HART CommDTM

Manual

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2026-04

1 Introduction

1.1 Content of this Document

This document contains information that you need in order to use the software. These can include the following:

- System requirements
- Installation
- Commissioning
- Operation
- Troubleshooting
- Maintenance
- Decommissioning

Note

For full information on the product, refer to the further documentation on the Internet at www.pepperl-fuchs.com.

Additionally, the following parts may belong to the documentation, if applicable:

- Datasheet
- Certificates
- Cybersecurity documentation
- Other documents

1.2 Target Group, Personnel

Responsibility for planning, assembly, commissioning, operation, maintenance, and dismounting lies with the plant operator.

Only appropriately trained and qualified personnel may carry out mounting, installation, commissioning, operation, maintenance, and dismounting of the product. The personnel must have read and understood the instruction manual and the further documentation.

Prior to using the product make yourself familiar with it. Read the document carefully.

1.3 Symbols Used

This document contains symbols for the identification of warning messages and of informative messages.

Warning Messages

You will find warning messages, whenever dangers may arise from your actions. It is mandatory that you observe these warning messages for your personal safety and in order to avoid property damage.

Depending on the risk level, the warning messages are displayed in descending order as follows:

Danger!

This symbol indicates an imminent danger.

Non-observance will result in personal injury or death.

Warning!

This symbol indicates a possible fault or danger.

Non-observance may cause personal injury or serious property damage.

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Caution!

This symbol indicates a possible fault.

Non-observance could interrupt the device and any connected systems and plants, or result in their complete failure.

Informative Symbols



Note

This symbol brings important information to your attention.



Tip

This symbol brings an useful tip to your attention.



Example

This symbol provides an example of the issue described.



Action

This symbol indicates a paragraph with instructions. You are prompted to perform an action or a sequence of actions.

2 Product description

The HART CommDTM (Device Type Manager) enables HART communication between devices and DTMs that use the HART communication protocol. It is used for integration into FDT frame applications. It contains drivers that communicate with HART devices via a computer's serial interface. It is configured via its DTM user interface.

The HART CommDTM

- provides a seamless connection between HART DTMs and HART networks.
- enables access to HART modem networks.
- supports HART modems and HART multiplexer connected to the serial port of a computer
- supports USB modems and Ethernet gateways with a suitable driver to provide a virtual COM port (VCP).
- is compatible with FDT 1.2 (FDT, Field Device Tool, is an open technology solution that enables seamless, manufacturer-independent integration of fieldbus devices in engineering, commissioning, and asset management).
- has extended functions in addition to the basic functions of FDT 1.2, such as scanning.

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3 Requirements

The following prerequisites are necessary for the installation and configuration of the CommDTM:

Software requirements

- FDT 1.2 compatible frame application such as PACTware
- Suitable VCP drivers for the modems
- Operating system: Windows 10, Windows 11

Hardware requirements

- PC that meets the minimum operating system requirements
- HART modem or HART multiplexer with the appropriate drivers

4 Hardware setup

HART-Modem

The HART modem is a device that establishes a connection between the serial interface of a computer and a HART device. To read the information from a HART device, the modem must be powered by a HART-compatible power supply. HART-Server supports most of the available HART modems.

Connect the modem in one of the following modes:

- Single mode (point-to-point): Only one device is connected to the HART modem at a time. Use the mA value of the analogue loop current to transmit the process value. This mode requires the HART address zero (0).
- Multidrop mode: Up to sixteen (16) devices can be connected to one modem (HART multidrop network). Communication is completely digital, which means that an analogue loop current cannot be used.

The following figure shows a graphical representation of the hardware setup with HART modem:

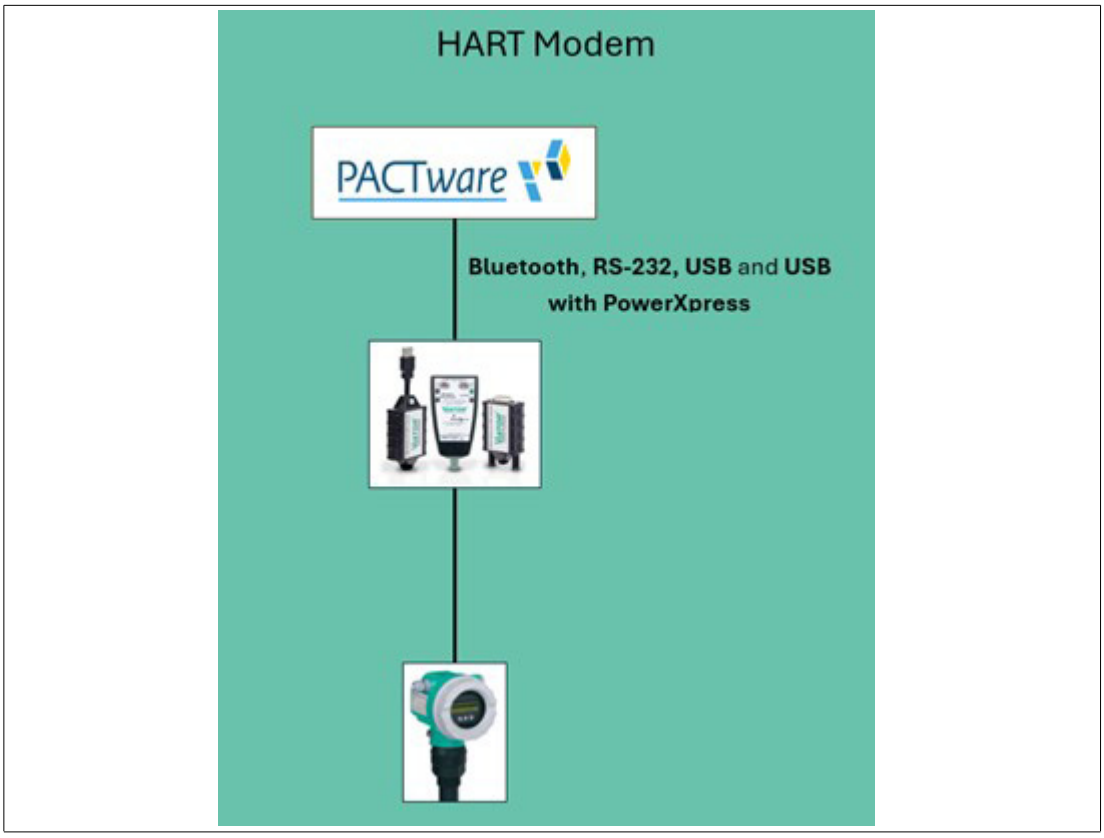


Figure 4.1

Usage with USB modem or Ethernet gateway

The HART CommDTM can be used with USB modems and Ethernet HART gateways if they are supplied with a suitable driver. The driver of these devices typically creates a virtual COM port to your computer. You then select this virtual COM port as the COM port in the configuration dialog of the HART CommDTM.

5 Installation

HART CommDTM installation

1. Start the installation by double-clicking the Pepperl+Fuchs HART CommDTM v1.2.0 installer (file type may be **.exe** or **.msi**, depending on distribution).
2. The installation window appears. Click on **Next**.

