Transportation Solutions

FDT Software Installations

PACTware / HART-DTM

Operating instructions

Version 00

LUTZE TRANSPORTATION

Lütze Transportation GmbH reserves the right to make changes to its products in the interest of further technical development. These changes are not necessarily documented in each individual case.

These operating instructions are an integral part of the device and contain important information on safety and operation. Read the operating instructions before use to exclude possible dangers and to ensure proper use.

These operating instructions and the information contained therein have been compiled with due care. However, Lütze accepts no liability for printing or other errors or for any damage resulting therefrom.

The brands and product names mentioned in this book are trademarks or registered trademarks of the respective titleholders.

Contact:

Lütze Transportation GmbH
Bruckwiesenstraße 17-19
D-71384 Weinstadt - Großheppach
Germany

Telephone - switchboard:	+49/ (0)7151 6053-545
Telefax:	+49/ (0)7151 6053-6545
E-Mail:	Sales.Transportation@luetze.de
Internet:	www.luetze-transportation.de

Content

1 Introduction

These installation instructions are part of articles with FDT parameterisation and driver software. These installation instructions contain important information on the operation of the software, as well as on the safety and operation of the corresponding devices.

This manual must be read and understood before installing, operating, maintaining, or disposing of the device. Keep this document for later use.

CAUTION

Risk of injury and damage to property due to non-observance of the operating instructions.

Always read these operating instructions before planning the system in order to avoid or reduce risks and damage.

NOTICE

These operating instructions contain important information on safety, commissioning, operation, maintenance and disposal of the device.

Always keep the document at hand. This applies until the device is disposed of. Pass on the operating instructions if the device is sold, distributed or loaned.

You can also find these operating instructions at
***www.luetze-transportation.com*.**
In the search field, enter either the product name or the product number.

1.1 About this operating manual

These instructions provide information on how to handle the products throughout its entire product life cycle, from delivery to disposal.

Further documents apply in addition to this operating manual.

If you have suggestions for improving this document, please contact Lütze Transportation GmbH.

2 General Information

2.1 Symbol Description

2.1.1 Safety Messages

This document contains several safety messages. Each safety message contains a defined signal word and a color. The color and the word are referring to an alert level. There are 4 levels. The safety messages point out hazardous situations and give information on how to avoid these.

DANGER	**Indicates a hazardous situation, which if not avoided will result in death or serious injury.**
WARNING	**Indicates a hazardous situation, which if not avoided can result in death or serious injury.**
CAUTION	**Indicates a hazardous situation, which if not avoided can result in minor or moderate injury.**
NOTICE	**Indicates a situation which could damage the product or the environment. This notice does not apply to personal injury.**

2.1.2 Handling Notes

Additionally, the following symbols can be found. These refer to important technical information and instructions:

	**Refers to important technical information. This indicates to the user a specific action that must be performed to operate the device safely.**
	**Refers to the use of different tools.**

2.2 Copyright

This document is intended for the operator and his employees. It is forbidden to give the content to a third party, to duplicate, exploit or impart it. The Lütze Transportation GmbH has to allow it explicit in writing.

General data, text, images and drawings are copyrighted and are liable to the industrial property right. Contravention can be prosecuted. The named brands and product names in this document are trademarks or registered trademarks by titleholder.

2.3 Disclaimer

The document was written under consideration of the applied standards, regulations and the current state of technology.

The content is verified of accuracy. Discrepancies are not excluded. For those discrepancies we disclaim liability. Applicable changes and additional information will be in the next version of the document.

The Lütze Transportation GmbH does not assume liability for any damages and accidents of following reasons:

- Nonobservance of the document
- Untrained and unqualified personnel
- Non conventional use
- Non approved reconstructions and functional modifications of the product
- Using non original or non admitted parts or equipment

2.4 Standards and norms

The product is state of the technology and comply with the applicable safety regulations and the corresponding harmonized European standards (EN).).

NOTICE	**The latest versions of the standards and further information about the product can be found in the corresponding data sheets that are valid with this document.**

2.4.1 Observe other applicable documents

When operating the device, please also observe all operating instructions enclosed with other components of your system.

NOTICE	**Always keep these operating instructions and the other applicable documents (e.g. data sheets, package inserts, declarations of conformity, etc.) at hand so that they are available when required.** **This applies until the device is disposed of. Hand over all documents in case of sale, distribution or rental of the device.**

For reasons of clarity, we would like to point out that these operating instructions cannot describe all conceivable problems in connection with the use of this device.

Should you require further information or encounter special problems that are not dealt with in sufficient detail in the operating instructions, you can request the necessary information about service from Lütze Transportation GmbH.
(See also chapter "Service")

3 Safety

3.1 Applicable documents

The software is used to parameterise various transducers.

NOTICE	**Before installing the software, also read the documentation of the transducer to be parameterised and, if necessary, the online help of the PACTware.**

3.2 Safety informations

3.2.1 Contents of the operating instructions

NOTICE	**These instructions must be read and understood before installing, operating or maintaining the device.**

These operating instructions must be read and observed before any work is carried out on or with the units. This applies to all persons who come into contact with the devices. Trained personnel and specialists, especially electricians (see also chapter „Electrically qualified persons“) who have already worked with similar equipment should also have read and understood the manual.

3.2.2 Appropriate use

The parameterisation software, as well as the driver software, is exclusively for the parameterisation of the following transducers from Lütze Transportation GmbH and Friedrich Lütze GmbH:

- Analogue/analogue converter
- Temperature/analogue converter
- Analogue limit value switch
- Temperature limit switch
- USB service cable.

3.2.3 Addressees

This operating instruction is directed towards planers, project managers and programmers, as well as to staff authorized to commission, operate and maintain the devices and systems.
A distinction is made between various qualification levels of the staff.

3.2.3.1 Operating Personnel

Only qualified personnel may carry out the following work on the modules:

Working range	Competency
Installation, transport and storage	Experts
Commissioning, decommissioning	Trained Employee <
Operation	Trained Employee <
Servicing and maintenance	Experts
Troubleshooting	Experts

WARNING **Risk of injury by usage through insufficient qualified operating personnel! Misusage through performed insufficient or qualified personnel can cause property damage and personal injuries.**

- Tasks which apply special procedures should be done by trained and qualified employees or experts, especially electricians.

(according to EN 60204-1)

Trained Employee

The employee was trained by the employer on the task and possible hazardous situations. The employee does not have any technical knowledge.

Experts

The employee has a technical education, knowledge and/or experience in the required field. The employee is capable to perform specific operations on and with the product.

Electrically qualified persons

The employee has a technical education in the required field. The employee is capable to perform special operations on and with the product. The different sections of the document refer to the qualification level of the operating personnel.

According to European Standard EN 50110-1:2008-09-01 Section 3.2.3.

NOTICE The individual sections refer to the qualification level of the personnel.

3.2.4 Responsibility of the operator

NOTICE The customer is subject to an obligation to report back when safety-related errors are discovered.

Since the device is used in a commercial area, the operator of the device is subject to the legal obligations for occupational safety:

- The operator of the device is obliged to instruct the operating personnel and to inform himself about the industrial safety regulations.
- The operator must ensure that safety, accident prevention and environmental protection regulations are observed.
- The operator must make an appropriate risk assessment on the
- Workplace/location to detect and warn of special hazards.
- The manual must be kept in the immediate vicinity of the device.
- The information in the operating instructions must be followed.
- The device may only be operated in technically perfect condition.

4 Product overview

4.1 Short introduction to FDT

Field Device Technology (FDT) is a manufacturer-independent concept in automation technology, which enables the parameterisation of field devices of field devices from different manufacturers with only one programme.

For FDT, the manufacturer provides a device driver (DTM) for the field device. It allows access to the device from any FDT application via a graphic user interface. This allows users to access all device functions provided by the DTM and configure their devices, operate and maintain their devices.

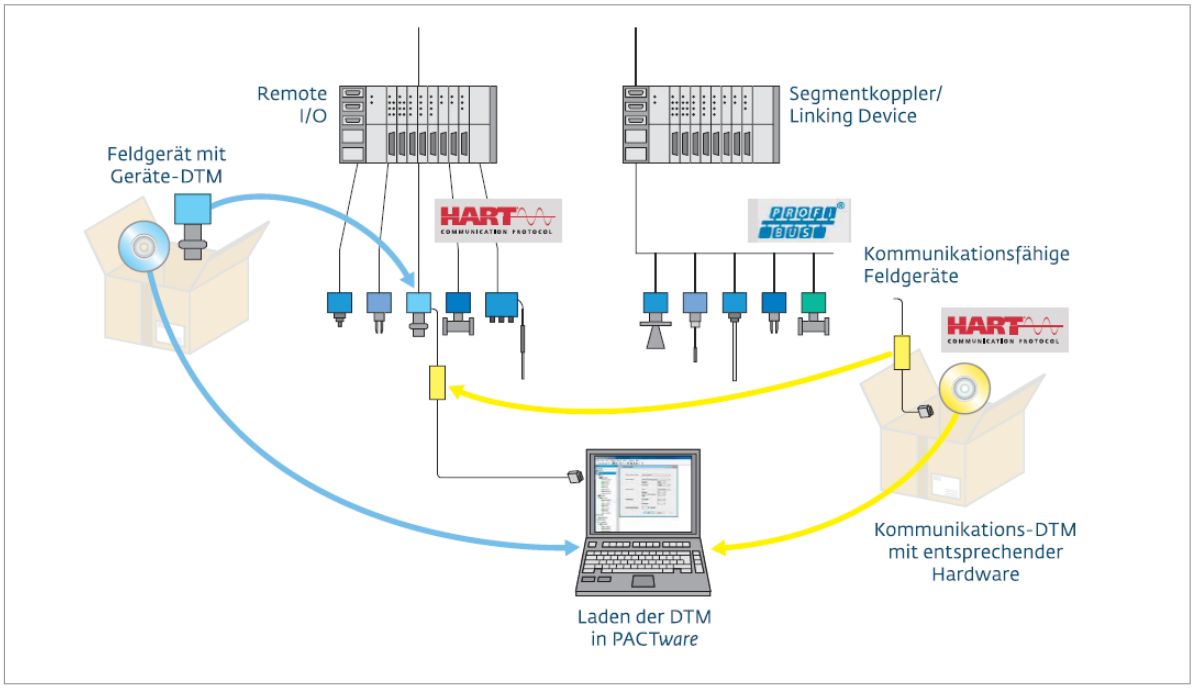
FDT is a specification for software interfaces. It describes the data exchange between an application and software components for field devices. FDT is standardised as the international standard IEC 62453 and ISA103.

