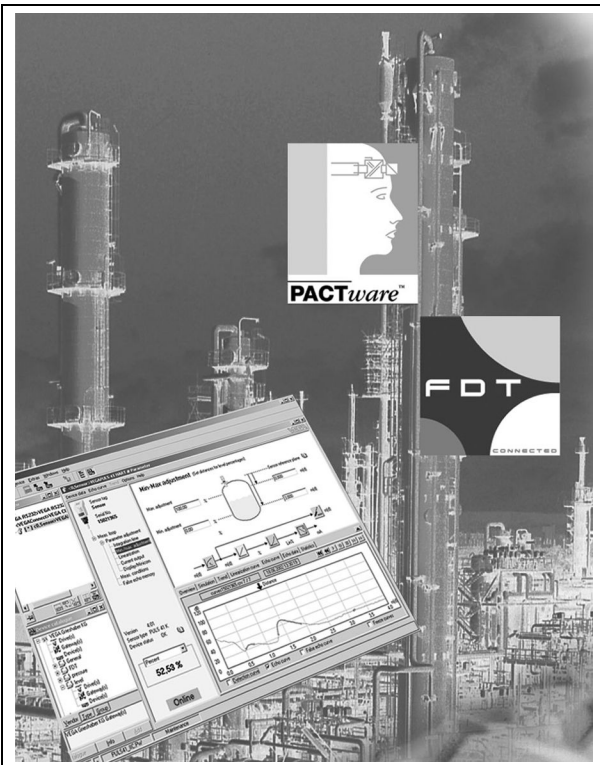


VEGA

Operating Instructions DTM-Collection/PACTware™ Installation, first steps



Indication
and adjustment



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1 About this document

1.1 Function

This operating instructions manual provides all the information you need for mounting, connection and setup as well as important instructions for maintenance and fault rectification. Please read this information before putting the instrument into operation and keep this manual accessible in the immediate vicinity of the device.

1.2 Target group

This operating instructions manual is directed to trained, qualified personnel. The contents of this manual should be made available to these personnel and put into practice by them.

1.3 Symbolism used



Information, tip, note

This symbol indicates helpful additional information.



Caution: If this warning is ignored, faults or malfunctions can result.

Warning: If this warning is ignored, injury to persons and/or serious damage to the instrument can result.

Danger: If this warning is ignored, serious injury to persons and/or destruction of the instrument can result.



Ex applications

This symbol indicates special instructions for Ex applications.



List

The dot set in front indicates a list with no implied sequence.



Action

This arrow indicates a single action.



Sequence

Numbers set in front indicate successive steps in a procedure.

2 For your safety

2.1 Authorised personnel

All operations described in this operating instructions manual must be carried out only by trained specialist personnel authorised by the operator.

During work on and with the device the required personal protection equipment must always be worn.

2.2 Appropriate use

PACTware™ (Process Automation Configuration Tool) is a manufacturer and fieldbus-independent software for adjustment of all types of field instruments. The corresponding VEGA instruments can be adjusted with the DTMs (Device Type Manager) supplied by VEGA.

2.3 Warning about misuse

Inappropriate or incorrect use of an instrument adjusted with PACTware™ can give rise to application-specific hazards, e.g. vessel overflow or damage to system components through incorrect mounting or setting.

2.4 General safety instructions

Installation and use of the software are carried out at your own risk. We do not accept liability for consequential damage.

2.5 Environmental instructions

Protection of the environment is one of our most important duties. That is why we have introduced an environment management system with the goal of continuously improving company environmental protection. The environment management system is certified according to DIN EN ISO 14001.

