



**Tuning Fork Level Switch**

# PRODUCT INTRODUCTION

## WORKING PRINCIPLE

The FineTek tuning fork level switch is suitable level control switch for liquids, sludges, petroleum as well as solid level detection of almost any granular, sandy, chip like, powdery, low bulk density materials.

The working principle is based on the changes of vibration frequency of the tuning fork when it comes into contact with a liquid or solid material.

The Tuning fork contains piezoelectric crystals built into the vibration tube that produces vibrations/resonations at specific frequencies. One element acts as a transmitter of the signal and the other receives the signal and converts it to electrical output.

When the fork comes in contact with material the vibration is weakened/dampened and results in frequency change which triggers the switch. It's ideal for applications where: the dielectric constant is low (where capacitance level switches can't be used) ; when material moisture content changes easily; low viscosity liquids; there is a combination of differing materials in the container/tank.

The tuning fork level switch provides a reliable & maintenance-free means of process control for bulk solids. Easy mounting at almost any angle and calibration procedures will provide reliable functioning and less required monitoring. This device can withstand tough lateral loads and static electricity. Also, it is equipped with a Fail-safe that prevents malfunctioning caused by power shortage.

## APPLICATION

Solid Level Detection

### **Powders:**

Powdered milk, flour, spices, coffee beans, coffee powder, tea, salt, sugar, grains, chocolate  
Tobacco, powdered cellulose, powdered clay, polystyrene powder, dry soot, soda ash, coal ash

### **Granular & plastics:**

Gravel, glass fine power, granular plastics, foundry sand, cements, plastic pellets

Chip or pellet like:

Frozen potato chips, beans, peanuts, sweets and candy, animal / pet food

Wood shavings, chalk, steering chips , styrofoams, charcoals

### **Liquid Level Detection**

Paints, alcohols, inks

Drinks & beverages

Petroleum, Oils,

Creams

Water based solutions

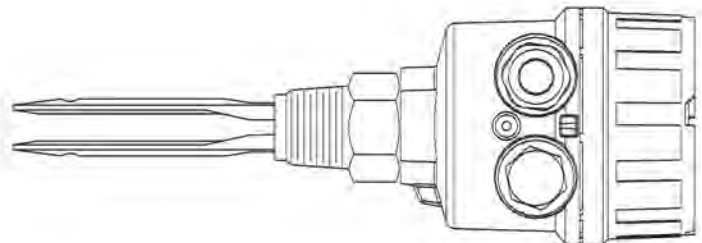
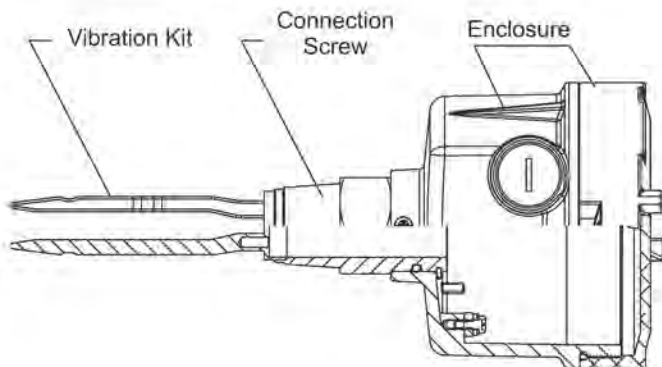
Corrosive liquids, acids

General purpose solvents

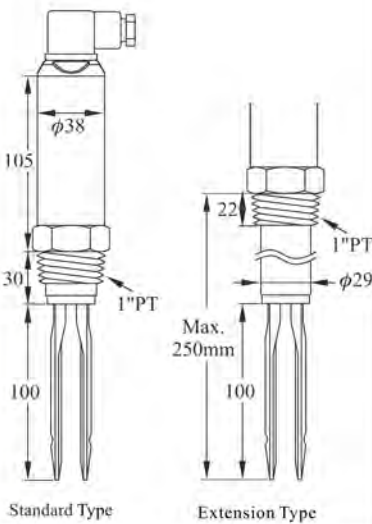
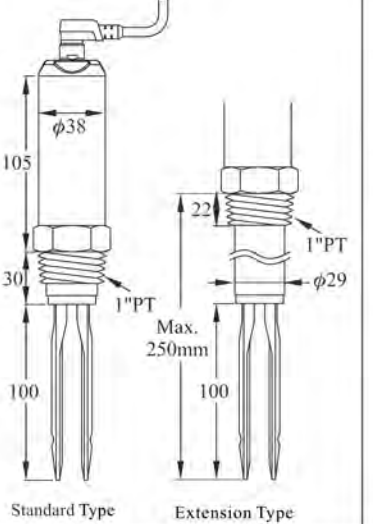
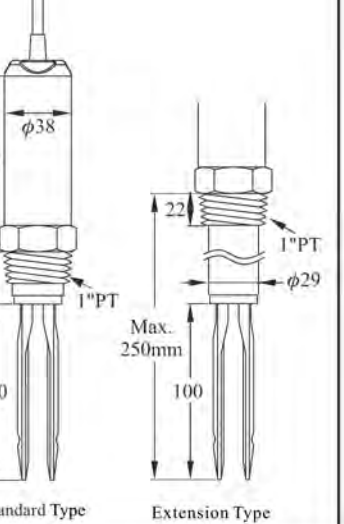
## FEATURE

- Transparent panel cover for viewing the power supply and output
- Voltage supply range 20~250, 50~60Hz Vac/ Vdc.
- SPDT Relay output, SSR MOSFET output.
- Sensitivity adjustment is available for different density mediums.

