



Building Automation

Industrial Automation

Systems

## User Interface

# FDT Navigator Frame application for device specific DTMs

05/04 AWB2776-1546GB

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# Contents

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<b>About This Manual</b>	5
Other manuals	5
Target group	5
Writing conventions	6

---

<b>1 Overview of the FDT Navigator</b>	7
FDT Navigator as a service station	7
Main functions of the FDT Navigator	9
– Offline functions	9
– Online functions	9
General procedure	10
Data model	11

---

<b>2 FDT/DTM concept</b>	13
--------------------------	----

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<b>3 Installing FDT Navigator</b>	17
System requirements	17
Installation	17

---

<b>4 Main Window</b>	19
Toolbars	19
Drivers	20
All devices	21
Single Device	23
Standard	25
Online status	27

Menus	28
File menu	28
Edit menu	28
Communication menu	29
Device menu	30
Tools menu	32
Window menu	33
? menu	33
Topology view	34
DTM-specific user interfaces	34
Progress bar	35
<hr/>	
<b>5 User Levels</b>	<b>37</b>
Meaning of user levels	37
Set user level	38
Password management	39
Assigning/changing passwords	40
<hr/>	
<b>6 FDT Navigator Options/Settings</b>	<b>41</b>
– Setting options	42
<hr/>	
<b>7 DTM Management</b>	<b>43</b>
Determine installed DTMs	44
Display installed DTMs	45
DTMs/communication channels	46
– Communication DTM	46
– Communication channel	47
– Gateway DTM	47
– Device DTM	47

---

<b>8</b>	<b>Project Management</b>	49
	New project	49
	Load project	49
	Save project	49
	Save project as HTML page	50
	Print project	50
	Device catalogue	51
	Topology management	53
	Creating topologies	53
	Topology view	57
	Reading device topology	62
	Topology scan	63
	Printing DTM-specific documentation	65
	Switching DTMs online/offline	65
	Online/offline comparison	66
	Online/offline comparison for one device	67
	Online/offline comparison of the project	68
	Display device status for single device	70
	Display device status for entire project	71
	Properties	72

---

<b>9</b>	<b>Error Messages and Causes</b>	73
----------	----------------------------------	----

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	<b>Index</b>	79
--	--------------	----



## About This Manual

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### Other manuals

The FDT Navigator is a software tool for operating networked switching and field devices. This is a frame application which can incorporate different device software user interfaces or DTMs (Device Type Manager).

This manual only describes the functions of the frame application itself. Refer to the documentation of the relevant device manufacturer for a description of the particular device software user interfaces.

Moeller provides one such device software user interface for the NZM circuit-breaker. The relevant "NZM-DTM" manual (AWB2776-1547GB) can be downloaded from the Internet as a PDF file. To find this manual quickly enter the documentation number as a search criterion at <http://www.moeller.net/support>.

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### Target group

This manual is aimed at different types of target readership, from observers, operators, maintenance personnel to design engineers. The target group can be defined in the FDT Navigator and is assigned different access rights.

**Writing conventions**

Symbols used in this manual have the following meanings:

► indicates actions to be taken.



**Attention!**

Warns of a hazardous situation that could result in damage to the product or components.



**Caution!**

Warns of the possibility of a hazardous situation that could result in major damage and minor injury.



**Warning!**

Warns of the possibility of a hazardous situation that could result in major damage and serious injury or even death.



Indicates interesting tips and additional information

For greater clarity, the name of the current chapter is shown in the header of the left-hand page and the name of the current section in the header of the right-hand page. Pages at the start of a chapter and empty pages at the end of a chapter are exceptions.



# 1 Overview of the FDT Navigator

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## **FDT Navigator as a service station**

The FDT Navigator is a software tool for operating networked switching and field devices. The FDT Navigator is a frame application based on the field device tool concept, which can incorporate different device software user interfaces or DTMs (Device Type Manager).

The user interfaces of the device DTMs are used to access the particular "operating", "parameter definition", "configuration" and "diagnostics" functions of the electronic switching and field device concerned.

Communication DTMs represent the fieldbus interfaces that provide the connection required for addressing particular devices.

The FDT Navigator allows you to set up an autonomous service station, which, for example, can be run on its own on PROFIBUS-DP or together with other SCADA, visualization or control systems.

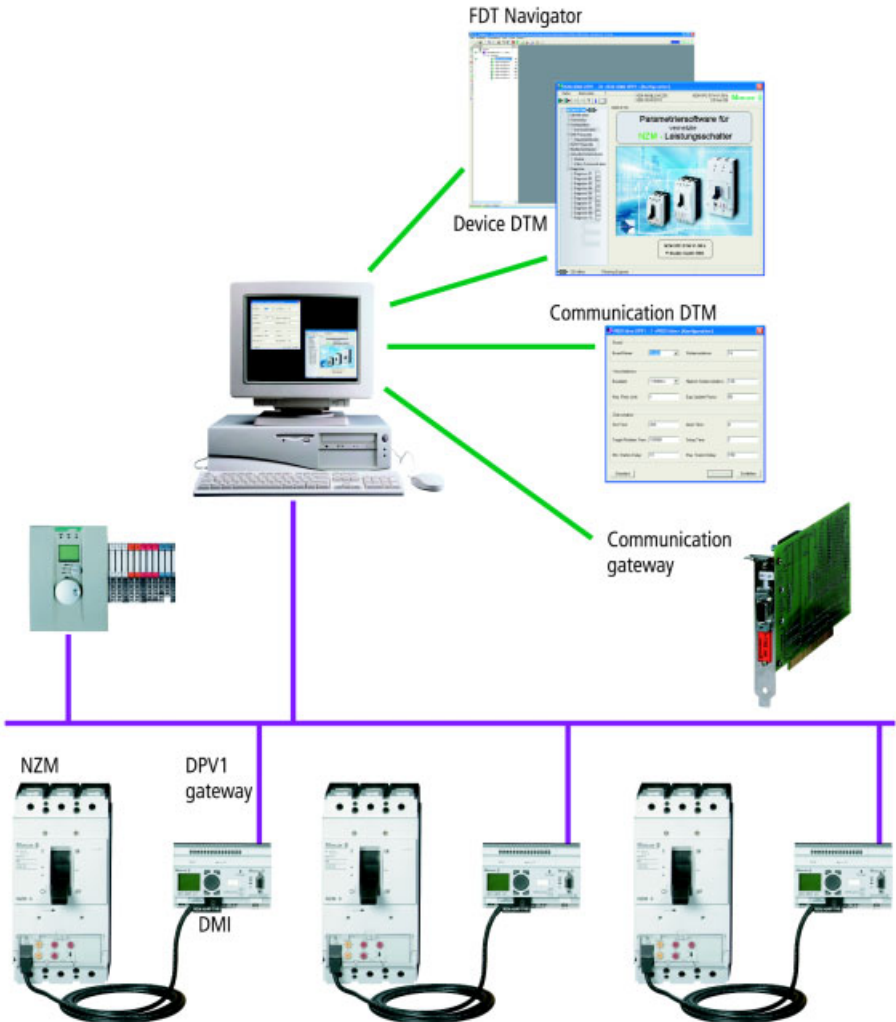


Figure 1: Hardware and software components required to run a service station

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**Main functions of the  
FDT Navigator**

The FDT Navigator provides the following main functions:

**Offline functions**

- Configuration and hierarchical display of network topologies with communication and device components
- Offline parameter definition of components using their device user interfaces (DTMs)
- Loading/saving/printing of a complete topology with all configured data.
- Printing of device documentation from the DTMs

**Online functions**

- Online switching of DTMs by project or individually: connection of DTMs with the devices via the appropriate communication channels
- Handling with parameter sets
  - Writing of parameters from the DTM to the device
  - Reading of parameters and online data from the device to the DTM
  - Comparison of parameters between the DTM and the device
  - Storing of parameter sets in the project data
  - Reading or writing of all the DTMs belonging to project or selected DTMs
- Comparison of configured parameter sets and online data of a project with each other
- Device parameter sets and online data for transporting to a different PC or exporting and importing for later analysis
- Project-wide status indication (alarm, warnings) of the connected devices with overviews for alarms, warnings etc.
- Project generation by reading back the bus topology of an existing installation (provided that this is permitted by the bus system and DTMs are installed for the stations detected)

- Management of the installed DTMs
- Access protection by means of user profiles and password management

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## General procedure

- Creating topologies  
→ section "Creating topologies" on page 53
- Calling DTM instances and configuring device parameters.  
→ Separate manuals for the relevant DTM
- Switching DTMs online and writing the parameters to the devices, as well as the use of other online functions.  
→ section "Switching DTMs online/offline" on page 65
- Diagnostics of the DTMs  
→ section "Display device status for single device" on page 70 and „Display device status for entire project" on page 71.
- Documenting created topologies and device parameters  
→ section "Print project" on page 50 and „Printing DTM-specific documentation" on page 65.
- Determining modifications to parameters  
→ section "Online/offline comparison" on page 66.
- Reading and monitoring unknown topologies  
→ section "Topology scan" on page 63.

**Data model**

The diagram below shows the data model of the FDT Navigator and the DTMs:

When a topology is created, the appropriate topology data is stored in the FDT Navigator. The topology data can be saved as a project together with the parameter data from the DTMs. When a project is opened, the saved topology is generated again and the DTMs provided with the stored data. If a DTM is switched online, the configured parameters for the device can be written or the device data can be (parameter and online data) read and transferred to the instance data. This instance data of particular DTMs can be accessed via the relevant DTM dialogs.

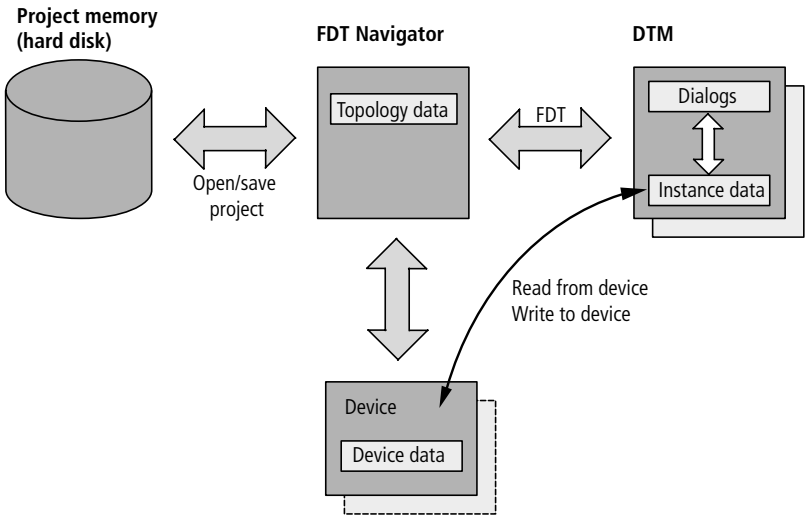


Figure 2: Data model of the FDT Navigator and DTMs



## 2 FDT/DTM concept

FDT (Field Device Tool) is a multivendor and fieldbus independent software technology that allows the device-specific software of a manufacturer B to be called from the engineering system of a manufacturer A and communicate with the appropriate device. This kind of device-specific software is called a DTM (Device Type Manager) and an appropriate engineering system (such as SCADA, visualization or asset management system) represents an FDT frame application. The FDT Navigator is designed as this kind of system that, in effect, offers "sockets" into which any device DTM can be "plugged in". A customer integrates the device software into an existing engineering system or FDT Navigator by installing the appropriate device DTM.

