

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 so-called scintillator 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	152 ... 304 mm (6 ... 12 in)
Reproducibility	±0.5 % at -40 °C ... +60 °C (-40 °F ... +140 °F)
Ambient, storage and transport temperature	-40 °C ... +60 °C (-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

Turn-on 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)
Turn-on voltage	< 55 V DC
Load current	< 400 mA
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

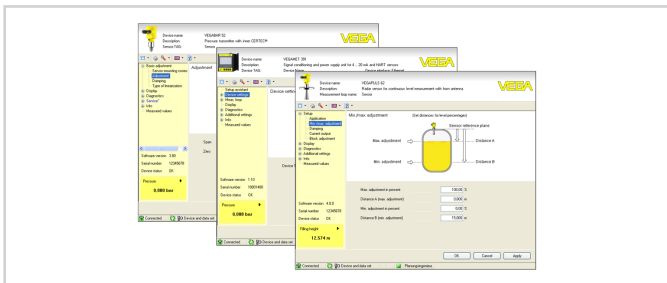
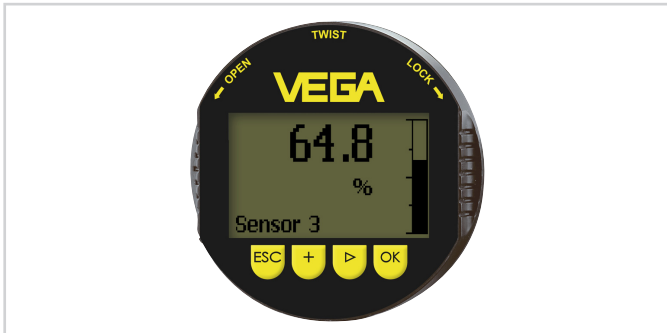
As electronics version, an 8/16 mA/HART output and digital outputs with Profibus PA and Foundation Fieldbus are possible.

Approvals

You can find detailed information on the existing approvals in the "configurator" on our homepage under www.vega.com/configurator.

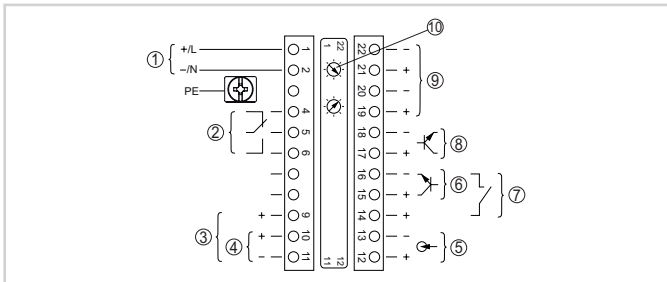
Adjustment

The adjustment of the instrument is carried out via the optional indicating 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 AMS™ or PDM.



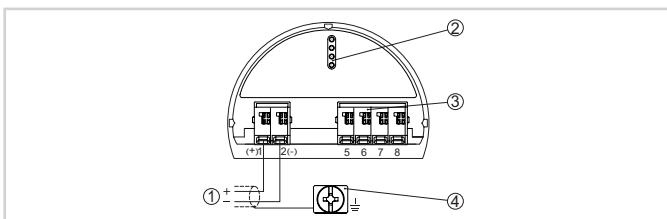
Electrical connection

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

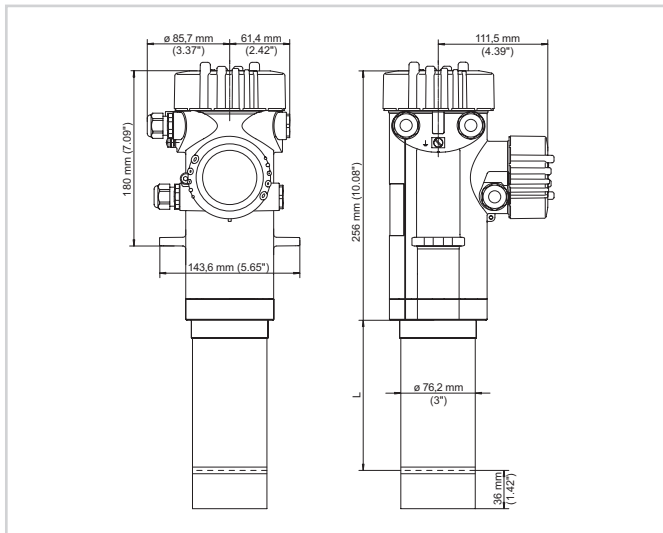
- 1 Power supply
- 2 Relay output
- 3 8/16 mA active output (only explosion protected instruments)
- 4 8/16 mA passive output (only explosion protected instruments)
- 5 4 ... 20 mA input
- 6 Switching input Open Collector
- 7 Switching input relay contact
- 8 Switching output (NPN transistor)
- 9 Multisensor 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 POINTRAC 31

Information

You can find further information about the VEGA product line on our homepage www.vega.com. In the download section under 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" on 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" on www.vega.com/configurator and "VEGA Tools".

Contact

You can find the VEGA agency serving your area on our homepage www.vega.com.