Capacitance Level Switch

Sensorsystem®

Innovative Sensors & Controls for Automation

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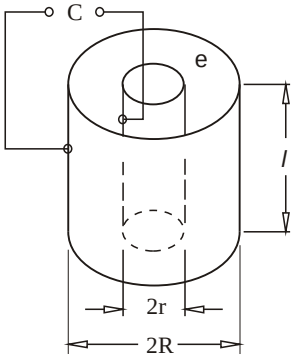
PRODUCT INTRODUCTION

■ PRINCIPLE

The capacitance level switch measuring principle is based on the "capacitance effects". When this level switch is set on a silo, it will form a condenser between the detector electrode and the silo wall. The capacitance of this condenser varies proportional to the change of material specific inductivity (DK value) of the material stored in the silo. When the material substances increased in the silo, the capacitance value added simultaneously, then it will let his interior circuit's resonant signal to create a bigger amplitude, and such a signal amplitude become more or less than factory default threshold value, the relay device will be energized.
The capacitance value increases as the dielectric increases. Therefore capacitance is proportional to dielectric.
When tank is empty, the dielectric of air is 1. As a tank is filled with medium, the amount of capacitance being generated will be increased. This capacitance increase will be detected by the circuit and relay will be activated.



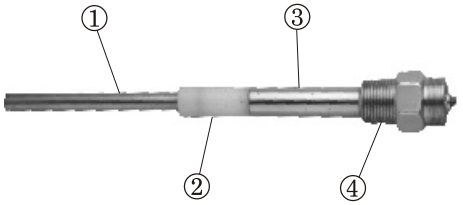
$C = e l / \log(R/r)$

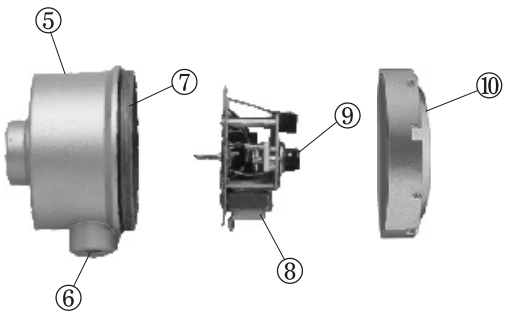
■ FEATURES AND APPLICATIONS

As Capacitance Level Switch has no moving parts inside the device, it will not be affected by friction. It is suitable for powder or liquid application easy to install. The customer can choose the types for his requirements.

1. **Standard Type (SA110 & SA111 A/B/C)**
   Suitable for general use.
2. **Hi-Temp Type (SA120 & SA128 A/B/C)**
   Suitable for high temperature environment.
3. **Anti-Corrosion Type (SA130 & SA132 A/B/C)**
   Suitable for corrosive environment.
4. **Remote Probe Type (SA140 A/B/C)**
   For use with vibrator equipped with tank.
5. **Wire-Probe Type (SA150 A/B/C)**
   Suitable for silo or large-size tank.
6. **Plate-Probe Type (SA160 A/B/C)**
   Suitable for granules and at lower position of tank side.
7. **Explosion-Proof Type (SA270 ~ SA279)**
   Ex dia II C T4~T6, DIP A21 T_A,T3~T6
8. **Explosion-Proof Type (SA370 ~ SA378)**
   Ex ia IIC T3~T6
   Equipped with SA-75U signal conditioner can be used in hazardous areas.
9. **Anti-Static Type (SA180 & SA181 A/B/C)**
   Suitable for electrostatic environment
   (It won't be damaged by the electrostatic discharge)

■ CONSTRUCTION

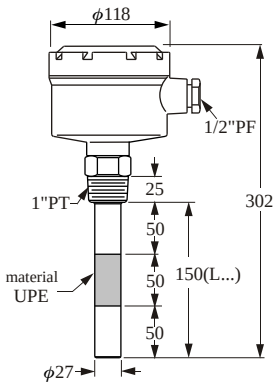
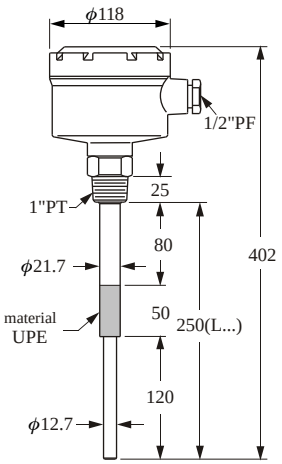
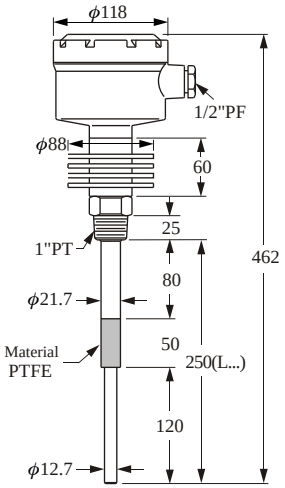




1. Probe : SUS304 or SUS316
2. Insulation : UPE or PTFE
3. Grounding Sleeve : SUS304 or SUS316
4. Connection : SUS304 or SUS316
1"PT (default) or 3/4"PT(option)

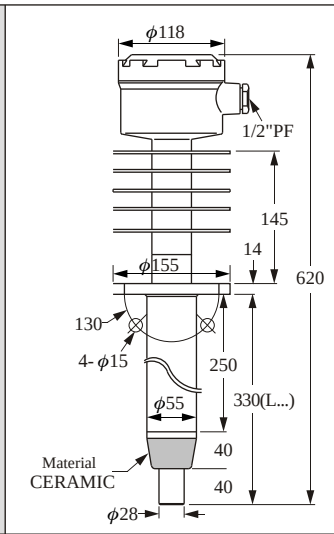
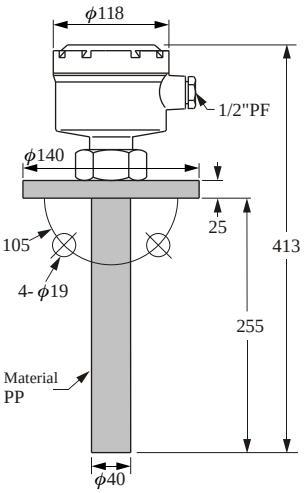
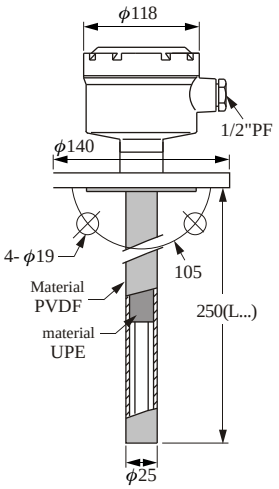
5. Housing : ADC-12 Aluminum IP65
6. Conduit opening : 1/2"PF or 3/4"PF
7. O-RING : NBR
8. PC board : A, B, C, D Type
9. Sensitivity adjustment : 10pf (std.), 20pf, 40pf
10.Cover ： ADC-12 Aluminum

