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**Take note of safety instructions for Ex applications**

Please note the Ex specific safety information which you will find on our homepage [www.vega.com/services/downloads](http://www.vega.com/services/downloads) and which come with the appropriate instrument with Ex approval. In hazardous areas you should take note of the appropriate regulations, conformity and type approval certificates of the sensors and power supply units. Each VEGADIS with Ex approval is an associated, intrinsically safe instrument and must not be installed in hazardous areas.
1 Product description

In continuous measurement, the level in a vessel or the pressure in a pipeline, for example, is detected by a sensor. The measured value is converted into an analogue 4 ... 20 mA output signal or a digital output signal, e.g. Profinet PA. The output signal is then further processed, e.g. in a PLC or a control system.

On-site indication of the measured value or sensor adjustment is often desired. To fulfill this need, VEGA offers a wide range of indicating instruments. Indication, power supply and mounting differ depending on the model. This product information manual provides an overview and helps you select a suitable instrument.

VEGADIS 11
VEGADIS 11 is a universal, digital indicating instrument that operates without additional power. It is used for remote (i.e. at some distance from the measuring site) measured value indication. VEGADIS 11 can be connected at any point to the 4 ... 20 mA signal cable. It is suitable for any VEGA sensor as well as sensors from other manufacturers, i.e. for active (four-wire) as well as passive (two-wire) sensors.

![Configuration VEGADIS 11](image)

**Advantages:**
- Universal use for active or passive 4 ... 20 mA sensors
- No separate external energy required
- Mounting to the wall or on carrier rail

VEGADIS 12
VEGADIS 12 is a digital indicating instrument that operates without additional power. It is used for remote (i.e. at some distance from the measuring site) measured value indication and adjustment of VEGABAR 74, 75 and VEGAWELL 72 - 4 ... 20 mA/ HART hydrostatic pressure transmitters. VEGADIS 12 can be connected at any point to the 4 ... 20 mA signal cable. It is provided with a breather facility for sensor ventilation via the capillary line in the special cable.

![Configuration VEGADIS 12](image)

**Advantages:**
- Universal use for all plics® sensors
- Splash-proof adjustment with open cover
- No separate external energy required
- Mounting VEGADIS 61 to the wall, on carrier rail or tube

VEGADIS 61
VEGADIS 61 is an external indicating and adjustment module that operates without additional power. It is used for remote (i.e. at some distance from the measuring site) measured value indication and adjustment of VEGA plics® sensors. The sensors can be 4 ... 20 mA, Profinet PA or Foundation Fieldbus sensors. VEGADIS 61 is connected to the sensors with a standard four-wire screened cable up to 25 m long. Communication is carried out via this cable and, what is more, VEGADIS 61 is powered by the sensor. An additional power supply is not required.

PLICSCOM
The indicating and adjustment module PLICSCOM is used for measured value indication, adjustment and diagnosis of VEGA plics® sensors. It is mounted in the respective sensor housing or in the external indicating and adjustment module VEGADIS 61. After mounting, the sensor and PLICSCOM are splash-proof even without housing cover.

An integrated backlight enables reading even under unfavourable lighting conditions. As an option, the display can also be equipped with heating that ensures good readability at low temperatures down to -40 °C (-40 °F).

![Configuration VEGADIS 61 and PLICSCOM](image)

**Advantages:**
- No separate external energy required
- Mounting to the wall or on carrier rail
Advantages:
- Universal use for passive or 4 ... 20 mA sensors
- No separate external energy required

1.1 Application examples

Pump shaft

For hydrostatic level measurement in a pump shaft, VEGADIS 12 together a VEGAWELL 72 is well suited for remote indication and adjustment. The min./max. adjustment is carried out on site and the actual measured value can be read out during operation.

Chip silo

In non-contact level measurement in a chip silo with VEGAPULS 68, the mounting location is not directly accessible. For that reason VEGADIS 61 is an excellent solution for remote indication and adjustment. The min./max. adjustment can be carried out locally with or without filling.
2  Type overview

VEGADIS 11

- Indication: digital and quasi-analogue
- Signal: 4 ... 20 mA, 4 ... 20 mA/HART
- Sensors: 4 ... 20 mA passive or active
- Mounting: Wall, rail mounting
- Ambient temperature: -20 ... +70 °C (-4 ... +158 °F)

VEGADIS 12

- Indication: digital and quasi-analogue
- Signal: 4 ... 20 mA, 4 ... 20 mA/HART
- Sensors: VEGABAR 74, 75; VEGAWELL 72 - 4 ... 20 mA/HART
- Mounting: Wall, rail mounting
- Ambient temperature: -20 ... +70 °C (-4 ... +158 °F)

