Recalculate layout when any window	Recalculates layout when checkbox ticked: <ul style="list-style-type: none"> ■ Opens: recalculates when window opened ■ Closes: recalculates when window closed
Persistence	–	Click appropriate box to: <ul style="list-style-type: none"> ■ Enable saving of workspace ■ Have program ask whether changed layout should be changed ■ Have the last project used loaded on program start-up
OK	–	Close dialog and save preferences
Cancel	–	Close dialog and discard changes
Help	–	Open the the corresponding online help page

6.2.6 Strategy

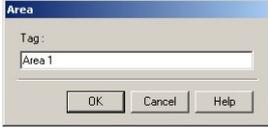
Determines the default shape of the function block icons in the control strategy and activates the alias function for block parameters.



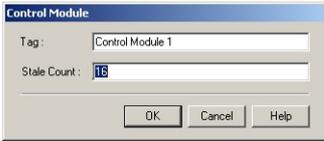
Property/Button	Attribute/Subfolder	Function/Action
Function Block Icon	Rectangle Rounded Rectangle Ellipse	Sets the shape of the function block icon used in the control strategy
Alias Input Dialog Box	–	When ticked enables dialog box for alias renaming during link creation
OK	–	Close dialog and save preferences
Cancel	–	Close dialog and discard changes
Help	–	Open the the corresponding online help page

6.3 Logical project

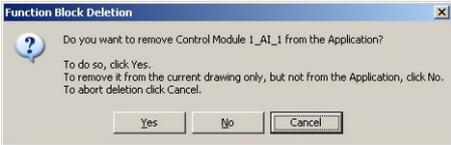
6.3.1 Area

Area		
		
Property/Button	Attribute/Subfolder	Function/Action
Tag	–	Enter the Tag Name of the Area selected – Default: Area n, where n is a consecutive number
OK	–	Close dialog and save changes
Cancel	–	Close dialog and discard changes
Help	–	Open the the corresponding online help page

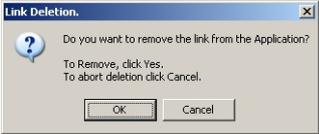
6.3.2 Control Module

Control Module		
		
Property/Button	Attribute/Subfolder	Function/Action
Tag	–	Enter the Tag Name of the new control module – Default: Control Module n, where n is a consecutive number
Stale Count	–	Enter the number of macrocycles that may elapse in the link publisher before a signal indicating that there has been no update of the link data is sent (= bad communication)
OK	–	Close dialog and save changes
Cancel	–	Close dialog and discard changes
Help	–	Open the the corresponding online help page

6.3.3 Function Block Deletion

Function Block Deletion		
		
Property/Button	Attribute/Subfolder	Function/Action
Yes	–	Close dialog and remove block completely from the application
No	–	Close dialog and remove the block from the Control Module window only – The block with its links remains connected to the Control Module and, if attached, the FB VFD node
Cancel	–	Close the dialog and do not delete the block

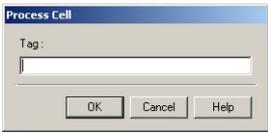
6.3.4 Link Deletion

Link Deletion		
		
Property/Button	Attribute/Subfolder	Function/Action
Yes	–	Close dialog and remove link completely from the application
No	–	Close dialog and hide the link in the Control Module window only – The link can be shown with "Show Hidden Links"
Cancel	–	Close the dialog and do not delete the link

6.3.5 Plant

Plant		
		
Property/Button	Attribute/Subfolder	Function/Action
Tag	–	Enter the Tag Name of the plant – Default: Name used when project created
OK	–	Close dialog and save changes
Cancel	–	Close dialog and discard changes
Help	–	Open the the corresponding online help page

6.3.6 Process Cell

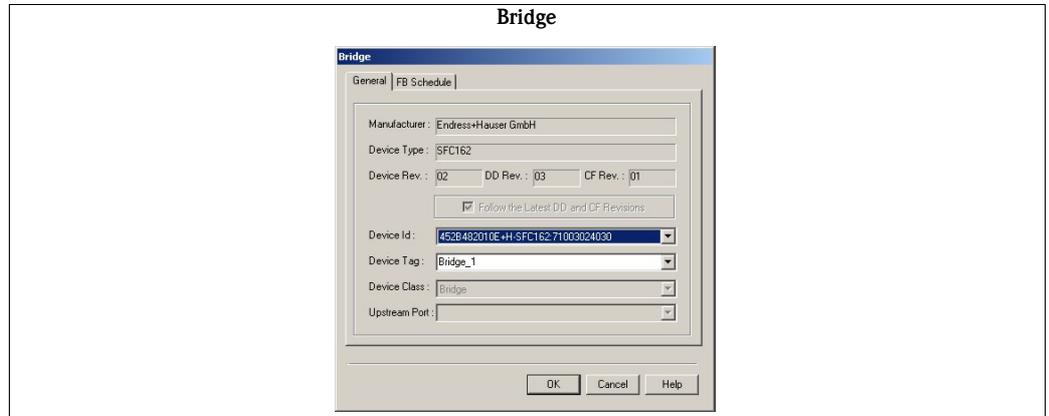
Process Cell		
		
Property/Button	Attribute/Subfolder	Function/Action
Tag	–	Enter the Tag Name of the new process cell – Default: Process Cell n, where n is a consecutive number
OK	–	Close dialog and save changes
Cancel	–	Close dialog and discard changes
Help	–	Open the the corresponding online help page

6.3.7 Rename

Rename		
		
Property/Button	Attribute/Subfolder	Function/Action
Alias parameter tag	–	Enter the alias name for the selected link parameter
OK	–	Close dialog and assign alias to parameter name
Cancel	–	Close dialog without assigning alias to parameter name

6.4 Physical project

6.4.1 Bridge Attributes



Property/Button	Attribute/Subfolder	Function/Action
General tab	Manufacturer	Shows manufacturer
	Device Type	Shows device type
	Device Revision	Shows device revision
	Follow the latest DD and CF revisions	When checked, always selects the latest DD and CF file for the selected device
	Device ID	Selected from the drop-down menu after going online – Can be entered off-line if known
	Device Tag	Enter tag name for bridge – If no name is entered, Bridge n is assigned, whereby n is a consecutive number
	Device Class	Shows Device Class (SFC162 = Bridge)
	Upstream Port	Not used
	OK	Close dialog and create bridge
	Cancel	Close dialog and do not create bridge
FB Schedule Tab	Help	Open the the corresponding online help page
	Unscheduled Time	Time in ms allocated to unscheduled traffic <ul style="list-style-type: none"> ■ To impose a Unschedule Time: <ul style="list-style-type: none"> – Type in new value – Press Override to calculate Schedule Duration and FB Cycle Time – Download with FB Schedule Download... or Download
	FC Schedule Duration	Time calculated offline to complete function block execution process
	FC Cycle Time	Time calculated offline to execute complete project
	Override	Calculates Schedule Duration and Unscheduled Time for new FB Cycle Time
	Default	Restores the schedule default values – Download with FB Schedule Download... or Download
	OK	Close dialog and create bridge
	Cancel	Close dialog and do not create bridge
Help	Open the the corresponding online help page	

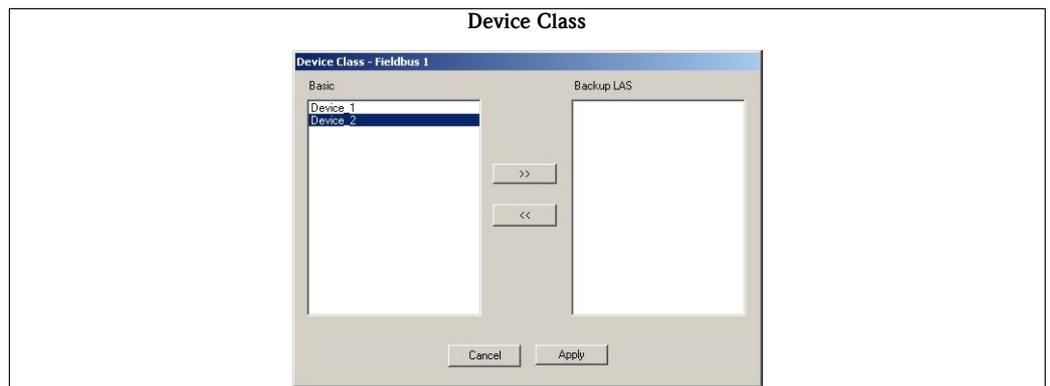
6.4.2 Configure Device Class

Property/Button	Attribute/Subfolder	Function/Action
Drop-down menu	–	Select required device class for device
Change	–	Press to start download of device class to device
Download progress	Status	Shows status of download to device
	Elapsed Time	Show time download has been running
Abort	–	Breaks off the download without the change being made

6.4.3 Device Attributes

Property/Button	Attribute/Subfolder	Function/Action
Manufacturer	–	Shows manufacturer
Device Type	–	Shows device type
Device Revision	–	Shows device revision
Follow the latest DD and CF revisions	–	When checked, always selects the latest DD and CF file for the selected device
Device ID	–	Selected from the drop-down menu after going online – Can be entered off-line if known
Device Tag	–	Enter tag name for device – If no name is entered, device n is assigned, whereby n is a consecutive number
Device Class	–	Shows device class (Basic, Link master)
OK	–	Close dialog and create bridge
Cancel	–	Close dialog and do not create bridge
Help	–	Open the the corresponding online help page

6.4.4 Device Class



Property/Button	Attribute/Subfolder	Function/Action
Panes	Basic	Devices, identified with device tag, with device class basic
	Backup LAS	Devices, identified with device tag, with device link master
>>		Moves selected devices from Basic to Backup LAS pane
<<		Moves selected devices from Backup LAS to Basic pane
Apply		Stores any changes in configuration and applies them to the project <ul style="list-style-type: none"> – If off-line, the new Device Class is stored in the project, which must be downloaded at a later date for the change to take effect – If on-line, the Device Class and FB Schedule time are download to the controller and devices (this may take some time) – When the Device Class is downloaded, the device is restarted. This normally occurs automatically, but for some devices it may be necessary to restart the device manually.
Cancel	–	Close dialog and do not create bridge

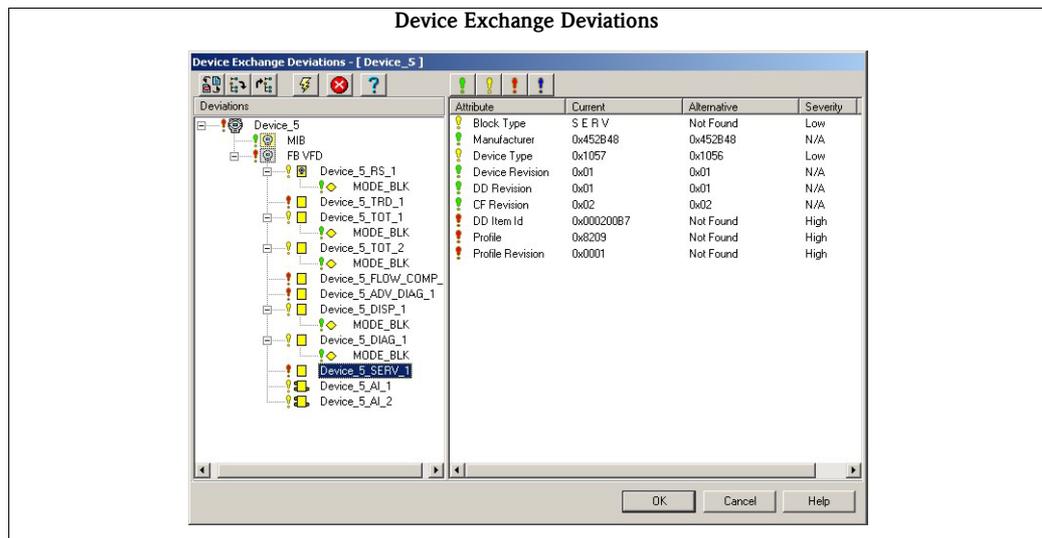
6.4.5 Device Exchange Deviations

This dialog appears only if a bridge, gateway or Foundation Fieldbus device is exchanged and there are incompatibilities between it and its replacement. In this case, the user may chose to accept the deviations automatically, in which case only unresolved deviations will appear, or manually.

- If the exchange is made offline, it might be possible that even severe deviations can be worked around by changing the project engineering
- If the exchange is made online, at present only devices of the same manufacturer and type can be exchanged

The decision to exchange depends upon the severity of the deviation and use of the blocks:

- Non-critical level requires no further action on the part of the user, other than to update the Device ID after exchange (every FOUNDATION Fieldbus Device has a unique ID).
- A low severity level means a mismatch in device type or manufacturer, but also the absence of a specific block. The user must decide whether he has used the missing blocks before exchanging the device
- A high severity level means in addition the absence of specific parameters. The user must decide whether he has used the missing parameters or whether there is a work around before exchanging the device



Property/Button	Attribute/Subfolder	Function/Action
Toolbar	–	See Chapter 4.4 and mouse-over tip for function
Deviations pane	–	Shows blocks and parameters of exchange device with severity level of deviation: <ul style="list-style-type: none"> – Green: no deviation – Yellow: deviation of low severity, information will not be lost – Red: deviation of high severity, information must be converted or will be lost
Attributes pane	Attribute	Attribute under comparison together with severity icon <ul style="list-style-type: none"> – Use the "!" buttons to filter according to severity
	Current	Value of attribute of current device
	Alternative	Value of attribute in exchange device
	Severity	Severity level of deviation
OK	–	Close dialog and complete the exchange
Cancel	–	Close dialog and do not exchange
Help	–	Open the the corresponding online help page

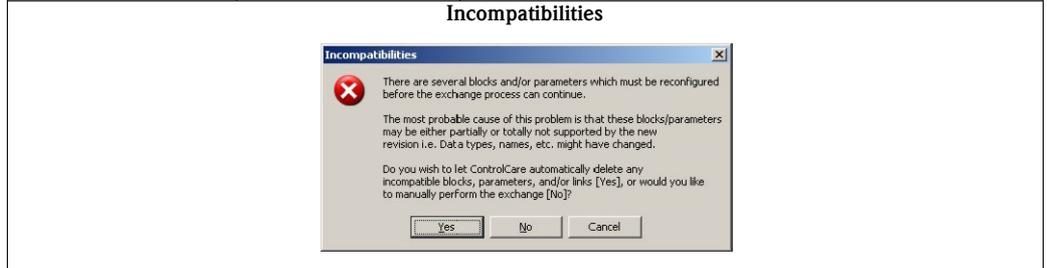
6.4.6 Exchange

Allows the off and online exchange of a bridge, a gateway or Foundation Fieldbus device in a project.

- Offline: devices of a different type can be selected and if necessary the control strategy modified and downloaded
- Online: the exchange would normally be for a device of the same type, and only the device ID and perhaps device revision need be changed.



Property/Button	Attribute/Subfolder	Function/Action
Exchange	Manufacturer	Select manufacturer from drop-down menu
	Device Type	Select device type from drop-down menu
	Device Revision	Follow the Latest DD and CF Revisions <ul style="list-style-type: none"> ■ Ticked: the latest version is shown by default ■ Unticked: select the various revisions from the drop-down menus
	Device ID	Selected from the drop-down menu after going online – Can be entered off-line if known
	Device Tag	Indicates device tag
	Device Class	Read only
OK	–	Close dialog and start the exchange <ul style="list-style-type: none"> ■ Application Design checks the compatibility of the current device and its replacement <ul style="list-style-type: none"> – No incompatibilities found: Press OK to close the dialog and when online start the download of the configuration. – Otherwise the Incompatibilities dialog appears, see below
Cancel	–	Close dialog and do not invoke exchange
Help	–	Open the the corresponding online help page



Property/Button	Attribute/Subfolder	Function/Action
Yes	–	Automatic exchange invoked <ul style="list-style-type: none"> – Any incompatibilities are remapped or if not possible deleted, otherwise as OK above
No	–	Incompatibilities resolved manually in Device Exchange Deviations dialog, see Chapters 4.4 and 6.4.5
Cancel	–	Close dialog and do not invoke exchange

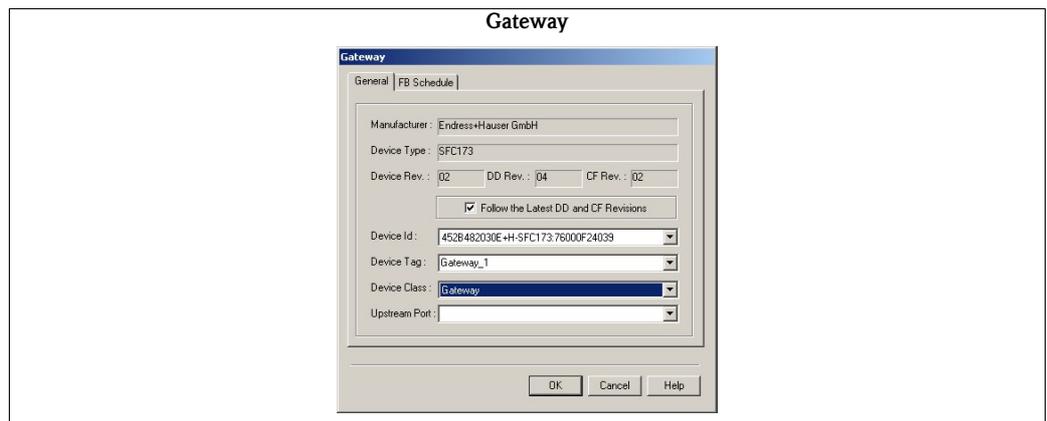
6.4.7 Fieldbus Attributes

Property/Button	Attribute/Subfolder	Function/Action
Type	–	Indicates type of fieldbus
Tag	–	Enter the Tag Name of the Fieldbus selected – Default: Fieldbus_n, where n is a consecutive number
Upstream Port	–	Indicates upstream port
Schedule	Macrocycle	When online, time to execute complete project <ul style="list-style-type: none"> ■ To impose a macrocycle: <ul style="list-style-type: none"> – Type in new value – Press Override to calculate fore- and background traffic ■ To return to default values: <ul style="list-style-type: none"> – Press the Default button ■ Call Download to download the new values to the system
	Foreground traffic	Time to complete function block execution process
	Background traffic	Time allocated to background traffic
	Override	Calculates fore- and background traffic for new macrocycle value
	Default	Restores the Schedule default values
OK	–	Close dialog and accept changes – If a new macrocycle has been set, make a Bridge download to implement the changes in the Field Controller
Cancel	–	Close dialog and discard changes
Help	–	Open the corresponding online help page

6.4.8 Fieldbus Live List

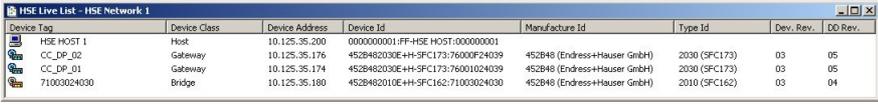
Property/Button	Attribute	Function/Action
Device Tag	–	Measuring point identification
Device Class	–	Device class as per FF specifications (Basic, Link, Bridge)
Device Address	–	Device IP address in hexadecimal notation
Device ID	–	Device ID as per FF specification (Manufacturer, Type, Serial No.)
Manufacturer ID	–	Manufacturer ID as per FF specification
Type ID	–	Type ID of device, where appropriate with device name
Dev. Rev.	–	Revision of device
DD Rev.	–	Revision of device description (DD)
Context Menu Device Tag	Assign Tag	Calls the Assign Tag dialog, see Chapter 5.9.2
	Configure Device Class	Calls the Device Class dialog, see Chapter 5.9.2
	Set H1 Address	Calls the Set Address dialog, see Chapter 5.9.2