## CONSTRUCTURE



# SPECIFICATION

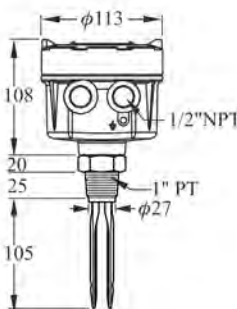
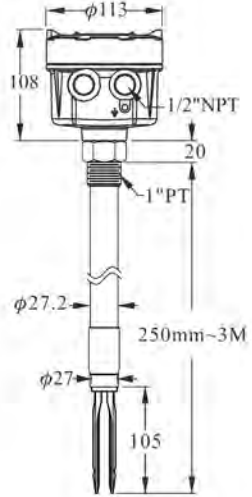
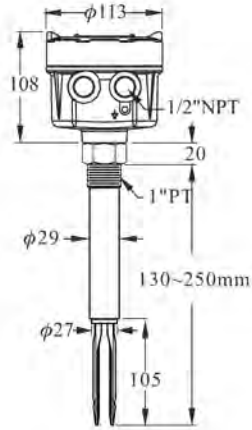
Dimensions (Unit:mm)			
Model No.	<b>SC2400/2410 【DIN Connector】</b>	<b>SC2400/2410 【M12 Connector】</b>	<b>SC2400/2410 【Cable Wire Type】</b>
Supply Voltage & Output	SC240 □□:20~250Vac / Vdc 2 wire Contactless electronic switch. SC241□□:12~55 Vdc 3 wire PNP/ NPN Output.		
Fork Length	100mm		
Operating Temp. In Ambient Air	-40~60°C		
Storage Temp.	-40~70°C		
Operating Temp. In Bin	SC24□□□: -40~+100°C SC24□□□T: -40~+150°C		
Operation Humidity	80% RH non-condensed		
Operation Pressure	Maximum 40 Bar		
Min. material density sensed	<b>Solid:</b> density: ≥0.07g/cm <sup>3</sup> <b>Liquid:</b> density: ≥0.7g/cm <sup>3</sup> Viscosity: 1~10000 cSt		
Magnetic testing	Output function test performed by putting magnets near the indicated spot		
Status indication	Green light:indicate power supply Red light:indicate operating mode		
Housing material	SUS 304		
Fork Material	316L		
IP Protection	IP65	IP67	IP67
Mounting	1" PT		
Conduit	Valve plug DIN 43650	M12x1 connector	Cable connector



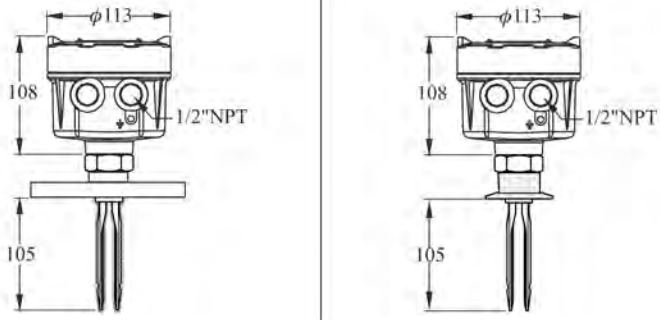
# MINI TUNING FORK LEVEL SWITCH

Dimensions (Unit:mm)			
Model No.	<b>SC2800/2810 【DIN Connector】</b>	<b>SC2800/2810 【M12 Connector】</b>	<b>SC2800/2810 【Cable Wire Type】</b>
Supply Voltage & Output	SC280□:20~250,50/60Hz Vac/Vdc 2 wire Contactless electronic switch. SC281□:12~55 Vdc 3 wire PNP/ NPN Output		
Fork Length	40mm		
Operating Temp. In Ambient Air	-40°C~70°C		
Storage Temp.	-40°C~85°C		
Operating Temp. In Bin	-40°C~150°C		
Operation Humidity	80% RH non-condensed		
Operation Pressure	-1~600PSI (40BAR)		
Min. material density sensed	<b>Solid:</b> density: $\geq 0.07\text{g/cm}^3$ <b>Liquid:</b> density: $\geq 0.7\text{g/cm}^3$ Viscosity: 1~10000 cSt		
Magnetic testing	Output function test performed by putting magnets near the indicated spot		
Status indication	Green light:indicate power supply Red light:indicate operating mode		
Housing material	SUS 304		
Fork Material	316L		
IP Protection	IP65	IP67	IP67
Mounting	3/4"PT		
Conduit	Valve plug DIN 43650	M12x1 connector	Cable connector

# SPECIFICATION

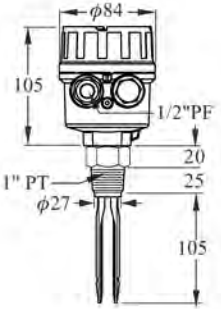
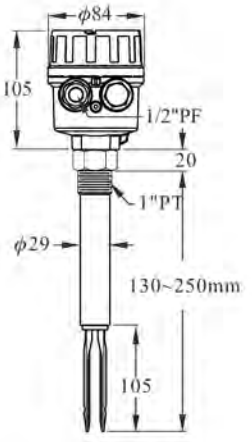
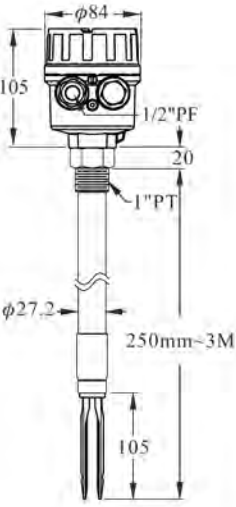
Dimensions (Unit:mm)			
Model No.	<b>SC1400 【Standard Type】</b>	<b>SC1410 【Tuning Fork Ultra Extension Type】</b>	<b>SC1420 【Tuning Fork Extension Type】</b>
Level Sensor Housing	Aluminum / IP65		
Probe Construction	316L		
Mounting	1"PT		
Conduit	1/2"NPT×2		
Max. Vertical load on rod.	177in.Lbs(20Nm)		
Operating Pressure.	-1~600PSI (40BAR)		
Power Supply	20~250,50/60Hz Vac/Vdc		
Power Consumption	10VA		
Operating Temp. In Ambient Air	-40°C~60°C		
Operating Temp. In Bin	-40°C~130°C		
Signal Output	Relay, SPDT, 5A/250Vac/ 28Vdc, 1 set or 2 set SSR(MOSFET) 400mA/60 Vac/ Vdc, 1 set or 2 set		
Min. material density sensed	Solid:≥0.07g/cm <sup>3</sup> , Liquid: ≥0.7g/cm <sup>3</sup>		
Time Delay	0.6 Second / Operate; 1~3 Seconds / Reset		
Vibrating Frequency.	350~370Hz		
Selectable Fail-safe	Hi./ Lo.		
Selectable Sensitivity	Hi./ Lo.		