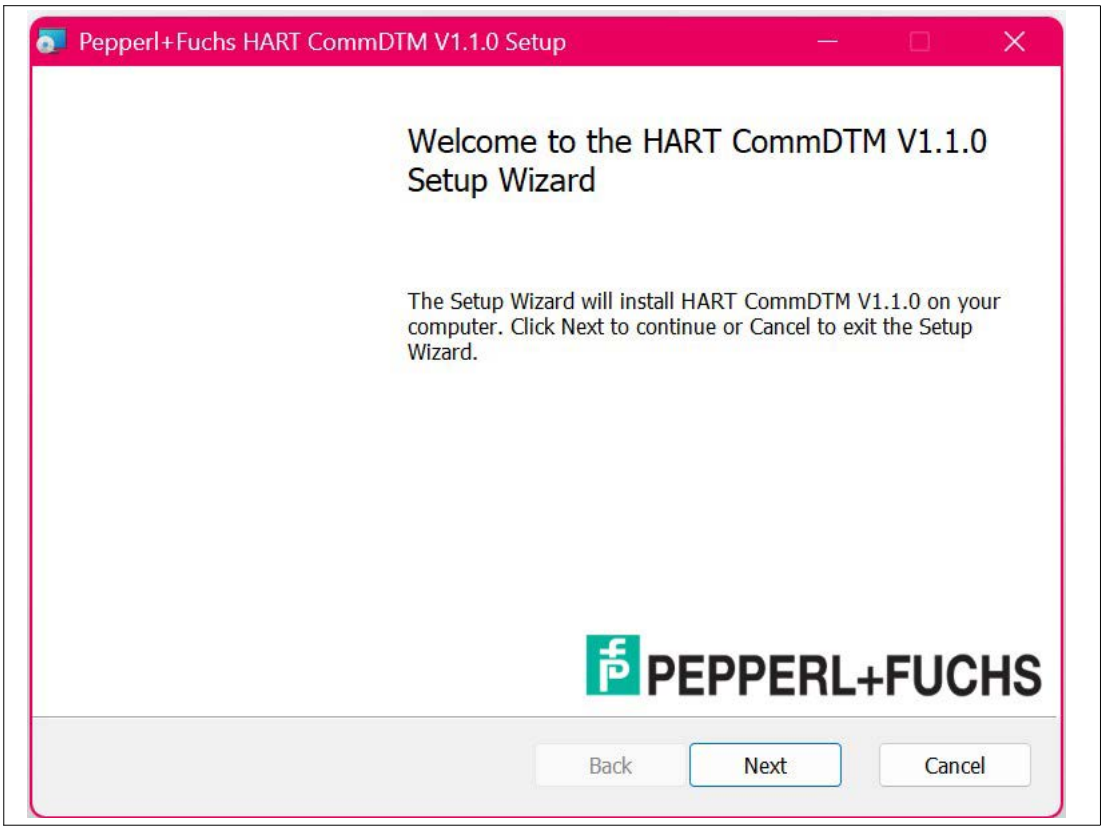


Figure 5.1 Note: Screens may show an example version number; steps are identical for v1.2.0.