6.4.9 Gateway Attributes



Property/Button	Attribute/Subfolder	Function/Action
General tab	Manufacturer	Shows manufacturer
	Device Type	Shows device type
	Device Revision	Shows device revision
	Device ID	Selected from the drop-down menu after going online – Can be entered off-line if known
	Device Tag	Enter tag name for gateway – If no name is entered, Gateway n is assigned, whereby n is a consecutive number
	Device Class	Gateway
	Upstream Port	Not used
	OK	Close dialog and create gateway
	Cancel	Close dialog and do not create gateway
Help	Open the the corresponding online help page	
FB Schedule Tab	Unscheduled Time	Time in ms allocated to unscheduled traffic <ul style="list-style-type: none"> ■ To impose a Unschedule Time: <ul style="list-style-type: none"> – Type in new value – Press Override to calculate Schedule Duration and FB Cycle Time – Download with FB Schedule Download... or Download
	FC Schedule Duration	Time calculated offline to complete function block execution process
	FC Cycle Time	Time calculated offline to execute complete project
	Override	Calculates Schedule Duration and Unscheduled Time for new FB Cycle Time
	Default	Restores the schedule default values – Download with FB Schedule Download... or Download
	OK	Close dialog and create bridge
	Cancel	Close dialog and do not create bridge
	Help	Open the the corresponding online help page

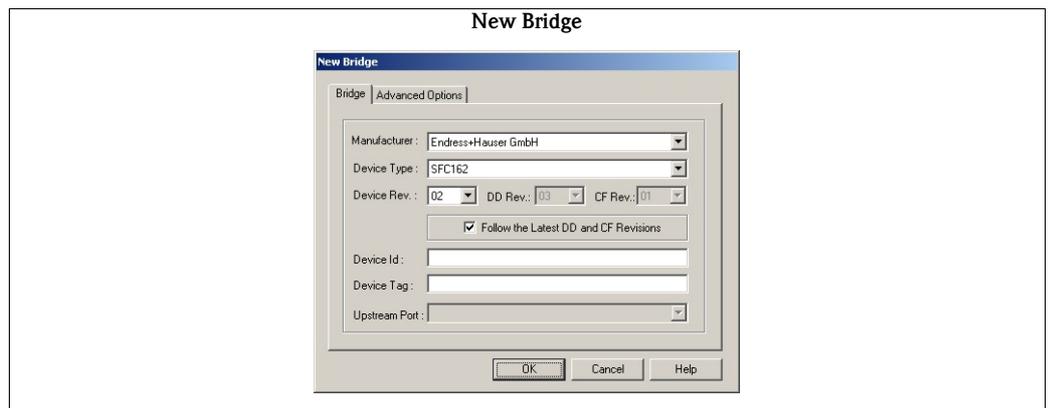
6.4.10 HSE Live List

HSE Live List																																															
 <table border="1"> <thead> <tr> <th>Device Tag</th> <th>Device Class</th> <th>Device Address</th> <th>Device Id</th> <th>Manufacture Id</th> <th>Type Id</th> <th>Dev. Rev.</th> <th>DD/Rev.</th> </tr> </thead> <tbody> <tr> <td>HSE_HOST_1</td> <td>Host</td> <td>10.125.35.200</td> <td>000000001-FF-HSE_HOST1-00000001</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>CC_DP_02</td> <td>Gateway</td> <td>10.125.35.176</td> <td>452B482030E++SFC173:76000F24039</td> <td>452B48 (Endress+Hauser GmbH)</td> <td>2030 (SFC173)</td> <td>03</td> <td>05</td> </tr> <tr> <td>CC_DP_01</td> <td>Gateway</td> <td>10.125.35.174</td> <td>452B482030E++SFC173:76001024039</td> <td>452B48 (Endress+Hauser GmbH)</td> <td>2030 (SFC173)</td> <td>03</td> <td>05</td> </tr> <tr> <td>71003024030</td> <td>Bridge</td> <td>10.125.35.180</td> <td>452B482010E++SFC162:71003024030</td> <td>452B48 (Endress+Hauser GmbH)</td> <td>2010 (SFC162)</td> <td>03</td> <td>04</td> </tr> </tbody> </table>								Device Tag	Device Class	Device Address	Device Id	Manufacture Id	Type Id	Dev. Rev.	DD/Rev.	HSE_HOST_1	Host	10.125.35.200	000000001-FF-HSE_HOST1-00000001					CC_DP_02	Gateway	10.125.35.176	452B482030E++SFC173:76000F24039	452B48 (Endress+Hauser GmbH)	2030 (SFC173)	03	05	CC_DP_01	Gateway	10.125.35.174	452B482030E++SFC173:76001024039	452B48 (Endress+Hauser GmbH)	2030 (SFC173)	03	05	71003024030	Bridge	10.125.35.180	452B482010E++SFC162:71003024030	452B48 (Endress+Hauser GmbH)	2010 (SFC162)	03	04
Device Tag	Device Class	Device Address	Device Id	Manufacture Id	Type Id	Dev. Rev.	DD/Rev.																																								
HSE_HOST_1	Host	10.125.35.200	000000001-FF-HSE_HOST1-00000001																																												
CC_DP_02	Gateway	10.125.35.176	452B482030E++SFC173:76000F24039	452B48 (Endress+Hauser GmbH)	2030 (SFC173)	03	05																																								
CC_DP_01	Gateway	10.125.35.174	452B482030E++SFC173:76001024039	452B48 (Endress+Hauser GmbH)	2030 (SFC173)	03	05																																								
71003024030	Bridge	10.125.35.180	452B482010E++SFC162:71003024030	452B48 (Endress+Hauser GmbH)	2010 (SFC162)	03	04																																								
Property/Button	Attribute	Function/Action																																													
Device Tag	–	Measuring point identification																																													
Device Class	–	Device class as per FF specifications (Basic, Link, Bridge)																																													
Device Address	–	Device address in hexadecimal notation																																													
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Manufacturer ID	–	Manufacturer ID as per FF specification																																													
Type ID	–	Type ID of device, where appropriate with device name																																													
Dev. Rev.	–	Revision of device																																													
DD Rev.	–	Revision of device description (DD)																																													
Context Menu Device Tag	Assign Tag	Calls the Assign Tag dialog , see Chapter 5.9.1																																													

6.4.11 Importing from PROFIBUS Database

Importing from PROFIBUS Database		
		
Property/Button	Attribute	Function/Action
Look in	–	Browse to folder in which project is to be found
File name	–	Enter name of project <ul style="list-style-type: none"> ■ A double-click on on the file located in look in fills this property
Files of type	–	Applies filter to file type: <ul style="list-style-type: none"> ■ PROFIBUS database: *.pb
Open	–	Open the selected file <ul style="list-style-type: none"> – Profibus Configurator is started automatically
Cancel	–	Close dialog without opening selected file

6.4.12 New Bridge



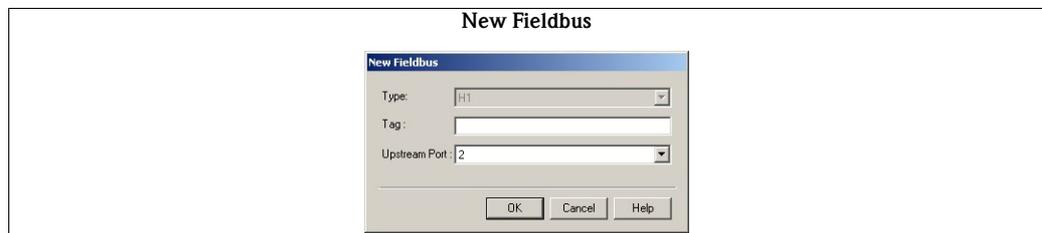
Property/Button	Attribute/Subfolder	Function/Action
Bridge	Manufacturer	Select manufacturer from drop-down menu
	Device Type	Select device type from drop-down menu
	Device Revision	Follow the Latest DD and CF Revisions <ul style="list-style-type: none"> ■ Ticked: the latest version is shown by default ■ Unticked: select the various revisions from the drop-down menus
	Device ID	Selected from the drop-down menu after going online <ul style="list-style-type: none"> – Can be entered off-line if known
	Device Tag	Enter tag name for bridge <ul style="list-style-type: none"> – If no name is entered, Bridge n is assigned, whereby n is a consecutive number
	Upstream Port	Not used
Advanced Options (Default settings as in Preferences)	... Default Template	Creates new bridge using default templates <ul style="list-style-type: none"> – Default setting, when selected the other options are grey – If no template found, creates Resource and Transducer block
	Create Resource Block	Create... Creates resource block MODE_BLK.TARGET Adds MODE_BLK.TARGET as selected from drop-down menu
	Create Transducer Block	Create... Creates transducer block MODE_BLK.TARGET Adds MODE_BLK.TARGET as selected from drop-down menu
OK	–	Close dialog and create bridge
Cancel	–	Close dialog and do not create bridge
Help	–	Open the the corresponding online help page

6.4.13 New Device



Property/Button	Attribute/Subfolder	Function/Action
Device	Manufacturer	Select manufacturer from drop-down menu
	Device Type	Select device type from drop-down menu
	Device Revision	Follow the Latest DD and CF Revisions <ul style="list-style-type: none"> ■ Ticked: the latest version is shown by default ■ Unticked: select the various revisions from the drop-down menus
	Device ID	Selected from the drop-down menu after going online <ul style="list-style-type: none"> – Can be entered off-line if known
	Device Tag	Enter tag name for device <ul style="list-style-type: none"> – If no name is entered, Device n is assigned, whereby n is a consecutive number
Advanced Options (Default settings as in Preferences)	... Default Template	Creates new device using default templates <ul style="list-style-type: none"> – Default setting, when selected the other options are grey – If no template found, creates Resource and Transducer block
	Create Resource Block	Create... Creates resource block MODE_BLK.TARGET Adds MODE_BLK_TARGET as selected from drop-down menu
	Create Transducer Block	Create.... Creates transducer block MODE_BLK.TARGET Adds MODE_BLK.TARGET as selected from drop-down menu
OK	–	Close dialog and create device
Cancel	–	Close dialog and do not create device
Help	–	Open the the corresponding online help page

6.4.14 New Fieldbus



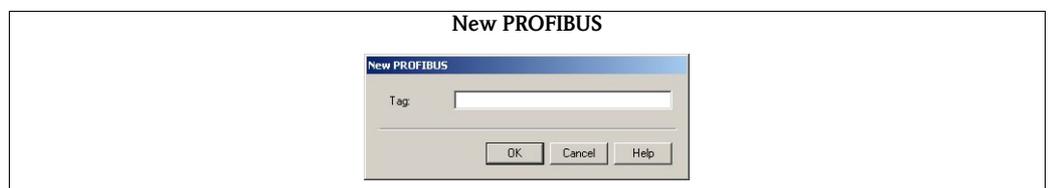
Property/Button	Attribute/Subfolder	Function/Action
Type	–	Indicates the type of Fieldbus (FOUNDATION Fieldbus H1)
Tag	–	Enter tag name for fieldbus <ul style="list-style-type: none"> If no name is entered, Fieldbus_n is assigned, whereby n is a consecutive number
Upstream Port	–	Enter fieldbus port number (1, 2, 3 or 4)
OK	–	Close dialog and create bridge
Cancel	–	Close dialog and do not create bridge
Help	–	Open the the corresponding online help page

6.4.15 New Gateway



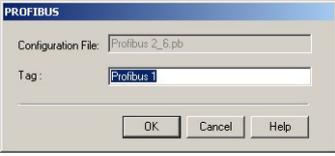
Property/Button	Attribute/Subfolder	Function/Action
Gateway	Manufacturer	Select manufacturer from drop-down menu
	Device Type	Select device type from drop-down menu
	Device Revision	Follow the Latest DD and CF Revisions <ul style="list-style-type: none"> ■ Ticked: the latest version is shown by default ■ Unticked: select the various revisions from the drop-down menus
	Device ID	Selected from the drop-down menu after going online <ul style="list-style-type: none"> – Can be entered off-line if known
	Device Tag	Enter tag name for gateway <ul style="list-style-type: none"> – If no name is entered, Gateway n is assigned, whereby n is a consecutive number
	Upstream Port	Not used
Advanced Options (Default settings as in Preferences)	... Default Template	Creates new gateway using default templates <ul style="list-style-type: none"> – Default setting, when selected the other options are grey – If no template found, creates Resource and Transducer block
	Create Resource Block	Create... <ul style="list-style-type: none"> Creates resource block MODE_BLK.TARGET Adds MODE_BLK.TARGET as selected from drop-down menu
	Create Transducer Block	Create... <ul style="list-style-type: none"> Creates transducer block MODE_BLK.TARGET Adds MODE_BLK.TARGET as selected from drop-down menu
OK	–	Close dialog and create gateway
Cancel	–	Close dialog and do not create gateway
Help	–	Open the the corresponding online help page

6.4.16 New PROFIBUS



Property/Button	Attribute/Subfolder	Function/Action
Tag	–	Enter tag name for PROFIBUS <ul style="list-style-type: none"> – If no name is entered, Profibus_n is assigned, whereby n is a consecutive number
OK	–	Close dialog and open Profibus Configurator
Cancel	–	Close dialog and do not create Profibus
Help	–	Open the the corresponding online help page

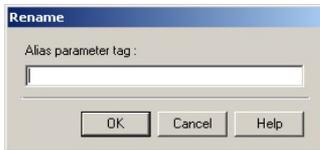
6.4.17 PROFIBUS Attributes

Property/Button	Attribute/Subfolder	Function/Action
		
Configuration File	–	Shows configuration file name
Tag	–	Enter tag name for PROFIBUS – If no name is entered, Profibus_n is assigned, whereby n is a consecutive number
OK	–	Close dialog and create new Profibus network
Cancel	–	Close dialog and do not create new Profibus network
Help	–	Open the the corresponding online help page

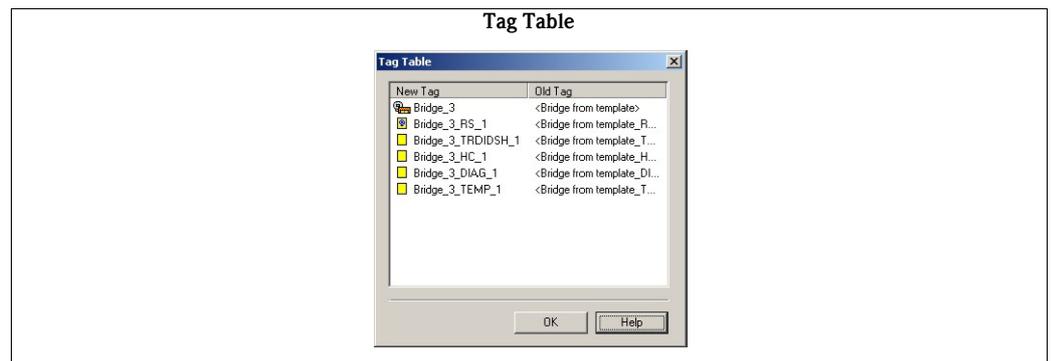
6.4.18 Profibus Live List

Property/Button	Attribute	Function/Action
		
Device Tag	–	Measuring point identification
Device Class	–	Device class as per FF specifications (Basic, Link, Bridge)
Device Address	–	Device address in decimal and hexadecimal notation
Device ID	–	Device ID as per FF specification (Manufacturer, Type, Serial No.)
Manufacturer ID	–	Manufacturer ID as per FF specification
Type ID	–	Type ID of device, where appropriate with device name
Dev. Rev.	–	Revision of device
DD Rev.	–	Revision of device description (DD)

6.4.19 Rename

Property/Button	Attribute/Subfolder	Function/Action
		
Alias parameter tag	–	Enter the alias name for the selected link label or parameter
Yes	–	Close dialog and remove link completely from the application
No	–	Close dialog and hide the link in the Control Module window only – The link can be shown with "Show Hidden Links"
Cancel	–	Close the dialog and do not delete the link

6.4.20 Tag Table



Property/Button	Attribute/Subfolder	Function/Action
Tag Table	–	Shows list of tags for device, bridge or strategy that will be imported into the project <ul style="list-style-type: none"> ■ To rename: <ul style="list-style-type: none"> – Right-click on tag and click on Rename – Rename tag and press Enter
OK	–	Close dialog and import template into the project
Help	–	Open the corresponding online help page

6.5 PROFIBUS Configurator

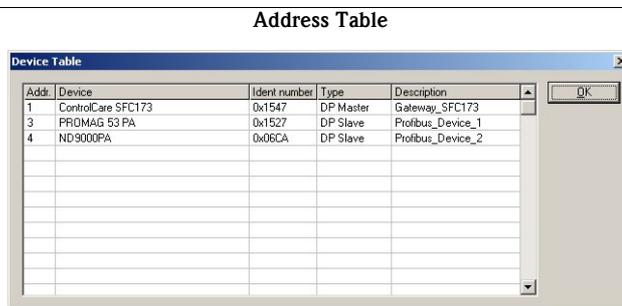
PROFIBUS Configurator is invoked when the context menus **New Profibus...** is called from the **Gateway** node in the Project window or **Modify PROFIBUS Configuration** is called from the **Profibus** node in the Profibus window.

PROFIBUS Configurator is used to configure the bus parameters of the PROFIBUS Field Controller SFC173 as well as the slave addresses and cyclic communication parameters of the PROFIBUS slaves. The resulting configuration is mapped into function blocks, which can be used to build control strategies in Application Designer.

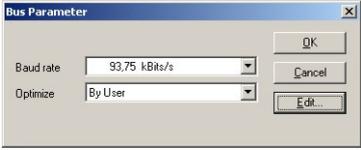
The use of PROFIBUS Configurator is described in the Application Designer PROFIBUS Tutorial, BA036S/04/en. This chapter restricts itself to a brief description of the most important program dialogs.

