

## POINTRAC 31

8/16 mA/HART - four-wire

Radiation-based sensor for level detection



### Application area

The POINTRAC 31 is a radiation-based sensor for universal level detection of liquids and bulk solids. Independent of the mounting location, it monitors reliably the limit level in vessels. The sensor can be used for applications in all industries. Due to the high sensitivity POINTRAC 31 is an economical solution with minimum radiation activity.

### Your benefit

- Exact measuring results independent of process conditions
- High process reliability through determination of buildup
- Economical level detection under arduous application conditions

### Function

In radiation-based measurement, a Caesium-137 or Cobalt-60 isotope emits focussed gamma rays. A special sensor on the opposite side of the vessel receives this radiation. The scintillator of the sensor converts these gamma rays into signals, the number of which is detected and evaluated. Since gamma rays are attenuated when penetrating matter, the sensor is able to calculate the level, the limit level, the density and the mass flow rate from the intensity of the received radiation.

### Technical data

|  |  |
|--|--|
| Measuring range                            | 50 mm (2 in), 152 mm (6 in) or 304 mm (12 in)                      |
| Repeatability                              | ±0.5 % at -40 °C ... +60 °C<br>(-40 °F ... +140 °F)                |
| Ambient, storage and transport temperature | -40 °C ... +60 °C<br>(-40 °F ... +140 °F) Extended range available |

### Voltage supply

|                        |   |
|------------------------|---|
| Operating voltage      | 20 ... 72 V DC; 20 ... 253 V AC, 50/60 Hz |
| Max. power consumption | 4 W; 6 VA                                 |

### Analogue input

|               |                     |
|---------------|---------------------|
| Input type    | 4 ... 20 mA passive |
| Internal load | 250 Ω               |

### Switching input

|                  |        |
|------------------|--------|
| Input type       |        |
| – Open Collector | 10 mA  |
| – Relay contact  | 100 mA |

### Relay output

|                   |                                     |
|-------------------|-------------------------------------|
| Switching voltage | min. 10 mV, max. 253 V AC, 253 V DC |
| Switching current | min. 10 µA, max. 3 A AC, 1 A DC     |
| Breaking capacity | min. 50 mW, max. 750 VA AC, 40 W DC |

### Current output

|           |  |
|-----------|--|
| Range     | 8/16 mA/HART, active or passive          |
| Max. load | 500 Ω (300 Ω with intrinsically safe IS) |

### Switching output

|                   |                                  |
|-------------------|----------------------------------|
| Type of output    | NPN transistor output (floating) |
| Switching voltage | < 55 V DC                        |
| Load current      | < 400 mA                         |

### SIL qualification

|                   |                       |
|-------------------|-----------------------|
| SIL qualification | Optionally up to SIL2 |
|-------------------|-----------------------|

### Materials/Scintillator

The detector tube consists of stainless steel. Polyvinyltoluene (PVT) is used as scintillation material.

### Housing versions

The housing is available as double chamber version of Aluminium or stainless steel in protection class IP 66/IP 67.

### Electronics versions

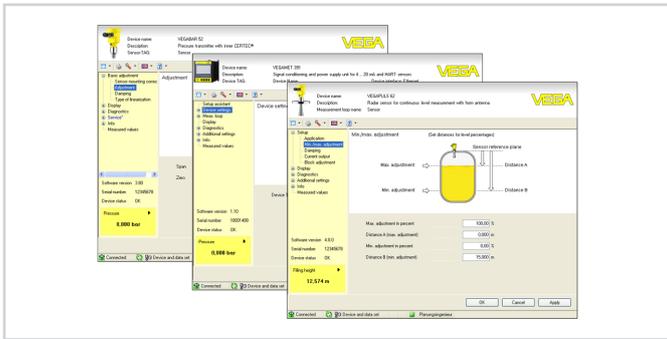
As electronics version, an 8/16 mA/HART output and digital outputs with Profibus PA and Foundation Fieldbus are possible.

### Approvals

You can find detailed information on the existing approvals in the "configurator" on our homepage at [www.vega.com/configurator](http://www.vega.com/configurator).