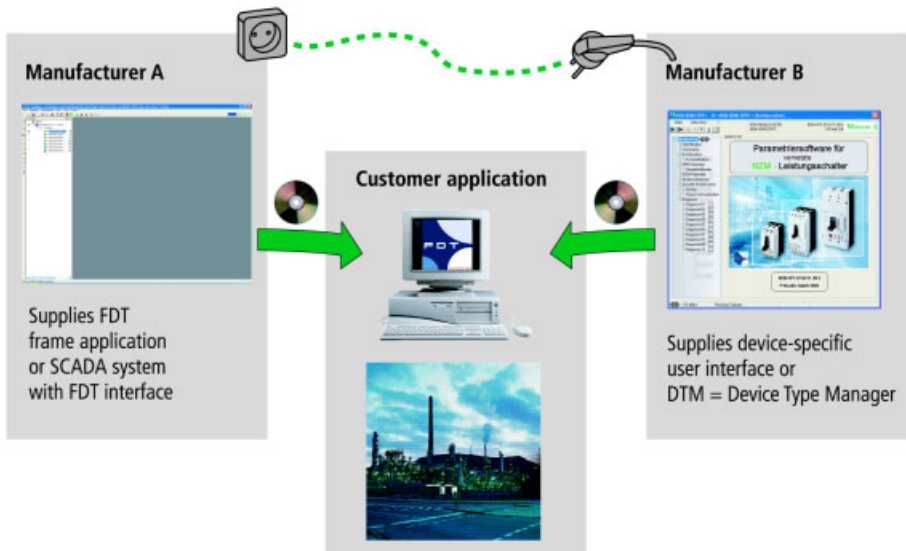


Figure 3: FDT/DTM concept

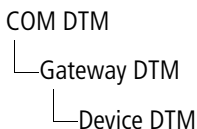
A fieldbus gateway, such as a PROFIBUS master, is normally required for communication between device DTM and device, and this also requires a driver. In the FDT/DTM

concept this driver is a so-called communication DTM. From the point of view of the device DTM, this driver provides a communication channel to the device.

If, for example, the FDT Navigator is to serve PROFIBUS field devices, a communication DTM for the PROFIBUS gateway must be configured first of all. The PROFIBUS device DTMs can then be connected to its communication channel.

In general terms, the physical communication components (PROFIBUS master and PROFIBUS devices) are represented in the software by DTMs (communication DTM and device DTMs).

However, the devices may also have several communication levels between them.



For example, a PROFIBUS-DP line may have a remote I/O device connected to it, which in turn offers connections for HART devices. In terms of the FDT/DTM world, this means that a DTM must be provided for every device. A communication DTM providing a PROFIBUS channel would thus be a representative of the PROFIBUS gateway. The DTM of the remote I/O device is connected to this communication channel. This DTM provides in turn a communication channel for each HART connection to which the DTMs for HART devices can be connected.



The actual communication topology is therefore reflected in the topology of the DTMs.

This therefore means that the following objectives of the FDT/DTM concept can be achieved:

- A device manufacturer can provide a software for accessing the full functionality of the device. The manufacturer's device can be integrated in the FDT-compatible SCADA system.
- A SCADA system manufacturer can offer a standard interface by means of which any fieldbus or field device can be integrated using the appropriate DTMs.
- This simplifies device integration for the customer thanks to the ease with which components can be installed. Ready-made user interfaces save the costly creation of screens and the assignment of communication variables.



## 3 Installing FDT Navigator

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### System requirements

- At least one communication DTM with corresponding hardware
- Windows NT, 2000, XP
- Pentium III 600 MHz or faster
- 256 MB RAM or more (512 MB RAM recommended)
- 60 MB free hard disk space on drive C:
- Internet Explorer 5.5 or higher (included on CD).

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### Installation

To install the FDT Navigator insert the CD in a CD or DVD drive. If the installation routine does not start up automatically, run the Setup.exe program from the CD. Follow the on-screen instructions.

The FDT Navigator is installed automatically in the installation directory Program Files\Moeller Software\FDT-Navigator. The default language for the initial startup is the language that was selected for the installation.

In order to use the FDT Navigator, you need at least one DTM. At least one [Communication DTM](#) is required. After the installation, launch the FDT Navigator via the Start menu under Program Files → Moeller Software → FDT Navigator.

The first time the Navigator is started, the Determine Installed DTMs function starts up internally and provides all the DTMs installed in the device catalogue. This function can be repeated at any time in order to update the device catalogue if additional DTMs are installed or uninstalled at a later time.



## 4 Main Window

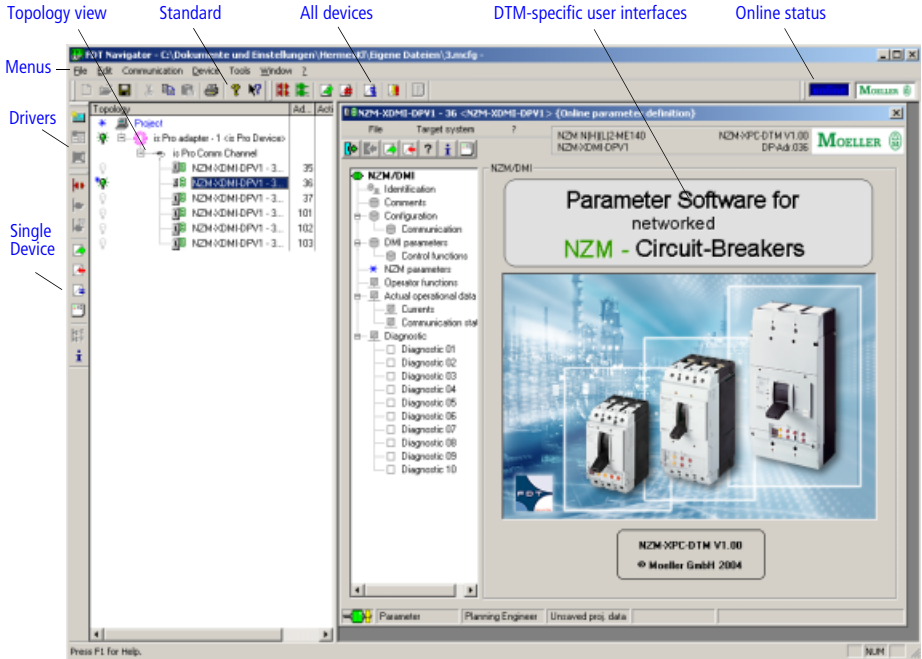


Figure 4: Main window of the FDT Navigator

### Toolbars

The toolbars offer direct access to the most frequently required functions. These toolbars can be shown or hidden via Tools → Toolbars. The toolbars can be positioned at the sides of the FDT Navigator window or can be placed as a separate window on the user interface. Their position is stored when the FDT Navigator is closed.

## Drivers

This toolbar provides the functions required for creating the topology.

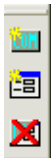


Figure 5: Drivers toolbar



Adds a [Communication DTM](#) to the topology. A communication DTM is always added at the highest level – under the project node. This function is always available. After activation, the device catalogue opens containing all the communication DTMs available for selection.



Adds a [Device DTM](#) or [Gateway DTM](#). This also opens the device catalogue showing all the DTMs suitable for the [Communication channel](#). This function is available for DTMs with communication channels and for communication channels. If a DTM has been selected and not a communication channel directly, the communication channel will be used automatically. If there are several communication channels, a window appears in which you select the required channel before the device catalogue is opened.



Deletes a DTM from the topology. This function is only available for DTMs that are offline. If the DTM contains other subordinate DTMs, these are also removed.

## All devices

This toolbar contains the functions that are applied to several [Device DTMs](#) in the topology. The functions of this toolbar are also available via the Communication menu.



Figure 6: All Devices toolbar



Switches all DTMs offline. This function is only available if at least one DTM is switched online. Not all DTMs may be able to be switched offline. In this case a prompt will ask whether you wish to break off the connection anyway. This may, however, cause inconsistent behaviour in the affected DTMs.



Used for switching online all DTMs in the topology. This function is only available if at least one DTM is switched offline.



Read the device parameters of all DTMs online. This function is only available if at least one DTM is switched online. The DTMs may open progress bars. The completion of this operation is indicated separately with an appropriate message.



Write the device parameters of all DTMs online. This function is only available if at least one DTM is switched online. The DTMs may open progress bars. The completion of this operation is indicated separately with an appropriate message.



Topology-wide [Online/offline comparison](#) switching of all devices online. This calls the online/offline comparison function of the individual DTMs. This function is only available if at least one DTM is switched online. If a DTM does not support this function, no result will be shown for the DTM concerned. The overall result is then displayed in a dialog and is sorted by individual DTM. The displayed messages come from the individual DTMs.



Status check of all DTMs online. This function is only available if at least one DTM is switched online. If the status check is active, the FDT Navigator reads the device status of the individual online DTMs cyclically. The result is displayed by means of symbols in the topology. The messages "Unknown", "OK", "Warning" and "Error" are used here. An assigned plain text message can also be displayed (see next paragraph).



Displays the device status in plain text. This function is only available if the Status check symbol is active.



## Single Device

This toolbar contains all the functions related to individual DTM instances. These functions can also be accessed via the Device menu in FDT Navigator and in the context menu of the topology view, together with other functions.



Figure 7: Devices toolbar



Switches a DTM offline. This function is only available if the DTM is switched online. If this DTM contains other subordinate DTMs, these are also switched offline.



Switches a DTM online. This function is only available if the DTM is switched offline. If required, all DTMs required for communication are also switched online such as the higher-level communication DTMs.



Switches the selected DTM and all subordinate DTMs online. This function is only available if at least one relevant DTM is offline. If required, all DTMs required for communication are also switched online.



Read device parameters in the selected DTM. This function is only available if the DTM is switched online.



Write the device parameters to the device of the selected DTM. This function is only available if the relevant DTM is switched online.



[Online/offline comparison](#) in the selected DTM. This function is only available if the DTM is switched online. The result is displayed in a dialog box in the form of a plain text message.



Displays the device status in plain text in a dialog. This function is only available if the relevant DTM is switched online.



Carries out a [Topology scan](#) in the respective DTM. This function is only available for DTMs with communication channels and with the communication channels themselves if the DTM concerned is online. The result is displayed in a dialog. Suitable DTMs for the devices found can then be transferred from this dialog directly to the topology.



