Conductivity Type Level Switch - CNS

Techtrol™
Innovating Level Controls Since 1984

It is a simple, low cost level controller designed for detection of conductive liquids having low densities, high viscosity, containing solid particles and interface between non-conductive and conductive liquids.

Salient Features :

- ☑ No moving parts.
- ☑ Multipoint switching upto 4 levels.
- ☑ Auto sensitivity to liquid conductivities >25 us.
- ☑ Option of Integral (Standalone) system.

Construction & Operation (Fig. 1) :

The conductivity level switch is generally used as a Two Part system, consisting of conductivity probe, which has to be, wired to a separate controller. However, certain applications demand a standalone system, wherein control electronics is housed in an enclosure integral with the probe. Both options are available. The probe consists of a "mass electrode" and single / multiple "control electrodes", depending on the number of preset levels. All electrodes are insulated to prevent electrical bridging. The length of "control electrodes" corresponds to preset levels and "mass electrode" is longer than the longest "control electrode".

The sensing electronics consisting of power supply and signal conditioning circuit which provides a "low ac voltage" across mass and control electrodes. On liquid reaching preset level point, electrical circuit gets completed & generates a signal, which is amplified to actuate a relay, with potential free contacts for subsequent operations. On the "level falling" the circuit breaks, de-actuating the relay.

Specifications :

Enclosure	:	Cast Al, IP-66 & Ex-p Gr IIB
Cable Gland	:	PG11 (Polyamide), 1/2"NPT (Brass)
Process Conn	:	40/50/80 NB, flanged to ANSI/BS/DIN std
Process Conn MOC	:	CS or SS304 or SS316
Electrode Type	:	Solid upto 2 mtrs, Suspended upto 10 mtrs
Electrode MOC	:	SS304 or SS316, Haste alloy/Titanium tips provided for corrosive applications, if req.
Electrode Insulation	:	PVC (70°C), PTFE (100°C)
Mass Electrode	:	One
Control Electrodes	:	One to Four
Signal Voltage	:	6 VAC, 20mA
Resistance	:	40K Ohms (max) between mass and control electrode
Min Conductivity	:	25 us
Max Temperature	:	70°C (with PVC insulation) 100°C (with PTFE insulation)
Max Test Pressure	:	5Kg/cm²

Option :

Auto / Manual mode through toggle switch, can be provided in controller, if required.

Service :

Water, Milk, Fruit juice, Effluents, Caustic, Phosphate, Sludge, Coolant & H2SO4.

Solid Electrode with WP Encl

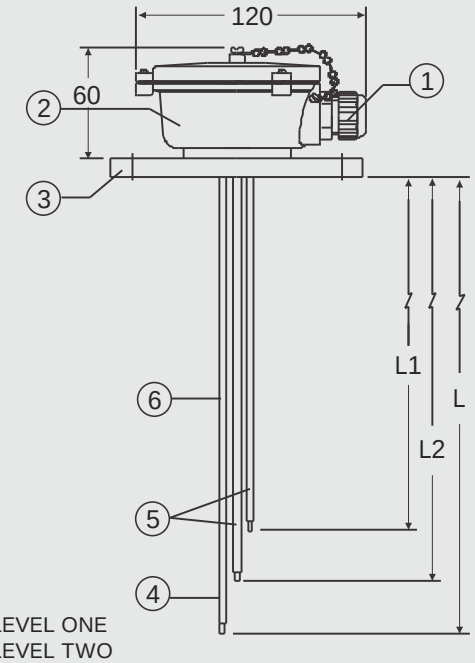
Controller Panel Mounted

Suspended Electrode with WP Encl

Solid Electrode with Integral Electronics

Construction :

Fig 1



L1 = LEVEL ONE
L2 = LEVEL TWO

1. Cable Gland
2. Enclosure
3. Process Conn.
4. Mass Electrode
5. Control Electrodes
6. Insulation

Applications :

Sump, Pump, Reservoir Level Control, Cooling towers, Water, Waste water & Sewage treatment plants.