# SPECIFICATION

Dimensions (Unit:mm)		
Model No.	<b>SC1540</b> <b>【 Corrosion Proof Type 】</b>	<b>SC1600</b> <b>【 Sanitary Type 】</b>
Level Sensor Housing	Aluminum / IP65	
Probe Construction	316L Coating TEFLON	316L
Mounting	Flange 1"(min.)	2" Sanitary
Conduit	1/2"NPT × 2	
Max. Vertical load on rod.	177in.Lbs(20Nm)	
Operating Pressure.	-1~600PSI (40BAR)	
Power Supply	20~250Vac/dc	
Power Consumption	10VA	
Operating Temp. In Ambient Air	-40°C~60°C	
Operating Temp. In Bin	-40°C~130°C	
Signal Output	Relay, SPDT, 5A/250Vac/ 28Vdc, 1 set or 2 set SSR(MOSFET) 400mA/60 Vac/ Vdc, 1 set or 2 set	
Min. material density sensed	Solid: ≥0.07g/cm <sup>3</sup> , Liquid: ≥0.7g/cm <sup>3</sup>	
Time Delay	0.6 Second / Operate; 1~3 Seconds / Reset	
Vibrating Frequency.	350~370Hz	
Selectable Fail-safe	Hi./ Lo.	
Selectable Sensitivity	Hi./ Lo.	



# SPECIFICATION (Multi-Function Tuning Fork Level Switch)

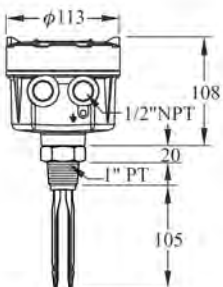
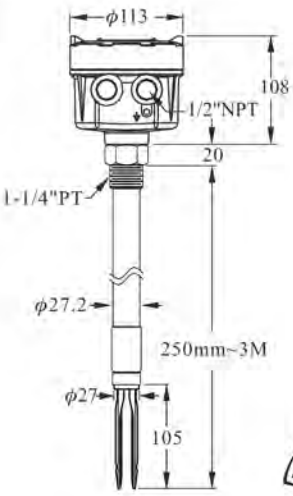

Dimensions (Unit:mm)			
Model No.	<b>SC3400 【 Standard Type 】</b>	<b>SC3410 【 Tuning Fork Extension Type 】</b>	<b>SC3420 【 Tuning Fork Ultra Extension Type 】</b>
Level Sensor Housing	Aluminum / IP65		
Probe Construction	316L		
Mounting	1"PT		
Conduit	1/2"PF × 2		
Max. Vertical load on rod.	177in.Lbs(20Nm)		
Operating Pressure.	-1~600PSI (40BAR)		
Power Supply	20~250,50/60Hz Vac/Vdc		
Power Consumption	10VA		
Operating Temp. In Ambient Air	-40°C~60°C		
Operating Temp. In Bin	-40°C~130°C		
Signal Output	Relay, SPDT, 5A/250Vac/ 28Vdc , 1set SSR(MOSFET) 400mA/60 Vac/ Vdc, 1set		
Min. material density sensed	Solid:density: $\geq 0.07\text{g/cm}^3$ Liquid:density: $\geq 0.7\text{g/cm}^3$ Viscosity: 1~10000 cSt		
Time Delay	0.6 Second / Operate; 1~3 Seconds / Reset		
Vibrating Frequency.	350~370Hz		
Selectable Fail-safe	Hi./ Lo.		
Selectable Sensitivity	Hi./ Lo.		

# SPECIFICATION (Mult-Function Tuning Fork Level Switch)

Dimensions (Unit:mm)			
Model No.	<b>SC3440</b> 【Corrosion Proof Type】	<b>SC3450</b> 【Sanitary Type】	<b>SC3800</b> 【Mult-Function Mini Type】
Level Sensor Housing	Aluminum / IP65		
Probe Construction	316L Coating TEFLON	316L	316L
Mounting	Flange 1"(min.)	2" Sanitary	3/4" PT(Default)
Conduit	1/2"PF X 2		
Max. Vertical load on rod.	177in.Lbs(20Nm)		
Operating Pressure.	-1~600PSI (40BAR)		
Power Supply	20~250,50/60Hz Vac/Vdc		
Power Consumption	10VA		
Operating Temp. In Ambient Air	-40°C~60°C		
Operating Temp. In Bin	-40°C~130°C		-40°C~150°C
Signal Output	Relay, SPDT, 5A/250Vac/ 28Vdc, 1set SSR(MOSFET) 400mA/60 Vac/ Vdc, 1set		Relay, SPDT, 5A/250Vac NPN/PNP(MosFET):400m/60Vac/Vdc
Min. material density sensed	Relay, SPDT, 5A/250Vac/ 28Vdc, 1set SSR(MOSFET) 400mA/60 Vac/ Vdc, 1set		
Time Delay	Solid: density: $\geq 0.07\text{g/cm}^3$ Liquid: density: $\geq 0.7\text{g/cm}^3$ Viscosity: 1~10000 cSt		
Vibrating Frequency.	350~370Hz		
Selectable Fail-safe	Hi./ Lo.		
Selectable Sensitivity	Hi./ Lo.		