STANDARD TYPE

Dimension			
Order No.	**[STANDARD TYPE] SA110 A/B/C**	**[STANDARD TYPE] SA111A/B/C**	**[HI-TEMP. TYPE] SA120 A/B/C**
Ambient Temp.	-20°C~60°C	-20°C~60°C	-20°C~60°C
Operating Temp.	-20°C~80°C	-20°C~80°C	-20°C~200°C
Operation Pressure	20kg/cm^2	20kg/cm^2	20kg/cm^2
Probe Material	SUS 304/316	SUS 304/316	SUS 304/316
Insulated Material	UPE	UPE	PTFE
Connection	1"PT Screw (SUS)	1"PT Screw (SUS)	1"PT (SUS) Screw
Sensitivity Range	10pf (std.) 20pf, 40pf (option)	10pf (std.) 20pf, 40pf (option)	10pf (std.) 20pf, 40pf (option)
Weight	Approx. 1.9kg	Approx. 1.9kg	Approx. 2.4kg
Housing Spec.	Aluminum IP65		
Supply Voltage	110/220Vac ± 10% or 16~24Vdc		
Delay Time	0~6 sec		
Power Consumption	2W		
Output Rating	Relay: 5A/250Vac/30Vdc,NPN 100mA		

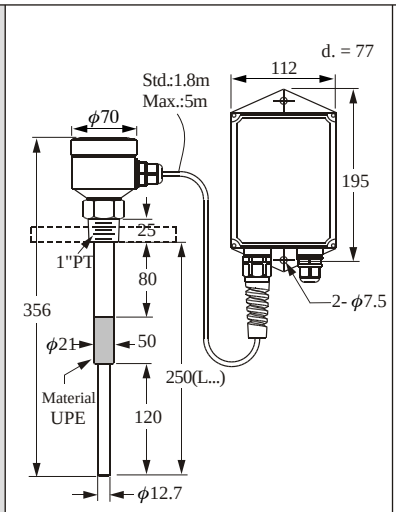
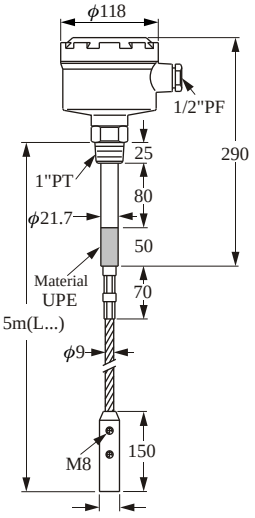
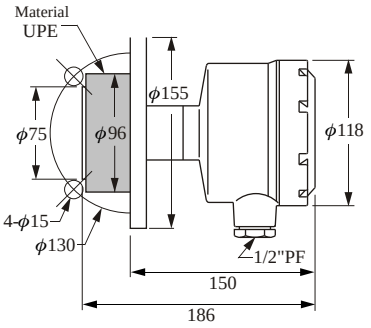
If length of sensing probes is longer than 3 meters, please choose 20pf or 40pf sensitivity type.

STANDARD TYPE

Dimension			
Order No.	**[SUPER HI-TEMP. TYPE] SA128 A/B/C**	**[CORROSION-PROOF TYPE] SA130 A/B/C**	**[CORROSION-PROOF TYPE] SA132 A/B/C**
Ambient Temp.	-20°C~60°C	-20°C~60°C	-20°C~60°C
Operating Temp.	-20°C~800°C	-20°C~80°C	-20°C~120°C
Operation Pressure	ATM	20kg/cm^2	20kg/cm^2
Probe Material	SUS 304/316	SUS 304 Coating PP	SUS304 Coating PVDF
Insulated Material	CERAMIC	UPE	UPE
Connection	2-1/ 2"x5kg/cm^2 Flange(SUS)	1-1/2"x10kg/cm^2 Flange(PP)	1-1/2"x10kg/cm^2 Flange(SUS) (5mm PVDF)
Sensitivity Range	10pf (std.) 20pf (option)	10pf (std.)	10pf (std.) 20pf (option)
Weight	Approx. 6.5kg	Approx. 2kg	————
Housing Spec.	Aluminum IP65		
Supply Voltage	110/220Vac ± 10% or 16~24Vdc		
Delay Time	0~6 sec		
Power Consumption	2W		
Output Rating	Relay: 5A/250Vac/30Vdc,NPN 100mA		

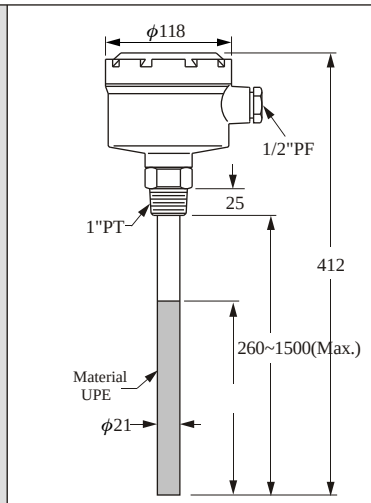
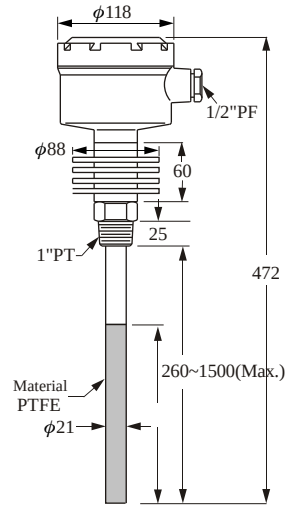
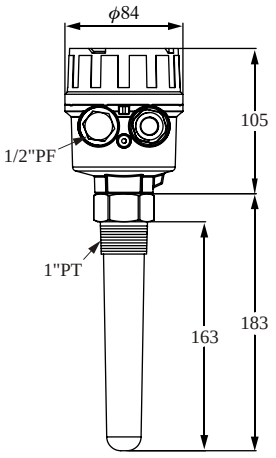
If length of sensing probes is longer than 3 meters, please choose 20pf or 40pf sensitivity type.

