

Techtrol Level Indicating Controller - 'TLIC'

'TLIC' can be used in conjunction with any '2 wire' 'X'mitter' with 4-20mA o/p for remote display & control.



Pre-Installation Check

- ☑ 'TLIC' is calibrated in factory for the given measuring range & can be installed directly.
- ☑ Ensure that no physical damage is caused to 'TLIC' due to incorrect handling.
- ☑ Wire the 'TLIC' as per 'Wiring Diagram' (Fig. 1)
- ☑ Connect 'X'mitter/Calibrator' o/p (4-20mA) to terminals 'To X'mitter' of 'TLIC' with multimeter (mA) in series.
- ☑ Switch on supply and observe Display LED glows.
- ☑ At i/p 4mA, 'TLIC' will indicate value.
- ☑ Increase i/p gradually from 4 to 20 mA. observe increase in displayed value to its maximum.

Installation

Panel mounted :

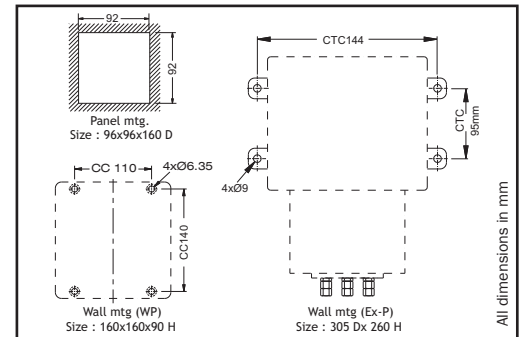
Identify mounting position and prepare 92 x 92mm 'cutout' on panel. Mount 'TLIC' from front and secure it in place thru fixing clamps.

Wall mounted :

Mount 'TLIC' on identified position and secure it on four mtg. holes.

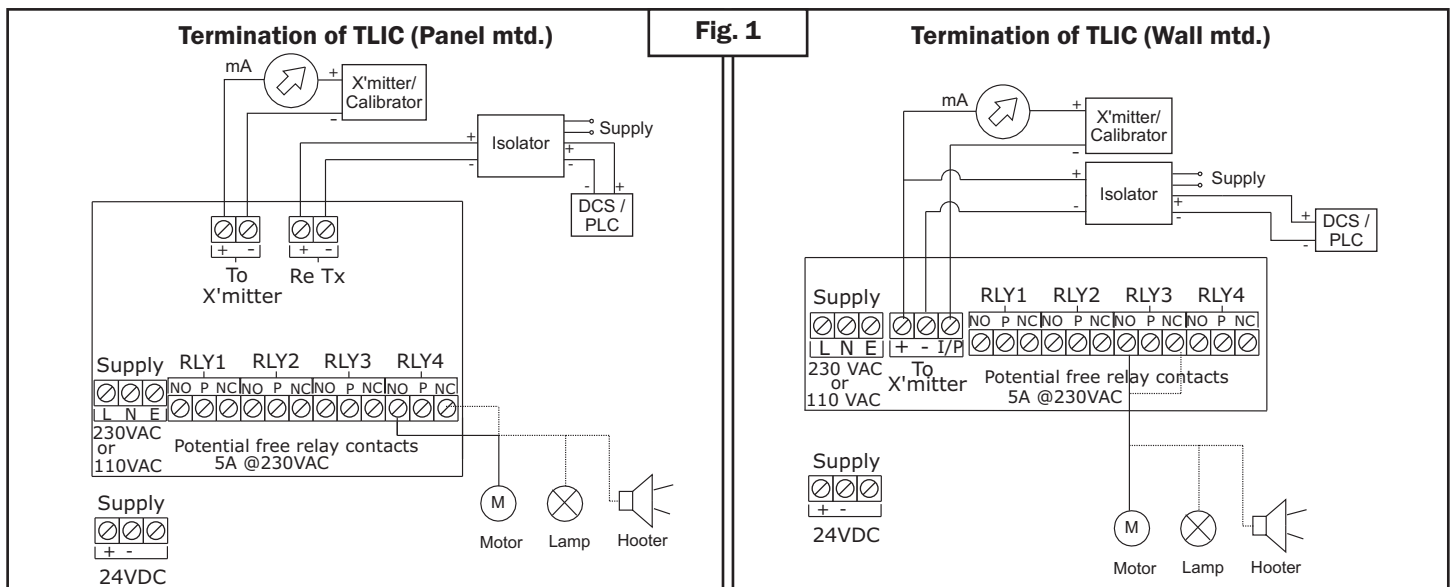
Please ensure -

- ☑ Mounting surface should be flat and without vibrations.
- ☑ Mounting location should be away from high voltage power cables & contactors
- ☑ 'TLIC' should be located where surrounding temperature does not exceed rated temp.(50 °C)
- ☑ For outdoor application 'TLIC' should be protected from direct sunlight by using canopy.