Please help us fulfil this obligation by observing the environmental instructions in this manual:

- Chapter "*Packaging, transport and storage*"
- Chapter "*Disposal*"

3 Product description

3.1 Configuration

Scope of delivery

The scope of delivery encompasses:

- Data medium DTM Collection:
 - .NET Framework
 - the current PACTware™ version
 - all currently available VEGA DTMs in free-of-charge basic version
 - HART protocol driver from Codewrights GmbH
 - Generic HART-DTM from ICS GmbH
 - Softing Profibus DTM
- software product certificate (only with purchased Professional Version):
 - Licence number
 - Serial number
 - Order number
 - licence regulations
- operating instructions manual Installation, first steps

3.2 What is PACTware™/FDT/DTM?

PACTware™

PACTware™ (Process Automation Configuration Tool) is manufacturer and fieldbus-independent software for adjustment of all types of field instruments. The DTMs (Device Type Manager) of the respective field device manufacturers are integrated into this open, freely available supporting program via the interface specification FDT 1.20. To adjust a field device, a DTM corresponding to the instrument type is always required (this DTM is developed and sold by the respective field device manufacturer).

FDT

FDT (Field Device Tool) is a standardised interface description that describes the interaction between DTM and frame application, e.g. PACTware™. FDT controls the data exchange between the different DTMs and the supporting program.

DTM

The DTM (Device Type Manager) is the actual adjustment module for sensors and field components. It contains all instrument-specific data and functions of a sensor type and delivers all graphic elements and dialogues for adjustment. A DTM is not a stand-alone, executable software but requires a supporting program, like PACTware™, from which it can run.

DTM Collection

The VEGA DTM Collection, a software package consisting of PACTware™ with VEGA DTM as well as various standard communication DTMs, is a new adjustment software for all currently available, communication-capable VEGA sensors and replaces the previous Visual VEGA Operating software (VVO). Also VEGAMET 624, VEGAMET 625 signal conditioning instruments as well as VEGASCAN 693 can be operated completely via the corresponding DTM. For VEGALOG 571 processing systems with DTM CPU (CPU card from version 2.0) there is also complete DTM support.

Parameter adjustment of the VEGAMET series 500 and 614 signal conditioning instruments as well as VEGALOG 571 with CPU version < 2.0 is not supported. For parameter adjustment of these instruments, VVO is still required. Access to the digital sensors (Profibus PA, VBUS) connected to VEGALOG 571 is possible with the "VEGALOG 571" DTM, independent of the software version.

3.3 VEGA DTM

All instrument DTMs from VEGA are available as free-of-charge basic version and as purchasable professional version. In the basic version, only the functions Print and Save are not enabled. A basic version becomes a professional version by entering the licence number. The current DTM Collection is available as a free-of-charge download from the Internet via <http://www.vega.com> or can be ordered from VEGA for a small token fee.

VEGA offers individual DTMs for more than 100 instrument types. The DTMs are grouped in the following three installation packages:

- VEGA DTM communication:
 - VEGA-RS232
 - VEGACONNECT
 - VEGA-ETHERNET
 - VEGAMET/VEGASCAN
 - VEGALOG
 - PLICSRADIO
- VEGA DTM series 40/50 and D series:
 - VEGABAR40/D80 series
 - VEGAFLEX 50
 - VEGAPULS 40/50
 - VEGASON 50

- VEGA DTM plics[®] sensors:
 - VEGABAR 50/60
 - VEGACAL 60
 - VEGAFLEX 60
 - VEGAPULS 60
 - VEGASON 60
 - VEGA Service DTM

Licensing

Upgrading to Professional version requires a licence number for each measuring principle.

- Radar DTM (VEGAPULS series 40/50/60)
- Ultrasonic DTM (VEGASON series 50/60)
- Guided microwave DTM (VEGAFLEX series 50/60)
- Pressure/Hydrostatic DTM VEGABAR series 40/50/60 and pressure transmitter series D80
- Capacitive DTM (VEGACAL series 60)
- Signal conditioning instrument DTM (VEGAMET 624/625, VEGASCAN 693, VEGALOG)

As an alternative, you can buy a collective licence including all above mentioned individual DTMs.

The licence number can be entered during the installation or afterwards in the Windows start menu under "*VEGA - DTM Tools - DTM Licensing*". The prices for the software product certificate are available from the responsible VEGA agency. When you order the software product certificate, you will get in addition the current DTM Collection CD.

