Operating Instruction Manual

Generic Slave DTM for YOKOGAWA PROFIBUS DP Slave Devices

Configuration of PROFIBUS DP Slave Devices

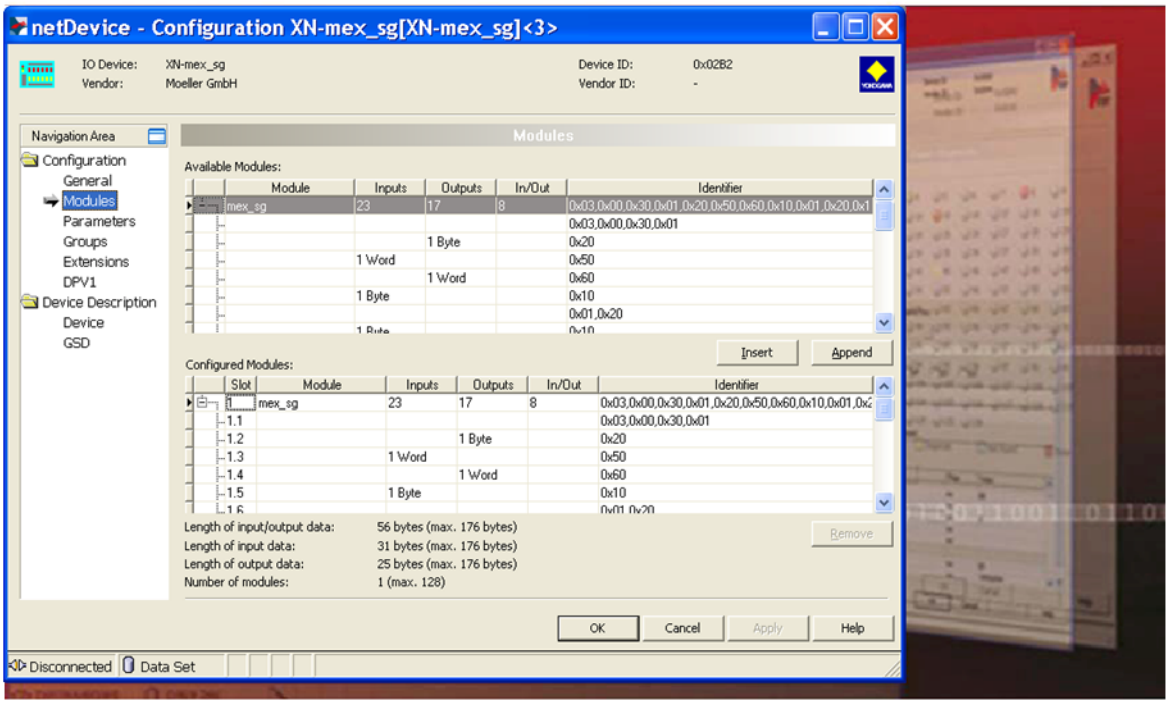

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Table of Contents

1 Introduction

1.1 About this Manual

This manual describes how to configure PROFIBUS DP Slave devices (PROFIBUS DPV0 and DPV1), which are described with GSD files. These devices can be configured by use of the YOKOGAWA PROFIBUS DP generic Slave DTM within a FDT Framework.

“YOKOGAWA” means Yokogawa Electric Corporation.

1.1.1 Descriptions of the Dialog Panes

The table below gives an overview for the individual dialog panes descriptions:

Section	Subsection	Manual Page
Configuration	*General*	*18*
	Modules	*19*
	Parameter	*23*
	Groups	*24*
	Extensions	*25*
	DPV1	*27*
	DPV2	29
	Redundancy	31
Device Description	*Device*	*34*
	GSD	*34*

Table 1: Descriptions Dialog Panes

1.1.2 List of Revisions

Index	Date	Version	Component	Chapter	Revision
1	2012-04-05	2.11	YoPBGenSlaveDTM.dll YoPBGenSlaveGUI.ocx	All	Created.

Table 2: List of Revisions

1.1.3 Conventions in this Manual

Operation instructions, a result of an operation step or notes are marked as follows:

Operation Instructions:

➢ <instruction>

Or

1. <instruction>
2. <instruction>

Results:

➪ <result>

Notes:

Important: <important note>

Note: <note>

<note, where to find further information>

1.2 Documentation Overview

The following table lists the documents for SYCON.net/YOKO:

Content	Document Name
General description of netFrame: Description of the output window, menus and toolbars.	SYCONnet netFrame YOKOGAWA xx OI 01 EN.pdf
General description of netDevice. Grafical network view, device catalog and the project tree. Description of ▪ menus, ▪ context menus, ▪ insert device, cut/copy/paste device, additional functions (print), delete device, ▪ symbolic name, ▪ network menu, ▪ network toolbar. Getting started/Configuration steps. How to add a device description. Working with bus lines.	SYCONnet netDevice YOKOGAWA xx OI 01 EN.pdf
Description of the configuration dialogs to configure the PROFIBUS DP master. Getting started/Configuration steps. Configuration of the master ▪ bus parameters, ▪ DPM management (DPM Settings and DPM Layout), ▪ station table, ▪ master settings, ▪ time sync.	PROFIBUS DP Master YOKOGAWA xx DTM OI 01 EN.pdf
Description of the configuration dialogs to configure the PROFIBUS DP slave. Getting started/Configuration steps. Configuration of the slave ▪ general, ▪ modules, ▪ parameter, ▪ groups, ▪ extension, ▪ DPV1, ▪ DPV2, ▪ redundancy.	PROFIBUS DP Generic Slave DTM YOKOGAWA OI 01 EN.pdf

Table 3: Documentation Overview

1.3 Legal Notes

1.3.1 Copyright

1.3.2 Important Notes

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- in air traffic control systems, air traffic or air traffic communication systems;
- in life support systems;
- in systems in which failures in the software could lead to personal injury or injuries leading to death.

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1.4 About YOKOGAWA PROFIBUS DP generic Slave DTM

You can use the YOKOGAWA PROFIBUS DP generic Slave DTM to configure PROFIBUS DP Slave described with GSD files within a FDT Framework.

The information necessary for the configuration of the PROFIBUS DP Slave devices is stored within the PROFIBUS DP Master device when using the PROFIBUS Generic Slave DTM and thus the Master is configured.

1.4.1 Requirements

Requirements YOKOGAWA PROFIBUS DP generic Slave DTM

Requirements for working with a generic PROFIBUS Device DTM are:

- Installed FDT/DTM V 1.2 compliant frame application
- Installed PROFIBUS DP Master DTM
- GSD files of the devices to be configured
- The DTM must be loaded to the device catalog.

Loading GSD Files

To add devices to the **netDevice** device catalog, the GSD file of the used device must be imported via **netDevice** menu **Network > Import Device Descriptions ….** into the GSD folder of the DTM. This folder is located in the application data directory (All Users) of the configuration software.

For further information refer to section *Configuration Steps* on page 15, under step 1 and 2.

Note: Files and folders added by the user will not be deleted by SYCON.net/YOKO uninstall procedure.

1.5 Dialog Structure of the YOKOGAWA PROFIBUS DP generic Slave DTM

The graphical user interface of the DTM is composed of different areas and elements listed hereafter:

1. A header area containing the **General Device Information**,
2. The **Navigation Area** (area on the left side),
3. The **Dialog Pane** (main area on the right side),
4. The general buttons **OK**, **Cancel**, **Apply**, **Help**,
5. The **Status Line** containing information e. g. the online-state of the utility.

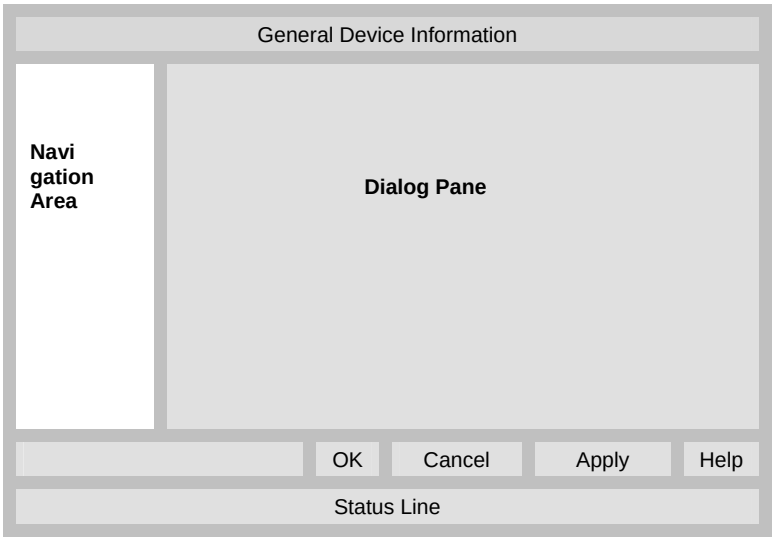

Figure 1: Dialog Structure of the YOKOGAWA PROFIBUS DP generic Slave DTM

1.5.1 General Device Information

Parameter	Meaning
IO Device	Name of the device
Vendor	Vendor name of the device
Device ID	Identification number of the device
Vendor ID	Identification number of the vendor

Table 4: General Device Information

1.5.2 Navigation Area

The **Navigation Area** contains folders and subfolders to open the dialog panes of the DTM.