A dialog shows information on the individual objects in the topology.

## Standard



Figure 8: Standard toolbar



Closes the current project and creates a new one in the FDT Navigator. A prompt may ask beforehand whether the previous project should be saved.



Opens a previously saved project.



Saves the current project.



Cuts the selected DTM with all subordinate DTMs from the topology and copies it to the Clipboard. The save operation in the Clipboard is carried out with the configured data of the DTM. This function is only available for DTMs.



Copies the selected DTM with all subordinate DTMs to the Clipboard. The save operation in the Clipboard is carried out with the configured data of the DTM. This function is only available for DTMs.



Pastes the contents of the Clipboard in the topology. If the content to be pasted includes a [Communication DTM](#), the DTM with all subordinate DTMs will be pasted on the level of the communication DTM. The currently selected DTM is of no importance. If the Clipboard contains a [Device DTM](#), this is appended to the selected [Communication channel](#). If a DTM with several communication channels is selected, a prompt will ask beforehand which communication channel should be used.



Prints out the project. This prints out the topology on the first page. Information about the individual DTMs is then printed out together with the readable parameters. Many DTMs offer additional printable information independently of this print function. This information can be printed out via the context and Device menus.



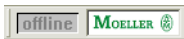
Opens a dialog with information on the FDT Navigator.



Activates the context-sensitive Help.

## Online status

The FDT Navigator provides an overview of the online status of the individual DTMs in a toolbar. The different displays have the following meaning:



Indicates online status. This is shown if all DTMs are offline.



This is shown if at least one DTM is switched online.



This is shown if at least one DTM is switched online, the device status scan is active, and none of the DTMs are showing an error or a warning.



This is shown if at least one DTM is switched online, the device status scan is active, at least one of the DTMs is reporting a warning, and none of the DTMs are reporting an error.



This is shown if at least one DTM is switched online, the device status scan is active, and at least one of the DTMs is reporting an error.

---

## Menus

Apart from the main menu, the FDT Navigator also offers context-sensitive menus in the topology view. In addition to general menu items, each DTM shows its own menu items in the context menu in the topology view. The context menu is also always available in the Device menu. The individual user interfaces of the DTMs can also have their own menus.

### File menu

This menu contains all the functions required for project management:

- Create new project
- Open existing project
- Save project
- Print project or save as HTML file.

### Edit menu

This menu contains the Clipboard functions:

- Cut
- Copy
- Paste

These functions are used to edit the individual DTM instances as well as the subordinate DTM instances. The content is stored in the Clipboard as XML formatted text.

If the project only contains one device or [Gateway DTM](#), the Clipboard can only be added to one [Communication channel](#). If the project contains a [Communication DTM](#), this can only be pasted on the highest level.

## Communication menu

This menu contains all the functions required for simultaneous communication with several devices. The functions have the following meaning:

- All Online  
Switches all DTM instances online.
- All Offline  
Switches all DTM instances offline.
- Write to Online Devices  
Sends the parameters of all online devices to the device.
- Load Online Devices  
Reads the parameters of all online devices.
- On/Offline comparison of all online devices  
Carries out an online/offline comparison for every online device and then displays the result for the individual devices.
- Scan device status  
Scans the device status cyclically. The result is displayed in the topology tree in the form of icons. It can also be displayed in detail in the form of a dialog by means of the Display All Messages function in this menu or via the All Devices toolbar.
- Display All Messages  
Displays in a dialog the device status of all online devices when the cyclical scanning of device status has been activated.

## Device menu

This menu item shows the context menu of the topology view. In addition to the functions listed below, this menu contains the menu functions displayed by the individual DTMs. The functions have the following meaning:

- Add device

Opens the device catalogue in which the appropriate context-dependent DTMs are offered for selection. Communication DTMs are offered on the project level. If a [Communication DTM](#) or [Gateway DTM](#) is selected, DTMs (device or gateway DTMs) will be offered that are suitable for the [Communication channel](#).

If a DTM has been selected and not a communication channel directly, the communication channel will be used automatically. If there are several communication channels, a window appears in which you can select a communication channel before the device catalogue is opened.

- Delete device

Deletes a DTM with all subordinate DTMs. This function is only available if all the related DTMs are offline.

- Rename

Makes it possible to rename an object in the topology view. This function is only available with DTMs if the relevant DTM is switched offline. With [Device DTMs](#) the name in the topology and the <Tag name> can be changed. For communication channels only the name can be changed.

- Print

If it is a project node that is selected in the topology view, the entire project can be printed here. Otherwise the printable documents of the relevant DTM are available. Three print options can be selected:



- Page preview  
Opens the print preview for the document concerned.
- Print  
Prints the appropriate document immediately.
- Save as web page  
Switches to the output of an HTML file.
- Switch online  
Switches the corresponding DTM online. If present, the higher-level DTMs required for communication are also switched online.
- Switch offline  
Switches the corresponding DTM offline. All subordinate DTMs are switched offline at the same time.
- Load from device  
Loads parameters from the corresponding device into the DTM. This function is only available if the relevant DTM is switched online.
- Write to device  
Writes parameters to the corresponding device. This function is only available if the appropriate DTM is switched online.
- Compare Online/Offline Data  
Initiates the online/offline comparison for the device concerned. The device must be online for this. The result is displayed in a dialog.
- Display device messages  
Scans the device status of the relevant DTM and shows the result in a dialog. The device concerned must be online for this to be possible.
- Scan topology  
Calls up the topology scan function in a [Communication channel](#). The associated DTM must be online for this to be possible. If a DTM with a communication channel is selected, this is used automatically. If the DTM has several communication channels, a dialog will open from which a communication channel has to be selected.

The DTM-specific functions are shown between menu items Scan Topology and Properties.

- Regenerate DTM

This menu item appears if a DTM has not been generated correctly. The function tries to reload the DTM into the project. DTMs that have been recently added are removed from the topology.

- Properties

This function shows information about the object selected in the topology view. If the object is a DTM; information about this DTM, its status and the relevant device information will be displayed. The information is displayed in a dialog.

- Refresh View

This menu item is only available if you have selected the highest project node in the topology tree.

The View menu can be used to refresh the topology display. This may be necessary with some DTMs that do not automatically pass on status changes to the FDT Navigator.

## Tools menu

This menu contains various functions required for DTM management and for the configuration of the FDT Navigator.

The following functions are available:

- Determine installed DTMs

Determines all DTMs (→ section "Determine installed DTMs" page 44) installed on the PC and updates the device catalogue.

- Display DTM list

Displays in a dialog all the DTMs and corresponding devices known to the FDT Navigator.

- **Toolbars**  
Hides or shows the different toolbars.
- **Status bar**  
Hides or shows the status bar of the FDT Navigator.
- **Password management**  
Opens the password management dialog.
  
- **Set user level**  
Changes the user level. This opens the Login User dialog. The change is only applied to already existing DTMs in the project once the project has been reloaded.
- **Options**  
Opens the Options dialog of the FDT Navigator. This dialog is used for setting different options for program behaviour and the display. This includes setting the language of the user interface.

### **Window menu**

This menu provides functions for arranging windows and working on the windows of different DTMs, such as bringing the individual windows into the foreground, closing all windows or rearranging window positions.

### **? menu**

This menu is used for calling the Online Help and program information of the FDT Navigator.

---

**Topology view**

The left side of the FDT Navigator window shows the topology of the current project as a tree structure.

Each object in the topology tree has its own context menu. A project node is shown at the top of the topology tree and underneath this the DTM instances and communication channels. This context menu also allows you to open the user interfaces of the individual DTM instances. This menu is also included in the Device menu of the FDT Navigator.

Refer to [section "Topology management"](#) on page 53 for further information.

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**DTM-specific user interfaces**

Most DTMs come with their own graphical user interface which is normally provided as an ActiveX control. The size of the DTM user interfaces may be fixed or variable. These properties are determined by the DTM concerned.

The FDT Navigator opens a separate window for every user interface to be displayed. The name of the DTM, as displayed in the topology tree, is shown in the title bar of the window. After this is the name in braces of the function belonging to this window.

The user interfaces can be opened via the context menu of the DTMs or via the Device menu.

User interfaces can also be opened via the other user interfaces of DTMs. If a user interface cannot be opened, this may be because it is already opened and is covered by another window. The individual windows can be brought to the foreground by using the Window menu.

In rare cases, a DTM may open its own application program. This application program then runs entirely independently of the FDT Navigator. It is therefore not listed in the Window menu.

Double-clicking the DTM icon in the topology tree opens the parameter user interface of most DTMs.

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## Progress bar

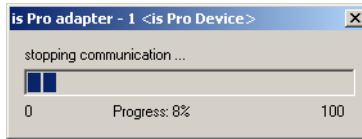


Figure 9: Progress bar

Each DTM can open a progress bar and display the progress of current operations. If necessary, a separate progress bar is opened for each DTM. As long as the DTM is refreshing the progress bar, it can only be closed temporarily. In this case it will reappear as soon as the DTM has refreshed the progress bar again. It disappears automatically if the DTM has not refreshed the bar within approx. 7 seconds. During this time you can also close the progress bar manually. Whilst the program is running, the position of each individual progress window is also retained if the progress window is closed.



## 5 User Levels

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### Meaning of user levels

FDT provides a number of different user levels. There are four user levels that can be selected in the FDT Navigator:

- Observer
- Operator
- Maintenance/commissioning
- Planning engineer.

Each user level is assigned different tasks and therefore different functions.

The Observer level is not allowed to modify data. The Operator may operate the devices but is not allowed to modify parameters. The Maintenance personnel is allowed, for example, to transfer parameters to a device so that a faulty device is replaced by a new one. The planning engineer level, on the other hand, is allowed to do everything.

The individual functions available for the user levels are determined by the manufacturers of the DTMs.

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**Set user level**

The user levels can be set Tools → Set User Level.

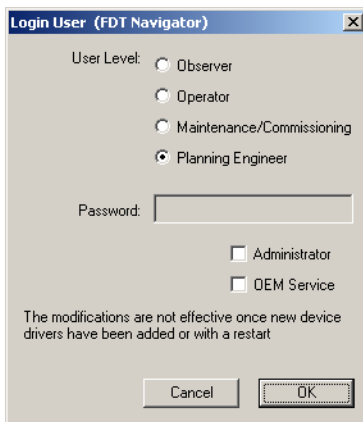


Figure 10: Set user level

This dialog appears automatically when the program is started if a password entry is required for the last user level set. If a password has not been set, the FDT Navigator starts up automatically with the last settings.

The password entry is activated if you select a user level which has an assigned password. A login under the selected user level is only possible if the password is entered correctly. The password check distinguishes between upper and lower case.

For the Planning Engineer user level you can also specify the attributes Administrator and OEM Service. These have no meaning in the FDT Navigator. If a DTM is used that requires these attributes for certain functions, Planning Engineer must be set as the user level.

