

# FAFNIR HART-Setup

The configuration tool for the FAFNIR HART devices



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## 1 Introduction

The program "FAFNIR HART-Setup" (former TORRIX HART-Setup) is the configuration tool for the FAFNIR HART devices. The program includes the following features:

- Displaying and changing of the most important HART configuration parameters
- Saving of current configuration parameters
- Loading a configuration file and adjusting the connected HART device automatically

In the technical documentation of your FAFNIR HART device you will find more information about HART.

## 2 System requirements

### 2.1 Computer

- Operating system: Microsoft Windows 95, 98, 2000, XP or Vista
- Min. 3 MB free hard disk space
- One free serial or USB port, depending on the HART modem type (see 2.2 HART Modem / HART Resistor)  
Note: An USB-to-RS232 converter is not working.

### 2.2 HART Modem / HART Resistor

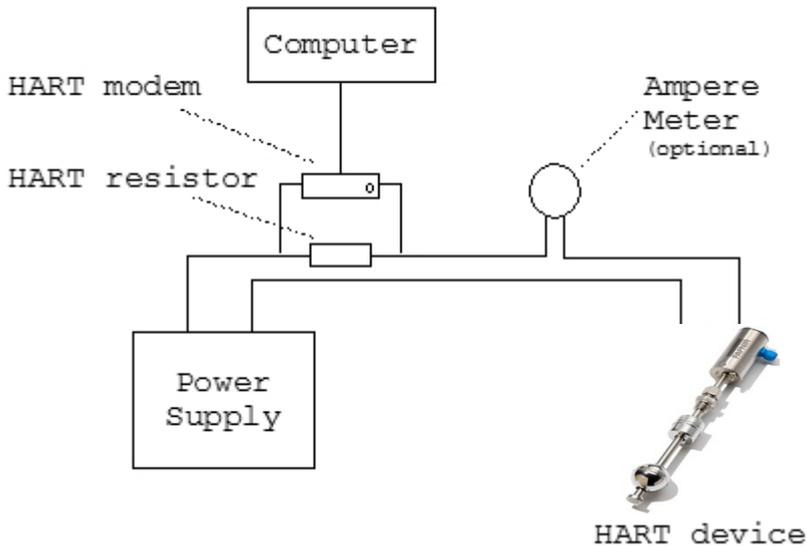
You need a HART modem to communicate with a FAFNIR HART device. See the following table for tested and recommended modems.

| Description  | Manufacturer |
|--|--------------|
| VIATOR RS232 HART Interface, Model 010001              | MACTek       |
| VIATOR RS232 HART Interface [Eex ia] IIC, Model 010005 | MACTek       |
| VIATOR USB HART Interface, Model 010031                | MACTek       |
| RS232 HART Interface, Model HI311                      | SmarResearch |
| USB HART Interface, Model HI321                        | SmarResearch |

To enable a HART communication a resistor has to be inserted in series with the current loop. The value of this resistor has to be between 220  $\Omega$  and 1100  $\Omega$ .

## 3 Installation

### 3.1 Connections



Attach the HART modem to the computer (via serial port or USB) and connect the two clamps on both ends of the HART resistor. The ampere meter is optional. It is needed to trim the calibration of the loop current.

### 3.2 Program installation

Double-click on the "FAFNIRHARTSetup <VersionNumber>.exe" and follow the instructions of the installation shield.

## 4 Program

### 4.1 Startup

Use the windows start menu to launch the FAFNIR HART-Setup program. When you have not specified a different program group, you will find the program in "FAFNIR\ FAFNIR HART-Setup".