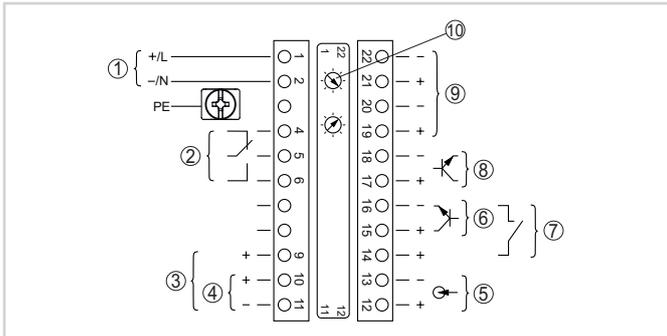
### Operation

The adjustment of the instrument is carried out via the optional display and adjustment module PLICSCOM or via a PC with the adjustment software PACTware and corresponding DTM. Further adjustment options are available via HART communicator as well as manufacturer-specific programs such as AMST™ or PDM.



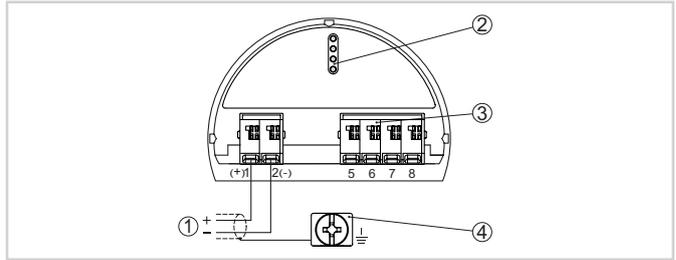
### Electrical connection

Two connection chambers are available. Depending on the instrument version, the signal output is either in the primary or in the secondary chamber.



#### Primary terminal connections

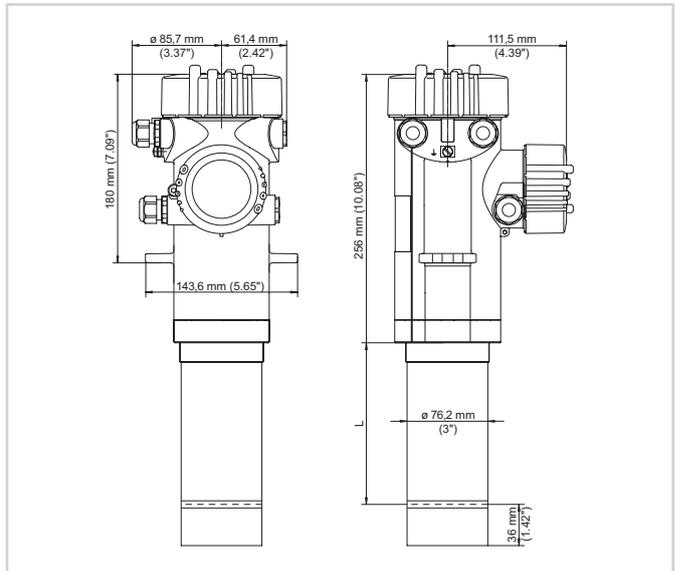
- 1 Power supply
- 2 Relay output
- 3 8/16 mA active output (only explosion protected instruments)
- 4 8/16 mA passive output (only explosion protected instruments)
- 5 4 ... 20 mA input
- 6 Switching input Open Collector
- 7 Switching input relay contact
- 8 Switching output (NPN transistor)
- 9 Multisensor communication bus
- 10 2 x address switches for multisensor systems



#### Secondary terminal connections

- 1 8/16 mA output option (only intrinsically safe instruments)
- 2 PLICSCOM connection
- 3 Connections for external indication (VEGADIS 61)
- 4 Ground connection

### Dimensions



Dimensions POINTTRAC 31

### Information

You can find further information on the VEGA product line on our homepage [www.vega.com](http://www.vega.com). In the download section under [www.vega.com/downloads](http://www.vega.com/downloads) you'll find free operating instructions, product information, brochures, approval documents, instrument drawings and much, much more.

### Instrument selection

With the "Finder" at [www.vega.com/finder](http://www.vega.com/finder) and "VEGA Tools" you can select the most suitable measuring principle for your application. You can find detailed information on the instrument versions in the "Configurator" at [www.vega.com/configurator](http://www.vega.com/configurator) and "VEGA Tools".

### Contact

You can find the VEGA agency serving your area on our homepage [www.vega.com](http://www.vega.com).