VEGADIS 61

- Indication: Dot-Matrix
- Signal: I²C bus
- Sensors: plics® sensors
- Mounting: Wall, rail, tube mounting
- Ambient temperature: -20 ... +70 °C (-4 ... +158 °F)

PLICSCOM

- Indication: Dot-Matrix
- Signal: I²C bus
- Sensors: plics® sensors
- Mounting: in the sensor or in VEGADIS 61
- Ambient temperature: -15 ... +70 °C (+5 ... +158 °F)

VEGADIS 175

- Indication: digital
- Signal: 4 ... 20 mA, 4 ... 20 mA/HART
- Sensors: 4 ... 20 mA passive or active
- Mounting: Front panel
- Ambient temperature: -10 ... +60 °C (+14 ... +140 °F)
3 Mounting instructions

VEGADIS 11 and VEGADIS 12
VEGADIS 11 and VEGADIS 12 are configured for the following installation and mounting options:
- Carrier rail 35 x 7.5 according to EN 50022
- Wall mounting

Carrier rail mounting

![Carrier rail mounting diagram](image)

Fig. 7: VEGADIS 11 and VEGADIS 12 carrier rail mounting

1 Carrier rail

Wall mounting

![Wall mounting diagram](image)

Fig. 8: VEGADIS 11 and VEGADIS 12 wall mounting

1 Drill dimension

VEGADIS 61
VEGADIS 61 can be mounted in the following ways:
- Carrier rail 35 x 7.5 according to EN 50022
- Wall mounting
- Tube mounting

Wall mounting

VEGADIS 61 for wall mounting is supplied with a mounting socket.

![Wall mounting diagram](image)

Fig. 10: VEGADIS 61 for mounting on carrier rail

1 Adapter plate
2 Screw M4 x 6
3 Carrier rail

Tube mounting

VEGADIS 61 for tube mounting is supplied with the measuring instrument holder BARMONT.C (comes with delivery as mounting accessory).

![Tube mounting diagram](image)

Fig. 11: VEGADIS 61 for tube mounting

1 4 screws M5 x 12
2 Measuring instrument holder BARMONT.C
3 Tube
PLICSCOM

The indicating and adjustment module PLICSCOM can be inserted in the following housing versions and instruments:
- All sensors of the plic® instrument family, in the single as well as in the double chamber housing (optionally in the electronics or connection compartment)
- External indicating and adjustment unit VEGADIS 61

VEGADIS 175

VEGADIS 175 can be mounted in the following ways:
- Front panel mounting

Front panel mounting

Fig. 12: Measuring instrument holder BARMONT.C
1 4 x holes 5 mm for mounting screws M5 x 12

Fig. 13: VEGADIS 175 for panel mounting
1 Front panel
2 Fixing hook
3 Screw
4 Connecting to power supply

4.1 Preparing the connection

Note safety instructions
Always keep in mind the following safety instructions:
- Connect only in the complete absence of line voltage
- If overvoltage surges are expected, overvoltage arresters should be installed

Tip:
We recommend VEGA overvoltage arresters B61-300 (power supply VEGADIS) and B62-36G (sensor supply).

Take note of safety instructions for Ex applications

Selecting connection cable
Standard two-wire cable without screen is used for connection of the sensors.

Cable screening and grounding
Connect the cable screen on both ends to ground potential. In the sensor, the screen must be connected directly to the internal ground terminal. The ground terminal outside on the housing must be connected to the potential equalisation.

If potential equalisation currents are expected, the screen connection on VEGADIS must be made via a ceramic capacitor (e.g. 1 nF, 1500 V). The low frequency potential equalisation currents are thus suppressed, but the protective effect against high frequency interference signals remains.

Select connection cable for Ex applications

Take note of the corresponding installation regulations for Ex applications. In particular, make sure that no potential equalisation currents flow over the cable screen. In case of grounding on both sides this can be achieved by the use of a capacitor or a separate potential equalisation.

4.2 Wiring plan, VEGADIS 11

Passive sensors

![Wiring diagram for passive sensors]

Note:
Passive sensors need a power supply. They represent current sinks and emboss a current of 4 ... 20 mA to the supply circuit. The supply voltage is loop through VEGADIS 11. On the output (terminals 1/2), VEGADIS 11 provides the power supply for the connected sensors. Power supply and measured value transmission are carried along the same two-wire cable.

Active sensors

![Wiring diagram for active sensors]

Note:
The input (terminals 10/11) is provided for connection of transmitters with own, separate power supply. The output (terminal 1/2) is bridged.
Sensors with signal conditioning instrument

![Diagram of wiring plan, VEGADIS 11 for signal conditioning instrument]

1. Signal conditioning instrument
2. Indicating module
3. Control instrument

**Note:**
The input (terminals 10/11) is provided for connection of signal conditioning instruments. Connection and operation in Ex ia is not possible. The output (terminal 1/2) is bridged.

