Operating Instructions

Supplementary electronics

For Modbus

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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 specialist 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.

1 **Sequence of actions**
Numbers set in front indicate successive steps in a procedure.

Battery disposal
This symbol indicates special information about the disposal of batteries and accumulators.

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 plant operator.

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

2.2 Appropriate use

The electronics modules, accumulators, emitting electronics, housings or process components described in this manual are replacement parts for existing sensors.

2.3 Approvals

Depending on the version, instruments with approvals can have deviating technical data. For these instruments, the corresponding approval documents must be observed. These documents are part of the scope of delivery or can be downloaded from www.vega.com via "*VEGA Tools*" and "*serial number search*" as well as via "*Downloads*" and "*Approvals*".

2.4 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 fulfill this obligation by observing the environmental instructions in this manual:

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

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3 Product description

3.1 Configuration

Scope of delivery

The scope of delivery encompasses:

- Supplementary electronics Modbus
- Documentation
  - this operating instructions manual
  - if necessary, further certificates

3.2 Principle of operation

Area of application

The supplementary electronics Modbus is a replacement component for sensors with signal output Modbus:

- VEGAPULS series 60
  - Hardware version from 2.0.0
  - Software version from 4.0.0
- VEGAFLEX 80 series
- VEGABAR series 80

Functional principle

The supplementary electronics contains an interface with Modbus protocol. This is a communication protocol for communication between instruments. It is based on a Master/Slave or Client/Server architecture.

3.3 Packaging, transport and storage

Packaging

Your instrument was protected by packaging during transport. Its capacity to handle normal loads during transport is assured by a test based on ISO 4180.

The packaging of standard instruments consists of environment-friendly, recyclable cardboard. For special versions, PE foam or PE foil is also used. Dispose of the packaging material via specialised recycling companies.

Transport

Transport must be carried out in due consideration of the notes on the transport packaging. Nonobservance of these instructions can cause damage to the device.

Transport inspection

The delivery must be checked for completeness and possible transit damage immediately at receipt. Ascertained transit damage or concealed defects must be appropriately dealt with.

Storage

Up to the time of installation, the packages must be left closed and stored according to the orientation and storage markings on the outside.

Unless otherwise indicated, the packages must be stored only under the following conditions:

- Not in the open
- Dry and dust free
- Not exposed to corrosive media
- Protected against solar radiation

- Avoiding mechanical shock and vibration

Storage and transport temperature

- Storage and transport temperature see chapter "*Supplement - Technical data - Ambient conditions*"
- Relative humidity 20 … 85 %

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4 Mounting

4.1 Mounting steps

Mounting steps

The supplementary electronics is mounted in the power supply compartment. The following illustration shows the position of the power supply compartment in the double chamber housing.

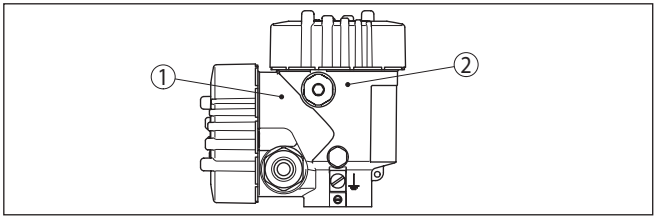

Fig. 1: Position of the power supply and electronics compartment

1 Supply room (supplementary electronics)
2 Electronics compartment (sensor electronics)

Proceed as follows:

1. Unscrew housing cover of the power supply compartment
2. Loosen the two holding screws of the supplementary electronics with a screwdriver (Torx size T 10 or slot size 4)

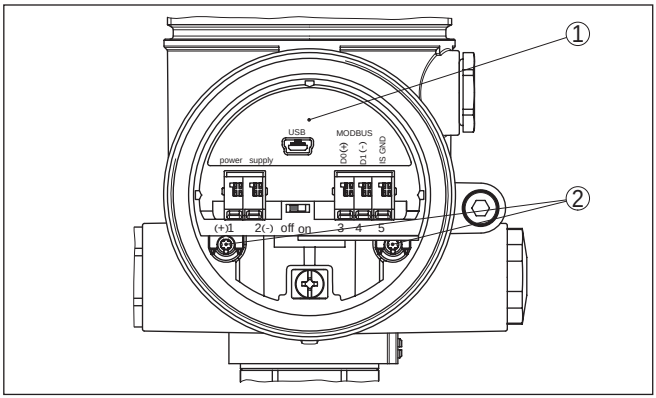

Fig. 2: Power supply compartment with supplementary electronics

1 Supplementary electronics
2 Screws (2 pcs.)

3. Pull the previous supplementary electronics out by using the dismounting tool.
4. Insert the new supplementary electronics module carefully.
5. Screw in the two holding screws and tighten them
6. Screw the housing cover back on

The supplementary electronics is exchanged.

As a rule, the exchange of the supplementary electronics must be documented internally when used in Ex applications.

5 Maintenance

5.1 How to proceed if a repair is needed

You can find a repair form as well as detailed information on how to proceed under www.vega.com/downloads and "*Forms and certificates*".

By doing this you help us carry out the repair quickly and without having to call back for needed information.

If a repair is necessary, please proceed as follows:

- Print and fill out one form per instrument
- Clean the instrument and pack it damage-proof
- Attach the completed form and, if need be, also a safety data sheet outside on the packaging
- Please contact the agency serving you to get the address for the return shipment. You can find the agency on our home page www.vega.com.

6 Dismounting

6.1 Dismounting steps

Warning:
Before dismounting, be aware of dangerous process conditions such as e.g. pressure in the vessel or pipeline, high temperatures, corrosive or toxic products etc.

Take note of chapters "*Mounting*" and "*Connecting to power supply*" and carry out the listed steps in reverse order.

6.2 Disposal

The instrument consists of materials which can be recycled by specialised recycling companies. We use recyclable materials and have designed the parts to be easily separable.

Correct disposal avoids negative effects on humans and the environment and ensures recycling of useful raw materials.

Materials: see chapter "*Technical data*"

If you have no way to dispose of the old instrument properly, please contact us concerning return and disposal.

WEEE directive 2002/96/EG
This instrument is not subject to the WEEE directive 2002/96/EG and the respective national laws. Pass the instrument directly on to a specialised recycling company and do not use the municipal collecting points. These may be used only for privately used products according to the WEEE directive.

7 Supplement

7.1 Technical data

Technical data

The technical data are listed in the operating instructions manual of the respective sensor.

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