3. Accept the license conditions and click on **Next**.

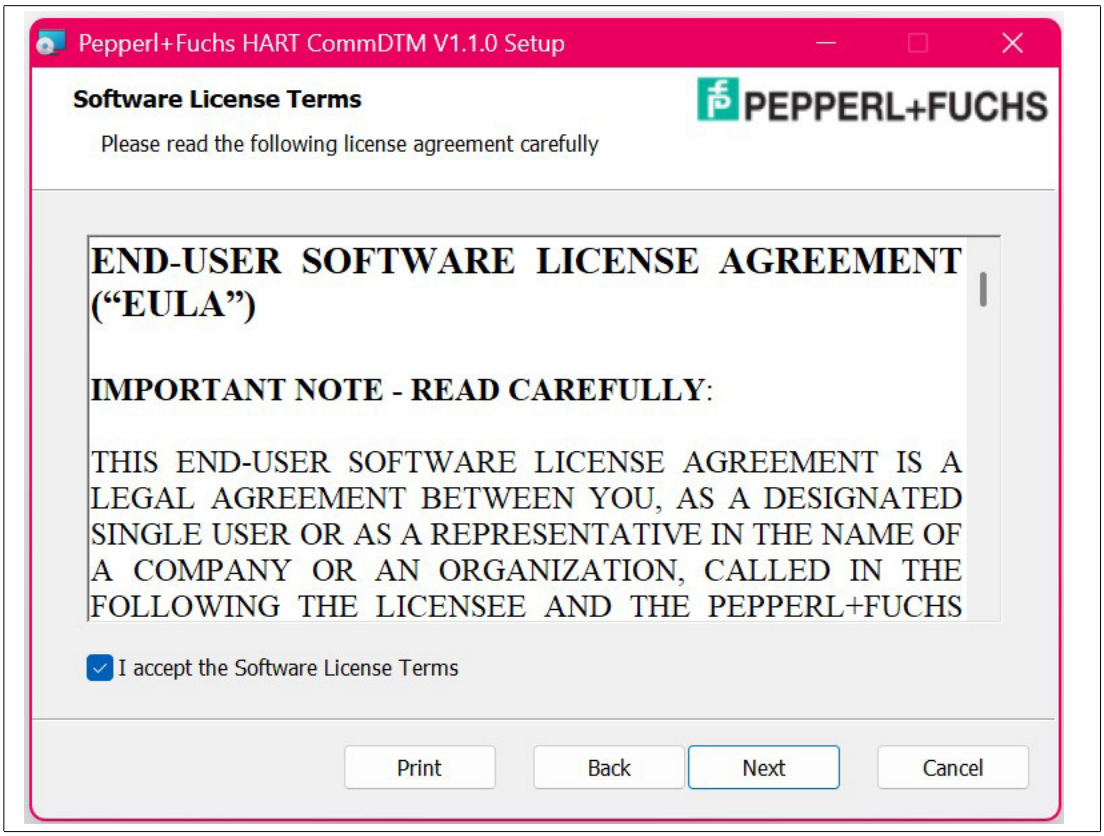


Figure 5.2

4. Select the folder on your computer in which the HART CommDTM is to be installed and click **Next**.

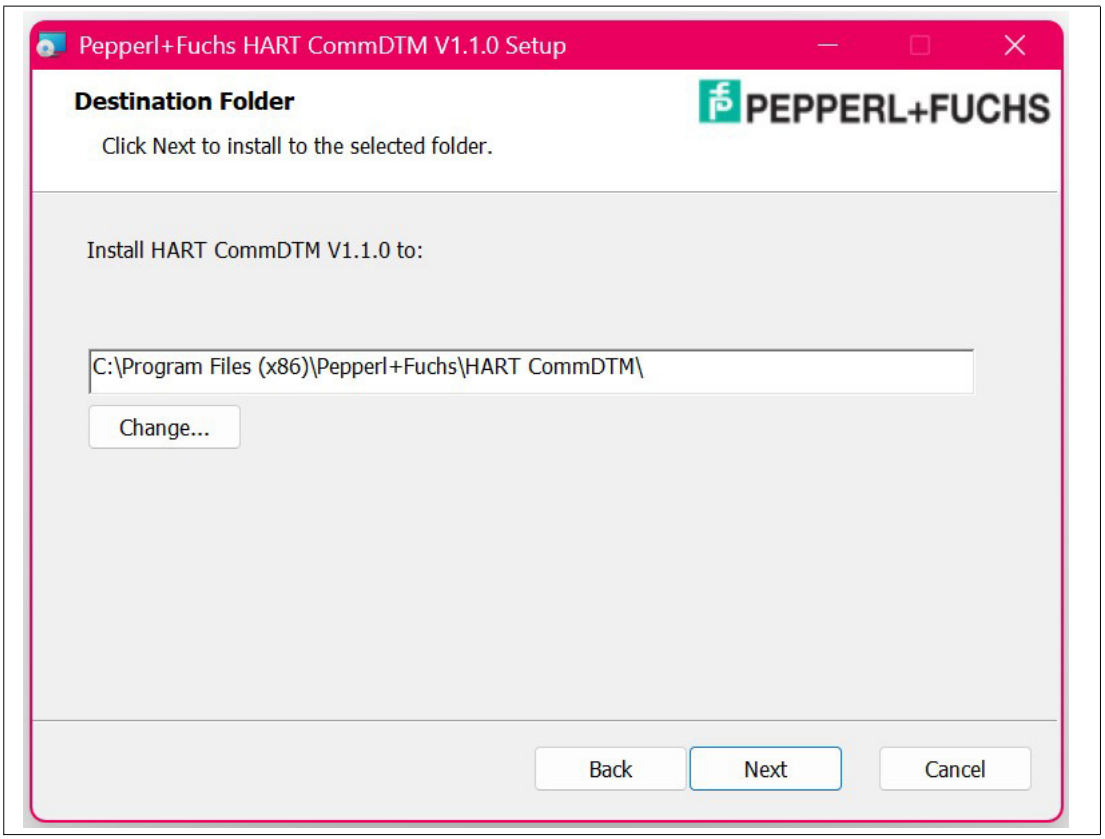


Figure 5.3

5. Now click on **Install**.

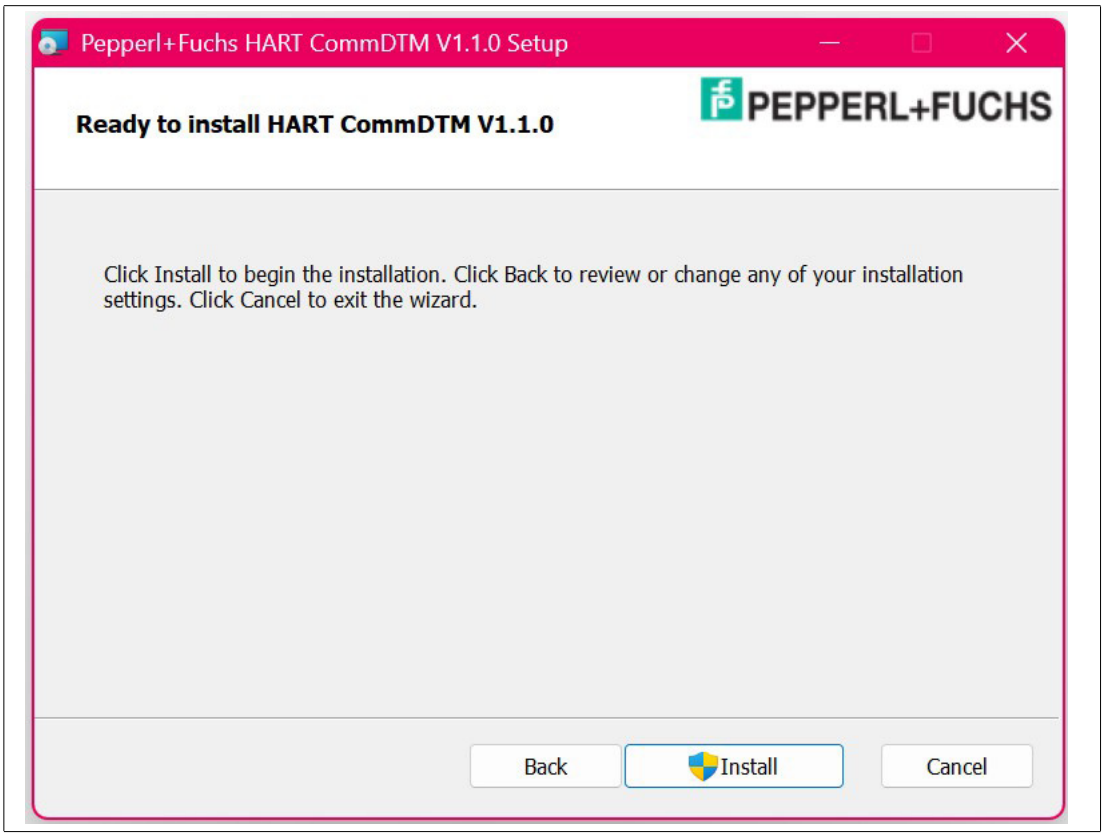


Figure 5.4

6. To complete the installation, click **Finish**.

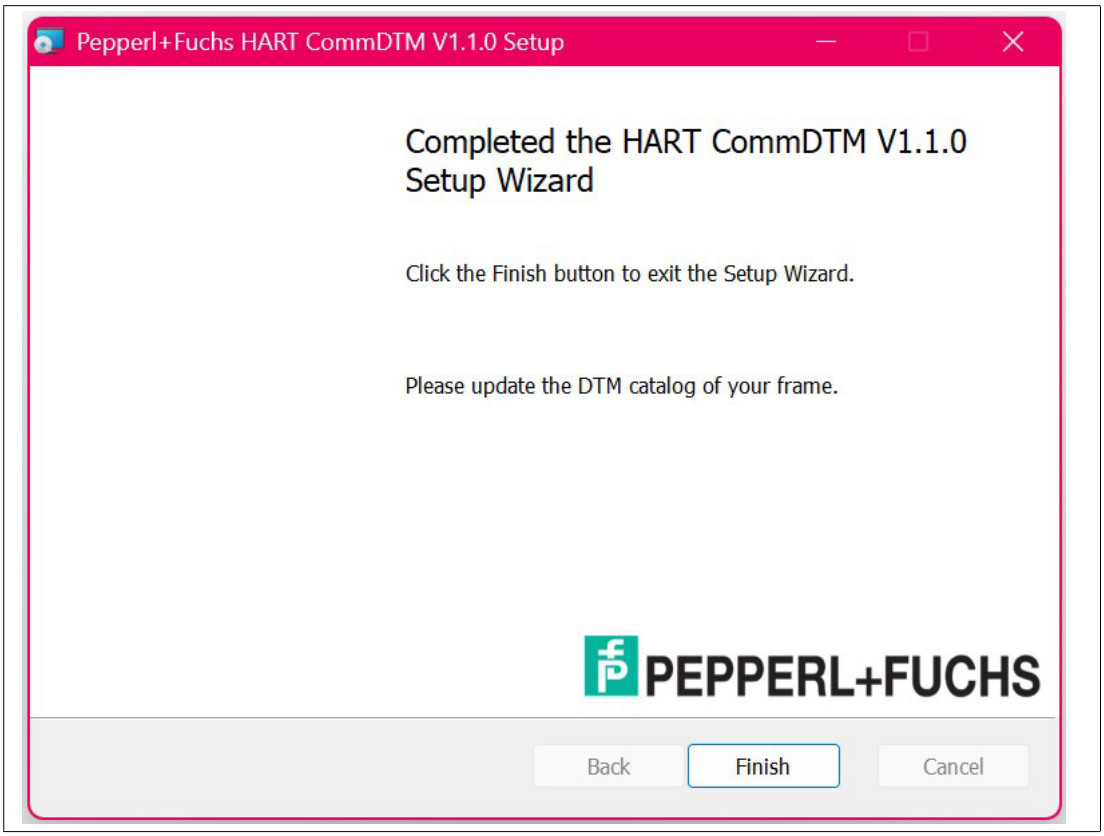


Figure 5.5

6 First steps

Adding the HART CommDTM to a project

1. Start PACTware with a double click.
2. The start screen appears. Click on **New project**.

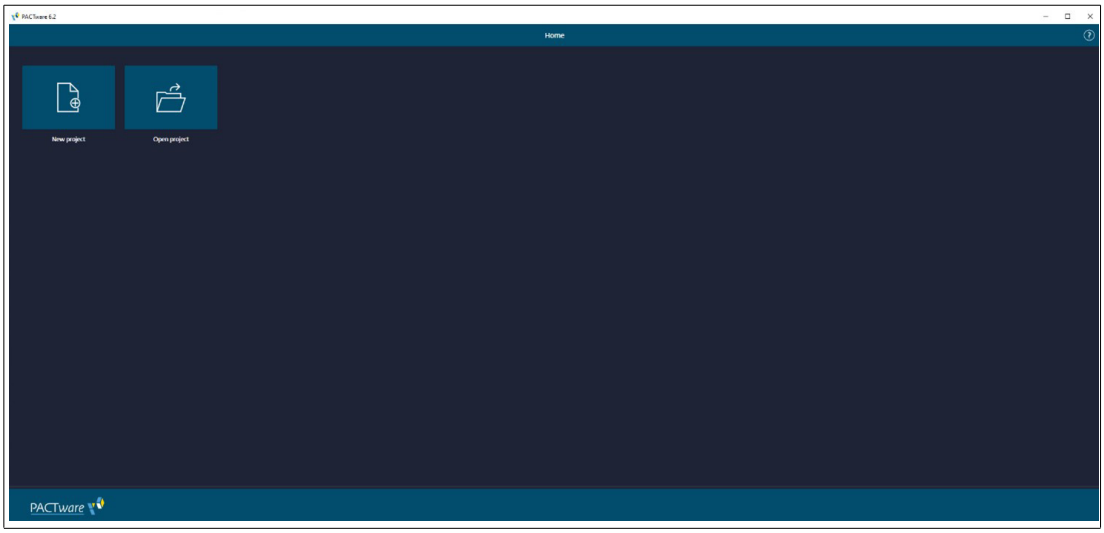


Figure 6.1

