

Conductivity Type Level Switch-CNS



SINCE 1984

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

Special Features :

- No moving parts.
- Multipoint switching upto 4 levels.
- Auto sensitivity to liquid conductivities >25 us.
- Option of 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 one / 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, cutting out the relay.

Specifications:

PROBE

Enclosure	: Cast Al, WP. IP-66 & Ex-proof Gr IIA & IIB
Conduit conn	: WP, PG 11, Ex proof Brass ½" NPT
Process conn	: 40 / 50/ 80 NB, flanged to BS (ANSI or DIN stds,if required)
Process conn MOC	: CS or SS304 or SS316
Electrode type	: Solid upto 4 mtrs, Suspended upto 10 mtrs
Electrode MOC	: SS304 or SS316 , Hastelloy / Titanium tips provided for corrosive applications, if required
Electrode insulation	: PVC (70°C), PTFE (200°C)
Mass Electrode	: One
Control Electrodes	: One to Four
Signal Voltage	: 6 VAC, 20mA
Resistance	: 40K Ω (max) between mass & control electrode
Min Conductivity	: 25 us
Max Temperature	: 70°C (with PVC insulation) 200°C (with PTFE insulation)
Max Test Pressure	: 5Kg/cm ²

Option :

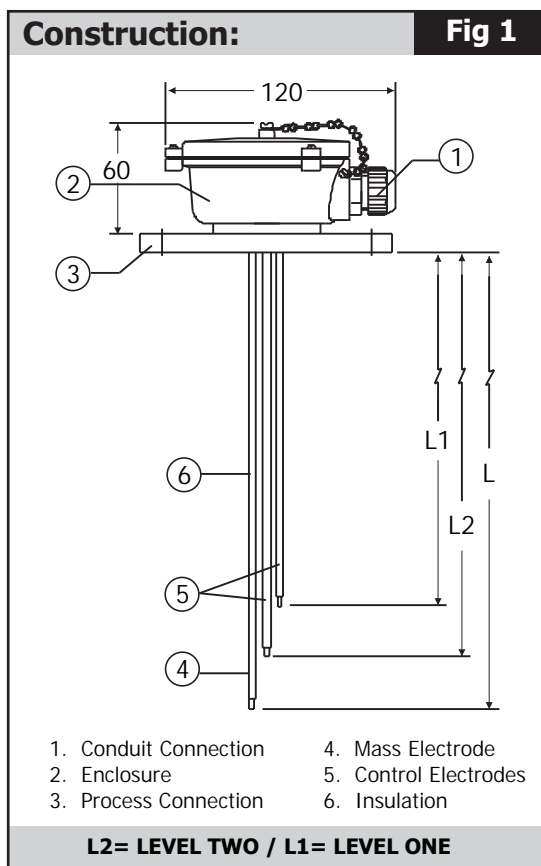
Auto / Manual mode thro` toggle switch, can be provided in controller, if required

Service :

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

Applications :

Sump, Pump, Reservoir level control, Cooling towers, Water, Waste water & Sewage treatment plants.



Model Identification No. CNS -



Enclosure

- Cast Al WP. IP-66 x PG 11 ————— **J**
- Cast Al Ex-proof Gr. IIA & IIB x ½" NPT — **E**
- Cast Al W.P. IP-65 x PG 11 (with integral electronics) ————— **I**
- Non-std. ————— **O**

Process Conn MOC

- CS ————— **M**
- SS304 ————— **N**
- SS316 ————— **S**
- Non-std ————— **O**

Process Connection

- 40 NB, BS-10 T` D' flange (for 1 & 2 levels) ————— **1**
- 50 NB, BS-10 T` D' flange (for 3 levels) ————— **2**
- 80 NB, BS-10 T` D' flange (for 4 levels) ————— **3**
- Non-std ————— **O**

Electrode Type

- Solid ————— **S**
- Suspended ————— **U**
- Non-std. ————— **O**

Electrode MOC x Insulation

- SS304 x PVC ————— **NP**
- SS316 x PVC ————— **SP**
- SS304 x PTFE ————— **NT**
- SS316 x PTFE ————— **ST**
- SS316 with hastelloy`C' tip x PTFE (only for solid) ————— **CT**
- SS316 with titanium tip x PTFE (only for solid) ————— **TT**
- Non-std. ————— **O**

No of Electrodes

- One (1 level) ————— **1**
- Two (1 level) ————— **2**
- Three (2 levels) ————— **3**
- Four (3 levels) ————— **4**
- Five (4 levels) ————— **5**
- Non-std. ————— **O**

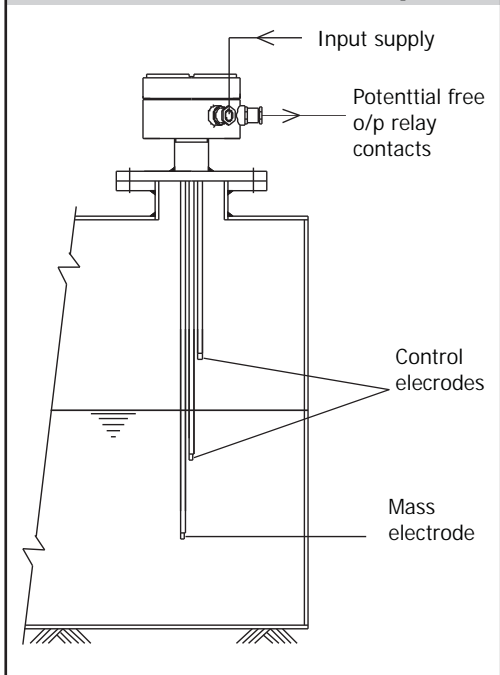
Ordering information:

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

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

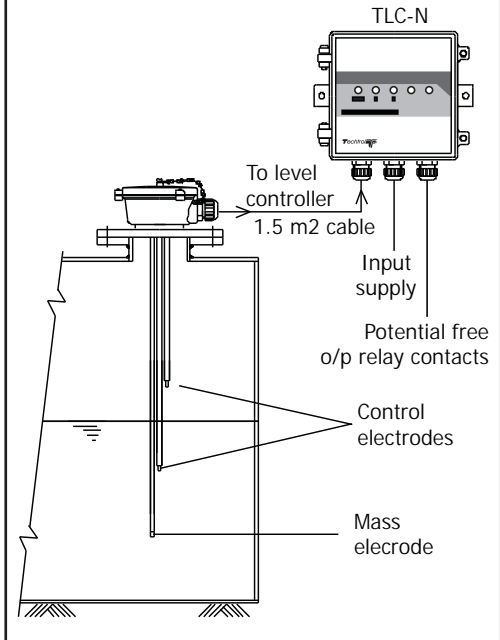
NB-use **TLC-N** controller with Conductivity type Level Switch '**CNS**'

Installation of standalone system



Installation of two part system

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



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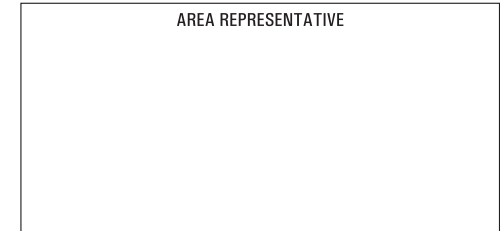
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R A T E D

NSIC-CRISIL SE-1A



All dimensions in mm, except specified.