

LabVIEW-RT Profibus VISA Driver DP-Slave

Getting Started

V1.30

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V1.30	16.11.2007	RT Installation changed
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Approval

Version	Quality Manager / Date	Project Manager / Date
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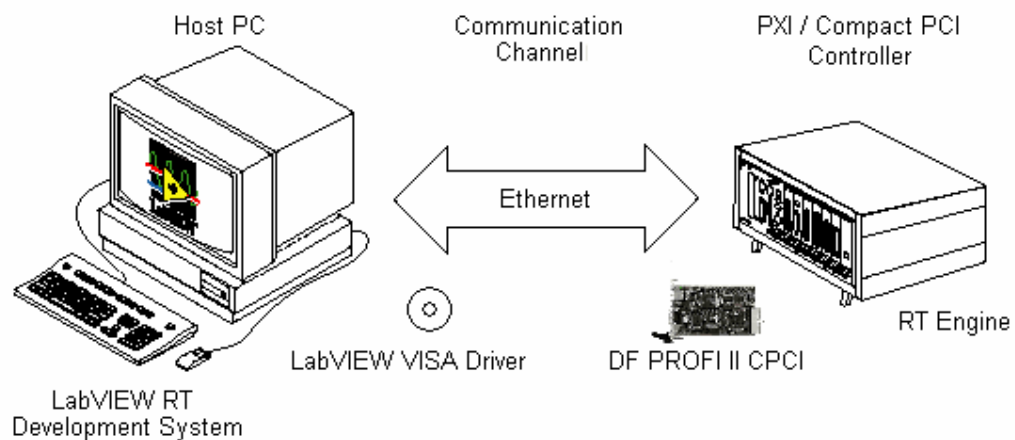
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1 Introduction

This document describes the set into operation procedure of the DF PROFII board as DP-Slave.

1.1 Prerequisites:

- A **COMSOFT** DF PROFII CPCI (Compact PCI) and **COMSOFT** LabVIEW VISA driver for LabVIEW RT on CD.
- National Instruments PXI-System with RT.
- The National Instruments LabVIEW Real-Time Development System installed on a Windows PC.
- Installed NI-VISA standard driver on the PXI- and Windows-System.



2 Installation

- Install the DF PROFIBUS II CPCI board in the PXI-System.
- Switch on the PXI-System.
- Start the Setup from the **COMSOFT** driver CD delivered with the package.
- To install the PROFIBUS LabVIEW VISA driver on the PXI system, start the NI MAX (Measurement & Automation explorer) and open the software installation wizard by right clicking the Software item of your PXI system:

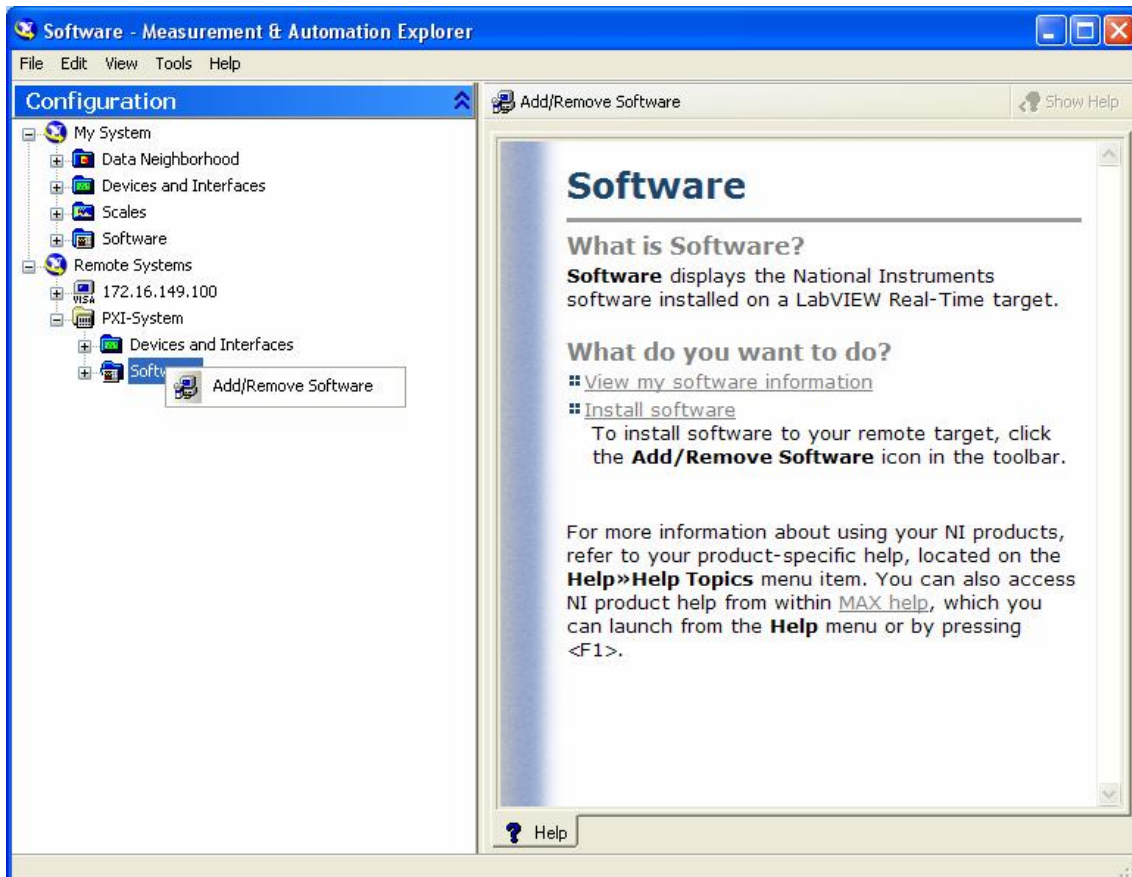


Figure 1: PXI driver installation step 1

- Right click the *COMSOFT DF PROFI II – RT Installation 1.30* component to install it on the PXI system

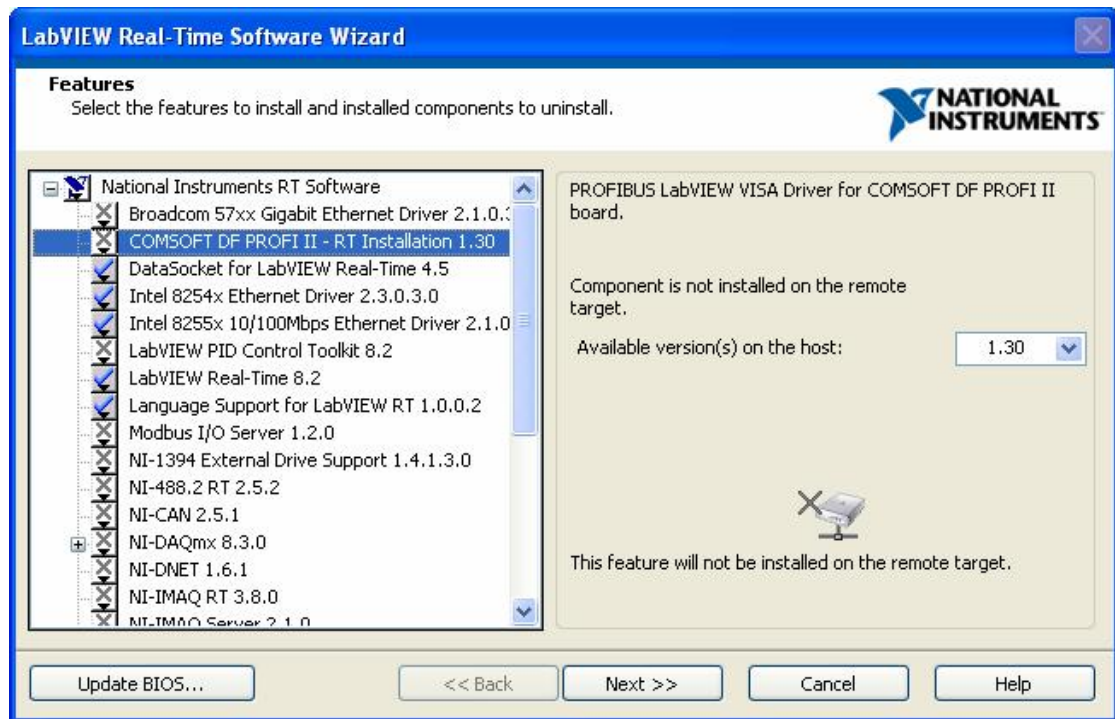


Figure 2: PXI driver installation step 2

All files are copied to the PXI system.

Note: After installation the PXI-System will restart automatically.

- Check by the NI MAX (Measurement & Automation explorer) the proper installation of the DF PROFI II board:

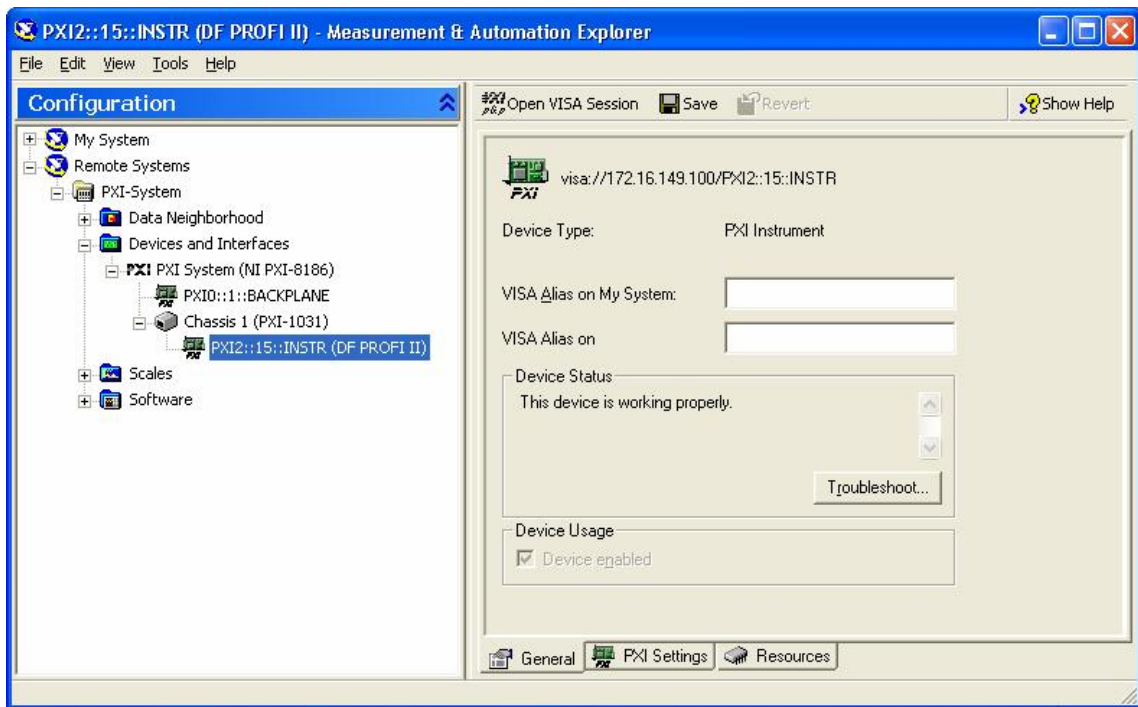


Figure 3: Measurement and Automation Explorer

- To allow the access to each PXI-System with a installed DF PROFI II board check the VISA Server permissions. Create a new server permission as described in the picture below (follow step 1 – step 4). Refer to the MAX help menu for more information.

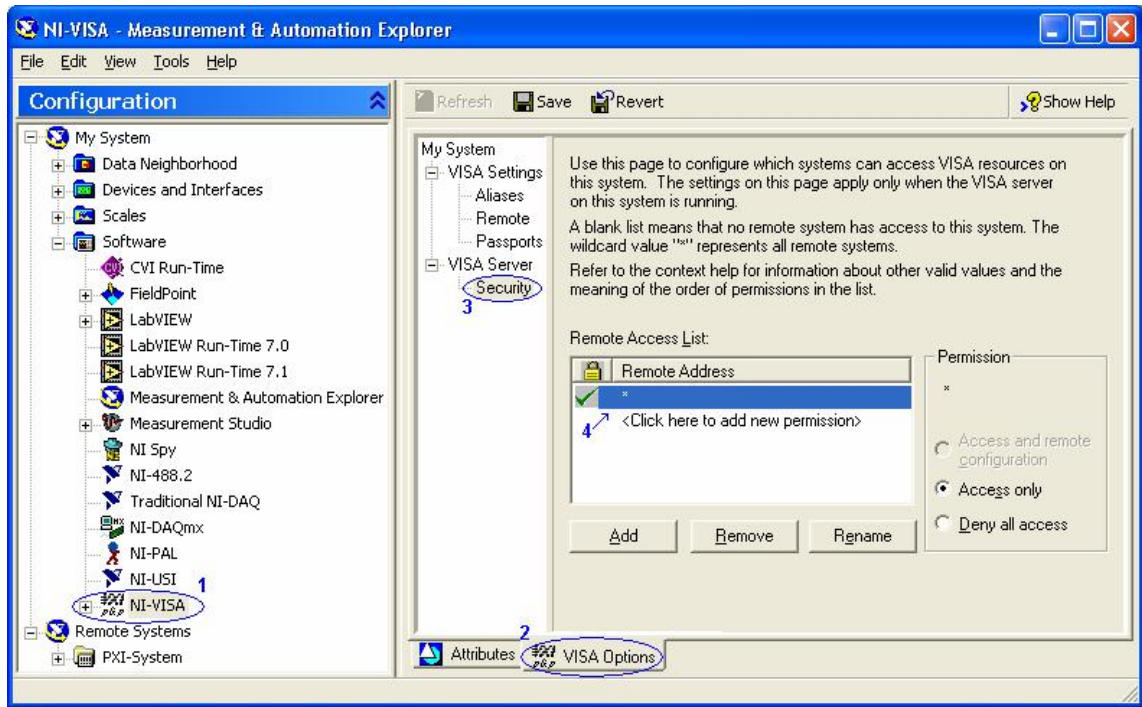


Figure 4: NI-VISA Server Security

- To find DF PROFII boards in PXI-Systems enable the corresponding remote address (follow step 1 – step 4). Refer to the MAX help menu for more information.

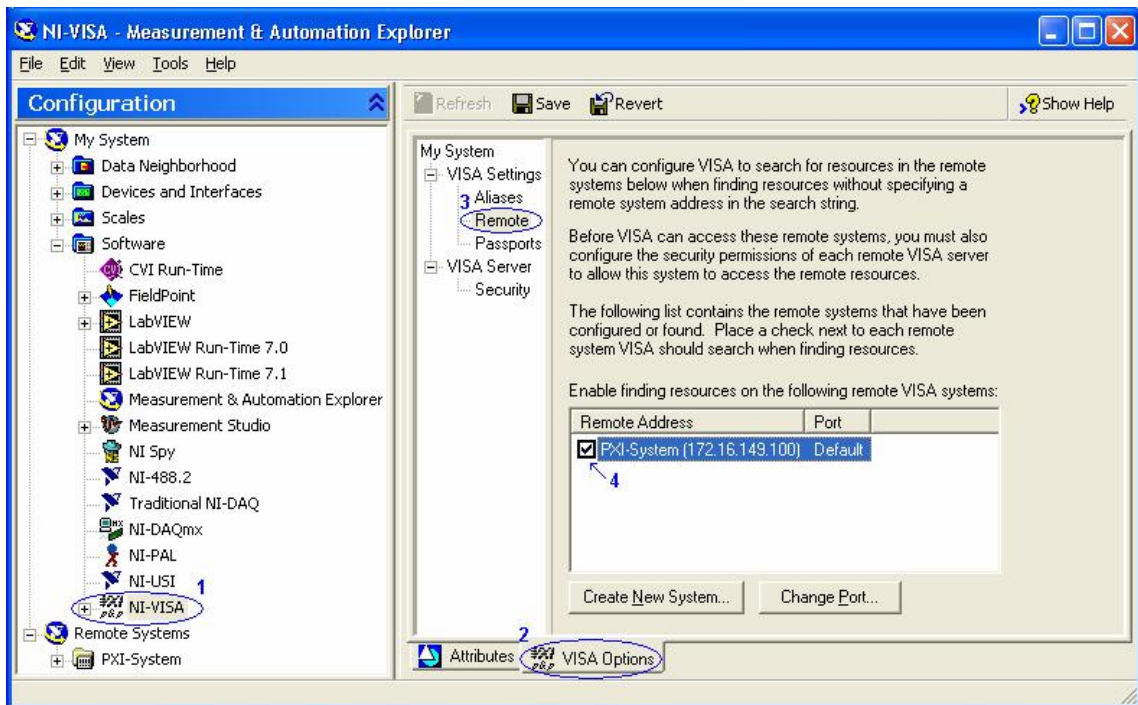


Figure 5: NI-VISA Remote Settings

Note: If the remote address not listed, use the Create New System-button to create it manually.

3 Profibus menu and example

The delivery package includes VI's to initialize the DF PROFI II as DP-Slave. Refer to the LabVIEW Context Help for details.

3.1 Profibus menu

The **COMSOFT** DF PROFI II menu can be found under:





- User Libraries 
- COMSOFT Library 
- Profibus VISA Driver 
- DF PROFI II DP-Slave 



Figure 6: Profibus DP-Slave menu

For an easy access an Express VI is available. The Express VI can be found in the **COMSOFT** DF PROFI II menu under:

- DP-Slave Express 



Figure 7: Profibus DP-Slave Express menu

3.2 Profibus example

Before the *DFP2_DP-SlaveExample* sample program can be run select within the DP-Slave Properties-Tab the *DFP2ResourceName* of the DF PROFII board to be used. Additionally select the Address, the Baud rate and a slave module from module list. These parameters must correspond with the Profibus master configuration. Run the *DFP2_DP-SlaveExample.vi*:

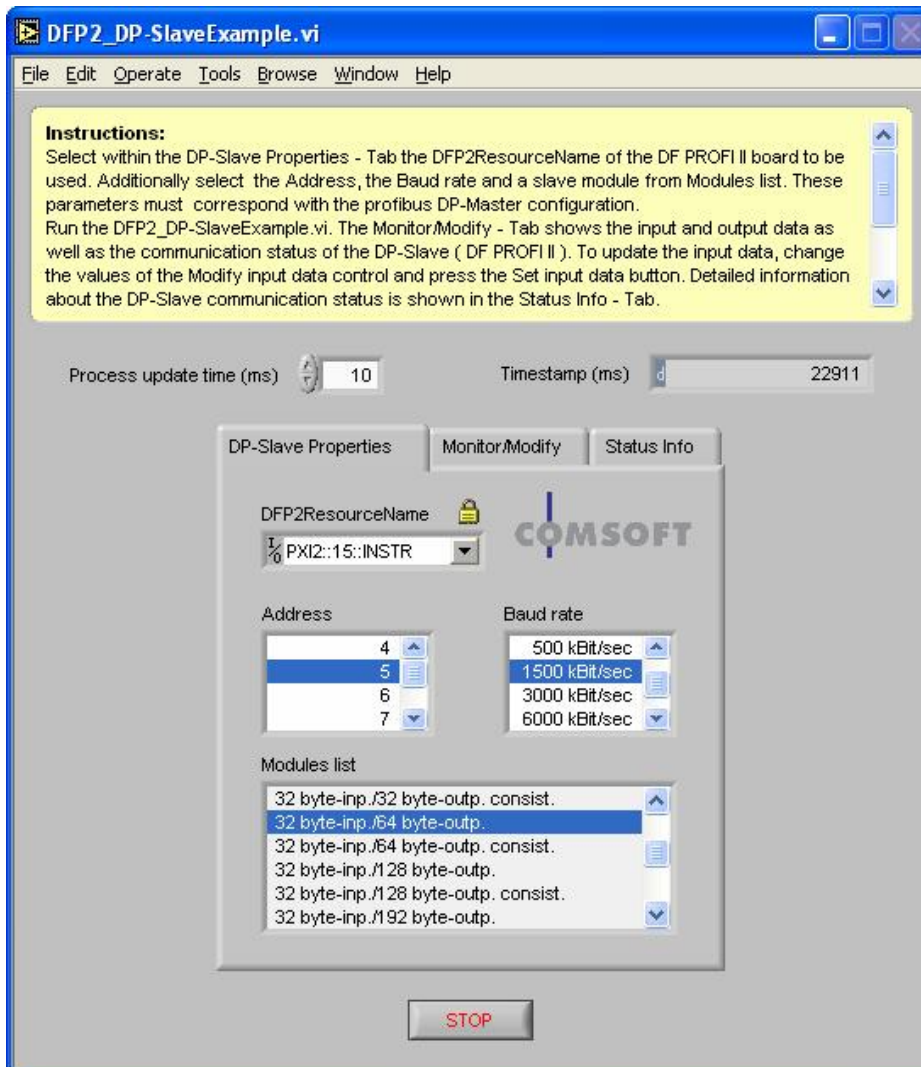


Figure 8: Profibus DP-Slave example-DP-Slave Properties

The Monitor/Modify-Tab shows the input and output data as well as the communication status of the DP-Slave. To update the input data, change the values of the Modify input data control and press the Set input data button:

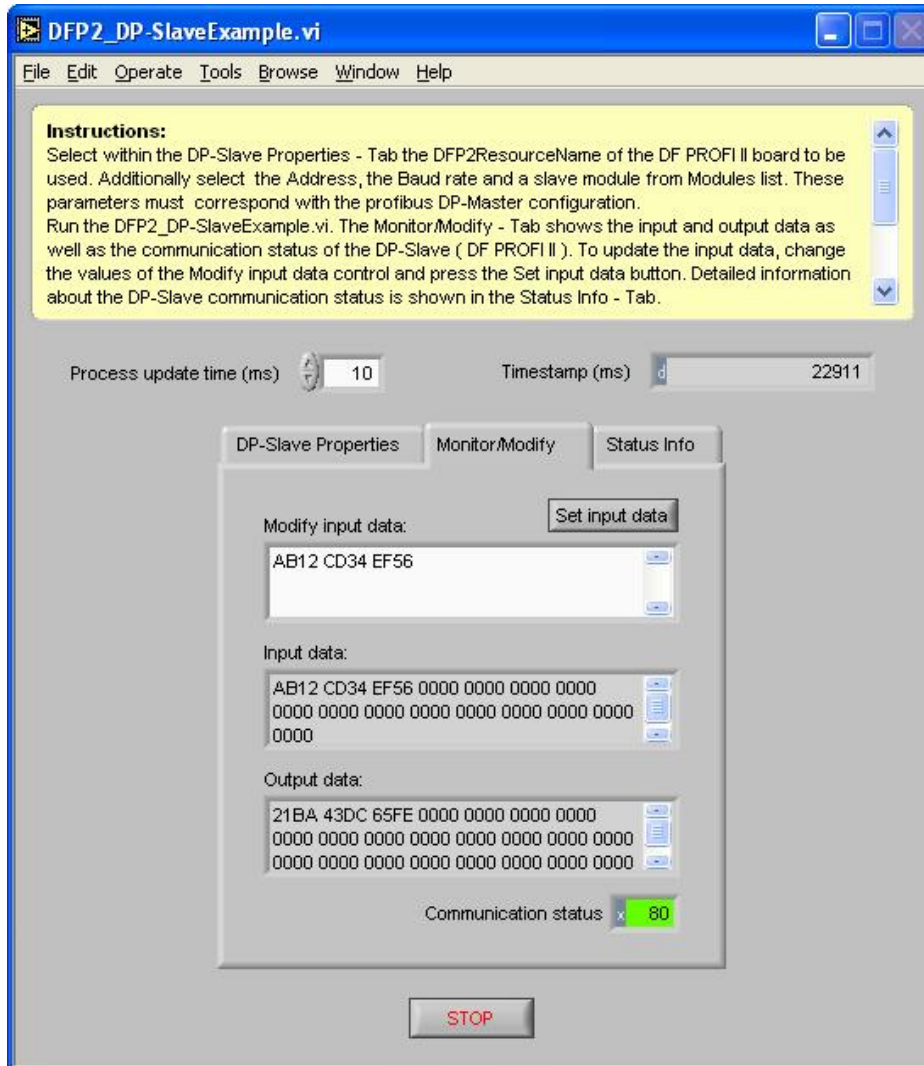


Figure 9: Profibus DP-Slave example-Monitor/Modify

The Status-Tab shows the DP-Slave communication status in detail:

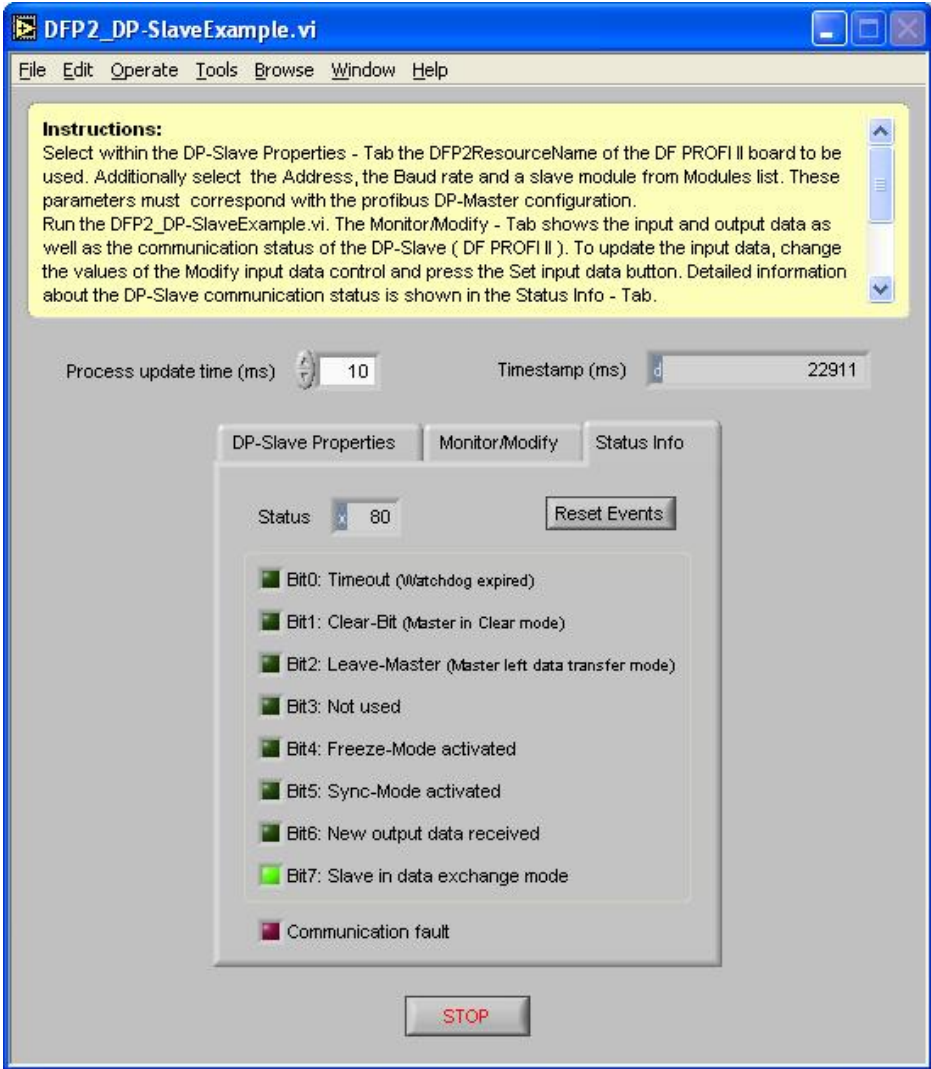


Figure 10: Profibus DP-Slave example-Status Info

The VI's block diagram shows the simple steps how to access the DF PROFI II as DP-Slaves:

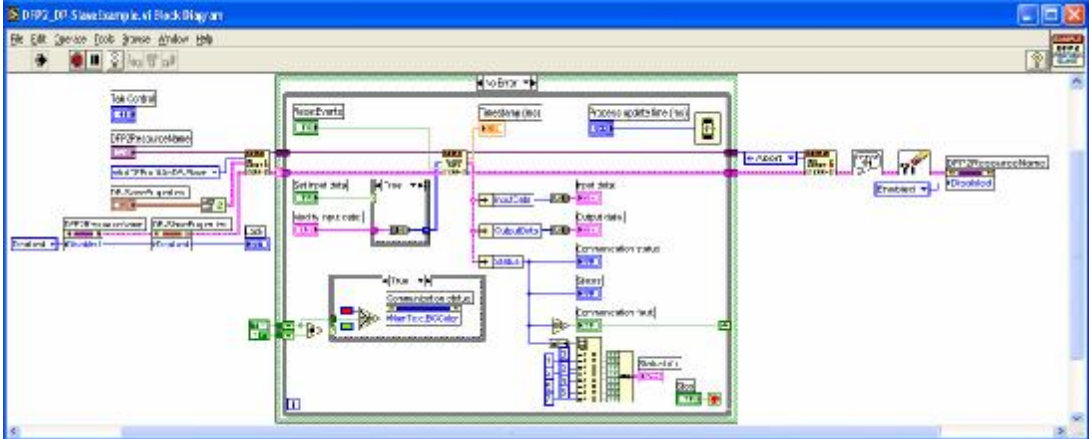



Figure 11: Profibus DP-Slave example block diagram

4 Profibus DP-Slave Express VI

For an easy access a Profibus DP-Slave Express VI  is available. If dropping the Express-VI to the block diagram a dialog opens to configure the DP-Slave. Select the DF PROFII board, the Profibus address of the DP-Slave and the Baud rate:

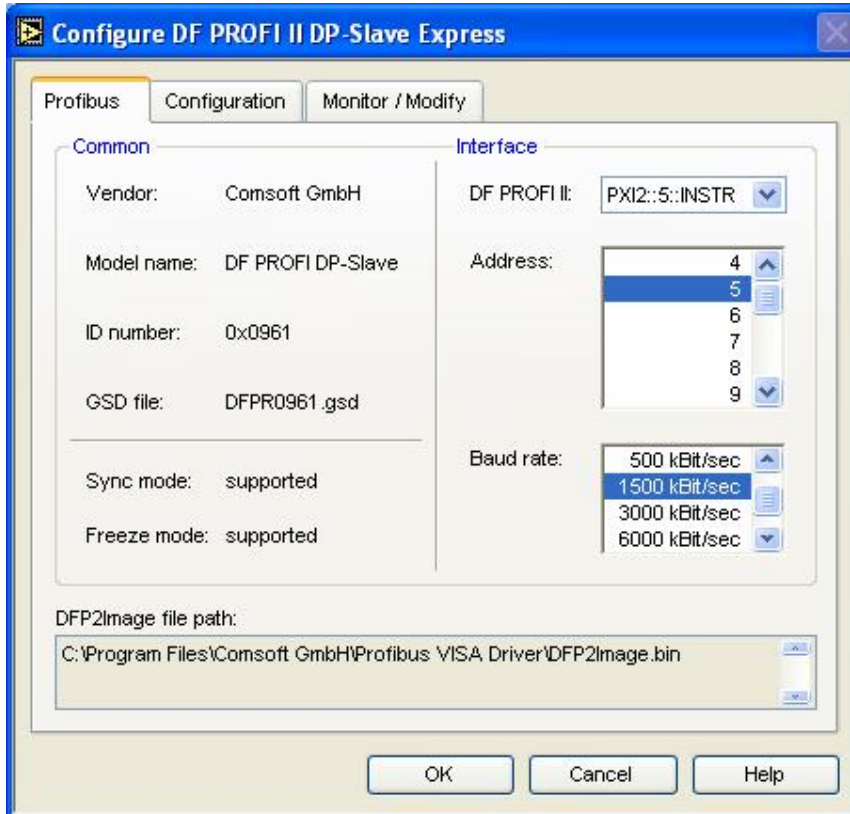


Figure 12: DP-Slave Express Profibus

The Configuration-Tab shows the supported slave modules. The selected module must correspond with the Profibus master configuration:

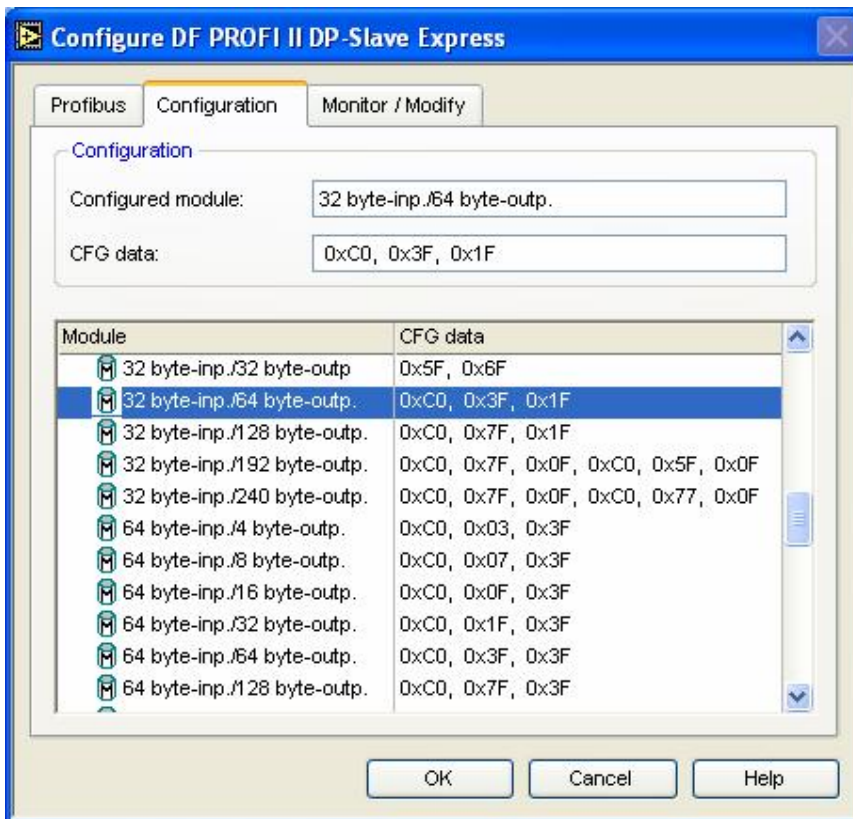


Figure 13: DP-Slave Express Configuration

Note: Before using the monitor/modify-mode a available DF PROFI II, a valid Profibus address, the Baud rate and the module must be selected.

The Monitor/Modify-Tab shows the input and output data as well as the communication status of the DP-Slave. The output data can be modified by clicking directly in the value field and entering new data. The data must be entered in the same format as displayed, otherwise they will be ignored:

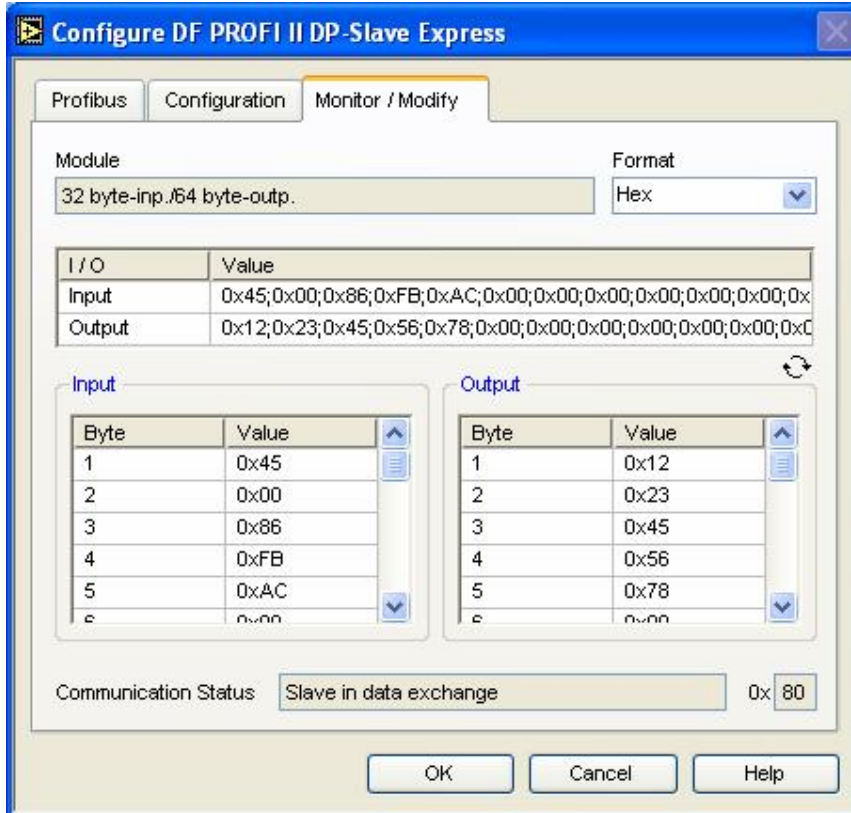


Figure 14: DP-Slave Express Monitor/Modify

After configuration the Profibus Express VI provides all necessary DP-Slave data:



Figure 15: DP-Slave Express VI

To change the properties double click the Express VI