6.5.1 Address Table

Property/Button	Attribute/Subfolder	Function/Action
Address Table		
	Address	PROFIBUS DP address assigned to device in project – A double-click opens the corresponding Slave Configuration dialog
	Slot	Slot number of device parameter
	Index	Index of device parameter
	Device	Device name (from device description)
	Module	Cyclic communication data module
	Symbol name	Symbolic name of module
	I type	Type of input data
	I address	Address offset of input data module
	I length	Length of input data module
	O type	Type of output data
	O address	Address offset of output data module
	O length	Length of output data module
Sort Station	–	Sorts information according to station address
Sort Data	–	Sorts information according to data module address
Address Overview	–	Calls Address Overview dialog with details of data addresses used in the input and output process images
OK	–	Closes dialog

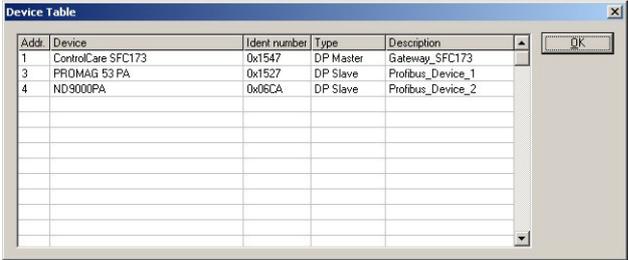


6.5.2 Bus Parameter



Property/Button	Attribute/Subfolder	Function/Action
Baudrate	–	Select DP baudrate from dropdown menu
Optimize	Standard	Sets standard bus parameters for P+F SK2 power link
	By User	Allows bus parameters to be set individually – Required for SK1, Siemens coupler, applications with Class 2 Master etc.
Edit	–	Opens Edit Bus Parameters dialog for parameter viewing and editing
OK	–	Closes dialog and saves changes
Cancel	–	Closes dialog and discards changes

6.5.3 Device Table



Property/Button	Attribute/Subfolder	Function/Action
Device Table	Address	PROFIBUS DP address assigned to device in project – A double-click opens the corresponding Slave Configuration or Master Configuration dialog
	Device	Device name (from device description)
	Ident Number	PROFIBUS identity number – Use this to open the device GSD file in GSD Viewer
	Type	Role of device on bus (master or slave)
	Description	Tag assigned to the device in project
OK	–	Closes dialog

6.5.4 DP Master Settings

The Master Settings are preconfigured for the Field Controller SFC173 when PROFIBUS Configurator is invoked from Application Designer.

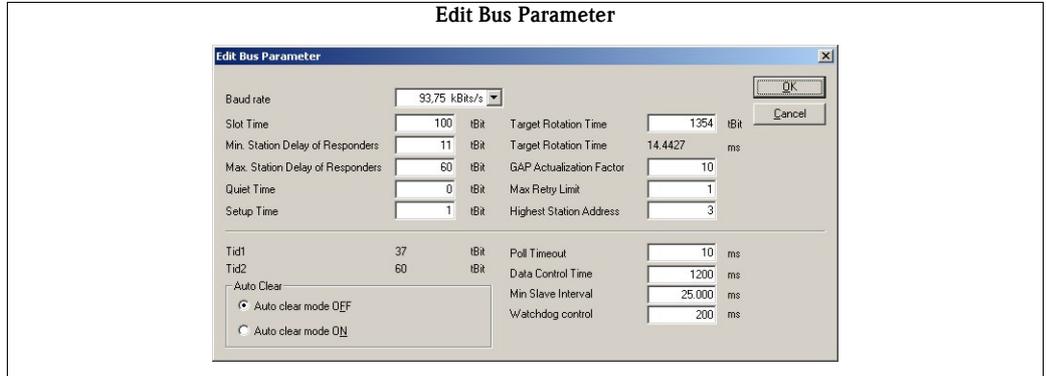
Property/Button	Attribute/Subfolder	Function/Action
Parameter to user interface	Start-up behaviour	Sets how communication is started up (use default value)
	User program monitoring	Sets Watchdog time (use default value)
Parameter to process data interface	Addressing mode	Sets master addressing format
	Storage format	Sets master storage format
	Handshake	Sets master handshake format
Hardware		Sets master memory type
OK	–	Closes dialog and saves changes
Cancel	–	Closes dialog and discards changes

6.5.5 DPV1 Extended Settings

Property/Button	Attribute/Subfolder	Function/Action
Additional Slave Functions	Cyclic Connection	
	Fail Safe Support	
	Auto Clear	
	Diagnostic Update Display	
DPV1 Activated		Activates DPV 1 alarming function (not supported by SFC173) – Check that this box is not ticked
...		Greyed when DPV1 Activated not ticked
OK	–	Closes dialog and saves changes
Cancel	–	Closes dialog and discards changes

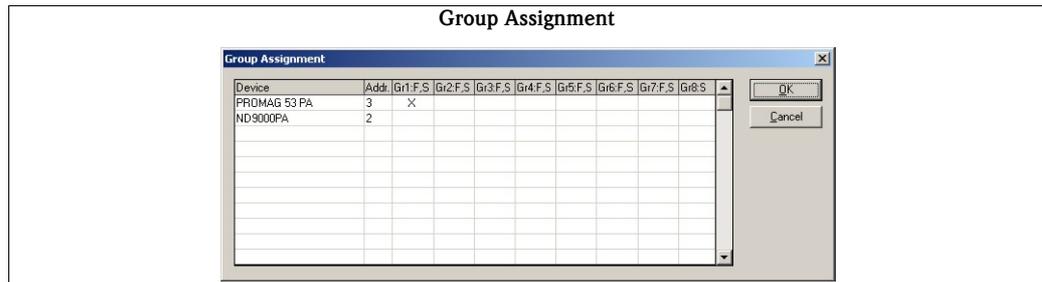
6.5.6 Edit Bus Parameter

PROFIBUS parameters are usually dictated by the coupler or linking device used and are to be found in the corresponding device instructions. PROFIBUS Configurator is programmed to offer the standard settings for the Pepperl+Fuchs SK2 power link that are recommended for the set baudrate. These parameters must be optimized if additional masters, e.g. a Class 2 master such as FieldCare through Fieldgate FXA720, are to be found on the bus, or another coupler/link is used.



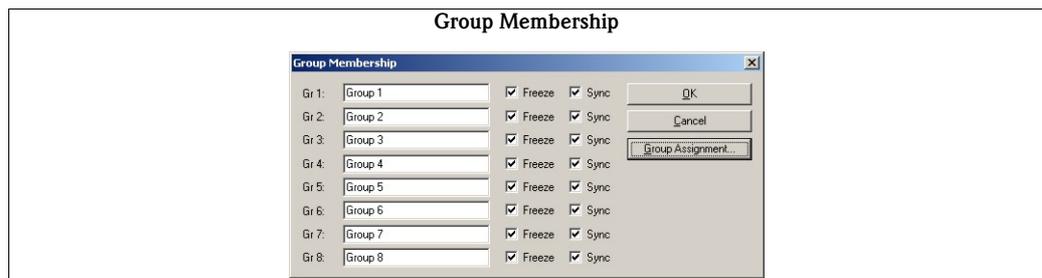
Property/Button	Attribute/Subfolder	Function/Action
Baudrate		Select DP baudrate from dropdown menu – Parameters automatically adjust to corresponding SK2 values
Slot time		Use value recommended by Coupler/Link manufacturer
Min. Station Delay		Use value recommended by Coupler/Link manufacturer
Max. Station Delay		Use value recommended by Coupler/Link manufacturer
Quiet Time		Use value recommended by Coupler/Link manufacturer
Setup Time		Use value recommended by Coupler/Link manufacturer
Target Rotation Time		Use value recommended by Coupler/Link manufacturer – For applications with Class 2 master add 1000 bit times – The value in milliseconds is shown below
GAP Actualization Factor		Use value recommended by Coupler/Link manufacturer
Max Retry Limit		Use value recommended by Coupler/Link manufacturer
Highest Station Address		Enter highest address used by a master (or use default value) – Ensure that masters are assigned the lowest possible addresses
Tid1 /Tid2		Displays
Auto Clear		Default Off
Poll Timeout		Use value recommended by Coupler/Link manufacturer
Data Control Time		Use value recommended by Coupler/Link manufacturer
Min Slave Interval		Use value recommended by Coupler/Link manufacturer
Watchdog Control		Use value recommended by Coupler/Link manufacturer
OK	–	Closes dialog and saves changes
Cancel	–	Closes dialog and discards changes

6.5.7 Group Assignment



Property/Button	Attribute/Subfolder	Function/Action
Group Assignment	Device	Lists devices on PROFIBUS DP segment
	Address	Displays device address
	GrN:F, S	Click to add device to selected group – Devices not supporting function cannot be assigned to a group
OK	–	Closes dialog and saves changes
Cancel	–	Closes dialog and discards changes

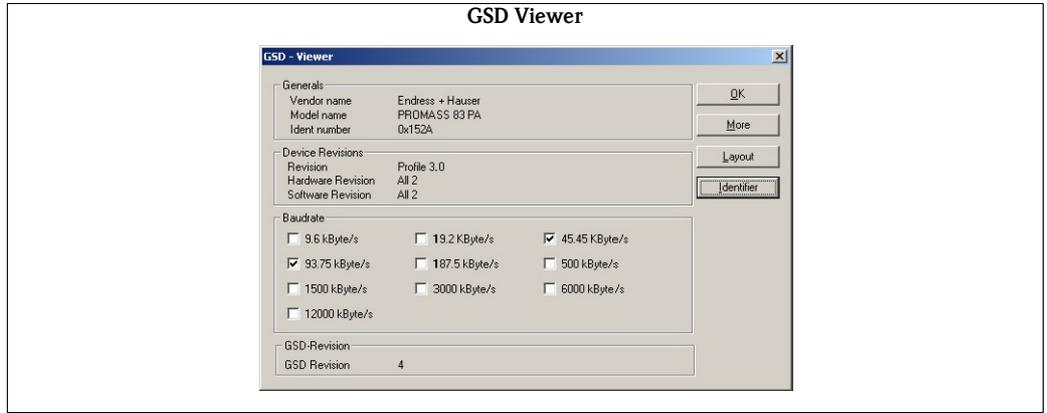
6.5.8 Group Membership



Property/Button	Attribute/Subfolder	Function/Action
Group n	Name	Enter Group name
	Freeze	Tick if Freeze to be used
	Sync	Always used
Group Assignment	–	Calls Group Assignment dialog
OK	–	Closes dialog and saves changes
Cancel	–	Closes dialog and discards changes

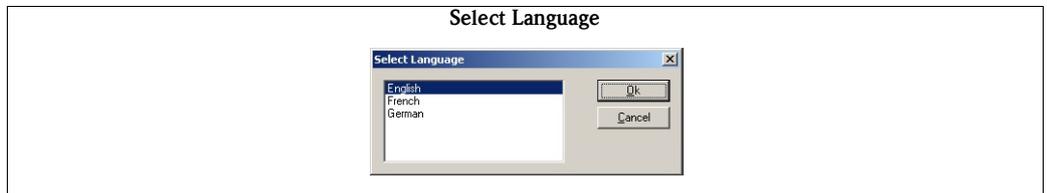
6.5.9 GSD Viewer

GSD Viewer is called from the Tools menu of PROFIBUS Configurator. The GSD files are named according to their PROFIBUS identifier.



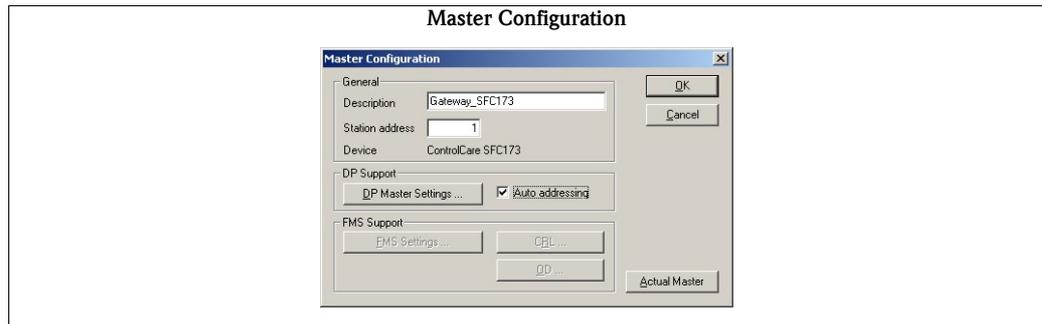
Property/Button	Attribute/Subfolder	Function/Action
General	Vendor name Model name Ident No	General information on manufacturer and device
Device Revision	Revision Hardware revision Software revision	Information on device revision for which the GSD file is valid
Baudrate	–	Shows baudrates supported by the device. For PA devices: – 45.45 kB/s means Siemens coupler support – 93.75 kB/s means P+F SK1 support – Separate GSD files exist for P+F SK2 support
GSD Revision		GSD Revision
More	I/O data	Information on maximum length of I/O data
	User parameter data	Information on user parameter data
	OK	Returns to main dialog
Layout	Device Bitmaps	Shows appearance of device bitmaps in various operational phases
	OK	Returns to main dialog
Identifier	Identification bytes	Indicates modules available for data transfer with length and identifiers
	OK	Returns to main dialog
OK	–	Closes viewer

6.5.10 Select Language



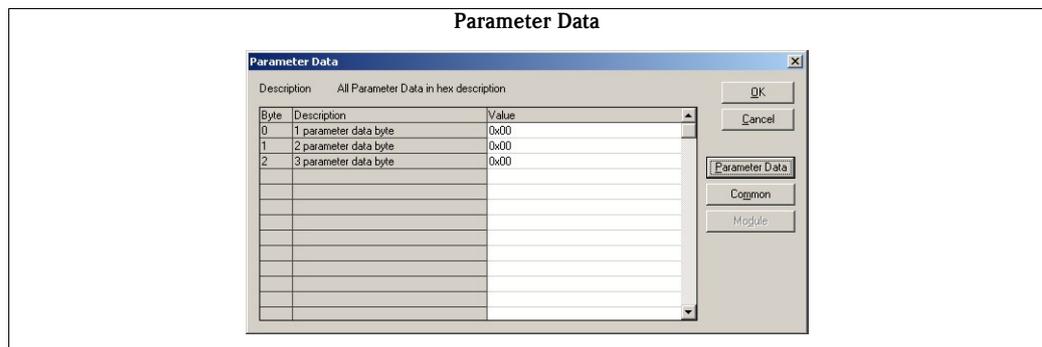
Property/Button	Attribute/Subfolder	Function/Action
Select Language	...	Select language
OK	–	Closes dialog and saves change – A message informs you that the change is only effective after the program has been restarted
Cancel		Closes dialog and discards change

6.5.11 Master Configuration



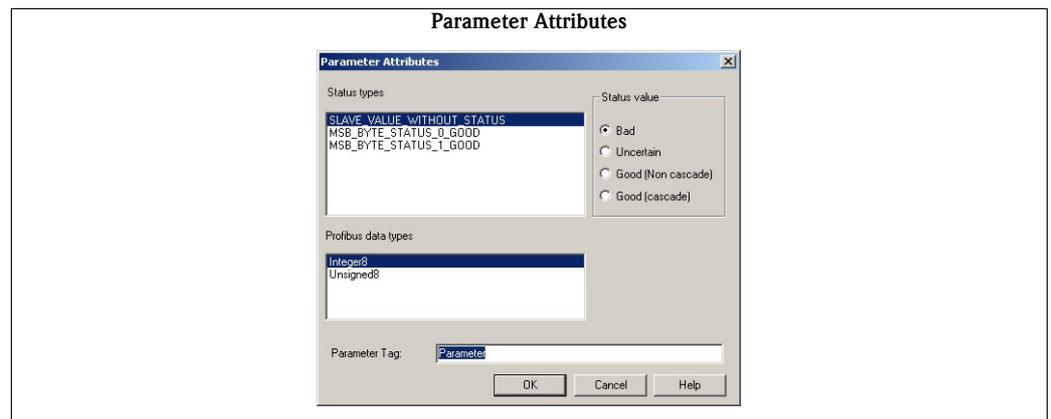
Property/Button	Attribute/Subfolder	Function/Action
General	Description	Enter Tag name (spaces are not allowed)
	Station address	Enter PROFIBUS DP address (SFC173 default = 1)
	Device	Device name
DP Support	Master Settings	Calls Master Settings dialog
	Auto addressing	When ticked, automatically calculates slave address offsets
FMS Support	–	Not used for Field Controller SFC173
Actual Master	–	Press to apply settings to current master
OK	–	Closes dialog and saves changes
Cancel	–	Closes dialog and discards changes

6.5.12 Parameter Data



Property/Button	Attribute/Subfolder	Function/Action
Parameter Data	Byte	Byte number
	Description	Description of parameter
	Value	Value of parameter – A double-click on the value allows it to be changed
Common	–	Displays data common to slave device – Must be configured for remote I/Os
OK	–	Closes dialog and saves changes
Cancel	–	Closes dialog and discards changes

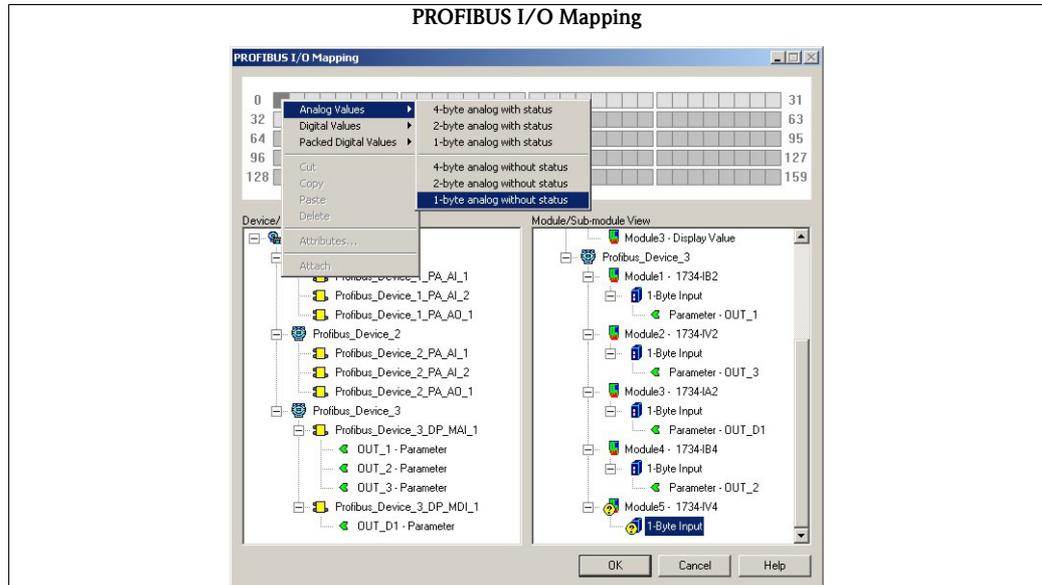
6.5.13 Parameter Attributes



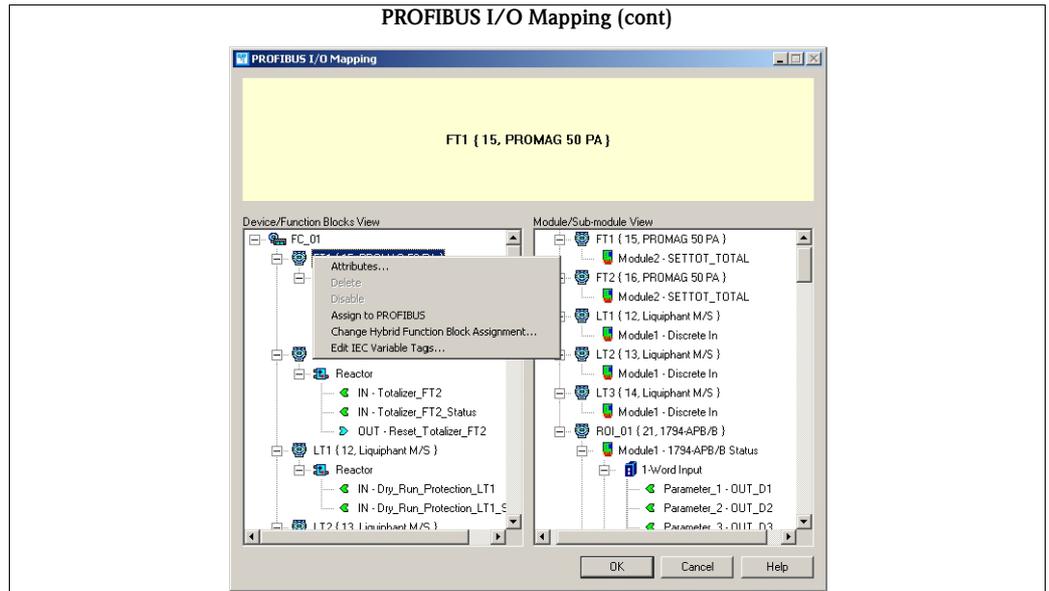
Property/Button	Attribute/Subfolder	Function/Action
Status types	–	Select status type for input data – For input with status, select Standard PA – For input without status, select an option
Status Value	–	For status type "Slave without Status" select staus value
Profibus Data Type	–	Enter the data type as per manufacturer's instructions
Parameter Tag	–	Enter a tag for the parameter
OK	–	Close dialog and saves changes
Cancel	–	Close dialog and discards changes
Help	–	Open the corresponding online help page

6.5.14 PROFIBUS I/O Mapping

For further information see Application Designer: Profibus Tutorial, BA036S/04/en or press **Help**.