3. Add the HART CommDTM to the project by double-clicking or clicking on the plus sign **(+)**.

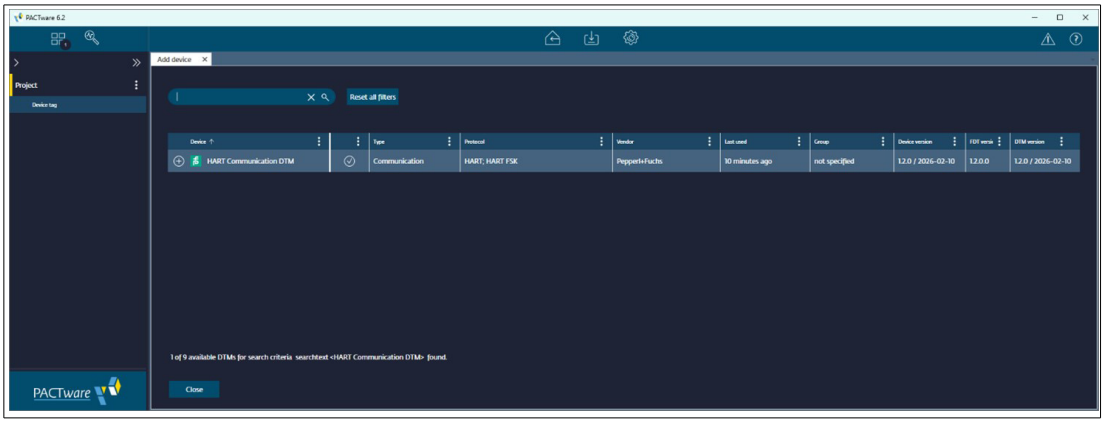


Figure 6.2

4. The HART CommDTM has been added to the project and is visible in the left panel.

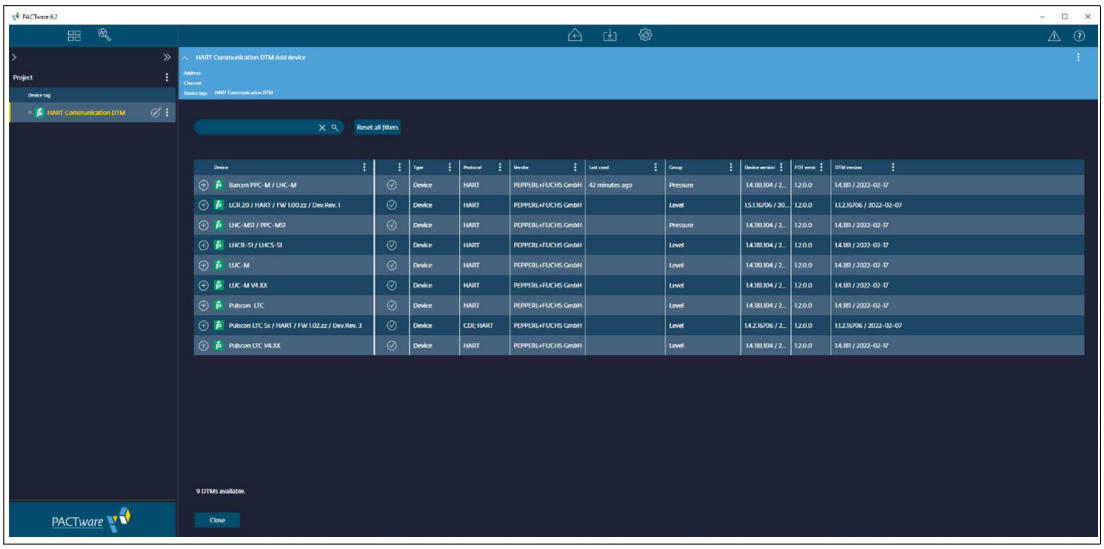


Figure 6.3

Connect / Disconnect the HART CommDTM

1. To connect the HART CommDTM, click in the left menu on the three dots and then on **Connect** in the menu.

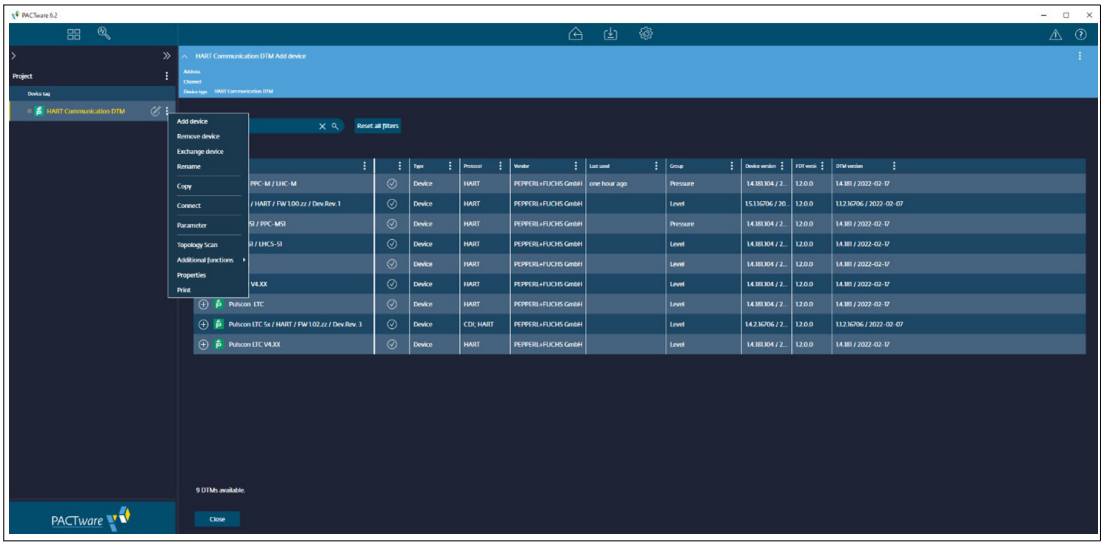


Figure 6.4

2. When connected, you will see a green circle on the left-hand side of the name. To disconnect the HART CommDTM again, click on the three dots again and on **Disconnect** in the menu.