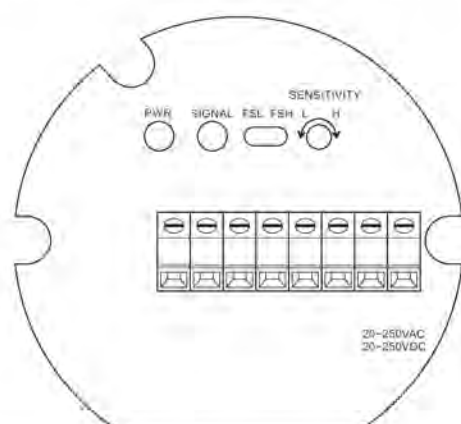


# SPECIFICATION

Dimensions (Unit:mm)	 	
Model No.	<b>SC1740</b> 【 Standard Type 】	<b>SC1741 【 Tuning Fork</b> <b>Ultra Extension Type 】</b>
Level Sensor Housing	Aluminum / NEPSI Ex d IIC T3~T6 /  II 2G Ex d IIB T4	
Probe Construction	316L	
Mounting	1"PT	1-1/4"PT
Conduit	1/2"NPT × 2	
Max. Vertical load on rod.	177in.Lbs(20Nm)	
Operating Pressure.	-1~600PSI (40BAR)	
Power Supply	20~250,50/60Hz Vac/Vdc	
Power Consumption	10VA	
Operating Temp. In Ambient Air	-20°C~70°C	
Operating Temp. In Bin	-40°C~130°C	
Signal Output	Relay, SPDT, 3A/250Vac/ 28Vdc, 1 set or 2 set SSR(MOSFET) 400mA/60 Vac/ Vdc, 1 set or 2 set	
Min. material density sensed	Solid: ≥0.07g/cm <sup>3</sup> , Liquid: ≥0.7g/cm <sup>3</sup>	
Time Delay	0.6 Second / Operate; 1~3 Seconds / Reset	
Vibrating Frequency.	350~370Hz	
Selectable Fail-safe	Hi./ Lo.	
Selectable Sensitivity	Hi./ Lo.	

# TERMINAL / SENSITIVITY ADJUSTMENT (SPDT TYPE)

SC1400X, SC1410X, SC1420X, SC1540X, SC1600X, SC1740X, SC1741X



## TERMINAL FUNCTION

- L+, N-: Power Supply
- NC, COM, NO: Relay Output
- RT1, RT2: Remote-Test
- : Ground Connection
- : SSR(MOSFET) Output

## FAIL-SAFE HIGH / LOW PROTECTION

### FSH (Fail-Safe High) Protection:

Switch to FSH mode.

Normal Status: The signal lamp is on. It means that the tuning fork switch does not sense the material and the relay is conductive.

Failure: When the power shuts down, the signal lamp is off. It means that the tuning fork switch is voided and the relay is not conductive.

### FSL (Fail-Safe Low) Protection:

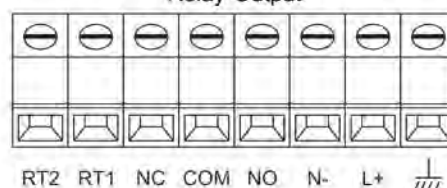
Switch to FSL mode.

Normal Status: The signal lamp is on. The tuning fork switch senses the material and the relay is conductive.

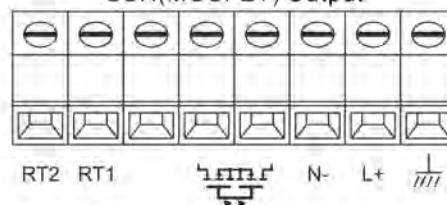
Failure: When the power shuts down, the signal lamp is off. The tuning fork switch is voided and the relay is not conductive.

Level	FSL		FSH	
Contact Form	NO	COM	NO	COM
Indication				
Status	Fail	Normal	Normal	Fail

Relay Output



SSR(MOSFET) Output



## PANEL FUNCTION

- PWR: Power Supply (Green Light)
- SIGNAL: Output Indication (Red Light)
- FSH: Power On. The signal lamp is on and the relay is conductive. While the tuning fork switch senses the material, the signal lamp is off and relay is not conductive.
- FSL: Power On. The signal lamp is off and the relay is not conductive. While the tuning fork switch senses the material, the signal lamp is on and relay is conductive.
- SENSITIVITY L: Low Sensitivity
- SENSITIVITY H: High Sensitivity

## SENSITIVITY ADJUSTMENT

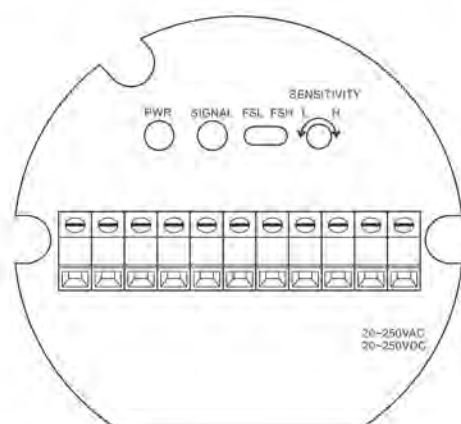
The SENSITIVITY is located on the right side of the panel. The user is able to do the minor adjustment by the screw driver. If it turns to H position clockwise, the sensitivity increases; if it turns to L position anti-clockwise, the sensitivity decreases. The sensitivity is originally set at max. value. The switching point is at 15mm from tip of tuning fork switch.

The switching point position will be changed by the sensitivity value. If the sensitivity adjusts to lower value, the switching point position is moving backward; if the sensitivity adjusts to high value, the switching point position is moving forward. The changing range of switching point is about 60mm.

For example, if the switching point needs to be moved backward by 30mm, the user needs to adjust SENSITIVITY anti-clockwise by 10 turns. In general case, it is no need for sensitivity adjustment.

# TERMINAL / SENSITIVITY ADJUSTMENT (DPDT TYPE)

SC1400X, SC1410X, SC1420X, SC1540X, SC1600X, SC1740X, SC1741X



## TERMINAL FUNCTION

- L+, N-: Power Supply
- NC1, COM1, NO1: Relay Output
- NC2, COM2, NO2: Relay Output
- RT1, RT2: Remote-Test
- $\perp$  : Ground Connection
- $\text{SSR(MOSFET)}$  : 1<sup>st</sup> SSR(MOSFET) Output
- $\text{SSR(MOSFET)}$  : 2<sup>nd</sup> SSR(MOSFET) Output

## FAIL-SAFE HIGH / LOW PROTECTION

### FSH (Fail-Safe High) Protection:

Switch to FSH mode.

Normal Status: The signal lamp is on. It means that the tuning fork switch does not sense the material and the relay is conductive.