The licence regulations allow you to copy a VEGA DTM any number of times and use it on any number of computers, as long as you are using the DTM basic version. A VEGA DTM professional version may be used on only one computer. You are only allowed to release that number of DTMs on different computers from the basic version to the professional version for which you have bought licences.

Depending on the requirement, there are also cheaper multi-user licences available. Please ask your VEGA agency.

3.4 Storage and transport

The packaging consists of easily separable monomaterials. These materials are environment-friendly and recyclable. Dispose of the packaging material via specialised recycling companies.

Packaging

Storage and transport conditions

No special storage and transport conditions are necessary.

4 Installation

4.1 System requirements

General information

Pentium 500 MHz or higher, min. 128 MB RAM, 200 MB free memory, Windows XP/2000/ME/NT 4.0 (Service Pack 6), Internet Explorer 5.0 or higher, .NET Framework, graphic resolution 1024x768 or higher, Microsoft-compatible mouse, RS232/USB/Ethernet interface.

Windows NT/2000/XP

To install the software under Windows NT/2000/XP systems you will need administrator rights. Remember that the installation is complete only after a restart of the computer and a login with administrator rights is again necessary.

4.2 Installation of PACTware™ and DTM

- 1 Before installation, all running programs should be exited.
- 2 Insert the CD, the installation program will be started automatically. If the CD does not start automatically, the installation can be started by a double click to the file "*autorun.exe*".

The dialogue appearing now contains a list with all installation programs with corresponding short description available on the CD. Select the requested program parts and execute the installation of the individual programs one after the other.

If the installation packages are downloaded from the Internet, these files must be unpacked first and then started via "*setup.exe*".



Note:

For the installation of PACTware™ 3.5, the .NET Framework 1.1 must be available. If .NET is already installed you can skip this point.

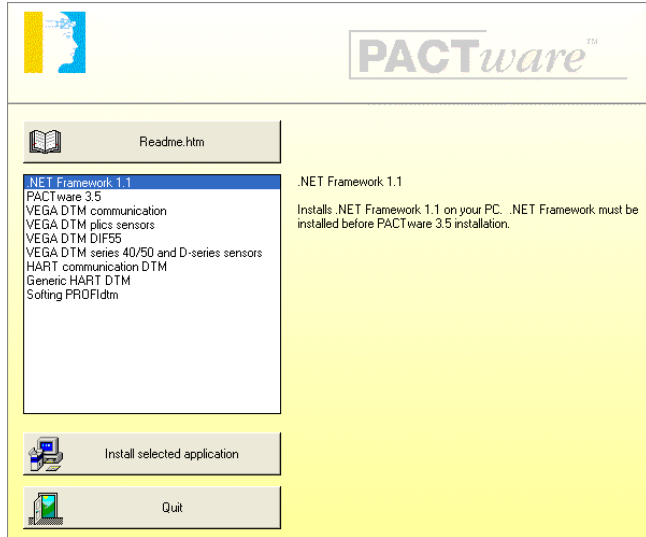


Fig. 1: Installation dialogue

- 3 The installation of PACTware™ without choosing a VEGA-DTM is not useful since without VEGA-DTM the parameter adjustment of a VEGA instrument is not possible. The installation of the "*HART protocol driver*" is only necessary if a HART® FSK modem is used instead of a VEGA-CONNECT. Install the Profibus-DTM if you are using a Softing Profibus card.
- 4 At the end of the installation of a VEGA-DTM installation package, a window opens in which you can enter the licence number of your software product certificate (for the purchased Professional Version). If you want to use the DTM in the basic version, you can exit this window by pushing the button "*Cancel*".

5 Operation

5.1 Start PACTware™

Start PACTware™ via the Windows start menu. For the first log in, select the user "Administrator" and enter the password "manager". Please enter uppercase/lowercase letters correctly. This password can be modified under the PACTware™ menu item "Extras - User management". Here, you can assign a password for the users with limited rights.