FDT supports a large number of communication protocols as well as the communication via nested communication protocols.

With the help of the standardised interface between DTMs and frame application, the DTMs can be used system-independently in different frame applications (e.g. PACTware). Comparable with Drivers for office equipment, such as printers, etc.

4.2 Description of the FDT technology

Here the FDT technology will be shown as well as the connection between terms such as PACTware, DTM etc. and their correct use.



4.2.1 What is FDT?

FDT (“Field Device Technology” or “Field Device Tool”) is the interface specification for the open data exchange between field devices and automation systems, which is standardised by the international standards IEC 62453 and ISA 103 standards.

In field device technology, the terms DTM (device type manager or device driver) and FDT frame application are of particular importance.

FDT, the technology behind PACTware, provides for all device drivers (DTM) - available according to this standard - a common platform for the exchange of data. This enables a complete and effective different network hierarchies to all device functions provided by the DTM. This means that each device can be configured, operated and maintained via a standardised user interface - regardless of the manufacturer, communication protocol or device type.

The FDT technology does not require any specific adaptations of the field devices. The communication protocol supported by the device as well as the device properties are fully mapped on the PC by the FDT technology software-based on the PC.

Source and further information: https://pactware.com/de/produkte/fdt-technologie

4.2.2 What is a DTM?

The FDT concept can be compared to a methodology used in office communication. A printer with a suitable device driver and an integrated user interface. Just like the printer driver in the office world, in the FDT world an individual driver of the field device, the DTM (“Device Type Manager” or “Device driver”), ensures smooth communication between the system level and the field devices. The DTM summarises all functions and data of the device. Regardless of whether it is a single field device, an interface module, a remote IO system or also entire device families.

In contrast to pure device descriptions, DTMs also offer extended functions for display and user guidance. Due to its uniform technological basis, the PACTware operating concept remains consistent and always recognisable for the user.

This minimises the workload, creates safety in use and at the same time reduces the need for training.

In a first application step, PACTware combines all device drivers of a system, including the communication drivers, in one project. The DTMs are selected from the device catalogue and inserted into the project. A short effort that creates clarity, and, thanks to an improved workflow, also saves time:

- when adapting the configuration
- when changing individual parameters (also subsequently)
- to simulate functions
- for a detailed diagnosis
- for the creation of documentation

Source and further information: https://pactware.com/de/produkte/device-typemanager

4.2.3 The FDT frame application PACTware

PACTware is the manufacturer- and fieldbus-independent operating software for all field devices and protocols.

PACTware brings together companies with a wide range of competences. Designed as a manufacturer- and fieldbus-independent solution, PACTware forms the framework for uniform device configuration and operation in automation. PACTware operates the entire variety of field devices via any communication paths.

With PACTware, all devices in a system can be configured, operated and diagnosed. PACTware uses a uniform operating and interface concept, making it the most widespread and freely available FDT frame application for the user. PACTware proves its flexibility under the most diverse operating conditions, whether it is from the engineering station or directly on site: PACTware provides reliable work from anywhere.

When designing the user interfaces of PACTware, clarity and intuitive operation were in the foreground. The user interface is intuitive and easy to understand. The view of the system can be quickly adapted to individual measurement tasks. PACTware guides you step-by-step through the configuration of the devices, whether you want to use presettings or create a special solution based on special parameters.

PACTware supports all common communication protocols - independent of the device type or the task. Thanks to manufacturer-independent, long-term interfaces and exchange formats, as well as a modular structure, PACTware fits into all areas of the heterogeneous system landscape.

This is made possible by the globally established FDT-Standard (Field Device Technology). FDT ensures the uniform exchange of data between devices and PACTware. DTMs ensure the uniform operation of the devices.

Uniform software blocks, the "Common Components", guarantee the best possible basic technology - always up to date.

Thanks to its modular structure, PACTware is open not only to all current fieldbus standards, but also to future ones. Via interfaces, further functions can be flexibly inserted, which are available to all DTMs. Such as "Audit Trails" or "Trending" across several devices.

The PACTware member companies make PACTware available for download with the respective DTMs for their devices for download. This means that you have only one contact person for the device, the matching driver (DTM) and PACTware. Service and support are also provided from a single source.

Each PACTware installation enables the operation of all HART devices. The setup includes a communication driver for common HART modems as well as a generic HART device DTM.

Source and further information: https://pactware.com/de/produkte/pactware

4.2.4 PACTwareDC

Whether for quick on-site parameterisation or for direct diagnosis of individual devices in a complex system structure, the point-to-point connection is the easiest way to do this. This is quickly "off the cuff", can be intuitively operated and saves time and money during servicing. PACTware DC achieves maximum efficiency with little effort in the point-to-point connection. "DC" stands for a special variant that decisively facilitates the direct control of devices.

After selecting the primary communication interface on the operating device, the connection to the unit can be established directly and without further configuration. PACTware DC automatically finds the suitable communication and device DTM on the operating device and establishes the online connection to the device. Thus, the field device is automatically ready for immediate parameterisation or diagnosis.

Quickly copied instead of newly created

For repetitive plant structures, PACTware DC offers the possibility of saving the structure and work steps necessary for connection establishment as "favourites". For future applications, the favourites can be called up with just one mouse click and the field device is online.

Source and further information: https://pactware.com/de/produkte/pactware-dc

4.2.5 What is HART communication?

HART communication is a standardised procedure for transmitting bidirectional communication via an analogue measured value. The modulation and the data protocol are precisely defined in the specifications of the HART Communication Foundation.

It is an FSK signal which is applied in the transmitter to the measured value, the 4 ... 20 mA output current of the transmitter. In the process control system a HART modem is installed. The transmitted digital data are fed to a process computer via the modem.

The great advantage of this concept is that the analogue measured value can be evaluated in a conventional way. In addition, but without cabling effort, the user has access to any digital information, such as further measured values, configuration data or set parameters.

5 Installation Software

NOTICE

In addition to the PACTware software, the HART DTM driver is installed.

For the later configuration of the LCOS-AB-I, the Lütze driver and the USB driver are also necessary.

For this, also read the installation instructions in *chapter 5.4 "Installation of the Lütze DTM driver"*, or in *chapter 5.5 "Installing the USB driver"*.

5.1 System requirements

Before installing the software, check that your system meets the necessary requirements. You will find this information in the "ReadMe.txt" file in the installation files of the respective software.

5.2 Download

The software and drivers are available for download as a zip file from the Lütze Transportation website: www.luetze-transportation.de.

NOTICE

On the website, enter the item number in the search. Select the corresponding unit.

In the download area at the bottom of the respective product page, you will find all related documents, HART DTM drivers and software.

5.3 Installation PACTware and HART DTM driver

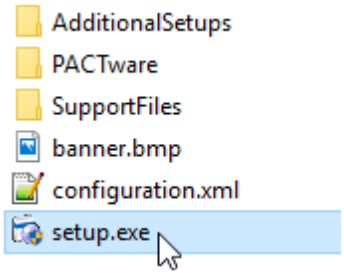
NOTICE

After the following PACTware installation, the start window of the HART DTM driver installation appears.

5.3.1 Part 1: Installing PACTware

NOTICE **The following illustrations of the programme interfaces are exemplary and may differ from the actual appearance.**

1. Unzip the downloaded zip file.
2. Start the installation by double-clicking on Setup.exe.



The following window: "User Account Control" appears:

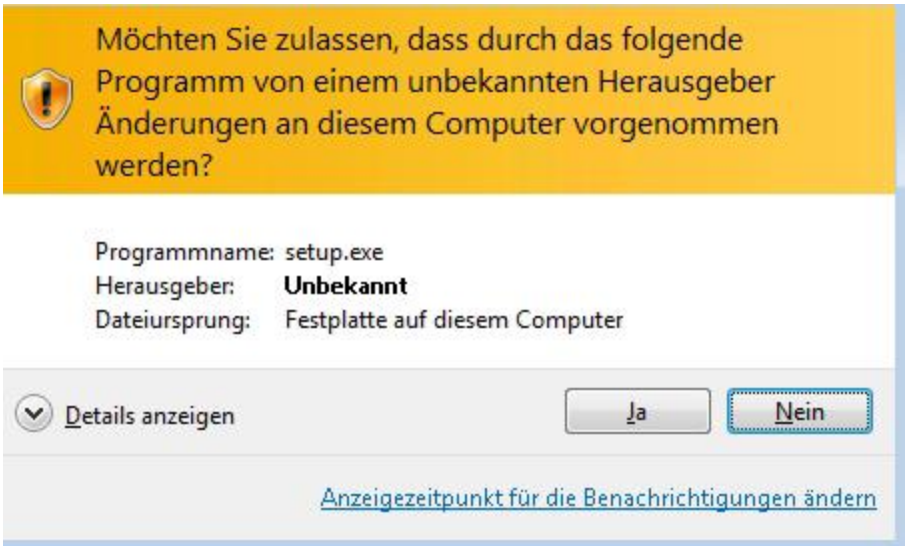
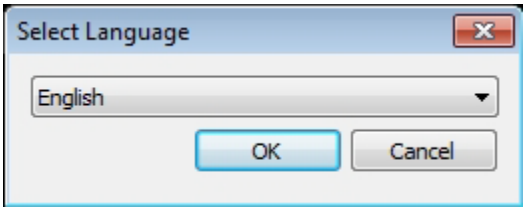
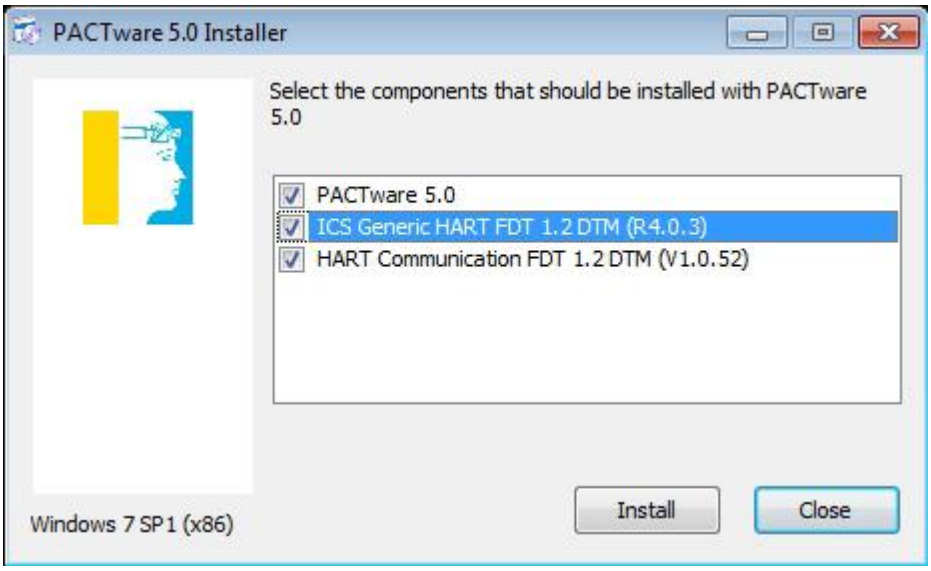


Fig. 1: User account control (figure similar).