STANDARD TYPE

Dimension			
Order No.	**[REMOTE PROBE TYPE] SA140 A/B/C**	**[WIRE-PROBE TYPE] SA150 A/B/C**	**[PLATE TYPE] SA160 A/B/C**
Ambient Temp.	-20°C~60°C	-20°C~60°C	-20°C~60°C
Operating Temp.	-20°C~80°C	-20°C~80°C	-20°C~80°C
Operation Pressure	20kg/cm^2	20kg/cm^2	20kg/cm^2
Probe Material	SUS 304/316	SUS 304/316 cable	SUS 304/316
Insulated Material	UPE	UPE	UPE
Connection	1"PT Screw (SUS)	1"PT Screw (SUS)	2-1/2"x 5kg/cm^2 Flange (SUS)
Sensitivity Range	10pf (std.)	10pf (std.) 20pf, 40pf (option)	10pf (std.) 20pf, 40pf (option)
Weight	Approx. 3kg	Approx. 4.1kg	Approx. 3.2kg
Housing Spec.	Aluminum IP65		
Supply Voltage	110/220Vac ± 10% or 16~24Vdc		
Delay Time	0~6 sec		
Power Consumption	2W		
Output Rating	Relay: 5A/250Vac/30Vdc,NPN 100mA		

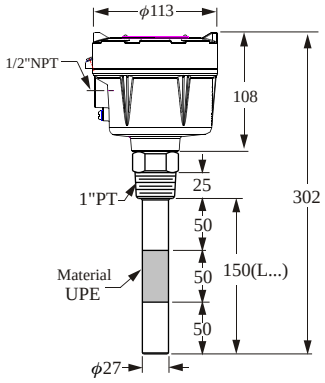
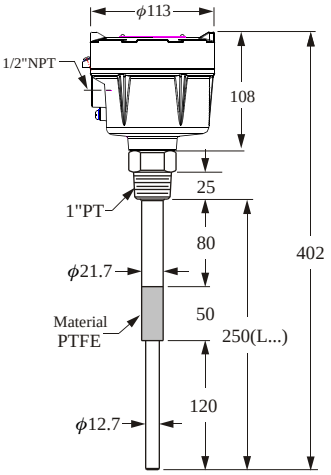
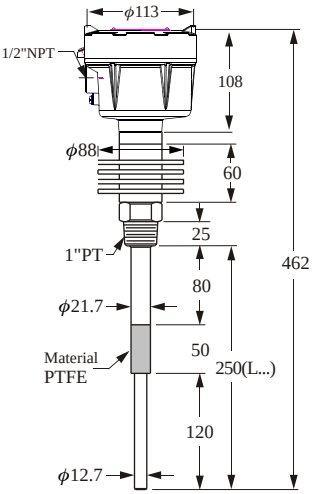
If length of sensing probes is longer than 3 meters, please choose 20pf or 40pf sensitivity type.

STANDARD TYPE

Dimension			
Order No.	**[ANTI-STATIC TYPE] SA180 A/B/C**	**[HI-TEMP ANTI-STATIC TYPE] SA181 A/B/C**	**[MULTI-FUNCTION TYPE] SA190 R/N**
Ambient Temp.	-20°C~60°C	-20°C~60°C	-20°C~60°C
Operating Temp.	-20°C~80°C	-20°C~200°C	-20°C~80°C
Operation Pressure	20kg/cm^2	20kg/cm^2	25kg/cm^2
Probe Material	UPE Coating	PTFE Coating	PP (SA190 R/N) POM (SA190R-M/ SA190N-M)
Insulated Material	UPE	PTFE	————
Connection	1"PT Screw (SUS)	1"PT Screw (SUS)	1"PT Screw
Sensitivity Range	10pf (std.) 20pf (option)	10pf (std.) 20pf (option)	10pf (std.)
Weight	Approx. 2kg	Approx. 2.5kg	Approx. 0.8kg
Housing Spec.	Aluminum IP65		Aluminum IP65
Supply Voltage	110/220Vac ± 10% or 16~24Vdc		20~250Vac/dc, 50/60 Hz
Delay Time	0~6 sec		0~6 sec
Power Consumption	2W		2W
Output Rating	Relay: 5A/250Vac/30Vdc,NPN 100mA		R: Relay SPDT, 5A/250Vac/30Vdc N: MOSFET 400mA/ 60Vac/dc

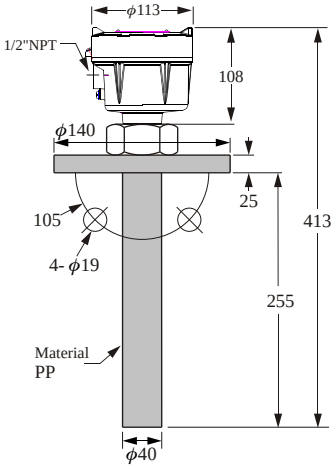
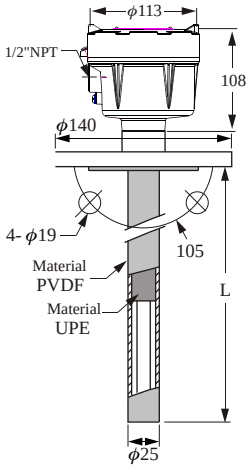
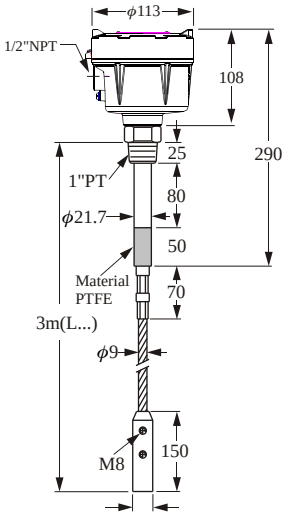
If length of sensing probes is longer than 3 meters, please choose 20pf or 40pf sensitivity type.

EXPLOSION PROOF TYPE

Dimension			
Order No.	**[STANDARD TYPE] SA270**	**[STANDARD TYPE] SA271**	**[HI-TEMP. TYPE] SA272**
Ambient Temp.	-20°C~60°C	-20°C~60°C	-20°C~60°C
Operating Temp.	-20°C~80°C	-20°C~80°C	-20°C~200°C
Operation Pressure	20kg/cm^2	20kg/cm^2	20kg/cm^2
Probe Material	SUS 304/316	SUS 304/316	SUS 304/316
Insulated Material	PTFE or UPE	PTFE	PTFE
Connection	1"PT Screw (SUS)	1"PT Screw (SUS)	1"PT (SUS) Screw
Sensitivity Range	10pf (std.) 20pf, 40pf (option)	10pf (std.) 20pf, 40pf (option)	10pf (std.) 20pf, 40pf (option)
Weight	Approx. 1.9kg	Approx. 2.4kg	Approx. 4.1kg
Housing Spec.	Aluminum IP65		
Supply Voltage	110/220Vac ± 10% or 16~24Vdc		
Enclosure Protection	Ex dia II C T4~T6, DIP A21 T_A, T3~T6		
Power Consumption	2W		
Output Rating	Relay: 3A/250Vac/30Vdc,NPN 100mA		

