



VELONAT

MESSELEKTRONIK GmbH



Residual quantity sensor



Residual quantity sensor

Series: VSE-0020



Performance features:

- Overfill protection
- Reliable and interference-free signal transmission
- Robust design
- Protection class IP 67

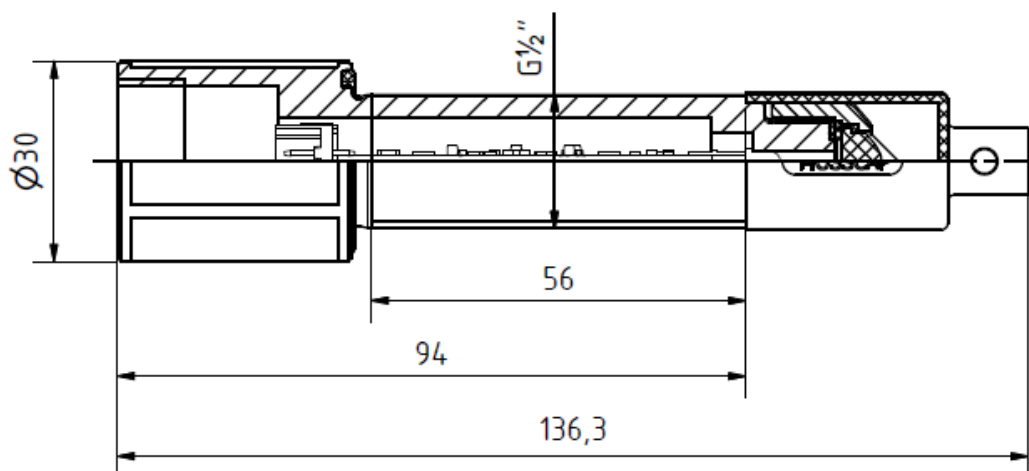
Application areas:

- Optical fill level detection
- Monitoring and ensuring fuel consumption as well as theft detection
- For measuring the fill level of mobile (tanker vehicles) and stationary containers
- Preferably used in pipelines
- Monitoring and control of test processes

The residual quantity sensor is used for level measurement in potentially explosive environment. Both, the sensing element as well as the measuring transducer are integrated in a stainless steel housing. A prism is located at the lower end of the level sensor.

How it works: An electrical signal in the measuring transducer triggers a light pulse by means of an infrared LED. In the dry state (when the prism is not immersed in liquid), the light is reflected in the prism and directed back onto a photodiode. The photodiode converts the light pulse into an electrical signal which is the output signal of the sensor.

However, if the prism is wetted by liquid, there is no reflection onto the photodiode. The light beam is deflected by the changed refractive index in the medium and the return signal does not occur, which means that there is no release.



Technical Data

Operating temperature:

-40 °C ... +85 °C

Connection thread:

G 1/2"

Signal and Supply circuit:

in type of protection intrinsic safety EEX ia IIB only for connection to a certified intrinsically safe circuit with the following maximum values circuit with the following maximum values:

U_i = 13 V

I_i = 250 mA

P_i = 0.7 W

C_i = 700 nF

L_i = negligibly small

Labelling:



II 1 G Ex ia op is IIB T3 Ga

Pin Assignment

Cable:

Type of cable
Length of cable
End of cable

Description:

PUR measuring cable shielded 2 × 0.25 mm²
6 m
Wire end ferrules

Cable color:

Brown
White

Description:

Ground GND (-)
Power supply UB (+)

Further Information

Electrical installation instructions:

- The electrical installation must be carried out in accordance with DIN EN 60079-14 "*Planning, selection and installation of electrical systems*".
- The cable ends must be fitted with wire end ferrules.
- The wiring must be carried out in accordance with the wiring diagram supplied.
- The cables must be laid in such a way that they cannot be kinked or damaged.
- Cable glands must be tightened at least until they engage noticeably.

Setting instructions:

The height of the switching point on the residual quantity sensor is adjusted by shortening the spacer ring.

Testing after initial installation:

After installing the sensor, the functionality of the residual quantity sensor must be checked.