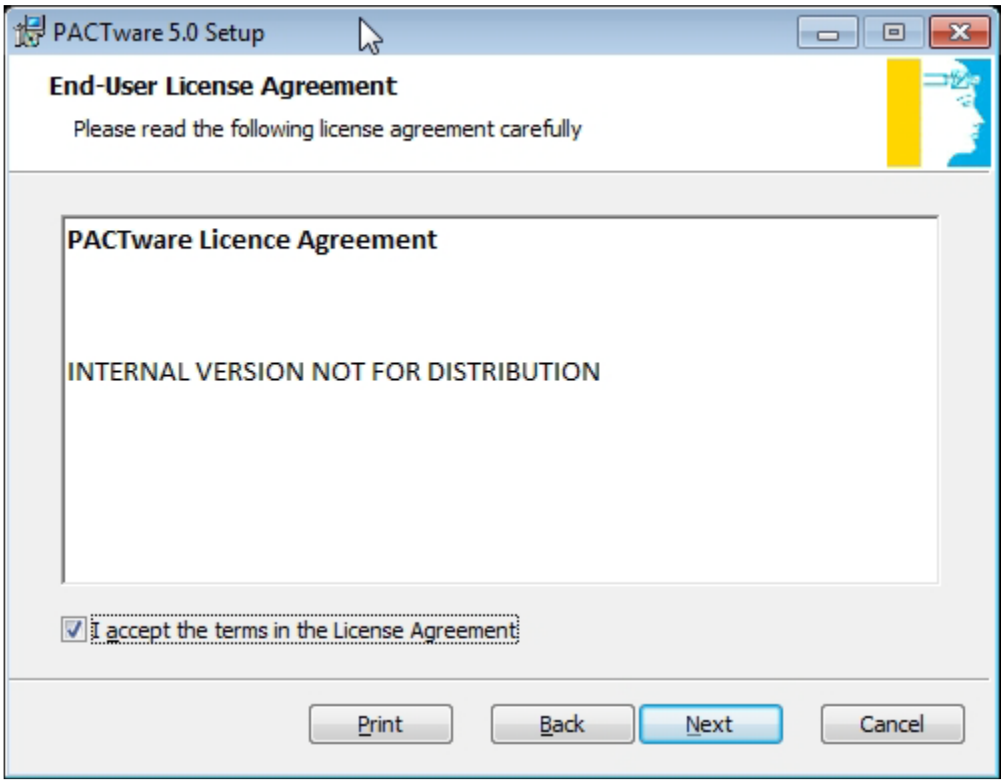
3. Select a language and confirm the window with OK:

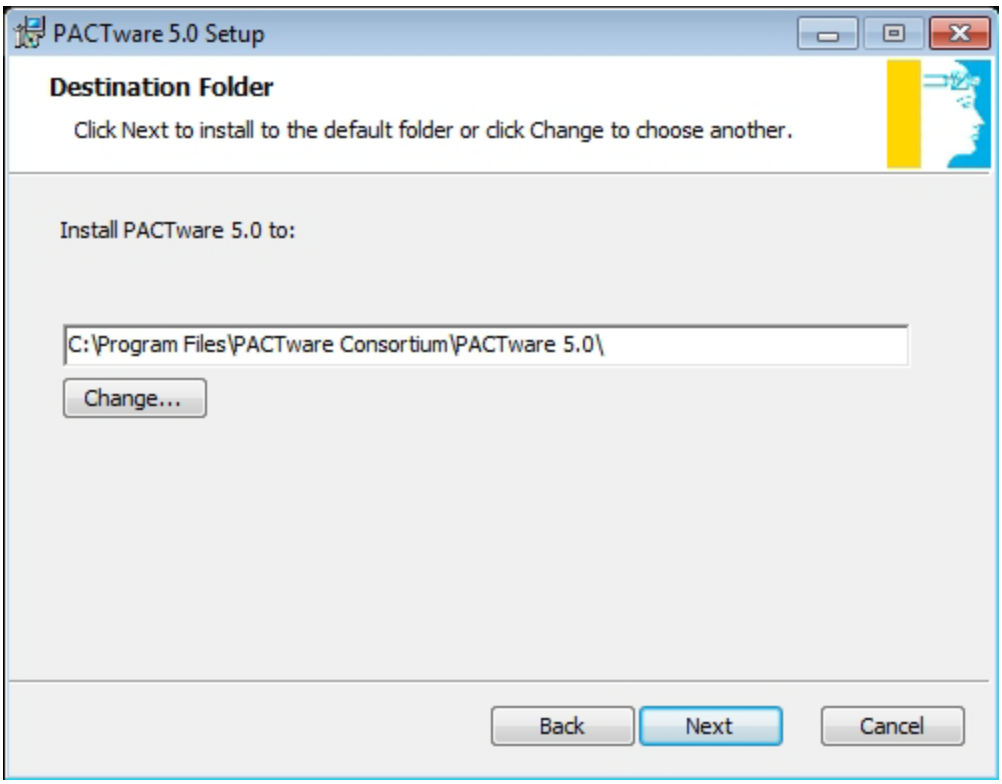


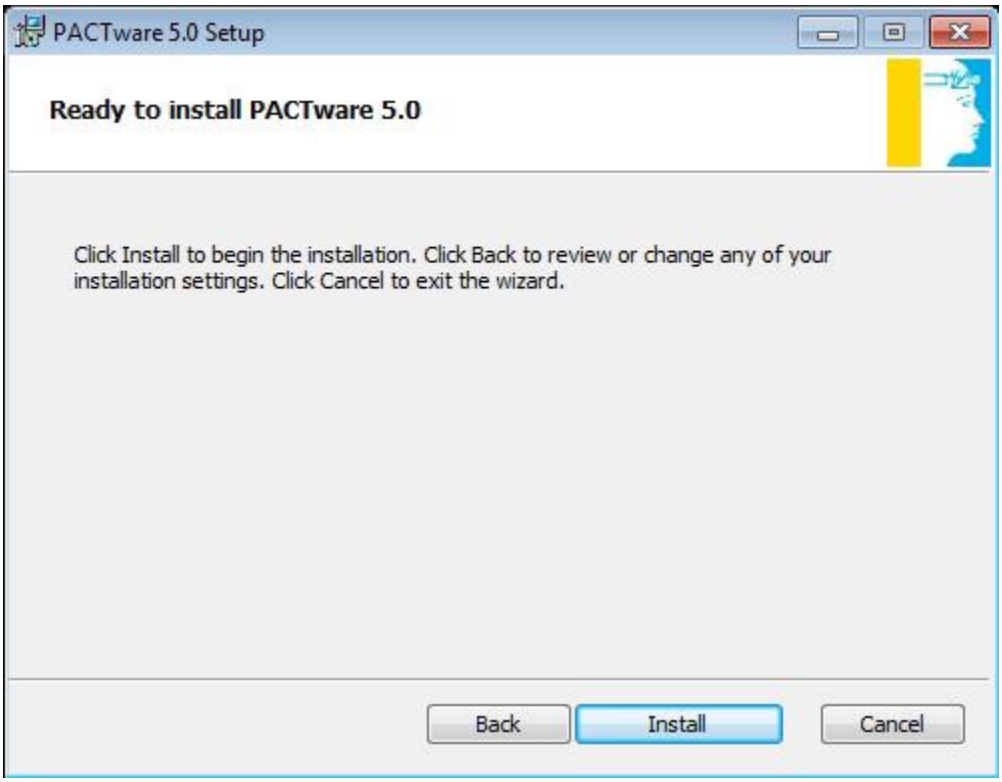


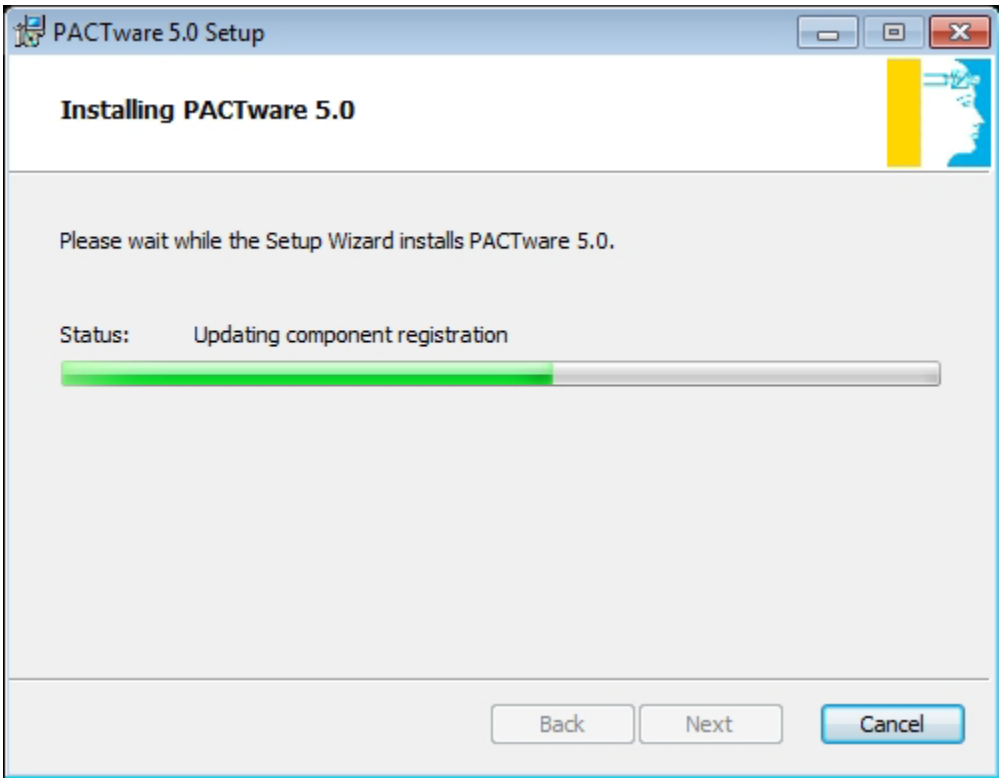
4. Select all. (Default).
5. Click on Install (Install).