Information:

To ensure that all instrument functions are supported, you should always use the latest DTM Collection. Furthermore all not described functions are included in older firmware versions. For many instruments, the latest instrument software can be downloaded from our homepage. The transmission of the instrument software is carried out via PACTware™ and an individual interface. A description of the update sequence is also available in the Internet.

5.2 Create a project

Starting point for the adjustment of all types of field devices is the partial or complete mapping of the instrument network in a PACTware™ project. For this purpose, PACTware™ provides an area, the instrument catalogue, in which all installed DTMs are displayed. Typically the DTMs have the same name as the instruments that are adjusted by them. In addition, PACTware™ provides a second area, the project window, in which the instrument network is mapped.

Generate a project automatically

The easiest and quickest way to generate an instrument network in the project window of PACTware™ is via the VEGA project assistant. It is available as manufacturer-specific extension module in all VEGA DTM Installation package and extends hence automatically the functions of PACTware™. The automatic generation of projects by means of the VEGA project assistant, however, is only possible for instrument networks in which only VEGA instruments are used.

You open the VEGA project assistant from the PACTware™ menu board under "Project - VEGA project assistant". The window "VEGA project assistant" opens and you just have to select the requested interface for automatic generation of the project. Further information on the VEGA project assistant is

available in the corresponding online help. The online help can be opened directly in the window "*VEGA projekt assistant*".

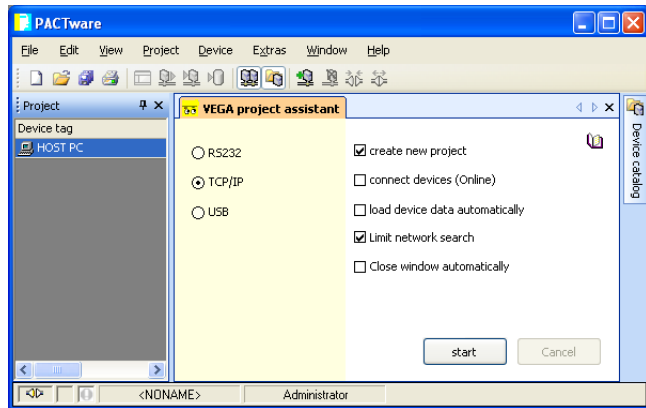


Fig. 2: Project assistant

Generate a project manually

To create a project in the project window, paste in the DTMs from the instrument catalogue - one DTM for each actually used instrument. The entry HOST-PC is the starting point for pasting in the DTMs. The requested DTM can be brought over from the instrument catalogue to the project window with a double click or Drag and Drop. In the project window you can change the names of the selected instruments for better differentiation. If the project window or the instrument catalogue are not visible, they can be activated in the menu bar under "View".

5.3 Project examples

Project creation for a VEGA sensor

Connection to the sensor

The following example shows a typical project containing a sensor connected e.g. to a PLC. We recommend using the "*VEGA projekt assistant*" as this considerably facilitates project creation and helps avoid errors. All necessary components are found automatically and integrated in the project.

In case the planning is nevertheless carried out manually, e.g. when creating an offline project, the following DTMs must be added to the project tree:

- 1 First of all a driver must be selected which enables communication via PC. Select the "*VEGA RS232*" DTM from the device catalogue. Via this driver, the connection

with VEGACONNECT is established. With a double click on the RS232 DTM in the project window, you can select and configure the requested interface of your PC. The activation of modem operation and input of phone numbers is also included there.

