

# **LabVIEW-RT PROFIBUS VISA Driver DP-Slave**

Getting Started

V1.35

27.04.2017

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## Revision History

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V1.35	27.04.2017	Minor changes
V1.34	31.03.2017	KUNBUS Branding
V1.33	16.02.2011	Function Palette location changed
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V1.1	28.07.2005	Driver modification / Example update
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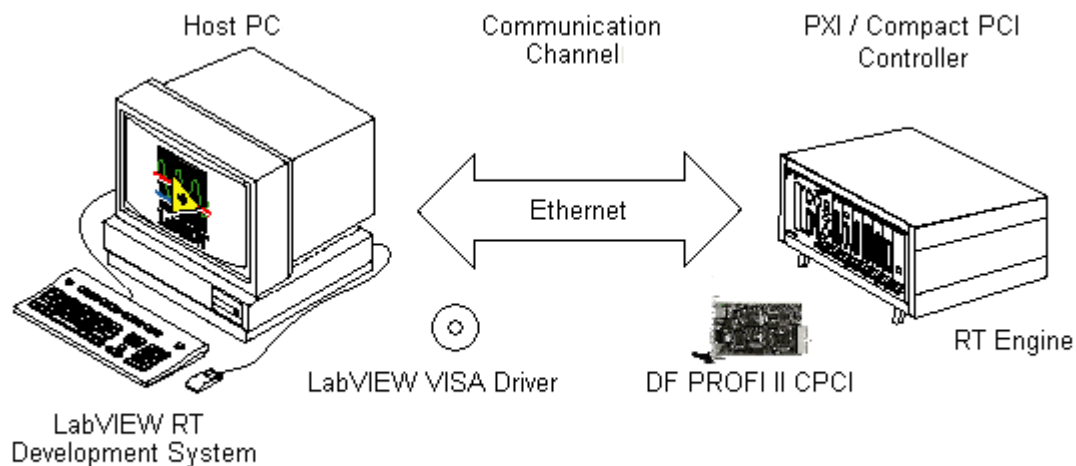
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# 1 Introduction

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

## 1.1 Prerequisites:

- A DF PROFI II CPCI (Compact PCI) and **KUNBUS** 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 PROFI II CPCI board in the PXI-System.

**Please note, that the DF PROFI II CPCI board does not support Hot Plugging. If installing/uninstalling the board the PXI system must be switched off and the power supply must be interrupted.**

- Switch on the PXI-System.
- Start the Setup from the **KUNBUS** 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:

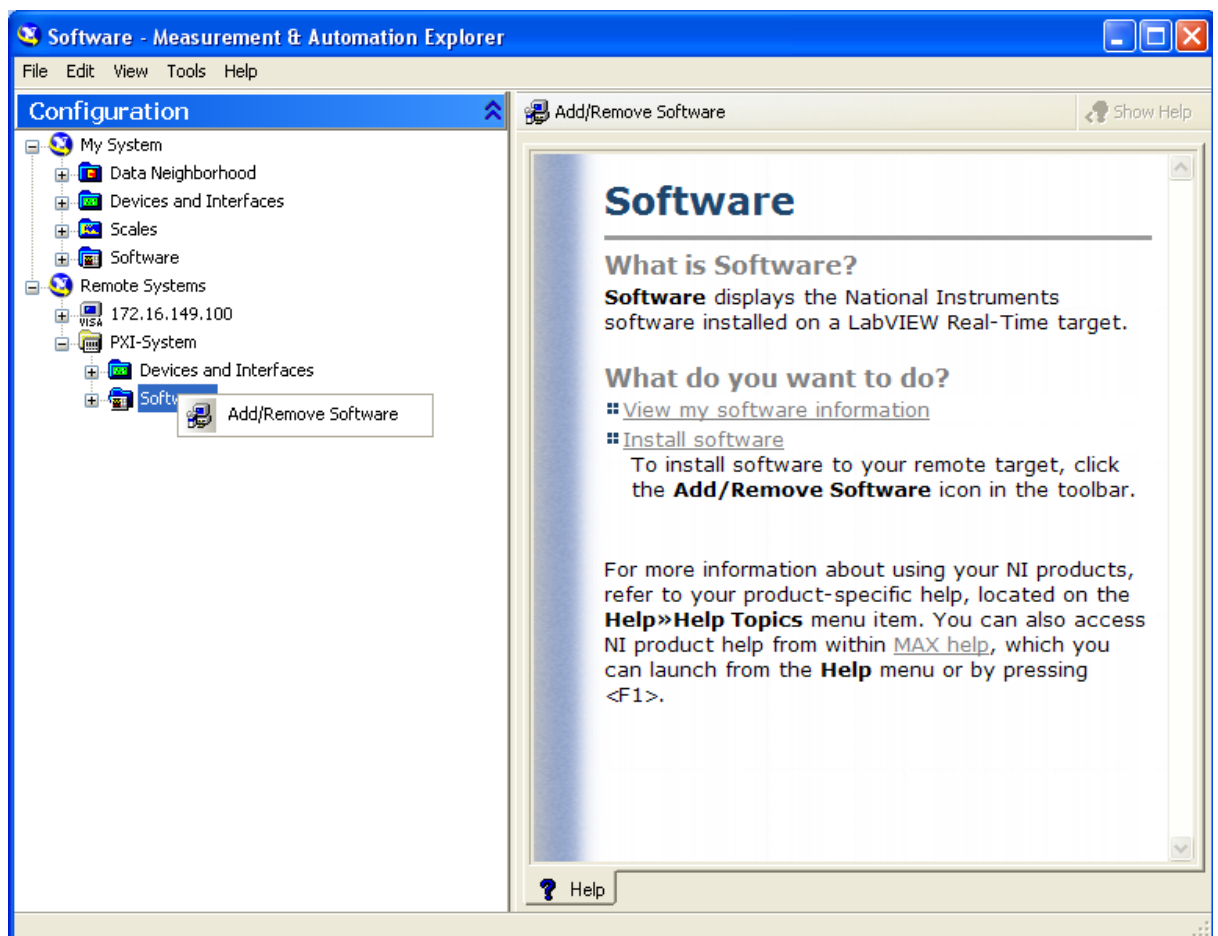


Figure 1: PXI driver installation step 1

- Right click the *KUNBUS DF PROFI II – RT Installation 1.xx* component to install it on the PXI system

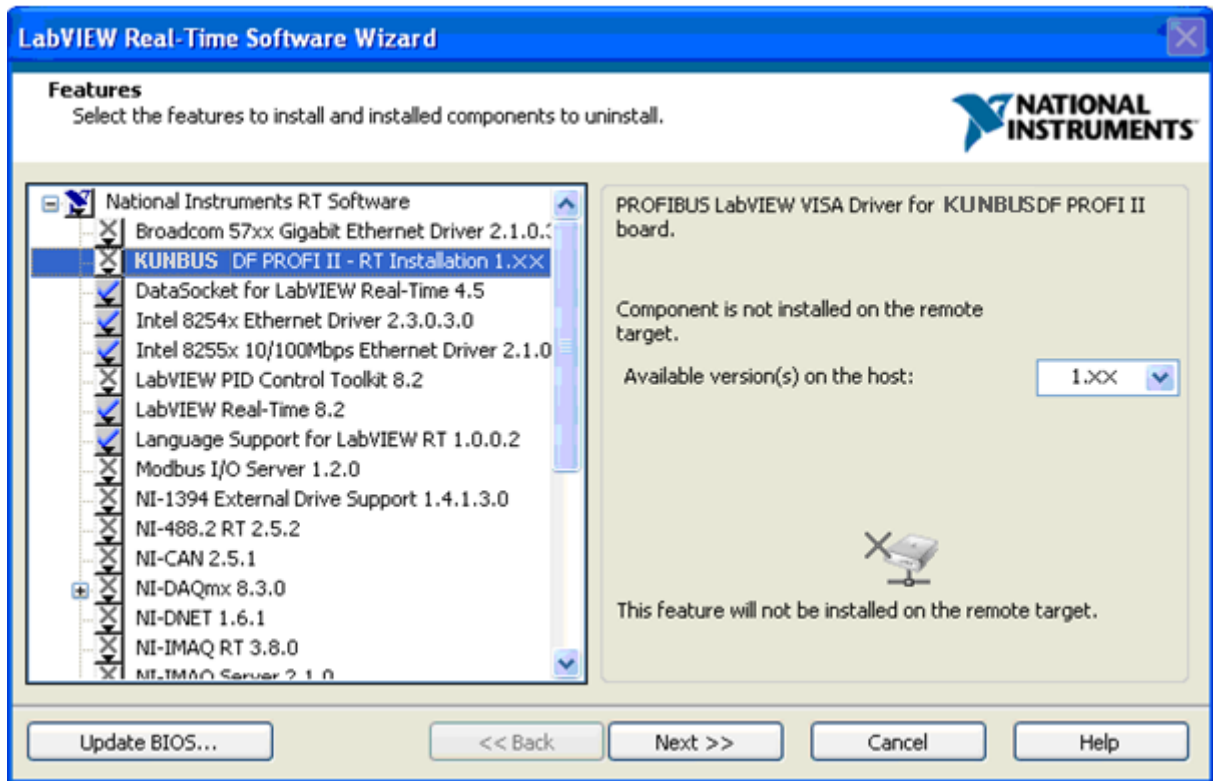


Figure 2: PXI driver installation step 2

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:

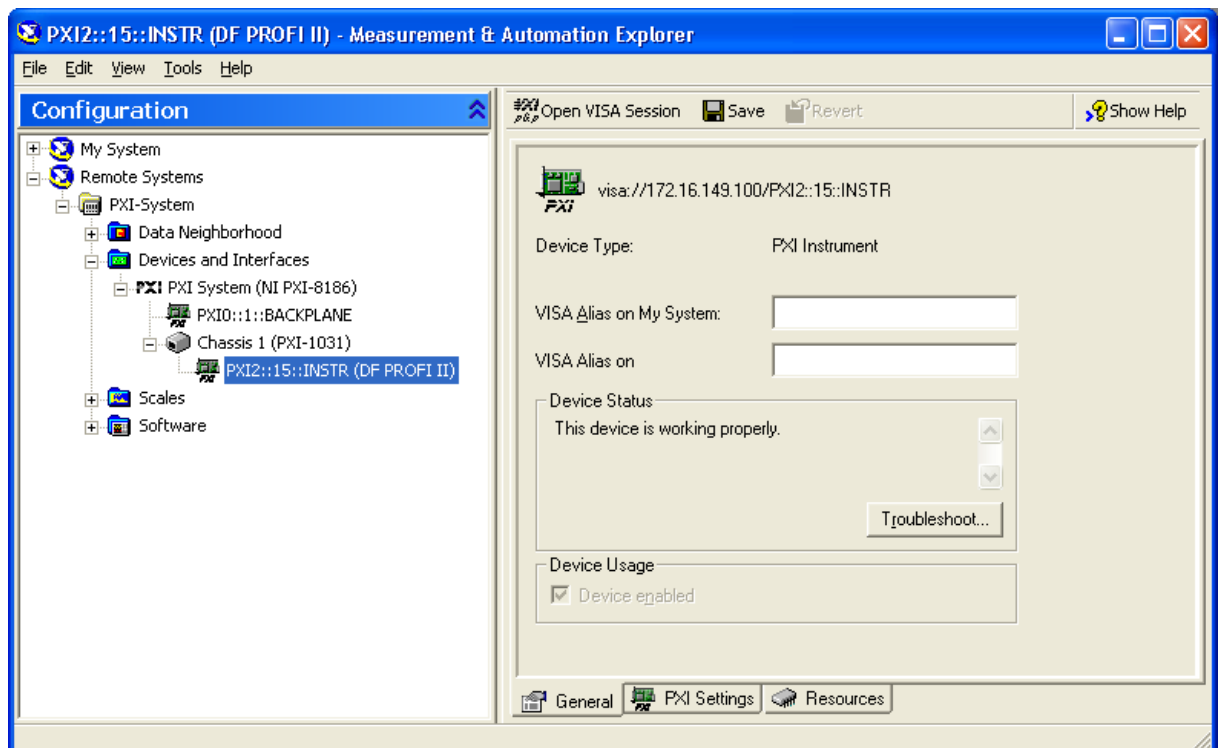


Figure 3: Measurement and Automation Explorer

- 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.

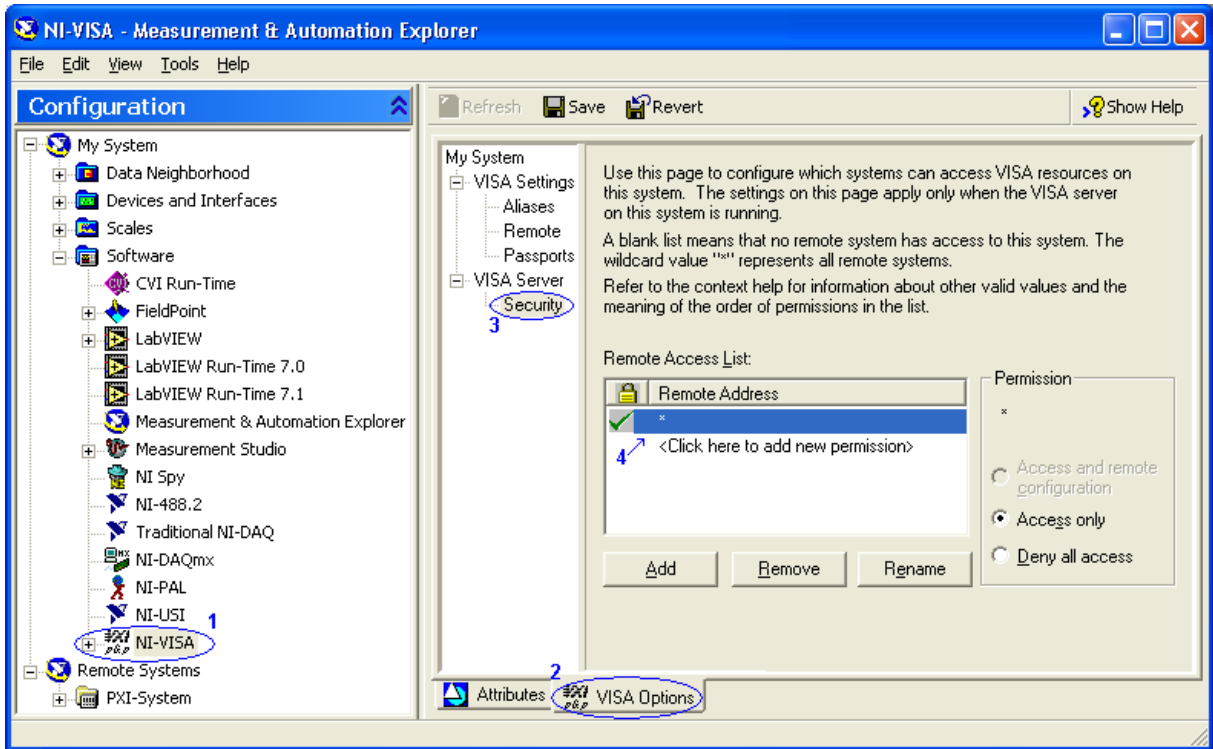


Figure 4: NI-VISA Server Security

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

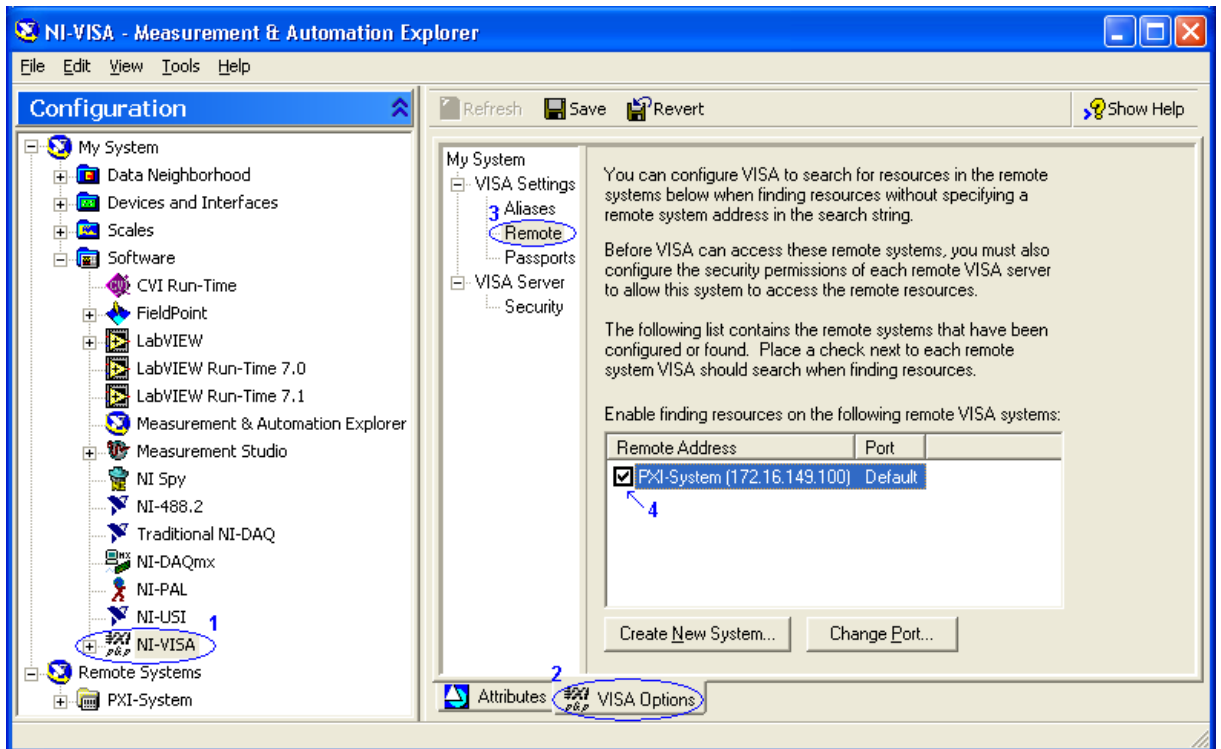


Figure 5: NI-VISA Remote Settings

*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 **KUNBUS** DF PROFI II menu can be found under:

- KUNBUS Library

- Profibus VISA Driver 

- DF PROFI II DP-Slave 

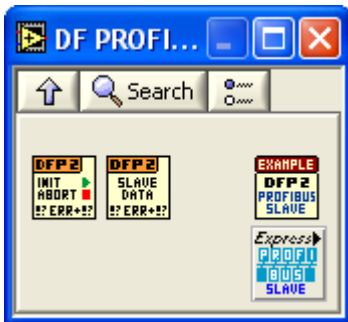


Figure 6: Profibus DP-Slave menu

For an easy access an Express VI is available. The Express VI can be found in the **KUNBUS** 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*:

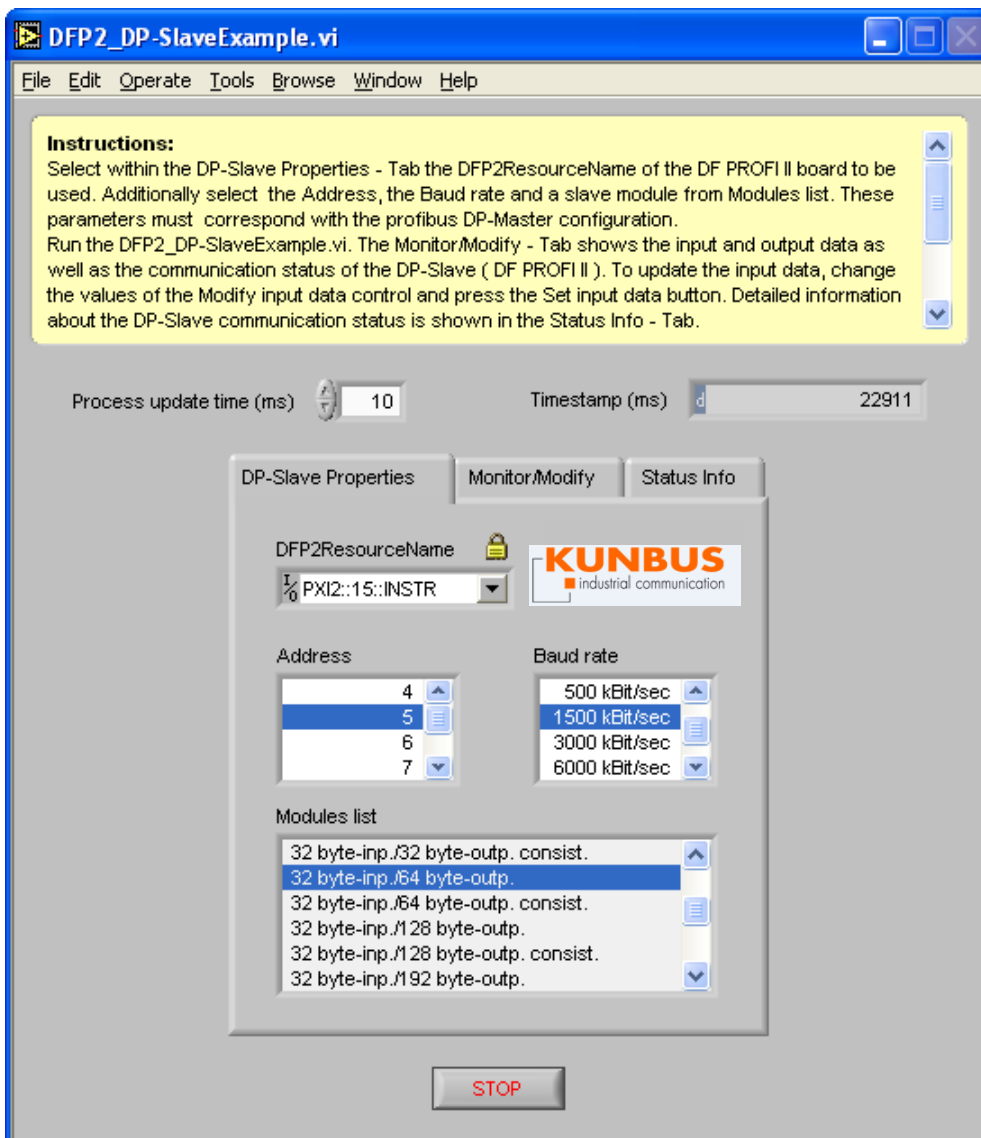


Figure 8: Profibus DP-Slave example-DP-Slave Properties

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:

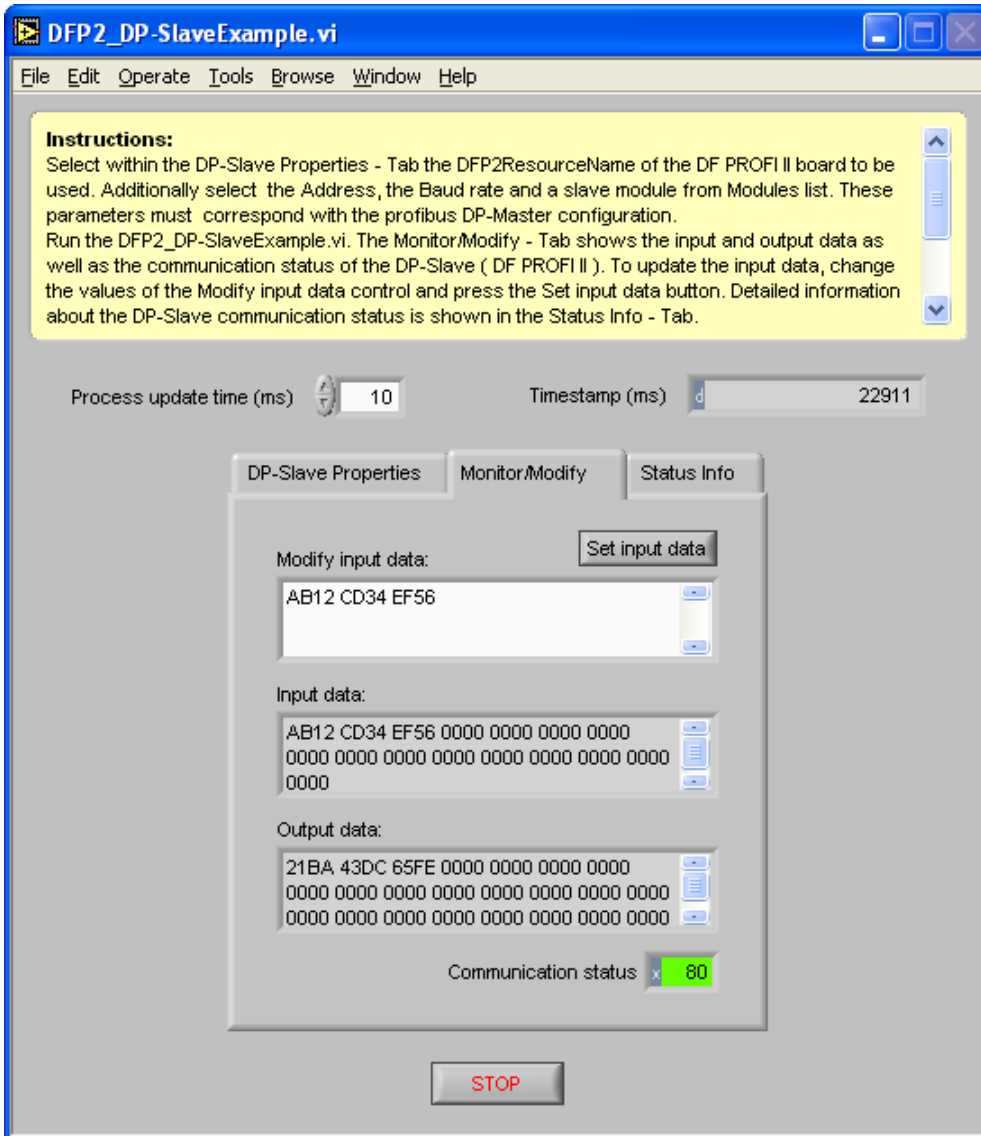


Figure 9: Profibus DP-Slave example-Monitor/Modify

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

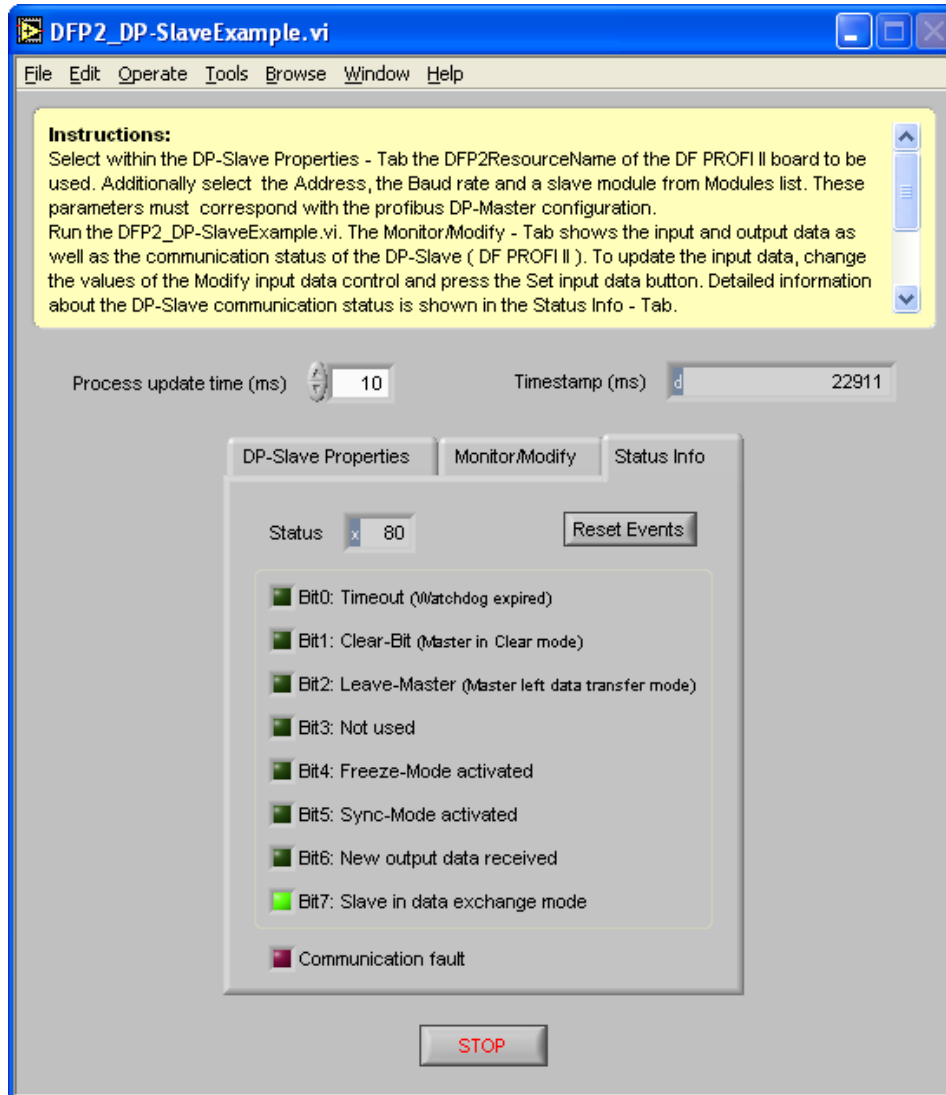


Figure 10: Profibus DP-Slave example-Status Info

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

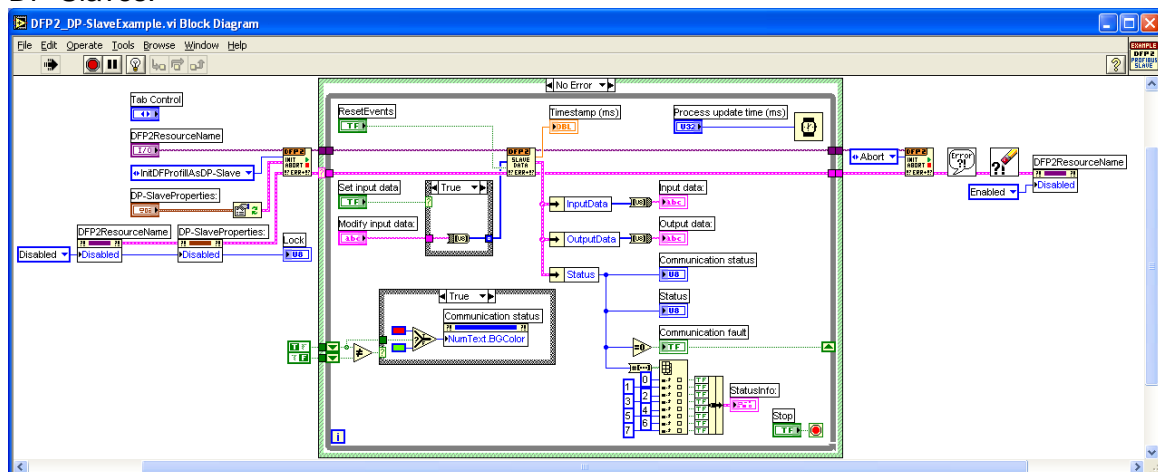


Figure 11: Profibus DP-Slave example block diagram Profibus DP-Slave Express VI



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 PROFI II board, the Profibus address of the DP-Slave and the Baud rate:

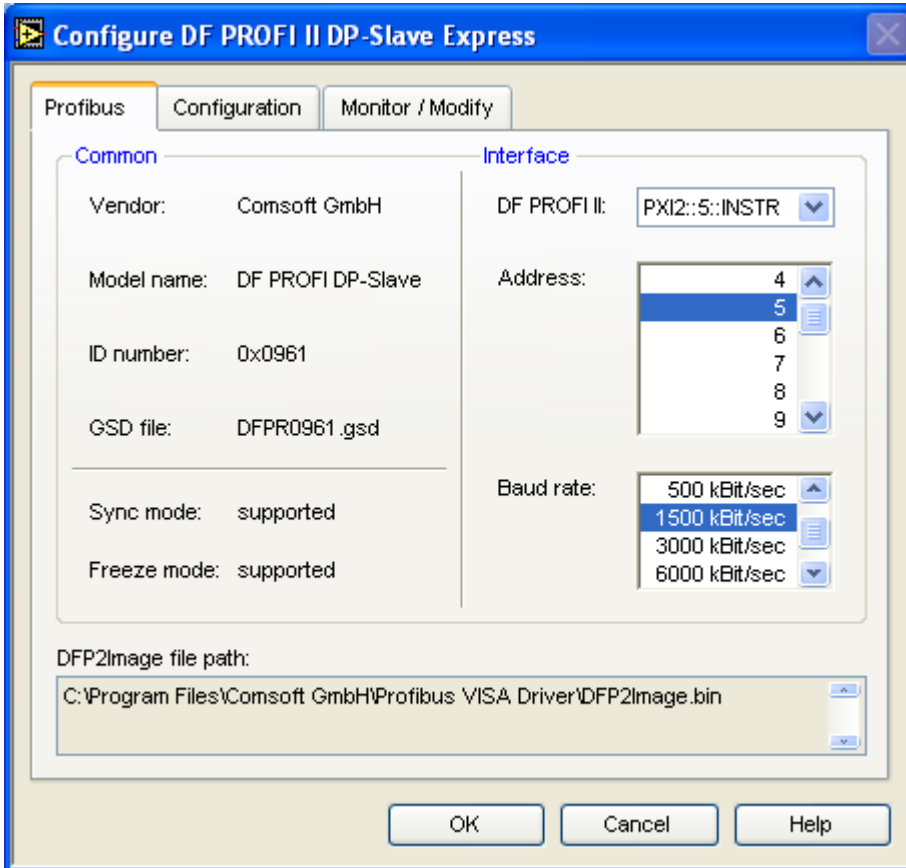


Figure 12: DP-Slave Express Profibus



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

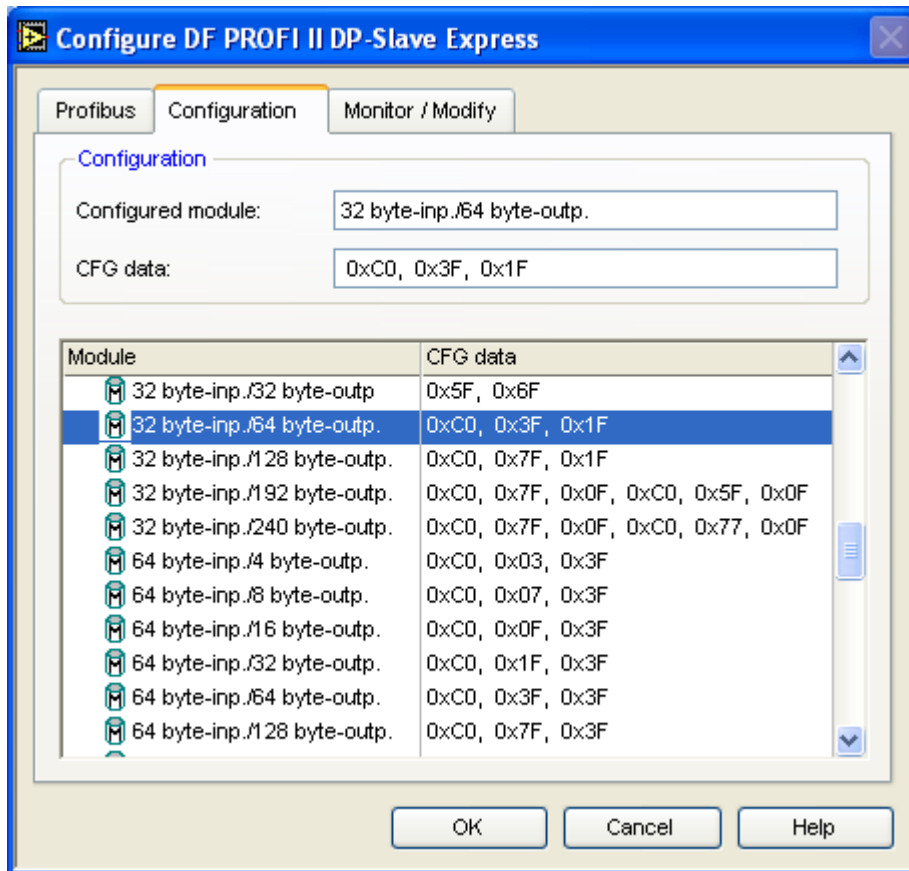


Figure 13: DP-Slave Express Configuration

*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.

