



Brief Operating Instructions Prosonic T FMU30

Ultrasonic measuring technology

These Brief Operating Instructions are not a substitute for the Operating Instructions pertaining to the device. Detailed information is provided in the Operating Instructions and other documentation.

Available for all device versions via:

- Internet: www.endress.com/deviceviewer
- Smartphone/tablet: Endress+Hauser Operations app

Basic safety instructions

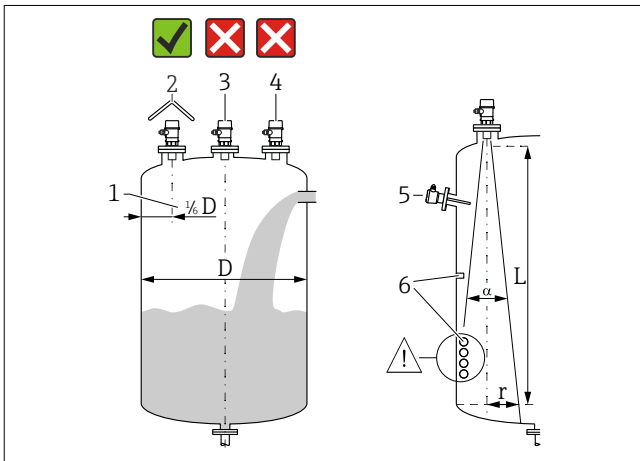
Requirements of the personnel

Personnel must meet the following requirements to perform their tasks:

- ▶ Trained specialists must have a qualification that is relevant to the specific function and task.
- ▶ Must be authorized by the plant owner/operator.
- ▶ Must be familiar with national regulations.
- ▶ Must have read and understood the instructions in the manual and supplementary documentation.
- ▶ They must follow instructions and comply with general policies.

Intended use

Mounting



1 Installation conditions for sensor for level measurements

- Distance to vessel wall: $\frac{1}{8}$ of vessel diameter
- Use of a weather protection cover; protection from direct sunlight or rain
- Do not install the sensor in the middle of the vessel
- Avoid measurements through the filling curtain
- Do not install point level switches or temperature sensors within the beam angle
- Symmetrical internal fixtures, e.g. heating coils and baffles, negatively impact the measurement

- Mount only 1 device per vessel: The signals of several devices affect each other.
- Determine the detection range, use 3-dB angle α :

Compact device for continuous, non-contact level measurement. The measuring range is up to 8 m (26 ft) for liquids and up to 3,5 m (11 ft) for bulk solids. Flow measurements can be carried out in open flumes and weirs with the linearization function.

Operational safety

Risk of injury!

- ▶ Operate the device only if it is in proper technical condition, free from errors and faults.
- ▶ The operator is responsible for the trouble-free operation of the device.

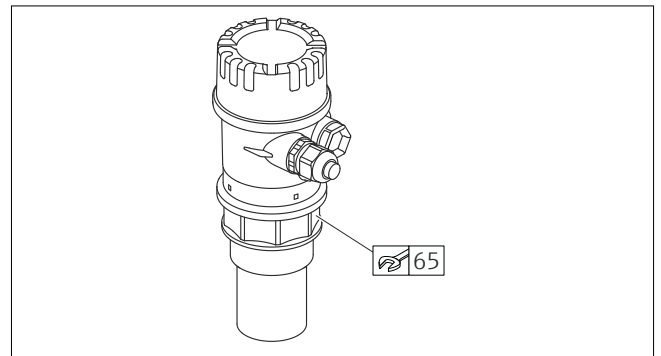
Sensor	α	L_{\max}	r_{\max}
1 1/2"	11 °	5 m (16 ft)	0.48 m (1.6 ft)
2"	11 °	8 m (26 ft)	0.77 m (2.5 ft)

Mounting the device

NOTICE

The device can be damaged.

- ▶ Tighten the device at the threaded boss only, with maximum 7 Nm (5.16 lbf ft).

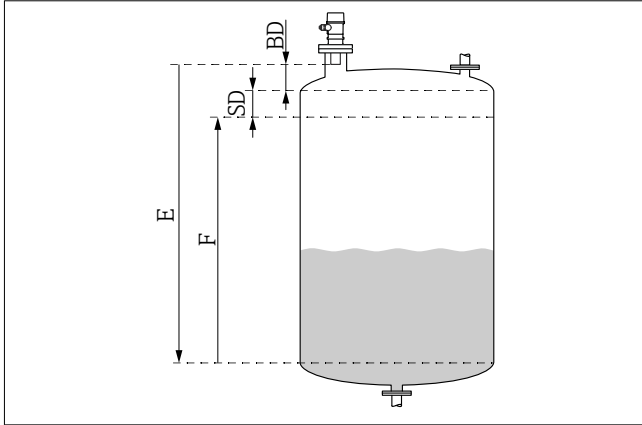


2 Mounting at threaded boss, width across flats SW/AF 65

NOTICE

If the blocking distance is undershot, this may cause a device malfunction.

