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General Information

This document contains information that you need in order to mount and install your product.

This document does not substitute the instruction manual.

For full information on the product, refer to the instruction manual and further documentation on the Internet at www.pepperl-fuchs.com.

For specific device information such as the year of construction, scan the QR code on the device. As an alternative, enter the serial number in the serial number search at www.pepperl-fuchs.com.

Note

Further information is available on the product detail page of the device on the Internet at www.pepperl-fuchs.com.

Enter the order designation in the search field
→ Select the appropriate device
→ Open the product detail page
→ Open the **Product Documentation** tab.

Target Group, Personnel

Responsibility for planning, assembly, commissioning, operation, maintenance, and dismounting lies with the plant operator.

The personnel must be appropriately trained and qualified in order to carry out mounting, installation, commissioning, operation, maintenance, and dismounting of the device. The trained and qualified personnel must have read and understood the instruction manual.

Prior to using the product make yourself familiar with it. Read the instruction manual carefully.

Intended Use

The device is only approved for appropriate and intended use. Ignoring these instructions will void any warranty and absolve the manufacturer from any liability.

Only use the device in the industrial location.

The device is a vibration limit switch for minimum or maximum detection in tanks, containers and piping with all types of liquids

Use the device only within the specified ambient and operating conditions.

Only use the device in media to which the process-contacting materials of the device are sufficiently resistant.

Improper Use

Protection of the personnel and the plant is not ensured if the device is not used according to its intended use.

Mounting

The mounting process is illustrated in the following section on the basis of sample configurations.

Note

For more information see the manual.

Mounting Requirements

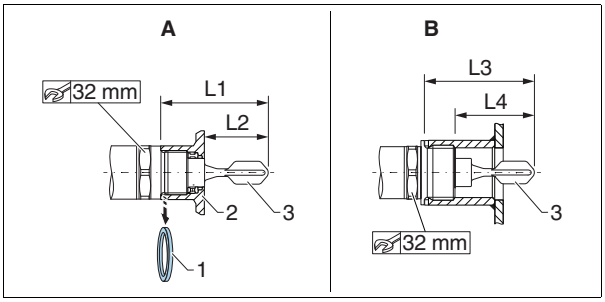


Figure 1

A	Device with weld-in adapter
B	Device in customer socket
1	Flat seal
2	Weld-in adapter
3	Tuning fork
L1	with G1 thread: 66.4 mm (2.61 inch) / with G3/4 thread: 63.9 mm (2.52 inch)
L2	with G1 thread: 48.0 mm (1.89 inch) / with G3/4 thread: 38.0 mm (1.5 inch)
L3	with G1 thread: 66.4 mm (2.61 inch)
L4	with G1 thread: 47.9 mm (1.8 inch)

Installation is possible in any position in a vessel, pipe or tank under the following conditions:
- When installed horizontally in a vessel, the tuning fork may be located in an installation socket only if liquids with low viscosity (< 2000 mPa·s) are used.
- Minimum diameter of installation socket: 50 mm (2.0 inch)
- Select a maximum length for the installation socket that enables the tuning fork to project freely into the vessel.
- Ensure that there is sufficient distance between the expected buildup on the tank wall and the fork. Recommended distance from wall ≥ 10 mm (0.39 inch).

Important Process Conditions

Pressure and temperature (maximum):
- with weld-in adapter
  - +25 bar (+362 psi) at +150 °C (+302 °F)
  - +40 bar (+580 psi) at +100 °C (+212 °F)
- in customer socket
  - +40 bar (+580 psi) at +150 °C (+302 °F)

Operating altitude: up to 2000 m (6600 foot) above sea level

Note

In the case of seals used at the customer site, pay attention to the temperature and pressure specifications.

Mounting the Device

An open-ended wrench (32 mm) is required for mounting.
- For the NTP thread (ANSI B 1.20.1): Use sealing material (PTFE) if necessary.
- For the weld-in adapter with a flush-mount seal: Remove the supplied flat seal (1) from the thread.
- For the weld-in adapter with leakage hole: Make sure the leakage hole points downwards.

