

SPX500 series tuning fork level switch

APPLICATION

- Tap water, mineral water, gasoline and diesel
- Gas generating liquid
- Pulp, glue, dye, chemical
- Beer, beer starter, beverage
- Waste water, mud, acid, alkali solution
- Solid powder, small particles




WORKING PRINCIPLE

The tuning fork liquid level switch works by vibrating the tuning fork at a certain resonant frequency through a pair of piezoelectric crystals mounted on the tuning fork base. When the tuning fork of the tuning fork liquid level switch is in contact with the measured medium, the frequency and amplitude of the tuning fork will change. These changes of the tuning fork liquid level switch are measured by the intelligent circuit, processed and converted into a switching signal.

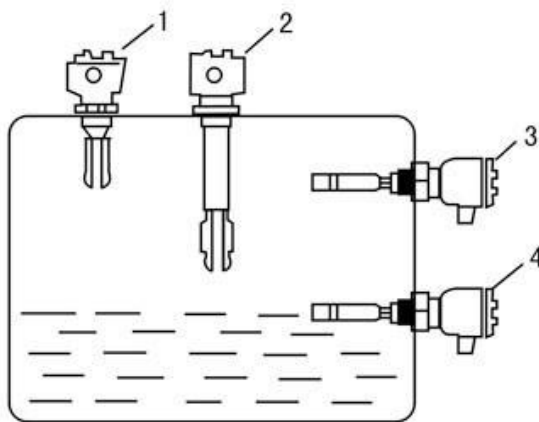
SPECIFICATION

ITEMS	PARAMETER
Measuring medium	liquid, powder or granular solid
Density of measured medium	solid $\geq 0.1\text{g/cm}^3$; liquid $\geq 0.7\text{g/cm}^3$
Oscillating frequency	350Hz
Accuracy	$\pm 5\text{mm}$
Measuring length	100~3000mm
Ambient temperature	$-40\text{ }^\circ\text{C} \sim 80\text{ }^\circ\text{C}$
Repeatability	$\pm 3\text{mm}$
Instruction mode	LED
Voltage	DC 24V / AC 220V
Power	1 W
Output signal	Relay Dry Contact (DPDT) 250VAC/30VDC 8A, NAMUR
Maximum load	8A
Pressure range	$-98\text{Kpa} \sim 4\text{Mpa}$
Operating temperature	$-40\text{ }^\circ\text{C} \sim 150\text{ }^\circ\text{C}$
Protection level	IP68
Shell material	Aluminum alloy
Sensor material	Stainless steel 316
Connector material	Stainless steel 304
Connection method	thread, flange, clamp
Weight	1.5KG

TYPICAL TYPE

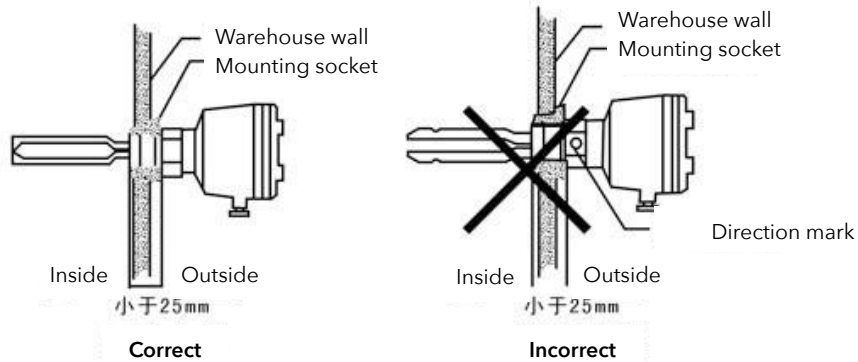
Standard Thread Type	Standard Flange Type	Thread Extension Type	Flange Extension Type
			
 <p>85mm 112mm 30mm 100mm 20mm 螺纹1"</p>	 <p>85mm 112mm 10mm 120mm 20mm</p>	 <p>85mm 112mm 280mm 20mm 螺纹1"</p>	 <p>85mm 112mm 10mm 250mm 20mm</p>
High Temperature Type	Hygienic Type	Small Fork Type	Big Fork Type
			
 <p>85mm 100mm 60mm 142mm 20mm 螺纹1"</p>	 <p>85mm 112mm 100mm 20mm 螺纹1"</p>	 <p>85mm 112mm 35mm 45mm 20mm 螺纹3/4"</p>	 <p>85mm 112mm 200mm 20mm 螺纹1.5"</p>

INSTALLTION



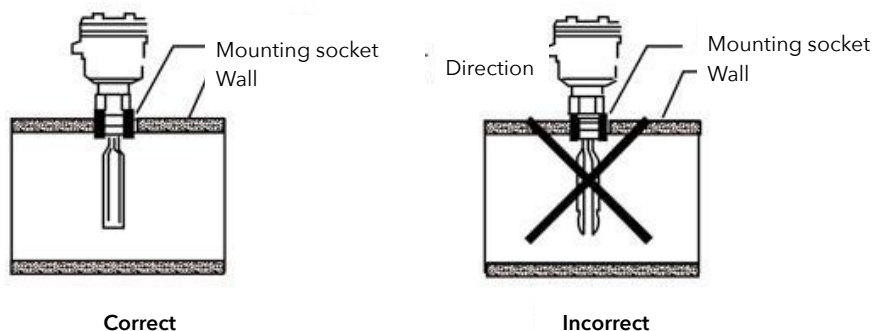
- 1 - High position detection (top mount)
- 2 - High position detection (top mount)
- 3 - High position detection (side loading)
- 4 - Low level detection (side loading)

Metal can installation diagram



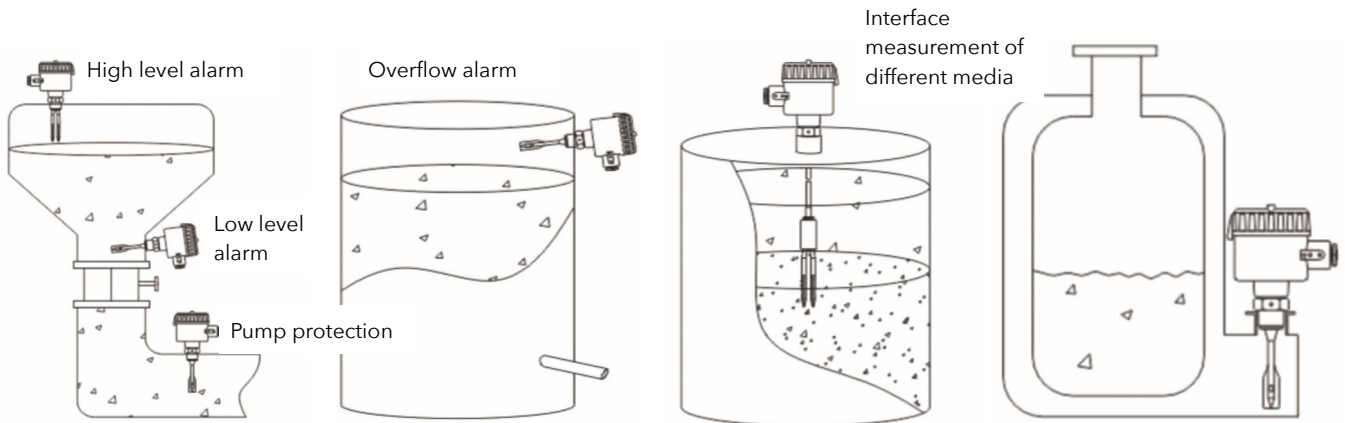
Note: The direction marks must be vertically up or down when installed sideways

Pipeline inspection installation diagram



Note: The direction mark at the time of installation must be consistent with the direction of the pipe.

APPLICATION



◆ **High and low level alarm**

This product is an ideal choice for the detection of the highest and lowest level of various liquid tanks. Robust equipment can operate continuously at temperatures up to 302 °f (150 ° C) and operating pressures up to 1450 psig (100barg), making it particularly suitable for high or low level alarms. It is customary to install an independent high level alarm switch to provide additional backup switches in case of failure.

◆ **Prevent overflow**

Overflow caused by overfilling will cause harm to human body and environment, resulting in production loss and increasing cleaning cost. The device is a limit switch used to provide overflow signal at any time.