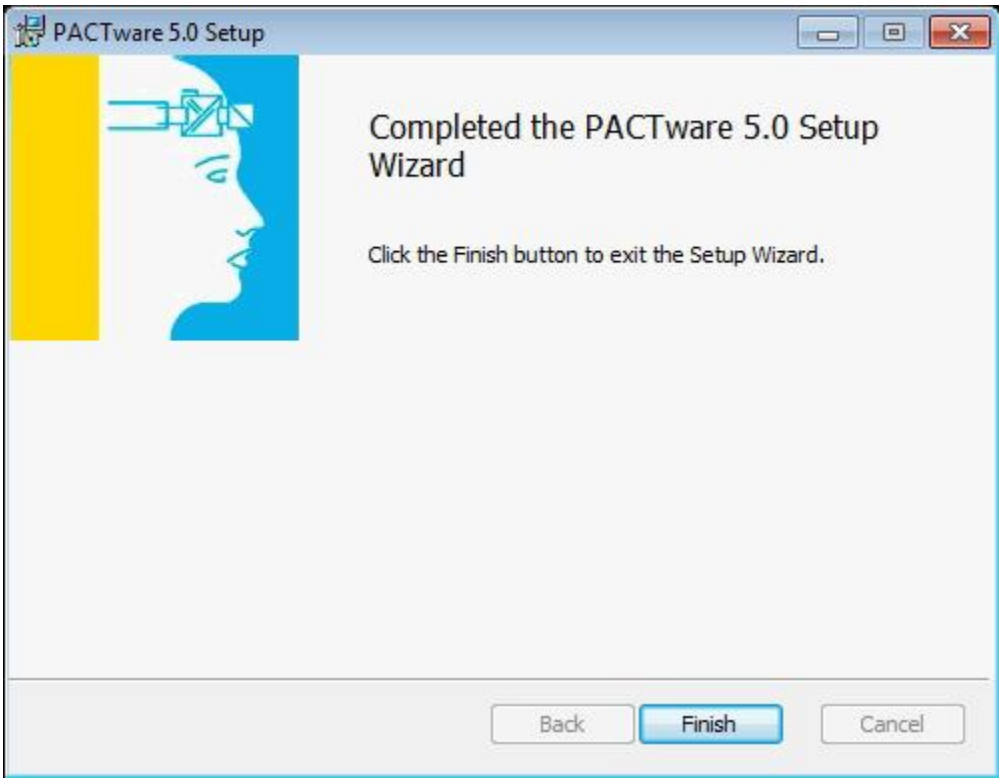
6. Follow the instructions of the setup wizard. Click “Next” to continue, “Back” to go back one step and “Cancel” to abort the installation.


PACTware 5.0 Setup
End-User License Agreement
Please read the following license agreement carefully
PACTware Licence Agreement
INTERNAL VERSION NOT FOR DISTRIBUTION
I accept the terms in the License Agreement
Print
Back
Next
Cancel


PACTware 5.0 Setup
Destination Folder
Click Next to install to the default folder or click Change to choose another.
Install PACTware 5.0 to:
C:\Program Files\PACTware Consortium\PACTware 5.0\
Change...
Back
Next
Cancel


PACTware 5.0 Setup
Ready to install PACTware 5.0
Click Install to begin the installation. Click Back to review or change any of your installation settings. Click Cancel to exit the wizard.
Back
Install
Cancel


PACTware 5.0 Setup
Installing PACTware 5.0
Please wait while the Setup Wizard installs PACTware 5.0.
Status: Updating component registration
Back
Next
Cancel

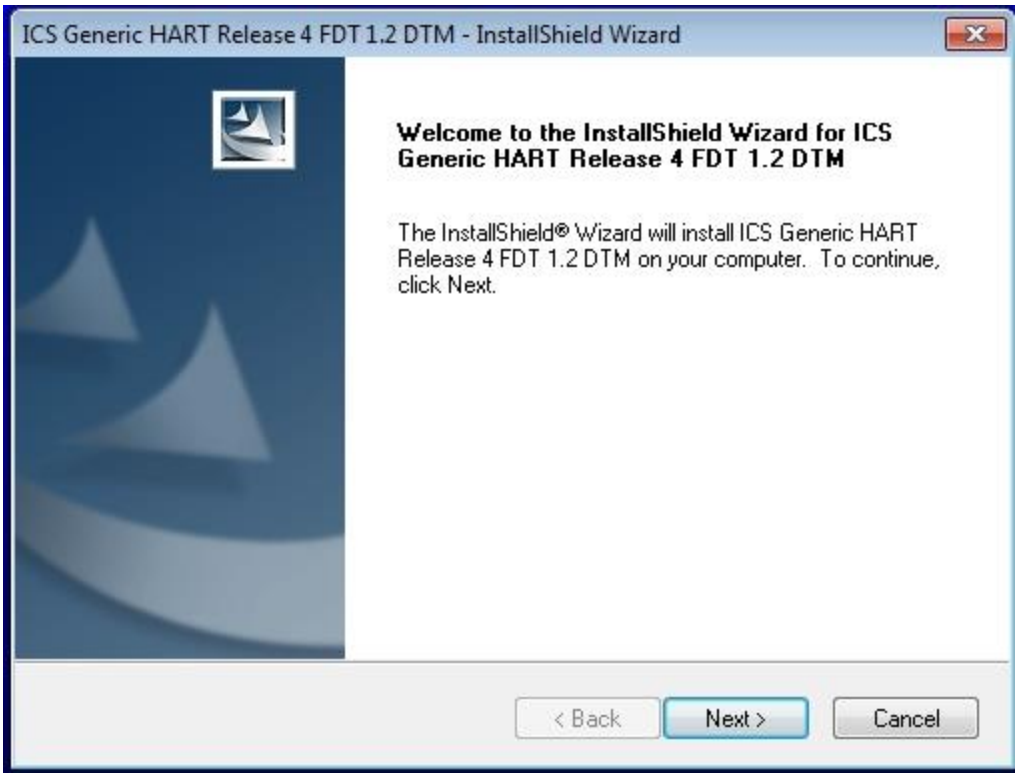


7. Click “Finish” to complete the installation of PACTware.

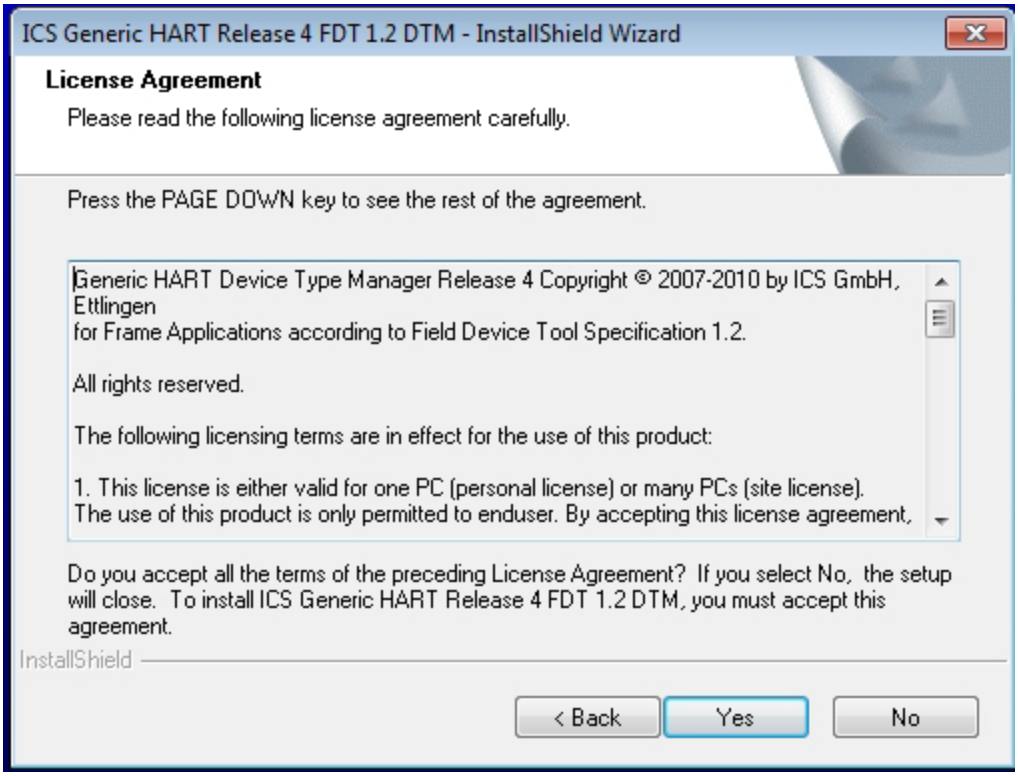
NOTICE **After the "PACTware" installation, the start window of the "ICS Generic HART FDT" installation appears.**

5.3.2 Part 2: ICS Generic HART FDT

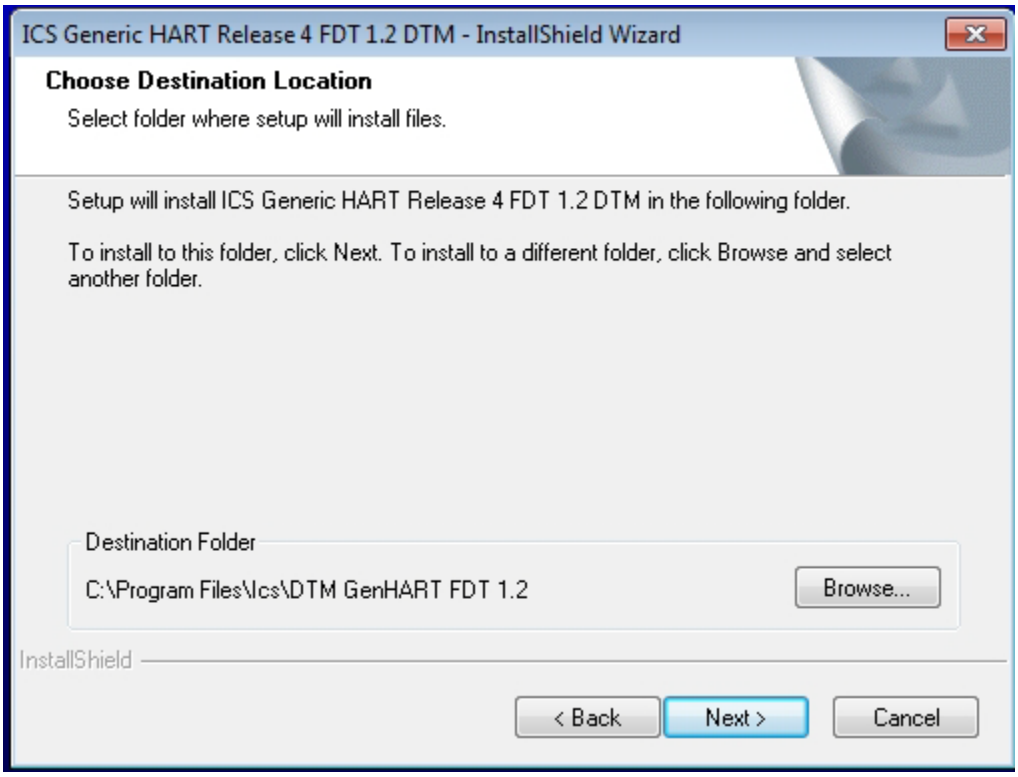
Please follow the instructions of the setup wizard.



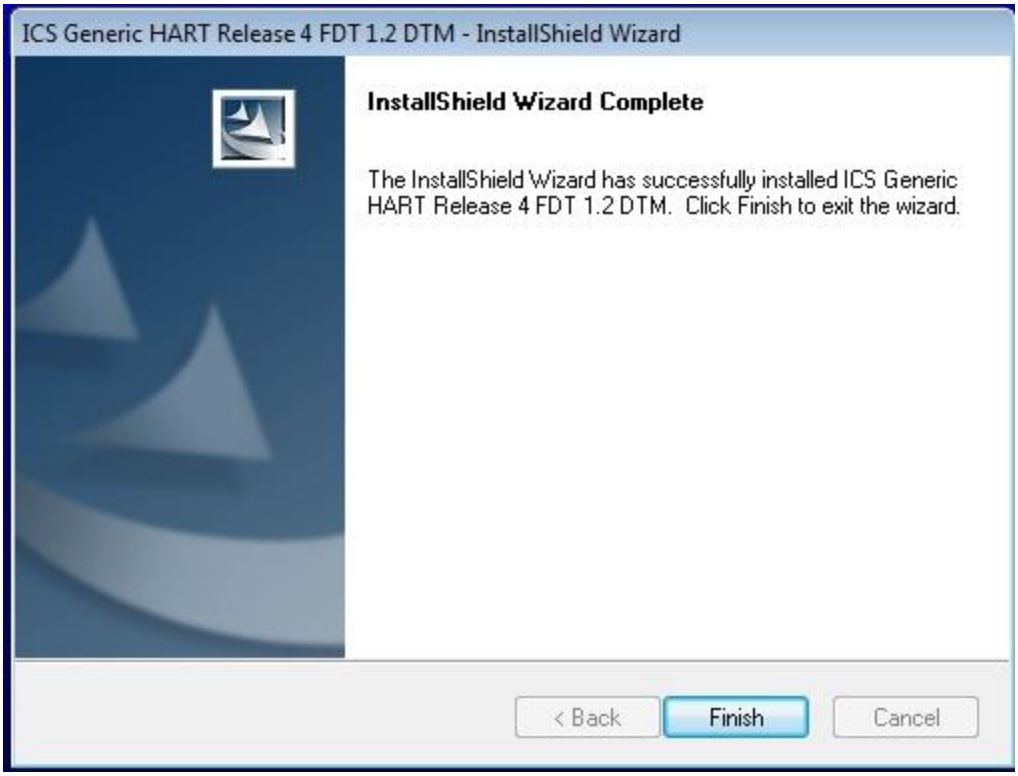
1. Click “Next” to continue, “Back” to go back one step and “Cancel” to abort the installation.



2. Click “Yes” to continue, “Back” to go back one step and “No” to cancel the installation.



3. Click “Next” to continue, “Back” to go back one step and “Cancel” to cancel the installation.



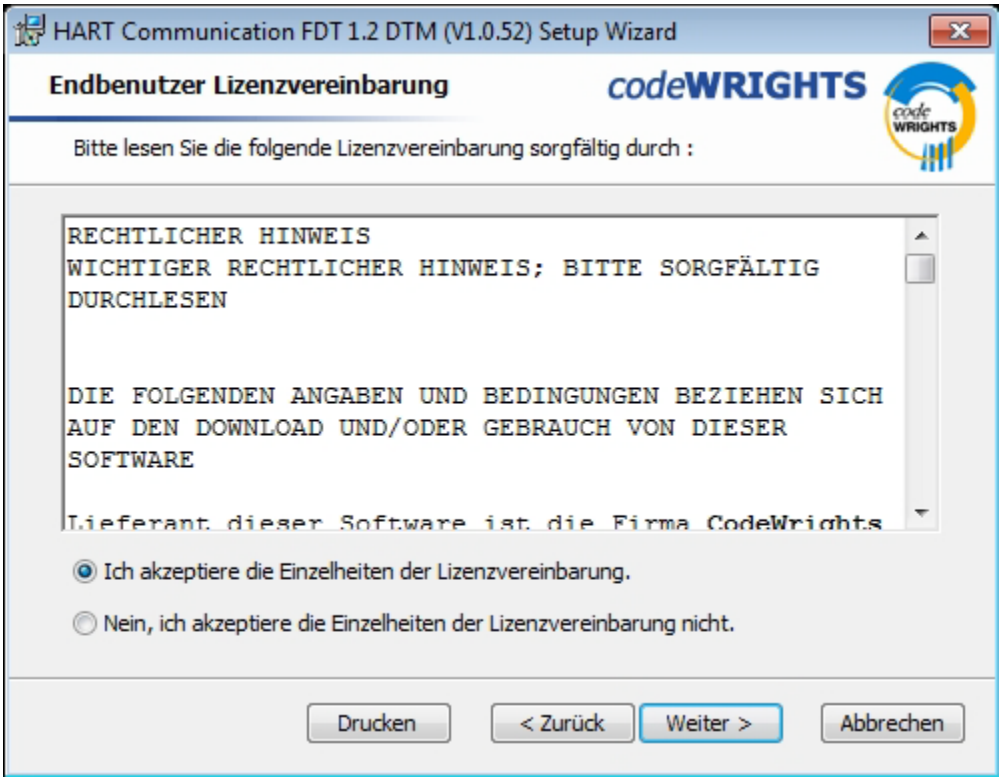
4. Click “Finish” to continue the installation.

NOTICE **Following the "ICS Generic HART FDT" installation, the start window of the “HART DTM Driver" installation appears.**

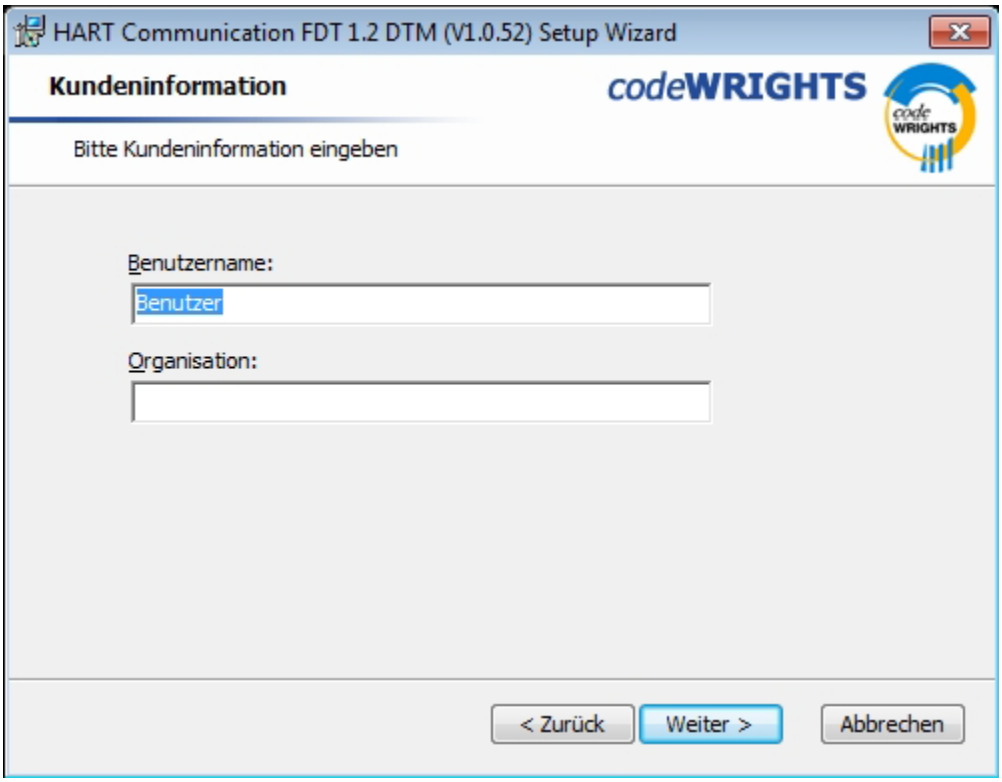
5.3.3 Part 3: HART DTM driver installation

Please follow the instructions of the setup wizard.