- 2 As a second instrument, a Gateway (interface converter) must be selected, e.g. a VEGACONNECT. It is available either as HART, I²C or VBUS DTM, depending on which sensor electronics or sensor interface the connection is made to. For parameter adjustment directly on the programming interface of an individual sensor, you have to select "VEGACONNECT (I²C)" DTM. If a HART sensor is to be adjusted via the 4 ... 20 mA cable, "VEGACONNECT (HART)" DTM must be used.
- 3 The last step is the selection of the sensor on which the parameter adjustment is to be carried out. Select the suitable sensor DTM from the instrument catalogue and paste it in the project window. If the sensor is already connected, PACTware™ can search for it automatically. In this case, VEGACONNECT must be switched to online mode (right mouse key "Connect"). Then you can start the automatic search function via the right mouse key "Additional functions - Device search".

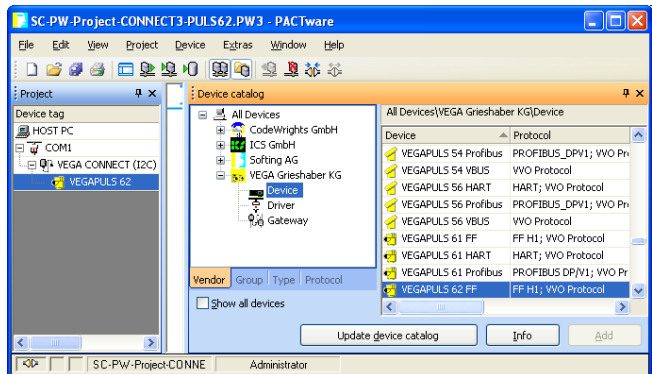


Fig. 3: Project with VEGAPULS

Project creation VEGAMET with sensor

The following example shows a typical project containing a sensor connected to a VEGAMET 624. The communication is made via the I²C interface in the front and a VEGACONNECT. We recommend using the "VEGA project assistant" as this considerably facilitates project creation and helps avoid errors.

Connection to VEGAMET

All participating components are found automatically and integrated in the project.

In case the planning is nevertheless carried out manually, e.g. when creating an offline project, the following DTMs must be added to the project tree:

- 1 First of all a driver must be selected which enables communication via PC. Select the "VEGA RS232" DTM from the device catalogue. Via this driver, the connection with VEGACONNECT is established. With a double click on the RS232 DTM in the project window, you can select and configurate the requested interface of your PC. The activation of modem operation and input of phone numbers is also included there.
- 2 As a second instrument, a gateway must be selected by which the protocol conversion of the VEGACONNECT interface converter can be mapped. For parameter adjustment directly on the programming interface of the VEGAMET sensors, you have to select "VEGACONNECT (I²C)" DTM.
- 3 The DTM for the next instrument, e.g. a VEGAMET 624 can be also found in the category "Gateways". Now select the "VEGAMET 624" DTM from the instrument catalogue and paste it into the project window. By double clicking on the VEGAMET 624 DTM in the project window, you can carry out the requested settings for VEGAMET 624.
- 4 The last step is the selection of the sensor on which the parameter adjustment is to be carried out. Select the suitable sensor DTM from the instrument catalogue and paste it in the project window. If the sensor is already connected, PACTware™ can search for it automatically. In this case, VEGAMET 624 must be switched to online mode (right mouse key "Connect"). Then you can start the automatic search function via the right mouse key "*Additional functions - Device search*".

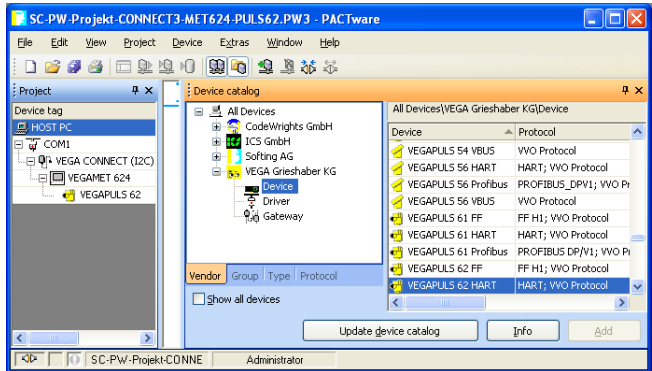


Fig. 4: Project VEGAMET with VEGAPULS

Connection via VEGACOM 558/Ethernet

Project creation VEGALOG and Profibus PA sensor

The following example shows a typical VEGALOG project with EP card and Profibus sensors. We recommend using the "VEGA project assistant", this facilitates the creation of projects considerably and errors during addressing of the VEGALOG module cards and sensors are avoided. All existing cards are found automatically and added to the project. All connected Profibus sensors are also taken over automatically into the project.