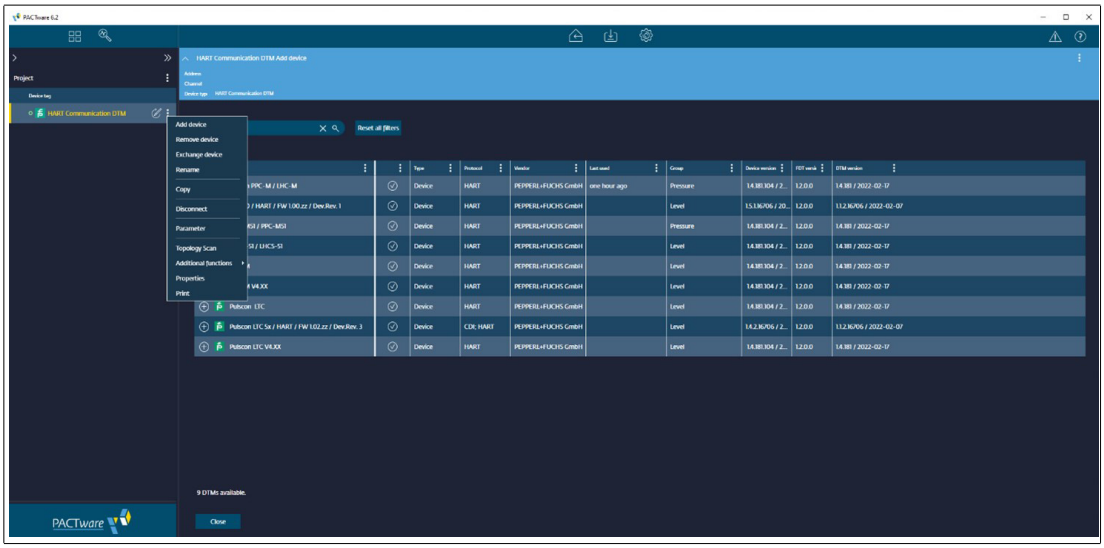


Figure 6.5

Note

When you connect to the HART CommDTM, you have not yet established a connection to an underlying device. You must actively establish the connection to the device. To do this, open the device menu by clicking on the three dots and then on **Connect**.

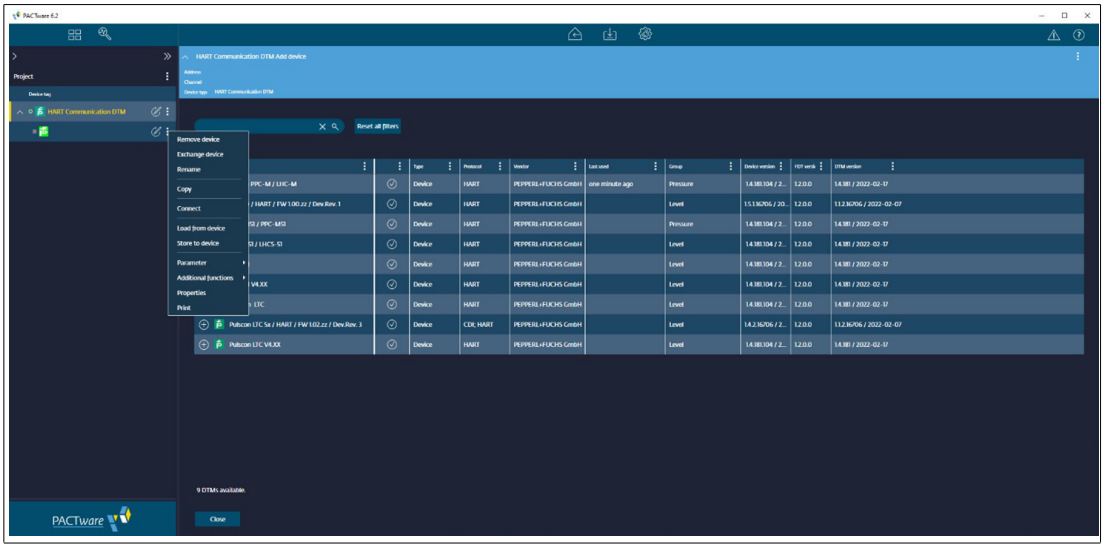


Figure 6.6

3. A successful connection to the device is indicated by the green filled circle to the left of the device name. The HART CommDTM now also has a green filled circle.



Figure 6.7

Scanning

1. You can use the **Topology Scan** in the HART CommDTM menu to find devices. A new view opens. In the right-hand area, you can start the search for devices by clicking on **Scan topology**.

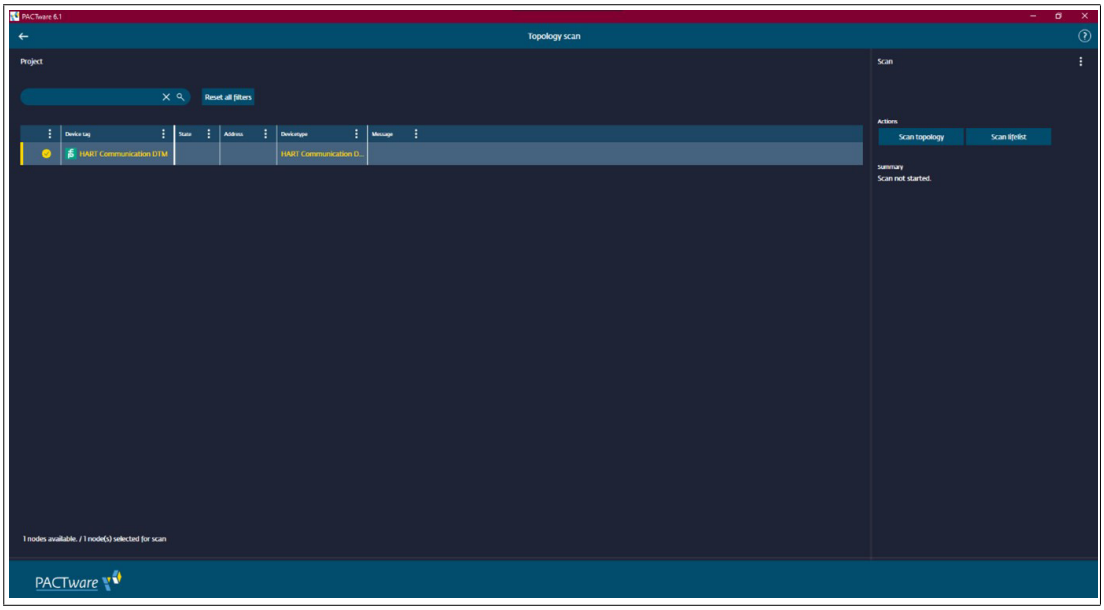


Figure 6.8

2. Once the topology scan has been completed, devices may not be recognized. You can see this from the **Unknown Device** entry.