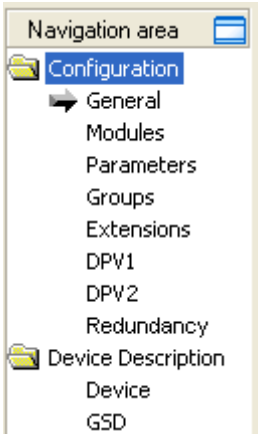

Figure 2: Navigation Area

➢ Select the required folder and subfolder.

➢ The corresponding Dialog pane is displayed.

Hide / display Navigation

	Hiding the navigation area (above right side).
Show navigation area	**Opening** the navigation area (below left side).

1.5.3 Dialog Panes

Configuration	
General	At the pane **General** the actual **Station Address** of the Slave device is displayed and can be changed if necessary. Further information to this you find in section *General* on page *18*.
Modules	At the **Modules** pane modules can be selected or assigned and configured. Further information to this you find in section *Modules* on page *19.*
Parameters	The **Parameter** pane allows it to change the parameter settings of the modules. A detailed description you find in section *Parameter* on page *23.*
Groups	At the pane **Groups** the single Slaves devices can be assigned to up to eight different, after a Master was arranged. Further information to this you find in section *Groups* on page *24.*
Extensions	The **Extensions** pane contains adjustment possibilities for the extension parameters: Auto Clear, Fail Safe Behavior, Configuration Data Convention, Error on Cyclic Data Exchange and Diagnosis update delay. Further information to this you find in section *Extensions* on page *25.*
DPV1	The **DPV1** pane gives access to the DPV1 functions for an acyclic data exchange and to the functions read write and alarm handling. Further information to this you find in section *DPV1* on page *27.*
DPV2	The **DPV2** pane allows Time Sync configuration for the Slave. Further information to this you find in section *DPV2* on page 29.
Redundancy	The **Redundancy** pane allows redundancy configuration for the Slave. Further information to this you find in section *Redundancy* on page31.
Device Description	
Device	The **Device Info** pane contains the manufacturer information about the device. Further information to this you find in section *Device* on page *34.*
GSD	By use of the **GSD-Viewer** a GSD file can be searched through. Further information to this you find in section *GSD* on page *34.*

Table 5: Overview Dialog Panes

1.5.4 OK, Cancel, Apply and Help

OK, Cancel, Apply and **Help** you can use as described hereafter.

	Meaning
OK	To confirm your latest settings, click **OK.** All changed values will be applied on the frame application database. *The dialog then closes.*
Cancel	To cancel your latest changes, click **Cancel.** Answer to the safety query **Configuration data has been changed. Do you want to save the data?** by **Yes, No** or **Cancel.** **Yes:** The changes are saved or the changed values are applied on the frame application database. *The dialog then closes.* **No:** The changes are not saved or the changed values are not applied on the frame application database. *The dialog then closes.* **Cancel:** *Back to the DTM.*
Apply	To confirm your latest settings, click **Apply.** All changed values will be applied on the frame application database. *The dialog remains opened.*
Help	To open the DTM online help, click **Help.**

Table 6: OK, Cancel, Apply and Help

1.5.5 Status Bar

The **Status Bar** displays information about the current state of the DTM. The current activity, is signaled graphically via icons in the status bar.

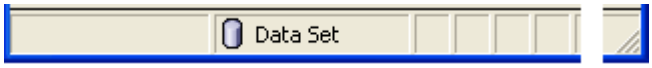

Figure 3: Status Bar

Icon / Meaning	
Data Source States	
	**Data set**: The displayed data are read out from the instance data set (database).
	**Device**: The displayed data are read out from the device.
States of the instance Date Set	
	**Valid Modified**: Parameter is changed (not equal to data source).

Table 7: Status Icons [1]

2 Getting started and Instructions Step by Step

2.1 Configuration Steps

The following table describes the steps to configure a PROFIBUS DP Slave device with the YOKOGAWA PROFIBUS DP generic Slave DTM as it is typical for many cases. At this time it is presupposed that the PROFIBUS DP Master DTM installation was already done.

#	Step	Short Description	For detailed information see section	Page
1	Add PROFIBUS DP Slave in the Device Catalog	Add the Slave in the Device Catalog by importing the device description file to the Device Catalog. Depending of the FDT Container. For netDevice: - **Network > Import Device Descriptions**.	*(See Operating Instruction Manual netDevice and netProject)*	-
2	Load device catalog	Depending of the FDT Container. For netDevice: - select **Network > Device Catalog**, - select button **Reload Catalog**.	*(See Operating Instruction Manual netDevice and netProject)*	-
3	Create new project / Open existing project	Depending of the frame application. For the configuration software: - select **File > New** or **File > Open**.	*(See Operating Instruction Manual of the Frame Application)*	-
4	Insert Master or Slave into configuration	Depending of the FDT Container: For netDevice: - in the Device Catalog click to the Controller, - and insert the device via drag and drop **to the line** in the network view, - in the Device Catalog click to the Slave, - and insert the device via drag and drop **to the Controller bus line** in the network view.	-	-
5	Configure Slave	Configure the Slave device. - Double click to the device icon of the Slave. - The Slave DTM configuration dialog is displayed. In the Slave DTM configuration dialog: - select **Configuration >General**, - set the Watchdog control and Interval, - select **Configuration >Modules**, - configure the Modules of the Slave, - select **Configuration >Parameter**, - set the module Parameters, - Select **Configuration > Group**, - assign the Slave to a group, - select **Configuration > Extensions**, - set the Extension parameters, - select **Configuration > DPV1**, - configure the **DPV1** functions, - select **Configuration > DPV2**, - configure the Time Sync for the Slave, - select **Configuration > Redundancy**, - configure the Redundancy Mode and the Output Hold Time for the Slave, - close the Slave DTM configuration dialog via the button **OK**.	*Configuring Slave Parameter* *General* *Modules* *Parameter* *Groups* *Extensions* *DPV1* *DPV2* *Redundancy*	*16* *18* *19* *23* *24* *25* *27* 29 31
6	Configuration Steps Master device	Configure the Master device via PROFIBUS DP Master DTM.	*(See Operating Instruction Manual DTM for PROFIBUS DP Master devices)*	-

#	Step	Short Description	For detailed information see section	Page
7	Save project	Depending of the frame application. For the configuration software: - select **File > Save**.	*(See Operating Instruction Manual of the Frame Application)*	-

Table 8: Getting started - Configuration Steps

2.2 Configuring Slave Parameters

The following steps are needed to set the Slave device parameters using the YOKOGAWA PROFIBUS DP generic Slave DTM:

1. Set the Watchdog control and Interval:

➢ Select **Configuration > General** in the navigation area.

2. Configure the **Modules** of the Slave.

➢ Select **Configuration > Modules** in the navigation area.

3. Set the module **Parameter**s.

➢ Select **Configuration > Parameter** in the navigation area.

4. Assign the Slave to a group.

➢ Select **Configuration > Group** in the navigation area.

5. Set the **Extension** parameters.

➢ Select **Configuration > Extensions** in the navigation area.

6. Configure the **DPV1** functions.

➢ Select **Configuration > DPV1** in the navigation area.

7. Configure the Time Sync for the Slave.

➢ Select **Configuration > DPV2** in the navigation area.

8. Configure the Redundancy Mode and the Output Hold Time for the Slave.

➢ Select **Configuration > Redundancy** in the navigation area.

For more information refer to section *General* on page *18*, to section *Modules* on page *19*, to section *Parameter* on page *23*, to section *Groups* on page *24*, to section *Extensions* on page *25 DPV1* on page *27*, *DPV2* on page 29 and to section *Redundancy* on page31*.*

3 Configuration

3.1 Overview Configuration

Dialog Panes “Configuration”

The table below gives an overview for the **Configuration** dialog panes descriptions:

Section	Subsection	Page
Configuration	*General*	*18*
	Modules	*19*
	Parameter	*23*
	Groups	*24*
	Extensions	*25*
	DPV1	*27*
	DPV2	29
	Redundancy	31

Table 9: Descriptions of the Dialog Panes Configuration

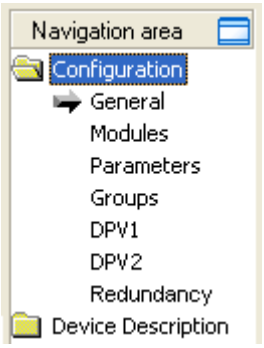

Figure 4: Navigation Area - Configuration

3.2 General

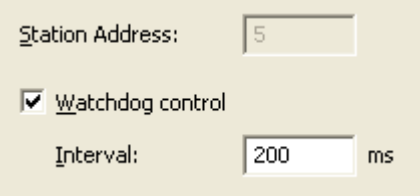

Figure 5: Configuration > General

At the pane **Configuration > General** the actual **Station Address** of the Slave device is displayed. The station address is set in the Master configuration.