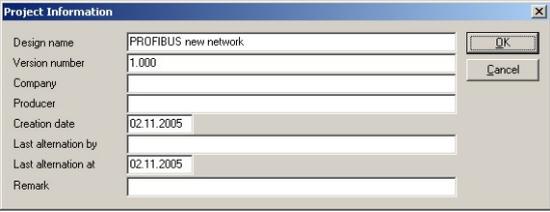


Property/Button	Attribute/Subfolder	Function/Action
PROFIBUS I/O Mapping	Telegram	Select input node (with "?") to display (empty) telegram bytes – PROFIBUS PA devices and some PROFIBUS DP devices are preconfigured, and the telegram is not displayed
	Byte => Analog Values	Select type of output as per manufacturer's instructions <ul style="list-style-type: none"> ■ 4-byte analog with status ■ 2-byte analog with status ■ 1-byte analog with status ■ 4-byte analog without status ■ 2-byte analog without status ■ 1-byte analog without status Node Parameter_OUT_1 is added to the tree
	Byte => Digital Values	Select type of output as per manufacturer's instructions <ul style="list-style-type: none"> ■ Digital with status ■ Digital without status Node Parameter_OUT_D1 is added to the tree
	Byte => Packed Digital Values	Select type of output as per manufacturer's instructions <ul style="list-style-type: none"> ■ Packed digital with status ■ packed digital without status Nodes Parameter_OUT_D1 to OUT_D8 are added to the tree
	Byte => Cut	Deletes the selected byte(s) and pastes them to the clipboard
	Byte => Copy	Copies the selected byte(s) to the clipboard
	Byte => Paste	Pastes the selected byte(s) at the selected position
	Byte => Delete	Deletes the selected byte(s)
	Byte => Attributes	Opens the Parameter Attributes dialog for the Parameter node
	Byte => Detach/Attach	Detach: Allows the status byte to be dragged to a different position Attach: Attaches the status byte to the data byte

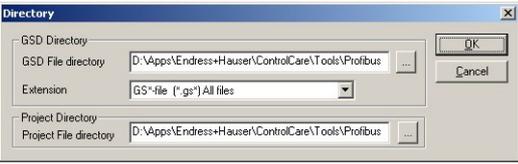


Property/Button	Attribute/Subfolder	Function/Action
Device/Function Block View	Pane	Shows Profibus with mapping to function blocks
	Attributes	Allows attributes of selected object to be viewed/changed <ul style="list-style-type: none"> ■ For device node, shows attributes of device ■ For parameter node, opens Parameter Attributes dialogue <ul style="list-style-type: none"> – Change the status byte (for outputs) and parameter name as required
	Delete	For non-standard mappings, allows a wrongly mapped parameter to be deleted <ul style="list-style-type: none"> – The parameter must then be remapped
	Disable/Enable	Allows unused bits in a packed byte to be disabled/enabled <ul style="list-style-type: none"> – Right click on the parameter assigned to the bit to be disabled – Select disabled: the parameter is greyed – Disabled parameters are not mapped to the function blocks
	Assign to PROFIBUS	For a device node with parameters already assigned to a hybrid block, reassigns the parameters to PROFIBUS
	Assign all devices to Hybrid function block	Opens the Assign to Hybrid Block dialog from the controller node <ul style="list-style-type: none"> – Select the desired function block displayed and press OK – To create a new hybrid function block enter a name in Ad... field then press Add HBF – The I/Os of all devices in the list are assigned to the HFB
	Assign device to Hybrid function block	Opens the Assign to Hybrid Block dialog from a device node <ul style="list-style-type: none"> – See above: the I/Os of the device are assigned to the HFB
	Change Hybrid Function Block assignment	Opens the Assign to Hybrid Block dialog from a device node <ul style="list-style-type: none"> – See above: the I/Os of the device are assigned to the HFB
	Edit IEC variable tags	Opens up the IEC Variables dialog for a device or controller (all) <ul style="list-style-type: none"> – Type or copy and paste the required aliases – Press OK to quit the dialog and register the changes
Module/Submodule View	Pane	Shows Profibus with cyclic data configuration <ul style="list-style-type: none"> – A question mark means that the module must be manually configured in the PROFIBUS I/O Mapping space – When the module is selected an empty telegram appears
	Attributes	Allows attributes of selected object to be viewed/changed <ul style="list-style-type: none"> ■ For device node, shows attributes of device ■ For parameter node, opens Parameter Attributes dialogue <ul style="list-style-type: none"> – Allows status byte (for outputs) and parameter name to be configured
	Delete	For non-standard mappings, allows a wrongly mapped parameter to be deleted <ul style="list-style-type: none"> – The parameter must then be remapped
	Disable/Enable	Allows unused bits in a packed byte to be disabled/enabled <ul style="list-style-type: none"> – Right click on the parameter assigned to the bit to be disabled – Select disabled: the parameter is greyed – Disabled parameters are not mapped to the function blocks

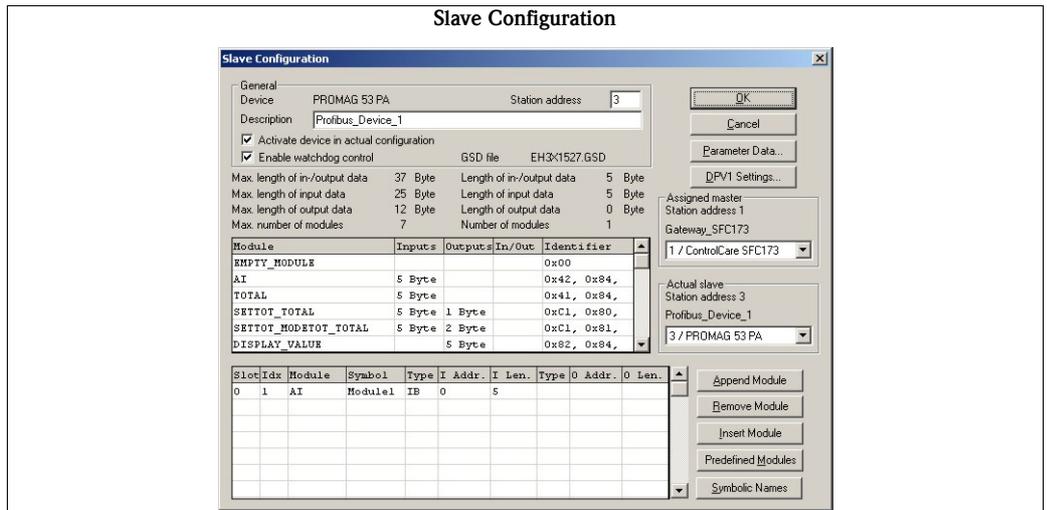
6.5.15 Project Information

Project Information		
		
Property/Button	Attribute/Subfolder	Function/Action
Project Information	Fill out the appropriate information
OK	–	Closes dialog and saves changes
Cancel	–	Closes dialog and discards changes

6.5.16 Path

Path		
		
Property/Button	Attribute/Subfolder	Function/Action
GSD Directory	GSD File Directory	Default path for GSD files (set for Application Designer)
	...	Browse to another directory
	Extension	GSD extension – Use drop-down menu to filter language version files
Project Directory	Project File Directory	Default path for Project files (set for Application Designer)
	...	Browse to another directory
OK	–	Closes dialog and saves changes
Cancel	–	Closes dialog and discards changes

6.5.17 Slave Configuration



Property/Button	Attribute/Subfolder	Function/Action
General	Device	Displays device name
	Station address	Enter PROFIBUS DP address of slave
	Description	Enter Tag name, spaces not allowed (use underscores)
	Activate device...	When ticked, activates device with current configuration
	Enable Watchdog...l	When ticked, enables watchdog
	GSD file	Displays GSD file name (display contents with GSD Viewer)
Input/Output Data	Displays input/output data information
Data Modules	Displays data modules available for cyclic communication
Cyclic Data List	Append Module	Appends selected module to cyclic data list
	Remove Module	Removes selected module from cyclic data list: click "Module"
	Insert Module	Inserts selected module above selected list position: click "Module"
	Predefined Modules	Inserts a predefined modules in the list – Browse to and select the file in the Open dialog – Press Open to insert the modules
	Symbolic Names	Opens input tag editor: not required for ControlCare
Assigned Master	–	Master to which the slave is assigned
Actual slave	–	Slave for which the settings apply
Parameter Data	–	Opens Parameter Data dialog – Required for Remote I/O only
DPV1 Settings	–	Opens DPV1 Extended Settings dialog – Check that box DPV1 Activated is not ticked
OK	–	Closes dialog and saves changes
Cancel	–	Closes dialog and discards changes

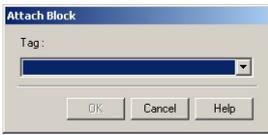
6.6 Function blocks

6.6.1 Attach Block

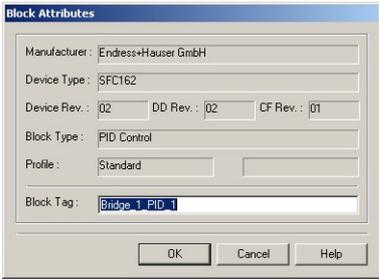
The Attach Block dialog has two used cases:

- Attaches a device function block from the HSE Network, Fieldbus or Profibus window to the Control Module node in the Process Cell window **or**
- Attaches a function block from a Control Module node in the Process Cell window to a FB VFD node in the HSE Network, Fieldbus or Profibus (Gateway only) window: the question mark in the block disappears and the name changes in accordance with the tag policy.

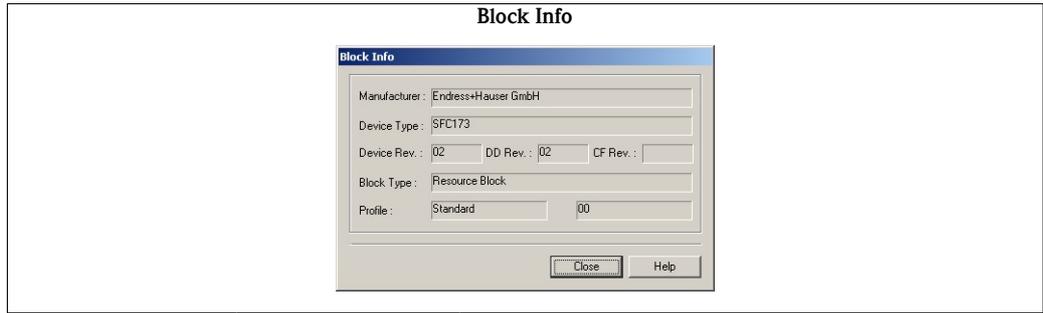
Blocks can also be attached by drag&drop from one node to the other, or from a device, bridge or gateway node to the Control Module window and vice versa.

Attach Block		
		
Property/Button	Attribute/Subfolder	Function/Action
Tag	–	Select the block to be attached from the drop-down menu
OK	–	Close dialog and attach new block
Cancel	–	Close dialog without attaching new block
Help	–	Open the the corresponding online help page

6.6.2 Block Attributes

Block Attributes		
		
Property/Button	Attribute/Subfolder	Function/Action
Manufacturer	–	Shows manufacturer of device
Device Type	–	Shows device type
Device Revision	–	Shows the DD and CF revisions of the device
Block Type	–	Shows the block type
Profile	–	Shows the profile (if any) associated with the block
Block Tag	–	Change the Block Tag
OK	–	Close the dialog and accept changes
Cancel	–	Close the dialog and discard changes
Help	–	Open the the corresponding online help page

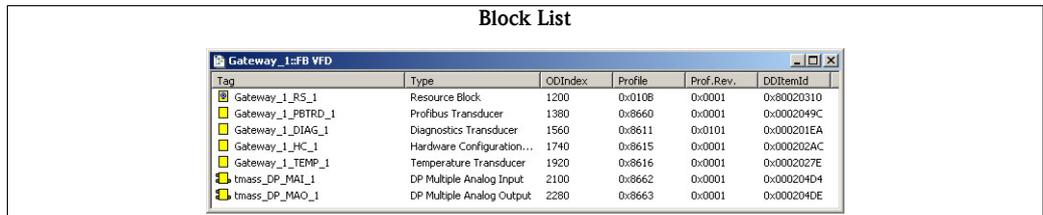
6.6.3 Block Info



Property/Button	Attribute/Subfolder	Function/Action
Manufacturer	–	Shows manufacturer of device
Device Type	–	Shows device type
Device Revision	–	Shows the DD and CF revisions of the device
Block Type	–	Shows the block type
Profile	–	Shows the profile (if any) associated with the block
Close	–	Close the dialog
Help	–	Open the the corresponding online help page

6.6.4 Block List

Right-click the block icon on the Block List dialog to activate the context menu

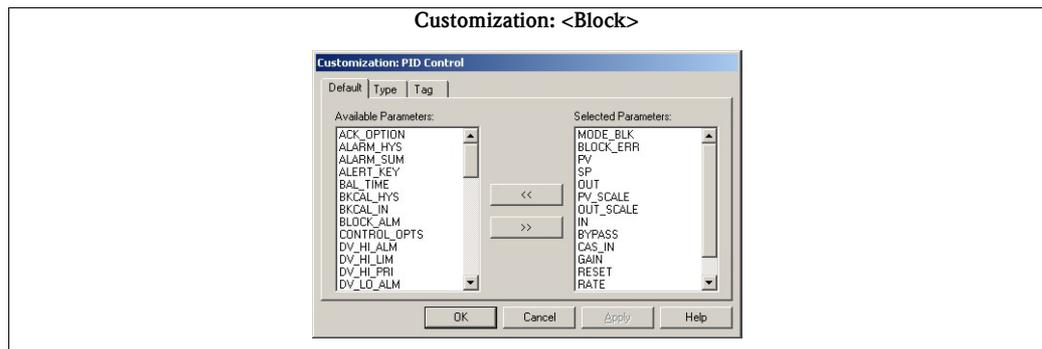


Property/Button	Attribute/Subfolder	Function/Action
Block List	Tag Type ODIndex Profile Profile Revision DDItemID	Shows characteristics of the blocks attached to the device, bridge or gateway. – The blocks are executed in the order in the list – The order can be changed by detaching and reattaching the blocks
Assign Tag	–	For field devices, assign the tag entered in the dialog to the block – Press OK to confirm the changes
Attributes	–	Display the block attributes
Characterization	–	Open the On Line Characterization dialog and displays the online values of the parameters.
Upload Block	–	Upload the block for the selected device.

6.6.5 Customization: <Block>

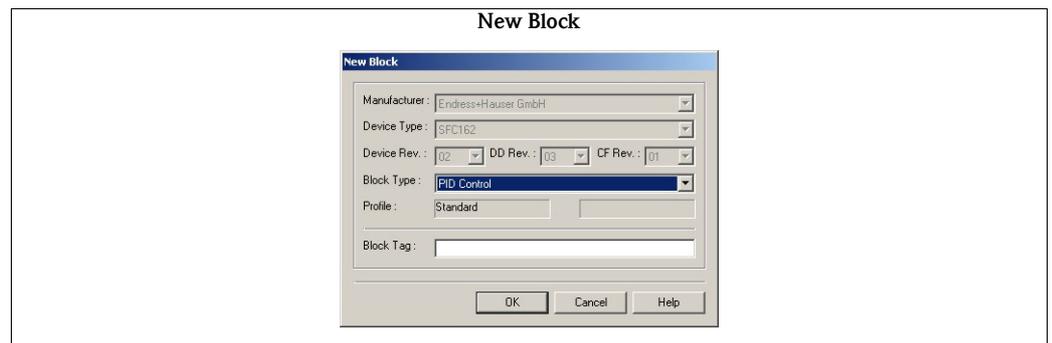
The Customization <Block> dialog allows the customization of the parameters presented by the Characterization buttons DEF(ault), TYPE and TAG. These buttons act as filters showing a specific set of parameters with a particular area of validity:

- DEF is predefined by Application Designer on the basis of the parameters usually required for characterization and online monitoring for the particular block type, but can be customized, if required. A change affects all projects opened with this configuration.
- TYPE can be used to define a set of parameters valid for a particular block type. A change affects the current project only.
- TAG can be used to define a set of parameters valid for the selected block only. A change affects the current tag only.