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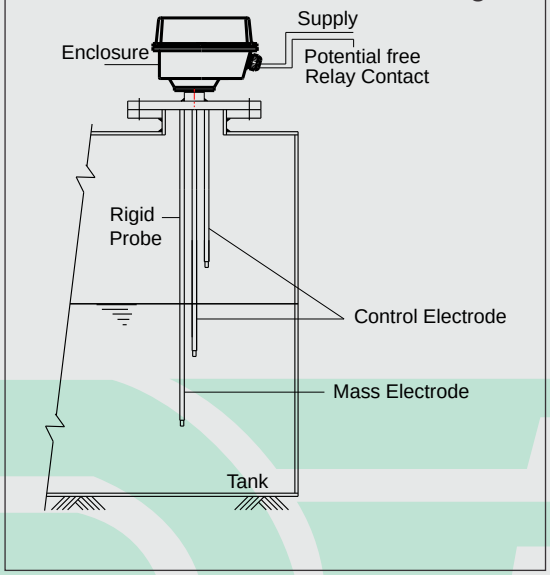
Installation of Integral (Standalone) System :

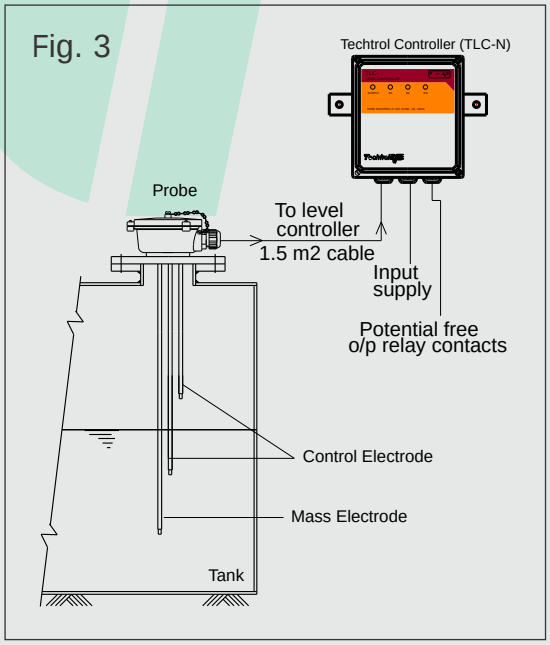
Fig. 2



Installation of Two Part System :

The probe is generally mounted internally & wired to the level controller with max separation 1000 mtrs

Fig. 3



* For TLC - N
refer cat.No. 0047 on
TECHTROL LEVEL CONTROLLER'TLC'

NB-use TLC-N controller with Conductivity type Level Switch'CNS'

Model Identification :

CNS - [ ][ ][ ][ ][ ][ ][ ]

Enclosure x Cable Gland
- Cast Al IP-66 x PG 11 — J
- Cast Al Ex-p Gr. IIB x ½" NPT — E
- Cast Al IP-65 x PG 11 (with integral electronics) — I
- Others — O

Process Conn MOC
- CS — M
- SS304 — N
- SS316 — S
- Others — O

Process Connection
- 40 NB, ANSI 150 # flange (for 1 & 2 levels) — 1
- 50 NB, ANSI 150 # flange (for 3 levels) — 2
- 80 NB, ANSI 150 # flange (for 4 levels) — 3
- Others — O

Electrode Type
- Solid — S
- Suspended — U
- Others — O

Electrode MOC x Insulation
- SS304 x PVC — NP
- SS316 x PVC — SP
- SS304 x PTFE — NT
- SS316 x PTFE — ST
- SS316 with hastealloy`C' tip x PTFE (only for solid) — CT
- SS316 with titanium tip x PTFE (only for solid) — TT
- Others — O

No. of Electrodes
- One (1 level) — 1
- Two (1 level) — 2
- Three (2 levels) — 3
- Four (3 levels) — 4
- Five (4 levels) — 5
- Others — O

Ordering Information :

Model no, (level switch & controller) x service liquid x optg. temp & pressure x min conductivity and preset levels

*All dimensions in mm except specified

Pune Techtrol Pvt Ltd [CIN : U31909PN1991PTC063403]
S-18, MIDC, Bhosari, Pune - 411026. India
+91-20-66342900 ho@punetechtrol.com www.punetechtrol.com
Works : J-52/7, MIDC, Bhosari, Pune - 411026. India +91-20-67313600

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