The setting **Watchdog control** activates or deactivates in the Slave the monitoring of communication errors to the assigned DP Master. If the DP Slave detects an interruption of an already operational communication, defined by the Watchdog time, then the Slave sets the outputs into the secure condition.

Note: When the monitoring by means of the **Watchdog control** has been deactivated, it is possible that the outputs are not set into a safe state by the Slave, even though the communication has been interrupted.

In the field **Interval** the monitoring time of the selected Slave device is set. If the time chosen for this is too short for a low baud rate, then it is possible that the Slave will set its outputs into the safe state. If the time chosen is too long, it is possible that if an interruption occurs, the Slave will take a long time to set its outputs into the safe state.

3.3 Modules

At the **Modules** pane modules can be selected or assigned and configured.

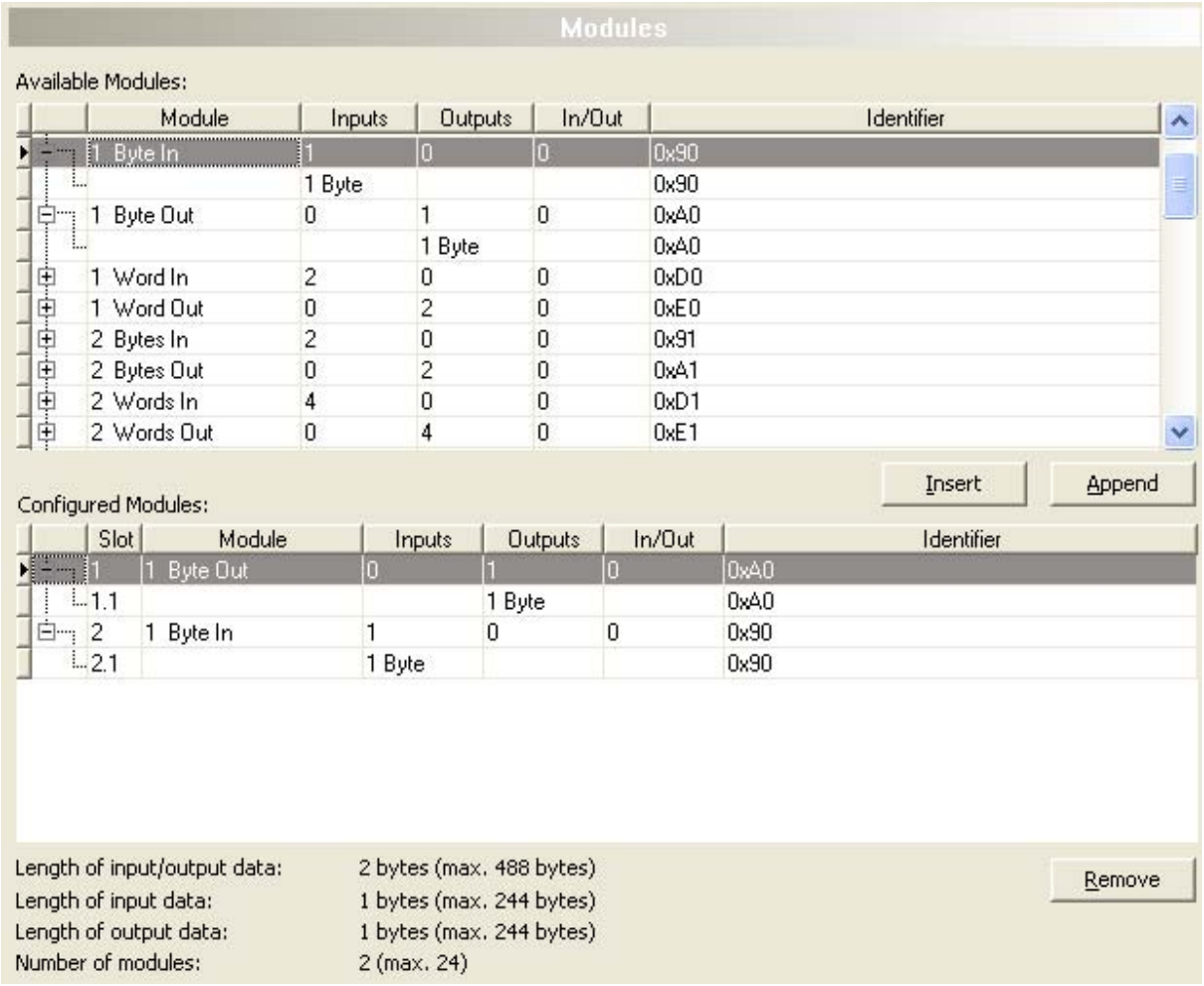

Figure 6: Configuration > Modules (CIFX DP/DPS, Example of a simple Slave)

There are two kinds of Slaves. A **simple Slave** has a fixed data length. The data length of a **complex** and **modular Slave** is configurable. The selection list **Available Modules** shows all possible modules of the Slave.

- **Module Configuration of a simple Slave**

In the case of a simple Slave, one module is shown and it is copied automatically into the list **Configured Modules**.

For simple Slaves in the column **Module** a module name is displayed. This one indicates the number of inputs, outputs or inputs/outputs of that module. In the line with the module name in the columns **Inputs**, **Outputs** and **In/Out** the number of inputs, the number of outputs or the number of inputs/outputs of the module will be displayed in Bytes. In the line below the module name, the number and the data type (byte or word) of the inputs, outputs or inputs/outputs of this module are displayed.

- **Module Configuration of a complex modular Slave**

In case of a complex modular Slave, the user has to select the required modules manually.

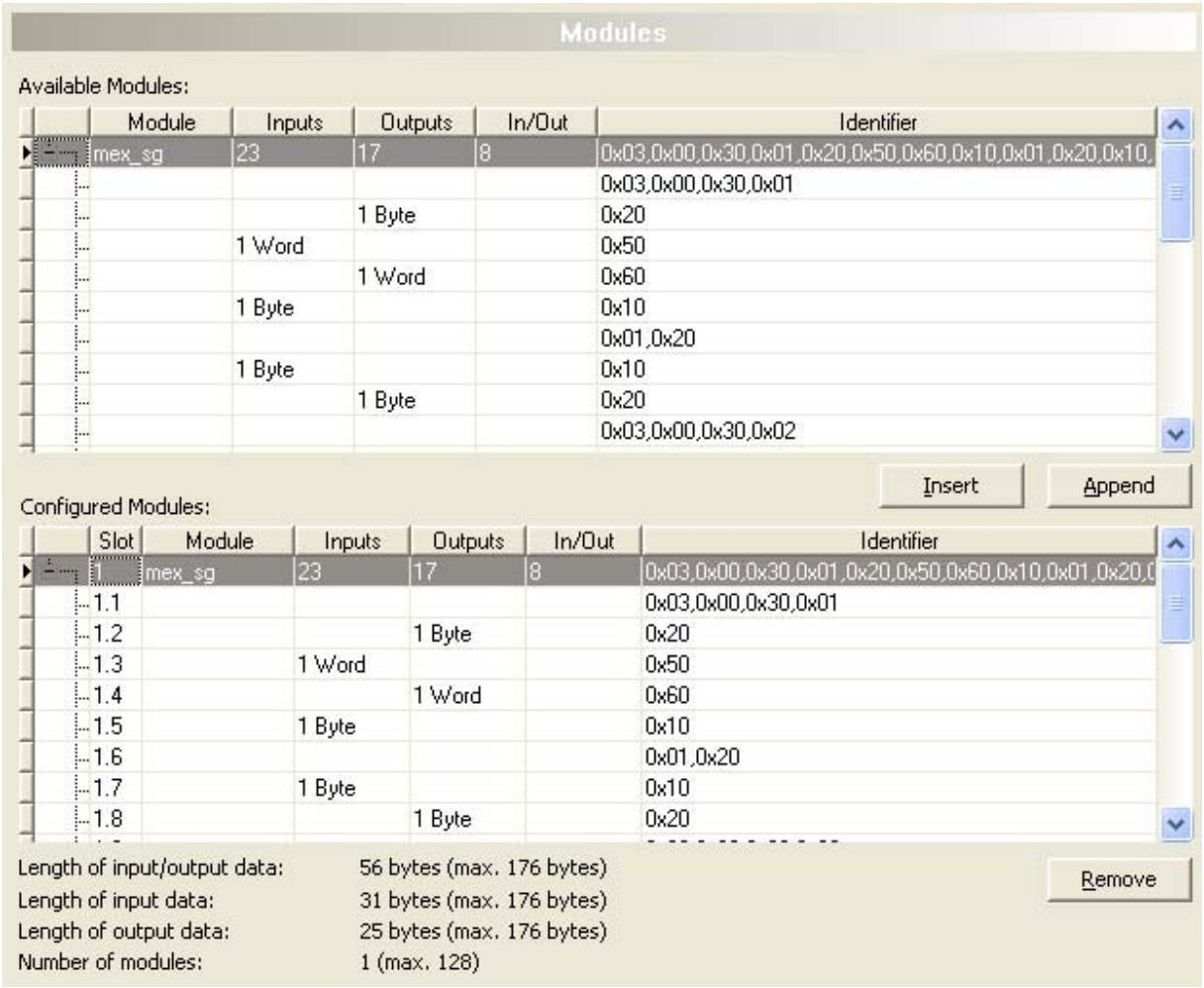

Figure 7: Configuration > Modules (XN-mex_sg, Example of a complex modulare Slave)

For modules consisting from several submodules, in the column **Module** the module name is displayed. In the line with the module name in the columns **Inputs**, **Outputs** and **In/Out** the number of inputs, the number of outputs or the number of inputs/outputs of the module will be displayed in Bytes. In the line below the module name, the number and the data type (byte or word) of the inputs, outputs or inputs/outputs of this module are displayed. In the columns **Inputs**, **Outputs** and **In/Out** for each submodule the number and the data type (byte or word) of the inputs, outputs or inputs/outputs are displayed.