Failure: When the power shuts down, the signal lamp is off. It means that the tuning fork switch is voided and the relay is not conductive.

### FSL (Fail-Safe Low) Protection:

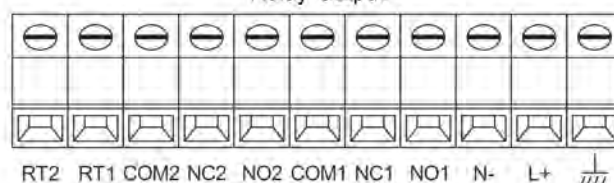
Switch to FSL mode.

Normal Status: The signal lamp is on. The tuning fork switch senses the material and the relay is conductive.

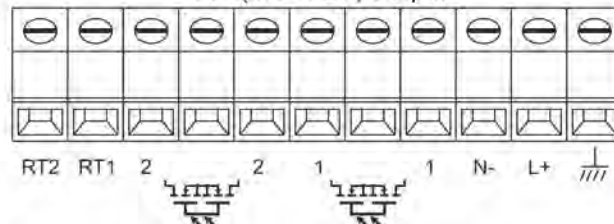
Failure: When the power shuts down, the signal lamp is off. The tuning fork switch is voided and the relay is not conductive.

	FSL		FSH	
Level				
Contact Form	NO COM NC	NO COM NC	NO COM NC	NO COM NC
Indication				
Status	Fail	Normal	Normal	Fail

Relay Output



SSR(MOSFET) Output



## PANEL FUNCTION

- PWR: Power Supply (Green Light)
- SIGNAL: Output Indication (Red Light)
- FSH: Power On. The signal lamp is on and the relay is conductive. While the tuning fork switch senses the material, the signal lamp is off and relay is not conductive.
- FSL: Power On. The signal lamp is off and the relay is not conductive. While the tuning fork switch senses the material, the signal lamp is on and relay is conductive.
- SENSITIVITY L: Low Sensitivity
- SENSITIVITY H: High Sensitivity

## SENSITIVITY ADJUSTMENT

The SENSITIVITY is located on the right side of the panel. The user is able to do the minor adjustment by the screw driver. If it turns to H position clockwise, the sensitivity increases; if it turns to L position anti-clockwise, the sensitivity decreases. The sensitivity is originally set at max. value. The switching point is at 15mm from tip of tuning fork switch.

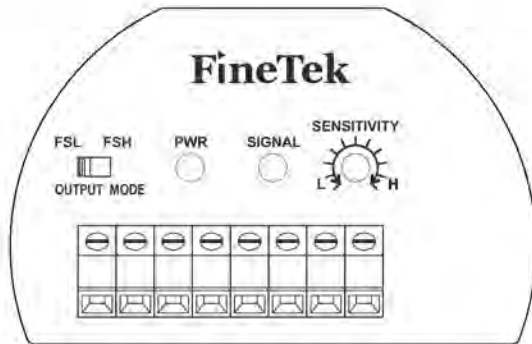
The switching point position will be changed by the sensitivity value. If the sensitivity adjusts to lower value, the switching point position is moving backward; if the sensitivity adjusts to high value, the switching point position is moving forward. The changing range of switching point is about 60mm.

For example, if the switching point needs to be moved backward by 30mm, the user needs to adjust SENSITIVITY anti-clockwise by 10 turns. In general case, it is no need for sensitivity adjustment.

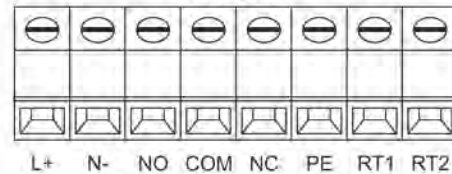


# TERMINAL / SENSITIVITY ADJUSTMENT (MULTI-FUNCTION TYPE)

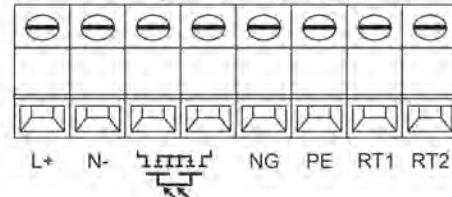
SC3400X, SC3410X, SC3420X, SC3450X



Relay Output



SSR(MOSFET) Output



## TERMINAL FUNCTION

- L+, N-: Power Supply
- NC, COM, No: Relay Output
- RT1, RT2: Remote-Test
- $\perp$  : Ground Connection
- : SSR(MOSFET) Output

## FAIL-SAFE HIGH / LOW PROTECTION

### FSH (Fail-Safe High) Protection:

Switch to FSH mode.

Normal Status: The signal lamp is on. It means that the tuning fork switch does not sense the material and the relay is conductive.

Failure: When the power shuts down, the signal lamp is off. It means that the tuning fork switch is voided and the relay is not conductive.

### FSL (Fail-Safe Low) Protection:

Switch to FSL mode.

Normal Status: The signal lamp is on. The tuning fork switch senses the material and the relay is conductive.

Failure: When the power shuts down, the signal lamp is off. The tuning fork switch is voided and the relay is not conductive.

Level	FSL		FSH	
Contact Form	NO	COM	NO	COM
Indication				
Status	Fail	Normal	Normal	Fail

## PANEL FUNCTION

- PWR: Power Supply (Green Light)
- SIGNAL: Output Indication (Red Light)
- FSH: Power On. The signal lamp is on and the relay is conductive. While the tuning fork switch senses the material, the signal lamp is off and relay is not conductive.
- FSL: Power On. The signal lamp is off and the relay is not conductive. While the tuning fork switch senses the material, the signal lamp is on and relay is conductive.
- SENSITIVITY L: Low Sensitivity
- SENSITIVITY H: High Sensitivity

## SENSITIVITY ADJUSTMENT

The SENSITIVITY is located on the right side of the panel. The user is able to do the minor adjustment by the screw driver. If it turns to H position clockwise, the sensitivity increases; if it turns to L position anti-clockwise, the sensitivity decreases. The sensitivity is originally set at max. value. The switching point is at 15mm from tip of tuning fork switch.