Aligning the Tuning Fork

The markings for the material specification (e. g. 316L) or the thread designation (e. g. G3/4) on the device are aligned with the opening of the tuning fork and therefore aid orientation.

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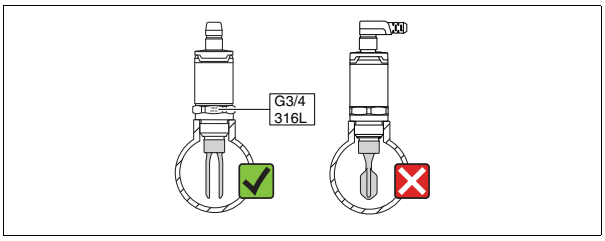


Figure 2

In the pipe: Align the opening of the tuning fork parallel to the flow direction in such a way that the liquid can flow unhindered between the two tuning fork elements.

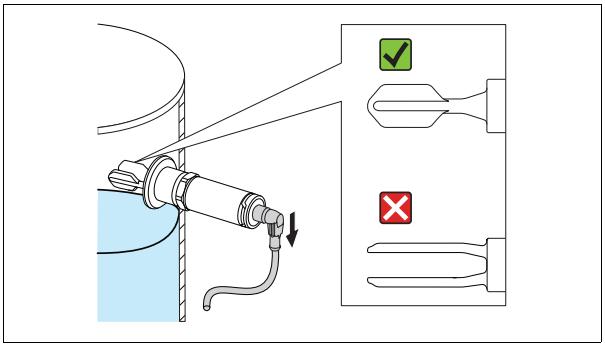


Figure 3

For horizontal installation in a vessel: Align the tuning fork in such a way that both tuning fork elements are simultaneously covered with liquid.

Fixing the Device

Fix the device with a maximum torque of 30 Nm (22 lbf ft). Also pay attention to the alignment of the tuning fork when doing so.

Electrical Connection

The connection with the M12 plug is presented in the following section.

Note

For more information see the manual.

Note

In accordance with IEC/EN 61010 a suitable isolator must be provided for the device.

Power Supply

Electronic version	Supply voltage	Power consumption	Current consumption
3-wire DC-PNP	10 to 30 V DC	< 975 mW	< 15 mA
2-wire AC/DC	20 to 253 V	< 850 mW	< 3.8 mA

Table 1

Reverse polarity protection	**2-wire AC/DC** • AC mode: The device has reverse polarity protection.. • DC mode: In the event of reverse polarity the maximum safety mode is always detected. Check the wiring and perform a function check before commissioning. The device is not damaged in the event of reverse polarity. **3-wire DC-PNP** Integrated. In the event of reverse polarity, the device is deactivated automatically.

Connection with M12 Plug

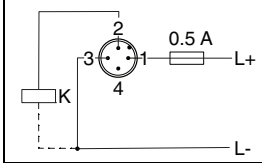
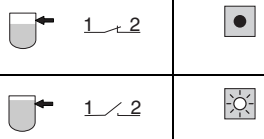
Maximum safety		
Terminal assignment	**MAX output**	**Yellow LED**
		

Table 2

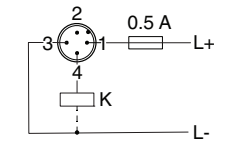
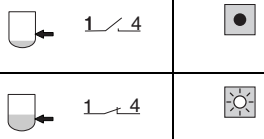
Minimum safety		
Terminal assignment	**MIN output**	**Yellow LED**
		

Table 3

LED Indicator

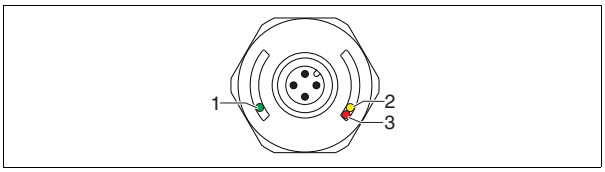


Figure 4

1 LED is green: the device is operational

2 LED is yellow: tuning fork is covered by liquid

3 LED is red: warning/maintenance required (LED flashing) or fault/ device failure (LED is lit)

Note

On the metal housing cover (IP69), there is no external signaling via LEDs.

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