The T50x Configurator

Manual

Table of Contents

1.   Introduction

Fieldbus International manufactures the Hart to Profibus DP and PA protocol converters, the T500 and T501, and it provides the configuration software tool, the T50x Configurator. It handles both devices and runs on a PC under Windows 7 or newer. T50x Configurator gives you the opportunity to connect to the gateway and read the actual configuration parameters.

2.   Requirements

To use the T50x Configurator you will need the following:

- A PC running Windows 7 or a newer version.
- The PC must have VCP (Virtual Com Port) drivers for FTDI chips installed. If not, install from
    - https://www.ftdichip.com/Drivers/VCP.htm
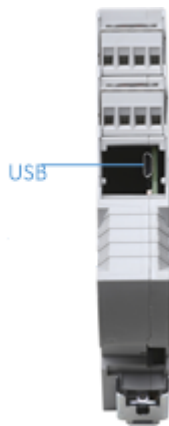- A Micro-A or Micro-B USB cable.
- A powered T50x device.

3.   Installation

To install the software, click on the file setup.exe. Follow the on-screen instructions to complete the installation.

4.   Connect the T50x Configurator with the PC

Behind a cover on the power side of the gateway you will find a micro-USB connector. This is a virtual serial COM port and the result is a COM port on the PC.

The following figure shows the USB port:

Connect the micro-USB cable to the gateway and the PC. Please allow some time to download and install the driver. A FTDI chip device is used as a serial to USB converter on the gateway and the driver is a standard FTDI chip driver. Under Ports in the Control panel of your PC you will see the new COM port. Please take notice of which COM port it is.

5.   Start Application

Now it is time to start the application. You will be met with the Main Window, see Figure 1.

Figure 1:The Main Window

6.   Serial port interface

The application will check the COM port settings for previous used COM port. If there are no COM port settings, you will be able to choose COM port. To change COM port settings, select the *"Settings"* tab.
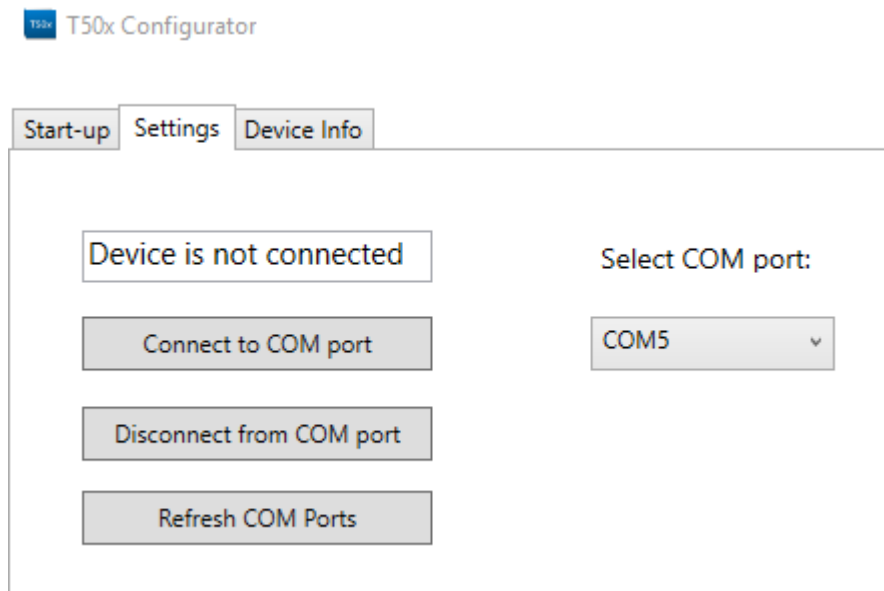

Figure 2:Com port selection

When COM port is chosen, it will be saved. And the next time you open the application, it will try to automatically connect to the saved COM port.

See more about COM port connection below.

The serial port interface gives you the opportunity to connect to all T50x devices. With this interface, you can connect to the device using the USB cable and read information, for example Device type, Software version and Hardware version, see Figure 3.

Figure 3: Device information tab

6.1. Connecting to the COM port

First, choose the COM port for your connected micro-USB cable, see Figure 4. If your COM port is not displayed on the list, press button *"Refresh COM Ports"*. After the COM port is selected, press *"Connect to COM port"*. If the device is properly connected and everything works as it should, you will see status "Device is connected" and information about the connected device is available in the "*Device Info*" tab.

If you get an error message, make sure to try the following:

- Press button *"Connect to COM port"* one more time;
- Check that the selected COM port is correct. Look at the Device *Manager* under *Control Panel* in Windows and look for your USB port under *Ports*;
- The device is powered;
- Double-check USB cable connection;
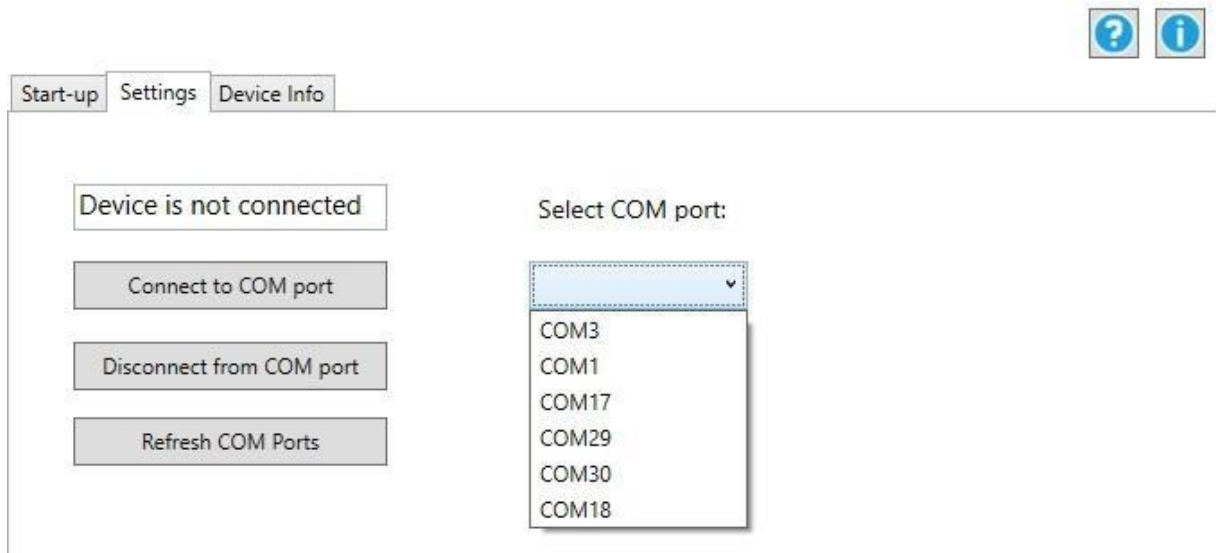- Check that the USB driver is installed successfully.

Figure 4: Selecting the COM port

7. Configurator interface

To start the Configurator interface, press button *"Start Configurator"* on the Main Window, see Figure 1.

This application supports only the Configurator interface for T51x devices. If you are using another device, the Configurator interface will not start and you will receive a warning message.

If everything works as it should, a new window will show up and you will see the Configurator interface as shown in Figure 5.

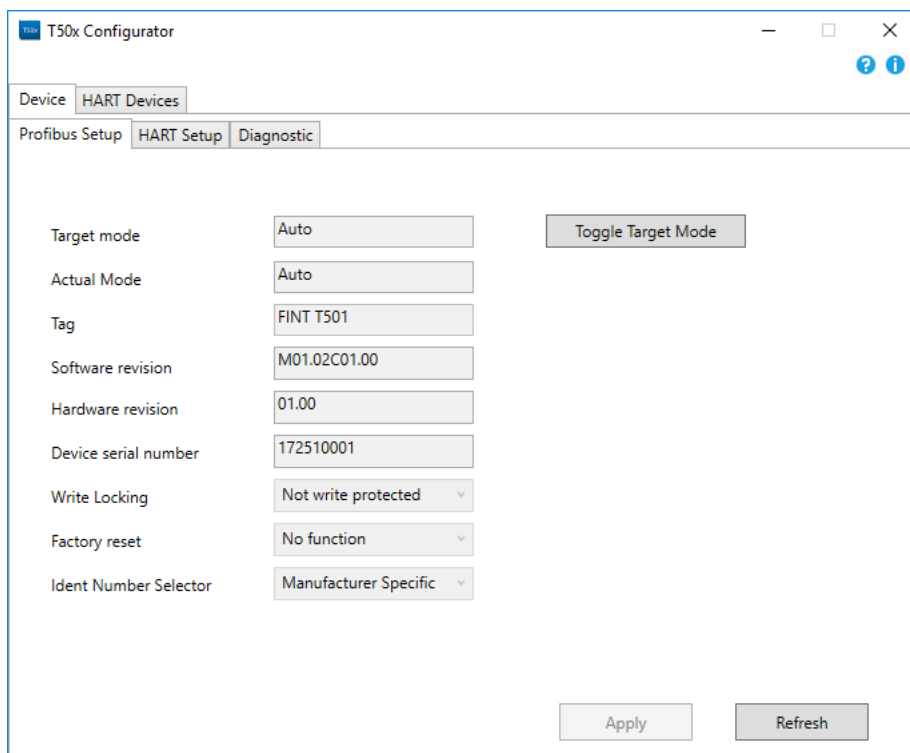If you get an error message, see chapter 6.1.

Figure 5: Configurator interface window

7.1. Connect to Configurator: Warning messages

WARNING MESSAGE	EXPLANATION
"PLEASE CONNECT TO THE DEVICE"	Check your COM port connection, see Chapter Serial port interface
"CONFIGURATOR MODE IS NOT AVAILABLE"	This is not the T50x device, check your product type on the "Device Info" tab, see Figure 3

8. Configurator: Device settings

The "Device" tab contains the general device settings, Hart interface settings and information about the connected device. The "Profibus Setup" tab includes both general device settings and Profibus specific settings.

At the bottom of all tabs in the Configurator window you can find two buttons "Apply" and "Refresh". Press the **"Apply"** button to write and save changes to the device or press the **"Refresh"** button to read device settings.

8.1. Writing settings to the device

In the "Profibus Setup" tab is the Device Mode displayed and you can switch Device Mode between Auto and OS (Out of Service), see Figure 5, Button "Toggle target mode".

The parameters from "Profibus Setup" and "HART Setup" can be applied when the device is not in OS mode, see "Profibus Setup", "Actual mode" parameter, and when the device is not Write Protected, see "Profibus Setup", "Write Locking" parameter. When the device is in OS mode you can change settings and press "Apply" button to save the new settings.

Note: If the device is in **Auto mode**, no changes can be made, but you can set the device mode by clicking "Toggle Target Mode" button.

9. Scan for HART devices

Before scanning for HART devices please verify that HART devices are connected and that the Actual Mode is: OS

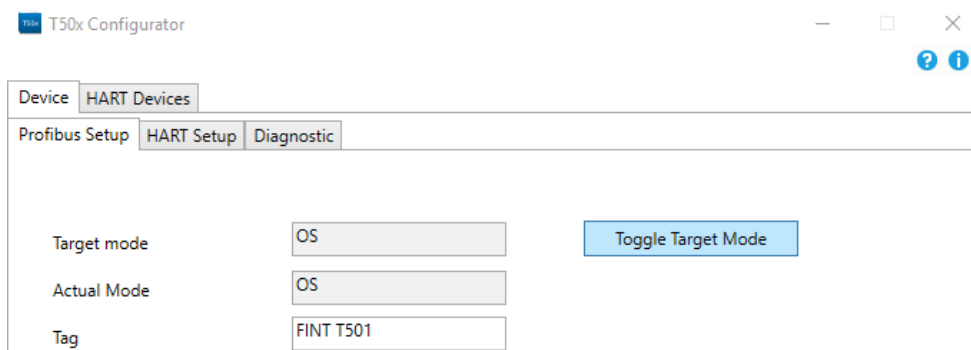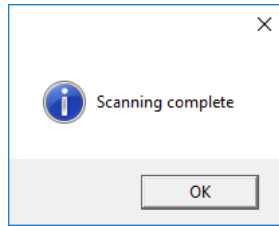For more information about connecting HART devices please read the "T50x_reference_manual".

Figure 6: Toggle Target Mode

Then switch to the "*HART Setup*" tab and press the "Start HART Scan" button. Please allow some time for the scan to finish. When the scanning is finished the following window pops up:

Please press OK and the window disappears.

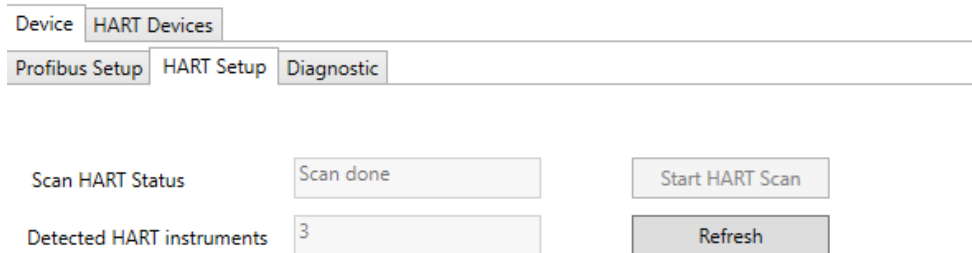Now the "*HART setup*" tab may look like this:

Figure 7: HART Scan result

The "*Scan HART Status*" is Scan done and the "*Start HART Scan*" button is not selectable any longer. This is because the configurator has switched the gateway back to "*Auto Mode*".

"*Detected HART instruments*" shows how many HART instruments that were detected. In this case 3 HART instruments were connected.

The "HART Devices" tab gives information about each of the detected HART instruments. You may read device setup information, measurement information and diagnostic information for each instrument.
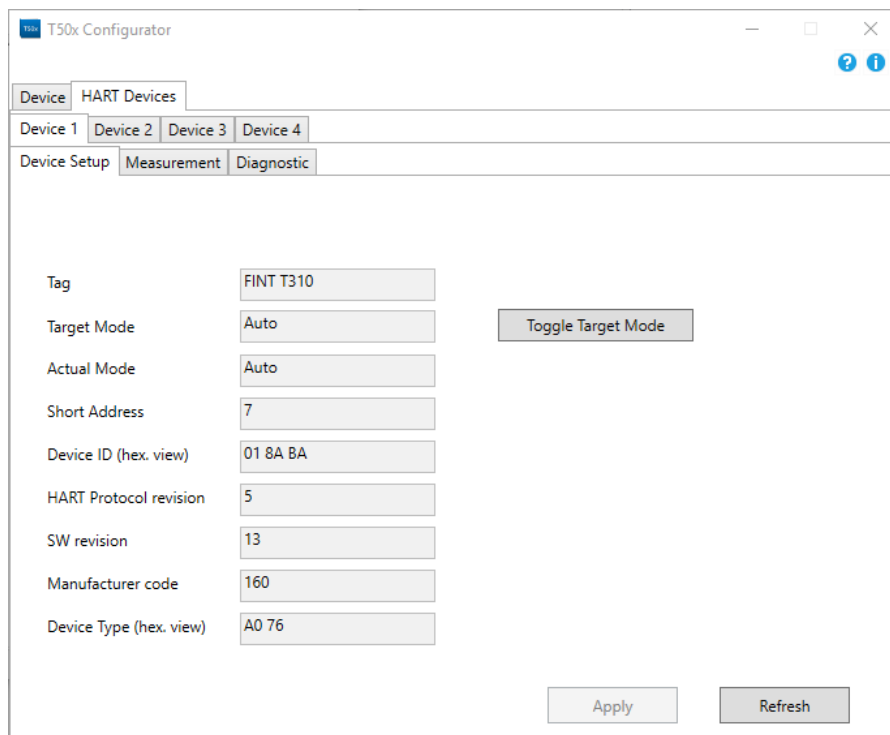

Figure 8: HART Device Setup Information

The "HART Devices" tab always shows 4 devices. The detected devices will have information different from zero for the following parameters in the "Device Setup" tab:

- Device ID
- HART Protocol revision
- SW revision
- Manufacturer code
- Device Type