In case the planning is nevertheless carried out manually, e.g. when creating an offline project, the following DTMs must be added to the project tree:

- 1 First of all a driver must be selected by which the communication via the PC can be carried out. Select the "VEGA Ethernet" DTM from the instrument catalogue. With this driver, the connection to VEGACOM 558 in the VEGALOG 571 processing system is established. When the "VEGA Ethernet" DTM in the project tree is selected, you can later adjust the IP address of the VEGACOM 558 module card in the PACTware™ menu under "Device data - Add'l functions - Change DTM addresses". The implementation of this setting is only possible if a suitable DTM (e.g. VEGACOM 558) has already been added to the project tree.
- 2 Finally the DTM "VEGALOG 571" must be added. This DTM represents the VEGALOG 571 processing system. In this DTM, measurement loops are created and processed later on.

When the "VEGALOG 571" DTM in the project tree is selected, you can later adjust the card addresses for the VEGALOG module cards in the PACTware™ menu under "Device data - Add'l functions - Change DTM addresses". The implementation of this setting is only possible if a corresponding DTM (e.g. VEGACOM 558) has already been added to the project tree.

- 3 Then the DTMs for the individual VEGALOG module cards must be added to the project tree. These are in this example: VEGALOG CPU, VEGACOM 558, VEGALOG 571 EP.
- 4 The two DTM types "VEGALOG 571 EP" and "VEGALOG 571 EV" are VEGALOG module cards for connection of digitally communicating VEGA sensors. This means appropriate sensor DTMs can be added to these cards. Select the suitable sensor DTM from the device catalogue and transfer it into the project window.

If the sensor is already connected, it is possible to search for it with PACTware™. In this case, the VEGALOG 571 DTM must be in online mode (right mouse key - "Connect"). Then the automatic search function can be started via the right mouse key - "Add'l functions - Instrument search".

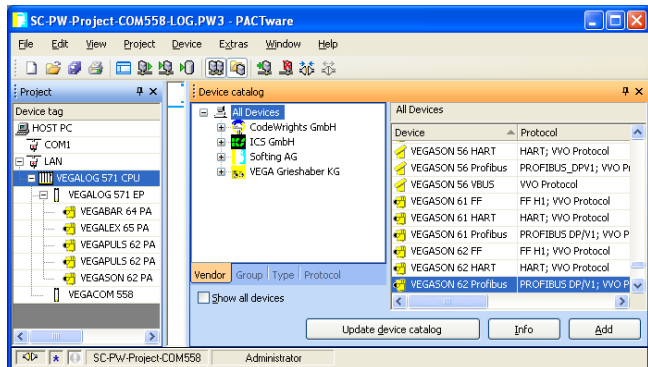


Fig. 5: Project VEGALOG 571 with Profibus PA sensors

5.4 Parameter adjustment

After the project was created, the parameter adjustment of the instrument can be started. This is done via double click to the requested DTM in the project window or via the right mouse key by selecting "Parameter".

In the following procedure, a difference is made between offline and online mode.

Offline mode

The project can be prepared, created and stored in offline mode without instruments being connected. Later these data can be transferred in online mode to the instruments now being ready for operation. Keep in mind that saving of these data on the hard drive is only possible in the Professional version with costs.

