

Sonometer 11

Portable instrument for level measurement and control

Non-invasive ultrasonic measuring principle

Applications

- Continuous level measurement in containers and tanks filled with liquids or liquified gases
- Distance determination
- Limit detection in containers and tanks

Advantages

- No contact between sensor and liquid
- Easy and cost effective installation - sensor is simply attached to the outside of the tank; no holes to drill
- Suitable for high pressure, corrosive, aggressive and toxic media
- No problems with foam or gaseous turbulences on the liquid surface
- Measurement is independent of air temperature
- Short evaluation time of signals
- Level measurements for large tanks with a maximum measuring range of 15 m
- Up to 8 hours of operation without recharging of battery

Description

The Sonometer 11 is a portable level measuring instrument which utilises ultrasonic signals for the precise level control and measurement of liquids. The sensors are attached to the outside of the tank and measurements are made through the wall. There is no need to drill holes or to perform any welding to install the sensors.

Since there is no contact between the sensors and the liquid to be measured, the device can be used for hygienic applications and for the measurement of aggressive media.



Portable level measuring device Sonometer 11



Application of Sonometer 11

The portable Sonometer 11 is a flexible measuring instrument designed for the needs of the Service and Commissioning Engineer to check the content of tanks, containers and standing pipes with a measuring range of up to 15 m.

Measuring principle

Sonometer 11 is a portable level measuring device using sensors which are installed to the outside of tanks or pipes. Ultrasonic signals are continuously transmitted through the wall and into the liquid. The received echo signals are evaluated in the electronics. The measured value is displayed on the LCD display of the instrument.

Requirements

The liquid medium should only contain a small amount of gaseous or solid content. The tank bottom should be free of or be covered only by a little amount of deposit material.

The material of the tank can be plastic, glass, stainless steel or a similar material with a wall thickness of 1 to 5 mm.

Technical data

Measuring principle

Ultrasound-pulse-echo method with clamp-on sensor

Ultrasonic sensor

HE 02 (standard), others upon request

Sensor mounting

The sensor is mounted to the outside of the tank bottom.

Cable length to the sensor

Approx. 1.5 m

Tank and/or pipe material

Steel, stainless steel, enameled steel, other metals, glass, plastics

Adjustments

Parameters are set via the keyboard and the integrated LCD display

Signal processing

Integration, delay function, inverter function

LED's

Power, signal, relays

Output signal

Minimum, normal, maximum, alarm

Output via signal socket located at the rear panel

Current output

0/4 ... 20 mA, proportional to measured level

Power supply

In-built, re-chargeable battery

Power adapter included

Size/dimensions

(W x L x H): 210 x 204 x 125 mm / IP54 / 2900 g

Electrical connections

For ultrasonic sensor

Test output for oscilloscope

RS 232 interface for parameter setup and measured value transfer

Temperature range

Electronics: -20 °C ... +40 °C

Sensors: HE 02 (standard) -20 °C ... 80 °C
(-20 °C ... + 135 °C possible)

Delivery schedule

Sensor fixings

Acoustic coupling component

Portable unit

Sensor selected according to application