### 4.4 Wiring plan, VEGADIS 61

**Wiring plan**

![Diagram of wiring plan, VEGADIS 61]

1. plics® sensor
2. Grounding on both ends with non-Ex. With Ex, grounding at one sensor end is recommended, see EN 60079-14.

### 4.3 Wiring plan, VEGADIS 12

![Diagram of wiring plan, VEGADIS 12]

1. brown (+)
2. blue (-)
3. Yellow
4. Screen
5. Breather capillaries with filter element
6. Indicating module
7. Control instrument
8. Voltage supply/Signal output

### 4.5 Wiring plan, VEGADIS 175

**Passive sensors**

![Diagram of wiring plan, VEGADIS 175 for passive sensors]

1. Sensor (passive)
2. Bridged internally
3. Voltage supply/Signal output
4. Ex area
5. Non-Ex area
Active sensors

Fig. 20: Wiring plan, VEGADIS 175 for active sensors

1  Sensor (active)
2  Bridged internally
5  Operation

5.1 Adjustment on VEGADIS 11
The display is located in the housing cover, the adjustment elements are accessible after removing the cover.

5.2 Adjustment on VEGADIS 12
The display is located in the housing cover, the adjustment elements are accessible after removing the cover.

Key functions

- **[Rotary switch]** to select:
  - Operate = Measured value indication
  - ZERO = Adjustment of the min. value
  - SPAN = Adjustment of the max. value
  - Point = Shifting of the decimal point

- **[+/-]** key:
  - Change value of the digital indication

5.3 Adjustment on VEGADIS 61 and PLICSCOM

Key functions

- **[Rotary switch]** to select:
  - Operate = Measured value indication
  - ZERO = Adjustment of the min. value
  - SPAN = Adjustment of the max. value
  - Point = Shifting of the decimal point

- **[+/-]** key:
  - Change value of the digital indication
Key functions

- **[OK]** key:
  - Move to the menu overview
  - Confirm selected menu
  - Edit parameter
  - Save value

- **[->]** key to select:
  - menu change
  - list entry
  - Select editing position

- **[+]** key:
  - Change value of the parameter

- **[ESC]** key:
  - interrupt input
  - jump to the next higher menu

5.4 Adjustment on VEGADIS 61 with PACTware™

**PACTware™/DTM**

PILES® sensors can be adjusted via PACTware™ independent of the respective signal output 4 … 20 mA/HART, ProFieldbus PA or Foundation Fieldbus via VEGADIS 61. To adjust with PACTware™, an instrument driver for the particular sensor is required.

All currently available VEGA DTM sensors are provided as DTM Collection with the current PACTware™ version on CD. They are available from the responsible VEGA agency for a token fee. The basic version of this DTM Collection incl. PACTware™ is available as a free-of-charge download from Internet.

To use the entire range of functions of a DTM, incl. project documentation, a DTM licence is required for that particular instrument family. This licence can be bought from the VEGA agency serving you.

Connection of the PC to VEGADIS 61

![Connection diagram](image)

**Fig. 24: Connection to VEGADIS 61**

1. RS232 connection
2. VEGADIS 61
3. I²C adapter cable for VEGACONNECT 3

To adjust with PACTware™, a VEGACONNECT 3 with I²C adapter cable (art. no. 2.27323) as well as a power supply unit is necessary in addition to the PC and the suitable VEGA-DTM.

5.5 Adjustment on VEGADIS 175

Indication and adjustment are carried out on the front via a clear LC display and three keys.

![Indicating and adjustment](image)

**Fig. 25: Indicating and adjustment elements**

1. Digital indication
2. Key (OK)
3. Adjustment keys +/-

Key functions

- **[OK]** key:
  - Move to the menu overview
  - Confirm selected menu
  - Edit parameter
  - Save value

- **[+] / [-]** keys:
  - Change value of the parameter
# Technical data

## General data

**VEGADIS 11, 12**
- **Series**: Instrument for panel or wall mounting or mounting on carrier rail 35 x 7.5 according to EN 50022
- **Materials**:
  - Housing
  - Inspection window of the indication
  - Breather facility
  - Ground terminal
- **Weight approx.**: 400 g (0.882 lbs)

**VEGADIS 61**
- **Series**: Instrument for panel or wall mounting or mounting on carrier rail 35 x 7.5 according to EN 50022
- **Materials**:
  - Housing
  - Inspection window in housing cover
  - Ground terminal
- **Weight, depending on the housing material and mounting technology**: 500 … 1300 g (1.10 … 2.87 lbs)

**PLICSCOM**
- **Series**: Module for insertion in VEGADIS 61
- **Materials**:
  - Housing
  - Inspection window
- **Weight approx.**: 100 g (0.22 lbs)