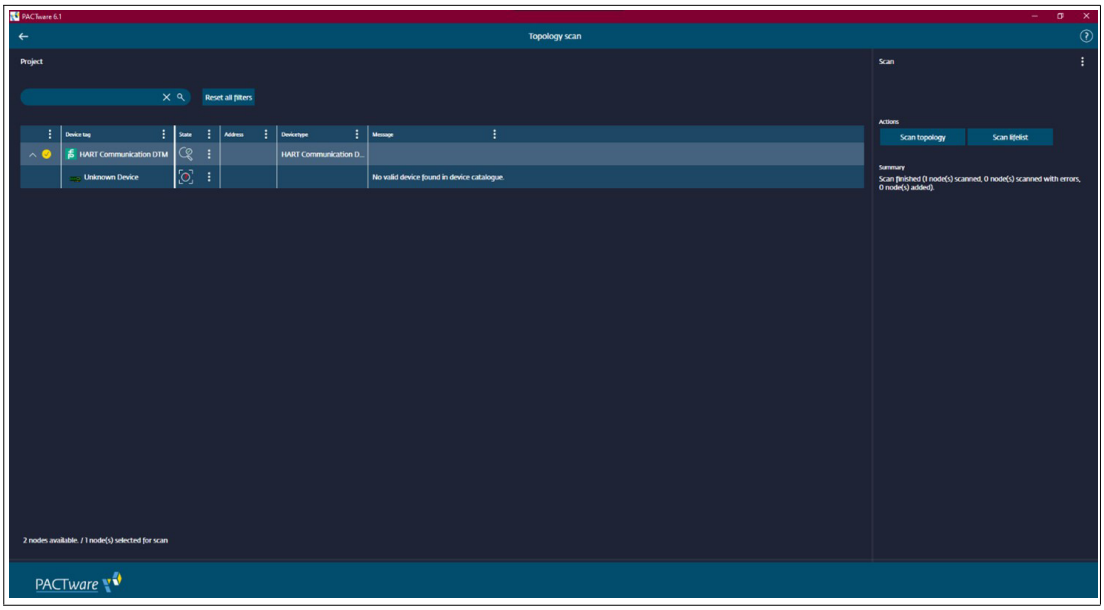


Figure 6.9

3. You will see a red question mark in the **State** column. Click on the three dots to the right of it and then on **Select device**.

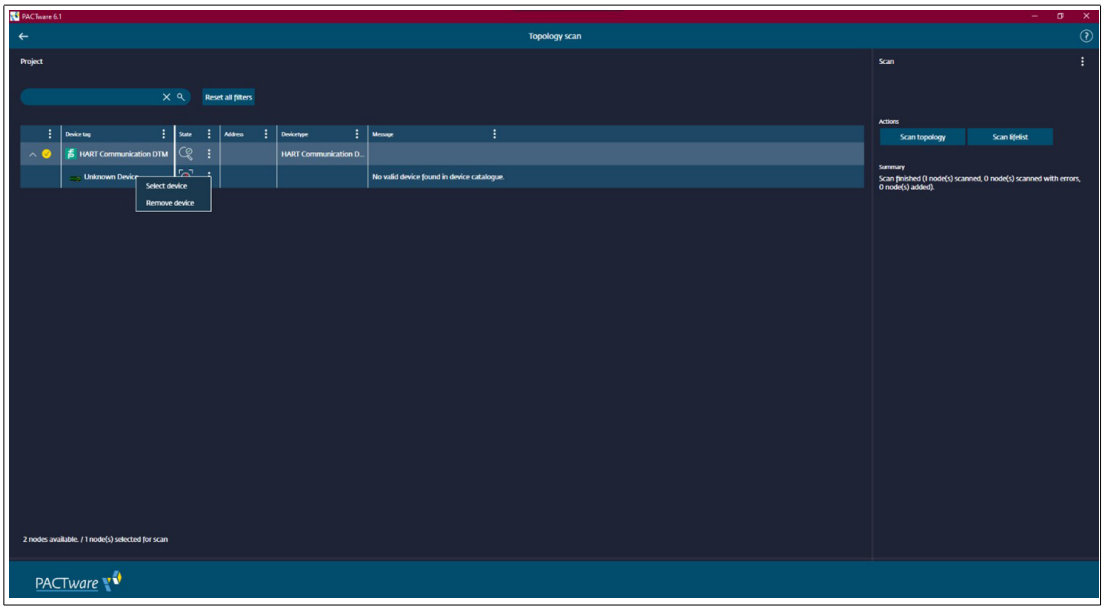


Figure 6.10

4. All existing device DTMs will now be displayed in another window. Click **OK** after you have selected a suitable DTM for your device.