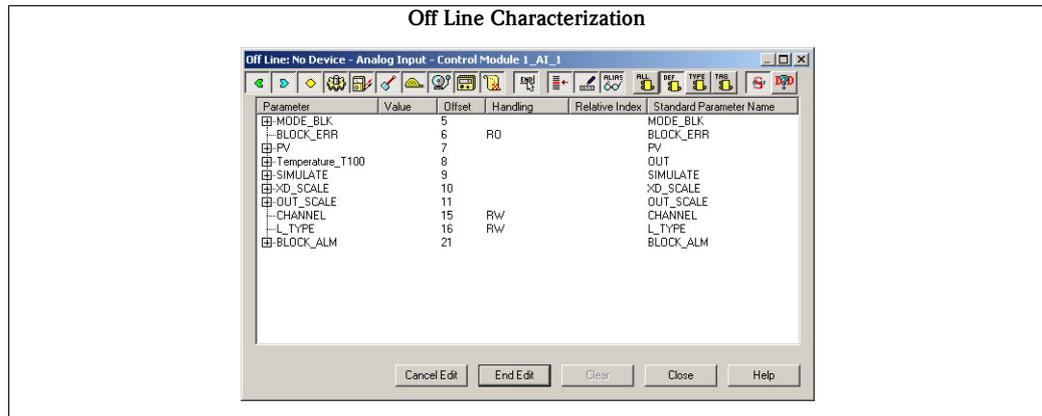
Property/Button	Attribute/Subfolder	Function/Action
Default	–	Select parameters to be displayed with the DEF button in the Off Line Characterization and On Line Characterization dialogs
Type	–	Select parameters to be displayed with the TYPE button in the Off Line Characterization and On Line Characterization dialogs
Tag	–	Select parameters to be displayed with the TAG button in the Off Line Characterization and On Line Characterization dialogs
>>	–	Move selected parameter(s) from the Available to the Selected parameter windows
<<	–	Remove selected parameter(s) from the Selected to the Available parameter windows
OK	–	Close the dialog and apply the changes
Cancel	–	Close the dialog and discard any changes
Apply	–	Apply the changes
Help	–	Open the the corresponding online help page

6.6.6 New Block



Property/Button	Attribute/Subfolder	Function/Action
Manufacturer	–	Shows manufacturer of device
Device Type	–	Shows device type
Device Revision	–	Shows the DD and CF revisions of the device
Block Type	–	Select a block type from the drop-down menu
Profile	–	Shows the profile (if any) associated with the block
Block Tag	–	Enter tag name for block – If no tag is entered, the Block is created with its generic tag according to the settings of the Block Preferences, Chapter 3.1.6
OK	–	Close dialog and create new block
Cancel	–	Close dialog without creating new block
Help	–	Open the the corresponding online help page

6.6.7 Off Line Characterization

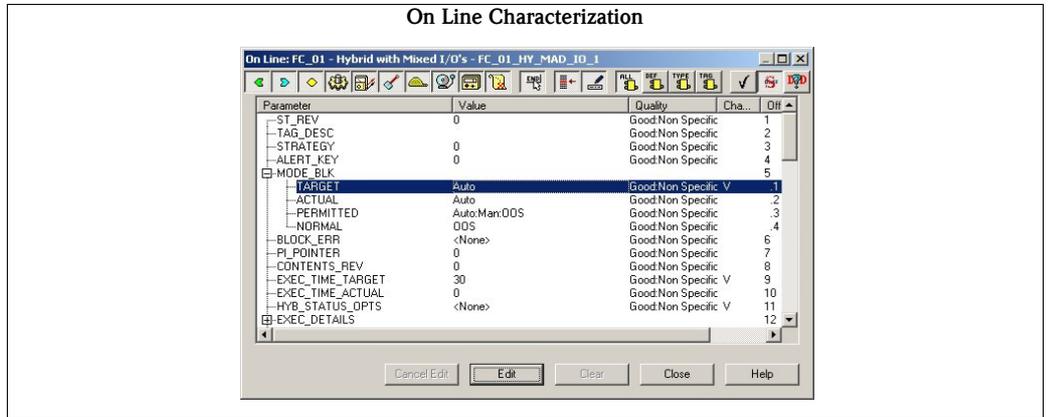


Property/Button	Attribute/Subfolder	Function/Action
Toolbar	–	See Chapter 4.3
Off Line Characterization	Parameter	<p>Displays the parameter</p> <ul style="list-style-type: none"> – Click on "+" to expand the parameter tree – Click on "-" to contract the parameter tree <p>When the alias function is activated in Preferences, see Chapter 6.2, a parameter name can be changed as follows:</p> <ul style="list-style-type: none"> – Select the parameter – Right-click on the parameter name – Enter the alias name – Press End Edit to register the change
	Value	<p>Displays the current parameter value</p> <ul style="list-style-type: none"> – Double click on the "Value" space or press Edit to change – Enter the parameter or select it from the drop-down menu – Press End Edit or Enter to save the change
	Offset	Displays the offset from the parameter address
	Handling	Displays parameter type: RO = read-only, RW = read-write
	Relative index	Displays the relative index of the parameter when the column is not hidden
	Standard Parameter Name	Displays the name of the standard parameter when the column is not hidden
Cancel Edit	–	Cancel the current edit process
Edit	–	Open the parameter for editing
End Edit	–	Confirm the current edit
Clear	–	Clear the entry from the value space
Close	–	Close the dialog
Help	–	Open the the corresponding online help page

6.6.8 On Line Characterization

In general, MODE_BLK.TARGET must be set to OOS (Out of Service) before a parameter can be changed online. After the changes, MODE_BLK.TARGET is reset to its original value.

There are exceptions to this rule, however, for specific operational parameters, e.g. the setpoint SP of a PID block.



Property/Button	Attribute/Subfolder	Function/Action
Toolbar	–	See Chapter 4.3
Off Line Characterization	Parameter	Displays the parameter – Click on "+" to expand the parameter tree – Click on "-" to contract the parameter tree
	Value	Displays the current parameter value – Double click on the "Value" space or press Edit to change – Enter the parameter or select it from the drop-down menu – Press End Edit or Enter to save the change
	Quality	Displays the quality of the signal, i.e. Good, Bad, Uncertain etc.
	Changed	A "V" in this column indicates that the value has been changed
	Offset	Displays the offset from the parameter address
	Handling	Displays parameter type: RO = read-only, RW = read-write
	Relative index	Displays the relative index of the parameter when the column is not hidden
	Standard Parameter Name	Displays the name of the standard parameter when the column is not hidden
Cancel Edit	–	Cancel the current edit process
Edit	–	Open the parameter for editing
End Edit	–	Confirm the current edit
Clear	–	Clear the entry from the value space
Close	–	Close the dialog
Help	–	Open the the corresponding online help page

6.7 Going online

Before the project can be tested online, a number of preconditions must be met:

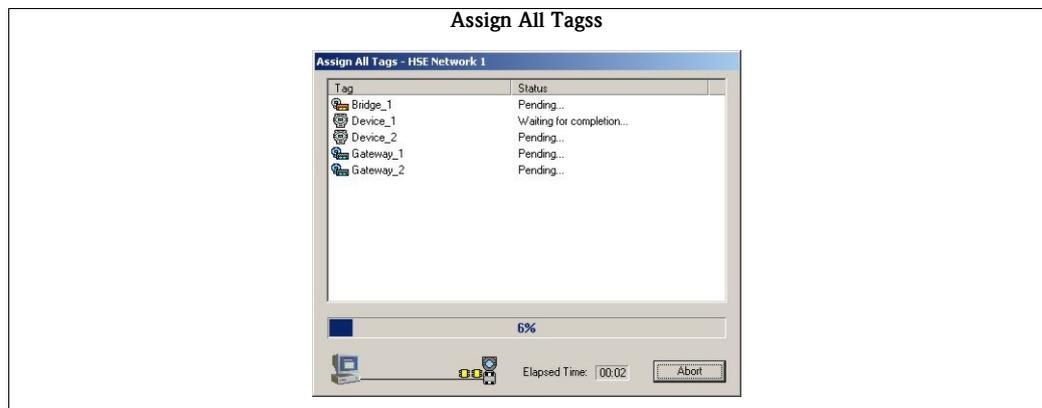
- All function blocks in the control strategy must be connected and downloaded to a field device (the strategy can be modified later, in which case the project must be downloaded again)
- All tags must be exported to the OPC Server either automatically through the preferences or manually through Export Tags
- The PC and Field Controller IP addresses must be set to the same subnet by using HSE Network Setup and integrated Field Controller Web Server.

Once IP connection has been established via the Field Controller Web-server, see Chapter 6.7.3, the project developed offline must be aligned with the real installation in the plant.

- The project is put online with the Online button
- The HSE live list is called
- The Device ID of the Field Controller is set in the Bridge or Gateway Attributes dialog
- The Device Tag of the bridges and/or gateways is downloaded with Assign Tag/Assign All Tags
- The Fieldbus and/or Profibus live list is called
- The Device ID of every device is set in the appropriate Device Attributes dialog
- The Device Tag of every device is download with Assign Tag/Assign All Tags
- For projects containing Hybrid function blocks, a download must be performed from OpenPCS, see BA038S/04/en, Application Designer: IEC-61131-3 Tutorial.

When these actions have been performed, the offline project can be downloaded to the Field Controller, and the project starts to run.

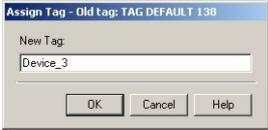
6.7.1 Assign All Tags



Property/Button	Attribute/Subfolder	Function/Action
Assign All Tags	Tag	List of device tags to be assigned
	Status	Status of the tag download
Progress bar	–	Progress of download in %
Elapsed Time	–	Time elapsed since start of download
Abort	–	Aborts download at next opportunity

6.7.2 Assign Tag

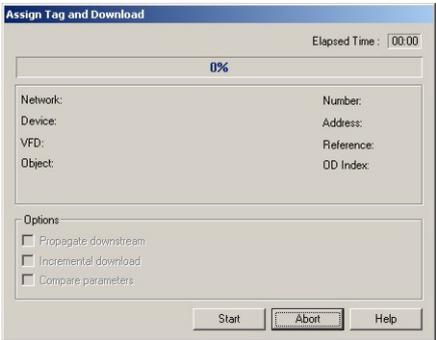
Assign Tag



Property/Button	Attribute/Subfolder	Function/Action
Assign Tag	New Tag	Enter new tag of the device
OK	–	Close dialog and sstart ddownload
Cancel	–	Close dialog and discard changes
Help	–	Open the the corresponding online help page

6.7.3 Assign Tag and Download

Assign Tag and Download



Property/Button	Attribute/Subfolder	Function/Action
See 6.7.5, Download		

6.7.4 Communication Settings

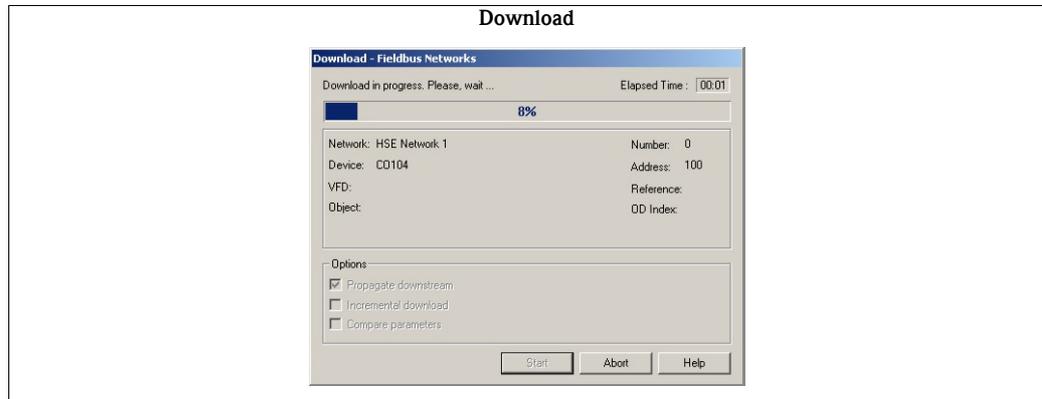
Communication Settings



Property/Button	Attribute/Subfolder	Function/Action
Server ID	–	Type in or select server from drop-down menu
OK	–	Close dialog and save changes
Cancel	–	Close dialog and discard changes
Help	–	Open the the corresponding online help page

6.7.5 Download

The download dialog is generic for all configuration objects, the context being indicated in the headline, e.g. Download - Fieldbus Networks.



Property/Button	Attribute/Subfolder	Function/Action
Download in Progress	Progress	Indicates progress of download
	Elapsed Time	Indicates time that has elapsed since start of download
Information box	–	General and dynamic information on download
Options	Propagate downstream	For bridge downloads, the download for the bridge is run, and then propagated to the fieldbus segments located below the bridge in the topology tree in the Project window.
	Incremental download	Compares the project configuration with the plant configuration. <ul style="list-style-type: none"> ■ A message box will appear if there is any discrepancy in the configuration: <ul style="list-style-type: none"> – Click Yes to open the Incremental Download dialog box and check the differences in the configuration. – Click No to execute the download without checking the discrepancy between the configurations. – Click Cancel to abort the download and return to the project configuration.
	Compare parameters	Compares the parameters in the plant configuration with the parameters in the project configuration. If the user do not select this option, any parameters already existing in the device will be overwritten!
Start	–	Start download
Abort	–	Stop download and close dialog
Help	–	Open the the corresponding online help page

6.7.6 HSE Network Setup

HSE Network Setup locates all HSE devices connected to the host computer. Before connection, the Host PC should be given an IP address in the domain to be used for the network (**Start => Settings => Network Connections etc.**). HSE Network Setup can then be started:

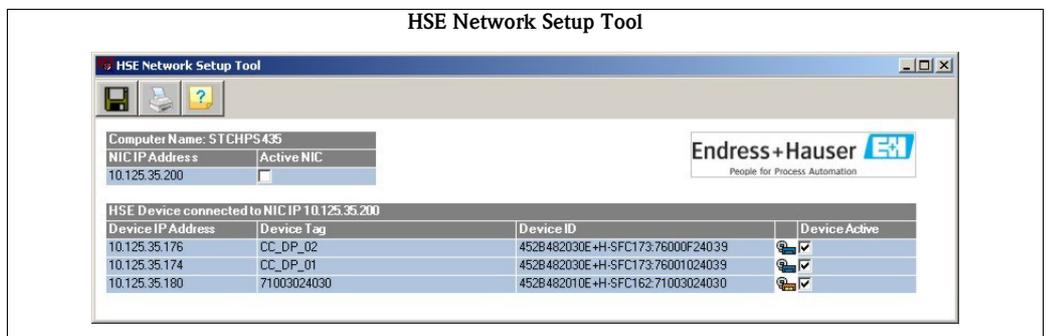
Start=>Programs=>Endress+Hauser=>ControlCare=>Tools=>HSE Network Setup.

The tool then scans the network and displays all HSE devices it finds. A click on the Device IP Address connects to the device and opens the FC Web Server. This can then be used to configure the desired domain IP address.

Note!



- FieldControllers are shipped from the factory with a default IP address.
SFC162 = 192.168.164.100 and SFC173 = 192.168.164.101.
- It is possible that HSE Network Setup locates Field Controllers with identical addresses on the network, but it is not possible to connect to the associated web servers. In this case, the controllers should be added to the network one at a time.
- If the Web page cannot be opened, switch off the proxy server in your Internet browser or unblock the computer's firewall.



Property/Button	Attribute/Subfolder	Function/Action
	Save	Saves the current network configuration (active/inactive devices)
	Print Preview	Opens web page showing printing template
	About	Opens a dialog with details of program version
Computer	Name	Name of host computer
	NIC IP Address	IP address of host computer
	Active NIC	<ul style="list-style-type: none"> ■ Checked = Active: Device appears in the HSE live list ■ Unchecked = Inactive: Device not shown in the HSE live list
HSE Device	Device IP address	IP address of connected HSE device
	Device Tag	Tag assigned to the HSE device – If no tag has been assigned, the factory setting is shown
	Device ID	Full device identifier as per FF specification
	Device Active	<ul style="list-style-type: none"> ■ Checked = Active: Device appears in the HSE live list ■ Unchecked = Inactive: Device not in the HSE live list (useful when the project comprises subprojects in which only a particular field controller should be visible)
Context Menu	Device IP address	Click on Device IP Address or any other field opens FC Web Server – If FC Web Server does not open check your Internet browser and firewall settings

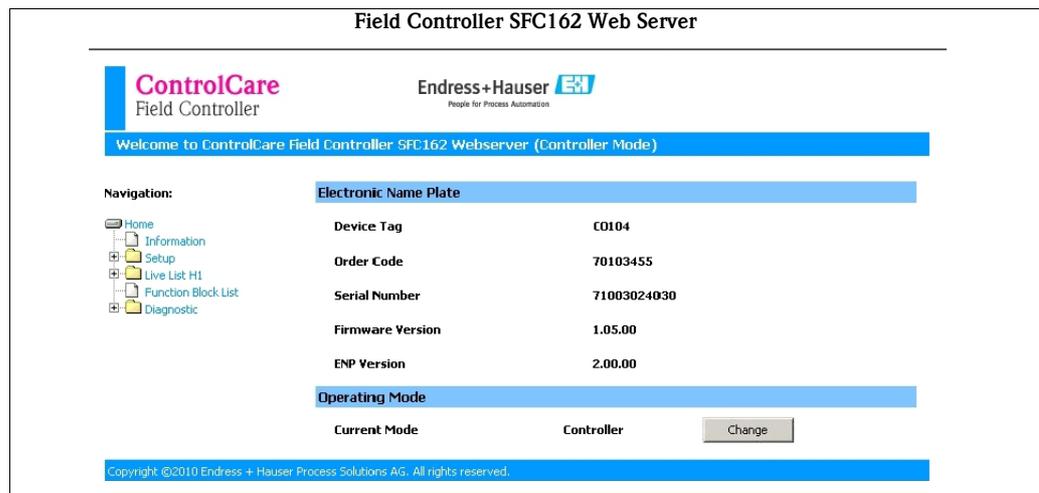
6.8 Field Controller Web Server

The Field Controller Web Server can be used for a number of purposes:

- Provision of information on the device
- Device setup, including IP address
- Information on connected devices
- Diagnosis

The functions offered depend on the type of field controller, see Chapters 6.8.1 and 6.8.2. Chapter 6.8.3 onwards shows the content of the various pages in alphabetical order.

6.8.1 SFC162 home page



Property/Button	Attribute/Subfolder	Function/Action
Home	Electronic Name Plate	Shows ENP data of the current measuring point
	Operating Mode	Current operating mode – Possible modes are Controller (default) and Visitor – To change mode press Change , then restart with appropriate settings
Information	–	Shows technical data of the Field Controller
Setup	Network	Allows the network settings to be configured – Access via password (User Name: pcps; Password: pcps)
	RTC	Allows the real time clock to be set – Access via password (User Name: pcps; Password: pcps)
	Firmware Update	Allows a firmware update to be downloaded from a FTP server – Access via password (User Name: pcps; Password: pcps) – There is currently no FTP server available for this function
	Restart	Restarts the Field Controller – Access via password (User Name: pcps; Password: pcps)
Live List H1	–	Lists all devices connected to the controller according to the selected H1 channel
Function Block List	–	Lists all function blocks connected to the controller
Diagnosis	Tasks	Lists the tasks currently being performed by the Field Controller – Access via password (User Name: pcps; Password: pcps)
	Heap	Lists the current usage of the various Field Controller memories – Access via password (User Name: pcps; Password: pcps)
	Traceback	Lists all severe failures that have occurred since the last firmware download – Access via password (User Name: pcps; Password: pcps)
	Free CPU Load	Shows the average free CPU resources based on 10 measurements – Access via password (User Name: pcps; Password: pcps)
	Battery	Shows battery status

The following sections show the various pages in alphabetical order.