### 4.2 COM Port

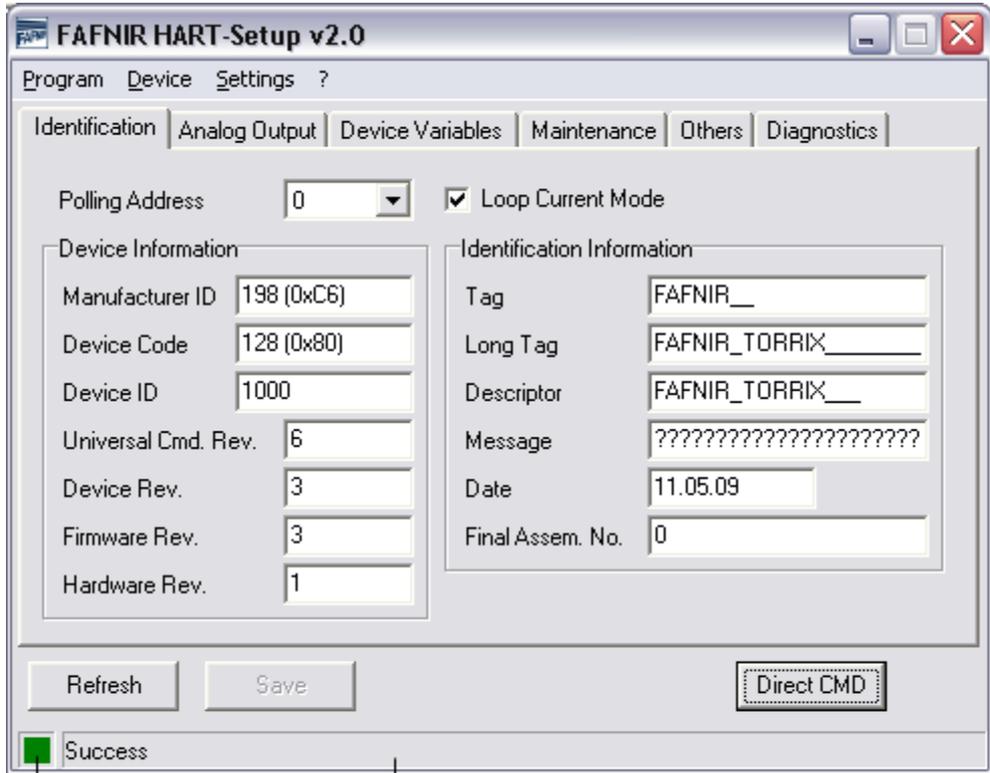
If you start the program the first time you have to choose the serial port to which the HART modem is connected. The port can be selected in the menu "Device" > "COM Port".

### 4-3 Main Form

If you have not enabled the Multidrop Mode (see Multidrop Mode below) the program automatically polls for a FAFNIR HART device on start-up. When no FAFNIR HART device can be found on address 0, the program will ask for the next step:

| Option      | Description  |
|-------------|--|
| Rescan 0    | Rescans the polling address 0  |
| Scan 1 – 15 | Scans the polling addresses 1 to 15 for FAFNIR HART devices and takes the device with the lowest address |
| Cancel      | Aborts the polling operation and terminates the program  |

When a HART device was found, you will see a form like this:



Device Status

Response Code

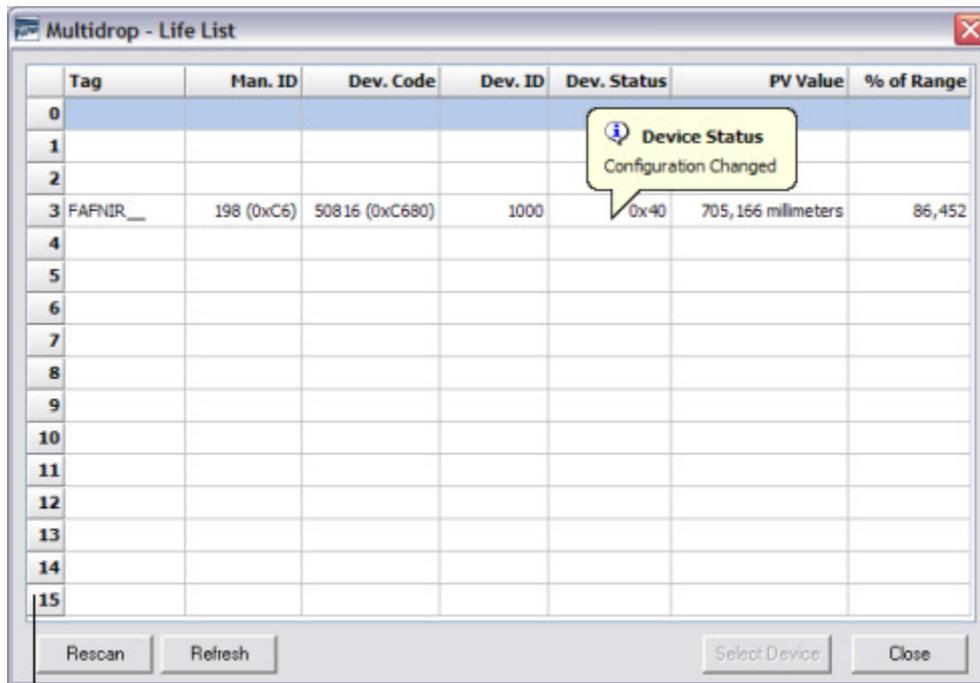
Double-click on the status bar to get detailed information about the device status. If any response code is not "Success", an additional form with detailed information appears below the Main Form.

If you edit an entry the background colour of the corresponding field will change, indicating that the new value has not been transferred to the connected HART device. Additionally the button "Save" will be enabled. The button "Save" has to be used to load changed parameters into the connected HART device.

#### 4.4 Multidrop Mode

If the Multidrop Mode is enabled (see Menu) the “Life List window” will be shown at the program start. The program starts automatically to poll all addresses 0-15 for FAFNIR HART devices. It indicates the currently scanned address by highlighting the row in yellow. You can “Refresh” the Primary Value (PV), Percent of Range and Device Status when the scanning process is done.

Please hold the mouse cursor over a filled Device Status cell to get details of the device status.

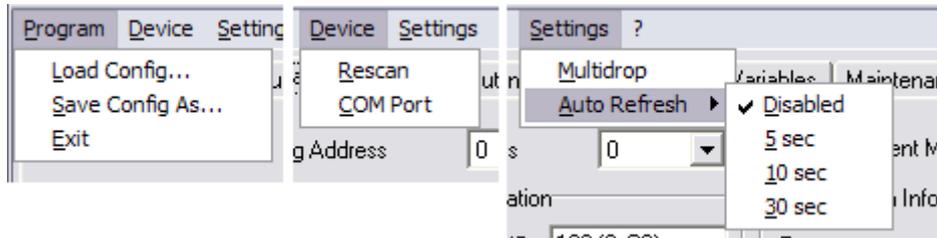


| Tag | Man. ID | Dev. Code  | Dev. ID        | Dev. Status | PV Value | % of Range          |
|-----|---------|------------|----------------|-------------|----------|---------------------|
| 0   |         |            |                |             |          |                     |
| 1   |         |            |                |             |          |                     |
| 2   |         |            |                |             |          |                     |
| 3   | FAFNIR_ | 198 (0xC6) | 50816 (0xC680) | 1000        | 0x40     | 705,166 millimeters |
| 4   |         |            |                |             |          |                     |
| 5   |         |            |                |             |          |                     |
| 6   |         |            |                |             |          |                     |
| 7   |         |            |                |             |          |                     |
| 8   |         |            |                |             |          |                     |
| 9   |         |            |                |             |          |                     |
| 10  |         |            |                |             |          |                     |
| 11  |         |            |                |             |          |                     |
| 12  |         |            |                |             |          |                     |
| 13  |         |            |                |             |          |                     |
| 14  |         |            |                |             |          |                     |
| 15  |         |            |                |             |          |                     |

— Polling Address

Choose a device and click “Select Device” or double-click the device to change to the main form (see Main Form).

## 4-5 Menu



- **“Load Config...”**: Loads a configuration file and adjusts the connected device to the parameters defined in the file.
- **“Save Config As...”**: Reads the current parameters of the connected device and saves them in a user defined configuration file.
- **“Rescan” / “Life List”**: Polls for a FAFNIR HART device. Do not mix up with the “Refresh”-Button.
- **“COM Port”**: Changes the serial port.
- **“Multidrop”**: Enables/disables the Multidrop Mode
- **“Auto refresh”**: Enables/disables the automatic refresh of the tabs "Analog Output" and "Device Variables"

## 5 Program Configuration

In the installation folder of FAFNIR HART-Setup you will find a file named “FAFNIR-HARTSetup.ini”. You can edit this file to trim the behaviour of FAFNIR HART-Setup to your needs. Normally you do not need to edit this file.

| Setting          | Possible Values              | Default  | Description   |
|------------------|------------------------------|----------|---|
| NumberOfAttempts | Unsigned Integer; $x \neq 0$ | 3        | Number of attempts to get an valid answer from device   |
| ConfigSeparator  | Char                         | ;        | Reference to “Load Config...” and “Save Config As...”, Separator between identifier and value |
| FilePrefix       | String                       | HART-Dev | Prefix for filename in “Save Config As...”  |



## 6 Versions

| Version | Description  |
|---------|--|
| 2.1.2   | Modified display of Device Variables in tab "Device Variables"<br>Modified Enable/Disable Device Variables in tab "Others"   |
| 2.1.1   | Added warning message "Do not de-energise..." for write commands<br>Bug fixed: Solved timing problems for various RS232 HART modems  |
| 2.1.0   | Various changes to support FAFNIR CONDURIX HART devices  |
| 2.0.1   | Modified Device Variable handling for more usability   |
| 2.0.0   | Renamed from "TORRIX HART-Setup" to "FAFNIR HART-Setup"<br>Setting Multidrop and Auto Refresh moved from configuration file (.ini) to the program menu<br>Enable/Disable Device Variables in tab "Others"... |
| 1.0.0   | First released version   |

## **7 Appendix**

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