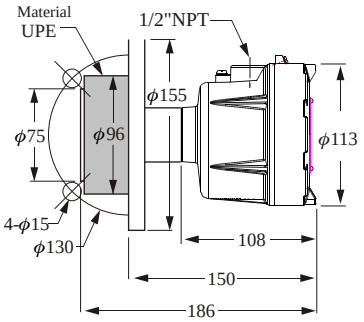
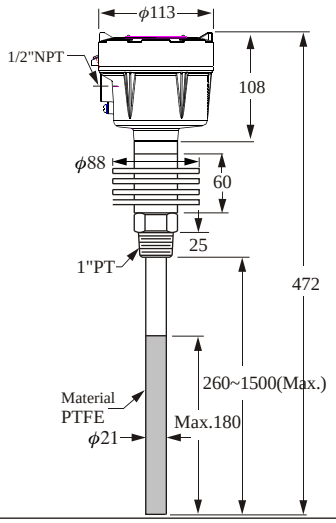
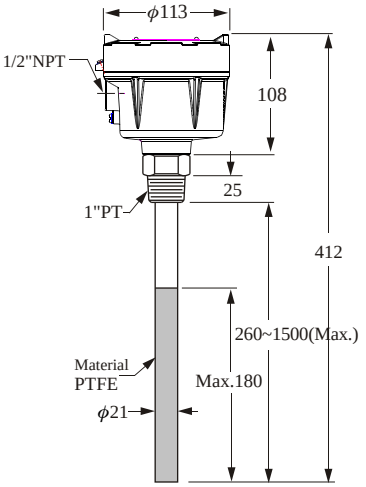
If length of sensing probes is longer than 3 meters, please choose 20pf or 40pf sensitivity type.

EXPLOSION PROOF TYPE

Dimension			
Order No.	**[CORROSION-PROOF TYPE] SA273**	**[CORROSION-PROOF TYPE] SA274**	**[WIRE-PROBE TYPE] SA275**
Ambient Temp.	-20°C~60°C	-20°C~60°C	-20°C~60°C
Operating Temp.	-20°C~80°C	-20°C~120°C	-20°C~80°C
Operation Pressure	ATM	20kg/cm^2	20kg/cm^2
Probe Material	SUS 304/316(PP Coating)	SUS 304/316	SUS 304/316 Cable
Insulated Material	PTFE or UPE	UPE	PTFE
Connection	1-1/2"x10kg/cm^2 (PP)	1-1/2"x10kg/cm^2 (SUS) W / 5mm PVDF Cushion	1"PT Screw (SUS)
Sensitivity Range	10pf (std.) 20pf, 40pf (option)	10pf (std.) 20pf, 40pf (option)	10pf (std.) 20pf, 40pf (option)
Weight	Approx. 1.9kg	————————	Approx. 4.1kg
Housing Spec.	Aluminum IP65		
Supply Voltage	110/220Vac ± 10% or 16~24Vdc		
Enclosure Protection	Ex dia II C T4~T6, DIP A21 T_A, T3~T6		
Power Consumption	2W		
Output Rating	Relay: 3A/250Vac/30Vdc,NPN 100mA		

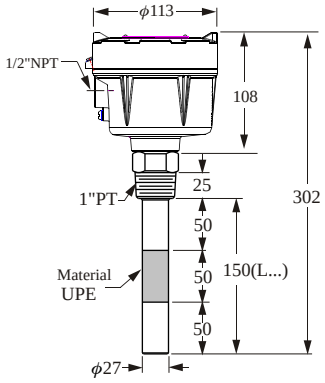
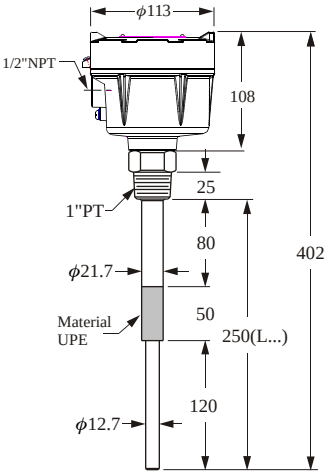
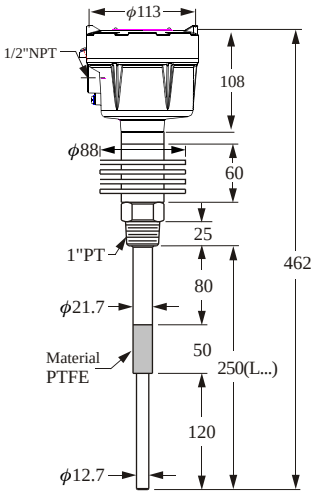
If length of sensing probes is longer than 3 meters, please choose 20pf or 40pf sensitivity type.

EXPLOSION PROOF TYPE

Dimension			
Order No.	**[PLATE TYPE] SA276**	**[HI-TEMP ANTI-STATIC TYPE] SA277**	**[ANTI-STATIC TYPE] SA278**
Ambient Temp.	-20°C~60°C	-20°C~60°C	-20°C~60°C
Operating Temp.	-20°C~80°C	-20°C~200°C	-20°C~80°C
Operation Pressure	20kg/cm^2	20kg/cm^2	20kg/cm^2
Probe Material	SUS 304/316	PTFE or UPE Coating	PTFE or UPE Coating
Insulated Material	PTFE or UPE	PTFE or UPE	PTFE or UPE
Connection	2-1/2"x 5kg/cm^2 Flange (SUS)	1"PT Screw (SUS)	1"PT Screw (SUS)
Sensitivity Range	10pf (std.) 20pf, 40pf (option)	10pf (std.) 20pf (option)	10pf (std.) 20pf (option)
Weight	Approx. 3.2kg	Approx. 3.1kg	Approx. 2kg
Housing Spec.	Aluminum IP65		
Supply Voltage	110/220Vac ± 10% or 16~24Vdc		
Enclosure Protection	Ex dia II C T4~T6, DIP A21 T_A, T3~T6		
Power Consumption	2W		
Output Rating	Relay: 3A/250Vac/30Vdc,NPN 100mA		

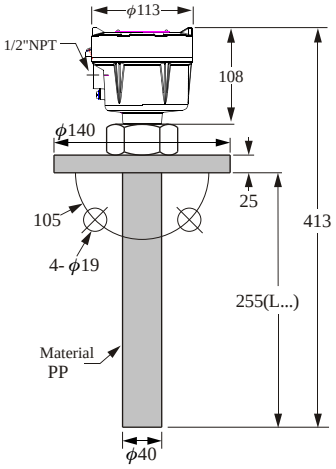
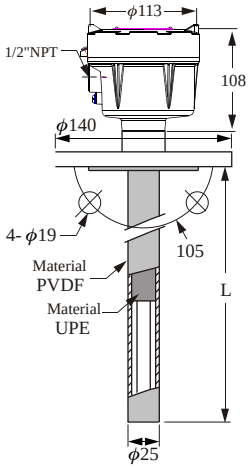
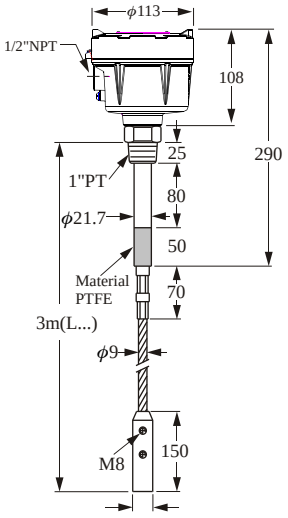
If length of sensing probes is longer than 3 meters, please choose 20pf or 40pf sensitivity type.