The switching point position will be changed by the sensitivity value. If the sensitivity adjusts to lower value, the switching point position is moving backward; if the sensitivity adjusts to high value, the switching point position is moving forward. The changing range of switching point is about 60mm.

For example, if the switching point needs to be moved backward by 30mm, the user needs to adjust SENSITIVITY anti-clockwise by 10 turns. In general case, it is no need for sensitivity adjustment.

## SC240X (Two wires) WIRING

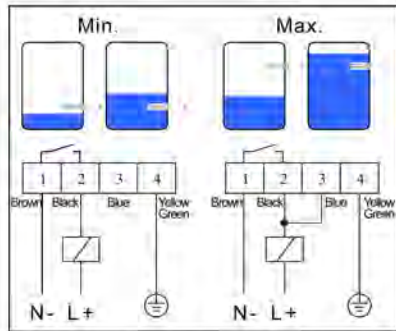
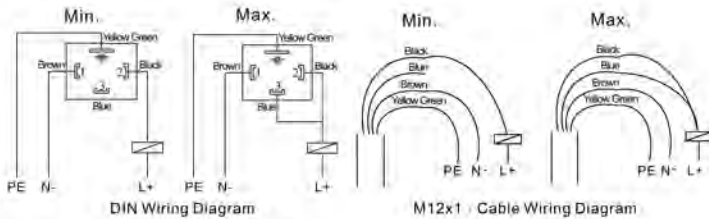


Figure 1 Two wires wiring



### Wiring

Power can be AC/DC switching. Two wires are connected with terminals (L+/N-) as in Figure 1.

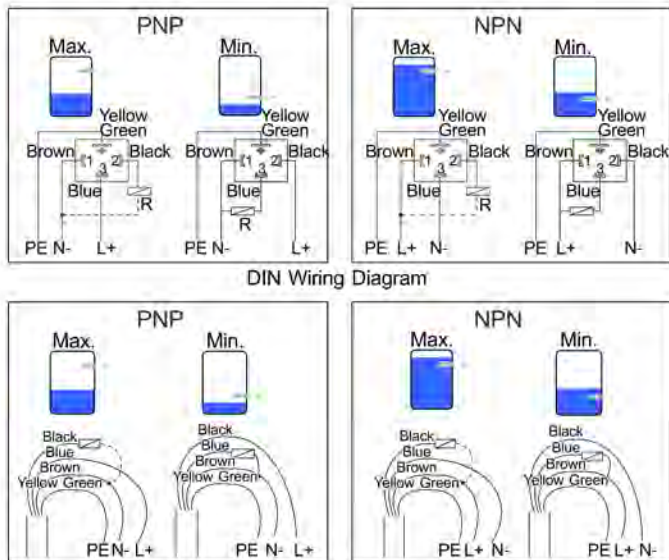
#### Low (Min.) Mode:

Pin 1 (Brown) is connected to N-. Pin 2 (Black) is connected to L+ with relay. Pin 4 (Yellow Green) connects to tank ground.

#### High (Max.) mode:

Pin 1 (Brown) is connected to N-. Pin 3 (Blue) is connected to pin 2 (Black) to L+ with Relay. Pin 4 (Yellow Green) connects to tank ground.

## SC240X (Two wires) WIRING



DIN Wiring Diagram

M12x1 Cable Wiring Diagram

Figure 2 PNP / NPN Output Wiring Diagram

### Wiring

Power supply is for DC only. Output is PNP / NPN. Please see Figure 2.

#### PNP wiring :

##### High(Max.) Mode:

Pin 1(Brown) connects to N-. Pin 3 (Blue) connects to L+. To output, it is pin 2. (Black) connects to N- with relay. Pin 4 (Yellow Green) connects to tank ground.

##### Low(Min.)Mode:

Pin 1 (Brown) connects to N-. Pin 2 (Black) connects to L+. To output, Pin 3 (Blue) connects to N- with relay. Pin 4 (Yellow Green) should contact to tank ground.

#### NPN wiring :

##### High(Max.) Mode:

Pin 1 (Brown) connects to L+. Pin 3 (Blue) connects to N-. To output, Pin 2 (Black) connects to L+ with relay. Pin 4(Yellow Green) should contact to tank ground.

##### Low(Min.)Mode:

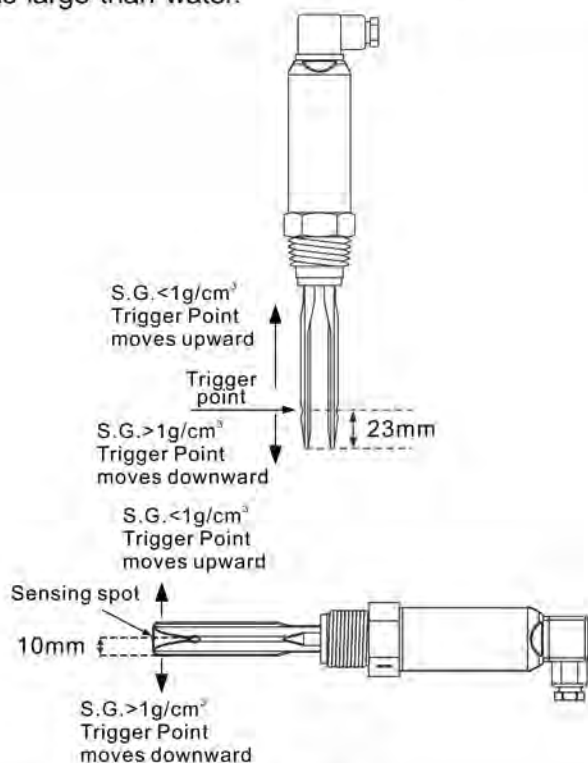
Pin1 (Brown) connects to L+. Pin 2 (Black) connects to N-. To output Pin 3 (Blue) connects to L+ with relay. Pin 4 (Yellow Green) should contact to tank ground.



# TUNING AND INDICATION DETAILS

## FORK TRIGGER POINT

SC2409 fork trigger point is shown as Figure 3 below. The testing medium is water( $S.G.=1 \text{ g/cm}^3$ ), and its trigger point is about 23mm from the fork tip. If testing medium with S.G (specific gravity) lower than  $1\text{g/cm}^3$  (water), the trigger point would increase. Similarly, the trigger point will downward while the S.G is large than water.



## Output Status for Relay

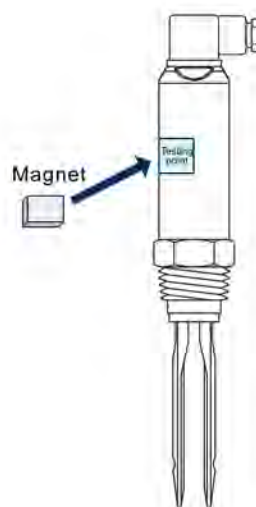
**Low (Min.) Mode:** Tuning fork switch will be active after 3 seconds while power on. Relay is on NO status and red LED indication is off. When tuning fork is covered by testing medium, the vibration will stop and relay becomes NC status. Red LED indication then is on.

**High(Max.) Mode:** Tuning fork switch will be active after 3 seconds while the power on. Relay is on NC status and red LED indication is on. When tuning fork covered by testing medium, the vibration stops and relay becomes NO status. Red LED indication is on.

	Min. Mode		Max. Mode	
Level				
Contactless electronic switch				
Red LED				

## MAGNETIC TEST

After the switch has installed and power tested, magnetic switch can be performed accordingly. Output status will switch from status of NO. to NC. or NC to NO. and red LED would indicate the vibration status by on / off. When magnet is pulled away from the housing, red LED would return as default while fork continues to vibrate. By this verification, user can confirm the wiring and function are correct or not.



## Output Status for PNP / NPN Transistor

**Low(Min.) Mode :** Tuning fork switch will be active after 3 seconds while power on. Output transistor is on NO status and red LED indication is off. When tuning fork covered by testing medium, vibration will stop and output transistor becomes NC status. Red LED indication is on.

**High(Max.) Mode:** Tuning fork switch will be active after 3 seconds while power on. Output transistor is on NC status and red LED indication is on. When tuning fork covered by testing medium, vibration will stop and output transistor becomes NO status. Red LED indication is off.

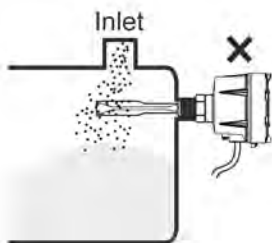
	Min. Mode		Max. Mode	
Level				
PNP/ NPN Output				
Red LED				



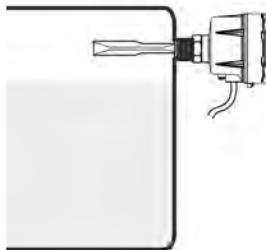
# INSTALLATION FOR TUNING FORK

## Horizontal Installation:

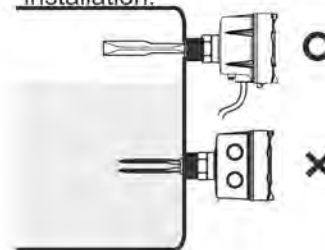
1. Can be applied for high viscosity fluid and power  
Do not install near around material inlet.



2. Wiring port faces downward recommended.



3. Consistence of the wiring port direction and always in downward direction for multi-tuning fork installation.

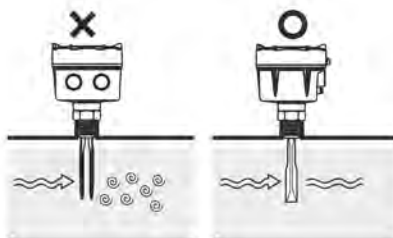


## Vertical Installation:

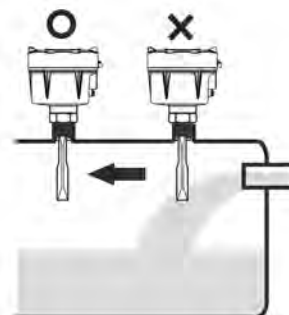
1. Depends on the sensitivity tuning, user should note the switching point is triggered around 15mm from the tip of fork.



3. Consistence of the wiring port direction for multi-tuning fork installation



3. Do not install near material inlet.



# HOW TO ORDER

SC      (    ) (     )

## MODELS

1400: Tuning Fork Standard Type  
 1410: Tuning Fork Extension Type  
 1420: Tuning Fork Ultra Extension Type  
 1540: Tuning Fork Corrosion Proof Type  
 1600: Tuning Fork Sanitary Type  
 1740: Explosion Proof Tuning Fork Standard Type  
 1741: Explosion Proof Tuning Fork Ultra Extension Type  
 3400: Multi-Function Tuning Fork Standard Type  
 3410: Multi-Function Tuning Fork Extension Type  
 3420: Multi-Function Tuning Fork Ultra Extension Type  
 3440: Multi-Function Tuning Fork Corrosion Proof Type  
 3450: Multi-Function Tuning Fork Sanitary Type  
 3800: Multi-Function Mini Type

## POWER & OUTPUT MODULE

20~250Vac/ Vdc, 50/60Hz R: Relay O/P-EuroType  
 N: SSR(MOSFET) EuroType  
 Q: Relay O/P x 2 -EuroType  
 M: SSR(MOSFET) x 2 -EuroType

※ Multion Funtion version can choose R 、 N only

## MATERIAL (Wetted Part)

0: SUS304 6: SUS316 L: SUS316L

## CONNECTION

Dimension	Specification
D---1"(25A)	M---5kg/cm <sup>2</sup> Y---PN 25
3---1-1/4"(32A)	N---10kg/cm <sup>2</sup> Z---PN 40
E---1-1/2"(40A)	O---150 Lbs S---others
F---2"(50A)	P---300 Lbs 9---Sanitary
G---2-1/2"(65A)	Q---PT
H---3"(80A)	R---PF(G)
I---4"(100A)	T---BSP
J---5"(125A)	U---NPT
K---6"(150A)	W---PN 10
S---others	X---PN 16

## LENGTH (L) (UNIT: mm)

0500: below 500mm

1000: 501~1000mm

1500: 1001~1500mm

⋮

※ The letter A depicts lengths longer  
 than 10m: A150 =15m, A200 = 20m

## BEFORE YOU ORDER

1. Check the voltage.500mm per Unit
2. Check the mounting positions.
3. Check the material specific gravity (S.G.) value.
4. Check whether any bridge block or vibrating motors are attached to the silo wall.

Length tolerance/margin of error : 65mm

Characteristics, specifications and dimensions are subject to change

Please contact your nearest distributor for further information.

# HOW TO ORDER

**SC**      **(T)** -     **(**     **)**

**ORDER NO.** \_\_\_\_\_

24: 100mm    28: 40mm

## POWER & OUTPUT MODULE

- 0: 20~250Vac / Vdc 2 wire Contactless electronic switch.  
1: 12~55 Vdc 3 wire PNP/ NPN Output.

## MATERIAL (Wetted Part)

0: SUS304    6: SUS316    L: SUS316L

## MODEL

0: Standard    1: Extended

(High temp. 150°C)

## ELECTRICAL CONNECTION

- A: M12x1(180°)    B: M12x1(90°)  
C: CABLE    D: Valve plug DIN43650  
(M12x1/ CABLE Wire length are 2M,PVC 24AWG)

## CONNECTION

Dimension	Specification	
C---3/4"(25A)SC28 only	M---5kg/cm <sup>2</sup>	X---PN16
D---1"(25A)	N---10kg/cm <sup>2</sup>	Y---PN25
E---1-1/2"(40A)	O---150 Lbs	Z---PN40
F---2"(50A)	P---300 Lbs	S---Special
G---2-1/2"(65A)	Q---PT	
H---3"(80A)	R---PF(G)	
I---4"(100A)	T---BSP	
J---5"(125A)	U---NPT	
K---6"(150A)	W---PN10	
S---Special		

## PROBE LENGTH (UNIT: mm)

Max Length:250mm  
EX 0205 :250mm

## BEFORE YOU ORDER

1. Please affirm the voltage.
2. Please affirm the mounting positions.
3. Please affirm the material specific gravity (S.G.) value.
4. Please affirm whether any bridge block or vibrating motor are attached onto the silo wall.

Tolerance of the total product length is±5mm

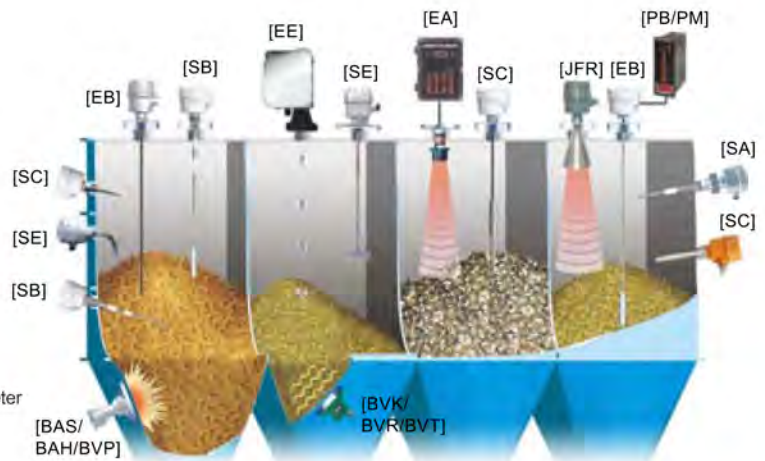
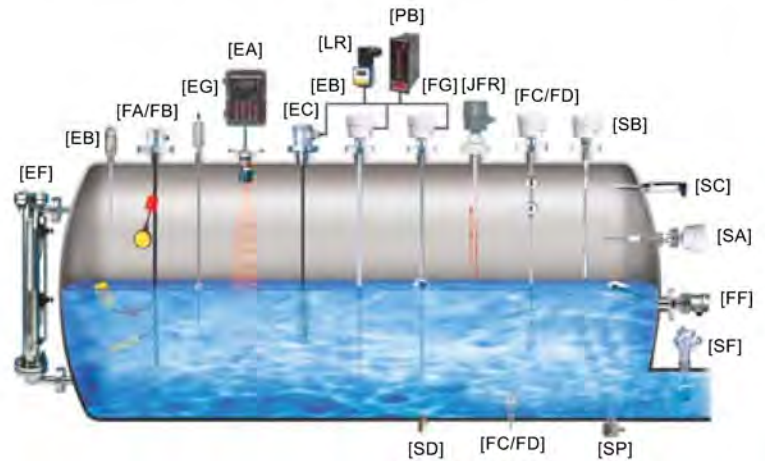
Characteristics, specifications and dimensions are subject to change without notice.

Please contact your nearest distributing office for further information.



# EXAMPLES OF TANK-MOUNTING

[FC/FD]	Mini Float/Magnetic Float Level Switch
[FG]	Magnetic Float Level Transmitter
[FF]	Side Mounting Float Switch
[FA/FB]	Cable Float Level Switch
[SP]	Thermal Dispersion Flow Switch
[SF]	Paddle Flow Switch
[SD]	Optical Level Switch
[SE]	Rotary Paddle Level Switch
[SA]	Capacitance Level Switch
[EC]	Pressure Level Transmitter
[LR]	Loop Power Indicator
[SC]	Vibrating Probe Level Switch
[SC]	Tuning Fork Level Switch
[EB]	R F-Capacitance Level Transmitter
[SB]	R F-Capacitance / Admittance Level Switch
[EG]	Magnetostrictive Level Transmitter
[EF]	By-Pass Level Transmitter
[MEF]	Mini By-Pass Level Transmitter
[EA]	Ultrasonic Level Transmitter
[JFR]	FMCW Radar Level Transmitter
[EE]	Electromechanical Level Measuring System
[ED]	Speed Monitor
[SRT/SRS]	Conveyer Belt Misalignment Switch & Safety Cable Pull Switch
[PB/PM]	Microprocessor Based Bargraphic Display Scaling Meter
[BRD/AE]	Valve and Controller for Dust Collector System
[BAS/BAH/BVP]	Air Hammer
[BVK/BVR/BVT]	Pneumatic Vibrator



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