Operating Instructions

Electronics module

VEGABAR series 80

Document ID: 45054

Contents

Safety instructions for Ex areas

Take note of the Ex specific safety instructions for Ex applications. These instructions are attached as documents to each instrument with Ex approval and are part of the operating instructions.

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1 About this document

1.1 Function

This instruction provides all the information you need for mounting, connection and setup as well as important instructions for maintenance, fault rectification, the exchange of parts and the safety of the user. 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 personnel. The contents of this manual must be made available to the qualified personnel and implemented.

1.3 Symbols used

Document ID
This symbol on the front page of this instruction refers to the Document ID. By entering the Document ID on www.vega.com you will reach the document download.

Information, note, tip: This symbol indicates helpful additional information and tips for successful work.

Note: This symbol indicates notes to prevent failures, malfunctions, damage to devices or plants.

Caution: Non-observance of the information marked with this symbol may result in personal injury.

Warning: Non-observance of the information marked with this symbol may result in serious or fatal personal injury.

Danger: Non-observance of the information marked with this symbol results in serious or fatal personal injury.

Ex applications
This symbol indicates special instructions for Ex applications.

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

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 documentation must be carried out only by trained, qualified 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 components described in this manual are replacement components for existing sensors.

2.3 Approvals

For devices with approvals, the associated approval documents of the sensor must always be observed. These are included in the scope of delivery or can be downloaded from our homepage via the serial number.

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 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:

- Electronics module
- Documentation
  - This operating instructions manual
  - Ex-specific " *Safety instructions*" (with Ex versions)
  - If necessary, further certificates

3.2 Principle of operation

Application area

The electronics module is suitable for exchange in sensors of the VEGABAR 80 series. You can find information of the available versions in chapter " *Mounting preparations*".

Measuring cell and processing electronics

The pressure transmitters of series VEGABAR 80 are equipped with a two-part electronics:

- Measuring cell electronics
- Processing electronics (electronics module)

The measuring cell electronics is located in the process fitting. It is not accessible to the user.

The electronics module is located in the sensor housing and can be exchanged by the user in case of a defect.

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 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 %

4 Mounting

4.1 General instructions

Safety during mounting

We recommended installing the replacement electronics with the instrument dismounted and brought to a suitable place, e.g. a workshop. If it is not possible to dismount the instrument, the electronics module can also be installed on site at the measuring point.

Warning:
Switch off voltage supply before starting the installation procedure. The replacement electronics may only be installed when the sensor is in a **de-energised state**. Non-observance will damage the electronics!

Ex approval

It is absolutely necessary that in addition the following points are observed with sensors with Ex approval:

1. The supplementary electronics module must have the same name like the exchanged electronics module.
2. An exchange of the electronics in Ex atmosphere is not allowed.
3. Grounding of the sensor is not necessary because the electronics is not connected to ground.
4. As a rule, an exchange of electronics must be documented internally if Ex applications are involved.

4.2 Mounting preparations

Assignment

Make sure that you use a replacement electronics corresponding to the instrument.

The electronics modules differ in their signal output, e.g. 4 … 20 mA/HART, Profibus PA or Foundation Fieldbus.

Another difference for example is the version " *Relative pressure*", " *Absolute pressure*" or " *Relative pressure, climate-compensated*".

With SIL qualified instruments, only SIL replacement electronics may be used. Also keep the corresponding instructions in chapter " *Setup*" in mind.

4.3 Installation procedure

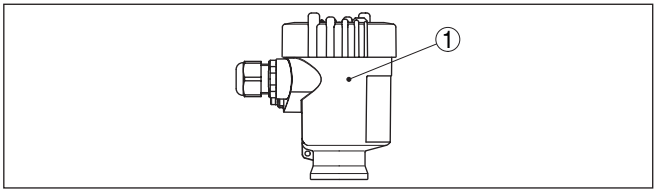

Fig. 1: Single chamber housing

1 Position electronics compartment/Electronics module

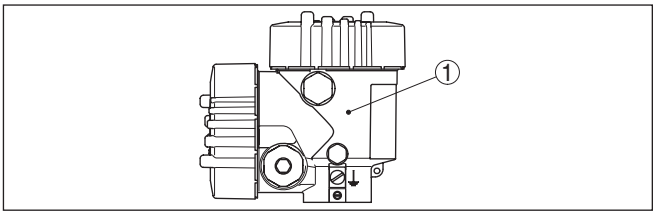

Fig. 2: Double chamber housing

1 Position electronics compartment/Electronics module

Proceed as follows:

1. Switch off voltage supply
2. Unscrew the lid of the electronics compartment
3. Remove the terminal blocks according to the operating instructions manual of the respective sensor
4. Loosen the two holding screws with a screwdriver (Torx size T 10 or slotted screwdriver size 4)

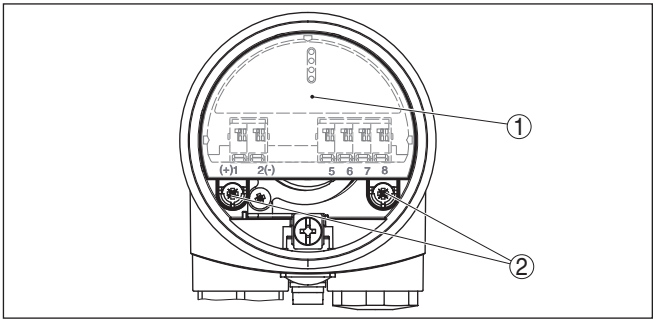

Fig. 3: Loosen the holding screws

1 Electronics module
2 Screws (2 pcs.)

5. Pull the previous electronics out with the dismounting tool.

Note:
Make sure that the housing is not rotated during the electronics exchange. Otherwise the plug may be in a different position later.

6. Insert the new electronics module carefully. Make sure that the plug is in the correct position.
7. Screw in the two holding screws and tighten them
8. Attach the terminal blocks according to the operating instructions manual of the respective sensor
9. Screw the housing lid back on

The electronics exchange is now finished.

5 Setup

5.1 Setup preparations

Switch-on phase

After mounting and connecting to power supply, the following data are loaded automatically by the new electronics module from the meas. cell electronics:

- Instrument type
- Serial number
- Date of manufacture
- Measuring range

The instrument is now functioning.

Electronics module with programming

After installation of the new electronics module and connection to the power supply, the device is ready for operation - with the data of the delivery status. These are e.g. housing version, signal output or a customer-specific adjustment.

SIL

SIL-qualified devices are now in the locked state, the settings have been checked and verified.

Electronics module without programming

The device is ready for operation after the new electronics module has been installed and connected to the power supply - but without the device data of the delivery status.

SIL

SIL qualified devices are in **not** locked state, settings are **not** checked and **not** verified.

However, if the data should be available for operation, you must load it into the electronic module after installation.

Proceed as follows:

1. Enter the serial number of the device in the search field on our homepage
2. In the displayed order data of the device, go to " *Device-related documents*"
3. Download XML file " *DTM configuration file*" by clicking here
4. Transfer this file to the device via " *PACTware/DTM*", " *Maintenance/Electronics exchange*"

SIL

SIL-qualified devices are now in the locked state, the settings have been checked and verified.

Primary/Secondary Device systems

The electronics module of a Secondary Device can be exchanged 1 : 1. It does not contain any device data and cannot be programmed.

5.2 Setup steps

General information

During setup, take note of the operating instructions corresponding to your sensor.

SIL

For SIL-qualified devices without programming and without XML file, the settings of the electronics must be checked and verified after the electronics exchange.

You can find the specifications of the test and verification in the operating instructions corresponding to your sensor.

Parameter adjustment

If the instrument is used in the same application after the electronics exchange, the previous parameter settings of the instrument must be restored. To do this, you can use the import function of the adjustment software PACTware with the device DTMs or the copy function of the display and adjustment module.

6 Dismount

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 media etc.

Take note of chapters " *Mounting*" and " *Connecting to voltage 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 electronics to be easily separable.

WEEE directive
The instrument does not fall in the scope of the EU WEEE directive. Article 2 of this Directive exempts electrical and electronic equipment from this requirement if it is part of another instrument that does not fall in the scope of the Directive. These include stationary industrial plants.

Pass the instrument directly on to a specialised recycling company and do not use the municipal collecting points.

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

Printing date:

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.
Subject to change without prior notice

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VEGA Grieshaber KG
Am Hohenstein 113
77761 Schiltach
Germany

Phone +49 7836 50-0
E-mail: info.de@vega.com
www.vega.com