INTRINSICALLY SAFE EXPLOSION PROOF TYPE

Dimension			
Order No.	**[STANDARD TYPE] SA370 (WITH SA-75U)**	**[STANDARD TYPE] SA371 (WITH SA-75U)**	**[HI-TEMP. TYPE] SA372 (WITH SA-75U)**
Ambient Temp.	-20℃~60℃	-20℃~60℃	-20℃~60℃
Operating Temp.	-20℃~80℃	-20℃~80℃	-20℃~200℃
Operation Pressure	20kg/cm^2	20kg/cm^2	20kg/cm^2
Probe Material	SUS 304/316	SUS 304/316	SUS 304/316
Insulated Material	PTFE or UPE	UPE	PTFE
Connection	1"PT Screw (SUS)	1"PT Screw (SUS)	1"PT Screw (SUS)
Sensitivity Range	10pf (std.) 20pf, 40pf (option)	10pf (std.) 20pf, 40pf (option)	10pf (std.) 20pf, 40pf (option)
Weight	Approx. 1.9kg	Approx. 2.4kg	Approx. 2.4kg
Housing Spec.	Aluminum IP65		
Supply Voltage	16~24Vdc		
Enclosure Protection	Ex ia IIC T3~T6		
Power Consumption	2W		
Output Rating	NPN 100mA		

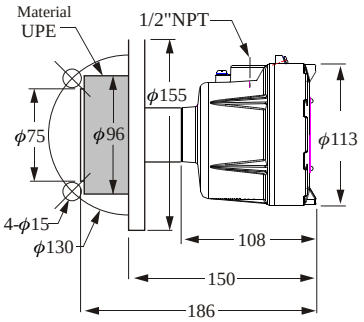
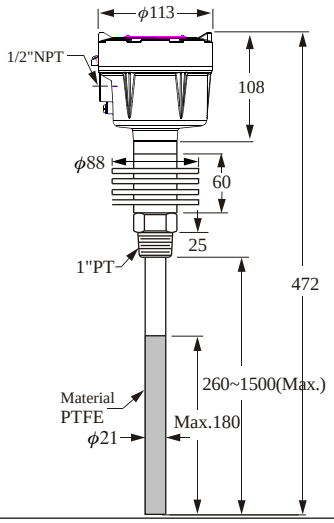
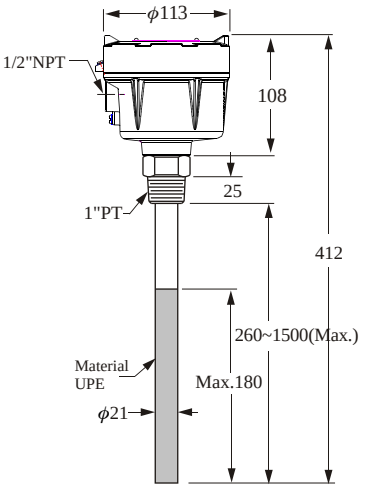
If length of sensing probes is longer than 3 meters, please choose 20pf or 40pf sensitivity type.

INTRINSICALLY SAFE EXPLOSION PROOF TYPE

Dimension			
Order No.	**[CORROSION-PROOF TYPE] SA373 (WITH SA-75U)**	**[CORROSION-PROOF TYPE] SA374 (WITH SA-75U)**	**[WIRE-PROBE TYPE] SA375 (WITH SA-75U)**
Ambient Temp.	-20°C~60°C	-20°C~60°C	-20°C~60°C
Operating Temp.	-20°C~80°C	-20°C~120°C	-20°C~80°C
Operation Pressure	ATM	20kg/cm^2	20kg/cm^2
Probe Material	SUS 304/316(PP Coating)	SUS 304/316	SUS 304/316 Cable
Insulated Material	PTFE or UPE	UPE	PTFE
Connection	1-1/2"x10kg/cm^2 (PP)	1-1/2"x10kg/cm^2 (SUS) W / 5 mm PVDF Cushion	1"PT Screw (SUS)
Sensitivity Range	10pf (std.) 20pf, 40pf (option)	10pf (std.) 20pf, 40pf (option)	10pf (std.) 20pf, 40pf (option)
Weight	Approx. 1.9kg	————————	Approx. 4.1kg
Housing Spec.	Aluminum IP65		
Supply Voltage	16~24Vdc		
Delay Time	Ex ia IIC T3~T6		
Power Consumption	2W		
Output Rating	NPN 100mA		

If length of sensing probes is longer than 3 meters, please choose 20pf or 40pf sensitivity type.

INTRINSICALLY SAFE EXPLOSION PROOF TYPE

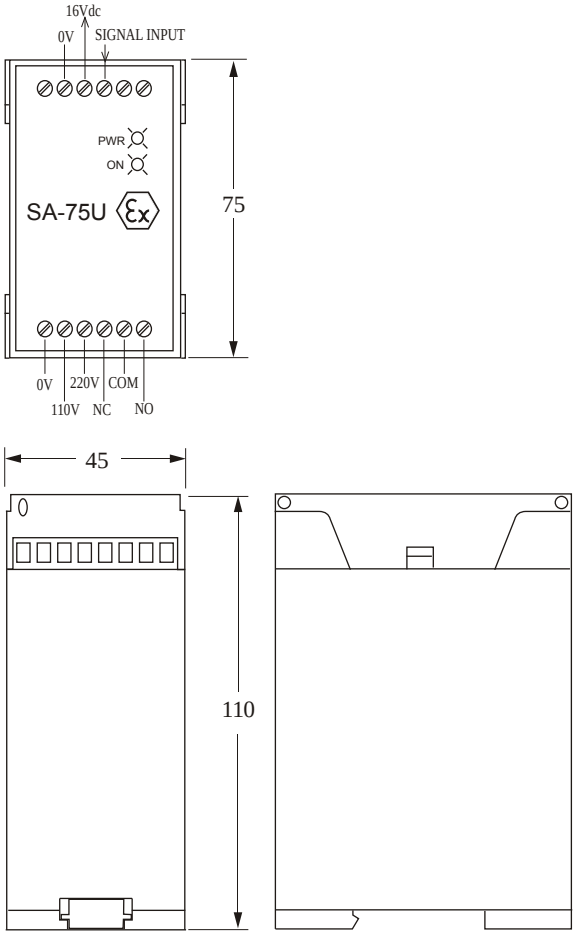
Dimension			
Order No.	**[PLATE TYPE] SA376 (WITH SA-75U)**	**[HI-TEMP ANTI-STATIC TYPE] SA377 (WITH SA-75U)**	**[ANTI-STATIC TYPE] SA378 (WITH SA-75U)**
Ambient Temp.	-20°C~60°C	-20°C~60°C	-20°C~60°C
Operating Temp.	-20°C~80°C	-20°C~200°C	-20°C~80°C
Operation Pressure	20kg/cm^2	20kg/cm^2	20kg/cm^2
Probe Material	SUS 304/316	PTFE or UPE Coating	UPE or UPE Coating
Insulated Material	PTFE or UPE	PTFE or UPE	PTFE or UPE
Connection	2-1/2"x 5kg/cm^2 Flange (SUS)	1"PT Screw (SUS)	1"PT Screw (SUS)
Sensitivity Range	10pf (std.) 20pf, 40pf (option)	10pf (std.) 20pf, 40pf (option)	10pf (std.) 20pf (option)
Weight	Approx. 3.2kg	Approx. 3.1kg	Approx. 2kg
Housing Spec.	Aluminum IP65		
Supply Voltage	16~24Vdc		
Delay Time	Ex ia IIC T3~T6		
Power Consumption	2W		
Output Rating	NPN 100mA		

