



Products and Solutions

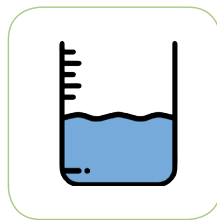
To Measure, Monitor and Control



Flow



Pressure



Level



Temperature



Analytical

For The Process Industries

AE730 Series Tuning Fork Level Switch (Sanitary Type)



Design

The AE730 Series Tuning Fork Level Switch is designed for level detection in demanding areas of process application. Typical applications are high and low detection, overflow or dry run protection in the food & beverage, pharmaceutical, chemical, water and waste water treatment industries.

Features

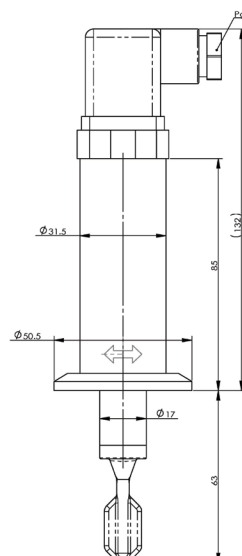
- All Stainless steel wetted parts construction
- Simple setup and installation in vessel, tank and pipe
- Works under turbulences, air bubbles, foam buildup, high viscosity media
- High reliability

Specifications

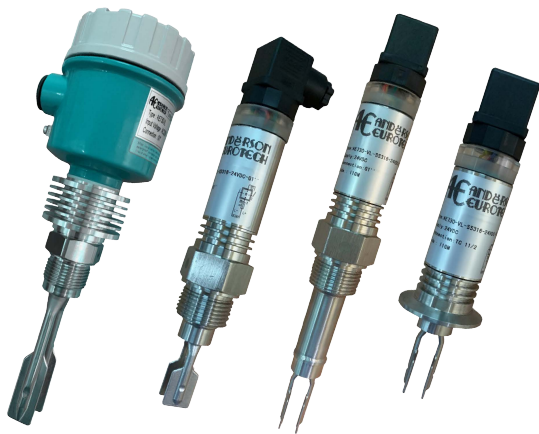
Fork and Fitting Material	Stainless Steel 316
Process Connection	Tri-Clamp (threaded and flange on request)
Media Pressure	Up to 20 Bar
Media Temperature	-30°C to +85°C (up to +150°C with extended stem version)
Surface Finish	Fork <1.6um Other internal surface <3.2um
Hysteresis	Approx. 3 mm with vertical installation
Response Time	Approx. 1 sec
Delay Time	Approx. 1 to 30 sec
Viscosity Limit	< 150cP
Density Limit	min 0.6g/cm ³

Power Supply	12 to 30VDC
Power Consumption	1.4W for relay output version 0.8W for PNP/NPN output version
Output	Relay SPST or PNP/NPN
Load Current	DC 30V/3A for Relay version 500mA for PNP/NPN version
Electrical Connection	Cable Plug
Enclosure Protection	IP65 (with cable plug properly installed)

Dimensions (mm)



AE730-VL Tuning Fork Level Switch (DC Compact Version / AC with Housing Version)



Design

The AE730-VL Tuning Fork Level Switch is designed for level detection in demanding areas of process application. Typical applications are high and low detection, overflow or dry run protection in the food & beverage, pharmaceutical, chemical, water and waste water treatment industries.

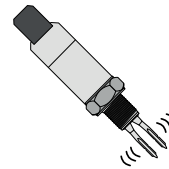
Features

- All Stainless steel wetted parts construction
- LED status indication
- Simple setup and installation in vessel, tank and pipe
- Works under turbulences, air bubbles, foam buildup, high viscosity media
- High reliability

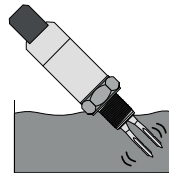
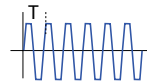
Specifications

Type	DC or AC version
Fork and Fitting Material	SS316
Stem and Casing Material	DC version: SS304 AC version: SS304 with aluminum alloy housing
Process Connection	DC version G1, Tri-Clamp AC version: G1
Insertion Length	DC version: 40 mm DC with extended tube version: 100 mm AC version: 100 mm (Other length on request)
Media Pressure	Up to 40 Bar
Media Temperature	Standard version: -20°C to +90°C High Temperature version: -20°C to +120°C Up to +150°C short time for CIP
Ambient Temperature	-20°C to +80°C
Density Limit (Water)	>0.7 g/cm ³
Hysteresis (Water)	Approx. 3 mm with vertical installation
Response Time	DC version: Approx. 1 ~ 3 sec AC version: Adjustable delay up to 60 sec
Operating Voltage	DC version: 24 VDC AC version: 220VAC 50Hz
Output	DC with cable plug version: 1 x SPST AC with aluminum housing version: 1 x DPDT
Rated Load	DC version: 125VAC 1A / 30VDC 2A AC version: 220VAC 6A / 24VDC 3A
Electrical Connection	DC version: Cable plug AC version: Cable gland
Enclosure Protection	IP 65

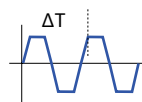
Operating Principle



- Electronics of AE730VL excites the piezo-electric-crystals inside the tuning fork, which makes the fork vibrate at their natural resonance frequency in free air.

