



## ultrasonic level indicator SonarFox® UST 20-21D01

**Part no. 33557**

**ultrasonic level indicator**

### benefits

- non-contact level measurement
- easy adjustment even without medium
- robust housing for rough ambient conditions
- Suppression of interference signals
- Optional Ex version

### Application

For continuous, non-contact level measurement in open or closed containers, tanks or silos. Suitable for liquid, mushy and pasty media. Ideal for sludge, adhesives, resins and waste water. The device can be easily adjusted even without a medium by means of the programming display with user-friendly menus. It also serves as a local display.

### Description

The SonarFox® UST 20 level indicator uses the physical properties of ultrasonic waves to determine the level. An ultrasonic wave is emitted which is reflected by objects in the sound cone. The time up to the reception of the reflected echo is a measure of the distance. Since the mounting position is defined, it is possible to calculate the filling level of the medium. Type, density and temperature of the medium have no effect on the measurement – the only prerequisite is a reflecting surface. Acoustically diffuse surfaces such as foam or uneven surfaces of bulk solids are to be tested with regard to the application. An optional, additional alignment horn adapter can be used for such media. Installations or stirrers above the surface of the medium can be masked during empty setup.

### Technical Specifications

#### Display

5-digit, 9 mm high, yellow Matrix OLED  
Resolution 128 x 64 pixels

#### Measuring range

UST 20-21  
0.4/10 m

#### Resolution

UST 20-21  
< 1 mm

#### Measuring accuracy

± 0.15 % FS

#### Temperature error

max. 0.04 %/K

**Measuring frequency**

UST 20-21  
50 kHz

**Measuring interval**

0–4 s

**Operating temperature range**

UST 20-21  
-30/+60 °C  
at process connection up to 90 °C (short-term up to 60 minutes)

**Process pressure**

max. 1 bar

**Process connection**

UST 20-21  
PP, G2¼B, with lock nut

**Supply voltage**

DC 18 – 36 V

**Output signal**

4–20 mA/HART, 2-wire

**Load**

$R_{\max} = 270 \Omega$  at  $U = 24 \text{ V}$

$R_{\max} = 180 \Omega$  at  $U = 22 \text{ V}$

$R_{\max} = 90 \Omega$  at  $U = 20 \text{ V}$

$R_{\max} = 45 \Omega$  at  $U = 19 \text{ V}$

**Options**

- Output RS-485 Modbus RTU
- Ex version

**Current input**

max. 22 mA

**Signal damping**

adjustable from 0 to 99 s

**Housing**

aluminium die cast

**Ultrasonic transducer**

PVDF

**Degree of protection**

IP 67 (EN 60529)

**Electrical connection**

Cable gland M16 x 1.5

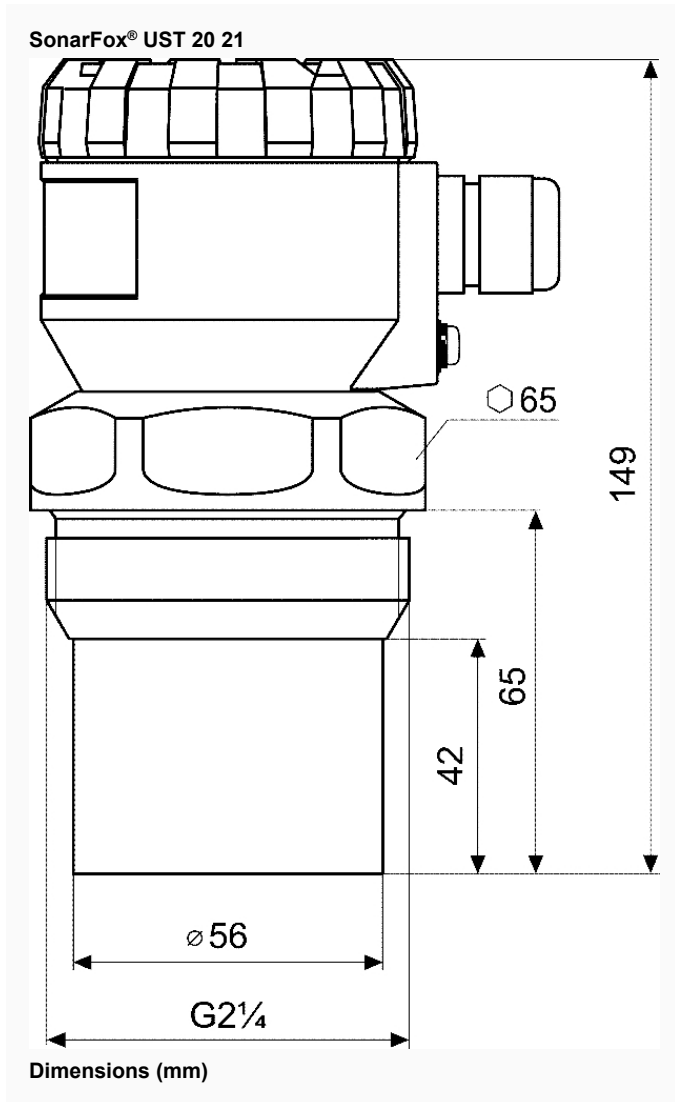
**Weight**

UST 20-21  
0.6 kg

**Options**

- Output RS-485 Modbus RTU
- Ex version

**Technical Drawings**



**Versions**

		Part no.
ultrasonic level indicator SonarFox® UST 20-21D01	measuring range 0.4/10 m, G2¼B, with display	33557

- in-stock items
- Non-stock items