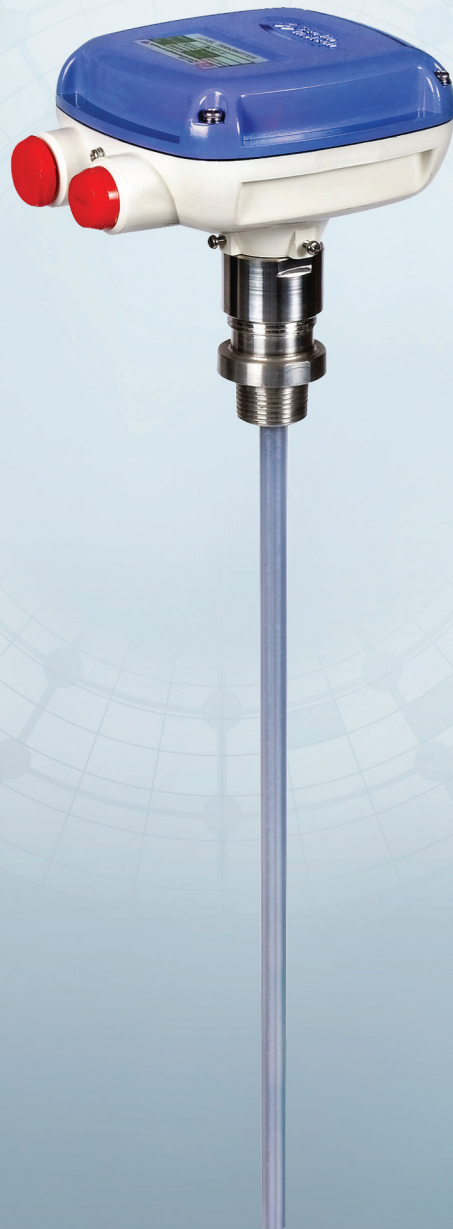


Capacitance Type Level Transmitter (Analog Type)

Model : SCAP-IV



SCAP-IV

Capacitance Level Transmitter

Introduction

SCAP-IV type sensor are 2-Wire type level transmitter that is designed to sense liquid levels continuously in tanks as a function of the capacitance between the probe and the tank.

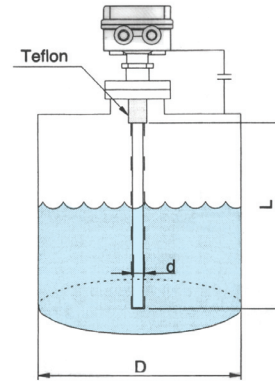
Features

- Stable operation through low voltage wiring.
- 2-wire method reduces the cost of material and installation.
- Can be used in contact with corrosive materials by selecting proper coating material for the probe.
- The structurally simple probe is easy to install and maintain, and can be expected to give reliable service for a long time.
- Various probe styles are available to accommodate high temperature, high pressure or low pressure applications.
- Earth-Bar needs to be installed with Rod in parallel shape unless the material of tank is steel.

Specifications

DESCRIPTION	Type	SCAP-IV
Power supply		Nominal 24V DC (15~32V DC)
Application		Liquid, Solid (Over 50 pF)
Output Signal		4 ~ 20mA DC (2-wire)
Power & Load		12.6 ~ 36V DC (No load)
		$R \text{ (ohm)} = (V_{in} - 12.6) / 22.6$
Accuracy		± 1% F.S.
Measure Range		15 ~ 2500 pF
Operating Temp.		-20 ~ +80°C (Operating Temp. Range) / 120°C (Option)
Operating Pressure		Max. 20kg/cm ²
Construction		Explosion Proof (Exd IIC T6, IP65)
Materials	Probe	304SS + PFA, 316SS + PFA
	Head	ADC

Operating Principle



$$C = 24 \epsilon L / \log(d/D)$$

C : Capacitance

ϵ : Dielectric constant

L : Probe Length

D : Inside diameter of the tank

d : Probe diameter

General equation for the calculation of the capacitance in a cylindrical tank.

Although it is not expressed in this over-simplified expression, in reality the capacitance is a function both of L and the depth of the liquid in the tank.

Therefore, the depth can be determined by measuring the capacitance, since ϵ , L, d and D are all fixed for a probe in a given tank. The transmitter converts the capacitance into 4-20 mA DC current.

Overall Dimensions

Rod & Flange	Rod & Nipple	High Temp.	Rod & Earth
Wire & Nipple	Wire & Flange	High Temp.	Explosion Proof

Ordering Information

■ Capacitance Type Level Transmitter

SCAP -IV

A

1

A

1

A

1

CONDUIT CONNECTION

- 1 = PF 3/4" & PF 1/2" (Std.)
- 2 = PT 3/4" & PT 1/2"
- 3 = NPT3/4" & NPT1/2"
- OP = etc.

ENCLOSURE

- A = Weather Proof (Std.)
- B = Explosion Proof (Exd IIC T6, IP65)

MOUNTING SIZE

- 1 = PT1" (Std.)
- 2 = PT2"
- 3 = JIS 10K 80A FF Flange
- 4 = JIS 10K 100A FF Flange
- 5 = JIS 10K 50A FF Flange
- OP = etc.

OPERATING TEMPERATURE

- A = -10 ~ + 80°C Nipple & Flange type (Std.)
- B = -20 ~ +120°C

WET PARTS MATERIAL & MEASURING LENGTH

- 1 = 304SS Standard Length PFA Tubing
- 2 = 304SS Rod Extension & PFA Tubing (Per 1M)
- 3 = 304SS Wire & Weight Ext. + PFA Tubing (Per 1M)
- OP = etc.

MODEL SELECTION

- A = Rod type (Min. 1 ~ Max. 4m ... 1m Std.)
- B = Wire & Weight type (Min. 1 ~ Max. 30m ... 5m Std.)
- C = Wire & Tie down type (Min. 1 ~ Max. 30m ... 5m Std.)

■ When placing an order, selected ordering number should be indicated on the purchase order sheet.

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■ Specifications subject to change without notice