

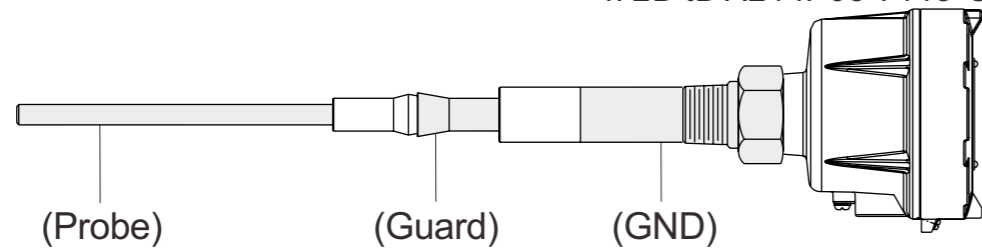
# SB17□□□SERIES ADMITTANCE LEVEL SWITCH (EXPLOSION PROOF TYPE) OPERATION MANUAL

## PRINCIPLE :

SB17 series RF-Capacitance / Admittance level switch consists of guard section, active section, grounding and insulation. Active section probe, guard and grounding are isolated with insulation. Level of medium can be detected by increase of admittance when medium reaches the active section probe. Ground and active section probe are insulated, thus detection would be not wrongfully occurred to cause false alarm when medium attaches to the probe. The special structure is suitable for detecting in different medium without being affected by attachments.

## FEATURES :

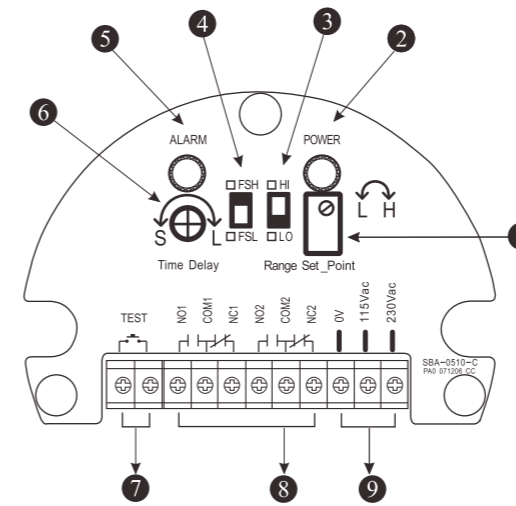
- (1). SB17 series RF Admittance level switch has guard section, which is designed to overcome possible medium attachment and to secure signal accuracy.
- (2). Applied to measure powder, viscosity liquid.
- (3). Easy installation and maintenance.
- (4). PTB Explosion proof approval 09 ATEX 1057  $\text{Ex II 2G EEx d IIB T1~T6}$   
 $\text{Ex II 2D tD A21 IP65 T445}^\circ\text{C}$



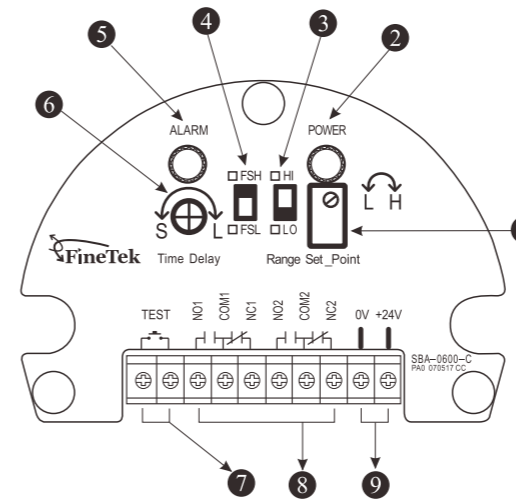
## SPECIFICATION :

No.	ITEM	SPECIFICATION
1	Resolution	<0.3pF
2	Power Supply	115/230VacA10%, 50/60Hz or 24VdcA20%
3	Light Indicator	LED red
4	Power Consumption	2W around
5	Output	DPDT Relay
6	Contact Rate	3A/250Vac( Resistor load)
7	Ambient Temp.	-20~70°C
8	Alarm Mode	High / Low Fail-Safe mode
9	Alarm Indicator	LED green
10	Delay Time	0~30sec.
11	Simulate Alarm Test	Optional
12	Housing	IP65

## WIRING DIAGRAM :



SB17□□A/C series



SB17□□B/D series

## DESCRIPTION OF PANEL FUNCTION :

- ① Set\_Point: Clockwise, capacitance increases.
- ② Red LED: Power indicator.
- ③ Range: Alarm setting- HI/ LOW
- ④ FSH/FSL switch (High/ Low level failsafe)
- ⑤ Green LED: Alarm indicator for FSH and FSL.  
Green LED turns off when alarm goes off.
- ⑥ Time delay: Alarm time delay setting up to 30 seconds.
- ⑦ Remote alarm test (for SB□□□A series)
- ⑧ Relay output.
- ⑨ Power supply 115/ 230 Vac

## FAIL-SAFE ALARM :

FSH High level fail-safe alarm :

SB17 series is installed in high level and FSH mode is ON, Green LED lights up and relay output COM/ NC is opened when Medium is in normal level ( medium does not reach the probe ). When medium level reaches high level ( medium touches the probe ) or blackout, Green LED shuts off and relay output COM/NC is closed. When relay output COM/NC is closed, it implies FSH alarm is activated.

