HYM610 Turning Fork Switch

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Overview

HYM610 Turning Fork Switch is a new-style level switch. The turning fork of sensor vibrates at its natural frequency. When the turning fork touches liquid or other mediums, its natural frequency reduces because the energy is consumes on the friction between particles to force the amplitude to decrease sharply then to stop. The change of frequency actives liquid level switch and creates in-off signals. This operating principle does not need massive mechanical motion with low driving power and adjustment free, it can start up quickly with low cost. It also has many advantages such as sample structure, no moving parts, maintenance free, no wearing, long operating life, flexibility and reliability. Turning fork switch can be used whenever the float level switch cannot be used due to the structure, turbulence, agitation, bubbles, vibration and other reasons. Turning fork witch is also called “electric float”. It has no switch moving parts, so there is no need for maintenance or adjustment. It is the upgraded product of float level switch. Turning fork level switch is widely used in the petrochemical, light industry, food, water treatment and other industries to alarm and control the upper and lower limit of the material level.

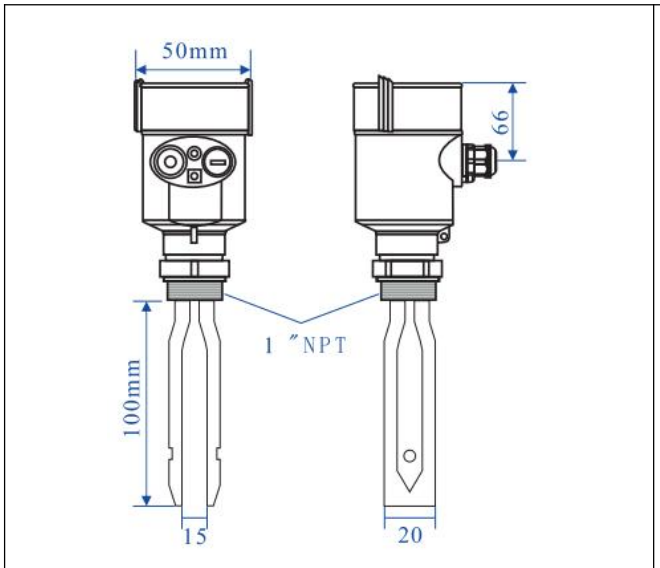
Features

- Strong adaptation
- The different electrical parameters and densities of measuring medium have no influence for the measurement. Scale formation, agitation, turbulence, bubbles, vibration, medium viscosity, high temperature and other terrible conditions also have no influence for the measurement.
- Adjustment free
- The measurement of limit switch of turning fork does not influenced by the electrical parameters and densities of measuring medium, therefore, there is no need to do field adjustment no matter what kind of liquid is measured.
- Maintenance free
- The measuring process of limit switch of turning fork is completed by electronic circuit, without any moving parts, therefore, there is no need to maintain once it is installed and put into use.

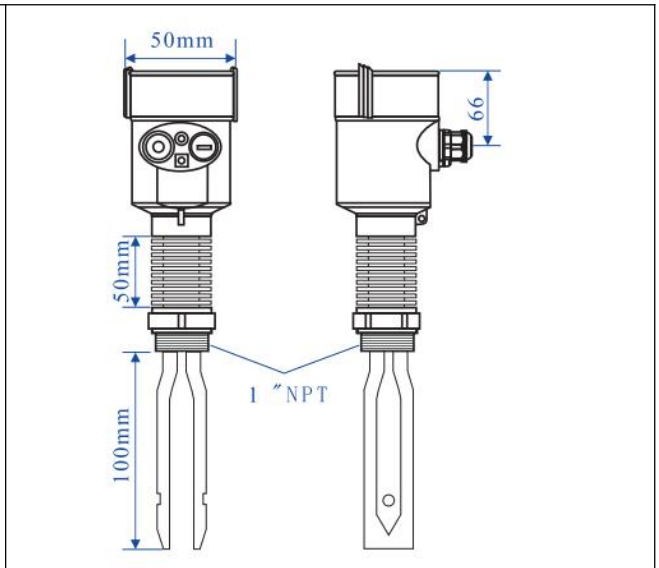
Technical Parameters

Supply Voltage	24VDC or 220VAC
Output Way	SPDT relay (single-pole double-throw)
Ambient Temp	-20℃～70℃
Medium Temp	-40℃～150℃
Operation Pressure	Less than 2MPa
Medium Density	Minimal 0.6g/cm3
Time-lapse	1～50s（optional）
Power Dissipation	0.5W
High-low signal Alarm	It can be set as HLFS (high alarm) or LLFS (low alarm)
Thread Spec	1”NPT thread installment（standard，BSPT optional） Flange installment（optional,other can be customize
Electrical Connection	M20*1.5 Female, other can be customize
Ingress Protection of Shell	IP65
Explosion-proof	Exd II CT4

Dimension Drawing



Normal temperature type



High temperature type

Installation method

1. Generally, the instrument is vertically installed with the fork end downward, horizontally or vertically installed with the fork end downward (when the material adhesion is strong, vertical installation with the fork end downward is recommended).