In the column **Identifier** all identifier of the sub modules are displayed in the same line. A description of the Module Configuration Identifier you find in section *Identifier Bytes* on page *45*.

The **Slot** column shows a sequential number for the modules or a sequential subnumber for the submodules of a module.

3.3.1 Configuration of the Modules of a Slave

For configuration of the modules of a Slave (selection of the modules), proceed as follows:

1. Insert all the required modules from the selection list **Available Modules** into the list **Configured Modules**. There are several possibilities to select available modules. This is described in section *Select Available Modules* on page 22.

The sequence of the modules in the list **Configured Modules** is important and must match with the sequence which exists in the Master. Typically, the sequence is the actual physical sequence. There are Slaves to which this rule does not apply and where for example first analogue modules and then digital modules must be entered, independent of their actual sequence.

For further information about the modules of the used Slave see the manual of the device manufacturer.

Note: If the Slave device has only one module, this module is taken over automatically in the table **Configured Modules** and can not be deleted.

2. Click on the **OK** button to confirm your selection. If the selection should not be taken over, click the **Cancel** button.

3.3.2 Select Available Modules

There are several possibilities to select an available module and insert it in the list **Configured Modules**:

Possibility	Procedure
Double Click on available Module	Select a module by clicking on it in the list **Available Modules** and with a double click on this module it appears as last module in the list **Configured Modules**.
'Insert' Button	Select a module by clicking on it in the list **Available Modules**. With a mouse click on the **Insert** button, this module appears in the list **Configured Modules** in the actually selected slot.
'Append' Button	Select a module by clicking on it in the list **Available Modules**. With a mouse click on the **Append** button, the selected module is appended as last module in the list **Configured Modules.**

Table 10: Select Available Modules

Note: A multiselection is possible. That means several modules can be selected in the list **Available Modules** by holding the SHIFT key and inserted in the list **Configured Modules.**

3.3.3 Delete Configured Modules

To delete a configured module from the list **Configured Modules**, there is the following possibility:

Button	Procedure
'Delete'	Select a module by clicking on it in the list **Configured Modules**. With a mouse click on the **Delete** button the selected module will be deleted from the list **Configured Modules**.

Table 11: Delete Configured Modules

3.4 Parameter

The pane **Parameter** allows it to change the parameter settings of the modules.

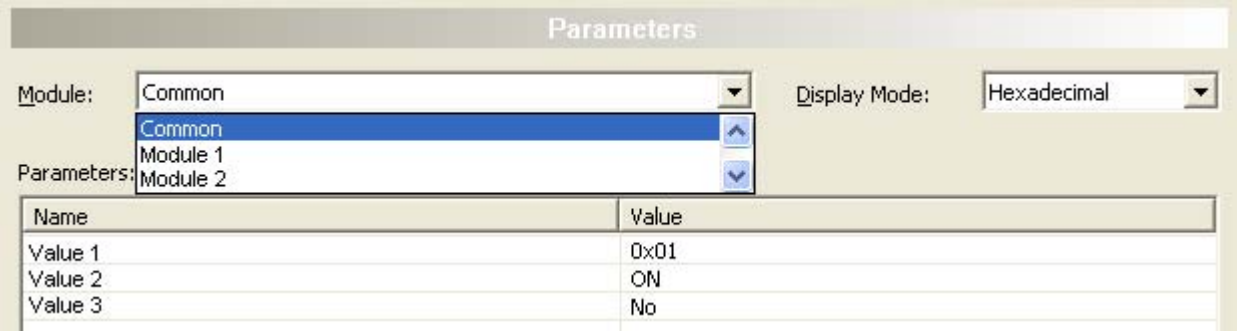

Figure 8: Configuration > Parameter

If default parameters are available in the GSD file of the Slave, they are automatically inserted.

Some of the DP Slave devices require further Parameter data, for instance in order to change a measuring limit or a value range. This type of data is manufacturer and slave specific. The meaning of the parameters is determined by the device manufacturer. The explanations can be taken from the manufacturers' manual.

- **Module**

In the Module field the module which should be displayed has to be selected. The modules have to be assigned in the Configuration before (see section *Modules* on page *19*).

- **Parameter and Value**

The Values of the Parameters can be changed by making a double click on the parameter.

The meaning of the single Parameters can be found in the manual of the device manufacturer.

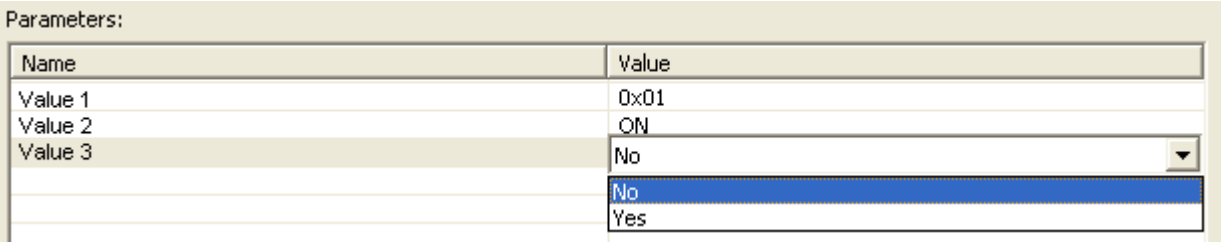

Figure 9: Change Parameter Values

The **Representation** of the parameter values is by default in hexadecimal representation. If in the drop down list **Display Mode** the item 'Decimal' is selected, the representation changes into the decimal representation.

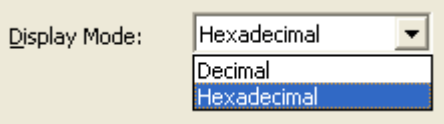

Figure 10: Decimal Representation of the Parameter Values

3.5 Groups

After a Master was arranged, the single Slaves devices can be assigned to up to eight different **Groups**.

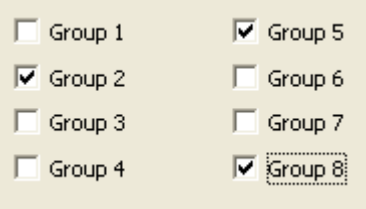

Figure 11: Configuration > Groups

The assignment of the actual Slave device to one or more groups takes place by enabling the group respectively groups with the desired characteristics.

The selected group membership is transferred to the Slave device during its start-up sequence. The group membership acts as a filter for the Sync and Freeze global commands. These are output as Broadcast telegrams in order to synchronize the input and output data of several Slaves. Only the Slaves in whose group these commands have been assigned react on it.

3.6 Extensions

The **Extensions** pane contains adjustment possibilities for the extension parameters: Auto Clear, Fail Safe Behavior, Configuration Data Convention, Error on Cyclic Data Exchange and Diagnosis update delay.

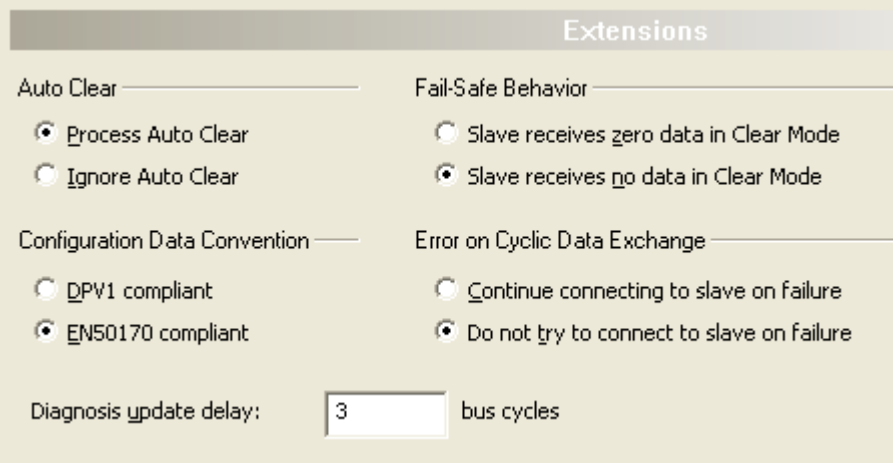

Figure 12: Configuration > Extensions

Setting	Description	Default
Auto Clear	The setting **Auto Clear** activates or respectively deactivated the Auto Clear Function of the actual Slave. This function can only be used, if the global Auto Clear is activated in the Master. The setting of the global Auto Clear is typically configured in the Bus Parameters of the Master. If no data exchange occurs to at least one Slave (Process Auto Clear) or an existing data exchange takes place after the expiration of a monitoring time, then the Master leaves the data exchange and sets the outputs of **all** assigned DP Slaves into a secure condition. If the setting **Ignore Auto Clear** is selected, the Master tries to stay in the data exchange with the other Slaves.	Process Auto Clear
Fail Safe Behavior	This mode indicates to the Master that the affected Slave is working in a so-called Fail_Safe mode. If the Fail Safe mode is activated, in the CLEAR state the Slave will receive output data of the length zero instead of the zero output data. On the basis of this process, the Slave immediately recognizes that the Master is in the CLEAR condition even if a previous CLEAR command was destroyed on the Bus.	Slave receives no data in Clear Mode
Configuration Data Convention	The **Configuration Data Convention** determines whether the configuration data is interpreted according to **EN 50170** (supported) or additional configuration data according to PROFIBUS **DPV1** extension is used (not supported). Do not use the setting **DPV1 compliant**.	EN 50170 compliant
Error on Cyclic Data Exchange	If the option **Continue if Slave not responding** is selected, the Master remains in the state DATA_EXCHANGE and holds the connection to the Slave. When **Abort if Slave not responding** is chosen, the Master does not remain in the DATA_EXCHANGE condition for the affected Slave if the Slave has been recognized as incorrect, but breaks off the connection to the Slave. Default: **Abort if Slave not responding** (do not try to connect to slave on failure)	Do not try to connect to slave on failur

Setting	Description	Default
Diagnosis update delay	Some Slave devices which are newer require more time for the consistency testing for the processing of the SET_PRM parameter zing telegrams. In this case the standard diagnosis cycle is not sufficient after the parameterizing phase, to detect the disposition of the Slave for the DATA_EXCHANGE. With the diagnosis delay, the number of diagnosis cycles is advanced after the parameterizing phase, which is the maximum that the Master waits for this disposition, before it starts a new parameterizing. The value range is 0..255.	3 bus cycles

Table 12: Configuration > Extensions

3.7 DPV1

DPV1 serves for an acyclic data exchange and supports the functions read write and alarm handling.

Note: DPV1 functions can only be used and configured, if the used DP Master supports DPV1 functions.

Enable DPV1

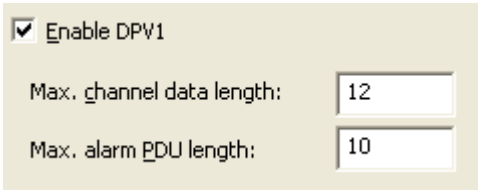

Figure 13: Configuration > DPV1 > Enable DPV1

The option **Enable DPV1** has to be checked, to activate DPV1. All setting possibilities concerning DPV1 are grayed out before activating.

Note: In case of Slave devices which do not support DPV1, the **Enable DPV1** field is grayed out and can not be checked for this Slave.

When Redundancy Mode is activated (see section *Redundancy* on page31) **Enable DPV1** is enabled and checked.

The **Max. channel data length** determines the maximum length of the DPV1 Alarm telegrams. The Slave will arrange its buffer size for the concerning number of data.

The **Max. alarm PDU length** determines the maximum quantity of active alarms.

Alarms

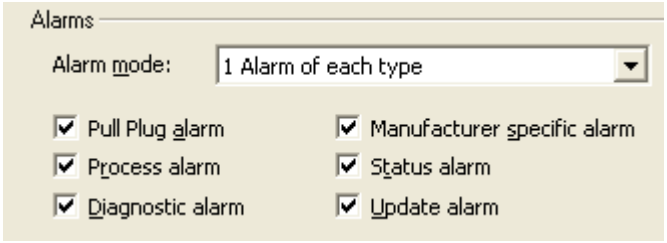

Figure 14: Configuration > DPV1 > Alarms

The **Alarm mode** defines the maximum number of possible active alarms: 1 alarm of each type respectively 2, 4, 8, 12, 16, 24 or 32 alarms in total.

The following alarms can be activated or deactivated by selecting it or not.

- Pull Plug alarm (module pulled),
- Process alarm,
- Diagnosis alarm,
- Manufacturer specific alarm,
- Status alarm and
- Update alarm.

Extra Alarm SAP

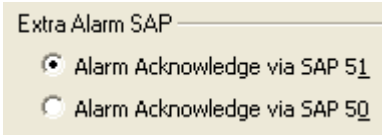

Figure 15: Configuration > DPV1 > Extra Alarm SAP

It the field **Extra Alarm SAP** it is set, if the DPV1 Master acknowledges an alarm to the DPV1 Salve via **SAP 51** or **SAP 50**.

Setting	Description	Default
SAP 51	DPV1-Master acknowledges alarms via SAP 51. The Master uses SAP 51 for DPV1 read/write and for alarm acknowledge to this Slave.	Default
SAP 50	DPV1-Master acknowledges alarms via SAP 50. The Master uses SAP 50 for the alarm acknowledge to this Slave. However. The Master still uses SAP 51 for DPV1 read/write services. This setting may cause a higher performance because SAP 50 is used exclusively for the alarm acknowledge and can not be delayed by a running DPV1 read/write service. To use this feature requires that the slave supports it. This information is part of the GSD file.	-

Table 13: Configuration > DPV1 > Extra Alarm SAP

3.8 DPV2

The **DPV2** pane contains adjustment possibilities for the Time Sync configuration for the Slave.

Activating Time Sync, Clock Sync Interval

For Time Sync configuration the settings **Activating Time Sync** and **Clock Sync Interval** must be used.

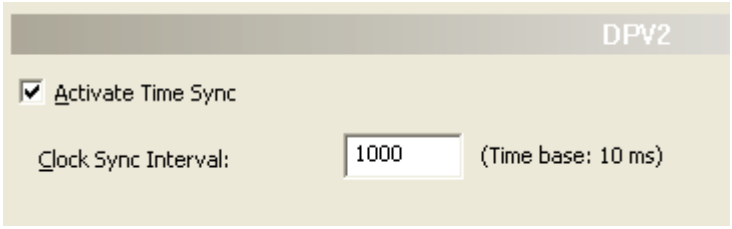

Figure 16: Configuration > DPV2 > Activate Time Sync, Clock Sync Interval

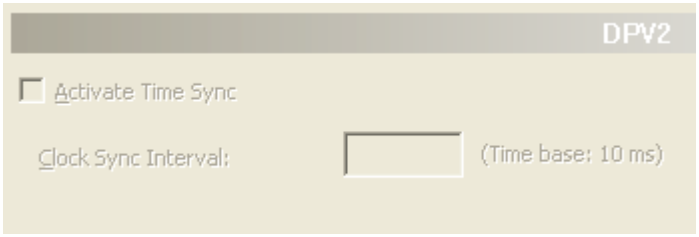

Figure 17: Configuration > DPV2 > Activate Time Sync, Clock Sync Interval - grayed out as Time Sync is not supported by the Slave (GSD)

Parameter	Meaning	Range of Value/Value
Activate Time Sync	**Activate Time Sync** is enabled (checked), if Time Sync is supported by the Slave (GSD). Otherwise the field is grayed out and can not be checked for this Slave. Time Sync of Master DTM: In the **Time Sync** pane of the Master DTM a global clock sync interval can be set (**Overwrite clock sync interval for all slaves with Time Sync support** checked). If the global clock sync interval is set, the clock cync interval value for the Slave can not be modified in the YOKOGAWA PROFIBUS DP generic Slave DTM and a warning message will be displayed, if the user tries to check **Activate Time Sync** in the **DPV2** pane in the YOKOGAWA PROFIBUS DP generic Slave DTM.	checked, unchecked, Default: checked (*Time_Sync_supp* is set to true in GSD)
Clock Sync Interval (Time base 10 ms)	**Clock Sync Interval** of the Out signal in 10ms steps. Time base 10 ms: e.g. the value 1000 results as 10ms*1000=10s Clock Sync Interval	0 … 2^{16} – 1, Default: 1000

Table 14: Activate Time Sync, Clock Sync Interval

- Respectively adjust **Clock Sync Interval**.

If Global Clock Sync Intervall Setting is activated in Master DTM:

The Clock Sync Interval value for all Slaves in the configuration with Time Sync support can be set globally in the Master DTM. In case this global setting is activated, the Clock Sync Interval value for the Slave can not be modified in the YOKOGAWA PROFIBUS DP generic Slave DTM and the following warning message will be displayed:

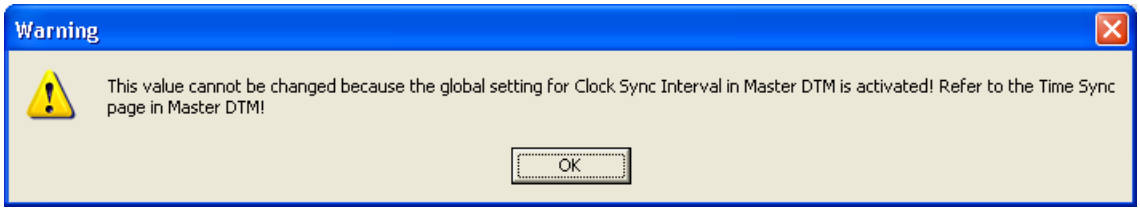

Figure 18: Configuration > DPV2 > Activate Time Sync, Clock Sync Interval > Warning Message on globally set Clock Sync Intervall

➢ Click **OK**.