If length of sensing probes is longer than 3 meters, please choose 20pf or 40pf sensitivity type.

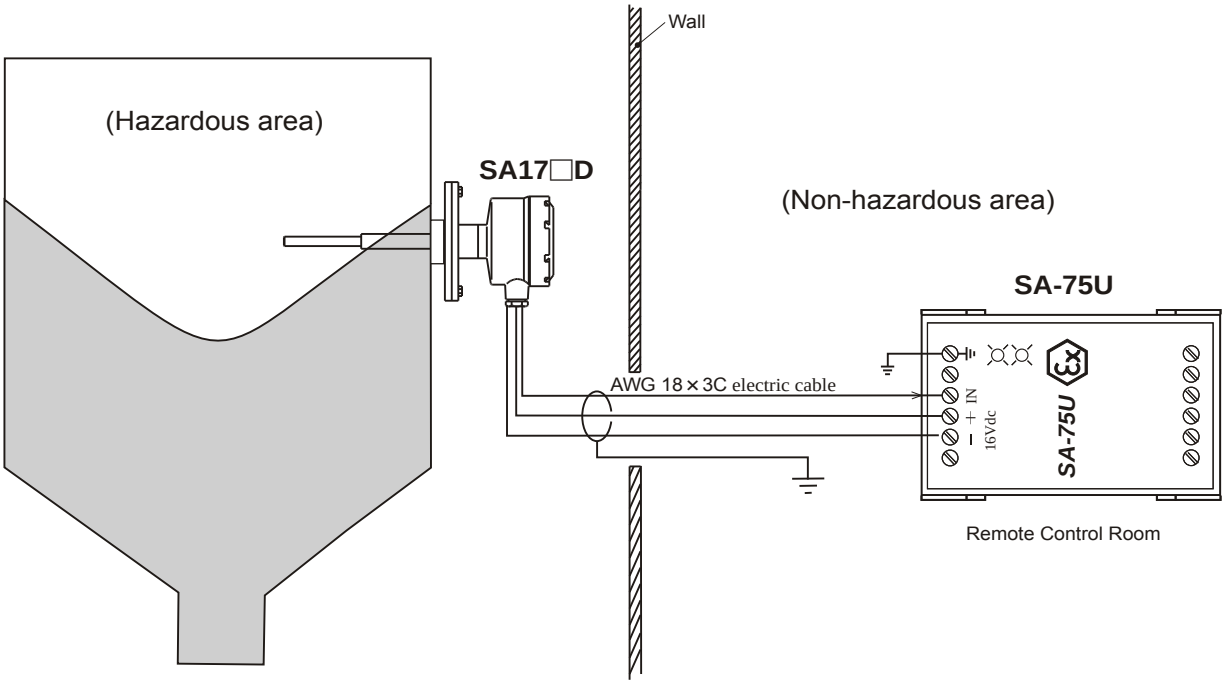
SA-75U INTRINSIC SAFE SIGNAL CONDITIONER

SA-75U Zener barriers inside provide intrinsic safety to SA37□ type level switch. The unit works via a current-limiting feature which protects the device from damage by emission of sparks.

1. Supply voltage : 110 / 220Vac
2. Power consumption : 2W
3. Input signal : NPN transistor resistance Ri= 500Ω
4. Output voltage : 16 Vdc
5. Short circuit current : 25mA max.
6. Relay output : SPDT 10A /30Vdc 10A /220Vac
7. Operating temp. : -20°C ~ 60°C
8. Weight : 0.3 kg
9. Enclosure rating : Ex (ia) IIC T6



■ WIRING CONFIGURATION



ADJUSTMENT

COARSE CALIBRATION

Set the "Sensitive ADJ. " to the "H" position. Then use a screw driver to adjust the "Coarse" until indicator is lighted. At last check "Indicator" is light or not by adjust the "Sensitivity Adj" knob, if not, repeat procedure.

SENSITIVITY ADJUSTMENT

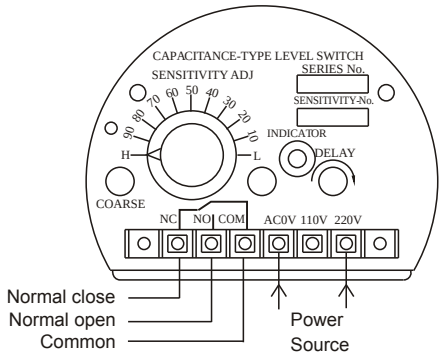
When the material is out of contact with probe will extinguish the "Indicator". When the material is in contact with probe will illuminated the "Indicator " lamp, at this time please adjust "Sensitivity ADJ." until lamp is in extinction. And then set "Sensitivity ADJ." in the middle between "H" and extinction position. e.g. If extinction position is 10p, you should set "Sensitivity ADJ." in "75" position.

DELAY FUNCTION CALIBRATION

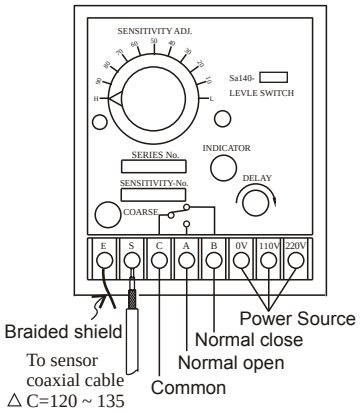
The default setting is 0 second, here at the material is in contact with probe will illuminate "Indicator" lamp and energize relay. When the user need to use this delay function, please set timer in clockwise. The relay will energized after "Indicator" illuminate for several seconds if set timer more than 0 second. The delay function is suitable for variable material level. e.g. liquid tank equip with agitator.

DESCRIPTION OF PANEL

SA110,120,130,150,160,180,270,370 A/B/C/D



SA140 A/B/C/D



CALIBRATION STEP OF SENSIVITY

SA190 If LED indicator is not on after the above calibration, please perform the following procedures:

1. Set sensitivity to be OFF(Figure 2).
2. Turn COARSE until red SIGNAL LED just turns on.
3. Set sensitivity ON(90%) in dip switch 1(Figure 3). LED indicator will turn off and no signal output. Then set sensitivity all in OFF position. LED indicator will turn on again to complete the c alibration procedure.

Figure 1

Figure 2

Figure 3

Sensitivity Adjustment

Sensitivity Adjustment	4 Step DIP Switch				
	(1)	(2)	(3)	(4)	Adjust Mode
1P	●				Switch (1) ON ：Switch (2+3+4) OFF
2P		●			Switch (2) ON ：Switch (1+3+4) OFF
3P			●		Switch (3) ON ：Switch (1+2+4) OFF
4P				●	Switch (4) ON ：Switch (1+2+3) OFF
5P		●	●		Switch (2+3) ON ：Switch (1+4) OFF
6P	●	●	●		Switch (1+2+3) ON ：Switch (4) OFF
7P			●	●	Switch (3+4) ON ：Switch (1+2) OFF
8P	●		●	●	Switch (1+3+4) ON ：Switch (2) OFF
9P		●	●	●	Switch (2+3+4) ON ：Switch (1) OFF
10P	●	●	●	●	Switch (1+2+3+4) ON

Fail Safe Selection

FSH Mode:

Fail-Safe High means that the relay will be energized when the sensing probe is uncovered by the medium (SIGNAL LED is on) and will de-energize when the p robe is covered(SIGNAL LED is off). In this mode, a power failure will cause the relay to de-energize like the probe is covered.

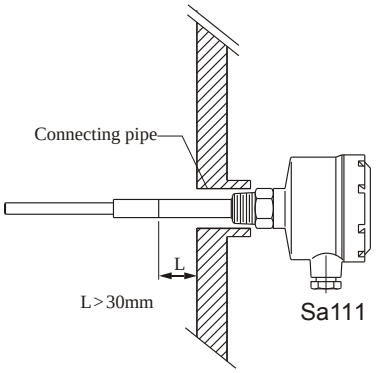
FSL Mode:

Fail-Safe Low means that the relay will be de energized when the probe is uncovered(SIGNAL LED is off) and will energize when the probe is covered(SIGNAL LED is on). In this mode, a power failure will cause the relay to de-energize like the probe is uncovered.

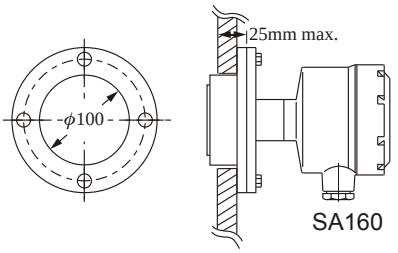
Time Delay

1. Time delay allows the level switch to change state with range from 0~6 seconds when condition changes from a covered to an uncovered condition and from an uncovered to a covered condition. If delay mode is not set, level switch will change state immediately when probe is covered by the medium.
2. Turn time delay knob clockwise to increase delay time and counter-clockwise to decrease delay time.

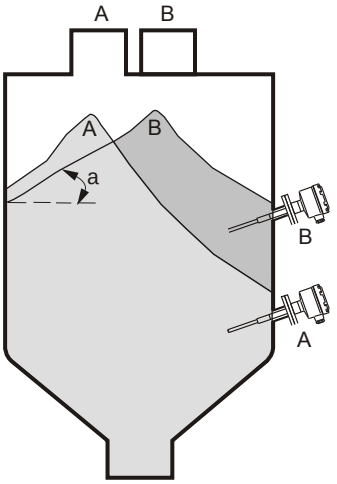
INSTALLATION NOTICE



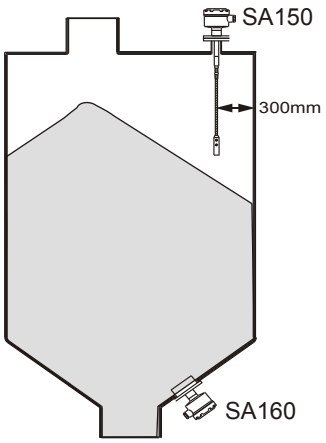
The insensible portion should be mounted to protrude 30mm from the vessel wall. That's to prevent malfunction from a fill material or an insufficient clearance between probe and connection pipe.



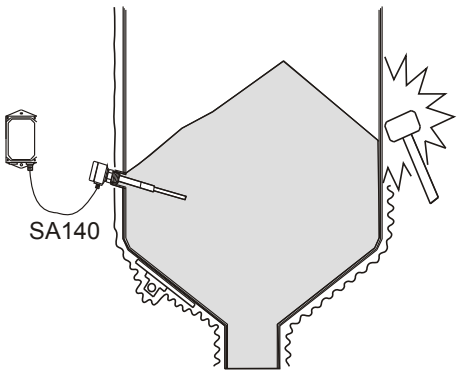
SA160 to be mounted properly, the vessel walls should not exceed 25mm.



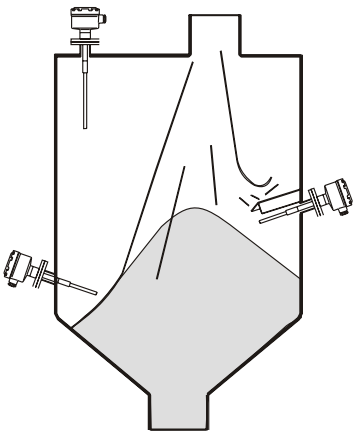
To prevent false readings, users have to make sure the material flows symmetrically. If the inlet is not located in the center portion of the tank roof, check the flow pattern (α angle) of your material and place the probe in the appropriate location.



If the probe is mounted on the top, make sure the length of probe long enough to touch the highest level of raw material.
SA150 type must have at least 300mm from the electrode probe to the silo wall.
SA160 type is usually installed at the lower of tank side.

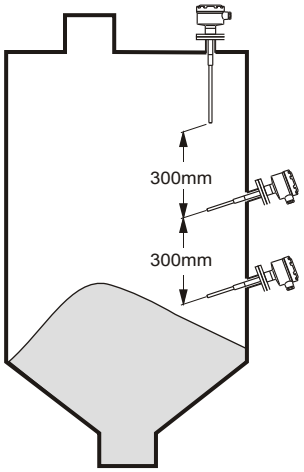


For Non-Stationary or vibrating environment, a separate control unit such as the SA140 is suggested.