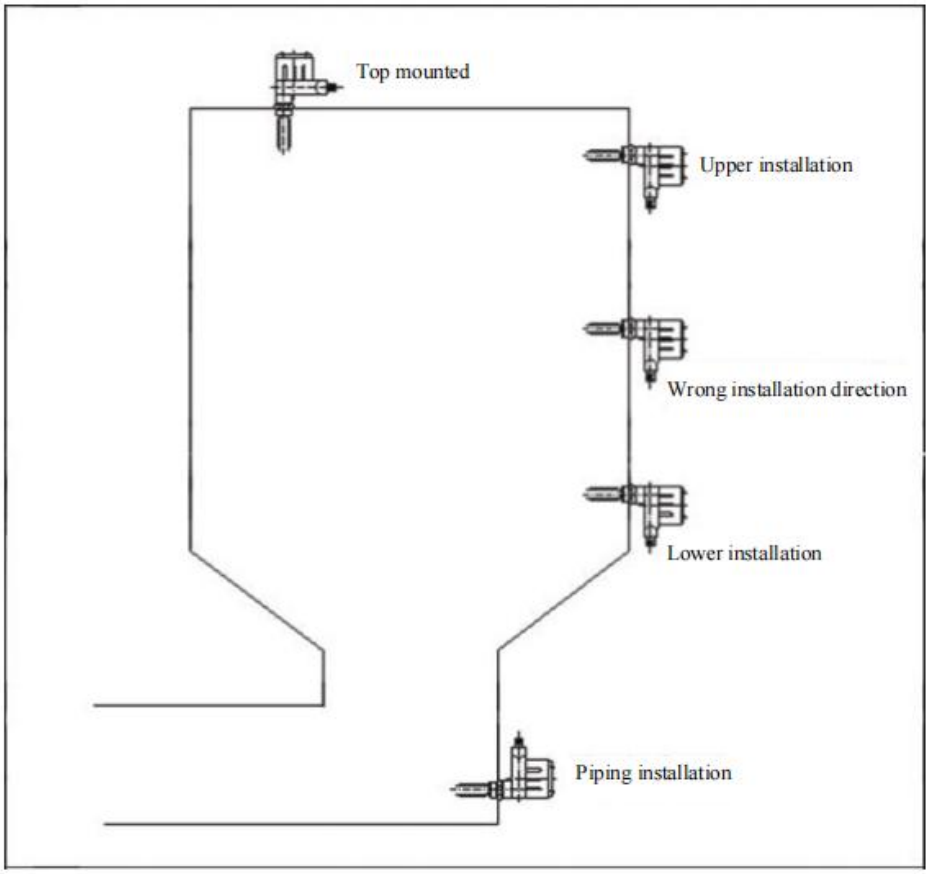
2. The instrument is not allowed to be installed upwardly, that is, the fork end is installed upward.

3. It is recommended to adopt vertical or inclined installation mode when there are lumps or hard particles mixed in the material.

4. It is recommended to test the calibration sensitivity with a small amount of medium samples before installing them on the equipment.For example, dip the meter into a window containing media to check the reliability of the switch.

5, the actual installation is generally divided into top installation (high monitoring of the medium), side wall installation (high or low monitoring of the medium), pipeline installation (empty flow monitoring of the material pump).

Installation diagram



Ordering Guide

Item NO.	Type					
HYM610	Turning Fork Switch					
	Code	Medium Type				
	0	Liquid				
	1	Powder				
		Code	Supply Voltage			
		V1	24V DC			
		V2	220V AC			
			Code	Process Connection		
			P19	1"G		
			P21	1”NPT		
			T	Tri-clamp		
			F	Flange Installment		
				Code	Temperature	
				N	-40~100°C	
				H	-40~220°C	
					Code	Additional Functions
					I	Customized Insertion Depth
					d	Explotion-proof, Exd II CT6
HYM610	0	V1	P21	G	I	100mm

Note:

1. Avoid material bonding and prevent the vibration of the fork.

2. In case of scarring, sufficient space should be left between the fork and the tank wall.

3. For the instrument used for liquid level monitoring, the detection point shall be determined according to

the height required for monitoring or control.

4. For low viscosity liquid, the tuning fork head can be freely separated from the process medium and can

be installed in any position as shown in the figure above.

5. For high viscosity liquid, the tuning fork head cannot be freely separated from the process medium, so it

is recommended to install the fork head vertically downward.

Warning： During installation and use, do not grasp the instrument fork or hit the elastic fork with

your hand, so as to avoid deformation of fork under force or even damage of internal piezoelectric

elements.