The global Clock Sync Interval value setting is done in the **TimeSync** settings pane in the PROFIBUS DP Master DTM.

3.9 Redundancy

The **Redundancy** pane contains adjustment possibilities for the Redundancy configuration for the Slave.

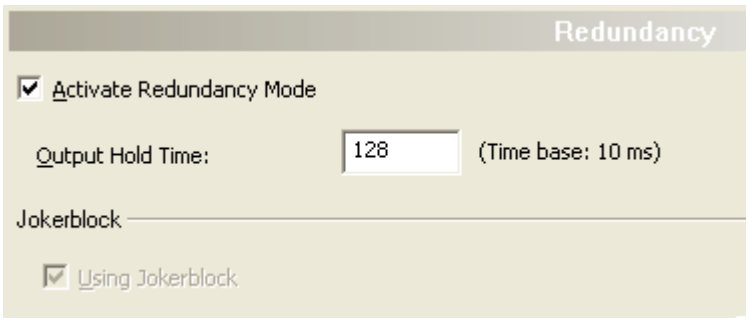

Figure 19: Configuration > Redundancy

Activating Redundancy Mode, Output Hold Time

For Redundancy configuration the settings **Activating Redundancy Mode,** and **Output Hold Time** must be used.

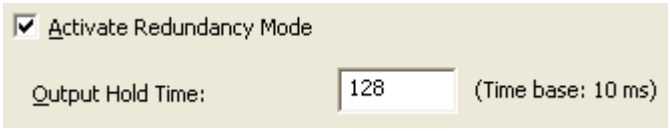

Figure 20: Configuration > Redundancy > Activating Redundancy Mode, Output Hold Time

Parameter	Meaning	Range of Value/Value
Activating Redundancy Mode	**Activating Redundancy Mode** is enabled (checked), if Redundancy is supported by the Slave (GSD). Otherwise the field is grayed out and can not be checked for this Slave. **Note:** When Redundancy Mode is activated, Station Address Offset will be set to 0 always.	checked, unchecked, Default: checked (*Slave_Redundancy_supp* and *PrmCmd_supp* are set to true in GSD)
Output Hold Time (Time base 10 ms)	**Hold Time of the Out signal** in 10ms steps. Time base 10 ms: e.g. the value 128 (0x0080) results as 10ms*128=1280ms=1,28s Hold Time	0 … 2^{16} – 1, Default: *Slave_Max_Switch_Over_Time +1* (if specified in GSD), otherwise:128

Table 15: Activating Redundancy Mode, Output Hold Time

- Adjust **Output Hold Time**.

Using Jokerblock

Figure 21: Configuration > Redundancy > Using Jokerblock (enabled)

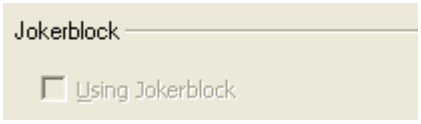

Figure 22: Configuration > Redundancy > Using Jokerblock (disabled)

Parameter	Meaning	Range of Value/Value
Using Jokerblock	The field is grayed out and can not be checked/unchecked by the user. **Using Jokerblock** is enabled (checked), if GSD for the Slave specifies *Jokerblock_supp = 1 & Jokerblock_Location = 0 or 1 & Jokerblock_Type=129* Otherwise this option is disabled (unchecked) for this Slave. Note: Ext-Prm-Telegram is not supported!	checked, unchecked, Default: checked (*Jokerblock_supp = 1 & Jokerblock_ Location = 0 or 1 & Jokerblock_Type=129* are set to true in GSD)

Table 16: Using Jokerblock

4 Device Description

4.1 About Device Description

Dialog Panes “Device Description”

The table below gives an overview for the **Device Description** dialog panes descriptions:

Section	Subsection	Page
Device Description	*Device*	*34*
	GSD	*34*

Table 17: Descriptions of the Dialog Panes Device Description

Figure 23: Navigation Area - Device Description

4.2 Device

The **Device Info** dialog contains manufacturer information about the device, which is defined in the GSD file. The following information is indicated:

Parameter	Meaning
Vendor name	Vendor name of the device
Product name	Name of the device
Ident number	Identification number of the device
Revision	Hardware reference

Table 18: General Device Information

4.3 GSD

The **GSD Viewer** shows the content of the GSD file in a text view.

Under **Filename** the file directory path and the file name of the displayed GSD file is displayed. **Find what** offers a search feature to search for text contents within the text of the GSD file.

In the GSD Viewer window on the left side, the line number is displayed for simple overview, the further entries show the GSD file in text format.

Parameter	Meaning
Filename	File directory path and the file name of the displayed GSD file.
Find what	Search feature to search for text contents within the text of the GSD file.
Match case	Search option
Match whole word	Search option

Table 19: Device Description – GSD Viewer

5 Lists

5.1 List of Figures

5.2 List of Tables

6 Glossary

GSD

GSD = General Station Description

The 'General Station Description' describe the characteristics of a device type in a stipulated format. The GSD are created individually for each device type. And they are allocated in form of a GSD file for the user by the manufacturer of the device.

The project system can read in and consider the GSD for any PROFIBUS DP device automatically because of the pegged file format during the configuration of the bus system.

FDT

Field Device Tool

FDT specifies an interface, in order to be able to use DTM (Device Type Manager) in different applications of different manufacturers.

Freeze

After receiving the control command FREEZE, the DP-Slave freezes the actual state of the Inputs and transmits them cyclically to the DP-Master. After each new control command FREEZE, the Slave freezes the state of the Inputs again. The actual Input data are not transmitted cyclically from the DP-Slave to the DP-Master until the DP-Master sends the control command UNFREEZE. The DP-Slave has to be assigned to a group for the control command FREEZE in the configuration.

DPV0

PROFIBUS DP with cyclic communication

DPV1

PROFIBUS DP with acyclic communication

DTM

Device Type Manager

The Device Type Manager (DTM) is a software module with graphical user interface for the configuration and/or for diagnosis of devices.

Sync

With the control command SYNC the DP-Master arranges the DP-Slave, that the DP-Slave freezes the states of the Outputs on the actual value. During the following telegrams the DP-Slave saves the Output data in each case, which it has save as Output data. The Outputs are first updated cyclically until the DP-Master sends the control command UNSYNC. The DP-Slave has to be assigned to a group for the control command SYNC in the configuration.,

7 Appendix

7.1.1 Station Status of the Slave Diagnosis

7.1.1.1 The meaning of Station Status 1

Station-Status 1	Set by	Meaning and Remedy
Master lock (Bit 7)	Master	**Meaning:** The Slave has already been parameterized by another Master and is locked in its access. **Remedy:** This is security mechanism of PROFIBUS DP. First clarify which master should have access to this Slave. Then add this Slave to the configuration of the master that should have access to this Slave and remove this Slave from the configuration of the other master.
Parameter fault (Bit 6)	Slave	**Meaning:** This bit is set by the Slave automatically, when the parameters sent by the Master are containing wrong or insufficient data. On every received parameter telegram the Slave executes a check routine on the whole parameter telegram. If the Slave detects a faulty parameter value or illegal data during its check, it will report the **Parameter fault**. During the check routine the Slave compares its ident number with the one sent by Master. **Remedy:** So if the Slave reports this error, first compare the **Device internal Number** with the **GSD Ident Number**. If they are different, either a wrong GSD file is used or a wrong device was connected to the bus. If this two Ident numbers are the same, check the parameter data
Invalid Slave response (Bit 5)	Master	**Meaning:** This bit is set by the Master, when the Master receives an invalid answer from the Slave. So the physical contact to the Slave works principally, but the logical answer was not understood. **Remedy:** An error at the physical transmission line could have appeared like twisted cable, missing bus termination or missing shield connection. Use standardized DP Slave. This also can happen, for example if a PROFIBUS-FMS Slave is connected to the DP-Master instead of a DP Slave. So the Slave does not understand the DP-Telegram and rejects it. It's handled as 'Invalid Slave Response'.