6.8.2 SFC173 home page

Field Controller SFC173 Web Server

ControlCare
Field Controller

Endress+Hauser
People for Process Automation

Welcome to ControlCare Field Controller SFC173 Webserver

Navigation:

- Home
- Information
- Setup
- Function Block List
- Diagnostic

Electronic Name Plate

Device Tag	SFC173_Y105
Order Code	70103456
Serial Number	84002224039
Firmware Version	1.05.00
ENP Version	2.00.00

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Property/Button	Attribute/Subfolder	Function/Action
Home	Electronic Name Plate	Shows ENP data of the current measuring point
Information	–	Shows technical data of the Field Controller
Setup	Network	Allows the network settings to be configured – Access via password (User Name: pcps; Password: pcps)
	RTC	Allows the real time clock to be set – Access via password (User Name: pcps; Password: pcps)
	Restart	Restarts the Field Controller – Access via password (User Name: pcps; Password: pcps)
Function Block List	–	Contains the following lists: <ul style="list-style-type: none"> ■ Function Block Schedule Overview (macro-cycle) ■ Function Block Schedule ■ Function Block List
Diagnosis	Tasks	Lists the tasks currently being performed by the Field Controller – Access via password (User Name: pcps; Password: pcps)
	Heap	Lists the current usage of the various Field Controller memories – Access via password (User Name: pcps; Password: pcps)
	Traceback	Lists all severe failures that have occurred since the last firmware download – Access via password (User Name: pcps; Password: pcps)
	Free CPU Load	Shows the average free CPU resources based on 10 measurements – Access via password (User Name: pcps; Password: pcps)
	Battery	Shows battery status
	Communication	Shows various PROFIBUS settings <ul style="list-style-type: none"> ■ Bus parameters ■ Process Image Input ■ Process Image Output ■ Profibus Live List

6.8.3 Device Info: Block list

Block list

Block List

Blocks are listed one per line:

```
[00] TYPE = 01 TAG = "      "
[01] TYPE = 08 TAG = "      "
[02] TYPE = 18 TAG = "      "
```

Block Schedule

Macrocycle[ms]: 130

Property/Button	Attribute/Subfolder	Function/Action
Block List	–	Lists the current blocks connected to the Field Controller
Block Schedule	–	Shows the macrocycle time for the current project

6.8.4 Device Info: Live List

Live List

Live List

Devices entries are listed one per line and organized as follows:

Node Address, Device TAG, Device ID.

```
NA, Bridge_1, 452B482010E+H-SFC162:71003024030
0x18, Device_1, 452B48100F-6301200108D
0x19, Device_2, 452B481009-82178401BCC
0x22, TT101, 452B4810CC-82005F04223
0xF3, TAG DEFAULT 138, 452B481007-5D'Y0196
0xF7, LV203, 452B481057-79061802000
```

Transducer Information

Live List Revision: 6
Macrocycle Executions: 0
PDU Sent: 363968
PDU Received: 233960
Wrong FCS: 0
Claim IAS: 1

Property/Button	Attribute/Subfolder	Function/Action
Live List	–	Lists devices connected to the Field Controller
Transducer Information	–	Shows information on the communication between controller and devices

6.8.5 Diagnosis: Free CPU load

Free CPU Load

Free CPU Load

10 measurements and the average are listed below:

```
01 Measurement = 71.186607
02 Measurement = 71.639954
03 Measurement = 71.479965
04 Measurement = 71.609970
05 Measurement = 71.707474
06 Measurement = 71.780609
07 Measurement = 70.404587
08 Measurement = 70.553436
09 Measurement = 70.665077
10 Measurement = 71.248810
Average = 71.227646
```

Property/Button	Attribute/Subfolder	Function/Action
Free CPU Load	–	Shows 10 measurements and average free CPU resources in %

6.8.6 Diagnosis: Heap

Heap

Heap

Heap entries are listed one per line and organized as follows:

Name, Size (kbytes), Start Address, Current Pointer, End Address, Free (%), Never Used.

```
RTOS Heap, 2048kb, 0x0049E200, 0x00605200, 0x0069E200, 29%, 29%
Non Volatile Heap, 384kb, 0x020250EC, na, 0x020850EC, 99%, na
System Memory Pool, 1063kb, 0x0048C3CC, na, 0x005961CC, 41%, na
IEC memory: 12 bytes of 2097152 (0%) used
```

Property/Button	Attribute/Subfolder	Function/Action
Heap	–	Lists the current usage of the various Field Controller memories – For service purposes only

6.8.7 Diagnosis: Tasks

Tasks

Running tasks

Tasks are listed one per line and organized as follows:

[Num] Name, Pointer, Status, Priority Level, Preemption Level, Schedule Counter, Time Slice.

```
[1] HSV, 0x004E0A98, READY, 16, 16, 43116, 1
[2] ApShellChangeMacroIn, 0x0048C838, EVENT_FLAG, 8, 8, 1, 1
[3] H1VcrMainTask, 0x0048C794, EVENT_FLAG, 8, 8, 4498, 1
[4] APShell Task, 0x0048CA24, SLEEP, 8, 8, 11899, 0
[5] OdTask, 0x0048C8DC, EVENT_FLAG, 8, 8, 19, 1
[6] LZS Command Task, 0x0048CFE8, SLEEP, 8, 8, 114989, 1
[7] LZS Interpreter Task, 0x0048D08C, SEMAPHORE_SUSP, 4, 4, 1, 0
[8] IDS Task, 0x0048CAC8, SLEEP, 8, 8, 565295, 1
[9] DataLink, 0x0048C980, SLEEP, 5, 5, 291306, 0
[10] Redundancy, 0x0048CDFC, SLEEP, 8, 8, 28699, 1
```

Property/Button	Attribute/Subfolder	Function/Action
Running Tasks	–	Lists task currently running in the Field Controller – For development purposes only

6.8.8 Diagnosis: Traceback

Traceback

Traceback

Traceback entries are listed one per line and organized as follows:

[Num] Code, Program Counter, Task ID, Time, Date, Line, File Name.

```
[0] 31, 0x0025DE0C, 0x0038BE2C, 02:45:38, 19730315, 315, Trace Erased
[1] -2, 0x0025DE9C, 0x00000000, 02:45:38, 19730315, 359, Power ON
[2] 31, 0x0024DDFC, 0x0038BE2C, 02:45:38, 19730315, 160, Erased by 02
[3] 41, 0x00266224, 0x0038BE2C, 02:45:38, 19730315, 945, MJF Magic F
[4] 30, 0x00275D1C, 0x0038B680, 02:47:44, 19730315, 0, RST REQ
[5] -2, 0x0025DE9C, 0x00000000, 02:47:55, 19730315, 359, Power ON
[6] -2, 0x0025DE9C, 0x00000000, 16:43:59, 19730315, 359, Power ON
[7] 28, 0x0025DC9C, 0x004E0A98, 01:16:39, 19730316, 236, LowLine ISR
[8] -2, 0x0025DE9C, 0x00000000, 01:17:00, 19730316, 359, Power ON
[9] 27, 0x001D27F0, 0x0048A368, 01:17:03, 19730316, 3409, lanred.cpp
```

Property/Button	Attribute/Subfolder	Function/Action
Traceback	–	Provides a history of severe failures in the Field Controller – For service purposes only

6.8.9 Diagnosis: Battery

Traceback

Battery Status

Hardware status bit: 1 = battery okay and switched on

Property/Button	Attribute/Subfolder	Function/Action
Battery Status	–	– Indicates status of batter

6.8.10 Function Block List

Function block list					
Function Block Schedule Overview					
Macro cycle [ms]: 358					
Function Block Schedule			Function Block List		
Index	Block tag	OD index	Start time offset	Index	Block tag
00	SFC173_V105_RS_1	-	-	00	SFC173_V105_RS_1
01	SFC173_V105_DIAG_1	-	-	01	SFC173_V105_DIAG_1
02	SFC173_V105_PBTDR_1	-	-	02	SFC173_V105_PBTDR_1
03	SFC173_V105_HC_1	-	-	03	SFC173_V105_HC_1
04	SFC173_V105_MBCF_1	1920	0	04	SFC173_V105_MBCF_1
05	SFC173_V105_HY_EMB_IO_1	2100	6	05	SFC173_V105_HY_EMB_IO_1

Property/Button	Attribute/Subfolder	Function/Action
Function Block Schedule Overview	Macrocycle	Macrocycle time in milliseconds
Function Block Schedule	Index	Block index
	Block tag	Block designation
	OD index	Index in object directory
	Start time offset	Delay relative to start of macrocycle for execution of block
Function Block List	Index	Block index
	Block tag	Block designation

6.8.11 Live List H1 (Channels 0...3)

FOUNDATION fieldbus H1 live list			
Bus Settings			
Slot Time	Max Response Delay	Min Inter PDU Time	
10	6	16	
Live List			
Devices entries are listed one per line and organized as follows:			
Node Addr.	Device Tag	Device ID	Connection Status
16 (0x10)	FC_100	452B482010E+H+ SFC162:72000E24030	NA
24 (0x18)	TT_102	452B4810CC-8C00BF04223	OK, Field device connected.
25 (0x19)	LT_101	452B48100F-6A00010108D	OK, Field device connected.
26 (0x1A)	CV_103	008E052328ND90000430004230	OK, Field device connected.
Transducer Information			
Live List Revision: 4 Macrocycle Executions: 2283 PDU Sent: 75766 PDU Received: 771 Wrong FCS: 0 Claim LAS: 1			

Property/Button	Attribute/Subfolder	Function/Action
Bus settings	Slot time	Time during which the transmitting node retains control of the bus
	Max Response Delay	No. of seconds may pass without receiving a message from a partner device before the sender assumes that connection has failed
	Min Inter PDU Time	Time required for a scheduled communication transaction
Live List	Node Address	Address of H1 node
	Device Tag	Measuring point tag of H1 device
	Device ID	Identifier of H1 device
	Connection Status	Current status of the fieldbus connection to H1 device
Transducer Information	-	Information about the state of communication

6.8.12 PROFIBUS: Bus parameters

Bus parameters		
<p>Profibus Live List</p> <p>Master Node Address: 1 Baudrate: 500.0 kbit/s Slot Time: 200 tBR Min. Station Delay of Responders (MinTsd): 11 tBR Max. Station Delay of Responders (MaxTsd): 100 tBR Quiet Time: 0 tBR Setup Time: 1 tBR Target Rotation Time: 3501 tBR GAP Actualization Factor: 10 Max. Retry Limit: 1 Highest Station Address: 30 Poll Timeout: 10 ms Data Control Time: 240 ms Min Slave Interval: 25.0 ms</p>		
Property/Button	Attribute/Subfolder	Function/Action
Bus parameters	–	Profibus bus parameters set in SFC173 Field Controller

6.8.13 PROFIBUS: Process Image Input

Process Image Input		
<p>Process Image Input</p> <p>First 16 values of Process Image Input: 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00</p>		
Property/Button	Attribute/Subfolder	Function/Action
Process Image Input	–	Hexadecimal values of first 16 objects input to process image

6.8.14 PROFIBUS: Process Image Output

Process Image Input		
<p>Process Image Input</p> <p>First 16 values of Process Image Input: 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00</p>		
Property/Button	Attribute/Subfolder	Function/Action
Process Image Output	–	Hexadecimal values of first 16 objects output by process image

6.8.15 PROFIBUS: Bus parameters

Profibus live list																																																																										
<p>Profibus Live List</p> <table border="1"> <thead> <tr> <th>[Addr]</th> <th>DevId</th> <th>DevTag</th> <th>DevManufacturer</th> <th>DevModelName</th> <th>DevClass:</th> </tr> </thead> <tbody> <tr> <td>[00]:</td> <td>- No device</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>[01]:</td> <td>PROFIBUS Master SFC173:Adr:001</td> <td></td> <td>Endress + Hauser</td> <td>SFC173</td> <td>Active PB Master</td> </tr> <tr> <td>[02]:</td> <td>- No device</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>[03]:</td> <td>- No device</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>[04]:</td> <td>- No device</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>[05]:</td> <td>- No device</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>[06]:</td> <td>- No device</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>[07]:</td> <td>- No device</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>[08]:</td> <td>- No device</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>[09]:</td> <td>- No device</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>[10]:</td> <td>- No device</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			[Addr]	DevId	DevTag	DevManufacturer	DevModelName	DevClass:	[00]:	- No device					[01]:	PROFIBUS Master SFC173:Adr:001		Endress + Hauser	SFC173	Active PB Master	[02]:	- No device					[03]:	- No device					[04]:	- No device					[05]:	- No device					[06]:	- No device					[07]:	- No device					[08]:	- No device					[09]:	- No device					[10]:	- No device				
[Addr]	DevId	DevTag	DevManufacturer	DevModelName	DevClass:																																																																					
[00]:	- No device																																																																									
[01]:	PROFIBUS Master SFC173:Adr:001		Endress + Hauser	SFC173	Active PB Master																																																																					
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Property/Button	Attribute/Subfolder	Function/Action																																																																								
Profibus Live List	Address	Profibus address																																																																								
	Device ID	Identifier of PROFIBUS device																																																																								
	Device Tag	Measuring point tag of PROFIBUS device																																																																								
	Device Manufacturer	Manufacturer of the PROFIBUS device																																																																								
	Device Model Name	Model name of the PROFIBUS device																																																																								
	Device Class	Role of the PROFIBUS device (master, slave etc.)																																																																								

6.8.16 Setup: Network

Property/Button	Attribute/Subfolder	Function/Action
DHCP	–	Check if you want the IP address to be automatically assigned by a DHCP server – Not recommended for industrial applications
IP Address	–	For fixed address, enter IP address of Field Controller
Netmask	–	Enter netmask (normally 255.255.255.0)
MAC address	–	Read only: MAC address of Field Controller
Default Gateway	–	Enter default gateway (Normally address 1 on domain)
Update	–	Press to update the IP address of the Field Controller – The Web Server has to be closed and restarted after the update is complete

6.8.17 Setup: Real Time Clock

Property/Button	Attribute/Subfolder	Function/Action
RTC Date	–	Enter date in form YYYYMMDD
RTC Time	–	Enter time in form HH:MM:SS
Set RTC	–	Press to reset the real time clock

6.8.18 Setup: Restart

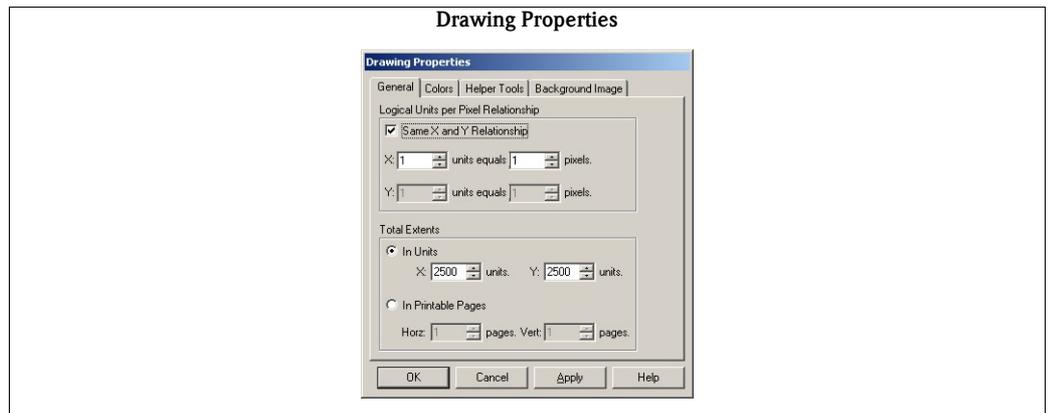
Property/Button	Attribute/Subfolder	Function/Action
Drop-down menu	No additional options	Field Controller restarts only
	Factory Init	SFC173 Field Controller performs a factory initialization
	Factory Init in Controller Mode	SFC162 Field Controller performs a factory initialization and is restarted as a controller
	Factory Init in Visitor Mode (H1 address 0xFC)	SFC162 Field Controller performs a factory initialization and is restarted as a visitor with the selected address
	Hold	Field Controller restarts but remains in Hold – Do not use unless instructed to do so by our service department
Restart	–	Press to restart the Field Controller with the selected option

6.9 Drawing Tool

The Drawing Tool is used to create the strategy in the Control Module window. The dialogs described here are concerned with the configuration of the workspace and the design of the objects that can be created therein.

6.9.1 Drawing Properties

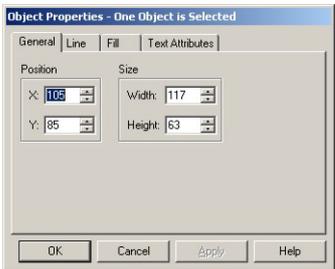
The drawing properties configure the Control Module workspace itself.



Property/Button	Attribute/Subfolder	Function/Action
General	Logical units per pixel	Sets/displays scaling of workspace <ul style="list-style-type: none"> – Same X and Y relationship: Ticked X scaling = Y scaling – X: a units = n Pixels: X scaling – Y: a units = n Pixels: Y scaling
	Total extent	Sets/displays size of workspace <ul style="list-style-type: none"> – In Units: X and Y dimensions in pixels – In Printed pages: X and Y dimensions in pages
Colors	Background	Sets/displays thickness of workspace background
	Grid	Sets/displays color of workspace grid
Helper Tools	Grid operation	Sets/displays operation of grid <ul style="list-style-type: none"> – Show Grid: grid visible when ticked – Snap to Grip: objects snap to gris when ticked – Show Page Breaks: page breaks shown in workspace when ticked
	Grid spacing	Sets/displays grid spacing in set units
	Zoom Factor	Sets/displays the magnification of the workspace view
Background Image	Image properties	Sets/displays the background inmage properties <ul style="list-style-type: none"> – Select New Image: causes image to be imported when ticked – Delete Current Image: causes image to be deleted when ticked – Uses Transparency: uses transparent background when ticked – Color: background color when "Uses Transparency" unticked
	Size and position	Sets/displays the size and position of the image <ul style="list-style-type: none"> – Center Image – Stretch Image to Window Size – Stretch Window to Image Size – Place Image At: X units and Y units from top corner of window
	Settings above for	Sets/displays the validiy of the background image settings <ul style="list-style-type: none"> – Whole drawing: image imported once – Each printable page: image imported on each page
OK	–	Close dialog and save changes
Cancel	–	Close dialog and discard changes
Apply	–	Save changes, but do not close dialog
Help	–	Open the the corresponding online help page

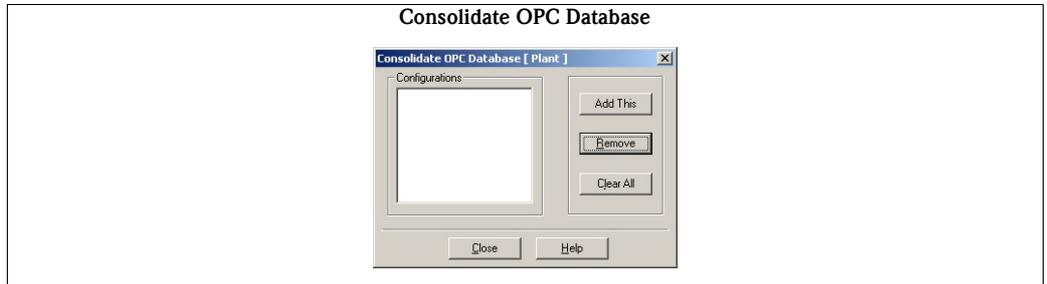
6.9.2 Object Properties

The object properties apply to the objects drawn within the Control Module workspace.

