LEVEL SWITCH LSLX

APPLICATION:
The Sanitary, Electronic Level Switch is used for level indication in all liquids with conductivity from infinite to 25 µS. Possible applications are:

- Overfill protection of tanks/vessels
- High and low level signal in tanks
- Automatic filling and emptying control in tanks
- Registration of conductivity changes in liquids
- Foam detection

LIMITATIONS:

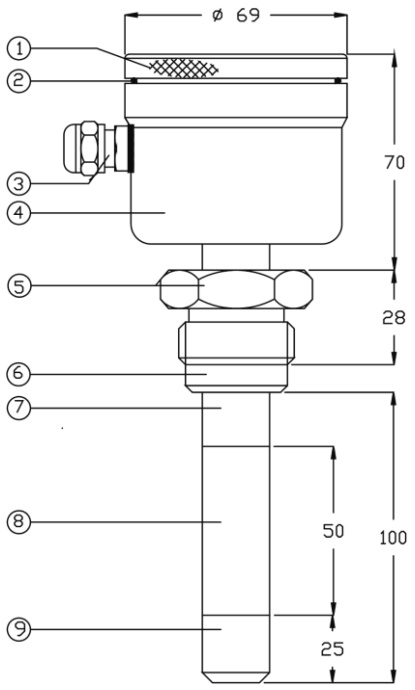
- High-viscous liquids which causes a film (coating) on the sensor.
- In case of very high concentrations of chemical vapours.

DESCRIPTION:
The LSLX is based on the well proven technology of measuring the conductivity between the electrode tip and the reference part of the electrode, or tank wall. The level switch is built-into the tank/vessel so that the electrode point is flush with the level to be registered. A weak current is applied between the electrode point and the conductive tank/vessel wall. In non-conductive tanks/vessels a small current is applied between the electrode point and the reference part of the electrode.

As long as the electrode point does not touch the conductive fluid, there will be no current. When the liquid reaches the electrode a weak current is applied. The LSLX is available with a PNP output, electronic module SMC-9 and a built in selector switch.

Manufactured by:

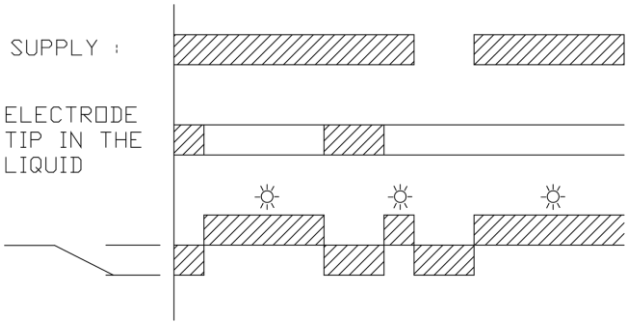
DIMENSIONAL DRAWING:



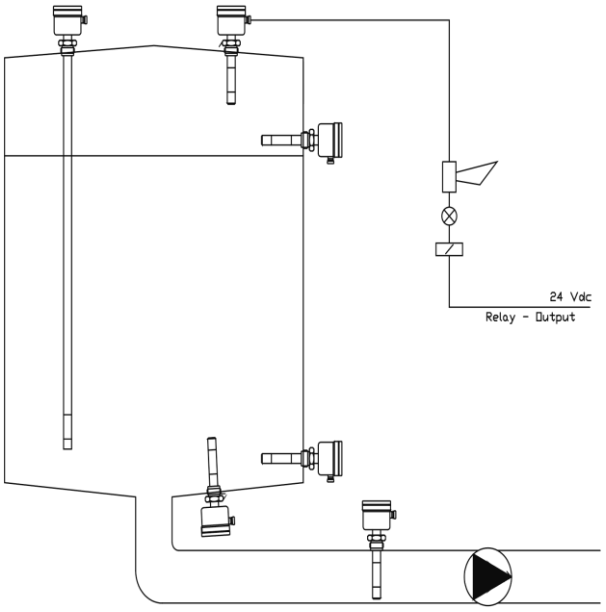
PARTS DESCRIPTION **MATERIAL**

1. Cover	AISI 304
2. O-ring	EPDM
3. PG9 Cable Gland	
4. Electronic Housing	AISI 304
5. 1" BSP Nipple, SW 41	AISI 316
6. Sanitary process part	AISI 316
7. Sensor (∅19 mm)	AISI 316
8. Insulation part (∅19 mm)	PEEK
9. Sensor tip (∅19 mm)	AISI 316

Functional Diagram:



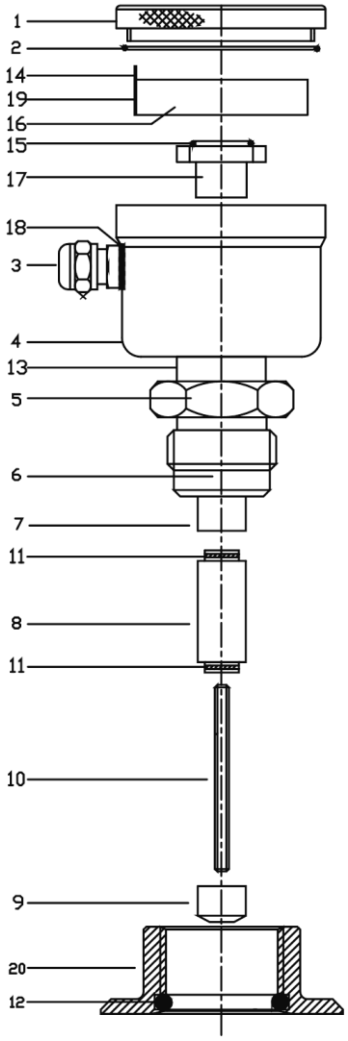
INSTALLATION:



TECHNICAL DATA:

Sensitivity Range:	Adjustable between 3 to 65 K Ohm (= 33 to 1.5 µS)
Hysteresis:	10% of adjusted range
Excitation Current:	<= 0.4 mA, 2 kHz
Power Supply:	20...28 V DC
Power Consumption:	Max. 1.8 VA
Ambient Temperature:	+10°C ... 60°C
Relay-output:	Single pole change-over contact Max. 220 V AC, 50 VA or 300 V DC, 25 W
Reaction time:	Approximately 50 m sec
Process Pressure:	Max. 10 bar
Process Temperature:	-30°C .... +90°C Up to 130°C during 15 min. (cleaning) Option: 200°C (on request)
Length Electrode:	Standard 100 [mm]
Process Connection:	Standard 1" BSP (other connections on request)

Manufactured by:



PARTS DESCRIPTION	PART No:
1. Cover	10241
2. O-ring	11029
3. PG9 Cable Gland	10138
4. Electronic Housing	10234
5. 1" BSP Nipple, SW 41	10272
6. Sanitary process part	10243
7. Sensor (∅19 mm)	10235
8. Insulation part (∅19 mm)	20040
9. Sensor tip (∅19 mm)	10239
10. Treaded Joint	10249
11. O-ring (2x)	11041
12. O-ring (Viton/EPDM)	11014/11020
13. Connecting Piece	10244
14. Earth Connection	10251
15. O-ring	11042
16. Electronics	192
17. Nut of Synthetic material	20037
18. Seal	20025
19. Type sticker	20523
20. Weld-on nipple (1" BSP)	10197

Manufactured by:

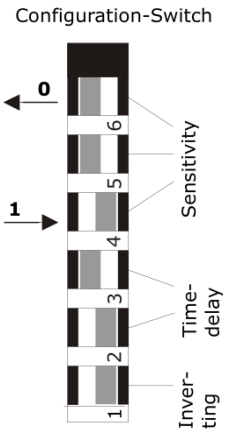
CONTROL UNIT – SMC-9

TECHNICAL DATA

Design	Ø 44.50mm
Operating Voltage	24V(DC)+-20% (18V...30V)
Power Requirements	<30mA
	-10°C till +70°C
Storage temperature	-20°C till +85°C
Humidity	0 till 90% (without condensation)
Inputs	1 Electrode
Sensitivity	0,2KOhm; 10KOhm; 9,9KOhm…999KOhm arbitrary
Output	1x Electronic output; 30mA ; PNP invertible short-circuit-proof
Time-delay	0,0 up to 99,9sec ; arbitrary
Start-delay	<0,3s
Response-time	<0,07s (10KOhm) <0,15s (1MOhm)

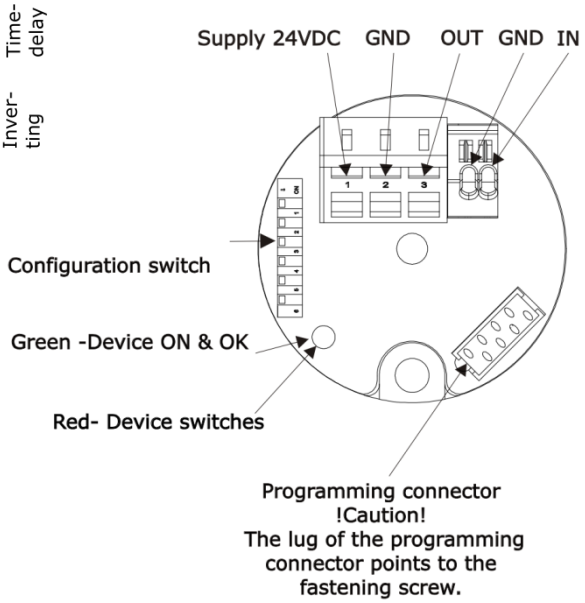
CONFIGURATION

Switch				
6	5	4	ON	OFF
0	0	0	Adjustable by SMCsoft (Default 2KOhm)	
0	0	1	3KOhm	2.5KOhm
0	1	0	5KOhm	4.5KOhm
0	1	1	6KOhm	5.5KOhm
1	0	0	8KOhm	7.5KOhm
1	0	1	100KOhm	70KOhm
1	1	0	250KOhm	220KOhm
1	1	1	500KOhm	470KOhm



DELAYS

Switch		Delay in sec.
3	2	
0	0	(0 sec) adjustable via SMCsoft
0	1	2 sec
1	0	4 sec
1	1	8 sec



!Caution!
When installing or using the device it must be protected from electrostatic discharge. An incorrect installation or parameters which are adjusted incorrectly can interfere with the correct function of your application or can cause damages. Therefore independent safety equipment should be available at any time. Adjustments must only be conducted by qualified personnel. All necessary adjustments are to be made by the configuration switches or the SMC software. If there are difficulties during the start-up, please do not manipulate the device in any incorrect way. Otherwise the warranty expires. If the dewpoint is reached, condensation may destroy the module.

Manufactured by: