Operating manual

Programming-Kits

- i-devices CIS 510-RS232 and CIS 510-USB
- HART®-devices CIS 150-RS232 and CIS 150-USB

CIS 510-RS232

CIS 510-USB

CIS 150-RS232

CIS 150-USB

Important notes:

☞ Please read this operating manual carefully before installing and starting up the programming kit.

☞ This operating manual must be kept for further use at an accessible location.

☞ Besides this manual, also the product specific manual of the product, which has to be connected, has to be considered.

⚠ The programming kit may only be installed and used by persons who are familiar with this manual as well as with the current regulations on work safety and accident prevention.

Contens

1. General information

1.1 Information on the intended use

- The programming kit CIS 510 is intended for the configuration of the i-devices DMP 331i, DMP 333i, LMP 331i and LMP 308i.
- The programming kit CIS 150 is intended for the configuration of the HART®-devices.
- Use the respective programming kit only with the above mentioned devices and the given operating voltage.
- For the installation of the software, a Windows® PC (95, 98, ME, 2000, NT, XP) with serial interface (RS 232) or USB-interface is required.
- If there is no a serial interface on your PC, you have to install included Com-Port driver
- No liability is assumed and warranty claims are excluded in case of improper application, modification of or damage to the programming kit.

1.2 Target group

This operating manual is intended for qualified technical personnel.

1.3 Symbols used

⚠ : Caution ☞ : Note

1.4 Safety notes

The following notes must be observed to avoid hazards for the operator and his environment:

⚠ The device may only be installed, used and serviced by persons who are familiar with this operating manual!

⚠ Applicable regulations regarding occupational safety, accident prevention and national installation standards must be complied with!

⚠ The product must be used within the specifications (see attached technical data)!

⚠ Install the device in power-off condition!

⚠ Modifications on the programming kit are not allowed!

1.5 Package contents

Please verify that all listed parts of CIS 150 or CIS 510 are included in the delivery and check the consistency specified in your order:

- programming software "Config 3.0" on CD
- this operating manual

for CIS 150-RS232 for HART®-devices:

- HART® modem (MH-02 Manufacturer: JSP NOVÁ PAKA)
- connecting cable BNC-Testtip (for measuring device)
- 9-pin connecting cable RS232 (for PC)

for CIS 150-USB for HART®-devices:

- Adapt 5
- connecting cable BNC-Testtip (for measuring device)
- USB connecting cable – Type A to Type B – (for PC)

for CIS 510-RS232 for i-devices:

- Adapt 1 with
  - RS-232 connecting cable (for PC) and
  - 7-pin connecting cable (for measuring device)
- $24V_{DC}$ power supply with 7-pin Binder cable socket

for CIS 510-USB for i-devices:

- Adapt 5
- 7-pin connecting cable (for measuring device)
- USB connecting cable (for PC)
- $24V_{DC}$ - power supply

2. Installation

2.1 General notes

- Handle the programming kit carefully and properly to avoid any damages.
- Establish the electrical connection of the kit according to the following description.
- After configuration, the programming kit shall be disconnected and kept in a suitable place, together with this manual.

- When disconnecting the programming kit, please handle the individual parts carefully.
- Ensure that the plug-and-socket connection will not be disconnected by pulling the cable.

2.2 Software installation

- Put the software CD into the CD drive of your PC.
- Open the file "Setup Config.exe".
- Install the program.

The installation program being on the CD is started by a double click on "Setup Config.exe". At first the operation system will be checked and the following windows will appear after each other:

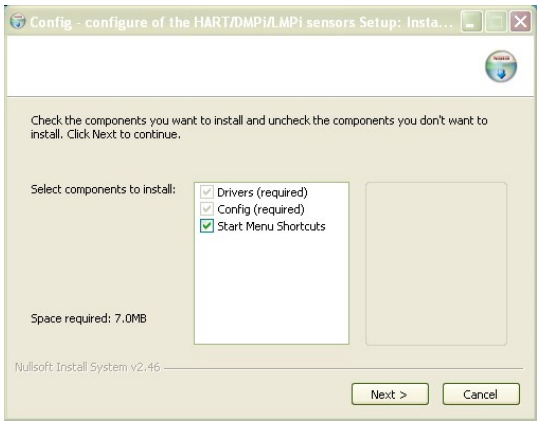


Fig. 1

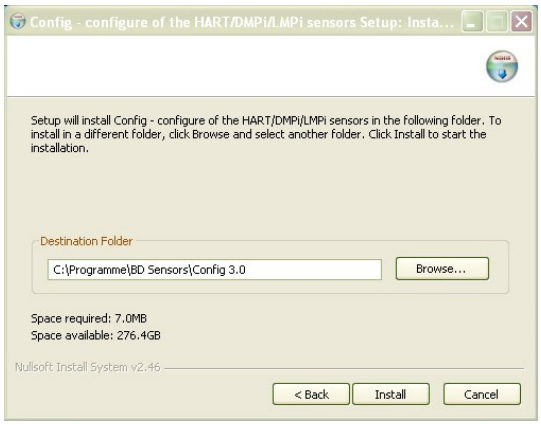


Fig. 2

At first (*Fig. 1*) there are following options to choose:

1) Driver vor Adapt 5 (virtual com port driver of FTDI) and configuration program will be installed per default.
2) To create a Start menu folder (recommended) for the program, check „Start Menu Shortcuts“.

Check all selected options and click „Next“.

⚠ Driver will be extracted only (driver path: <Program path>\Drivers), but not installed yet!

In the following step (*Fig. 2*) the program path has to be defined. The default path (C:\Programme\BD Sensors\Config 3.0) will be recommended. For installing the program into another path click “Browse…”. As soon as you have defined the program path, click “Install”.

If you want to see more details during the installation click “More details”. Each step (f.e. copying of files) will be shown in the text field below (*Fig. 3*). As soon as installation routine is over, click “Close”.

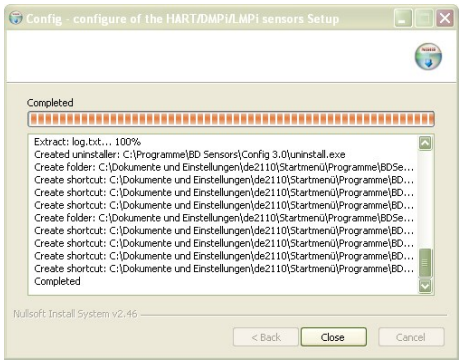


Fig. 3 Software installation

After the installation go to "Start" → "Program Files" → "BD Sensors" → "Config 3.0" and run the program.

2.3 Installation of the Programming-Kit

2.3.1 CIS 150-RS232 for HART®-devices

- Remove the programming kit carefully from the packaging.
- Place all parts in front of you.
- Bind all the Parts according to the *Fig. 4 Wiring diagram of CIS 150-RS232* with your measurement device and PC.

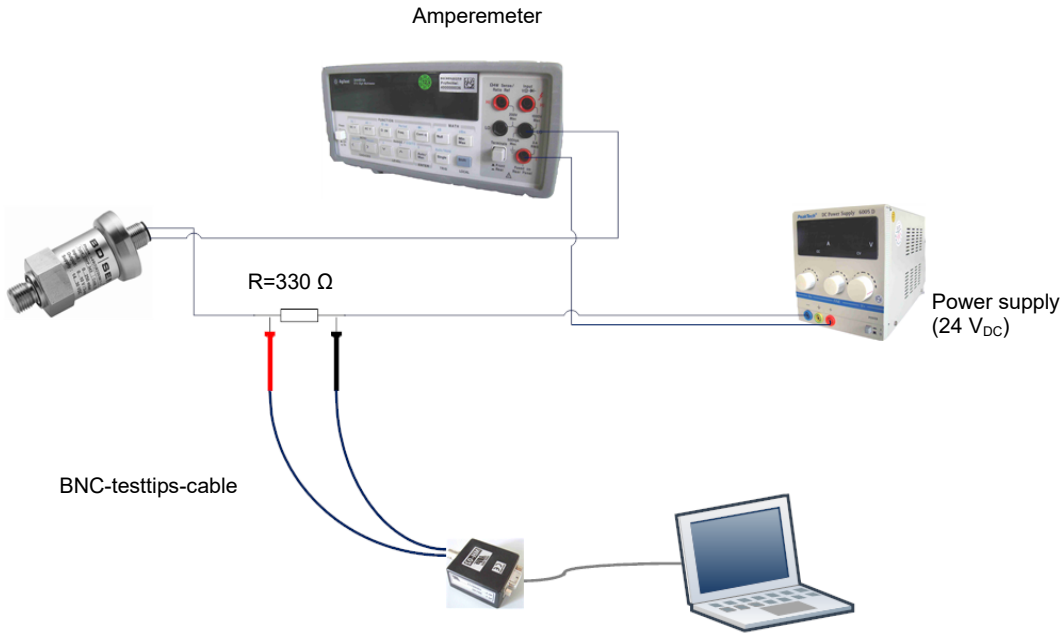


Fig. 4 Wiring diagram of CIS 150-RS232 for HART®-devices

2.3.2 CIS 150-USB for HART®-devices

- Remove the programming kit carefully from the packaging.
- Place all parts in front of you.

- Connect you pressure device and PC according to the wiring diagram on the *150-USB.*

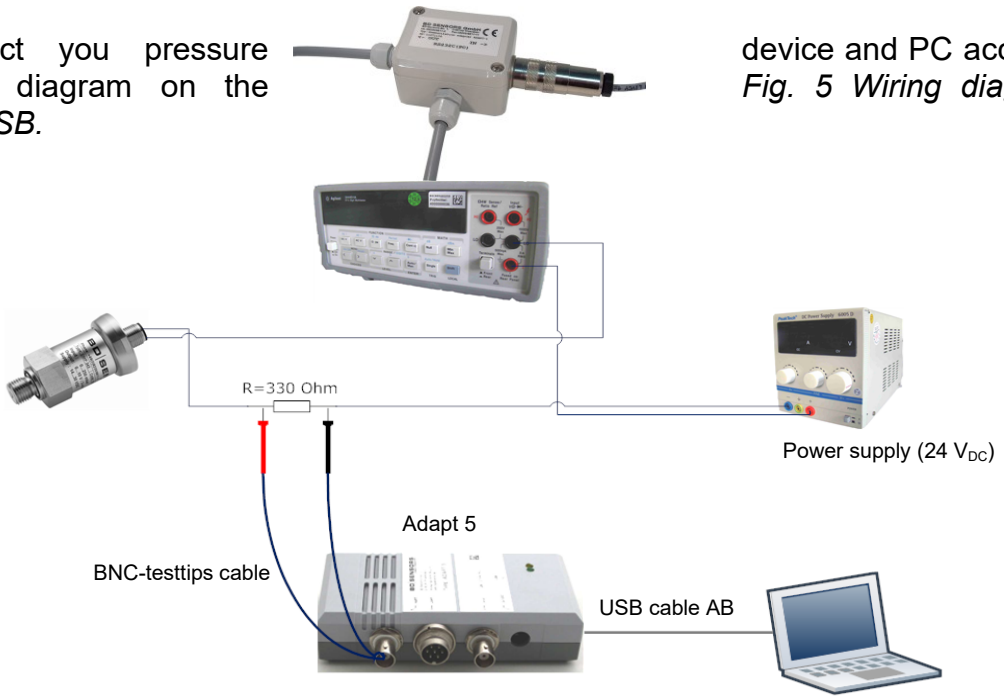


Fig. 5 Wiring diagram of CIS 150-USB for HART®-devices

2.3.3 CIS 510-RS232 for i-devices

- Remove the programming kit carefully from the packaging.
- Place all parts in front of you.
- Plug the 7-pin Binder female connector of the power supply cable to the 7-pin plug at Adapt 1 (*Fig. 6*) and tighten the lock nut of the plug.
- Connect your pressure measurement device with Adapt 1 (*Fig. 6*) via built-in 7-pin Binder connector and tighten the lock nut of the plug.
- Connect your Adapt 1 via 9-pin RS232 connecting plug to your PC (*Fig. 6*) and tighten the lock nut of the plug.
- Insert the power supply adapter into a 230 V_{AC} - socket.

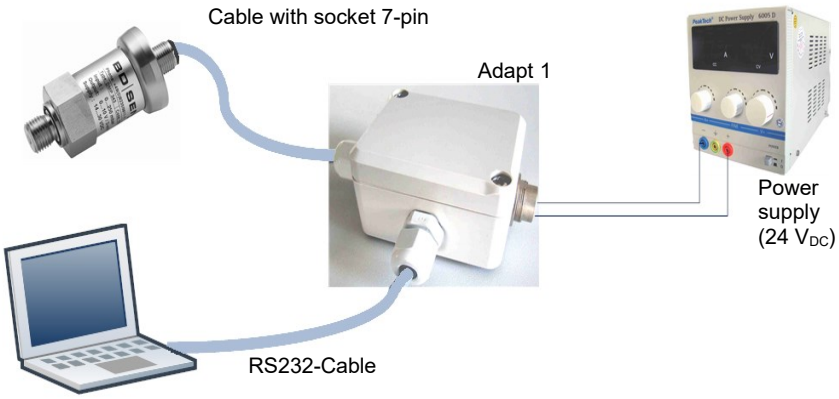


Fig. 6 Wiring diagram of CIS 510-RS232 for i-devices

Fig. 7 Adapt 1

2.3.4 CIS 510-USB for i-devices

- Remove the programming kit carefully from the packaging.
- Place all parts in front of you.
- Insert the power supply cable into the "24 V_{DC}" socket of Adapt 5 (*Fig. 9*).
- Insert the 7-pin Binder plug at "UART"-socket of Adapt 5 (*Fig. 9*) and tighten the lock nut of the plug.
- Insert the 7-pin Binder plug of Adapt 5 (*Fig. 9*) into the socket of the pressure measuring device and tighten the lock nut of the plug.
- Connect the Adapt 5 via the included USB cable to your PC (*Fig. 9*).
- Insert the power supply adapter into a 230 V_{AC} - socket.

Fig. 8 Adapt 5

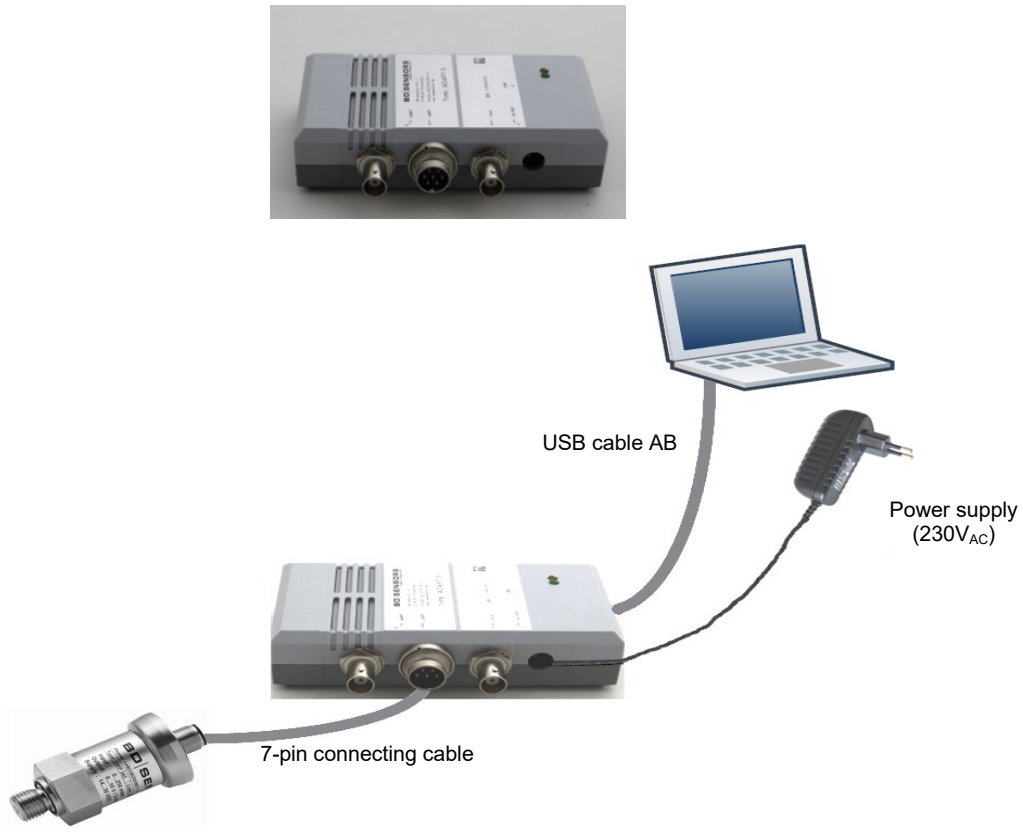


Fig. 9 Connecting plan of CIS 510-USB for i-devices

If you are connecting the Adapt 5 to your PC for the first time, a “Found new hardware wizard” window appears. Follow the device manager’s instructions (further for "Windows XP" operation system software described). For other operation system software see more

details in the File („FTDI_Drivers_Installation_Guide_for_<your operation system type>.pdf at <driver folder>\Readme or Start → „BD Sensors“ → „Config 3.0“ → „Readme“):

1. Check „Install from a list or specific location“ (*Fig. 10 Driver installing*)

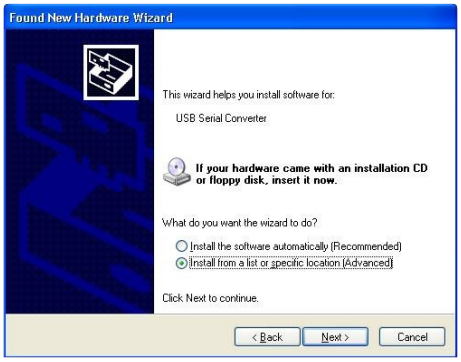


Fig. 10 Driver installing

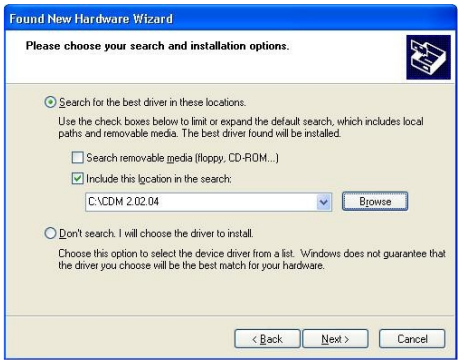


Fig. 11 Driver installing

2. Put in the path that was selected during driver extraction (*Fig. 11 Driver installing*).

3. In the first wizard session, a new USB-Device will be installed (*Fig. 12 Driver installing*).

4. Click „Finish“ (*Fig. 13 Driver installing*).

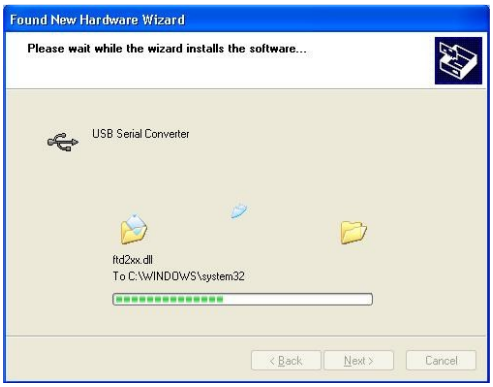


Fig. 12 Driver installing

Fig. 13 Driver installing

5. The wizard appears a second time for COM-devices. Repeat steps 1-4 for installing the serial device.

6. After installing of both devices, Adapt 5 is ready to use.

3. User guide

Using the program is very simple. To run the program select “Start” → „Programs” → „BD Sensors“→ „Config 3.0“→ “Config.exe”.

3.1 Language settings

When starting the program, the system language settings will be checked. If the system language is different from German, English will be set. All the controls‘ captions and error messages will be shown in English.

To change the program language, select the correct language item under „Language“ of the main menu or click the button on the language toll bar.

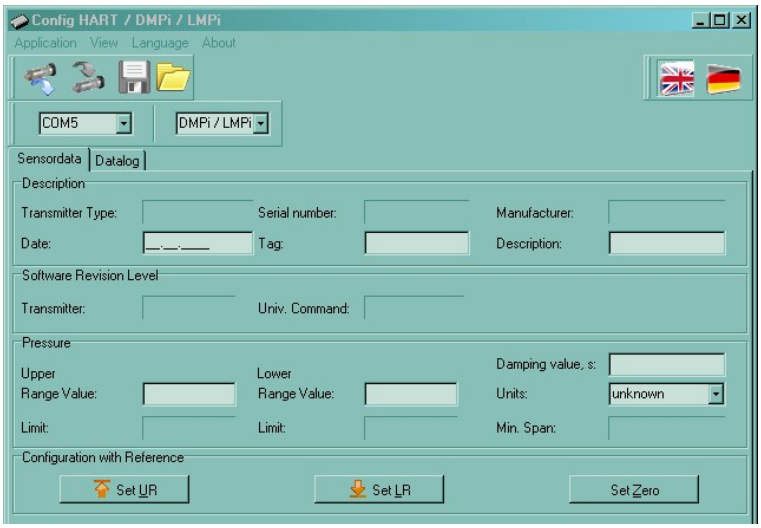


Fig. 14 Program main window

3.2 Menu

Main menu	*Submenu*	*Function*
Application	Read	Reads current settings from sensor
	Load	Loads a setting file
	Save	Saves current settings into a file
	Exit	Quit the program
View	Tool bars	Shows/hides selected tool bars
	Current line	Adjust axis title for current line (current / voltage)
	Print	Prints current and pressure line
Language	English German	Changes the interface language
About	-	Shows information about the program and support address

3.3 Tool bars

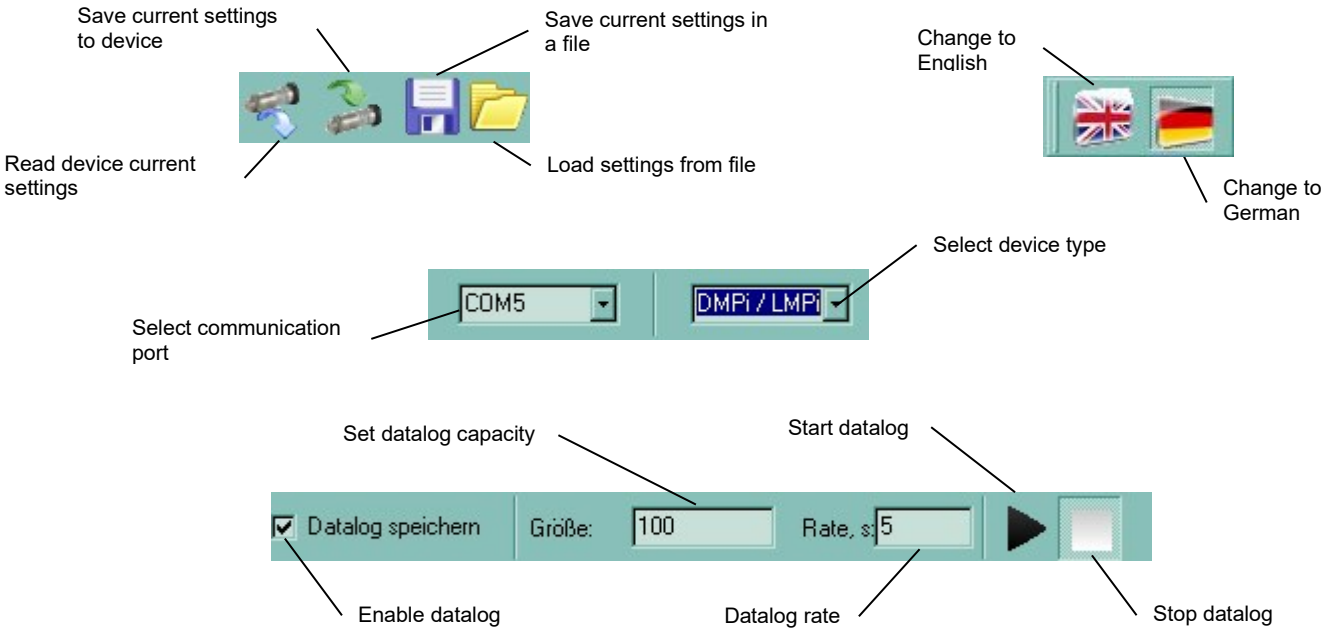


Fig. 15 Tool bars

3.4 Configuration steps

To start the configuration routine the programming-kit must be installed as in "2.2" or "2.3". After installing, click "communication" in the tool bar to select the serial interface.

If no communication port is shown, select one from the drop down list in the toolbar “Com Port”. As following, select a device type of the connected sensor. Now you can read current settings from your device by using the "application" → readout.

All the active text boxes (white boxes) contain editable device information and can be changed. The Main form after reading of the device settings can be seen on *Fig. 16 Main form*.

Rubric “Description”

Manufacturing date: The manufacturing date may not be changed.

