



General Information

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HCC-75P Series

Capacitance Type Level Switch



HITROL CO., LTD.

General

HCC-75P is a capacitance type level switch used in measuring bulk solids as well as liquid. Level and alarm is output as a relay contact by AC power supply AC 110 V or 220 V. Various application is

possible from the field of food industries using fertilizer, fodder, wheat powder, flavouring, rice and rye to many industrial fields using cement, glass, limestone etc.

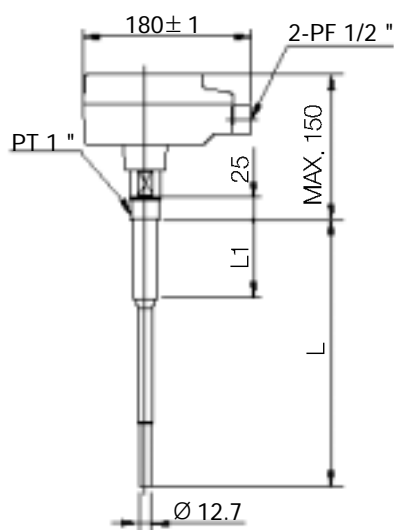
Characteristics

- * Even in power failure, instruments operate always safely adopting fail-safe output.
- * Contact output is max. AC 250 V, 5 A.
- * ON delay and OFF delay can be selected as an output and delay period can be set from 0 to 30 seconds.
- * It's possible to check operating status in the field from flashing LED.

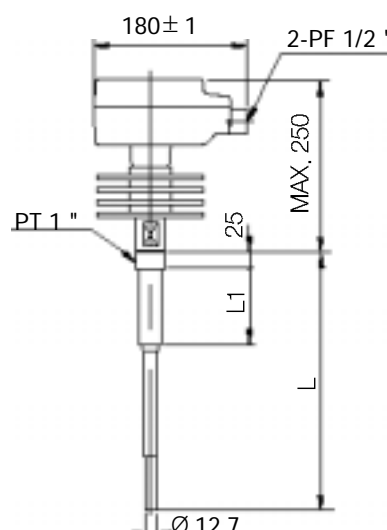
Specifications

Power Supply	AC 110 V / 220 V \pm 10 %, 50/60 Hz
Output	1 DPDT
Contact Capacity	Max. AC 250 V 5A DC 28V 1A
Consumption Power	Approx. 3 VA
Sensitivity	Max. 1 pF
Adjustable Range	5 ~ 75 pF(from BCD switch)
Fail-Safe	HIGH or LOW fail-safe selectable
Response Velocity	Approx. 5 ms
Measuring Frequency	1.6 MHz
Operating Resistance	Less than 5 k Ω
Operating Pressure	-0.6 ~ 10 kg/cm ² (-0.058 ~ 0.98MPa)
Process Temperature	-20 ~ +80 °C (STD) -20 ~ +150 °C (for high temperature application)
Ambient temperature	-20 ~ +60 °C
Permissible load	30N·m (3.04 kg f·m)
Enclosure	Weather proof (IP 54)
Weight	Approx. 2.2 kg (STD. L = 300 mm)
	Approx. 3.5 kg (High temperature L = 300 mm)

Dimensions



Standard



High temperature

Installation

HCC-75P is usually mounted in the lower or upper part of the side of tank. As for tank material, metallic or plastic material may be possible.

Installation in the side of tank

Accurate measurement is possible since all parts of the probe detect level. It is recommended that front of the probe should be inclined downwards to avoid malfunction.

Installation in the upper part of tank

Since only the front of probe detect level, this type of installation isn't appropriate in fluids having low capacitance.

Points to be considered in installation

A : In case of mounting two or more probes in one tank, specific distance must be remained between probes. Refer to following distances.

Probe length 270 mm : up to 200 mm

Probe length 520 mm : up to 350~400 mm

If the distance between probes is short, instruments may be affected from each other.

B : Blocking distance parts of probe must be in longer than 50 mm from the wall of tank.

C : When mounting instrument in the side of tank, cable gland must be pointed downwards not to touch water.

D : If the flow occur from the inlet, the measuring probe be separated approximately 200 mm from the flow.