◆ **Leakage detection**

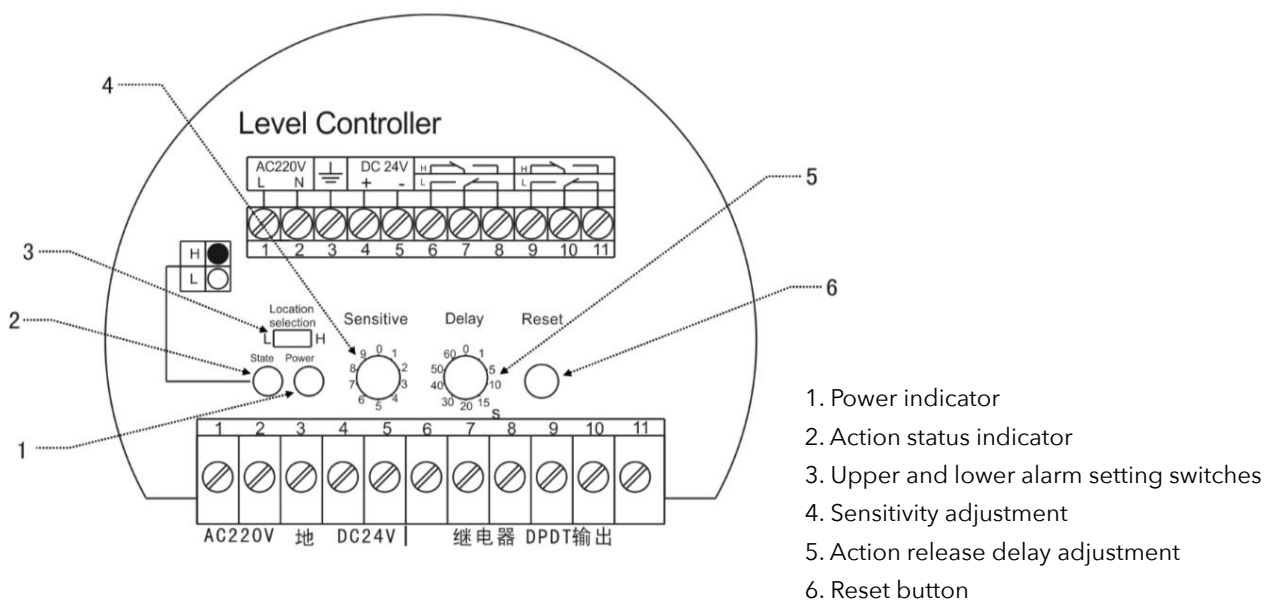
Flange, gasket, seal and corrosive liquid may leak under adverse conditions.

Most users' field tanks and containers are installed on the bottom plate or in the protective body to prevent liquid leakage. The product can detect any leakage quickly and accurately, so the cost can be significantly reduced.

◆ **Hygienic application**

As the surface finish (RA) provided by the highly polished tuning fork is better than 0.8um, the product complies with the requirements of strict requirements for basic design criteria for diet and pharmaceutical applications. Made of stainless steel, the product is durable enough to withstand routine steam cleaning at temperatures up to 302 ° f (150 ° C) (CIP cleaning in place).

WIRING



ORDER GUIDE

SPX500	Tuning fork liquid level switch						
	CODE	Tuning fork type					
	A	Ordinary type					
	B	High temperature type					
	C	Hygienic type					
	D	Anticorrosive type					
	CODE	Insertion depth					
	1	100mm (standard fork), 45mm (small fork)					
	2	Pole type extension 100-3000 optional					
	3	Cable type extended split 1-100m optional					
	CODE	Voltage					
	A	220V AC ±10%					
	D	24V DC ±10%					
	CODE	Material					
	1	304(standard)					
	2	316					
	3	Stainless steel + PTFE					
	CODE	Process connection					
	G	G1 "thread (standard)					
	T	1 "NPT thread					
	F	Flange installation (flange specification and standard shall be indicated)					
	C	Other customization					
	CODE	Other parameters					
	A	Normal temperature -40~80° C, high temperature -40~150° C					
	B	Normal pressure_Kpa					
	C	Protection level IP66					
	D	Flameproof level ExdIICT6					
	E	Maximum temperature _° C					
	F	Maximum pressure Kpa or Mpa					
	G	Other requirements					
SPX500	A	1	A	1	G	AB	Order example