FSL Low level fail-safe alarm :

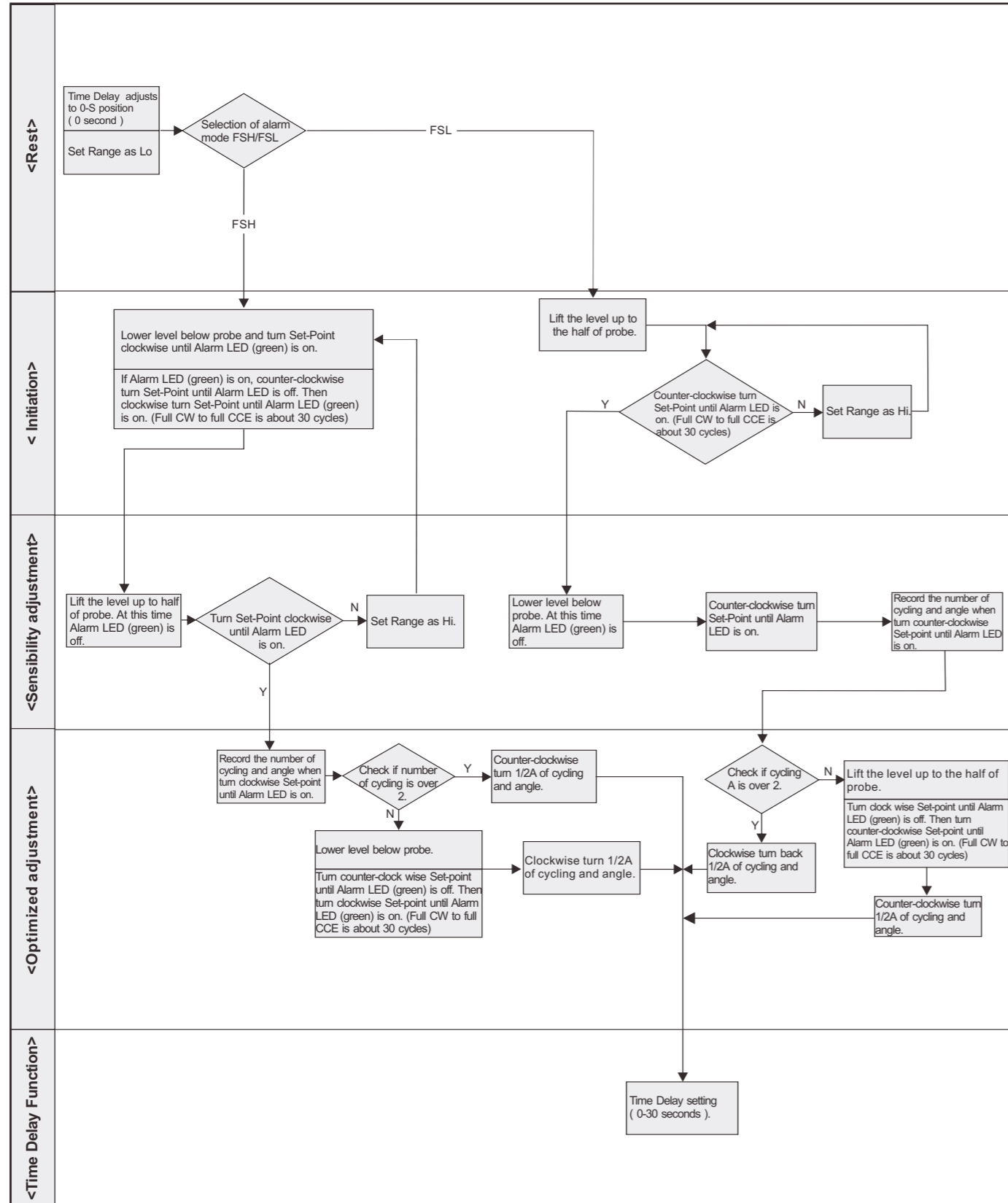
SB17 series is installed in low level and FSL mode is ON, Green LED lights up and relay output COM/ NC is opened when Medium is in normal level ( medium touches the probe ). When medium level drops below low ( medium does not reach the probe ) or blackout, Green LED shuts off and relay output COM/NC is closed. When relay output COM/NC is closed, it implies FSL alarm is activated.

SIMULATE ALARM TEST STEP : (SB17□□A/B series )

- (1) Turn FSH/FSL dip switch to FSH
- (2) Range switch to Lo position
- (3) Time Delay turn to S ( minimum )
- (4) Adjust Set\_Point to ALARM LED ( green ) light, and clockwise one cycle.
- (5) Short TEST terminal or approach the position of "Reed SW. Inside" by 500 gos magnetic, the ALARM LED Green light goes off and relay output COM/NC is opened.
- (6) Turn on TEST terminal or far away the position of "Reed SW. inside", the ALARM LED Green light goes on and relay output COM/NC is opened.

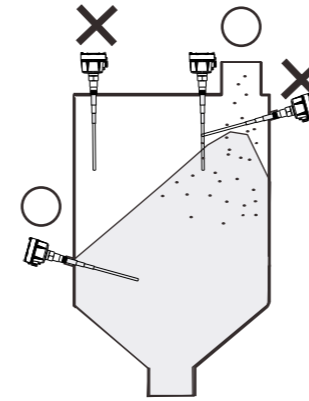


# Function Flow Diagram(FFD)

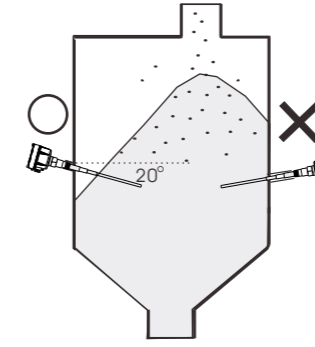


# Installation Guide

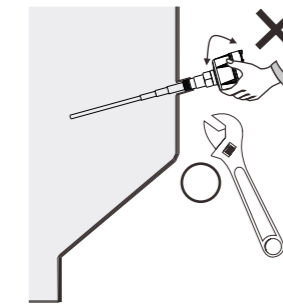
Mounted at highest point of stockpile under inlet to measure correct level.



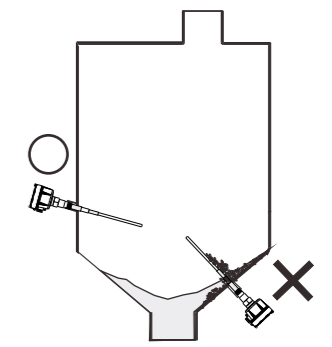
Don't install directly below the refilling inlet to prevent impact during refilling.



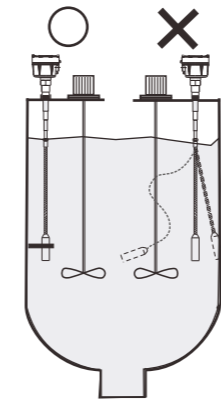
Installation at an incline of 20 degree is recommended to prevent bridge and affect material flow.



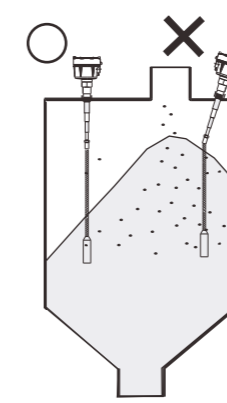
Use a spanner on the hexagonal screw head during installation. Usage of hand to tighten the probe is strictly prohibited.



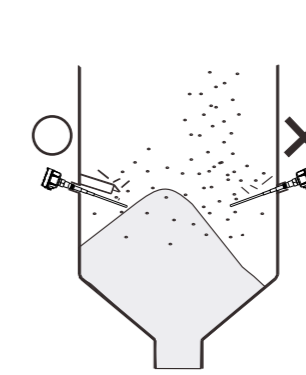
Don't install like this to prevent block inside tank.



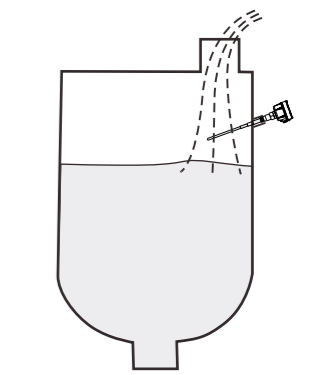
Please secure the extension type probe tightly so that the probe would not be entangled with actuators or hit the tank wall.



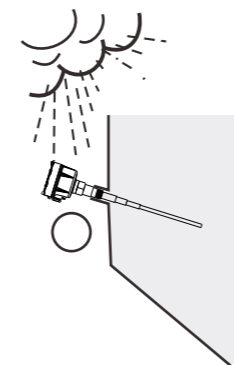
Ensure the housing stands vertically.



When the probe is near the inlet, please install pipe shield to prevent impact from probe to ensure accuracy.



Don't install under inlet to prevent accuracy from being affected.



Cable entry should face downwards to prevent leakage or block.