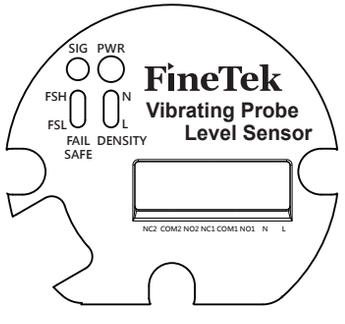
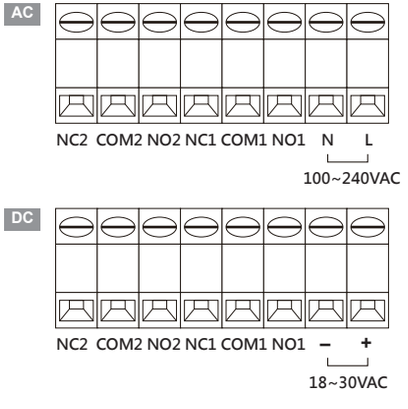
SCX6 Vibrating Rod Level Switch Operation Manual

Specifications

Operating voltage	100~240Vac , 50/60 Hz,18~30Vdc
Power consumption	10 VA@100~240VAC Input
	2W@18~30VDC Input
Ambient temperature	-40 ~ 85°C
Operating temperature	-40 ~ 150°C
Operating pressure	16 Bar (Max.)
Vibration frequency	About 330~360 Hz
Selectable Fail-safe	FSH / FSL
Selectable density	H / L
Min. material density sensed	0.04 g/cm³
Signal output	2 x SPDT Relay contact
	5A / 250 Vac, 5A / 28 Vdc
Level sensor housing	Aluminum (ADC-12)/IP 65
Wetted materials	SUS 304 or 316 or 316L
Standard connection	1" PT
Cable Entries	1/2" NPT * 2

Terminals Arrangement





Panel Function

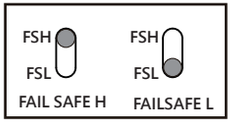
PWR : Power Supply (Green Light)
SIG : Output Indication (Red Light)
FSH : Fail-safe–high material level setting
FSL : Fale-safe-low material level setting
DENSITY L : Low density switch setting
DENSITY H : High density switch setting

Contact Output and Fail-Safe Instructions

1. Power supply: 100 ~ 240 Vac 50/60Hz / 18~30Vdc. Confirm power supply specifications before wiring.
2. FAIL SAFE H adjustment:

(1) Adjust FAIL SAFE to FSH mode. (Figure 1)

(2) Relay signal output (Figure 2)



(Figure 1)

- When the vibrating rod does not come into contact with the material or the empty tank, the SIGNAL is on, and the relay signal output COM1/NO1 and COM2/NO2 contacts are turned on.
- When the vibrating rod comes into contact with the material, the SIGNAL does not light up, and the relay signal output COM1/NC1 and COM2/NC2 contacts are turned on.

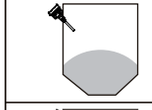
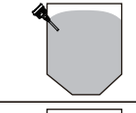
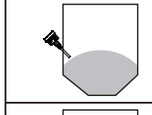
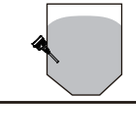
3. FAIL SAFE L adjustment:

(1) Adjust FAIL SAFE to FSL mode. (Figure 1)

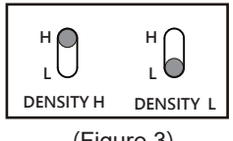
(2) Relay signal output (Figure 2)

- When the vibrating rod does not come into contact with the material or the empty tank, the SIGNAL is on, and the relay signal output COM1/NC1 and COM2/NC2 contacts are turned on.
- When the vibrating rod comes into contact with the material, the SIGNAL does not light up, and the relay signal output COM1/NO1 and COM2/NO2 contacts are turned on.

(Figure 2)

Fail mode	Material Level	Output signal		LED indicator	
		Output1	Output2	PWR	SIG
FSH					
					
FSL					
					

Density Setting Instructions (Figure 3)



(Figure 3)

On the circuit board in the junction box, the DENSITY switch can be adjusted according to the density of the object tested

L---- Used to detect objects with smaller specific gravity or mass, such as Styrofoam balls

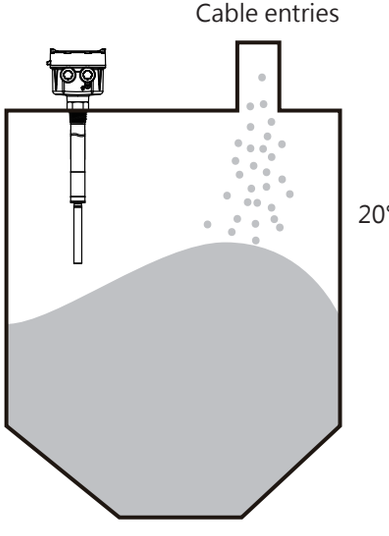
H ----Used to detect objects with large specific gravity or mass, such as rice bran.