Description: according HART® Conformity 16 digit (alphanumeric)

Tag: according HART® Conformity 8 digit (alphanumeric)

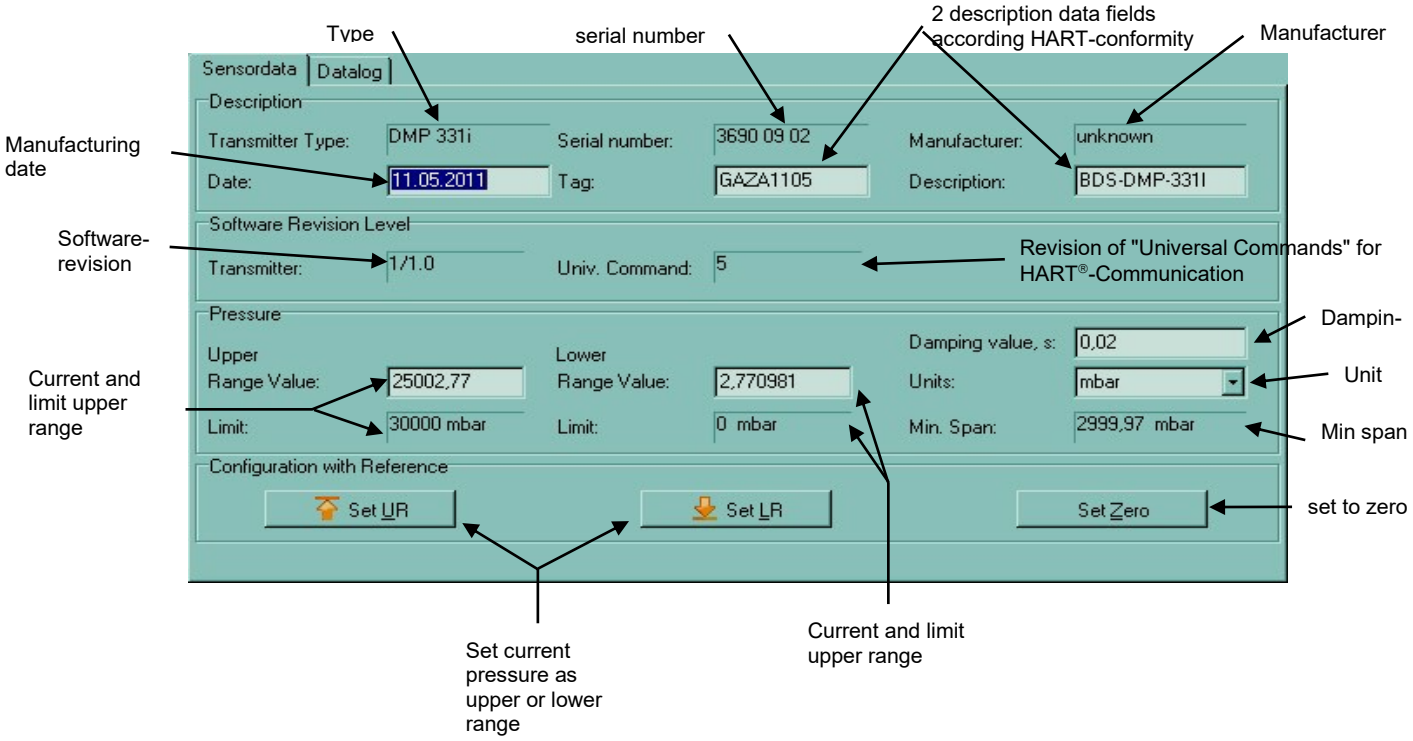


Fig. 16 Main form

Rubric “Pressure”

Lower and upper range: This may be altered by value inputs into the text boxes.

Unit: This may be altered by selecting a unit from the drop down list.

Damping: Damping is also adjustable by an input value (0 up to 100 seconds) in the text box.

configurable ranges:

$lower\ range_{Min}$ = initial $value_{nom} - TD \cdot (end\ value_{nom} - initial\ value_{nom})$

$lower\ range_{Max} = end\ value_{nom} - TD \cdot (end\ value_{nom} - initial\ value_{nom})$

$upper\ range_{Min} = TD \cdot (end\ value_{nom} - initial\ value_{nom})$

$upper\ range_{Max} = end\ value_{nom} + TD \cdot (end\ value_{nom} - initial\ value_{nom})$

with TD: turn-down (please take this from the product specific data sheet)

Rubric “Configuration with reference”

Lower and upper range: Besides the configuration by value input in the rubric “Pressure”, the lower and upper ranges may also be changed by a configuration by reference pressure with the buttons “Set LR” or “Set UR”.

Offset correction: Correction will be executed by the button “Set Zero”.

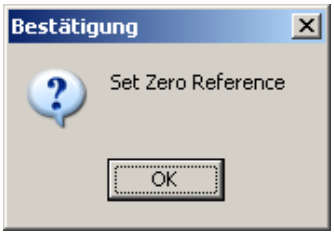


Fig. 17 Pressure reference

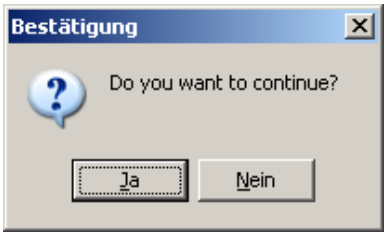


Fig. 18 Continue

Before the configuration with reference pressure can be finished, the following messages have to be confirmed with “OK” (*Fig. 17 Pressure reference*) and “Yes” (*Fig. 18 Continue*). Subsequently, the reference pressure will be saved as new lower or upper range and transferred directly into the connected device.

Tab “Datalog” (data record)

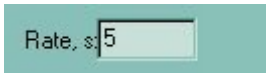
Datalog start and stop: To record the current pressure and output signal values for a period of time, check the box 

. After defining the capacity and rate, datalog can be started with  button and stopped with  button.
As soon as the Datalog recording is completed, a request for the Datalog output file (*.txt) saving appears. Confirm this with “OK” and define the path, where the data should be saved.
Without file name, the file will automatically be saved with the name "data_date (TTMJJJJ)".

Fig. 19 Saving datalog

Capacity defining: Datalog capacity has to be put into 

text box.
As soon as the Datalog recording is completed, a request for the Datalog saving (*Fig. 19 Saving datalog*) appears. Confirm this with “OK” and define the path, where the data should be saved.

Sample rate defining: The value put into the “Rate” text box 

will be used as time span for the signal received from the sensor.

Show/hide current line: As long as the check box 

is “ON”, the current line will be shown under the pressure line (*Fig. 20 Datalog lines a*). If this flag is unchecked, the output signal line will be hidden (*Fig. 20 Datalog lines b*).

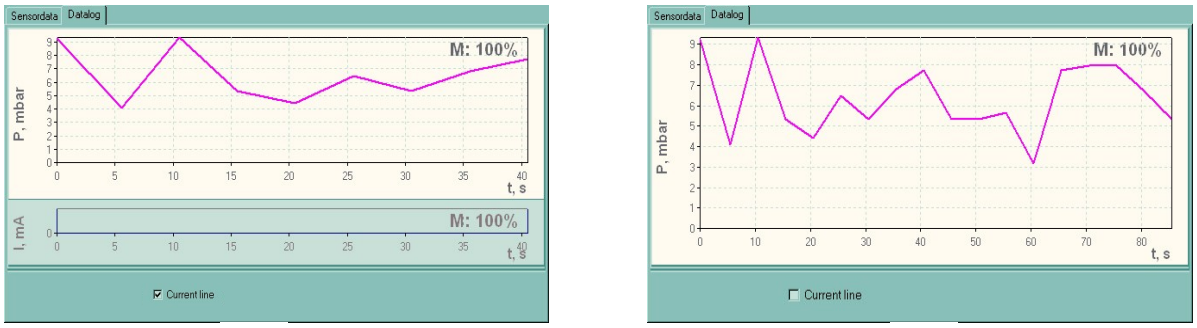


Fig. 20 Datalog lines

Current- or pressure line printing: using „view“ → „print“ → „pressure curve“ (or „current line“) the corresponding line can be printed. Before printing, the user is requested to define the layout of the page (paper size, page margins etc.).

4. Error handling

If problems occur, please check whether the programming kit has been connected properly; whether you have a compatible operating system, and whether the interface has been selected properly.

5. Service

The programming kit is maintenance free.

6. Disposal

This device must be disposed according to the European Directives 2002/96/EC and 2003/108/EC (on waste electrical and electronic equipment). Electrical and electronic waste equipment may not be disposed by domestic refuse!

7. Warranty conditions

The warranty conditions are subject to the legal warranty period of 24 months from the date of delivery. In case of improper use, modifications of or damages to the device, we do not accept warranty claims. Furthermore, defects due to normal wear are not subject to warranty services.

BD SENSORS
Hradišťská 817
68708 Buchlovice

Czech Republic

Phone +420 572 411 011

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