NO MOVING LEVEL SWITCH(CER-20)

▶CER - 20

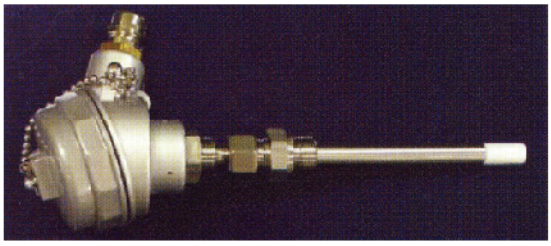

Fig1. Level Switch

▶Technical Specifications

Power Supply : 24VDC Norminal(19 to 32 VDC)
Normal Current Consumption : 30mA
Maximun Current Consumption : 50mA
Relay Alarm Output : 1 Pontential Free Contact
125 VAC / 0.5A or 30VDC / 1.0A
Operating Ambient Temperature : -10°C to 70°C
Sensor Tip Continuous Temperature : -10°C to 150°C
Minimum Distance From Teflon Tip : 150mm
Material Sensor Tip, Wet Part : SUS 316 and Teflon
Weight : 0.5kg
Protection Grade : IP 56

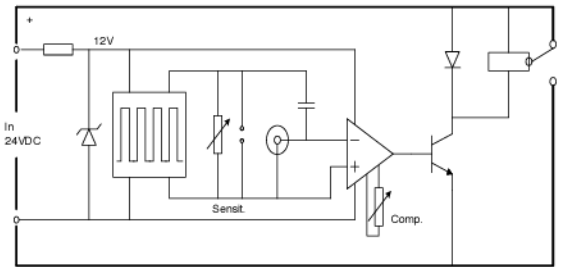

Fig. 2:Block Diagram

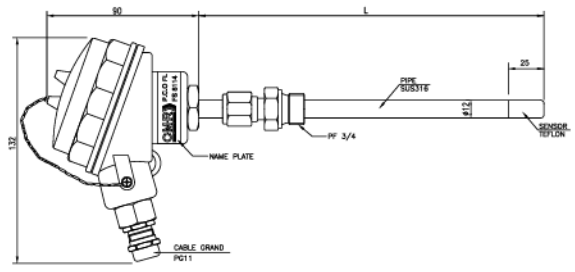

Fig. 3 : The CER-20/x-xxx Level Switch dimensional sketch

▶Electrical description

At the end of the sensor tube it is a tip made of Teflon, see Fig. 1. In the Teflon tip there is an inner electrode and the capacitance is measured fromthis inner electrode to the surroundings. In dry conditions, the capacitance is from the inner electrode to the metal in the sensor tube. This means low capacitance value. If it is liquid around the sensor tip the capacitance is from the inner electrode to the liquid. This means increased capacity.

▶Application and general description

The CER-20 is a high quality level switch with capacitive element. The switch is intended for controlling liquid levels in tanks. The switch can be used as a sensing device in most liquids with low or medium conductivity. This will include all oil products, most chemicals and a lot of other liquids.

▶Limitations

The level switch is not recommended to be used on good conducting liquids making a layer on the tip of the sensor. "Wet condition" will not disappear with the dry sensor tip. The sensor must be cleaned before dry condition occurs.

▶Mechanical design

A sensor tube is fixed to the connection box. The insertion length of the sensor is depending of the length of the sensor tube. At the end of the sensor tube, it is a tip made of Teflon. In the Teflon tip, it is an inner electrode. An external cable is led into the connection box via acable gland.

▶Electrical description

Fig. 2 shows a block diagram. Supplied voltage 24 VDC stabilized to 12V for internal use. An oscillator is supplying a bridge with an AC voltage. One arm of the bridge consists of resistors, the other arm of a fixed capacitor and the capacitor in the sensor tip. When the sensor tip is dipped into a liquid, the capacitance increase and the signal from the bridge is increasing.

The Insertion length and type of Relay must be specified :

CER-20/□ - □□□

R = Relay operated with dry sensor
N = Relay operated with wet sensor

Insertion length :
100 · 150 · 200 · 250