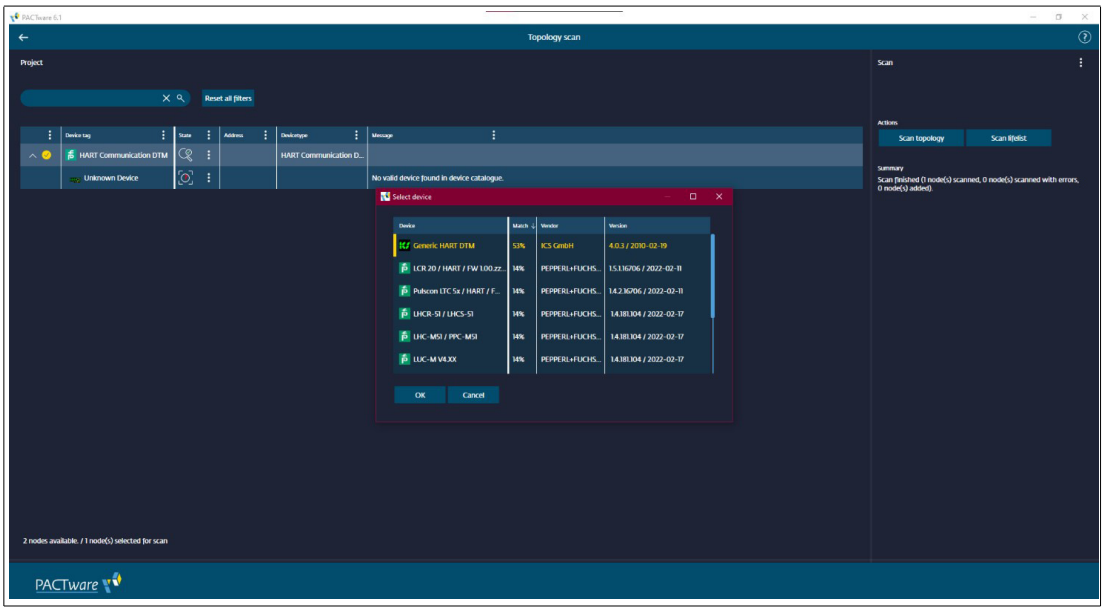


Figure 6.11

5. The DTM has been successfully assigned to your device.

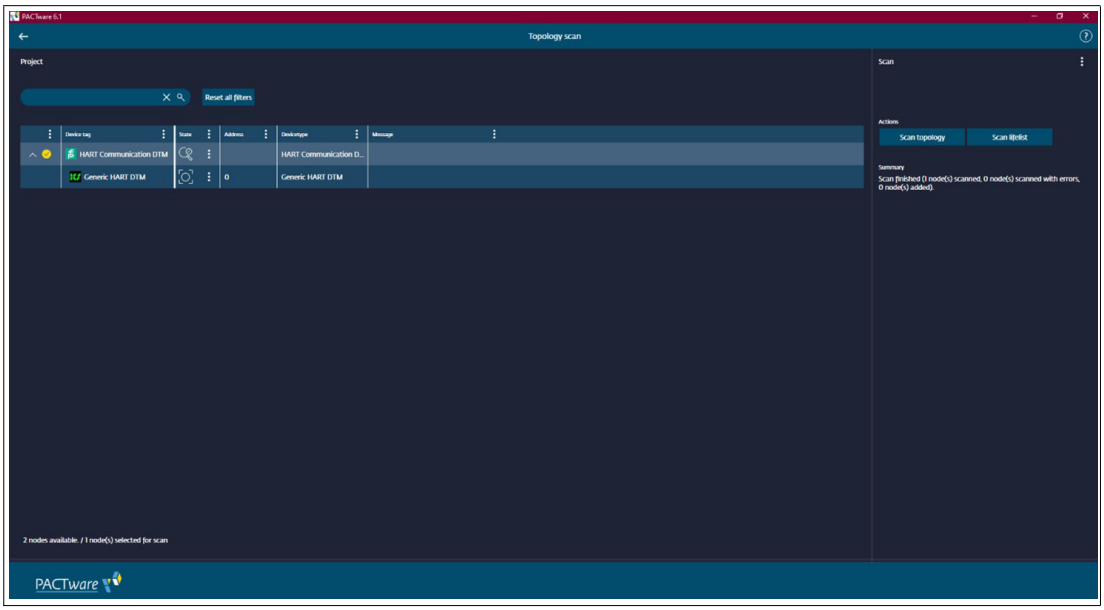


Figure 6.12

Address assignment

The address assignment can be found in the HART CommDTM menu under **Additional functions** » **Change DTM Address**.

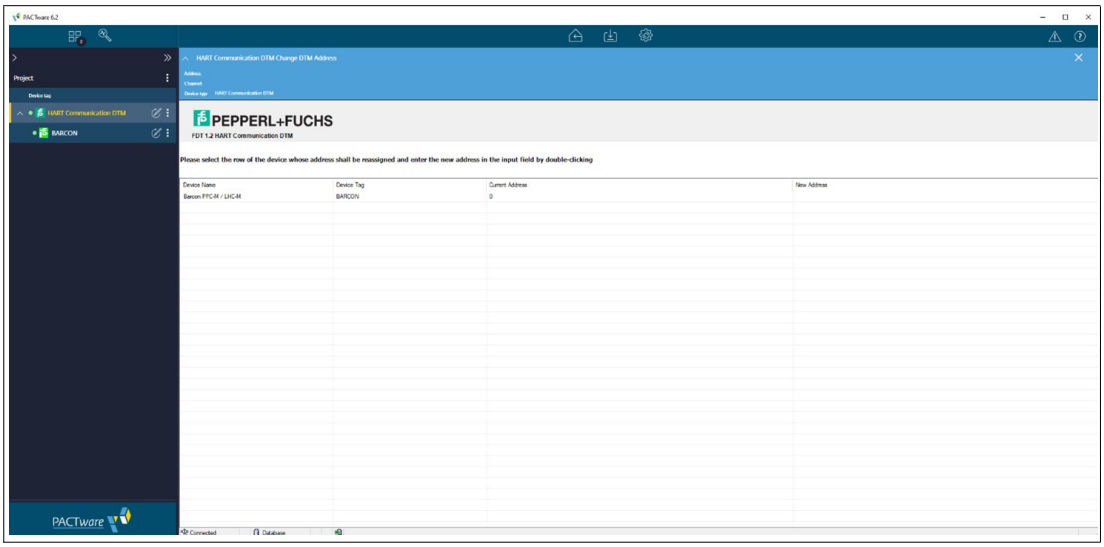


Figure 6.13

7 Working with the HART CommDTM

7.1 Configuration

The configuration can be found in the left menu under **Parameter**. Please note that you can only configure the HART CommDTM offline.

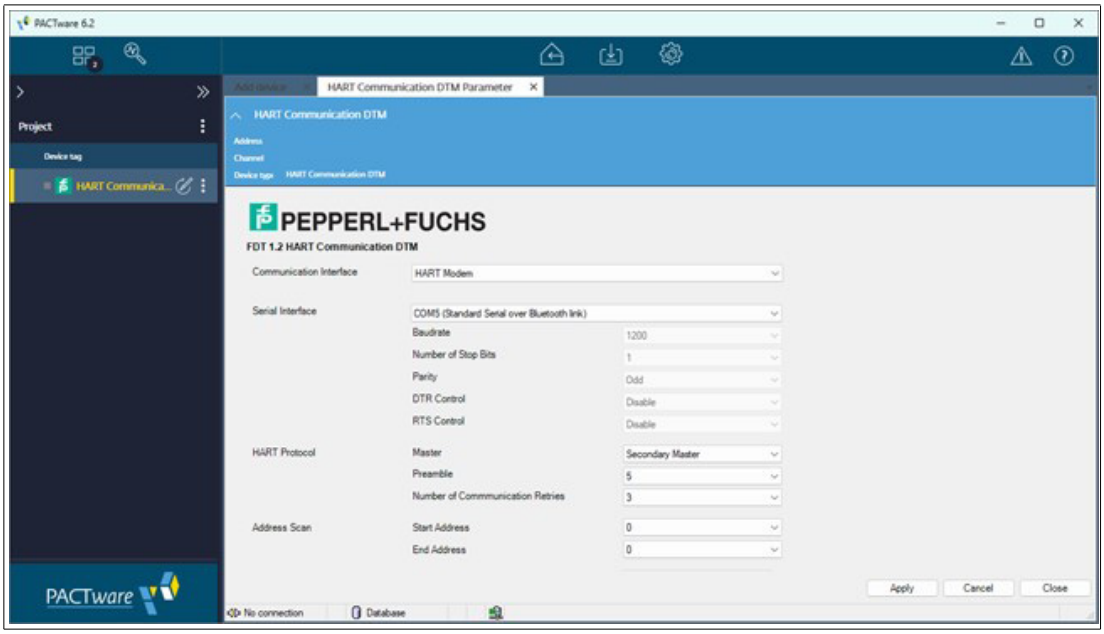


Figure 7.1

The configuration dialogue contains the settings for HART communication.

Communication interface

Select:

1. **HART Modem** when you have HART Modem connected to your computer. This is the normal usage of HART Communication DTM.
2. **HART Multiplexer** when you have HART Multiplexer connected to your computer.
3. **Extended HART Modem** when you have more than one HART Modem connected to your computer.

Note

The use of multiplexers that use ARCOM command set is supported. This requires a separate multiplexer HART CommDTM from the multiplexer manufacturer.

Serial interface

Select the port to which your HART Modem is connected or the port created by USB/Ethernet.



HART Protocol Master

This determines the mode in which HART Modem operates in the network.

1. **Primary Master**: In this mode, HART Modem is the primary master in the network. Use this mode when no other HART masters are connected to the network.
2. **Secondary Master**: In this mode, HART modem is the secondary master in the network. Use this mode when the device is already connected to a HART network, e.g., to a multiplexer, and you are using HART Modem to read information from the same device.



Preamble

Use preambles to synchronize HART communication with connected devices. The default setting is appropriate in most cases. In case of problems, refer to the device user guide for the correct settings.



Number of Communication Retries

Use this to set the number of times the HART CommDTM retries communication in case of problems or communication failure.



Address Scan

Use this to set the address range to be scanned (from start to end address). If the HART CommDTM is connected only to single HART devices, use a scanning range between 0 and 0.

7.2 Print

You can save your HART CommDTM configuration via the **Print** menu item.

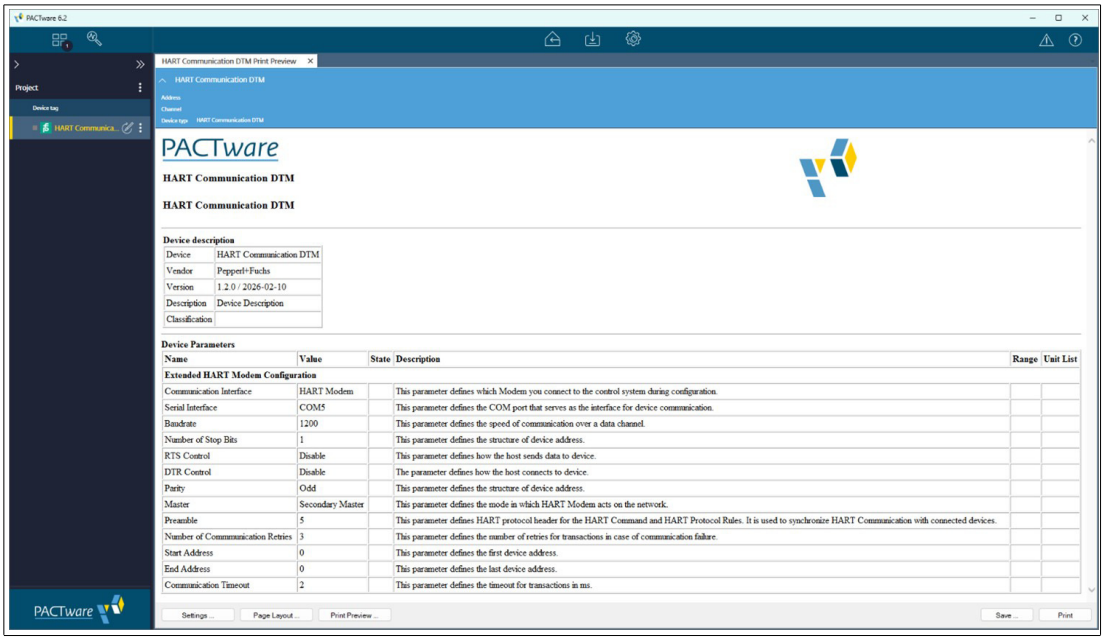


Figure 7.2

7.3 About box

The About box can be found in the HART CommDTM menu **Additional functions** » **About**.

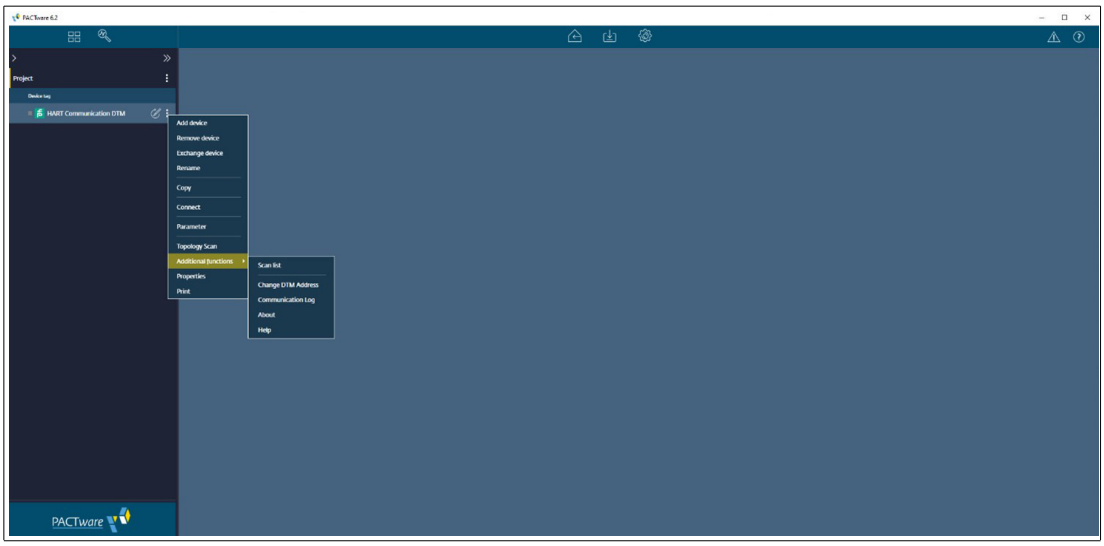


Figure 7.3

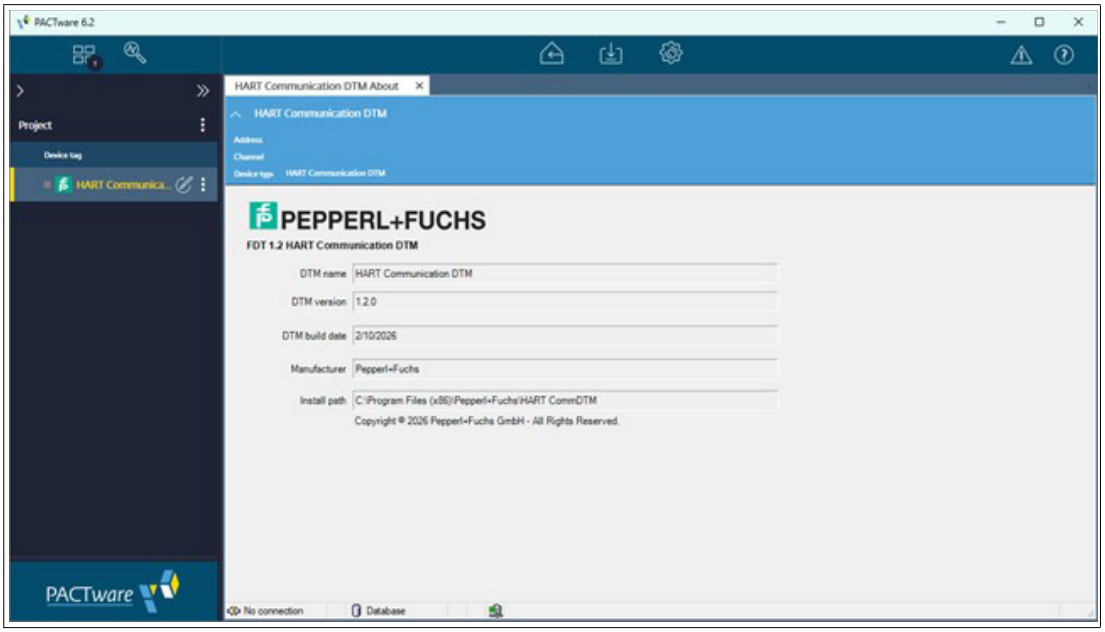


Figure 7.4

7.4 Online help

The online help can be found in the HART CommDTM menu under **Additional functions** » **Help**.

8 Troubleshooting

Here you will find a collection of possible problems that can occur when using the HART CommDTM and possible solutions.

Please note that it is impossible to list all conceivable problems and solutions here. Additional problems will be added as they arise. If the solutions offered do not solve your problem, or if you require more information, please contact your PACTware representative.

Fault	Troubleshooting
Communication is not successful	• Check whether the connected device is supplied with power. • Check whether the HART Modem is connected correctly. • Check whether the device DTM corresponds to the connected device. • Check whether the device DTM polling address is correct.
You do not find any devices on the HART network	Check whether the correct communication port is selected.
You find some, but not all, devices	• Check whether the scanning range configuration includes all the device addresses. • Check whether each device has a unique address.
Your HART modem does not seem to work	You may try to disable FIFO for the COM port in use. You can deactivate FIFO via the Windows device manager. Refer to Windows user guide for more information.

Table 8.1

9 Uninstallation

You can uninstall the HART CommDTM in the control panel.

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