Table 20: PROFIBUS DP Diagnosis Station state 1 (Bit 7 to 5)

Station-Status 1	Set by	Meaning and Remedy
Function not supported (Bit 4)	Slave	**Meaning:** This bit is set by the Slave, when a function should be performed which is not supported. Newer releases of Slave stations normally support the Sync and Freeze-Mode for I/O data. This is fixed in the GSD-File and read out by SYCON.net and sent to the Slave in the parameter telegram. **Remedy:** If this error occurs the GSD-File declares at least one of these commands as supported, but the Slave does not. In this case contact the manufacturer of the Slave device for the right GSD-File for the used Slave.
Extended Diagnosis (Bit 3)	Slave	**Meaning:** This bit is set by the Slave, if extended diagnosis data are a read out. Extended diagnosis data is optionally and normally used by a Slave to hand out manufacturer specific diagnosis information. **Remedy:** Click on the button **Extended Diagnosis** to get a Hex-dump of the diagnosis data and read about their meaning in the manual of the manufacturer. If the GSD-File contains information about the Extended Device Diagnosis it can be analyzed with the DTM.
Configuration fault (Bit 2)	Slave	**Meaning:** During the PROFIBUS DP startup procedure the Slave compares its internal I/O configuration with the configuration of the Master. If the Slave detects differences it will report a configuration error. That means that the Master has another I/O module constellation as the Slave. **Remedy:** So first compare visually all configured I/O modules in the configuration data of SYCON.net for this Slave with its real physical constellation. Note that the order of the module has to agree. Some Slaves need virtual I/O modules to be configured first or empty slot modules to get an even number of modules to run. This Slave specific I/O module behavior has to be written down in the Slave documentation because it can not be read out from the GSD file. Please read the configuration notes of the manufacturer.
Station not ready (Bit 1)	Slave	**Meaning:** The DP Slave is still not ready for the data exchange. **Remedy:** When or at which event the Slave sets this bit is not defined in the specification. That means it can have several Slave specific reasons. Usually the bit is set in combination with one the other fault bits. Check especially the parameter and the configuration. Often the report **Station not ready** results in case of parameter fault or configuration faults. It is possible that the supply voltage at the Slave was just first switched on. Wait until the device is initialized.
Station not existent (Bit 0)	Master	**Meaning:** This bit is set by the Master automatically, if this Slave does not answer or is not reachable on the bus. **Remedy:** Please check your PROFIBUS cable. Both signal wires need to be connected correctly between all devices. In addition the connectors at the end of the cable need to be provided with termination resistors. Check that the device is connected to the bus cable. Check the power supply at the Slave device. Compare the station address at the Slave with the configuration of the Master. Check, if the Slave supports the configured baud rate. Some Slaves only work with up to 1.5 MBaud or need to be set for a PROFIBUS DP conform behavior. Check the intermediated LWL (optical) connector's converters and repeaters.

Table 21: PROFIBUS DP Diagnosis Station state 1 (Bit 4 to 0)

7.1.1.2 The meaning of Station State 2

Station-Status 2	Set by DP	Meaning
Slave deactivated (Bit 7)	Master	This bit is set by the Master, if the Slave in its parameter set is marked as inactive, so that it is taken out from the cyclic I/O exchange.
Reserved (Bit 6)	-	-
Sync Mode (Bit 5)	Slave	This bit is set by the Slave, when it has received the Sync control command.
Freeze Mode (Bit 4)	Slave	This bit is set by the Slave, when is has received the Freeze control command.
Watchdog on (Bit 3)	Slave	This bit is set by the DP-Slave, when its Watchdog control is active to supervise its corresponding Master connection.
Slave device (Bit 2)	Slave	This bit is always set by the Slave.
Static Diagnosis (Bit 1)	Slave	The Slave sets this bit to indicate the Master to be not operative because of a general error. Typically the DP Slave is not ready for an I/O data transfer. In a case of a set Static Diagnosis bit the Master has to collect diagnosis information as long as this bit is active. On which events or at what time this bit can be set by a Slave device, is not defined in the norm description and can not be mentioned here.
Parameteri-zation request (Bit 0)	Slave	The Slave sets this bit to force the Master system to do a new parameterization. This bit is set as long as new parameterization must be performed. In case of this error you should compare firstly the **Device internal Ident Number** with the **GSD ident number** in this window. This numbers need to be the same. Furthermore you have to check the parameter data.

Table 22: PROFIBUS DP Diagnosis Station State 2

7.1.1.3 The meaning of Station State 3

Station-Status 3	Set by	Meaning
Extended diagnosis overflow (Bit 7)	Master Slave	This bit is set, if there is more extended diagnosis information to report to the Master than can be given to the Master in one diagnosis telegram. The DP-Slave sets this bit for example if there is more diagnosis channel information than the Slave can hold down in its diagnosis buffer.
Reserved (Bit 6 to 0)	-	-

Table 23: PROFIBUS DP Diagnosis Station State 3

7.1.1.4 Master Address

This byte of the standard diagnosis shows the address of the DP Master which has parameterized the DP Slave and which has read and write access to the DP Slave. The value 255 (FFH) displays that the DP Slave was not parameterized or faulty parameterized by the DP Master.

7.1.1.5 Ident Number

The Ident Number is the manufacturer code of the DP Slave device.

7.1.2 Extended Slave Device Diagnosis

7.1.2.1 Device Related Diagnosis

This extended diagnosis is referred to the device. The length of the device related diagnosis comprises min 2 to max 63 bytes.

2 .. 63 Bytes			
Headerbyte	2. Byte	...	63. Byte
	Manufacturer specific		

Table 24: Device Related Diagnosis

The meaning of the Headerbyte is shown in the following table. The meaning of the following 1 to max. 62 diagnosis bytes is fixed by the device manufacturer. For further analysis the ident number and the device description of the manufacturer are necessary.

MSB							LSB	Meaning
7	6	5	4	3	2	1	0	
		Block length in bytes including header byte 2 to header byte 63						
Bit 7, Bit 6 fixed to 00								

Table 25: Device Related Diagnosis (Headerbyte)

7.1.2.2 Identifier Related (Module) Diagnosis

This extended diagnosis is referred to the module (identifier byte). The length of the identifier related diagnosis comprises min 2 to max 63 bytes.

2 .. 63 Bytes					
Headerbyte	**7 .. 0**	**15 .. 8**	**23 .. 16**	**31 .. 24**	**...**

Table 26: Identifier Related (Module) Diagnosis

For each used identifier byte at the configuration one bit is reserved. It is padded to byte limits. The bits which are not configured are set to zero. A set bit means there is diagnosis for this module (identifier byte).

Header Byte

MSB							LSB	Meaning
7	6	5	4	3	2	1	0	
								Block length in bytes including header byte 2 to header byte 63
								Bit 7, Bit 6 fixed to 00

Table 27: Identifier Related (Module) Diagnosis (Headerbyte)

Bit structure for identifier related diagnosis

MSB							LSB	Meaning
7	6	5	4	3	2	1	0	
								Identifier byte 0 has diagnostic
								Identifier byte 1 has diagnostic
								...
								Identifier byte 7 has diagnostic

Table 28: Identifier Related (Module) Diagnosis (Bit structure)

7.1.2.3 Channel Related Diagnosis

This extended diagnosis is referred to a channel.

Byte 1 Identifier Number	Byte 2 Channel Number	Byte 3 Type of Diagnostic

Table 29: Channel Related Diagnosis

The length per entry is 3 bytes. In this block the diagnosed channels and the diagnosis reason are entered in turn. Several blocks with channel related diagnosis can appear.

Byte 1: Identifier Number

MSB							LSB	Meaning
7	6	5	4	3	2	1	0	
								Identifier Number 0 to 63
								Bit 7, Bit 6 fixed to 00

Table 30: Byte 1: Identifier Number

Byte 2: Channel Number

MSB							LSB	Meaning
7	6	5	4	3	2	1	0	
								Channel Number 0 to 63
								Input / Output 00 reserved 01 Input 10 Output 11 Input / Output

Table 31: Byte 2: Channel Number

For identifier bytes which contain both input and output, the direction of the diagnosed channel is indicated in bit 7 and bit 6 of the cannel number.

Byte 3: Type of Diagnosis

MSB							LSB	Meaning
7	6	5	4	3	2	1	0	
								Error Type (described in the following table)
								Channel Type 000 reserved 001 Bit 010 2 Bit 011 4 Bit 100 Byte 101 Word 110 2 Words 111 reserved

Table 32: Byte 3: Type of Diagnosis

Error Type	Description
0	reserved
1	short circuit
2	undervoltage
3	overvoltage
4	overload
5	overtemperature
6	line break
7	upper limit value exceeded
8	lower limit value exceeded
9	error
10	reserved
...	...
15	reserved
16	manufacturer specific
...	...
31	manufacturer specific

Table 33: Error Type

7.2 Identifier Bytes

In the configuration telegram identifier bytes are used. The meaning of them is specified in the PROFIBUS specification.

The following table is an overview.

	Value		Meaning			
GIF/SIF	0x00	00	free place			
	0x01-0x0F	01-15	see SIF			
GIF	0x10-0x1F	16-31	1-16	Byte	Input	Consistency over Byte
GIF	0x20-0x2F	32-47	1-16	Byte	Output	Consistency over Byte
GIF	0x30-0x3F	48-63	1-16	Byte	Input/Output	Consistency over Byte
	0x40-0x4F	64-79	see SIF			
GIF	0x50-0x5F	80-95	1-16	Word	Input	Consistency over Word
GIF	0x60-0x6F	96-111	1-16	Word	Output	Consistency over Word
GIF	0x70-0x7F	112-127	1-16	Word		Consistency over Word
	0x80-0x8F	128-143	see SIF			
GIF	0x90-0x9F	144-159	1-16	Byte	Input	Consistency over whole length
GIF	0xA0-0xAF	160-175	1-16	Byte	Output	Consistency over whole length
GIF	0xB0-0xBF	176-191	1-16	Byte		Consistency over whole length
	0xC0-0xCF	192-207	see SIF			
GIF	0xD0-0xDF	208-223	1-16	Word	Input	Consistency over whole length
GIF	0xE0-0xEF	224-239	1-16	Word	Output	Consistency over whole length
GIF	0xF0-0xFF	240-255	1-16	Word		Consistency over whole length

Table 34: Identifier bytes (overview)

7.2.1 Identifier Bytes (General Identifier Format GIF)

For the identifier bytes in general identifier format the following table shows the meaning.

MSB							LSB	
7	6	5	4	3	2	1	0	**Meaning**
								Bit 3 to 0: Length 0000 = 1 Byte or 1 Word 0001 = 2 Byte or 2 Word ... 1111 = 16 Byte or 16 Word
								Bit 5 and 4: Input/Output 00 = special identifier format (SIF) 01 = Input 10 = Output 11 = Input and Output
								Bit 6: Format 0 = Byte 1 = Word
								Bit 7: Consistency over 0 = Byte or Word 1 = whole length

Table 35: Identifier Bytes (General Identifier Byte Format GIF)

	Value		Meaning			
GIF/SIF	0x00	00	Free place			
SIF	0x01 – 0x0F		see SIF			
GIF	0x10	16	1	Byte	Input	Consistency over Byte
GIF	0x11	17	2	Byte	Input	Consistency over Byte
GIF	...	...	...	Byte	Input	Consistency over Byte
GIF	0x1F	31	16	Byte	Input	Consistency over Byte
GIF	0x20	32	1	Byte	Output	Consistency over Byte
GIF	0x21	33	2	Byte	Output	Consistency over Byte
GIF	...	...	...	Byte	Output	Consistency over Byte
GIF	0x2F	47	16	Byte	Output	Consistency over Byte
GIF	0x30	48	1	Byte	Input/Output	Consistency over Byte
GIF	0x31	49	2	Byte	Input/Output	Consistency over Byte
GIF	...	...	...	Byte	Input/Output	Consistency over Byte
GIF	0x3F	63	16	Byte	Input/Output	Consistency over Byte
SIF	0x40 – 0x4F		see SIF			
GIF	0x50	80	1	Word	Input	Consistency over Word
GIF	0x51	81	2	Word	Input	Consistency over Word
GIF	...	...	...	Word	Input	Consistency over Word
GIF	0x5F	95	16	Word	Input	Consistency over Word
GIF	0x60	96	1	Word	Output	Consistency over Word
GIF	0x61	97	2	Word	Output	Consistency over Word
GIF	...	...	...	Word	Output	Consistency over Word
GIF	0x6F	111	16	Word	Output	Consistency over Word
GIF	0x70	112	1	Word	Input/Output	Consistency over Word
GIF	0x71	113	2	Word	Input/Output	Consistency over Word
GIF	...	...	...	Word	Input/Output	Consistency over Word
GIF	0x7F	127	16	Word	Input/Output	Consistency over Word
SIF	0x80 – 0x8F		see SIF			
GIF	0x90	144	1	Byte	Input	Consistency over whole length
GIF	0x91	145	2	Byte	Input	Consistency over whole length
GIF	...	...	...	Byte	Input	Consistency over whole length
GIF	0x9F	159	16	Byte	Input	Consistency over whole length

Table 36: Identifier Bytes 0x10 .. 0x3F, 0x50 .. 0x7F, 0x90 .. 0x9F (GIF)

	Value		Meaning			
GIF	0xA0	160	1	Byte	Output	Consistency over whole length
GIF	0xA1	161	2	Byte	Output	Consistency over whole length
GIF	...	...	...	Byte	Output	Consistency over whole length
GIF	0xAF	175	16	Byte	Output	Consistency over whole length
GIF	0xB0	176	1	Byte	Input/Output	Consistency over whole length
GIF	0xB1	177	2	Byte	Input/Output	Consistency over whole length
GIF	...	...	...	Byte	Input/Output	Consistency over whole length
GIF	0xBF	191	16	Byte	Input/Output	Consistency over whole length
SIF	0xC0 – 0xCF		see SIF			
GIF	0xD0	208	1	Word	Input	Consistency over whole length
GIF	0xD1	209	2	Word	Input	Consistency over whole length
GIF	...	...	...	Word	Input	Consistency over whole length
GIF	0xDF	223	16	Word	Input	Consistency over whole length
GIF	0xE0	224	1	Word	Output	Consistency over whole length
GIF	0xE1	225	2	Word	Output	Consistency over whole length
GIF	...	...	...	Word	Output	Consistency over whole length
GIF	0xEF	239	16	Word	Output	Consistency over whole length
GIF	0xF0	240	1	Word	Input/Output	Consistency over whole length
GIF	0xF1	241	2	Word	Input/Output	Consistency over whole length
GIF	...	...	...	Word	Input/Output	Consistency over whole length
GIF	0xFF	255	16	Word	Input/Output	Consistency over whole length

Table 37: Identifier Bytes 0xA0 .. 0xBF, 0xD0 .. 0xFF (GIF)

7.2.2 Special Identifier Byte Format (SIF)

The special identifier byte format (SIF) is an extension of the general identifier byte format and offers more flexibility. Also manufacturer specific information can be used with it.

MSB							LSB	Meaning
7	6	5	4	3	2	1	0	
								Bit 0 to 3: Length of manufacturer specific data according to the length byte for In- and/or Output In case of DDLM_Chk_Cfg: 0000 = no manufacturer specific data follow 0001 = 1 manufacturer specific data follow ... 1110 = 14 manufacturer specific data follow 1111 = no manufacturer specific data follow In case of DDLM_Get_Cfg: 0000 = no manufacturer specific data follow 0001 = 1 manufacturer specific data follow ... 1110 = 14 manufacturer specific data follow 1111= not allowed
								Bit 5 and 4: solid 00 = solid
								Bit 7 and 6: Input/Output 00 = free place 01 = a length byte for Input follows 10 = a length byte for Output follows 11 = a length byte for Input and Output follows

Table 38: Special Identifier Format (SIF)

Length Byte

MSB							LSB	Meaning
7	6	5	4	3	2	1	0	
								Bit 0 to 5: Length 000000 = 1 Byte or 1 Word 000001 = 2 Byte or 2 Word ... 111111 = 64 Byte or 64 Word
								Bit 6: Format 0 = Byte 1 = Word
								Bit 7: Consistency over 0 = Byte or Word (element) 1 = whole length

Table 39: Length Byte of the SIF

	Value		Meaning
GIF/SIF	0x00	00	free place
GIF	0x01 – 0x0E	01 – 14	free place and 1-14 manufacturer specific data
GIF	0x0F	15	free place and no manufacturer specific data
GIF	0x40	64	1 length byte Input
GIF	0x41 – 0x4E	65 – 78	1 length byte Input and 1-14 manufacturer specific data
GIF	0x4F	79	1 length byte Input and no manufacturer specific data
GIF	0x80	128	1 length byte Output
GIF	0x81 – 0x8E	129 – 142	1 length byte Output 1 and 1-14 manufacturer specific data
GIF	0x8F	143	1 length byte Output 1 and no manufacturer specific data
GIF	0xC0	192	1 length byte Output and 1 length byte Input
GIF	0xC1 – 0xCE	193 – 206	1 length byte Output, 1 length Input byte and 1-14 manufacturer specific data
GIF	0xCF	207	1 length byte Output, 1 length Input byte and no manufacturer specific data

Table 40: Special Identifier bytes 0x01 .. 0x0F, 0x40 .. 0x4F, 0x80 .. 0x8F, 0xC0 .. 0xCF (SIF)

Length Byte

Value		Meaning		
0x00 – 0x3F	00-63	1-64	Byte	Consistency over Byte
0x40 – 0x7F	64-127	1-64	Word	Consistency over Word
0x80 – 0xBF	129-191	1-64	Byte	Consistency over whole length
0xC0 – 0xFF	193-255	1-64	Word	Consistency over whole length

Table 41: Length byte of the special identifiers (SIF)

7.3 User Rights

User-rights are set within the FDT-container.

Note: Administrator rights are always used.

7.4 References

[1] Device Type Manager (DTM) Style Guide, Version 1.0 ; FDT-JIG - Order No. <0001-0008-000>

[2] Specification for PROFIBUS, Device Description and Device Integration, Volume 1: GSD, Version 5.1 July 2008, Order No: 2.122

[3] Industrial communication networks – Fieldbus specifications – Part 5 3: Application layer service definition – Type 3 elements,
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[4] Digital data communicationsfor measurement and control – Fieldbus for use in industrialcontrol systems –Part 6:Application layer protocol specification,
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