

Capacitive Level Sensor

TLB-KSR

Capacitance Type Level Sensor with Built-in Power Supply, Ideal for Sensing Powder, Grain and Viscous Fluids. Adjustable sensitivity and range selector offer fine tuning to the measured material.



Rugged construction with heat resistive GRP housing, sealed to IP65 for use in poor environments.

Volt free contact output will switch up to 10 A.

Ordering Information

Model	Mounting thread	Conduit entry	Supply voltage
TLB-KSR	1" B.S.P.	PG 13.5	100/110 or 240/260 VAC

Specifications

Item	TLB-KSR
Materials sensed	Liquid, powder, grain
Operating voltage	100/110 VAC or 240 VAC
Power consumption	5 VA max.
Control output contact	Resistive load: 10 A at 230 VAC Inductive load (cos ϕ = 0.4): 7.5 A at 230 VAC
Output form	Upper or lower limit control (switch selectable)
Sensitivity	0 to 40 pF (adjustable)
Stable operation sensitivity	5 pF
Variation due to fluctuation in temperature	2 pF or less
Variation due to fluctuation in voltage	0.5 pF or less
Indicator	OPERATION indicator
Pressure resistivity (electrode)	10 kg/cm ²
Degree of protection	IEC IP65
Ambient temperature	Operating: -20° to 55°C

Engineering Data

■ Installation

Horizontal installation

The electrode installation thread is a tapered thread for pipe. When installing the electrode directly on a tank, use a socket (connecting pipe) as an installation boss and screw the electrode into the socket.

Make sure that the insulated portion of the electrode is projected inside the tank at least 10 to 20 mm, as shown in Fig. 6a.

Vertical installation

1. Even viscous material that would otherwise stick to the electrode considerably can be sensed without physical contact (upper-limit control only). In this case, changes in the

capacitance of the materials are largely sensed by the auxiliary disc electrode (Fig 6b). Confirm the pickup distance through an experiment in advance.

2. If the diameter of the tank is too small to install the electrode horizontally, install it vertically, as shown in Fig. 6c.
3. If the specific resistance of the object to be controlled is less than that of water (about 10 k Ω /cm), install the electrode on the upper surface of the object only. Do not connect the non-sensitive probe; it may result in malfunctioning.

Mutual Distance (S in Fig. 6d) between Electrodes

When two or more level switches are installed in a tank, provide a distance of at least 500 mm between them to prevent mutual interference.

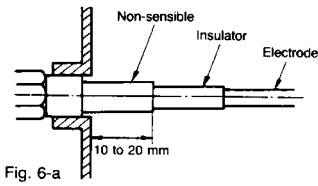


Fig. 6-a

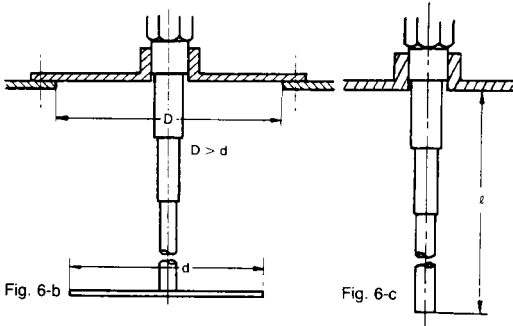


Fig. 6-b

Fig. 6-c

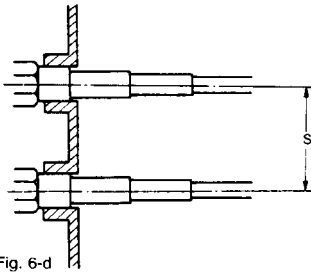
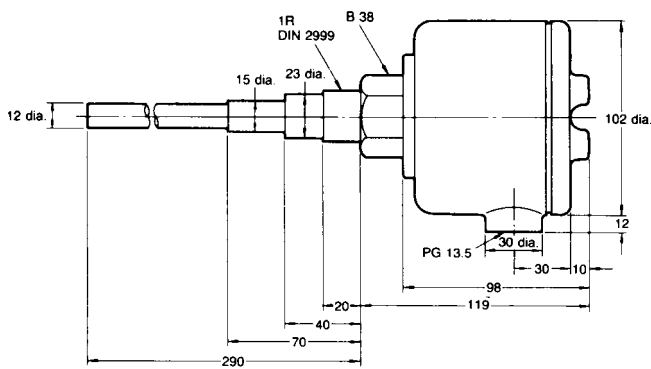


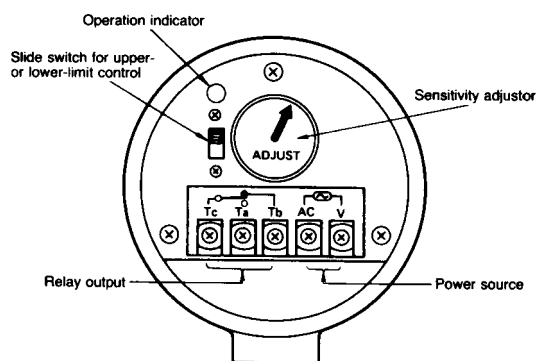
Fig. 6-d

Fig. 6 Methods of installation

Dimensions



Operation



Output Circuit