The user level set is only active after a restart or for DTMs incorporated after the setting was made. DTMs already present in the topology continue to run under their previous user level settings.



---

## Password management

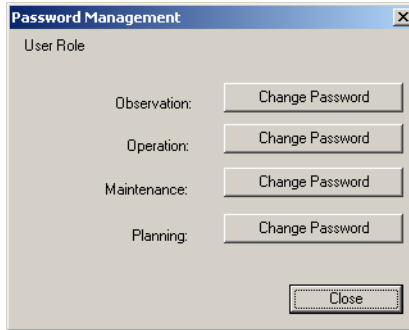


Figure 11: Password management

The password management function allows you to set passwords for the four user levels provided in the FDT Navigator. The user levels are primarily applied to the DTMs. Different functions are made available here depending on the user level set.

The password request is active as soon as a password is set. To set or modify a password, click the appropriate button assigned to the user level concerned. This will open the password entry dialog.

### Assigning/changing passwords

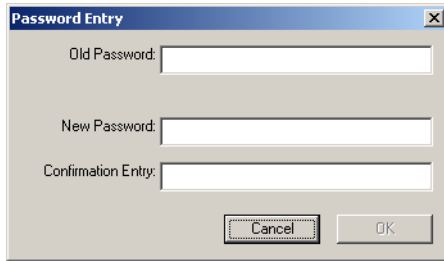


Figure 12: Password entry dialog

Depending on whether you wish to assign a new password or change or delete an existing one, you have to enter the following lines:

Action	New password	Change password	Delete password
Old password		×	×
New password	×	×	
Confirmation entry:	×	×	

## 6 FDT Navigator Options/Settings

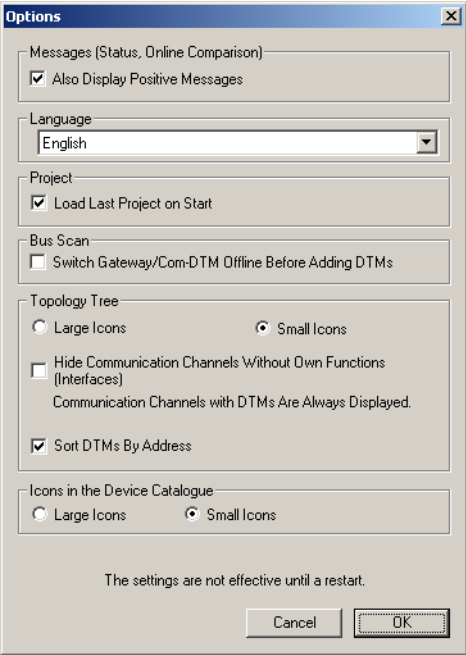


Figure 13: FDT Navigator settings

FDT Navigator settings are carried out in the Options dialog. These settings are only fully active once the FDT Navigator has been restarted.

## Setting options

- Also display positive messages

This setting enables devices to also be displayed in the Device Status Display dialog that are not reporting any warnings or errors.

In the case of the Online/Offline Comparison dialog, this setting also causes devices to be listed that do not show any differences.

- Language

Set the dialog language of the FDT Navigator in the list box. This setting is also applied to the user interfaces of the DTMs. If a DTM does not support the set language, it should be started with a default language. This is normally English. This setting can be activated immediately with some DTMs; however, with the FDT Navigator, it is only activated after the program is restarted.

- Load last project on start

When this option is activated, the last project used will be opened automatically when FDT Navigator is started. Otherwise, the FDT Navigator starts with a blank project.

- Bus scan: Switch Gateway/Com-DTM Offline Before Inserting

This option causes a [Gateway DTM](#) or [Communication DTM](#) to be switched offline after a topology scan, before the new [Device DTMs](#) found are added. This may be necessary with some communication DTMs.

## 7 DTM Management

The FDT Navigator manages the DTMs with which the individual devices can be accessed. It offers:

- Functions to determine the DTMs installed on the PC
- Functions to create a device topology from these DTMs
- Functions to switch the different DTMs online and offline
- Facilities for calling the device-specific functions of the DTMs

In the right-hand section of the FDT Navigator window you can open dialogs associated with the individual DTMs in their own subwindows. The content of these dialogs belongs to the individual DTMs concerned and is installed and uninstalled with them.

Before you can use a DTM, it must be registered with the FDT Navigator after it is installed. This is carried out via Tools → Determine Installed DTMs. This function also allows you to remove uninstalled DTMs from the list of known DTMs.

Those DTMs that are registered in the FDT Navigator can be displayed by manufacturer and device using the Display Installed DTMs function.

---

**Determine installed DTMs** This function updates the list of known DTMs and supported devices in the FDT Navigator. This list is used as a basis for the device catalogue and with the topology scan for detecting suitable DTMs. The list can be displayed via the Display Installed DTMs function.

You should always call this function when you have installed a new DTM on the PC or have uninstalled an existing DTM. This is necessary so that the device catalogue always displays those DTMs that are actually available.

## Display installed DTMs

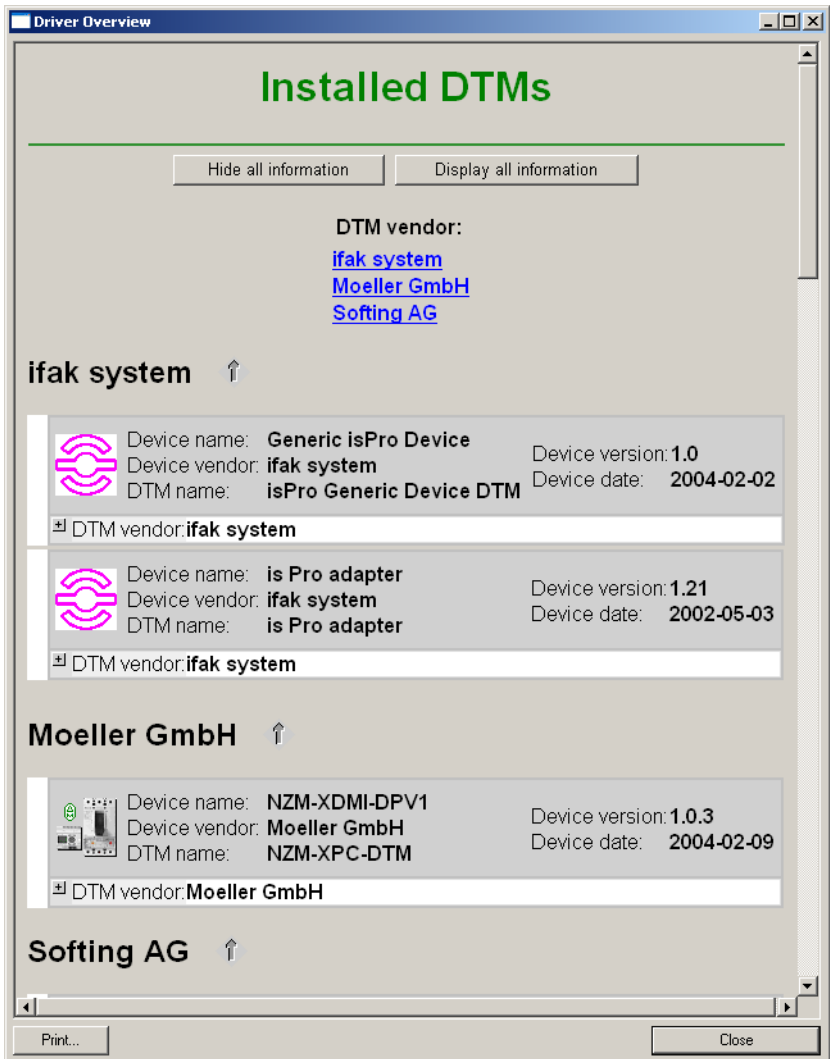


Figure 14: Display of all devices from the installed DTMs

The Driver Overview dialog shows all the device drivers that have been found by the FDT Navigator. The individual DTMs are not displayed directly. All the devices are displayed for

which there is a DTM. The devices are sorted according to device manufacturer. Further detailed information can be displayed for each individual device. This information includes items, such as the DTM name, DTM version, manufacturer of the DTM and other details. With PROFIBUS devices the GSD file information is also contained under the point Description.

The dialog contains at the beginning clickable links to individual device manufacturers found, via which a device can be found quickly in the dialog. If a device is not listed although the associated DTM is installed, update the device list via Tools → Determine Installed DTMs

The content of this dialog can also be printed out.

---

## **DTMs/communication channels**

DTMs are device drivers that can support one or several devices. A DTM is always linked with a communication channel (exception: communication DTMs). They can also have communication channels themselves. In this case they are called gateway DTMs. A DTM that does not have a communication channel is called a device DTM. If a DTM supports several devices, all devices are listed individually in the FDT Navigator. The properties page (Device → Properties) shows which DTM is behind a particular instance.

### **Communication DTM**

A communication DTM is the highest DTM in the topology. It provides the connection from the FDT Navigator and the subordinate DTMs to the higher-level fieldbus. Normally, a suitable hardware device must be connected to the PC or installed in it for establishing the link to the fieldbus. A communication DTM has at least one communication channel to which other DTMs can be connected. The connection between DTMs is always displayed in the topology via a communication channel.



### **Communication channel**

A communication channel in the topology normally represents access to a fieldbus or a communication level. Each communication channel is assigned at least one communication protocol by means of which the FDT Navigator displays suitable DTMs in the device catalogue.

### **Gateway DTM**

A gateway DTM is both a device DTM and a communication DTM at the same time. It provides the connection between two different fieldbus levels. For example, this could be a DTM for a PROFIBUS device with HART terminals for the connection of devices which in turn have other DTMs. Just like the communication DTM, the gateway DTM has at least one communication channel.

### **Device DTM**

Device DTMs are DTMs that do not provide any further subordinate fieldbus levels for the FDT Navigator. No other DTMs can be connected to these DTMs in the topology.



## 8 Project Management

The FDT Navigator can always open one project. The project contains the topology with the individual DTMs and their parameters.

The project can be stored, loaded or printed. These functions can be accessed via File and via the Standard toolbar.

---

<b>New project</b>	This function creates a blank project in the FDT Navigator. It is only available if either no DTM is in the project or if all DTMs have been switched offline.
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<b>Load project</b>	<p>You can load an existing project back into the FDT Navigator by using the Load function. This function can be accessed in the FDT Navigator via File and via the Standard toolbar.</p> <p>You can set the FDT Navigator to automatically load on startup the last project saved. These settings are carried out via Tools → Options. This function is only available if all the DTMs are offline.</p>
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<b>Save project</b>	The Save project function is available in the File menu. In this operation, the Navigator will ask you to enter a file name if you have not saved the project beforehand. The current topology is saved with the relevant DTM parameters.
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**Save project as HTML page** → section "Print project"

---

## Print project

A page preview can normally be opened, printing can be started directly or the project can be output as an HTML page file.

The FDT Navigator provides several print options.

- Print the entire topology

This function can be executed via the context menu of the first entry in the topology view or via the File menu of the FDT Navigator.

This function prints out the entire topology and DTM information that the FDT Navigator can scan from the DTMs. This information includes items, such as the device name, the DTM name, the version and the manufacturer. The parameters of the DTM are also printed out. The parameters are read with the GetParameters function and printed out as a table. (GetParameters should be implemented by every DTM!) This printout does not use any other DTM-specific print functions. The DTM-specific print functions can be called in the context menu or in the Device menu of the individual DTM instances.

- Printing information on individual devices.

This is described in [section "Printing DTM-specific documentation"](#) on page 65.

## Device catalogue

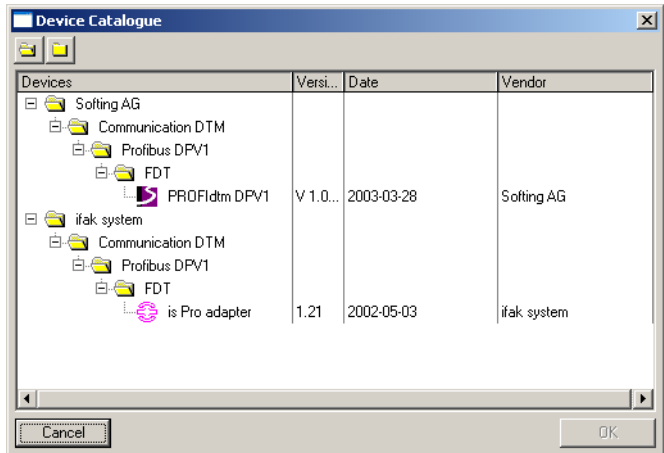


Figure 15: Device catalogue: device display and selection

The device catalogue is used to display and select devices for which DTMs are installed.

The device catalogue contains a filter function that ensures that only devices suitable for the actual context are offered. If, for example, you wish to insert a [Communication DTM](#), the device catalogue will only display communication DTMs. If, for example, you have selected a PROFIBUS communication channel, all PROFIBUS-compatible devices are made available for selection.

The device catalogue displays the devices by manufacturer, communication protocol and device type. The two buttons at the top left can be used to open and close all folders.

The devices are sorted in the following order:

- Manufacturer
- DTM type (communication DTM, gateway DTM and device DTM)
- Fieldbus protocol
- Device group (e.g. pressure, level, temperature etc.)

If a device supports several communication protocols, it is listed here several times.

Double-clicking a device will transfer the corresponding device DTM directly into the topology.

The **Communication channel** to which the DTM is to be added checks whether this is possible in the actual configuration. At this point, the higher-level DTM can still abort the adding of the DTM.

You can close the dialog at any time via Cancel.

If the searched for device is not listed in the device catalogue, this may be due to any of the following causes:

Cause	Solution
The DTM designed for the device is not installed:	▶ Install the DTM and call up the device list via Tools → Determine Installed DTMs.
The DTM is installed but the device list has not yet been updated.	▶ Call up the device list via Tools → Determine Installed DTMs.
The selected communication channel does not offer a suitable communication protocol.	▶ In this case, nothing can be done since the device DTM does not apparently support the communication protocol required.

## Topology management

Several DTMs are included in the topology. The structure of the topology normally corresponds to the communication network between the devices. Normally a communication access to the fieldbus is provided at the top. In the FDT Navigator this is the so-called **Communication DTM**. The FDT Navigator can incorporate several communication DTMs of this type in a topology configuration.

### Creating topologies

The following steps are required to create a topology in the FDT Navigator. This can be done in two ways:

#### Creating topologies offline

A communication DTM must be added to the topology:

- ▶ To do this, right-click the first entry in the topology view.
- ▶ Select Add Device in the context menu.

This will open the device catalogue containing all communication DTMs known to the FDT Navigator. If the required communication DTM is not listed, but is installed on the PC, you must choose Tools → Determine Installed DTMs beforehand in the FDT Navigator.

- ▶ If the device dialog is open, double-click the required communication DTM to select it.

The communication DTM is then included in the topology.

- ▶ Now set the appropriate bus parameters for the communication DTM (→ section "Configuring the communication DTM" on page 56).



#### Caution!

Incorrectly set parameters may later cause malfunctions in the system!

- ▶ If the topology includes a communication DTM, right-click the DTM or a displayed communication channel.

If you have clicked on the DTM and this offers several communication channels, you will be requested in a dialog to select one of these communication channels. If the DTM

only has one communication channel, this is used automatically. The device catalogue will open automatically once more. This offers all the DTMs suitable for the communication channel. For example, for a PROFIBUS-DPV1 communication channel, only a DTM with DPV1 support is proposed.

- ▶ Now double-click one of the required devices to include this device in the topology.

The communication DTM checks beforehand whether it can manage the new DTM. This is not the case, for example, if the maximum number of devices are already connected to this communication channel. In this case the DTM will output an appropriate message.

- ▶ Set the bus addresses for the DTMs inserted, unless an address has already been requested when they were added.

The addresses are normally set via the communication DTM, which offers a special function for this in the context menu and in the device menu.

- ▶ You can now switch the DTMs online.



### Creating topologies online

A communication DTM must be added to the topology:

- ▶ To do this, right-click the first entry in the topology view.
- ▶ Select Add Device in the context menu.

This will open the device catalogue containing all communication DTMs known to the FDT Navigator. If the required communication DTM is not listed, but is installed on the PC, you must choose Tools → Determine Installed DTMs beforehand in the FDT Navigator.

- ▶ If the device dialog is open, double-click the required communication DTM to select it.

The communication DTM is then included in the topology.

- ▶ Now set the appropriate bus parameters for the communication DTM (→ section “Configuring the communication DTM” on page 56).



#### Caution!

Incorrectly set parameters may later cause malfunctions in the system!

- ▶ Switch the communication DTM online via the context menu, the device menu or via the toolbars.
- ▶ Start the Scan Topology function via the context menu, device menu or the toolbar for the communication DTM.

This function must be provided by the DTM.

All devices found on the bus are displayed with the corresponding DTM. All suitable DTMs for devices not yet included in the topology are selected by default for insertion. If you have several DTMs for a device, select only the required DTM. Then click the Add button. The selected devices are thus transferred to the topology of the FDT Navigator. The corresponding bus addresses are set automatically as far as possible.

The parameters should then be read from the devices so that the configuration of the topology in the FDT Navigator actually matches the configuration in the devices. This operation can be carried out via the Communication menu and via the All Devices toolbar.

### **Configuring the communication DTM**

The configuration of the communication DTM can vary according to the manufacturer concerned. The DTMs normally offer the setting options for all communication parameters of the communication protocols supported.

In order to run a communication DTM parallel with other devices on a bus, these devices may have to be assigned parameters accordingly.

The following explains the parameter assignment using PROFIBUS-DP as an example.

Two situations may exist:

The communication DTM used with the PROFIBUS master is the only master on the PROFIBUS line:

- ▶ In this case, you must select a suitable baud rate, with which the required stations can be addressed and which is suitable for the bus length.
- ▶ Set the appropriate bus parameters for this baud rate. Most communication DTMs provide the option of automatically setting suitable default parameters for a selected baud rate.

There are other masters in addition to this master:

- ▶ Assign parameters for the masters present so that you can still include another master in the communication. You must allow the additional master enough time on the bus.
- ▶ Use the same baud rate for all stations. The remaining bus parameters must be compatible with each other, otherwise communication malfunctions may occur.

## Topology view

Topology		Ad...	Acti
Project			
?	is Pro adapter - 1 <is Pro Device>		
	is Pro Comm Channel		
	NZM×DMI-DPV1 - 6 <NZM×D...	12	
	NZM×DMI-DPV1 - 7 <NZM×D...	13	
	NZM×DMI-DPV1 - 8 <NZM×D...	14	
OK	NZM×DMI-DPV1 - 35 <NZ...	35	==
!	NZM×DMI-DPV1 - 36 <NZ...	36	+
!	NZM×DMI-DPV1 - 37 <NZ...	37	==

Figure 16: Topology tree with status display of the DTMs

The topology tree shows all the DTMs with their actual status. A blue asterisk in the first column indicates that something has changed in the instance data since opening or since the last time it was saved. As soon as a change occurs in one of the DTMs, a change is also displayed for the entire project. A change will likewise be indicated for the project if a DTM instance is deleted.

Each DTM can have its own icon which is displayed in the tree. The online status and memory status of each DTM is displayed at the beginning of the lines. A blue asterisk indicates that not all the data has been saved yet on the hard disk. A device status symbol is also displayed next to the device icon, and this can be switched on in online mode → section “Display device status for single device” on page 70.

Topology	Ad...	Action
Project		
is Pro adapter - 1 <is Pro Device>		
is Pro Comm Channel		
NZM-XDMI-DPV1 - 6 <NZM-XD...	12	
NZM-XDMI-DPV1 - 7 <NZM-XD...	13	
NZM-XDMI-DPV1 - 8 <NZM-XD...	14	
OK NZM-XDMI-DPV1 - 35 <NZ...	35	==
NZM-XDMI-DPV1 - 36 <NZ...	36	+
NZM-XDMI-DPV1 - 37 <NZ...	37	==
PROFIdtm DPV1 - 1 <PROFIdtm>		
Channel		
Gateway	126	
Internal bus		
IO	0	
AI HART	1	
Ch01		
Ch02		
Ch03		
Ch04		
IO	2	

Figure 17: DTMs in several levels

DTMs can also be configured in several levels if gateway DTMs are used.

The names of the individual DTM instances consist of two elements.

- A name that is managed by the FDT Navigator
- A tag name that is managed by the DTM instance concerned. This element is indicated between <> characters.

The FDT Navigator allows you to change both name elements provided that the DTM instance is not online. Some DTMs will not accept the tag name. This will be shown by the fact that this name element never changes.

DTM internal devices can also be displayed in the topology if the DTM provides this information to the FDT Navigator. The internal DTMs can also have communication channels to which other DTMs can be connected. Internal DTMs cannot be deleted or added via the topology tree. This is carried out via the user interface of the DTM.

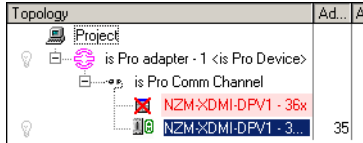


Figure 18: DTM marked in red that is no longer installed

If a DTM is present in the project but is no longer installed on the computer, it will be indicated in red in the topology. If this is a communication or gateway DTM, subordinate DTMs will not be displayed.

You can either remove the DTM from the configuration or create it again if it is reinstalled. This function can be called up via the context menu. If this DTM contains other subordinate DTMs, an attempt will also be made to create these DTMs again.

**Online status**

The light bulb indicates online status.

Colour of the light bulb	Status
Light grey	offline
Solid grey	The DTM has a communication connection provided via a communication channel, but is not using it.
Green	The DTM has established an online connection.

It depends on the DTM when its light bulb changes from grey to green. Some DTMs change automatically from grey to green as they automatically establish an online connection as soon as they have the chance. Other DTMs must be switched online manually, or only establish a temporary connection when required, such as when reading parameters.

### Address

The second column displays the address of the DTM. If a DTM does not provide this information, the entry stays empty. The order of the displayed DTMs can be sorted by address. This can be set via Tools → Options. The address assignment and sorting is carried out separately for every communication channel, since each communication channel normally represents a separate fieldbus.

### Action

The third column displays the current action in progress. For example, this could be a write operation to the device, a read operation from the device or an online/offline comparison.

With online/offline comparisons for a project, an additional green "Identical" or orange "Not identical" are displayed in the topology for every online device for as long as the result is displayed in the dialog.

### Device status

If the reading of the device status is active, the device status information is also displayed between the DTM icon and the DTM name.

A question mark means	The DTM has not supported the reading of the device status.
A green OK means	No messages present!
A yellow triangle with an exclamation mark means	Warnings present!
A red Stop sign means	Error messages present.

The communication channels are represented by an open and closed plug. Each object has its own context menu. Each DTM has its own functions that can be listed via this context menu.

The assignment of messages and warnings to particular errors depends on the manufacturer and is defined in the DTM for the device concerned. A DTM must be online (→ section "Switching DTMs online/offline" on page 65) in order for you to scan the related device status.

**Clipboard, functions**

Parts of the topology can be copied to the Clipboard, where it is stored as text in XML format. This text can for example be sent as an email or stored using Windows Notepad. This function can also be used to transfer parts of one project into another project. If you have selected a DTM with subordinate DTMs, this DTM is copied to the Clipboard with all subordinate DTMs and pasted at its destination in exactly the same way. The Cut and Paste functions also allow you to move a DTM within a project from one communication channel to another.

You can access the Clipboard functions Copy, Cut and Paste via the Standard toolbar and via the Edit menu of the FDT Navigator.

## Reading device topology

Proceed as follows in order to read a device topology:

- ▶ Add a communication DTM to the topology that supports the appropriate bus protocol.
- ▶ Now set the appropriate bus parameters for the communication DTM (→ section “Configuring the communication DTM” on page 56).



---

### Caution!

Incorrectly set parameters may later cause malfunctions in the system!

- ▶ Switch the communication DTM online.
- ▶ Execute the Topology Scan function from the context menu of the communication DTM; from the Device menu or from the Single Device toolbar.

This function must be provided by the communication DTM.

After a bus scan has been successfully completed, installed DTMs can be added to the topology for the devices found on the bus.

- ▶ Switch all DTMs online and read the device parameters of all devices so that the project matches the actual configuration.
- ▶ Save the entire project.

At a later time you can determine, if required, any changes made to the device parameters using the online/offline comparison.



## Topology scan

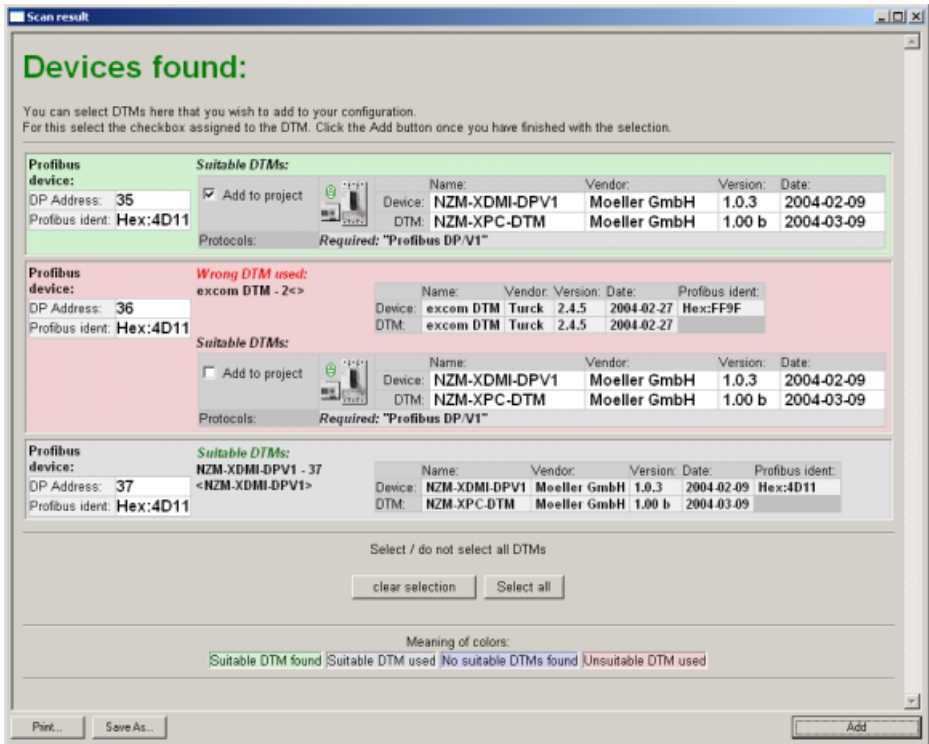


Figure 19: Result of a topology scan

The Scan Result dialog displays the result of a topology scan.

The Navigator will try to find suitable DTMs for every device found. With PROFIBUS the allocation is carried out via the Profibus-Ident field. Several different results are possible:

- No DTM is found.

In this case the background is highlighted in light blue. Only the address and the PROFIBUS-Ident field are shown. If the DTM is nevertheless installed on the computer, check whether the device is listed in the Display Installed DTMs view. If this is not the case run the Determine Installed DTMs function.

- A DTM could not be found and there is no DTM with this address in the topology.

In this case the background is highlighted in green. The DTM is proposed for selection as a suitable driver. All the device-related information of the DTM is displayed.

- A suitable DTM could be found and an instance is already used in the topology.

In this case the background is highlighted in grey. All the device-related information of the DTM is displayed.

- A DTM could be found. However, the topology already contains an instance of an apparently unsuitable DTM with this address.

In this case the background is highlighted in red. The DTM found is available for selection. This can also be the case if a generic DTM is used. In this case, the DTM cannot supply a Device-Ident specially for this device.

DTMs incorporated in the topology that do not have any devices on the fieldbus are not displayed.

The selected DTMs can then be transferred to the topology. However, this does not remove or replace any DTMs that are already present. In certain circumstances, a gateway/communication DTM may not allow a DTM to be added. If several DTMs were found for a device, all the DTMs are offered for selection.

Use the Delete Selection and Select All buttons to select or deselect all DTMs found.

The Add button is used to close this dialog and transfer all the selected DTMs with the address to the topology.

If no DTMs were selected, the dialog can also be closed with this button. The content of the dialog can also be printed out or saved as an HTML page.

The PROFIBUS protocol is currently supported for the topology scan.

---

**Printing DTM-specific  
documentation**

Documentation can be printed out for each DTM. This is even possible when the DTM itself does not provide any printable documents. The output can normally be displayed in a Print Preview, printed out directly or saved in an HTML file.

The FDT Navigator can print out standard information for every DTM, which is obtained from the topology and from the DTM. The FDT Navigator obtains from the topology information about the device, the manufacturer and the DTM. The configured parameters are read from the DTM. This is carried out via the GetParameters function defined in the FDT Navigator.

DTMs may also provide other printable documents.

The context menu and the Print menu item in the Device menu offer three options: Page Preview, Print or Save as HTML Page. The individual printable documents are listed under these entries. Each DTM normally has the Standard Info entry. This is used to print the information that is also contained in the printout for the individual DTMs when the entire project is printed.

---

**Switching DTMs online/  
offline**

You can switch DTMs online and offline via the context menu in the topology view or via the Communication or Device menus in the FDT Navigator. The online switching function automatically switches all DTMs required for consistent communication online. This includes, for example, the communication DTM used and possibly the higher-level gateway DTMs used in the topology.

With the online switching function, the FDT Navigator first establishes a connection between the higher-level communication channel in the topology and the DTM to be switched online. This is indicated in the topology by a solid grey light bulb in front of the DTM. If the DTM notifies the FDT Navigator that it is switched online, the grey light bulb changes to a green one. When this indication occurs depends on the DTM. The FDT Navigator assumes that online commands such as the writing or reading of the device parameters are functional as soon as the connection

is set up. This then makes the online functions available, such as loading from the device, writing to the device, online/offline comparison, topology scan, display of device messages and the offline switching of DTMs.

The Communication menu of the FDT Navigator also includes functions with which all DTMs can be switched online or offline. These functions are also available via the All Devices toolbar.

---

**Online/offline comparison** To carry out an online/offline comparison, the relevant DTMs must be switched online beforehand. If this is the case, you can either make a comparison for a single device via the context menu or the Device menu of the device DTM, or for all online devices via the Communication menu in the FDT Navigator. The result of the comparison is then displayed in plain text. The text messages come from the individual DTMs. The online/offline comparison compares the parameter data of the individual DTMs with the parameters actually set in the device.

Depending on the FDT Navigator settings, this will show only the differences or also the similarities of the devices. Nothing will be shown for DTMs that do not support this function. This also applies to offline DTMs. The online/offline comparison can also be carried out for the entire project. This is possible from the context menu of the project node and via the All Devices toolbar. The result is then displayed in a dialog.

The online/offline comparison can also be carried out for an individual device. This is possible via the context menu or via the Device menu of the device concerned or the Single Device toolbar. The result is likewise displayed in a dialog.

## Online/offline comparison for one device

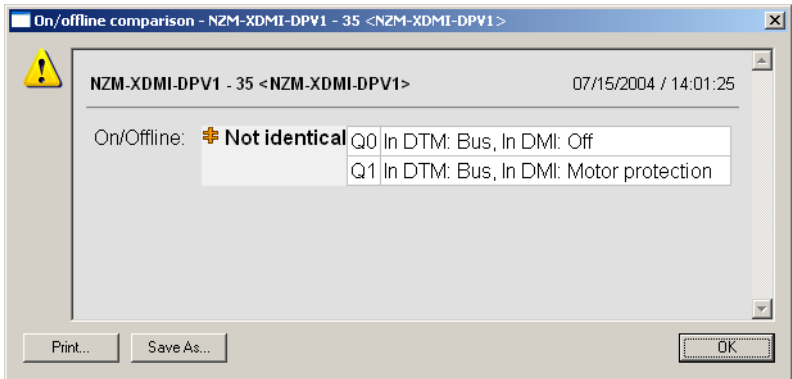


Figure 20: Result after an online/offline comparison

This dialog displays the result of an online/offline comparison for one device. The messages come directly from the DTM and are displayed in plain text. The content of this dialog can be printed out or saved as an HTML page.

