

# Operating Instructions

Radio electronics

## BPP2



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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, 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.

## **2 For your safety**

### **2.1 Authorised personnel**

All operations described in this documentation 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 BPP2 is the processing electronics and Bluetooth unit for VEGABAR 20 and 30 series as well as VEGAPOINT 20 and 30 series.

With this instrument VEGABAR and VEGAPOINT can be adjusted on site or wirelessly via Bluetooth.

The instruments of VEGABAR and VEGAPOINT series 20 and 30 are universal pressure or level switches for industrial automation. Operational reliability is ensured only if the instrument is properly used according to the specifications in the operating instructions manual as well as possible supplementary instructions.

For safety and warranty reasons, any invasive work on the device beyond that described in the operating instructions manual may be carried out only by personnel authorised by the manufacturer. Arbitrary conversions or modifications are explicitly forbidden.

### **2.3 Warning about incorrect use**

Inappropriate or incorrect use of this product can give rise to application-specific hazards, e.g. vessel overfill through incorrect mounting or adjustment. Damage to property and persons or environmental contamination can result. Also, the protective characteristics of the instrument can be impaired.

### **2.4 General safety instructions**

This is a state-of-the-art instrument complying with all prevailing regulations and directives. The instrument must only be operated in a technically flawless and reliable condition.

The operator is responsible for the trouble-free operation of the instrument. When measuring aggressive or corrosive media that can cause a dangerous situation if the instrument malfunctions, the operator has to implement suitable measures to make sure the instrument is functioning properly. During the entire duration of use, the user is obliged to determine the compliance of the necessary occupational safety measures with the current valid rules and regulations and also take note of new regulations.

The safety instructions in this operating instructions manual, the national installation standards as well as the valid safety regulations and accident prevention rules must be observed by the user.

For safety and warranty reasons, any invasive work on the device beyond that described in the operating instructions manual may be carried out only by personnel authorised by the manufacturer. Arbitrary conversions or modifications are explicitly forbidden. For safety reason, only the accessory specified by the manufacturer must be used.

## 3 Product description

### 3.1 Configuration

The type label contains the most important data for identification.

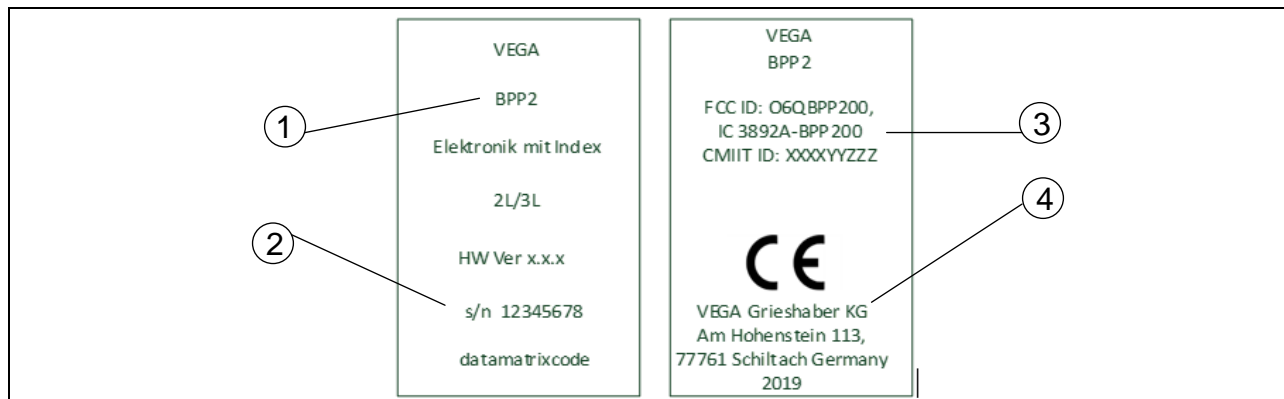


Fig. 1: Layout of the type label (example)

- 1) *Product Model*
- 2) *Serialnumber of the instrument*
- 3) *Approvals*
- 4) *Manufacturer*

### 3.2 Instrument information

The radio electronics BPP2 for VEGABAR or VEGAPOINT series 20 or 30 consists of the electronics cup as well as the encapsulated circuit board and is equipped with Bluetooth functionality.

#### Application Area

The pluggable radio electronics BPP2 is used in conjunction with VEGABAR or VEGAPOINT series 20 and 30.