Termination and Wiring Diagram

- ☑ During wiring of 'TLIC', supply should be strictly 'OFF' for human safety and prevention of accidents.
- ☑ Connect Supply terminals of 'TLIC' to 230VAC or 110VAC or 24VDC as required. In case of '24VDC', ensure correct polarity.
- ☑ Please note that 'Re-transmission' of 'TLIC' is 'Non isolated type'. (Max. Load = 400 Ohms)
- ☑ 'TLIC' should be powered from a separate supply source, which should not be wired to any electromagnetic devices like contactors, solenoids.



Precautions

1. Ensure '**TLIC**' is duly earthed.
2. During wiring of '**TLIC**', supply should be strictly '**OFF**' for human safety and prevention of accidents.
3. Supply wiring should run away from high power cables.
4. Ensure wall mtg. '**TLIC**' is closed properly with its cover & gasket and there is no gap between '**cable OD**' and '**cable gland ID**'.
5. Before switching supply, ensure wiring is correct and completed as per '**Wiring Diagram**'.
6. Use suitable snubber in case of inductive load, across contactor / relay coil .
7. Re-transmission of '**TLIC**' is '**Non Isolated Type**'. Ensure Re-Tx o/p should be connected through appropriate current isolator to auxiliary devices such as PLC/DCS. (**Refer Fig-1**)
8. In case of '**Ex-P TLIC**', resetting of relay should be done in '**Safe area**'.

Setting / Resetting of Relay Switch Point

'**TLIC**' is pre-calibrated for given measuring range and switch points are set as specified. However, the switch points can be reset by adopting the following steps.

1. Identify Push switches - '**S1**', '**S2**', '**S3**', '**S4**' and Trim pot - '**P1**', '**P2**', '**P3**', '**P4**' on the front panel.
2. Press push switches '**S1**' (**Relay 1**) and observe the set value on display. To reset, turn the trim pot '**P1**' clockwise or anticlockwise to achieve your reset value on display and release the push switch. Setting of '**Relay 1**' is completed. Proceed further for remaining setting of relay switch points. (**Set Value < Measuring Range**)
3. Switching points is verified by varying i/p (4-20 mA) & observing glow of corresponding LED of reset value.
LED ON = RELAY ENERGIZED

Periodic Maintenance

1. Check and tighten all loose electric connection.
2. Clean '**TLIC**' internally to ensure, it is free from metallic particles and dust.
3. After maintenance, ensure wall mtg. '**TLIC**' is closed properly with its cover & gasket and there is no gap between '**cable OD**' and '**cable gland ID**'.

Troubleshooting

SL	Faults/Defects	Cause	Solution
1	No Display	a. Improper supply b. Loose wiring c. Wrong polarity in case of 24VDC d. Fuse blown	a. Check and ensure correct supply. b. Tighten loose connections c. Correct polarity. Refer Fig -1. d. Replace fuse. 500mA (230VAC) or 250mA (24VDC)
2	No change in Display value	a. Incorrect wiring b. No signal from X'mitter c. 24VDC at I/P terminal on back plate is missing	a. Check & ensure wiring is correct. b. Transmitter faulty c. TLIC faulty. (loose connection inside) or connector faulty
3	Incorrect relay operation	a. Incorrect relay setting b. Problem in TLIC circuit	a. Check and reset b. Consult factory
4	'Re-Tx' current not proper	a. Improper wiring b. Load connected to 'ReTx' of TLIC exceeded rated value.	a1. Connect wires with correct polarity.(Refer Fig -1) a2. Re-Tx of TLIC is non isolated type. Ensure, it is through suitable current isolator. (Refer Fig-1) b. Reduce load resistance < 400 Ohms



Innovating Level Controls Since 1984

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Level Gauges / Switches / Controllers / 'X' mitters for Liquids & Solids

We reserve the right to modify design and specifications without prior notice.

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