Online mode

In online mode, the instruments on which the parameter adjustment is to be carried out must be connected and ready for operation. By selecting the appropriate DTM with the right mouse key and the command "Connect", the online mode is set up for operation. After double clicking, connection is initiated which simultaneously checks the communication, the sensor type and additional parameters. If necessary, all parameters will be transferred automatically. Via the DTM menu item "Device data - Read data from device", all parameters of the sensor can be loaded anytime. All settings which are carried out now must be transferred afterwards to the instrument. This can be done via the DTM menu item "Device data - Write data to device".

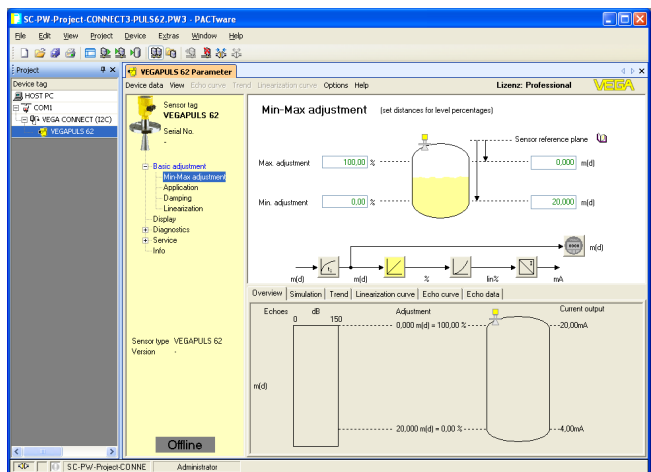


Fig. 6: DTM view, VEGAPULS 62 - HART

**Information:**

Detailed explanations to the parameter adjustment and project creation are available in the online help of PACTware™ and the DTMs. Also consult the operating instructions manual of the corresponding instrument for setup and correct parameter adjustment.

6 Maintenance and fault rectification

6.1 Maintenance/Update

PACTware™ and VEGA DTMs are maintenance-free. For the purpose of fault rectification or integration of new functions, software updates will be available in certain cases. When new sensor types become available, the suitable DTMs will be included in the current DTM Collection which can be downloaded from the Internet. Information on our homepage: www.vega.com.

6.2 Remove interferences

If glitches occur, PACTware™ and VEGA DTM generate their own fault messages with corresponding explanations.

Fault messages generated in the sensor and sent to the DTM are described in the corresponding sensor operating instructions manual or in the online help of the DTM.

7 Deinstallation of PACTware™/VEGA DTMs

7.1 Deinstallation procedure

If you want to deinstall PACTware™ or the DTM Collection on your PC, proceed as follows:

- 1 Select item "*Software*" in the Control Panel (can be reached via "*Start - Settings - Control Panel*").
- 2 Select from the list "*PACTware™*" or "*VEGA-DTM*" and push the button "*Modify/Remove*".
- 3 Carry out the deinstallation in the way suggested by the assistant and complete the procedure with a Windows restart.

7.2 Disposal

Please dispose of the data carriers and the packaging material via specialised recycling companies.

8 Supplement

8.1 Technical data/System requirements

Hardware

Processor	Intel Pentium/AMD min. 500 MHz
Memory	min. 128 MB RAM
Hard disk	min. 200 MB free memory
Mouse	Microsoft-compatible
Resolution of the graphic	min. 1024x768
Interfaces	RS232/USB/Ethernet

Software

Operating system	Windows XP/2000/ME/NT 4.0
Software extension	Internet Explorer 5.0 or higher, Service Pack 6 with Windows NT 4.0, .NET for PACTware™

9 Licence agreements

9.1 VEGA Device Type Manager (DTM)

This end user licence agreement is a legally valid contract between you (either as a natural person or legal entities) and VEGA Grieshaber KG, Schiltach (VEGA) for the software product.

VEGA Device Type Manager (DTM).

This software product consists of the actual software and - depending on the scope of delivery - the accompanying media as well as the corresponding documentation such as manual, online help etc.

By installing or copying the VEGA DTM or using it otherwise, you can accept the conditions of this licence agreement. If you do not accept the conditions of this licence agreement, do not install the software product.