### 3.3 Principle of operation

The radio electronics BPP2 is used together with the instruments of VEGABAR or VEGAPOINT series 20 and 30 for measurement of process pressures and levels.  
The BPP2 can be adjusted wirelessly via Bluetooth.

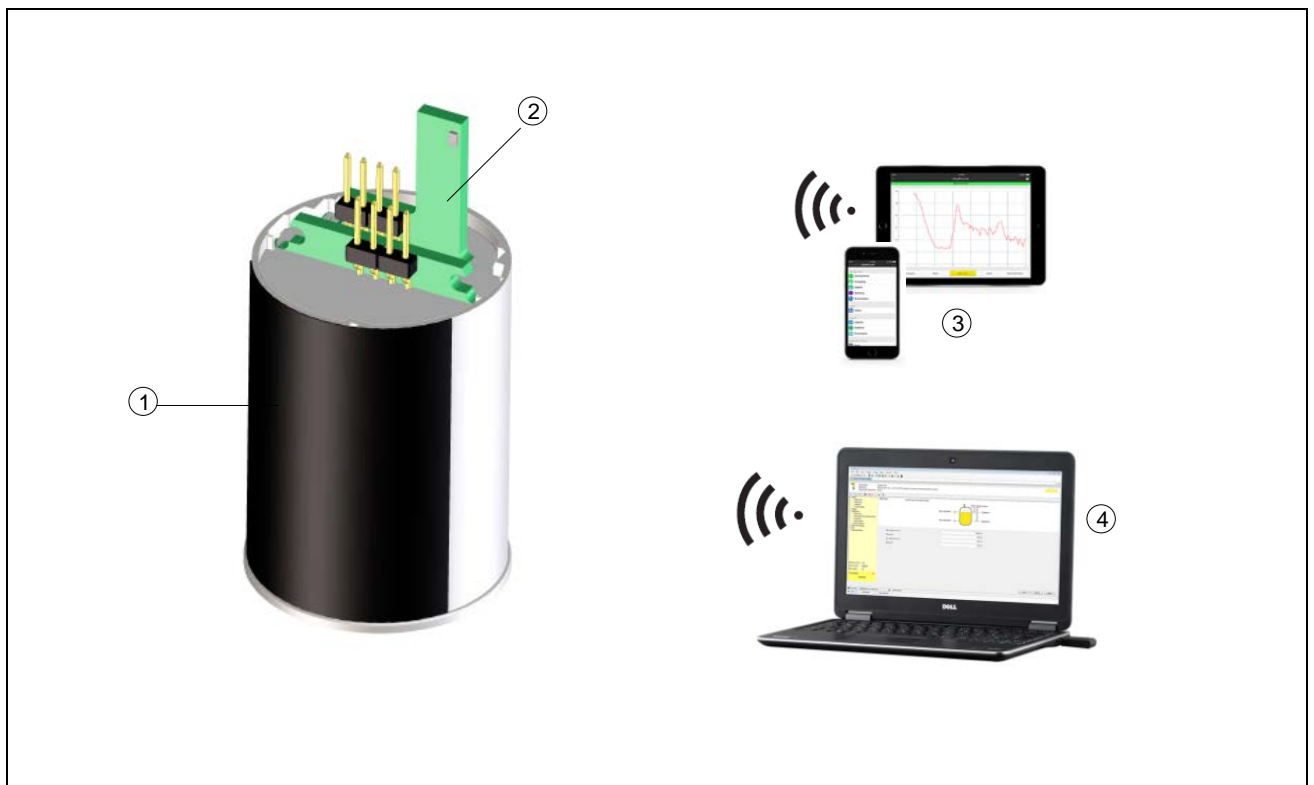


Fig. 2: Wireless connection to standard operating devices

- 1) *Radioelectronic BPP2*
- 2) *Antenna*
- 3) *Smartphone/Tablet*
- 4) *PC/Notebook*

### 3.4 Scope of delivery

The scope of delivery encompasses:

- Radio electronics BPP2
- Documentation

## **3.5 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 %

### **Lifting and carrying**

With instrument weights of more than 18 kg (39.68 lbs) suitable and approved equipment must be used for lifting and carrying.

## **4 Mounting / Installation**

### **4.1 Installation**

Mounting is carried out exclusively in combination with VEGABAR or VEGAPOINT series 20 or 30. The exact mounting instructions can be found in the operating instructions manual of the respective instrument.