Installation

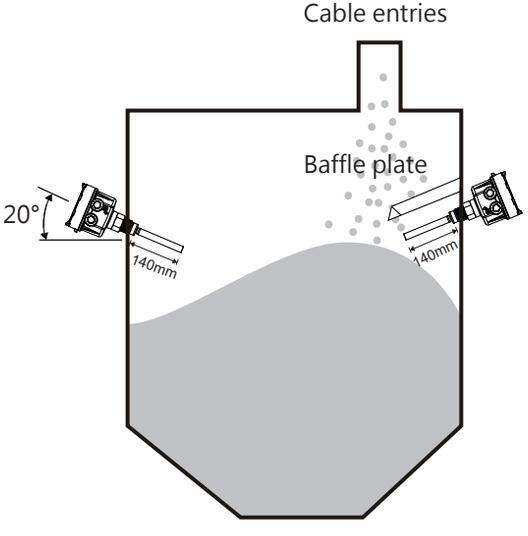
※ DO NOT climb on the vibrating probe while operating inside the tank.
※ Must only use the spanner to tighten the process connection instead of twisting the housing.
※ Do not bend the vibrating probe or modify the probe length.
※ For fully inserting probe into tank, the suggested proper probe length has to be extra 140mm longer than nozzle’ s height at least.
※ All wiring should employ 18AWG cable. After completing the wiring, please thoroughly clean inside of the enclosure and tighten up the cable glands and lid to prevent the moisture from intrusion.

Vertical Installation (figure 4):
※ It is suggested to install the vibrating probe away from the inlet to avoid material impact or false readings.
※ Users have to be aware of the repose angel of filling materials and installing the vibrating probe in the appropriate position to avoid overflow.

Horizontal Installation (figure 5)
※ It is necessary to install the vibrating probe away from the inlet to avoid any materials impact directly. It is recommended to add a baffle plate for protection if it’ s unavoidable to be near the inlet.
※ Installing the vibrating probe at 20 degree inclined will optimize the result and increase the sensitivity.
※ Keep the conduit downward to avoid moisture getting inside the housing.

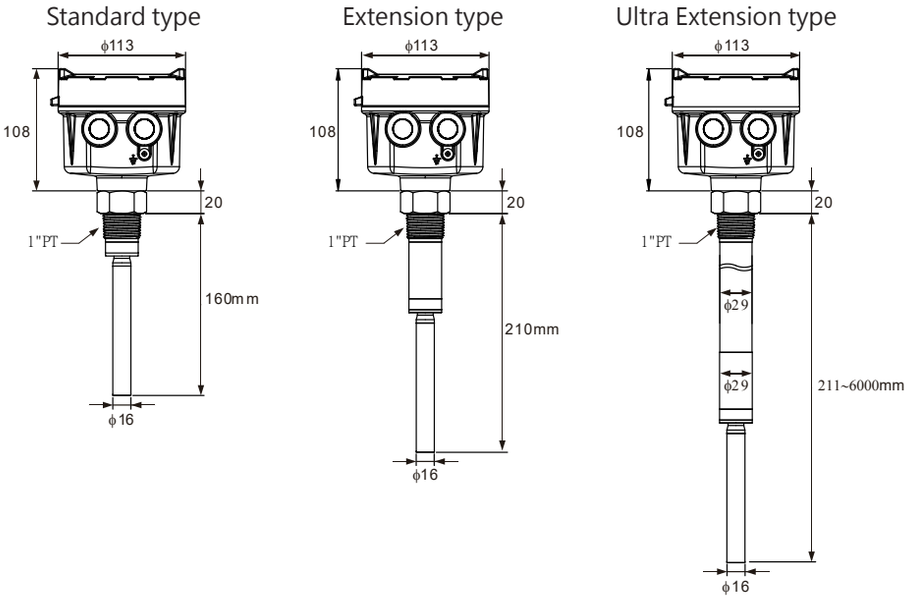


(Figure 4)



(Figure 5)

Dimensions



Simple troubleshooting

Error	Cause	Solution
Power indicating light (Green Light) is off and the switch is not conductive.	Power doesn't meet the specification.	Check the nameplate and power 100~240VAC/18~30VDC
	No power supply	Power off and check the wiring and repair and power on again.
The signal light is normal, but the switch output is t.	The control circuit wiring is incorrect.	Check the wiring diagram and correct it.
No switching action when contacting the materials	Density of materials is too small	Contact with the local sales representative.
Switching action not back to normal when even no contacting materials	The materials are stuck or attached on probe	Check the vibrating probe and remove the attachments.

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