1. Click “Next” to continue, “Back” to go back one step and “Cancel” to cancel the installation.

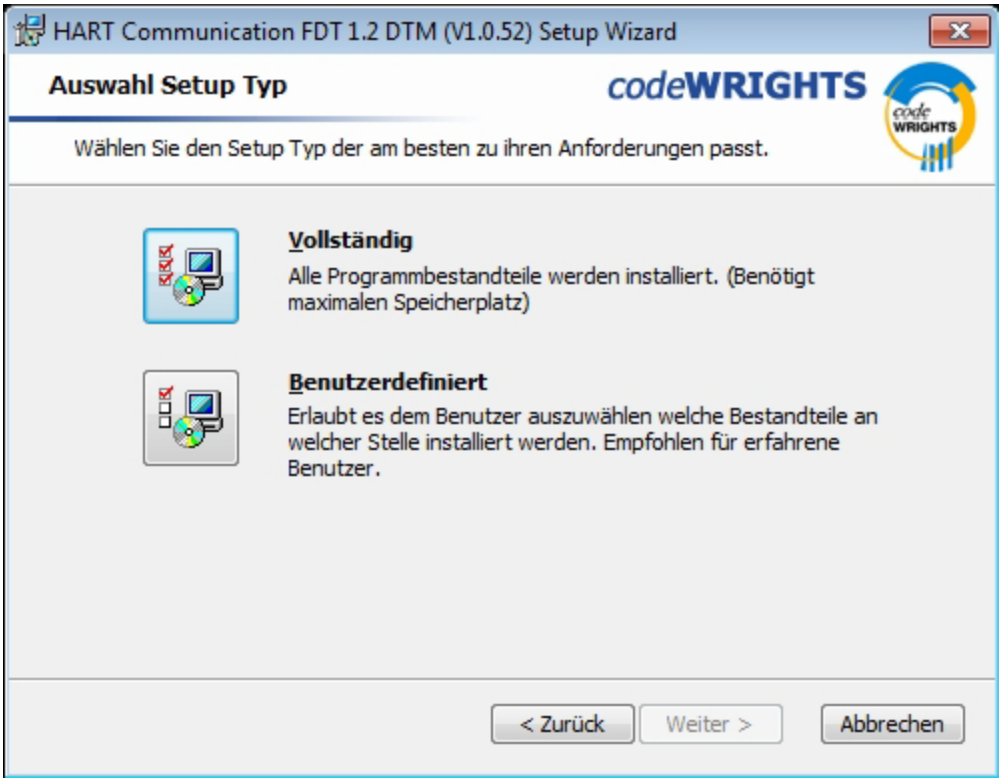


2. Select the "I accept..." button. Then click on “Next” to start the installation of the HART DTM driver.



3. Enter the user name and optionally the company/organisation.

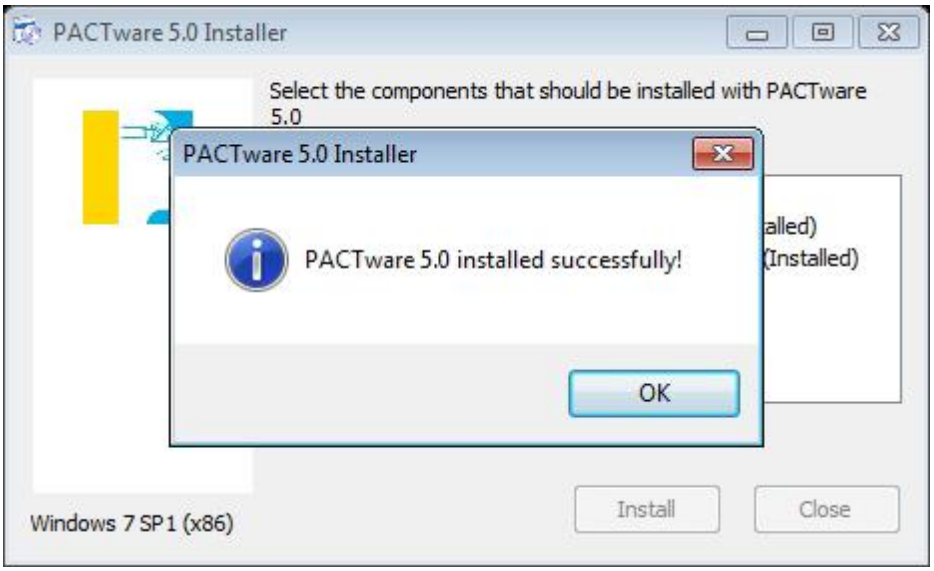
Then click “Next”.



4. Select “Vollständig” and then click “Next”.

5. Click on “Install” to start the installation.

6. Click “Finish” to complete the installation.



7. The installation of PACTware and HART DTM driver has been successfully completed.

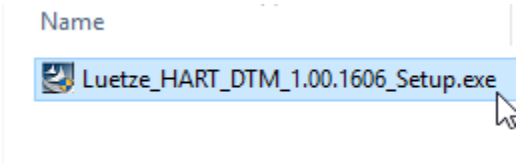
5.4 Installation of the Lütze DTM driver

LÜTZE and other well-known manufacturers use the PACTware software, which is based on FDT technology. PACTware can be used for planning, commissioning, during operation and for maintenance and servicing.

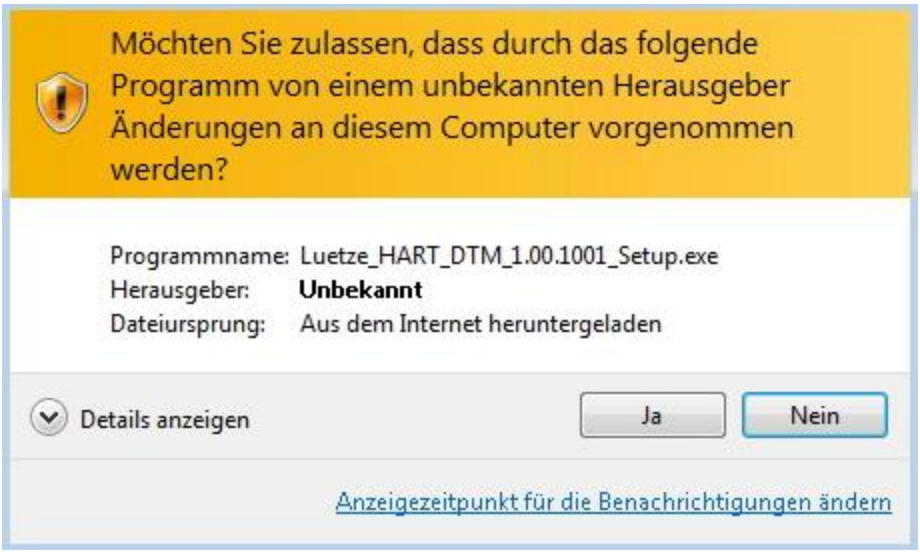
Special DTMs are used to operate devices or device families. The Device Type Manager (DTM) represents the specific device driver and contains all parameterisable properties. Thus, a display of values, graphic support for operation or a diagnostic function are possible. It is also possible to carry out offline or online parameterisation.

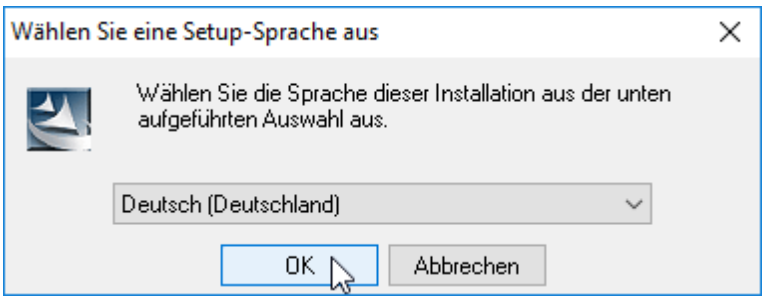
5.4.1 Installation

1. Unzip the downloaded zip file.
2. Start the installation by double-clicking on “Setup.exe”.

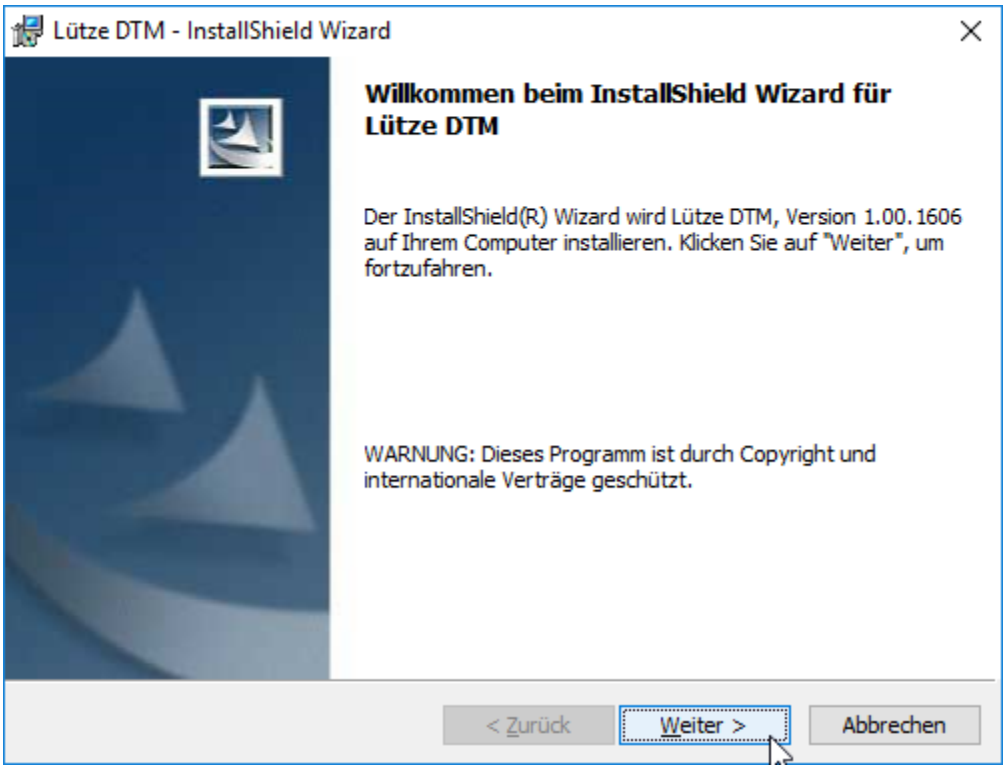


The following window "User Account Control" appears:



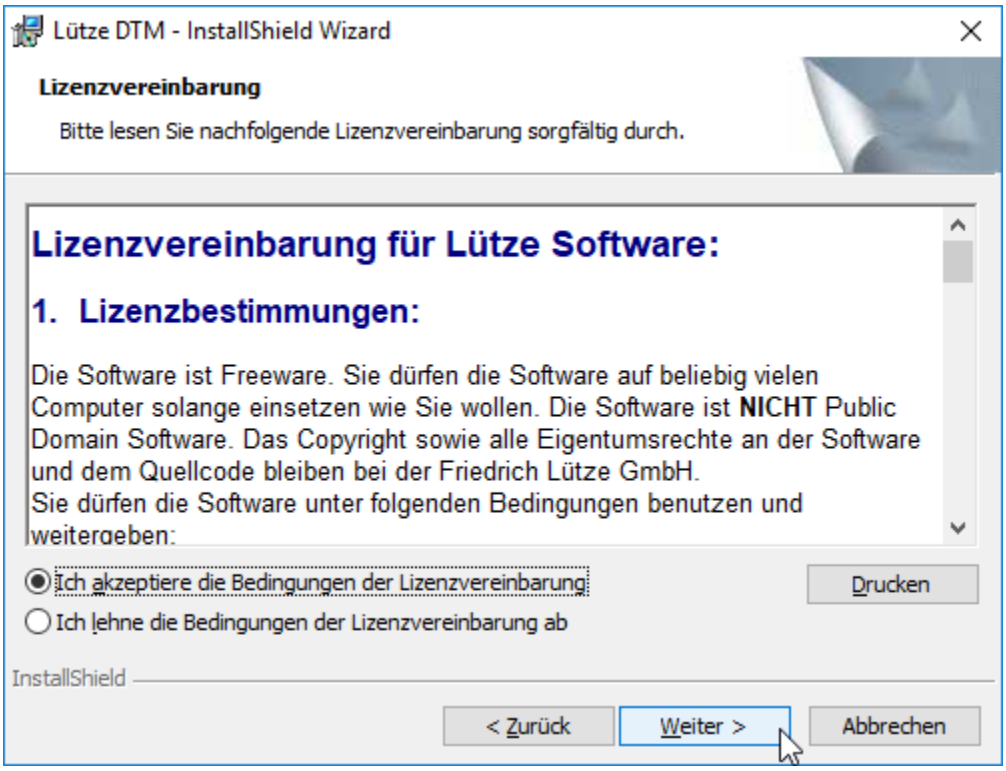


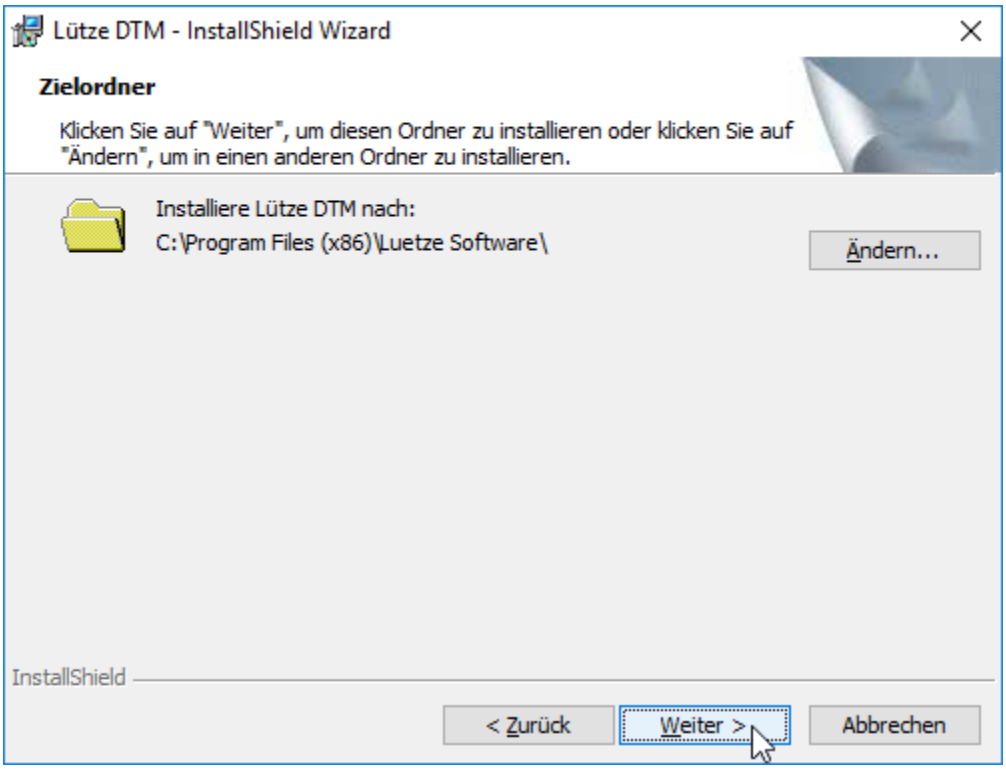
3. Choose a language.

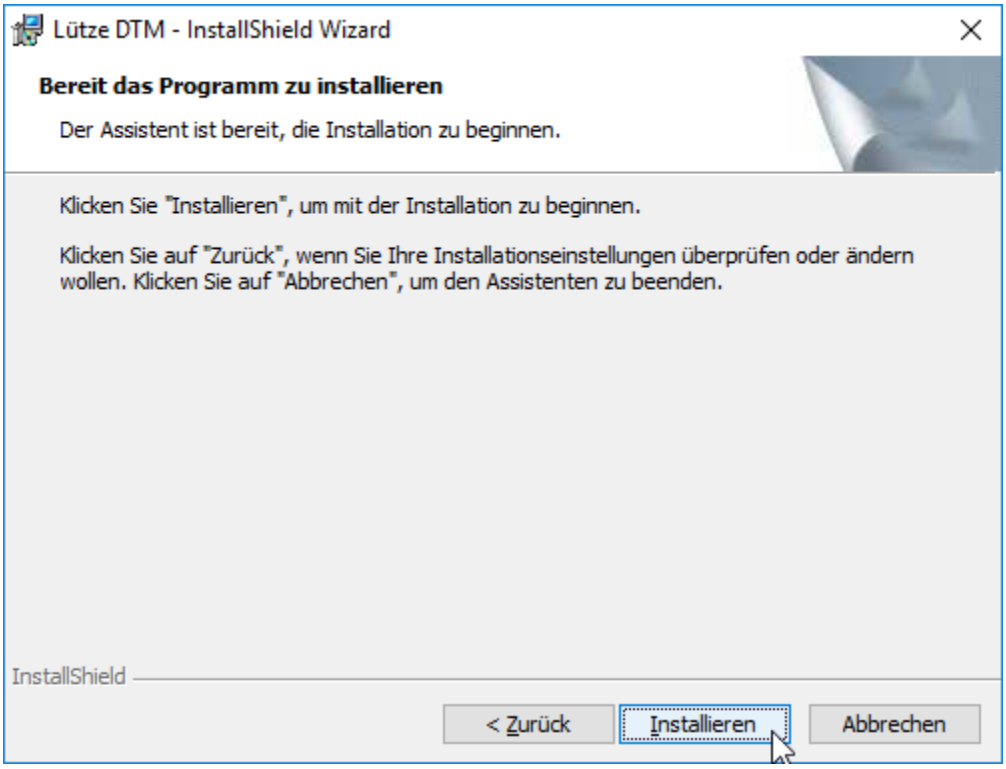


4. Follow the instructions of the setup wizard.

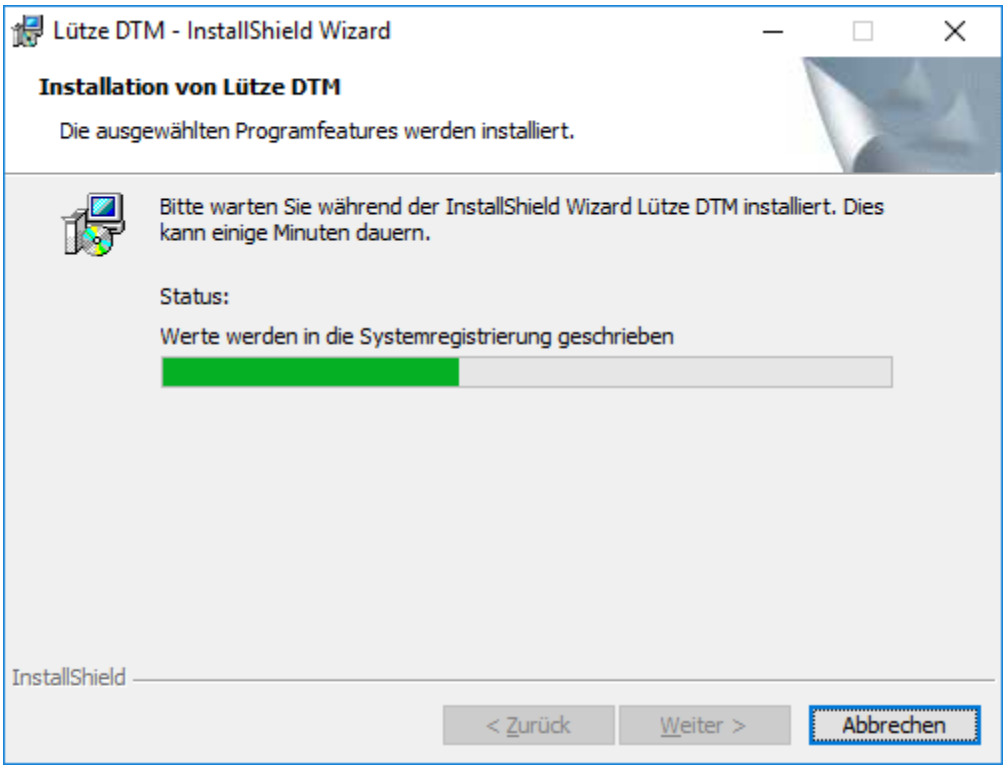
Click “Next” to continue, “Back” to go back one step and “Cancel” to cancel the installation.