Object Properties		
		
Property/Button	Attribute/Subfolder	Function/Action
General	Position	Sets/displays position (X,Y) of the top lefthand corner of the object – For default setting, 10 units = one dot on the grid
	Size	Sets/displays the dimensions (width, height) of the top lefthand corner of the object – For default setting, 10 units = one dot on the grid
Line	Thickness	Sets/displays thickness of object outline – For default setting, 10 units = one dot on the grid
	Style	Sets/displays style of object outline – Solid, Dash, Dot, Dash-Dot, Dash-Dot-Dot
	Color	Sets/displays color of object outline
	Inherit	Causes the object to inherit the default line properties
	Revert	Causes changes made to settings to revert to the last set values – Works even after Apply has been pressed
	Set as Default	Stores the set parameters as default values for new objects
Fill	Fill type	Sets/displays the object fill – Hollow, Solid, Hatched
	Fill style	For a hatched fill, sets/Displays style of hatching – Horizontal, Vertical, Falling Diagonal (FDIAGONAL), Rising Diagonal (BDIAGONAL), Square (CROSS), Diamond (DIAGCROSS)
	Fill Color	Sets/Displays color of object fill
	Inherit	Causes the object to inherit the default fill properties
	Revert	Causes changes made to settings to revert to the last set values – Works even after Apply has been pressed
	Set as Default	Stores the set parameters as default values for new objects
Text Attributes	Text type	Sets/displays the text type – Full Quality: full black characters – Fully Resizable: character with default object attributes
	Text box style	Sets/displays the text and text box style – Background: Transparent or Opaque – Background color – Font
	Fill Color	Sets/displays color of the text box background
	Justification	Sets/displays the justification of the text within the box – Left, Center, Right
	Inherit	Causes the object to inherit the default text properties
	Revert	Causes changes made to settings to revert to the last set values – Works even after Apply has been pressed
	Set as Default	Stores the set parameters as default values for new objects
OK	–	Close dialog and save changes
Cancel	–	Close dialog and discard changes
Apply	–	Save changes, but do not close dialog
Help	–	Open the the corresponding online help page

6.10 Miscellaneous

6.10.1 Consolidate OPC Database



Property/Button	Attribute/Subfolder	Function/Action
Configurations	–	Lists of projects which are contributing to the OPC database
Add This	–	Add the tags of the current project to the OPC database – Answer Yes to the confirm action message
Update This	–	Update the tags of the current project in OPC database – Answer Yes to the confirm action message
Remove		Remove the tags of the selected project from the OPC database – Answer Yes to the confirm action message
Clear All		Remove all tags from the OPC database – Answer Yes to the confirm action message
Close	–	Close dialog and perform consolidation – Answer Yes to the confirm action message
Help	–	Open the the corresponding online help page

6.10.2 Create New Data Source



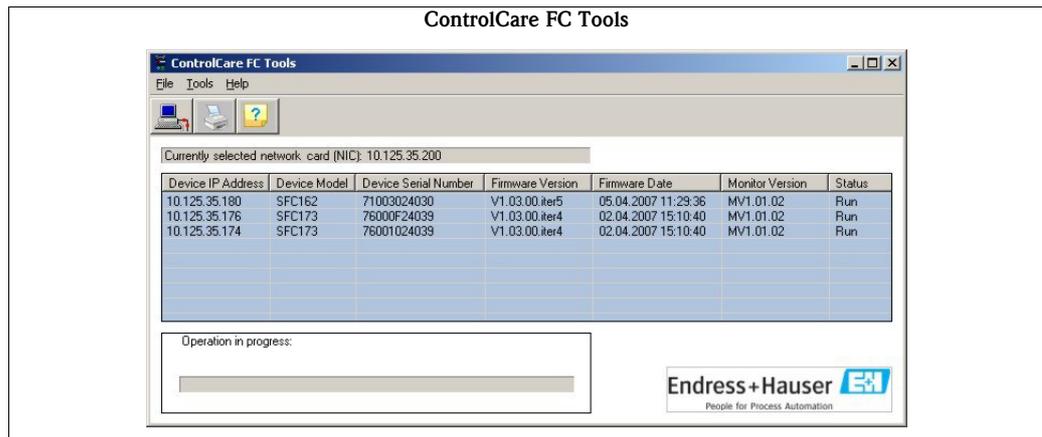
Property/Button	Attribute/Subfolder	Function/Action
xxxx	xxxx	Microsoft Windows Wizard to create a new data source. The controls displayed depend upon the starting point (file or machine data source)
	Back	Go back to previous step
	Next	Go on to next step
	Finish	Finish application and call data base setup
	Cancel	Cancel the creation of a new data source

6.10.3 ControlCare FC Tools

ControlCare FC Tools is a program provided for loading firmware from a host computer to a Field Controller in a Local Area Network. It is called as follows:

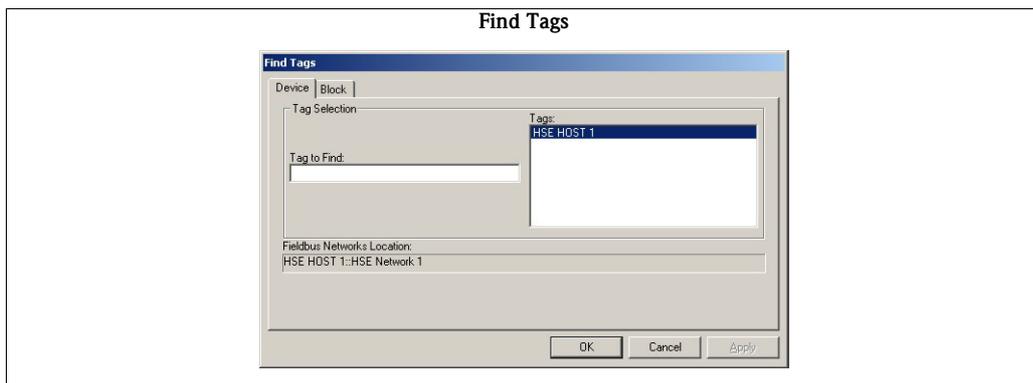
Start=>Programs=>Endress+Hauser=>ControlCare=>Tools=>FC Tools.

Computer firewalls must be configured to allow the use of the program and the proxy servers of your Internet browser must be switched off. The download is invoked by selecting one or more Field Controllers of the same type and pressing . After the firmware has been selected in the **Select a Firmware** dialog, see Chapter 6.9.5, the program downloads the software and reports back with a download successful message.



Property/Button	Attribute/Subfolder	Function/Action
File	History	Opens web page showing history of downloads since tool opened
	Exit	Closes
Tools	Download	Starts firmware download procedure for selected device(s)
About	About	Opens a dialog with details of program version
	Download	Starts firmware download procedure for selected device(s) <ul style="list-style-type: none"> Select the firmware in the dialog Select a Firmware Press Open to start download
	Print Preview	Opens web page showing history of downloads since tool opened
	About	Opens a dialog with details of program version
Computer	NIC IP Address	IP address of host computer
HSE Device	Device IP address	IP address of connected HSE device
	Device Model	Commercial ID of device
	Device Serial No.	Serial number of device
	Firmware Version	Firmware version of the device
	Firmware Date	Date and time firmware installed
	Monitor Version	Version of Field Controller monitor
	Status	Operating status of Field Controller
Operation in Progress	–	Progress bar for firmware download
Context Menu	Device IP Address	Click on Device IP Address to open FC Web Server <ul style="list-style-type: none"> If FC Web Server does not open disable the proxy server in your Internet browser and/or unblock the computer's firewall

6.10.4 Find Tags



Property/Button	Attribute/Subfolder	Function/Action
Device	Tag Selection	Select tag to be found: <ul style="list-style-type: none"> Tag to find: Enter tag name manually Tag: Click on required tag
	Fieldbus Networks Location	Location within fieldbus network
Block	Tag Selection	Select tag to be found: <ul style="list-style-type: none"> Tag to find: Enter tag name manually Tag: Click on required tag
	Fieldbus Networks Location	Location within fieldbus network
	Physical Location	Shows to which process cell and control module the block is attached.
OK	–	Close dialog and find device
Cancel	–	Close dialog and cancel search
Apply	–	Not used

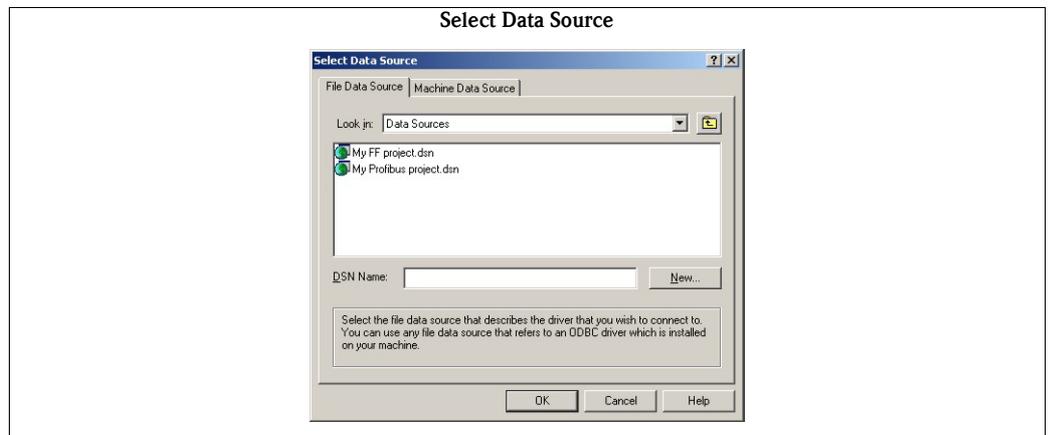
6.10.5 Select a Firmware



Property/Button	Attribute/Subfolder	Function/Action
Look in	–	Browse to folder in which firmware file is to be found
File name	–	Enter name of file <ul style="list-style-type: none"> A double-click on the file located in look in fills this property
Files of type	–	Accept default setting
Open	–	Imports the selected configuration and starts download
Cancel	–	Close dialog without downloading selected configuration

6.10.6 Select Data Source

This dialog appears when the **Export Configuration...** context menu is selected from the Plant node of the project window.

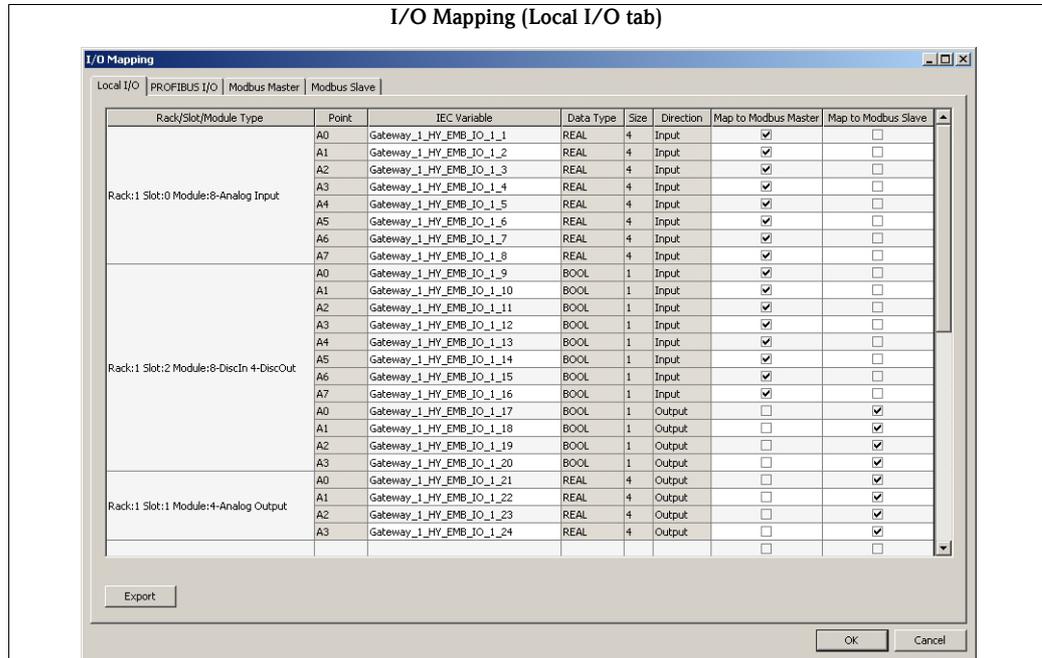


Property/Button	Attribute/Subfolder	Function/Action
File Data Source	File Data Source	Displays all file DSNs and subdirectories of the directory indicated in the Look in box. Double-clicking a DSN connects to the data source.
	Look in:	Indicates the directory for which the subdirectories and file DSNs are listed in the window below. Clicking the down arrow alongside this text box displays the entire directory structure.
	Up One Level	Replace the directory indicated in the Look in box with the directory located one level up.
	DSN Name	Displays the file DSN name, which is either selected in the File Data Sources list or entered manually
	New...	Click to add a new file data source. <ul style="list-style-type: none"> ■ In the Create New Data Source dialog box that appears <ul style="list-style-type: none"> – Choose the driver for which you are adding a file DSN – Click Next to specify the name or location of the new file DSN. – Click Next again to view a summary of the new information. – Click Finish to display the driver-specific setup dialog box. ■ The program returns to the Select Data Source dialog
Machine Data Source	Machine Data Source	Lists all user and system DSNs, including the name and type of each DSN. Double-clicking a DSN connects to the data source.
	New...	Click to add a new file data source. <ul style="list-style-type: none"> ■ In the Create New Data Source dialog box that appears <ul style="list-style-type: none"> – Choose the driver for which you are adding a file DSN – Click Next to specify the name or location of the new file DSN. – Click Next again to view a summary of the new information. – Click Finish to display the driver-specific setup dialog box. ■ The program returns to the Select Data Source dialog
OK	–	Close the Select Data Source dialog box and connect to the selected data source. Clicking OK does not accept changes to the Machine or File Data Sources list. Changes to the list are accepted when you click OK in the Data Source Setup dialog box.
Cancel	–	Close the Select Data Source dialog box without connecting to the file data source and without undoing changes made via other dialog box controls
Help	–	Open the the corresponding online help page

6.11 I/O Mapping Tool

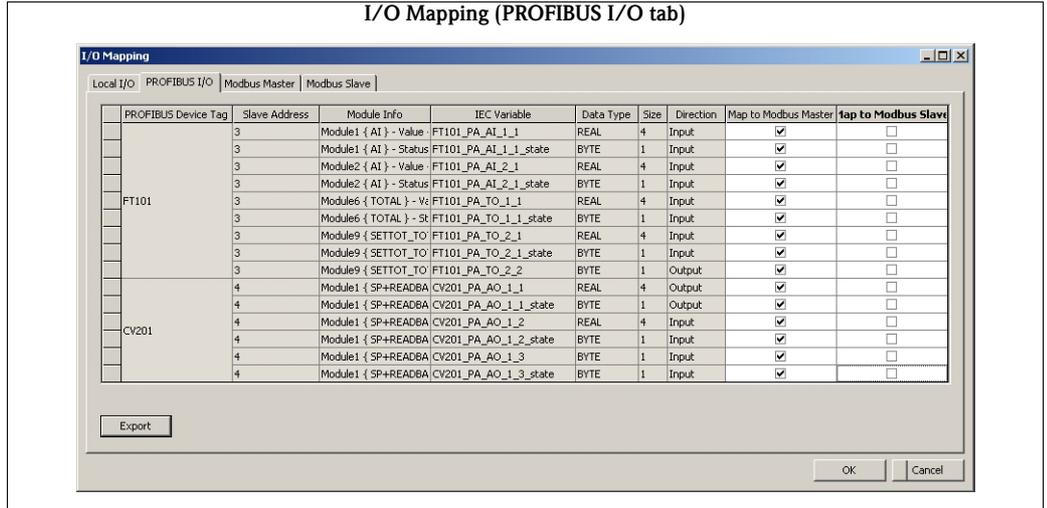
6.11.1 I/O Mapping

Local I/O Tab



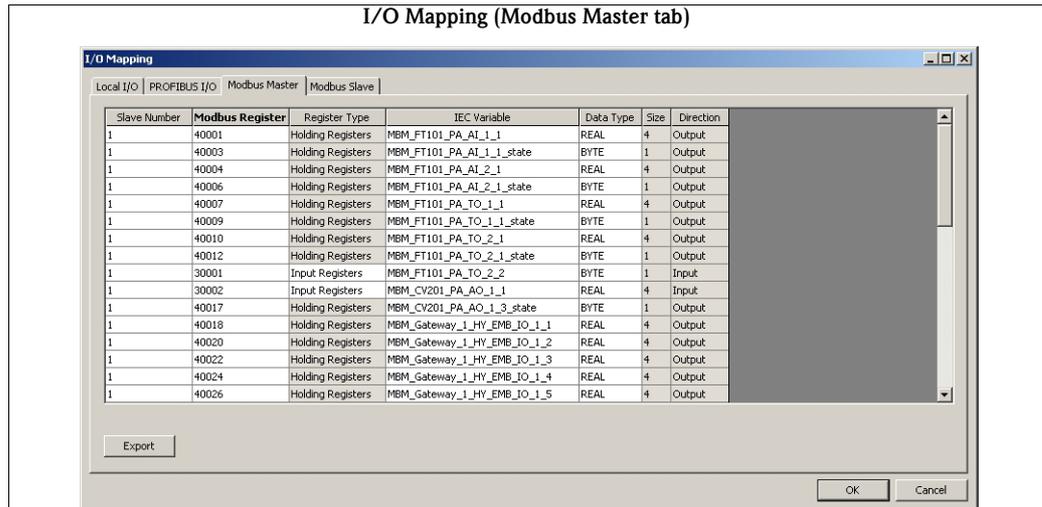
Property/Button	Attribute/Subfolder	Function/Action
Local I/O	Rack/Slot/Module/Type	After configuration in the controller hardware configuration block (HC), indicates position and type of local I/O module
	Point	Indicates the connection point of the signal in the local I/O module
	IEC Variable	Name of the IEC variable: <ul style="list-style-type: none"> To add alias names: <ul style="list-style-type: none"> Left-click to select the parameter Overwrite with the alias name Editing functions Cut, Copy, Paste, Delete, Undo and Select All are available by right-clicking on the parameter name
	Data Type	Indicates the format in which the signal data are exchanged
	Size	Indicates the size of the signal data in bytes
	Direction	Indicates whether the signal is input or output
	Map to Modbus Master	Selects which signals are to be mapped to a Modbus master <ul style="list-style-type: none"> To map local I/O signals to Modbus <ul style="list-style-type: none"> Create and configure a Modbus Configuration block for the bridge or gateway: the Map to Modbus column will now be activated Either tick the individual signals that are to be mapped or Select the column head and right-click to open the context menu: activate Select All The context menu can also be used to deselect all I/Os
	Map to Modbus Slave	Selects which signals are to be mapped to a Modbus slave
	PROFIBUS tab	–
Modbus Master tab	–	Opens the view of the Modbus master I/O mapping
Modbus Slave tab	–	Opens the view of the Modbus slave I/O mapping
Export	–	Exports the Local I/O mapping as a .csv file to the project folder
OK	–	Closes the I/O Mapping dialog box and registers all changes
Cancel	–	Closes the I/O Mapping dialog box and discards all changes

