



# Brief Operating Instructions

## Liquipoint FTW23

### IO-Link

Point level switch for liquids  
in the food and beverage industry

These Instructions are Brief Operating Instructions; they are not a substitute for the Operating Instructions pertaining to the device.

Detailed information about the device can be found in the Operating Instructions and the other documentation:

Available for all device versions via:

- Internet: [www.endress.com/deviceviewer](http://www.endress.com/deviceviewer)
- Smart phone/tablet: *Endress+Hauser Operations App*

## Basic safety instructions

### Requirements for the personnel

The personnel for installation, commissioning, diagnostics and maintenance must fulfill the following requirements:

- ▶ Trained, qualified specialists must have a relevant qualification for this specific function and task
- ▶ Are authorized by the plant owner/operator
- ▶ Are familiar with federal/national regulations
- ▶ Before starting work, read and understand the instructions in the manual and supplementary documentation as well as the certificates (depending on the application)
- ▶ Follow instructions and comply with basic conditions

The operating personnel must fulfill the following requirements:

- ▶ Must be suitably trained and authorized by the plant operator to meet the requirements of the task
- ▶ Follow the instructions in this manual

### Intended use

The measuring device described in this manual may be used only as a point level switch for water-based liquids. Incorrect use may pose a hazard. To ensure that the measuring device remains in perfect condition during the operating time:

- Measuring devices must be used only for media to which the process-wetted materials have an adequate level of resistance.

- The relevant limit values must not be violated, see the Technical Information manual.

### Incorrect use

The manufacturer is not liable for damage caused by improper or non-intended use.

### Residual risks

Due to heat transfer from the process, the temperature of the electronics housing and the assemblies contained therein may rise to 80 °C (176 °F) during operation.

Danger of burns from contact with surfaces!

- ▶ In the event of elevated fluid temperatures, ensure protection against contact to prevent burns.

### Operational safety

Risk of injury!

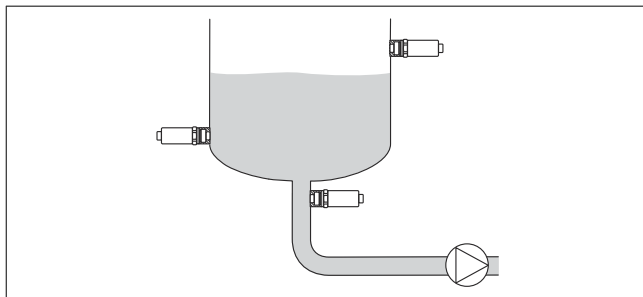
- ▶ Operate the device only if it is in proper technical condition, free from errors and faults.
- ▶ The operator is responsible for the interference-free operation of the device.

## Mounting

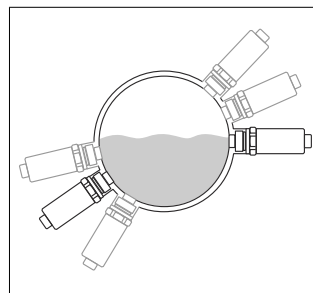
### Mounting requirements

- Installation is possible in any position in a vessel, pipe or tank
- For measuring points that are difficult to access, use a socket wrench.

The socket wrench 32 AF can be ordered as an optional extra.



1 Installation examples: vessel



2 Installation examples: pipe



Vertical installation:

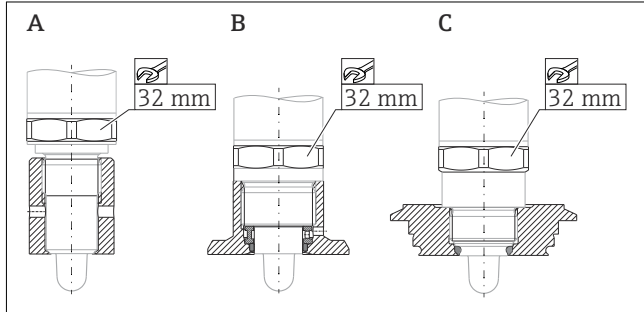
If the sensor is not completely covered by the medium or if there are air bubbles on the sensor, this may interfere with the measurement.