### Online/offline comparison of the project

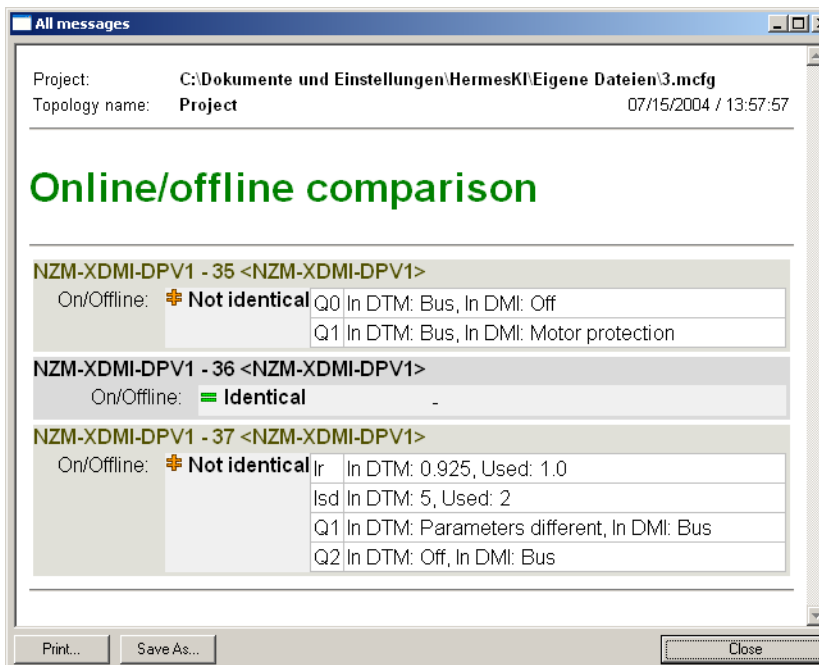


Figure 21: Result after an online/offline comparison of the topology

This dialog displays the result of an online/offline comparison of a topology. The messages are displayed in plain text and come from the individual DTMs.

The content of this dialog can be printed out or saved as an HTML page.

If the cyclical scanning of device status information is active, this information is likewise displayed in this dialog. If the Display Positive Messages option is activated in the Options dialog of the FDT Navigator, this dialog will also list devices that do not have any differences.

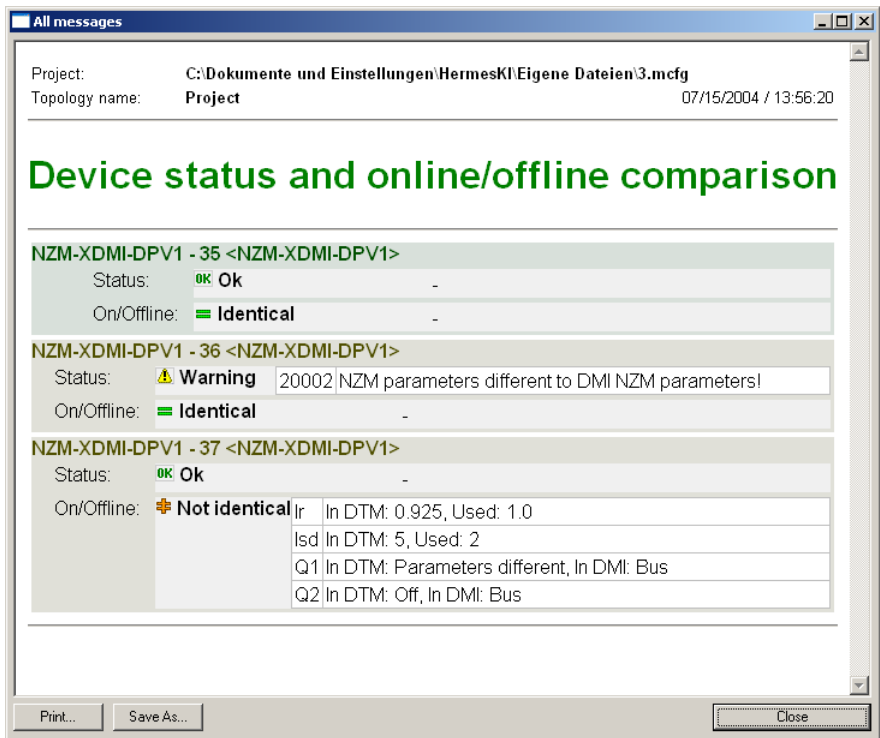


Figure 22: Device status and online/offline comparison

If the Display Positive Messages option is not activated in the settings of the FDT Navigator, only devices are displayed for which there is at least a warning or error message, or for which differences were reported in the online/offline comparison.

## Display device status for single device

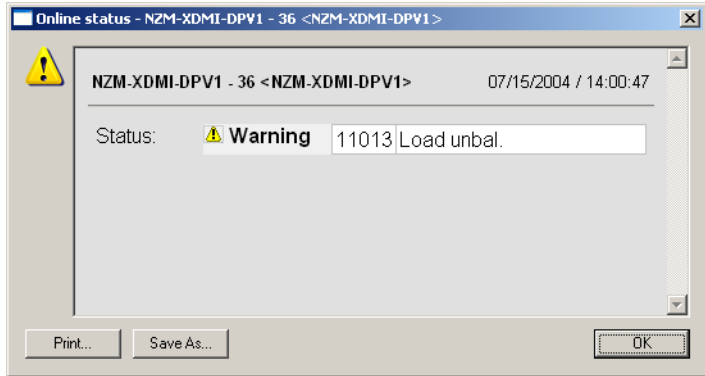


Figure 23: Actual status message of a device

The Online Status dialog displays the actual status messages of a device or DTM. The messages come directly from the DTM. The device concerned must be online for these to be displayed. This dialog is called via the context menu of the device concerned or the Single Device toolbar. The dialog is used to evaluate the messages of the GetDeviceStatus FDT function.

The content of this dialog can also be printed out or saved as an HTML page.



## Display device status for entire project

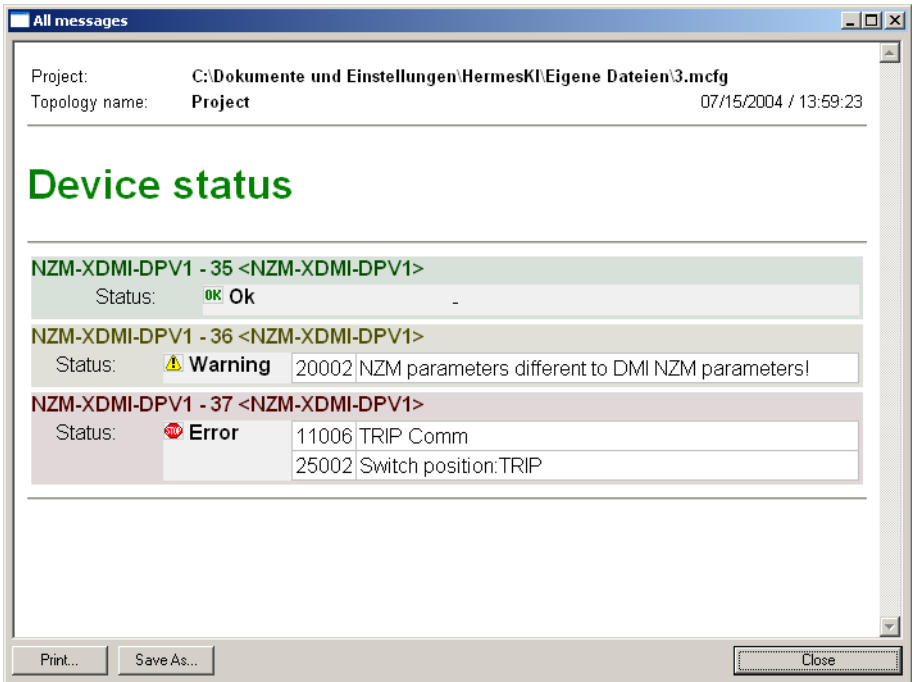


Figure 24: Project status message

Device status messages can be displayed in the All Messages dialog if the cyclical reading of the device status is activated. You can call this dialog via the All Devices toolbar and via the context menu of the highest project node in the topology view. This dialog displays all the actual device messages present.

If the Display Positive Messages option is not selected in the FDT Navigator settings, the devices for which there are no messages are not listed. The order of the devices is the same as in the topology tree.

The content of this dialog can be printed out or saved as an HTML page.

## Properties

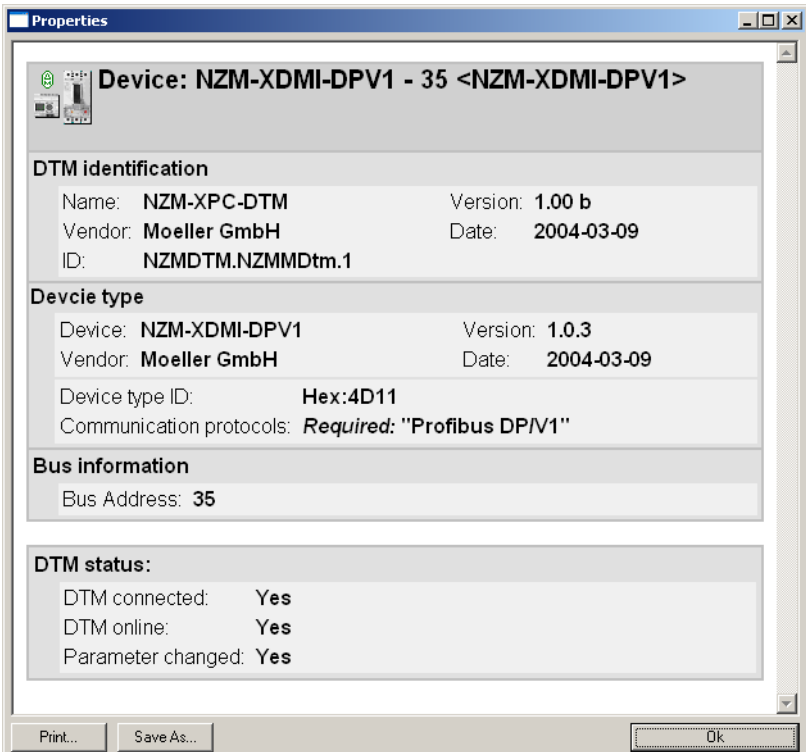


Figure 25: Device properties

The Properties page for individual objects in the topology can be called via the context menu, via the Device menu, or via the Single Device toolbar.

This window shows information on the DTM and the related device. This dialog also shows the status of the DTM instance under Driver Status.

The content of this dialog can be printed out or saved as an HTML page.

## 9 Error Messages and Causes

The following paragraphs show the possible error messages of the FDT Navigator. Refer to the relevant DTM documentation for information about the error messages of DTMs.

### **The project could not be created**

This error message indicates that the FDT Navigator was not installed correctly or completely.

Solution: Install the FDT Navigator again. For this you will require administrator rights.