## Input

**VEGADIS 11**
- **Connection to**: individual passive or active sensors 4 … 20 mA/HART
- **Transmission**: analogue, 4 … 20 mA
- **Max. input current**: 150 mA
- **Connection cable to the sensor**: 2-wire
- **Voltage loss**: 4.5 V at 20 mA

**VEGADIS 12**
- **Connection to**: VEGAWELL 72 - 4 … 20 mA/HART, VEGABAR 74, 75
- **Transmission**: analogue, 4 … 20 mA
- **Max. input current**: 150 mA
- **Connection cable to the sensor**: 3-wire (VEGA special cable with breather capillaries or standard cable)
- **Max. cable length**: 200
- **Voltage loss**: 4.5 V at 20 mA

**VEGADIS 61**
- **Connection to**: VEGA plics® sensors
- **Data transmission**: digital (I²C-Bus)
- **Connection cable**: 4-wire, screened
- **Max. cable length**: 25 m

**VEGADIS 175**
- **Transmission**: analogue, 4 … 20 mA (reverse battery protection)
Technical data

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<th>HART protocol</th>
<th>The indicator is suitable for transmission of the HART protocol</th>
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<td>Max. input current</td>
<td>150 mA (shortcircuit current)</td>
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<tr>
<td>Voltage loss</td>
<td>&lt; 2 V with 20 mA</td>
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**Indications**

**VEGADIS 11, 12**
- LC multiple function display
  - Bargraph (quasianalogue indication) 20 segments
  - Digital value -9999 ... 9999
  - Tendency indicators Symbols for rising or falling values

**VEGADIS 61, PLICSCOM**
- LC display in dot matrix
- Power supply display light through the sensor, voltage range see sensor operating instructions manual

**VEGADIS 175**
- LC display
  - Height of figures 17 mm
  - Indication range -19999 ... 19999
  - Offset -19999 ... 32767

**Ambient conditions**

**VEGADIS 11, 12**
- Ambient temperature -20 ... +70 °C (-4 ... +158 °F)
- Storage and transport temperature -40 ... +85 °C (-40 ... +185 °F)

**VEGADIS 61, PLICSCOM**
- Ambient temperature -15 ... +70 °C (+5 ... +158 °F)
- Ambient temperature with heating -40 ... +70 °C (-40 ... +158 °F)
- Storage and transport temperature -40 ... +80 °C (-40 ... +176 °F)

**VEGADIS 175**
- Ambient temperature -10 ... +60 °C (+14 ... +140 °F)
- Storage and transport temperature -25 ... +70 °C (-13 ... +158 °F)
- Climatic class according to EN 60654-1, class B2

**Electrical protective measures**

**VEGADIS 11, 12**
- Protection IP 67
- Overvoltage category III
- Protection class III

**VEGADIS 61**
- Protection IP 66/IP 67
- Overvoltage category III
- Protection class II

**PLICSCOM**
- Protection
  - unassembled IP 20
  - mounted into VEGADIS 61 without cover IP 40

**VEGADIS 175**
- Protection
  - between front frame and front panel IP 65
  - Terminal IP 20
Technical data

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<td>2 kV</td>
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<td>Surge</td>
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<td>Electromagnetic fields</td>
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**Approvals**

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**Environmental instructions**

VEGA environment management system certified according to DIN EN ISO 14001

You can find detailed information under www.vega.com.

1) Deviating data in Ex applications: see separate safety instructions.
7 Dimensions

VEGADIS 11, 12

Fig. 26: VEGADIS 11, 12

VEGADIS 61

Fig. 27: VEGADIS 61

PLICSCOM

Fig. 28: PLICSCOM

VEGADIS 175

Fig. 29: VEGADIS 175
8 Product code

VEGADIS 11

Approval
- without EX
- ATEX II 2 G Ex ia IIC T6

VEGADIS 12

Approval
- without EX
- ATEX II 2 G Ex ia IIC T6
Adjustment unit for pressure transmitter
- B mounted Display
- X without
- A mounted
Protective cover
- X without
- W with

VEGADIS 61

Approval
- XX without EX
- ATEX II 1G, 2G, Ex ia IIC T6
- CX Ex ia IIC T6
Housing / Protection
- K Plastic / IP66
- Cable entry / Plug connection
- M M20x1.5 / without
- N UNPT / without
Mounting / Material
- A for wall mounting / aluminium
- B for wall mounting / stainless steel
- C for rail mounting / plastic
- D for tube mounting / stainless steel

PLICSCOM

Housing cover
- K of plastic
- A of aluminium
- V of stainless steel 316L
- X without Version
- B with background light
- H with heating

VEGADIS 175

Approval
- without EX
- ATEX II 1 G Ex ia IIC T6