**Mounting the device**

Required tools:  
Open-ended wrench or socket wrench 32 AF

*Installation*

- When screwing in, turn by the hex bolt only.
- Torque: 15 to 30 Nm (11 to 22 lbf ft)



A Thread G 1/2"  
B Thread G 3/4"  
C Thread M24x1.5

**i** Take account of metallic or non-metallic vessels or pipes in accordance with EMC guidelines, see the Technical Information manual.

**Electrical connection**

The measuring device has two modes of operation:

- Maximum point level detection (MAX):** e.g. for overflow protection  
The device keeps the electrical switch closed as long as the sensor is not yet covered by liquid or the measured value is within the process window.
- Minimum point level detection (MIN):** e.g. to protect pumps from dry running  
The device keeps the electrical switch closed as long as the sensor is covered by liquid or the measured value is outside the process window.

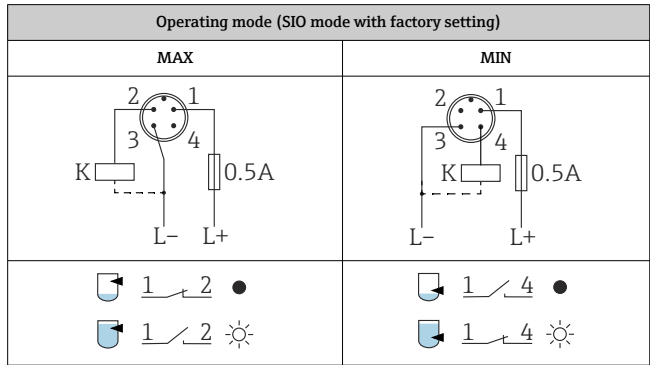
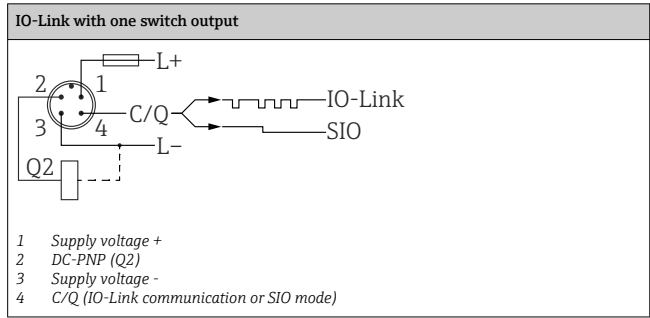
Choosing the MAX or MIN mode of operation ensures that the device switches in a safety-oriented manner even in an alarm condition, e.g. if the power supply line is disconnected. The electronic switch opens if the point level is reached, if a fault occurs or if the power fails (quiescent current principle).

- i** IO-Link: communication on Q1; switch mode on Q2.
- SIO mode: If there is no communication, the device switches to the SIO mode = standard IO mode.

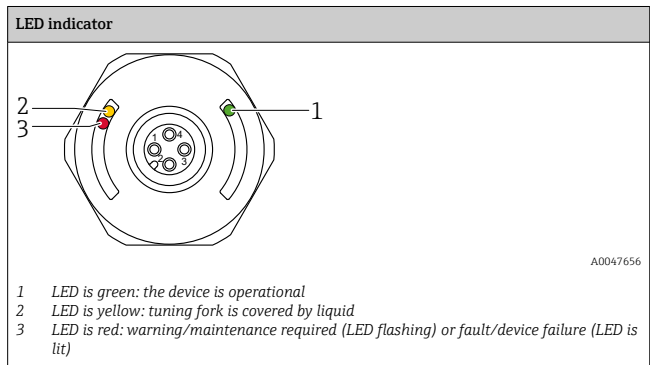
The factory-set functions for the MAX and MIN modes can be changed via IO-Link.

- Supply voltage 10 to 30 V DC at a DC power unit.  
IO-Link communication is guaranteed only if the supply voltage is at least 18 V.
- In accordance with IEC/EN61010 a suitable circuit breaker must be provided for the measuring device.
- Voltage source: Non-hazardous contact voltage or Class 2 circuit (North America).
- The device must be operated with a fine-wire fuse 500 mA (slow-blow).

*Connecting the device with M12 plug*



Symbols	Description
*	Yellow LED lit
•	Yellow LED not lit
K	External load



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