§ 1 Preamble

The VEGA DTM is protected by copyright and international copyright contracts as well as by further laws and agreements relating to intellectual property.

The VEGA DTM is available for use but not for sale (licenced).

§ 2 Licence granting

A VEGA DTM is available as basic version or as professional version. Usually the basic version includes all functions, apart from the saving and printing of data. The professional version includes all functions without any restriction. The basic version can be converted to the professional version just by entering a licence number. The release to the professional version requires an own licence number for each measuring principle. You will find the licence number on the software product certificate.

- a) You will receive the DTM specified in the order confirmation or the software product certificate or VEGA will provide it. Additional documentation to the online help has to be ordered separately, unless it is specified in the order confirmation that it will be delivered with the software.
- b) While you are using the DTM as Basic Version you are entitled to copy the VEGA DTM and use it on any computer. The VEGA DTM as Professional Version

(released Basic Version via licence number) can be used only once per computer (but arbitrarily often on that computer). The number of DTMs on different computers which can be released from Basic Version to Professional Version depends on the number of licences you have acquired.

- c) You can also use a DTM as Professional Version in the memory unit of an internal network. However, you are obliged to acquire a licence for each computer on which the DTM is installed or launched from the memory unit. A DTM licence may not be shared by various users or used on different computers at the same time.

§ 3 Supplement to existing regulations

§ 3.1 Transmission of responsibility with electronical communication media

The following paragraphs supplement the general sales, delivery and payment conditions of VEGA with the specific points for software products. Existing points remain unaffected by additions. The general sales, delivery and payment conditions are available in the Internet under www.vega.com/agb.

§ 3.2 Transfer of perils with electronical communication media

When software is transferred via electronics communication media (for example and in particular via the Internet) the transfer of perils to the buyer takes place when the software leaves VEGA's sphere.

§ 3.3 Liability for faulty goods

- a) VEGA will replace faulty data carriers with faultless ones.
- b) The software is considered faulty if provable, reproducible errors occur which make the software deviate considerably from the descriptions in the accompanying documentation.
- c) Improvements to the software are normally provided via update/upgrade.
- d) VEGA will decide, within the framework of the guarantee, where errors will be diagnosed and corrected (at VEGA headquarters or at the customer's site). You will provide the documentation and information necessary for correction of errors. If the correction is carried out at your premises you

- will provide the required hardware and software free of charge as well as the necessary operating conditions with appropriate operating personnel, so that the work can be performed quickly.
- e) VEGA can demand reimbursement for test expenditures if you reported an error which ultimately could not be demonstrated or otherwise ascertained.
 - f) You have to take all adequate measures to avoid or limit consequences of loss by software errors, in particular inform VEGA immediately on this error and make sure that the entered data to be processed are saved.
 - g) The warranty period for software is 12 months. This period begins at the time of transfer of perils. When copies are made under the provisions of a multiple licence, the warranty period of the original software applies.

§ 3.4 Further liabilities

- a) Data loss: If data is damaged through an error in the delivered software, the duty of replacement does not include the costs of replacing lost data and information.
- b) Consequential damage: VEGA is not liable for consequential damage caused by software flaws.

§ 4 Further rights and restrictions

- a) You are not allowed to modify, reverse engineer or translate the software, or delete parts of it.
- b) You are not allowed to rent or to lease the software.
- c) You are authorised (revocable) to transfer all your rights from this licence agreement permanently; provided you transfer the complete software product (incl. all components of the media and the printed material) and that the recipient agrees to the conditions of this licence agreement. You are obliged to make a written agreement with the third party which fulfils the provisions of this contract. You are responsible to comply with export requirements imposed by legal provisions and regulations.
- d) VEGA is entitled to terminate this licence agreement in case of non-compliance with our regulations and conditions. In such case you are obliged to destroy all copies of the software product and all components, especially the software product certificate and licence number.



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All statements concerning scope of delivery, application, practical use and operating conditions of the sensors and processing systems correspond to the information available at the time of printing.

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