- ▶ Mount the measuring device high enough that the blocking distance is not reached at the maximum fill level.
- ▶ Specify the safety distance (SD).
- ▶ If the level enters the safety distance SD, the device generates a warning or alarm.
- ▶ Span F may not extend into the blocking distance BD. Level echoes within the blocking distance cannot be evaluated due to the transient response of the sensor.



3 Parameters for the correct operation of the device

- BD Blocking distance
- SD Safety distance
- E Empty calibration
- F Span



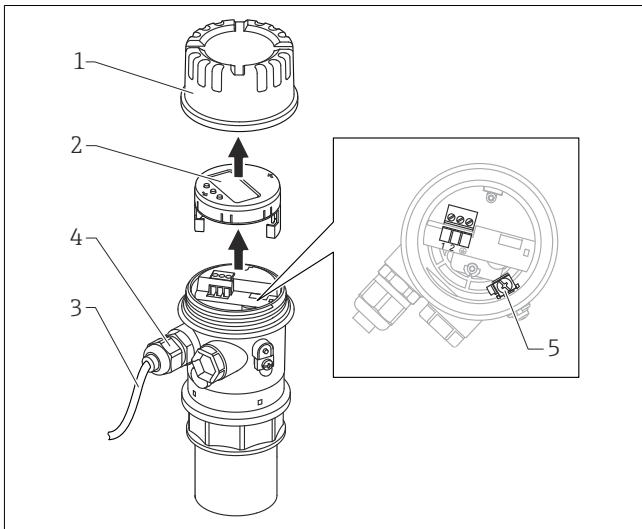
If the blocking distance cannot be maintained, use a pipe nozzle. For further information, see the Operating Instructions and Technical Information.

Electrical connection

WARNING

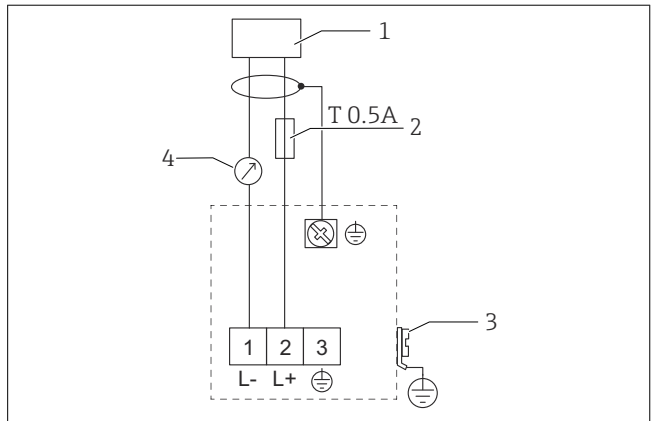
Risk of explosion due to faulty connection.

- ▶ Observe applicable national standards.
- ▶ Comply with the specifications in the Safety Instructions (XA).
- ▶ Check to ensure that the supply voltage matches the information on the nameplate.
- ▶ The specified cable gland must be used.
- ▶ Switch off the supply voltage before connecting.
- ▶ Connect the potential equalization line to the outer ground terminal before applying the supply voltage.
- ▶ When connecting to the public mains, install a mains switch for the device such that it is within easy reach of the device. Mark the switch as a disconnector for the device (IEC/EN61010).



1. Unscrew the housing cover (1).

2. Remove the display (2) if one is fitted. Disconnect the display plug.
3. Guide the cable (3) through the gland (4). Avoid moisture in the housing, provide a loop to allow moisture to drain off.
4. Connect the instrument cable with the ground terminal (5) in the terminal compartment.



- 1 Supply voltage
- 2 Fuse according to IEC 60127, T0, 5A
- 3 PAL (potential equalization)
- 4 4 to 20 mA

1. Wire up according to the terminal assignment diagram.
2. Tighten the cable gland.
3. Insert the display if one is fitted.
4. Screw on the housing cover.
5. Switch on the power supply. Supply voltage directly at the device: 14 to 35 V.

Commissioning, menu settings and operation, see Operating Instructions.