

SPX503 series compact 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	350/1000Hz
Accuracy	$\pm 2\text{mm}$
Measuring length	40~1000mm
Ambient temperature	$-30\text{ }^\circ\text{C} \sim 80\text{ }^\circ\text{C}$
Repeatability	$\pm 2\text{mm}$
Instruction mode	LED
Voltage	DC 24V
Power	1 W
Output signal	Relay Dry Contact (DPDT) /PNP/ NPN
Maximum load	Relay (5A) PNP/ NPN (350mA)
Pressure range	-98Kpa~3Mpa
Operating temperature	$-30\text{ }^\circ\text{C} \sim 150\text{ }^\circ\text{C}$
Protection level	IP67
Shell material	Stainless steel
Sensor material	Stainless steel 316
Connector material	Stainless steel 304
Connection method	Hirschmann connector
Weight	0.5KG

TYPICAL TYPE

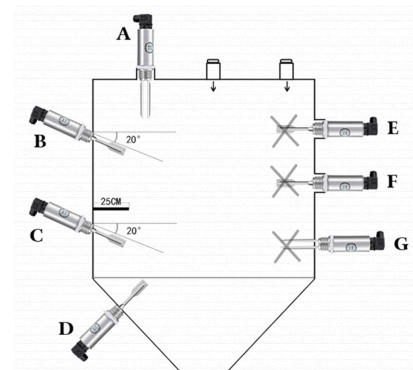
Aviation plug type	Hirschmann plug type	Hirschmann&hightemperature	Hirschmann small tuning fork
Aviation extension type	Aviation & high temperature	Aviation small tuning fork type	

INSTALLATION
1. Correct installation mode:

- A.** the probe shall be installed vertically downward at the top (away from the feed inlet) at any position;
- B.** horizontally install the probe with a downward inclination of 15-20 degrees to reduce the impact of materials and the occurrence of material hanging;
- C.** horizontally install the probe with a downward inclination of 15-20 degrees. There is a baffle (about 10" (250mm) in length and 8" in width) above the material level switch (200 mm), which can prevent the improper accumulation of materials around the level switch and reduce the impact of materials on the level switch;
- D.** It is installed in the discharge hopper. The maximum distance between the bottom end of the screw thread of the level switch and the barrel wall is not more than 2.4" (60mm), which can avoid accidents false alarm occurs due to improper stacking of materials.

2. Incorrect installation:

- A.** horizontally installed under the filler wall or feed port;
- B.** the installation angle is incorrect (the probe surface is prone to failure due to the high load pressure of feeding and unloading);
- C.** if the distance between the bottom of the screw thread of the level switch and the barrel wall exceeds 2.4" (60mm), the level switch will not work normally.



ORDER GUIDE

SPX503	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	40m (standard)					
	2	Pole type extension 40-1000 optional					
	3	Cable type extended split 1-100m optional					
	CODE	Voltage					
	D	24V DC \pm 10%					
	CODE	Material					
	1	304(standard)					
	2	316					
	3	Other customized					
	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 teperature_° 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					
SPX503	A	1	D	1	G	AB	Order example