### **The ActiveX control could not be created!**

An error has occurred in the ActiveX control during initialization. This ActiveX control is not compatible with the FDT Navigator.

### **The ActiveX control could not be initialized.**

An error has occurred in the ActiveX control during initialization. This ActiveX control is not compatible with the FDT Navigator.

### **Initialization of the ActiveX control failed.**

An error has occurred in the ActiveX control during initialization. This ActiveX control is not compatible with the FDT Navigator.

### **The address could not be set.**

An error occurred when the address was set. The DTM does not support the setting of the address from outside.

### **The DTM parameters could not be read.**

The DTM does not support the reading of the parameters. The read data is possibly not in the format required by FDT.

### **Channel parameters could not be read.**

The channel object does not support the reading of the parameters. It is possibly supplying data in an incorrect format.

**Generation of XML Manager failed!**

An error occurred during installation. The XML parser is possibly incorrectly installed.

Solution: Install the FDT Navigator again.

**The XML Manager could not be generated.**

An error occurred during installation.

Solution: Install the FDT Navigator again.

**Error when generating the XML schema-cache.**

The installation of the FDT Navigator does not seem to have been completed.

Solution: Install the FDT Navigator again.

**Incorrect password!**

The entered password is incorrect.

Solution: Enter the correct password or install the FDT Navigator again. For this you will require administrator rights.

**Temporary file could not be generated.**

A file from the program directory is blocked by Windows, is in use or is write-protected.

Solution: Check whether the XML and HTML files are write-protected in the installation directory. If this is the case, remove the write protection for the files concerned. If the error occurs again, close FDT Navigator and restart it.

**The DTM could not be initialized.**

The DTM is not compatible with the FDT Navigator.

**The selected configuration is not a subproject that can be inserted at this location.**

You have tried to add a DTM in the topology at the location for communication DTMs. Communication DTMs can only be added under the project node. Device DTMs can only be appended to a suitable communication channel.

Solution:

Add a suitable communication DTM or add the DTM to a suitable communication channel. For this select the suitable DTM/communication channel.

**DTM instance is not initialized**

This is an internal error that should not occur in normal operation. Restart the FDT Navigator. If this error continues, it may also be due to an error in the DTM.

**The DTM could not be initialized.**

The DTM is not compatible with the FDT Navigator.

**The DTM could not be inserted.**

A communication DTM has refused the addition of the DTM although the DTM supports the corresponding communication protocol. This may occur if the maximum permissible number of DTMs on the communication channel was exceeded, or if the address of the DTM is already being used. This message is generated by the DTM for which the communication channel is used.

**The DTM could not be found.**

The DTM is no longer installed but is still being used in the project or is still in the device list.

Solution: Install the DTM again. Update the device list with the Determine Installed DTMs function.

If the DTM is not installed and is also not present in the device list, remove it from the project.

**Reading of parameters failed!**

The DTM could not read parameters from the device. This indicates a communication error. Check whether the communication from the DTM to the device is functioning correctly.

**Writing parameters to the device failed!**

The DTM could not send parameters to the device. This indicates that the communication to the device is not error-free or that the device has not accepted any parameters.

**Functions could not be read !!!**

The DTM is supplying the functions in an incorrect format.

**Channel could not be found!**

The configuration of the saved project could no longer be generated as one of the DTMs used no longer offers all communication channels. A newer or older version of the DTM is possibly installed.

Solution: Create the project again.

**The DTM does not currently allow offline switching**

The DTM could be switched online.

Solution: Exit FDT Navigator and restart it. If you do not do this, the FDT Navigator may take on an undefined state and no longer execute the required functions.

**The file could not be loaded. The file format is incorrect!**

The file is not a valid project file or its contents have been manipulated.

**Sending of device parameters failed!**

The DTM could not send parameters to the device. This indicates that the communication to the device is not error-free or that the device has not accepted any parameters.

**Reading of device parameters failed!**

The DTM could not read parameters from the device. This indicates a communication error. Check whether the communication from the DTM to the device is functioning correctly.

**DTM "XYZ" cannot be removed. Remove anyway?**

The DTM cannot be removed from the topology. This may have several reasons:

- The DTM is still online
- The DTM is still executing a function.
- One of the subordinate DTMs also cannot be removed for one of the above reasons.

Solution: Try to remove the DTM again. If necessary, switch it offline beforehand.

**CoCreateinstance failed! The object XYZ could not be found!**

A required component is incorrectly installed. If this message occurs when the FDT Navigator is started, install FDT Navigator again.

If this message occurs in conjunction with a DTM, install the DTM again.

**Device name could not be found.**

The configuration of a DTM from a project to be loaded no longer matches the currently supported devices.

Solution: Update the device list with the Determine Installed DTMs function. If necessary install the DTM again beforehand.

If this is not enough, recreate the topology manually in order to determine which device is involved.

**The device could not be switched online.**

A higher-level DTM cannot be switched online or the communication could not be established. Check whether the PC hardware required for communication is connected.





# Index

<b>A</b>	Action (read, write) .....	60
	Add	
	Device .....	30
	Selected devices in topology .....	55
	Selected DTMs .....	64
	Add, communication DTM .....	53
	Address, DTM .....	60
	Administrator .....	38
	All messages, dialog .....	71
<hr/>		
<b>B</b>	Baud rate .....	56
	Bus address setting .....	54
	Bus parameter setting .....	53
	Bus scan .....	42
<hr/>		
<b>C</b>	Changing	
	Password .....	40
	Clipboard, functions .....	28, 61
	Colour backgrounds, meaning .....	63, 64
	Communication channel .....	47
	Communication DTM .....	14, 46
	Compare Online/Offline Data .....	31
	Configuration	
	Communication DTM .....	56
	FDT Navigator (menu functions) .....	32
<hr/>		
<b>D</b>	Data model .....	11
	Delete	
	Device .....	30
	DTM .....	44
	Device catalogue	
	Dialog .....	51
	Update .....	44
	Device communication, menu functions .....	29
	Device drivers .....	45

	Device DTM .....	46, 47
	Device status .....	60
	For entire project .....	71
	For single device .....	70
	Device status display .....	57
	Device status information .....	68
	Display	
	Device messages .....	31
	Installed DTMs .....	44, 45
	Display device messages .....	31
	Display DTM list .....	32
	Driver overview, dialog .....	45
	Driver status .....	72
	Drivers, toolbar .....	20
	DTM .....	13
	None suitable for the device .....	63
	Removing from the configuration .....	59
	Switching online/offline .....	65
	DTM instances, names .....	58
	DTM management, menu functions .....	32
<hr/>		
<b>E</b>	Error messages, FDT Navigator .....	73
<hr/>		
<b>F</b>	FDT .....	13
	FDT/DTM concept .....	13
	Fieldbus gateway .....	13
	Filter function .....	51
<hr/>		
<b>G</b>	Gateway DTM .....	46, 47
	GetDeviceStatus .....	70
	GetParameters .....	65
	GSD file .....	46
<hr/>		
<b>I</b>	Icons	
	Meaning (device status) .....	60
	Size setting (FDT Navigator) .....	41

- Information
  - on DTM .....46, 72
  - On selected object .....32
- Installation
  - FDT Navigator .....17
  - New DTM .....44
- Installed DTMs
  - Determining .....32
  - Display .....44, 45

---

- L** Language .....42
- Light bulb .....59, 65
- Loading parameters .....31

---

- M** Main window, FDT Navigator .....19
- Maintenance personnel, user level .....37
- Memory status, DTM .....57
- Menu
  - ? .....33
  - Communication .....29
  - Device .....30
  - Edit .....28
  - File .....28
  - Tools .....32
  - Window .....33
- Missing device,in the device catalogue .....52

---

- N** New project .....49

---

- O** Observer, user level .....37
- OEM service .....38
- Offline functions .....9
- Offline switching, DTM .....31, 65
- Online functions .....9
- Online Help .....33

	Online status	
	Dialog .....	70
	DTM .....	27, 57, 59
	Online/offline comparison .....	31, 66
	For one device .....	67
	Of the project .....	68
	Operator, user level .....	37
	Options .....	33, 41
<hr/>		
<b>P</b>	Parameter assignment, master .....	56
	Password management .....	33, 39
	Planning engineer, user level .....	38
	Positive messages .....	42
	Display .....	68
	Print	
	DTM .....	30
	DTM-specific documentation .....	65
	Printing information on individual devices ....	50
	Project .....	30, 50
	Printing DTM-specific documentation .....	65
	PROFIBUS-Ident .....	63
	Program information .....	33
	Progress bar .....	35
	Project	
	Load .....	49
	Print .....	50
	Save .....	49
	Save as HTML page .....	50
	Project management, menu functions .....	28
	Properties for individual objects in the topology ..	72
<hr/>		
<b>R</b>	Rename	
	Device .....	30
<hr/>		
<b>S</b>	Save	
	As web page .....	31
	Project .....	49
	Save project as HTML page .....	50

	Scan result, dialog .....	63
	Scan topology .....	31, 55
	Service station .....	7
	Setting	
	Bus address .....	54
	Bus parameters .....	53
	Settings, specific to FDT Navigator .....	41
	Show/hide status bar .....	33
	Sorting, devices in the device catalogue .....	51
	Standard toolbar .....	25
	Starting, FDT Navigator .....	17
	Status display, DTM .....	57
	Switch online, DTM .....	31, 65
	System requirements .....	17
<hr/>		
<b>T</b>	Tag name .....	58
	Toolbar	
	All devices .....	21
	Devices .....	23
	Drivers .....	20
	Show/hide .....	19, 33
	Standard .....	25
	Toolbar button	
	Activating Help, context-sensitive .....	26
	Adding a communication DTM .....	20
	Adding a device or gateway DTM .....	20
	Copy DTM to Clipboard .....	25
	Cut DTM from topology .....	25
	Deleting a DTM .....	20
	Device status, display as plain text .....	22
	Information on individual objects from the topology .....	24
	Information on the FDT Navigator .....	26
	New project .....	25
	Online/offline comparison of all online devices .	

22	
Online/offline comparison of selected DTMs	24
Open project	25
Paste Clipboard in topology	26
Print project	26
Reading device parameters (all online DTMs)	21
Reading device parameters (selected online DTMs)	24
Save project	25
Status check of all online DTMs	22
Switching DTM offline	23
Switching DTM offline (all)	21
Switching DTM online	23
Switching DTM online (all)	21
Switching DTM online (selected)	23
Topology scan of selected DTMs	24
Writing device parameters (all online DTMs)	22
Writing device parameters (selected online DTMs)	24
Topology creation	53
Topology management	53
Topology scan	63
Topology view	34, 57
Transferring a device, in topology	52

---

<b>U</b>	Update	
	List of known DTMs and supported devices	44
	User interfaces, DTM-specific	34
	User level	
	Setting	33
	Tasks	37

---

<b>W</b>	Window	
	Close	33
	To the foreground	33
	Write	
	Parameters to the device	31