MiniTrac® 31

4 … 20 mA/HART four-wire

Radiation-based Detector for Density or Point Level Measurement

Application Area

The MiniTrac 31 measures the density or mass per volume of liquids and slurries through a pipe or vessel without contact with the material. Typical applications measure the percentage of solids in a carrier fluid. The most common industries for the MiniTrac 31 include:

- Chemical
- Food
- Mining
- Pulp and Paper
- Refining
- Soaps and Detergents

Advantages

- Non-contact measurement
- Unaffected by fluid viscosity, deflection, or refractive properties
- Self-monitoring with user-friendly diagnostics
- Intuitive start-up and adjustment with DTM/EDD
- Designed according to IEC 61508

Function

The MiniTrac 31 is used primarily for measuring the density (mass per volume) of liquids and slurries through a pipe or vessel wall. The detector is mounted on a pipe with a gamma source on the opposite side. A focused beam of radiation is transmitted from the source through the pipe and process material to the detector. The amount of radiation that the detector senses is in proportion to the material's mass.

Technical Data

Temperature Stability	± 0.1 % -40 °C … +60 °C (-40 °F … +140 °F)
Operating Voltage	20 … 72 V DC, 20 … 253 V AC, 50/60 Hz
Power Consumption	4 W @ 24 V DC, 6 V A @ 230 V AC
Ambient, Storage, and Transport Temperature	-40 °C … +60 °C (-40 °F … +140 °F), Extended range available
Switching Current	Max. 3 A @ 250 V AC 1 A @ 24 V DC, min. 10 µA
Enclosure Rating	NEMA 4X, IP 66/67
Weight	4.5 kg (10 lbs.)

Materials

The sensor material type is Sodium Iodide (NaI) Crystal.

Housing Versions

The MiniTrac 31 housing material is cast aluminum with polyester powder coating. The housing is available as a double chamber version.

Electronic Versions

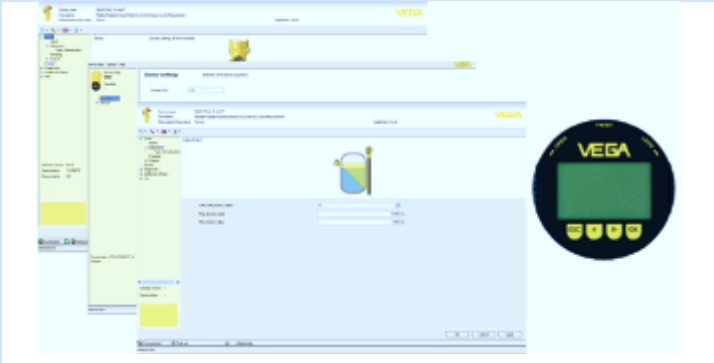
The electronic version for this instrument is 4 … 20 mA/HART. Intrinsically safe output options are also available.

Approvals

ATEX	ATEX II 2G Ex d [ia (Ga)] IIC T6 Gb
	ATEX II 1D, 2D Ex t IIIC T.. Da, Db IP66
CSA	CL I DIV 1 GP ABCD, CL II DIV 1 GP EFG, CL III
FM	CL I DIV 1 GP ABCD, CL II DIV 1 GP EFG, CL III
IEC	IECEx Ex d [ia (Ga)] IIC T6 Gb
	IECEx Ex t IIIC T.. Da, Db IP66

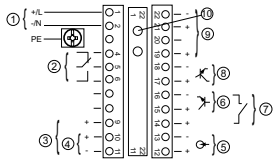
Adjustment

Perform instrument adjustment using a PC with PACTware software and the respective DTM. You may also adjust basic parameters locally using the optional PLICSCOM indicating and adjustment module. An EDD is available that permits basic parameter adjustment remotely using a HART communicator or a manufacturer-specific software such as AMS or PDM.



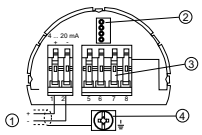
Electrical Connection

Two wiring chambers are provided. For general purpose and explosion proof applications, all wiring is terminated in the primary chamber.



Primary Terminal Connections

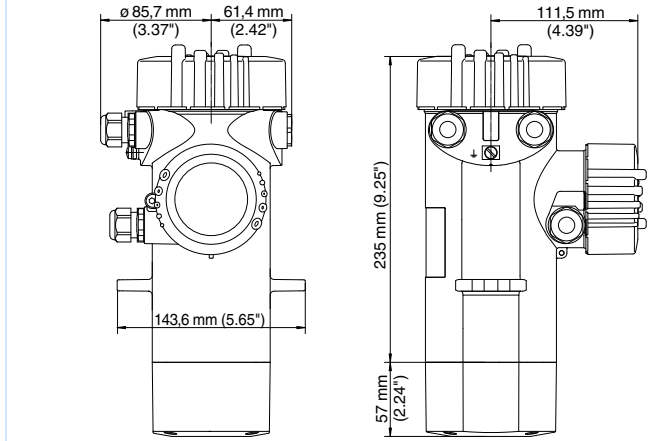
1 *Power Supply*
2 *Relay Output*
3 *4 … 20 mA Output Active (Explosion Proof Gauges Only)*
4 *4 … 20 mA Output Passive (Explosion Proof Gauges Only)*
5 *4 … 20 mA Input*
6 *Digital Input*
7 *Relay Input*
8 *Digital Output*
9 *Multi-gauge Communication*
10 *Address Switches for Multi-gauge Systems*



Secondary Terminal Connections

1 *4 … 20 mA Output option (Intrinsically Safe Gauges Only)*
2 *PLICSCOM Connection*
3 *Connections for Remote Display (VEGADIS 61)*
4 *Ground Connection*

Dimensions



MiniTrac 31

Information

You can find additional information about VEGA Americas product offerings from our homepage, www.vega-americas.com. Brochures, operating instructions, quick reference guides, specification sheets, and drawings are also available from the Downloads section of our homepage.

Device Selection

The Downloads section of our homepage, www.vega-americas.com provides application data sheets so you can select the measuring principle or product for your particular application.

Contact

Please call 1-513-272-0131, Monday through Friday, 8:00 A.M. - 5:00 P.M., EST (Eastern Standard Time) if you have any questions. For emergencies after hours, call the number above and follow the voice mail instructions.

All information is subject to change without notice.