Warning:

Before starting mounting, make sure that no voltage supply is connected to VEGABAR or VEGAPOINT series 20 or 30!



## 5 Prepare setup

### 5.1 Connection procedure

All connections are made via the connections of VEGABAR or VEGAPOINT series 20 and 30. The power supply for BPP2 is carried out directly via VEGABAR or VEGAPOINT series 20 or 30.

The detailed procedure is described in the operating instructions manual of the instrument VEGABAR or VEGAPOINT series 20 or 30.

### 5.2 Adjustment system – Bluetooth



Fig. 8: Bluetooth connection to standard operating devices

- 1) Radioelectronic BPP2
- 2) Antenna
- 3) Smartphone/Tablet
- 4) PC/Notebook

### Systems requirements

Make sure that your smartphone/tablet meets the following system requirements:

- Operating system: iOS 8 or newer
- Operating system: Android 4.3 or newer
- Bluetooth Smart from 4.0

Download the app "VEGA Tools" from the Apple App Store, Google Play Store or Baidu App Store to your smartphone or tablet.

**Note:**

The functional range of the adjustment via Bluetooth is determined by the connected instrument VEGABAR or VEGAPOINT series 20 or 30 and the used app "VEGA Tools" or the PC software "VEGA DTM".

The detailed description of the functionality is described in the corresponding Operating Instructions.

## **6 Maintenance and fault rectification**

### **6.1 Maintenance**

If the instrument is used correctly, no maintenance is required in normal operation.

The cleaning helps that the type label and markings on the instrument are visible.

Take note of the following:

- Use only cleaning agents which do not corrode the housings, type label and seals
- Use only cleaning methods corresponding to the housing protection rating

### **6.2 How to proceed if a repair is necessary**

You can find an instrument return form as well as detailed information about the procedure in the download area of our homepage: [www.vega.com](http://www.vega.com). By doing this you help us carry out the repair quickly and without having to call back for needed information.

In case of repair, 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
- Ask the agency serving you to get the address for the return shipment. You can find the agency on our home page [www.vega.com](http://www.vega.com).

## **7 Dismount**

### **7.1 Dismounting steps**

#### **Warning:**

Before dismounting, be aware that the power supply is disconnected.

Take note of chapters "Mounting" and carry out the listed steps in reverse order.

### **7.2 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.

Materials: see chapter "Technical data"

For disposal or recycling within the European Union proceed according to the "Electronics recycling" and "Battery/Accumulator recycling" below. Outside the European Union you should take note of the valid national regulations.

#### **Electronics recycling**

This instrument is not subject to the WEEE directive 2012/19/EU and the respective national laws. Hence 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.

## 8 Supplement

### 8.1 Technical data

General data	
Weight	Max. 40 g
Dimensions	Max. 60 x 29 x 29 mm
Electrical interface	
Operating voltage	12...35VDC
Bluetooth Interface	
BT-Module	Nordic nRF52832
Bluetooth	V5.0 – Single mode
Frequency	2.402 – 2.480 GHz
Maximum Transmit Power Setting	+4 dBm
Minimum Transmit Power Setting	-20 dBm (in 4db steps) -16 dBm, -12 dBm, -8 dBm, -4 dBm, 0 dBm (default)
Receive Sensitivity (0,1% BER)	-96 dBm (min.)
Link Budget	100 dB (@ 1Mbps)
Range	Bis zu 100 m im Freifeld
Antenna	Ceramic chip SMD antenna ANT016008LCS2442MA2 – on pcb
Ambient conditions	
Ambient temperature	-40 ... +70 °C (-40 ... +158 °F)
Storage and transport temperature	-40 ... +80 °C (-40 ... +176 °F)
Manufacturer	
Manufacturer	VEGA Grieshaber KG Am Hohenstein 113 77761 Schiltach Germany

## 8.2 NCC Warning Statement

### 第十二條

經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

### 第十四條

低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。

前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

## 8.3 Industrial property rights

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进一步信息请参见网站<[www.vega.com](http://www.vega.com)>。

## 8.4 Trademarks

All the brands as well as trade and company names used are property of their lawful proprietor/originator.

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  
Fax +49 7836 50-201  
E-mail: [info.de@vega.com](mailto:info.de@vega.com)  
[www.vega.com](http://www.vega.com)