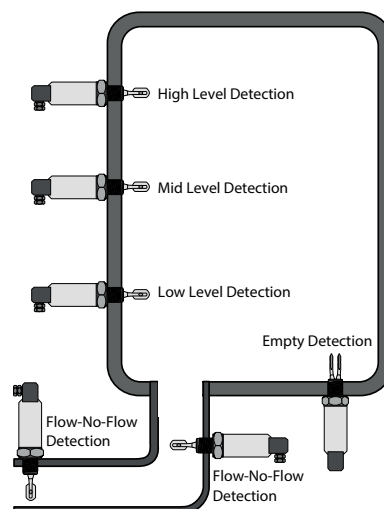


- When the fork are immersed in liquid, the frequency of fork vibration falls due to the density of liquid.



- This change in frequency is detected by the electronic circuit.
- Liquid presence is thus detected.

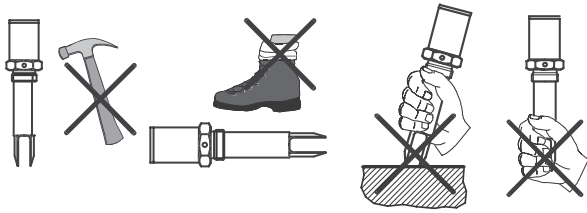
Typical Applications



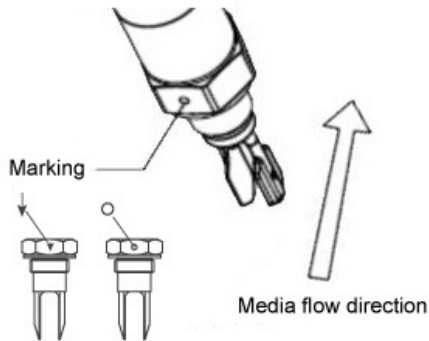
AE730-VL Tuning Fork Level Switch (DC Compact Version / AC with Housing Version)

Installation

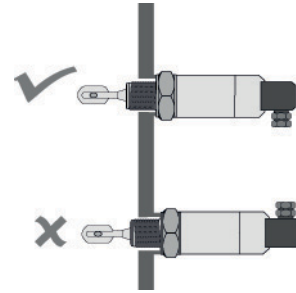
- Avoid mechanical damage



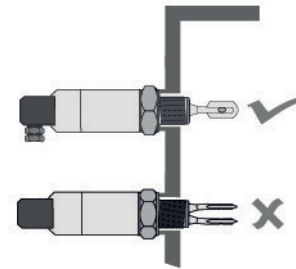
- Ensure correct flow direction that media flows between the tines. For positioning the tuning forks, use the marking on the hexagonal neck or round neck.
- Use PTFE tape to aid the positioning of the fork-tine.



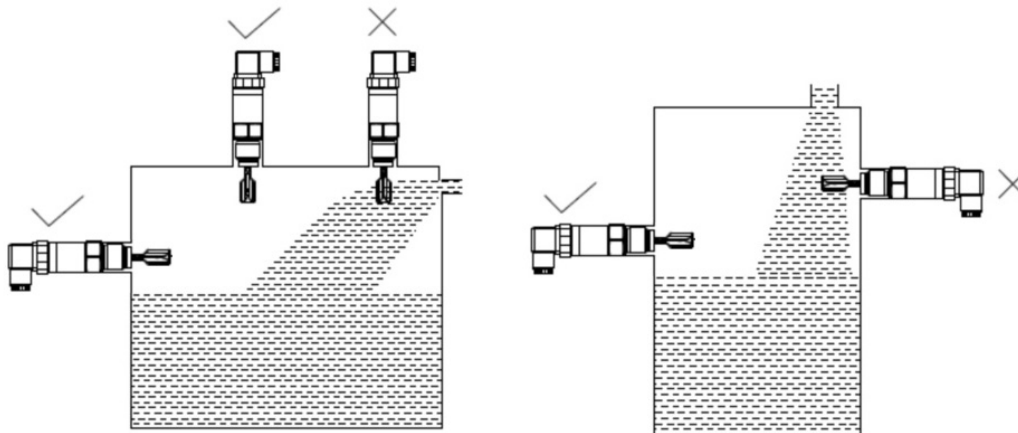
- Cable entries must face downwards only
- Cable entries should never be face upwards



- For horizontal installation or high viscous media the fork tines should not face horizontal