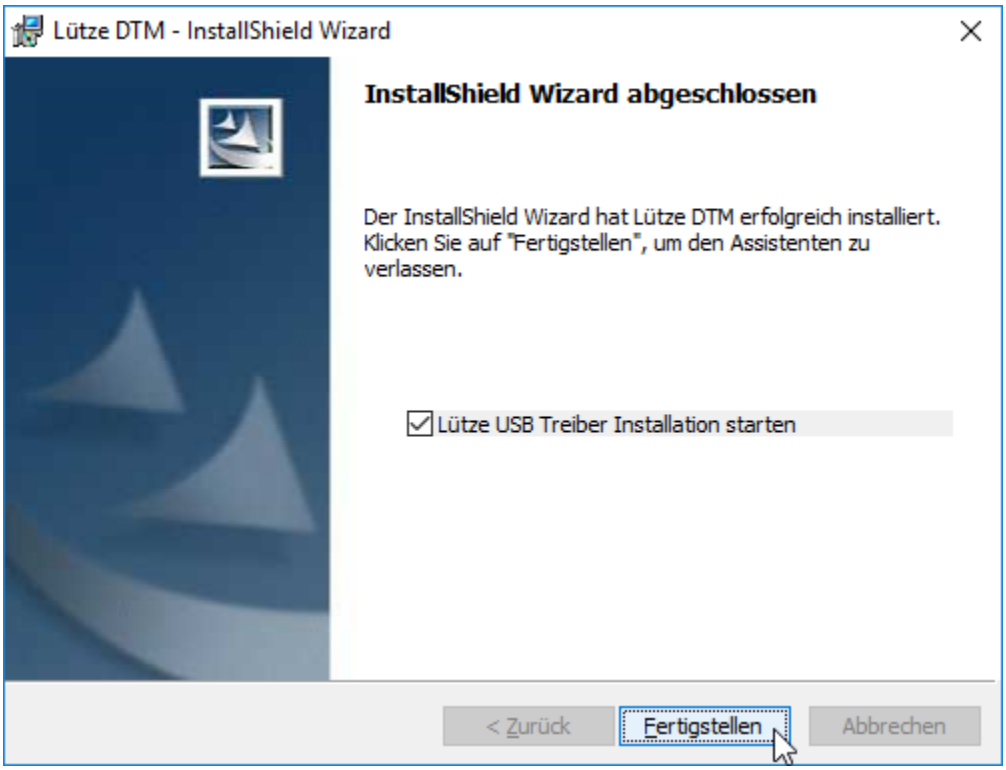




5. Click on “Install” to start the installation of the Lütze DTM.



6. Click “Finish” to complete the installation.



NOTICE

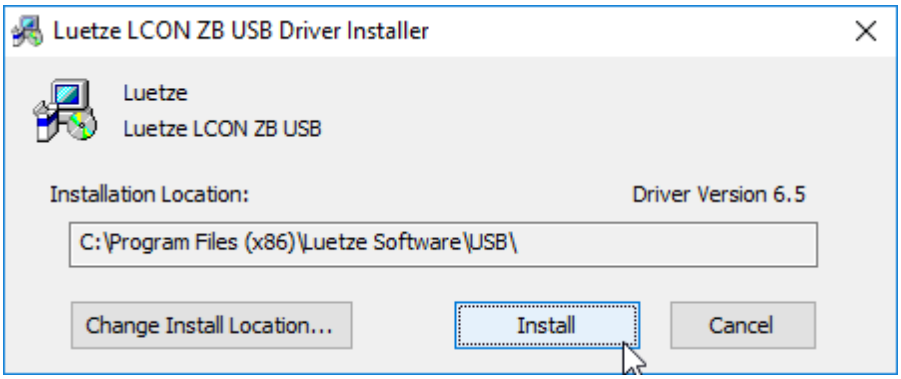
The USB service cable is required for parameterisation via FDT/DTM (art. no. 815900).

This can only be used if the USB driver is installed. The description of the installation follows on the next pages.

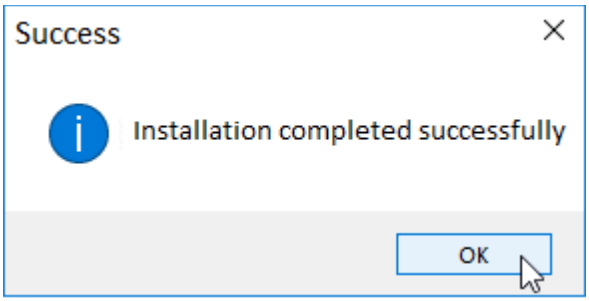
5.5 Installation USB driver

1. Unzip the downloaded zip file.
2. Start the installation by double-clicking on “Install.exe”.

The following window appears:



3. Click “Install” to start the driver installation



4. Click “OK” to complete the installation.

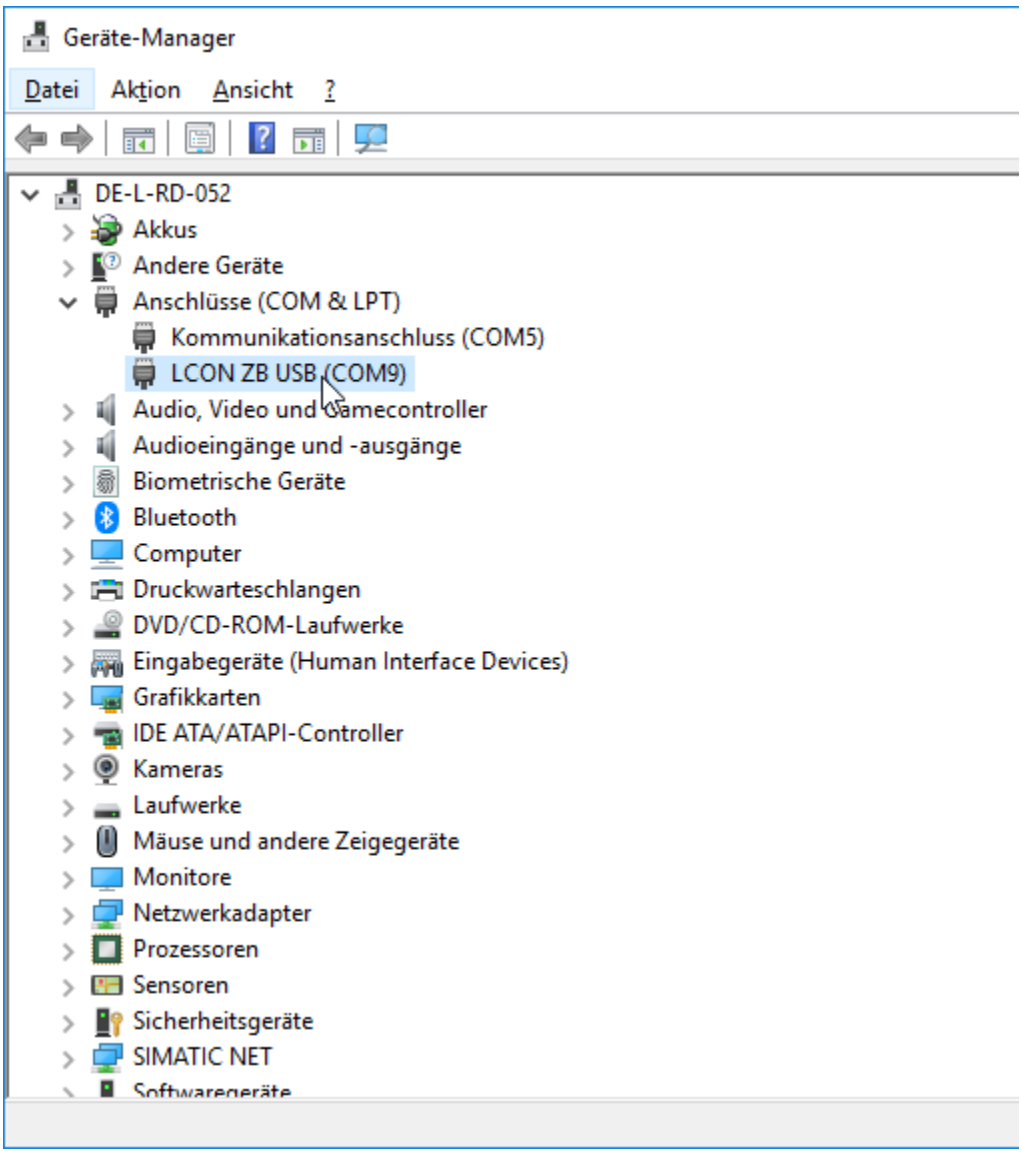
5.5.1 Installation test

1. Connect the control unit LCOS-AB-I to the computer via the LCON ZB USB cable to the computer.

2. Open the Windows device manager.

   Start>Control Panel>System>Hardware>Device Manager

3. After successful installation the following appears under Connections of the LCON ZB USB.



NOTICE **The USB service cable (art. no. 815900) can now be used for parameterisation (FDT/DTM).**

6 Error help

Error	Possible causes	Measures
DTM drivers are not recognised in PACTware		Call up the device catalogue in PACTware with F3 and select “Update device catalogue”. This is only possible for projects that are not open.
	LCON HART DTM Driver was not installed	Extract the Zip file and run the installation.
LCON ZB USB LED lights up not green	Connected to USB port 3.0	Connect the LCON ZB USB only to USB 2.0 ports.

7 Service

For general questions about the product or repair requests, please contact us:

Lütze Transportation GmbH
Bruckwiesenstraße 17-19
D-71384 Weinstadt
GERMANY / DEUTSCHLAND

Telefon: +49 7151 6053-545
Telefax: +40 7151 6053-6545

E-Mail: Sales.Transportation@luetze.de
Internet: www.luetze-transportation.com

8 Revision history

Version	Revision	Date
0.00	New document	06/30/2021

Subject to technical changes. This operating manual must be kept for further use!

LÜTZE TRANSPORTATION