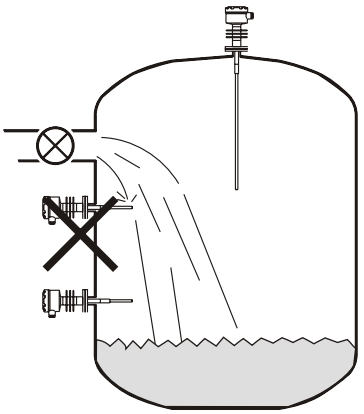


It is suggested to install the probe away from the inlet to reduce the risk of inflowing material damaging the probe. If the probe is near an inlet, it is recommended to place a protective cover 200mm above the probe. The cover should be parallel to the probe and the same length.

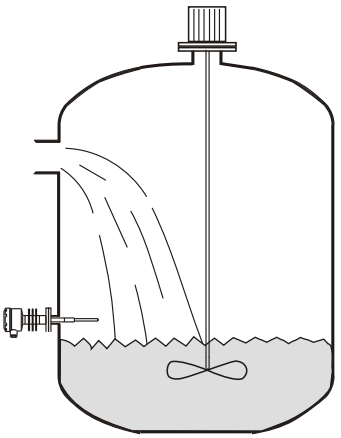
INSTALLATION NOTICE



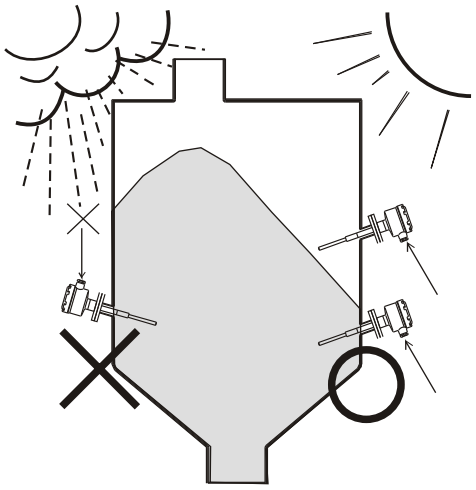
If two parallel probes are mounted, they must be installed separately at least 300 mm to minimize interference .



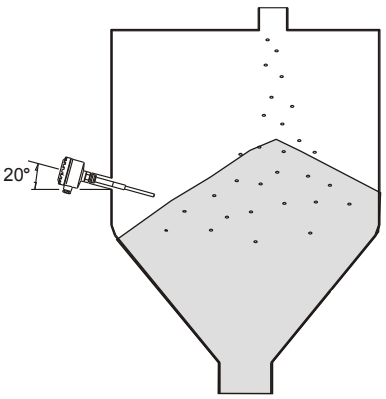
The probe should not be mounted underneath a liquid inlet, otherwise it will switch on erroneously.



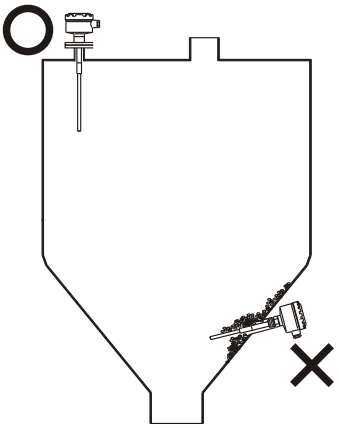
If the tank equips with agitator, please use the time-delay type to prevent fault level detection.



The cable inlet should face downward to avoid rain damage. Tighten the cable with the connecting part.



Mounting the probe at a 20° incline will optimize the results and increase sensitivity. It also won't be damaged by the inflowing material.



Mounting the probe at top of tank can avoid material bridges from forming. It's helpful to record accurate measurements.

ORDER INFORMATION

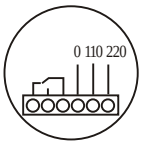
SA 1 1 0 A DQ (1 0 0 0)

Model

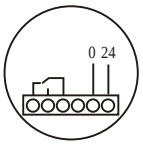
11□ --- Standard Type
12□ --- Hi-temp. Type
13□--- Corrosion Proof Type
140 --- Remote Probe Type
150 --- Wire Probe Type
160 --- Plate Type
18□ --- Anti-Static Type
27□ --- Explosion Proof Type
37□ --- Explosion Proof Type

Terminal Arrangement

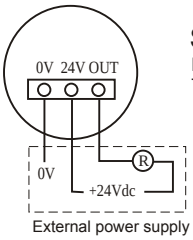
A---110/220Vac
B---DC24V, Relay output
C---DC24V, NPN transistor output
D---Designed for use with SA-75U



SA□□□ A
110V/220VAC
Relay output

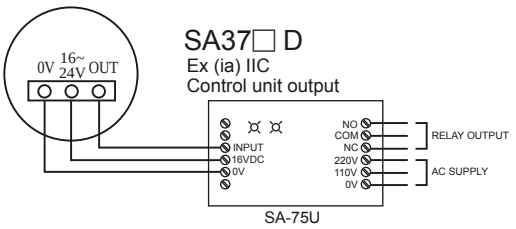


SA□□□ B
DC24V
Relay output



External power supply

SA□□□ C
DC24V
Transistor npn output



SA-75U

SA37□ D
Ex (ia) IIC
Control unit output

Connection

C---3/4"(20A)
D---1"(25A)
E---1-1/2"(40A)
F---2"(50A)
G---2-1/2"(65A)
H---3"(80A)
I ---4"(100A)
J---5"(125A)
K---6"(150A)
S---Others

M---5kg/cm^2
N---10kg/cm^2
O---150 Lbs
P---300 Lbs
Q---PT
R---PF(G)
T---BSP
U---NPT
S---Others

W---PN 10
X---PN 16
Y---PN 25
Z---PN 40

Probe Length (mm)

0500: 500mm (Below~500mm) ※ 500mm per Unit
1000: 1000mm (501~1000mm)
1500: 1500mm (1001~1500mm)

* Tolerance of the total product length is ±5mm.
* Characteristics, specifications and dimensions are subject to change without notice.
* Please contact your nearest distributor office for further informations.

ORDER INFORMATION

SA 190 R - P D Q

Supply Voltage & Output Rating

R: 20~250, 50/60Hz Vac/dc (Relay)
N: 20~250, 50/60Hz Vac/dc Transistor

Probe Material

P: PP
M: POM

Connection

D: 1" (25A)

Q: PT
U: NPT

* Tolerance of the total product length is ±5mm.
* Characteristics, specifications and dimensions are subject to change without notice.
* Please contact your nearest distributor office for further informations.