- Place sensor away inlet port or incoming media to prevent damage to the tines

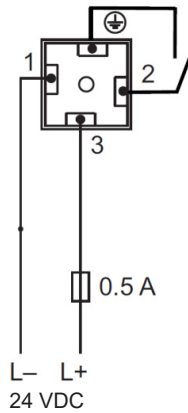


AE730-VL Tuning Fork Level Switch

(DC Compact Version / AC with Housing Version)

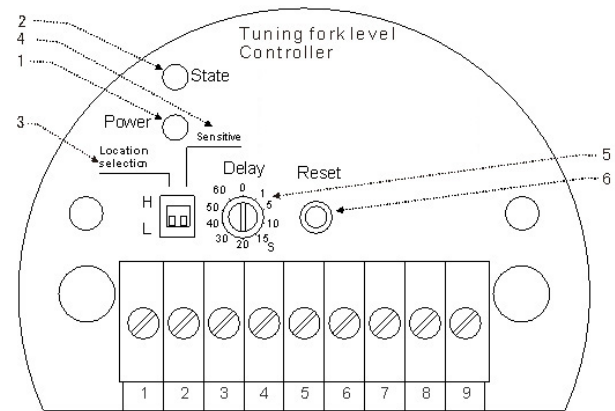
Wiring

DC version with cable plug



- Power indicator turns green when power is supplied
- Connections 2 and 4 close when fork is wet (switch indicator light turns red)

AC version with aluminum alloy housing



Explanation

1. Power indicator (Green when power is on)
2. Relay indicator
3. Low or High level limit setting switch
 - Select L for low level limit (Relay indicator turns red when tuning fork is wet)
 - Select H for high level limit (Relay indicator turns red when turning fork is dry)
4. Sensitivity adjustment
5. Switching relay delay adjustment
6. Reset button

Connections

Terminals 1 and 2: 220 VAC
Terminal 3: Ground

With Limit Setting Switch set to L

Terminals 4 and 5, 7 and 8 close

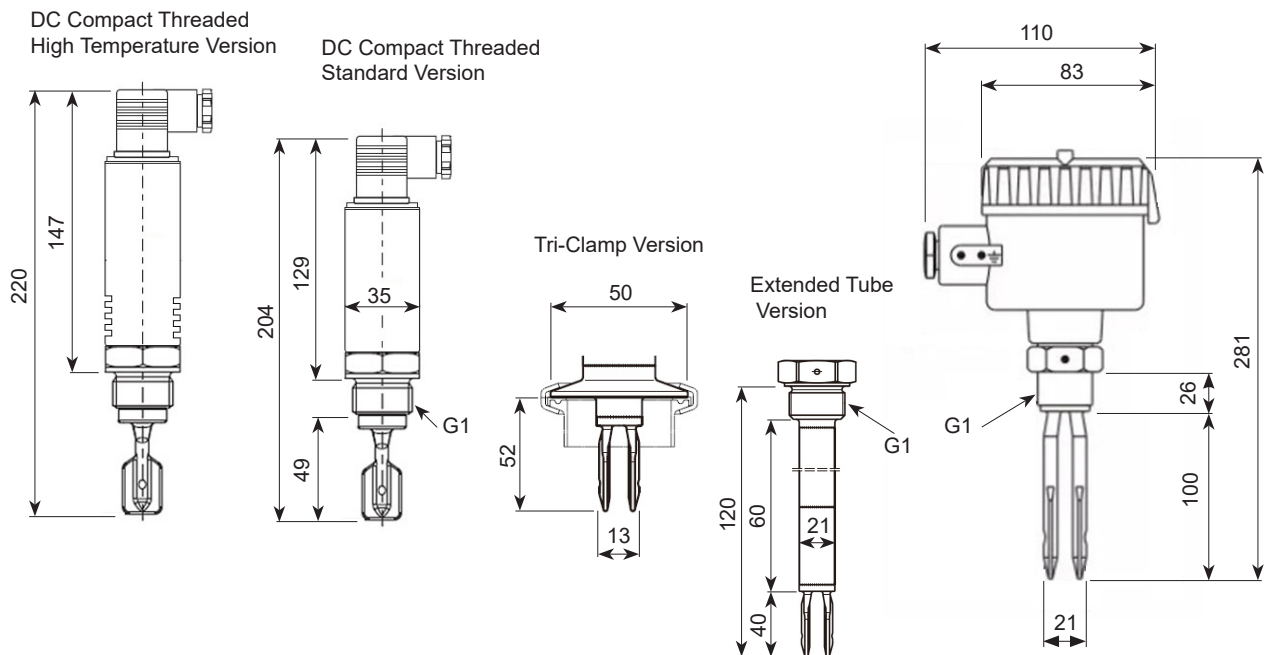
Terminals 5 and 6, 8 and 9 open

With Limit Setting Switch set to H

Terminals 4 and 5, 7 and 8 open

Terminals 5 and 6, 8 and 9 close

Dimensions (mm)





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