PROFIBUS I/O Tab



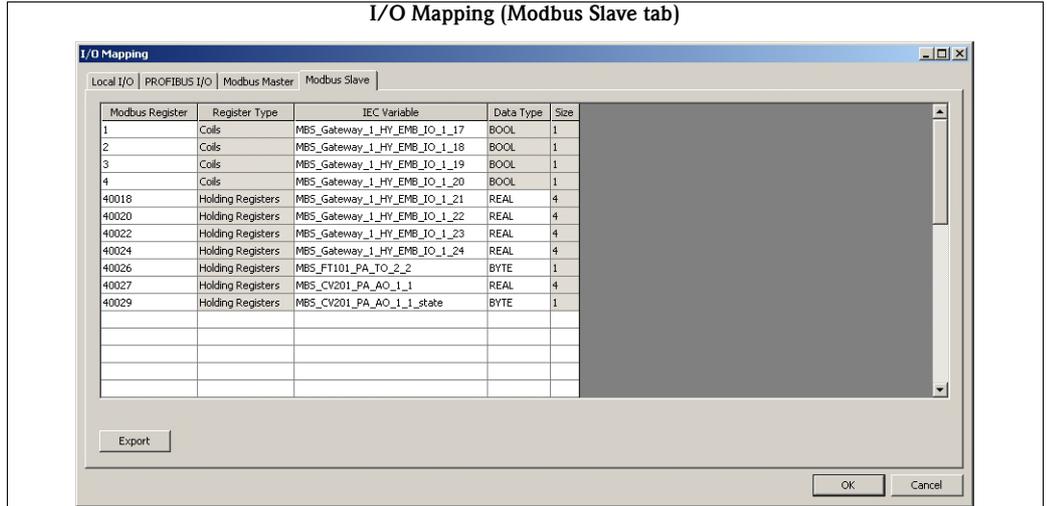
Property/Button	Attribute/Subfolder	Function/Action
PROFIBUS I/O	PROFIBUS Device Tag	After configuration in PROFIBUS Configurator, indicates the PROFIBUS device tag
	Slave address	Indicates the slave address configured in PROFIBUS configurator
	Module Info	Indicates the PROFIBUS slave from which the signal originates
	IEC Variable	Indicates the name of the IEC variable configured in the PROFIBUS I/O mapping dialog
	Data Type	Indicates the format in which the signal data are exchanged – The data type is determined during the PROFIBUS I/O mapping
	Size	Indicates the size of the signal data in bytes
	Direction	Indicates whether the signal is input or output
	Map to Modbus Master	Selects which signals are to be mapped to a Modbus master <ul style="list-style-type: none"> ■ To map PROFIBUS I/O signals to Modbus <ul style="list-style-type: none"> – Create and configure a Modbus Configuration block for the bridge or gateway: the Map to Modbus column will now be activated – Either tick the individual signals that are to be mapped or – Select the column head and right-click to open the context menu: activate Select All – The context menu can also be used to deselect all I/Os
Map to Modbus Slave	Selects which signals are to be mapped to a Modbus slave	
Local I/O tab	–	Opens the view of the Local I/O mapping
Modbus Master tab	–	Opens the view of the Modbus master I/O mapping
Modbus Slave tab	–	Opens the view of the Modbus slave I/O mapping
Export	–	Exports the profibus I/O mapping as a .csv file to the project folder
OK	–	Closes the I/O Mapping dialog box and registers all changes
Cancel	–	Closes the I/O Mapping dialog box and discards all changes

Modbus Master Tab



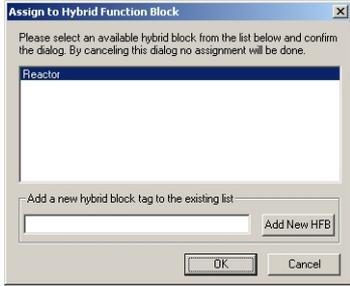
Property/Button	Attribute/Subfolder	Function/Action
Modbus I/O	Slave Number	Selects/indicates the Modbus Slave to which IEC variables will be/have been mapped
	Modbus Register	Indicates the Modbus register to which Local I/O or PROFIBUS I/O signals have been mapped <ul style="list-style-type: none"> To map local I/O or PROFIBUS I/O signals to Modbus <ul style="list-style-type: none"> Proceed as described in the previous Local I/O Tab and PROFIBUS I/O Tab descriptions The registers are automatically assigned The registers can be changed to one of a similar type should this be necessary To map other fieldbus signals use the master and slave blocks as described in the Modbus Tutorial, BA037S/04/en More information is to be found in the I/O Mapping Tool Tutorial, BA032S/04/en
	Register Type	Indicates the type of Modbus register to which the signal has been mapped
	IEC Variable	Indicates the name of the IEC variable configured in the PROFIBUS I/O mapping dialog or the Local I/O tab <ul style="list-style-type: none"> The prefix MB_ is automatically added to the mapped parameter name The names can be changed if required
	Data Type	Indicates the format in which the signal data are exchanged <ul style="list-style-type: none"> The data type is determined during the PROFIBUS I/O mapping
	Size	Indicates the size of the signal data in bytes
	Direction	Indicates whether the signal is input or output
Local I/O tab	–	Opens the view of the Local I/O mapping
PROFIBUS tab	–	Opens the view of the PROFIBUS I/O mapping
Modbus Slave tab	–	Opens the view of the Modbus slave I/O mapping
Export	–	Exports the Modbus I/O mapping as a .csv file to the project folder
OK	–	Closes the I/O Mapping dialog box and registers all changes
Cancel	–	Closes the I/O Mapping dialog box and discards all changes

Modbus Slave Tab

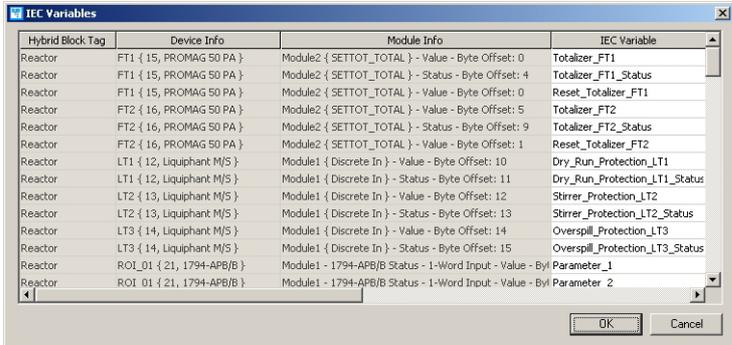


Property/Button	Attribute/Subfolder	Function/Action
Modbus I/O	Modbus Register	Indicates the Modbus register to which IEC variables have been mapped <ul style="list-style-type: none"> ■ To map local I/O or PROFIBUS I/O signals to Modbus <ul style="list-style-type: none"> – Proceed as described in the previous Local I/O Tab and PROFIBUS I/O Tab descriptions – The registers are automatically assigned – The registers can be changed to one of a similar type should this be necessary ■ To map other fieldbus signals use the master and slave blocks as described in the Modbus Tutorial, BA037S/04/en ■ More information is to be found in the I/O Mapping Tool Tutorial, BA032S/04/en
	Register Type	Indicates the type of Modbus register to which the signal has been mapped
	IEC Variable	Indicates the name of the IEC variable configured in the PROFIBUS I/O mapping dialog or the Local I/O tab <ul style="list-style-type: none"> – The prefix MB_ is automatically added to the mapped parameter name – The names can be changed if required
	Data Type	Indicates the format in which the signal data are exchanged <ul style="list-style-type: none"> – The data type is determined during the PROFIBUS I/O mapping
	Size	Indicates the size of the signal data in bytes
Local I/O tab	–	Opens the view of the Local I/O mapping
PROFIBUS tab	–	Opens the view of the PROFIBUS I/O mapping
Modbus Master tab	–	Opens the view of the Modbus master I/O mapping
Export	–	Exports the Modbus I/O mapping as a .csv file to the project folder
OK	–	Closes the I/O Mapping dialog box and registers all changes
Cancel	–	Closes the I/O Mapping dialog box and discards all changes

6.11.2 Assign to Hybrid Function Block

Assign to Hybrid Function Block		
		
Property/Button	Attribute/Subfolder	Function/Action
Select Hybrid Block	–	Displays all available hybrid blocks in the project – Select the block required and press OK
Add New Hybrid Block	–	Allows a new hybrid block to be added to the project <ul style="list-style-type: none"> ■ To add a new hybrid block to a project <ul style="list-style-type: none"> – Enter the name of the block in the entry field – Press the Add New HB button – Select the block in the upper field – Press OK to assign the I/Os to the new block
OK	–	Closes the dialog and assigns the I/Os to the selected hybrid block
Cancel	–	Closes the dialog without assigning the I/Os to the selected hybrid block

6.11.3 IEC Variables

IEC Variables			
			
Property/Button	Attribute/Subfolder	Function/Action	
IEC Variables	Hybrid Block Tag	Indicates the hybrid block to which the I/Os are assigned	
	Device Info	Indicates the tag of the device from which the signal originates	
	Module Info	Indicates the Local I/O module or PROFIBUS slave from which the signal originates	
	IEC Variable	Name of the IEC variable: <ul style="list-style-type: none"> ■ To change alias names: <ul style="list-style-type: none"> – Left-click to select the parameter – Overwrite with the alias name – Editing functions Cut, Copy, Paste, Delete, Undo and Select All are available by right-clicking on the parameter name 	
OK	–	Closes the IEC Variables dialog box and registers all changes	
Cancel	–	Closes the IEC Variables dialog box and discards all changes	

7 Trouble-Shooting

This section contains trouble-shooting tables for the most common operator errors that occur when using Application Designer and ControlCare Configurator. You should also consult the "ReadMe" file supplied on the Application Designer PC for other program exceptions which may be due to the configuration of your computer.

7.1 Opening a project

When a project is opened, ControlCare Application Designer verifies whether the configuration file was generated by the current version of the program. The following messages/exceptions may appear:

Message/Exception	Meaning/Action
Project File Format Changed	The user is trying to open a configuration file which was generated by an older version of ControlCare. <ul style="list-style-type: none"> ■ OK: Pressing OK accepts the upgrade. The configuration is converted to a new file format and can no longer be opened in the old tool. ■ To discard, close without saving.
Project File Format Changed Unable to open a newer configuration version.	The user is trying to open a configuration file which was generated by a newer version of ControlCare. <ul style="list-style-type: none"> – There is no version downgrade.
DD Exception Standard Dictionary Not Found!	The Standard.dct file is missing in the Device Support folder. <ul style="list-style-type: none"> ■ This usually happens when there are problems during the installation of the system. The software should be re-installed
There are missing DD/CF files Would you like to see details or locate the files?	A block type could not be recognized. Either the CF indicated is not present or, if it is present, the CF is inconsistent. This message might occur when a configuration is generated on a source machine and moved to a target machine that maintains a different set of DDs and CFs. <ul style="list-style-type: none"> ■ Press Yes to see details of the files ■ Press Generate DSM to generate a Missing Device Support file for the source machine, see Page 16 ■ Use the DSM to generate the required files on the source machine ■ Use the Import Device Support function to import the missing files on the target machine (also appears as button in missing file overview), see page 16.
Maximum number of Blocks has been exceeded. License Violation	The user is trying to open a configuration which has more blocks than the software license allows. <ul style="list-style-type: none"> ■ Normally happens if the configuration was generated by using a copy of ControlCare that had a license for more blocks. ■ The number of blocks allowed can be checked with the About item in the Help menu
Unable to open...	Hard key not inserted in host computer

7.2 Field Controller

	Problem	Remedy
1	HSE Network Setup/FC Tools does not find any Field Controller	<ul style="list-style-type: none"> ■ Disable the Windows firewall (normally a message appears ask whether you should unblock the program) ■ Disable the proxy server for your Internet browser ■ Check that you are using the correct Ethernet cables, see ETH LINK below ■ Check that all ethernet switches are powered up ■ Check that the network adapter is on and OK: Execute a PING command to its own IP, via DOS PROMPT. ■ Check if the Ethernet connection is OK: Execute a PING command to the Field Controller.
2	Field Controller appears intermittently in FC Tools	Host and Field Controller are in different subnets. <ul style="list-style-type: none"> ■ Normal behaviour, but for firmware download both host and Field Controller must be in the same subnet
3	HSE Network Setup/FC Tools does not show all the Field Controllers that are in the network	There is probably an IP address conflict in the network. <ul style="list-style-type: none"> ■ Disconnect all the Field Controllers except one from the from the sub-network ■ If necessary, change its IP address ■ Now reconnect the other Field Controllers one after the other, if necessary changing their IP addresses
4	Field Controller Web Server does not open	No Ethernet connection <ul style="list-style-type: none"> ■ Disable the Windows firewall ■ Disable the proxy server for your Internet browse ■ Wrong subnet IP address Host and Field Controller must be in same subnet ■ Wrong subnet mask Host and Field Controller must have same subnet mask
5	Firmware begins to execute but after a certain time it stops	It might be a configuration problem. <ul style="list-style-type: none"> ■ Use the Factory Init procedure and configure the Field Controller again. ■ If the problem persists, see the relevant chapter in Operating Instructions BA035S/04/en, Field Controller, Commissioning and Configuration
6	HOLD LED remains lit	If the HOLD LED remains lit after the Field Controller has been turned on, the firmware may be invalid. <ul style="list-style-type: none"> ■ Update the firmware, see the relevant chapter in Operating Instructions BA035S/04/en, Field Controller, Commissioning and Configuration
7	ETH LNK LED does not light	Check if the cable is connected correctly, or that the cable is not damaged. Check the specification of the cables: <ul style="list-style-type: none"> ■ SFC 954 - Cable Standard. To be used in a network between the Field Controller and a Switch/Hub. (preferred configuration) ■ SFC 955 - Crossed Cable (Cross). To be used point to point between a PC and the Field Controller (some PCs/laptops may have problems with crossed cable)
8	FRC LED is flashing (Force)	Field Controller is in reset mode <ul style="list-style-type: none"> ■ Complete the RESET procedure
9	ERR LED lit (SFC173)	At least one slave is not delivering cyclic data <ul style="list-style-type: none"> – Slave not connected to Profibus – Slave not switched on – Slave not correctly configured (PROFIBUS Configurator)

7.3 Application Designer

	Problem	Remedy
1	Field Controller does not appear in HSE live list	No connection to Field Controller <ul style="list-style-type: none"> ■ See Remedies for Items 1, 2 and 4, Chapter 7.2 ■ Field Controller is on HOLD, set it to RUN mode ■ IP address is not configured correctly, use PING to check
2	Field Controller appears but always stays grey in HSE Live List	No connection to Field Controller <ul style="list-style-type: none"> ■ Check that host and Field Controller are in same subnet
3	Red cross appears on the Field Controller	No communication with Field Controller <ul style="list-style-type: none"> ■ No Ethernet connection with Field Controller, check connection, IP address etc, see above ■ No Device ID set in the Field Controller (Attributes)
4	Red cross appears on Fieldbus/Profibus	No communication with fieldbus/Profibus <ul style="list-style-type: none"> ■ No communication with Field Controller, see above ■ Fieldbus/Profibus not connected to controller ■ DP bus parameter mismatch (Profibus)
5	Red cross appears on field device	No communication with fieldbus device <ul style="list-style-type: none"> ■ No communication with Field Controller, see above ■ No communication with fieldbus/Profibus, see above ■ No Device ID set (Attributes) ■ Tag not assigned (Assign Tag) ■ DP address is not unique (Profibus) ■ DP address at device not the same as that configured in PROFIBUS configurator (Profibus)
6	A device does not appear in the live list	Communication error <ul style="list-style-type: none"> ■ The device is not powered up ■ The project has been updated but no download has been made yet
7	Configuration will not download	You have either a communication problem or the configuration is not complete <ul style="list-style-type: none"> ■ Check that you are on-line - press the On-line button ■ Check that your computer is in the same address subnet ■ Check that you have assigned the Field Controller tag ■ Check that you have exported all tags OPC server ■ Check that the parameters are in the recommended order ■ Check that the OPC server is running (look for icon in bottom line) ■ Try "Update" from the Field Controller node (SFC162 only, takes several minutes) and download again
8	PROFIBUS configuration will not download	You have either a communication problem or the configuration is not complete <ul style="list-style-type: none"> ■ Try downloading from HSE Network node, see above, if this does not work, check points below ■ Configuration mismatch between PROFIBUS Configurator and Application Designer <ul style="list-style-type: none"> - Have PROFIBUS device blocks been deleted? - If so, reconfigure project in PROFIBUS Configurator
9	Parameter appears red in the on-line control strategy	The parameter has a bad status <ul style="list-style-type: none"> ■ Check that the Block Mode is Auto (or Cas) ■ Check that the block has been correctly configured ■ Check that the device is still live (live list) ■ Check that the device address is the same as that you have in your configuration (live list) ■ Check that the parameter has been correctly configured ■ Check that the tags were exported (Export Tags)
10	FB links do not work	Project not downloaded correctly, e.g. partial download when bridge has HSE links <ul style="list-style-type: none"> ■ Repeat full download from the HSE Network node
11	The parameters in a open offline characterization window do not change after an upload with changed parameters	Normal behaviour <ul style="list-style-type: none"> ■ Close the window and open it again

7.4 PROFIBUS Configurator

	Problem/Question	Remedy
1	Error message on trying to leave the configuration dialog	Configuration not correct <ul style="list-style-type: none"> Device name has spaces instead of underscores
2	How are the cyclic I/O data configured?	<ul style="list-style-type: none"> For Endress+Hauser devices each parameter has a fixed position in the configuration list, see the manuals. If you want to see Parameters 1 and 5 only, for example, free spaces/empty modules must be appended at slots 2, 3 and 4. For other devices, see operators instructions
3	What baudrates are supported?	The SFC173 Field Controller supports all baudrates with the exception of 31.25 kBit
4	What baudrate should I use?	Only baudrates supported by all devices can be used: <ul style="list-style-type: none"> For a P+F SK1 coupler = 93.75kbit/s For a Siemens coupler = 45.45 kbit/s For a P+F or Siemens link, check what baudrates are supported by all DP devices
5	Where do I set the device baudrates?	Only PROFIBUS DP devices must be set <ul style="list-style-type: none"> Most PROFIBUS DP slaves sense the baudrate and do not need to be set up For others, check the manufacturer's instructions
6	What bus parameters should I use?	Use the parameters recommended by the coupler/link manufacturer or those in this manual <ul style="list-style-type: none"> For the P+F SK2, the parameters are automatically set according to the rate selected in the Configurator For the P+F SK1 use the ones in the PROFIBUS tutorial BA036S/04/en
7	Can I go on-line in PROFIBUS Configurator?	Yes. <ul style="list-style-type: none"> Select the appropriate menu, enter the IP address of the Field Controller and generate a live list Beware of timeout: if there is no activity after 2 min: <ul style="list-style-type: none"> Select Settings => Device Assignment... Driver Select (if TCP/IP driver) Select requested IP address Press OK
8	Can I change a bus address in the PROFIBUS configurator?	Yes. <ul style="list-style-type: none"> You can go online and change a bus address by selecting the device followed by the the appropriate menu and typing in the old, then the new address The device must support software address setting Software address setting must be enabled The address must be unique to the bus
9	A device does not appear in the live list	Communication error <ul style="list-style-type: none"> Another device has the same address The device is not powered up Device does not support autosense of baudrate <ul style="list-style-type: none"> Set correct baudrate

For your notes

For your notes

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