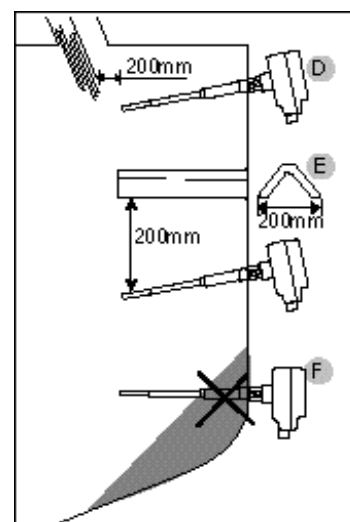
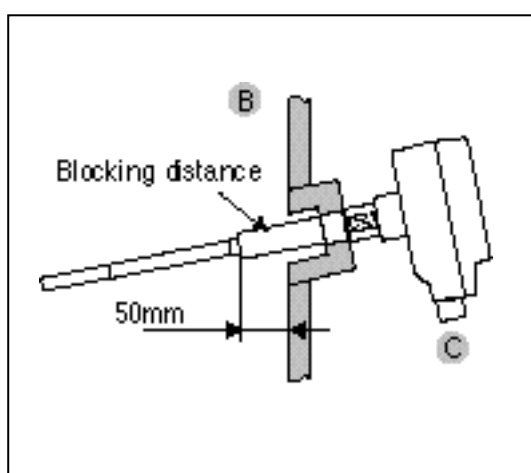
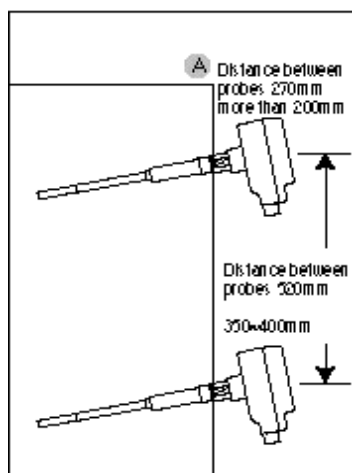
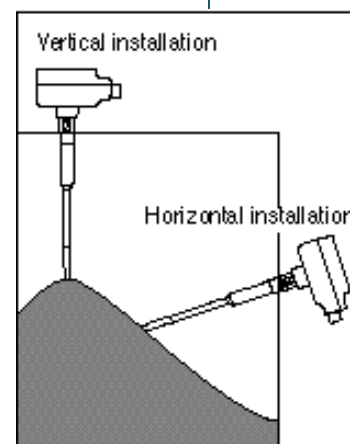
E : Especially when mounting in the lower part of tank, mount considering the permitted load of probe(3.1kg f m).

With this mounting method, probe can be protected from the falling fluids shock.

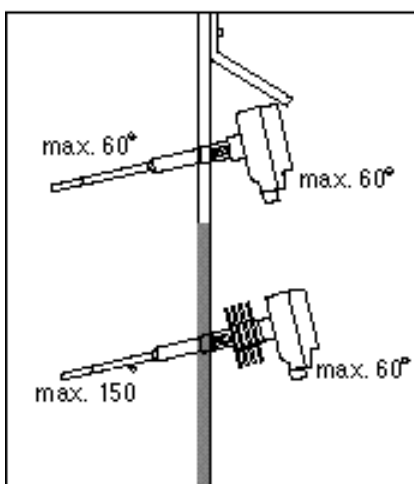
F : Install not to cover blocking distance part of the probe.

G : If the fluid in tank doesn't flow, use time delay properly.

Direction of Installation



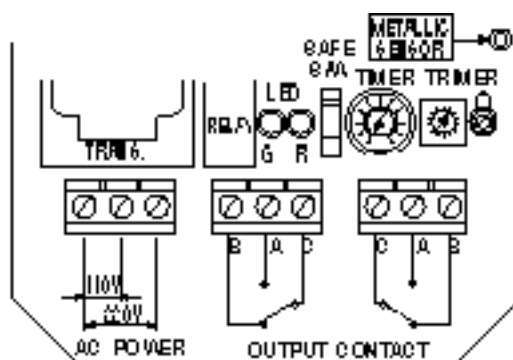
In case of increasing temperature in housing due to direct sunlight, it is recommended to mount protective sun cover.



Calibration

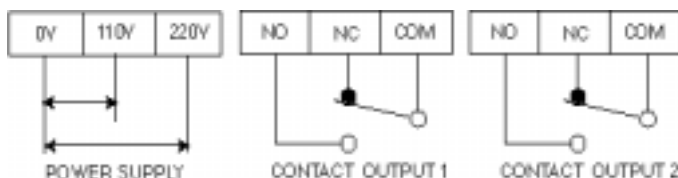
- 1) Empty a tank.
- 2) Set SAFE S/W to "H".
- 3) Connect with power supply (lights a GREEN-LED).
- 4) TURN B.C.D S/W unit a RED-LED goes out justly.
- 5) Lock for most sensitive point with TRIMER.
- 6) RED-LED will be flashed with touching METALLIC-SENSOR by a finger or a screw driver.
- 7) Set the delay time with a TIMER.
- 8) Put SAFE S/W down at HIGH LEVEL and up at LOW LEVEL.

Temperature Condition & Calibration



Electrical Connection

Outer diameter of the adaptation cable : $\varnothing 8\sim 10$



ORDER CODES

- * Wet Part Material
 - S1 : SUS 304 (ROD + Teflon + Partial Insulation)
 - S2 : SUS 316 (ROD + Teflon + Partial Insulation)
 - S3 : ROD + Teflon + Coated
 - S4 : ROD + Teflon + Coated (For Corrosion Liquid)
- * Enclosure
 - 0 : Weather Proof
- * Pressure Temperature
 - 0 : 10 kg/cm², 80 °C
 - 1 : 10 kg/cm², 180 °C
 - S : Special Version
- * Mounting Size & Material
 - 1 : Screw Size PT 1 " & SUS 304
 - 2 : Screw Size PT 1 " & SUS 316
 - 3 : Flange Size JIS 25A 10K RF & SUS 304
 - 4 : Flange Size JIS 50A 10K RF & SUS 304
 - 5 : Special Version
- * Head Material
 - A : ADC 12
 - S : Special Version
- * Measuring Length
 - 1 : ROD Type Per Additional 100 mm
 - S : Special Version
- * Output Signal
 - A : 1-DPDT
- * Conduit Conn.
 - 1 : PF 1/2
 - 2 : PF 3/4
 - S : Special Version

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Standard order code : HCC-75P-S1001A1A1



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