TL31R

Technical data

TL31R

825B024B

Capacitance level control

Power supply:	**24, 115, 230 Vac, 24 Vdc.**
Power consumption:	**1,5 W max.**
Strorage temp.:	**-30 to +80 °C**
Working temp:	**-20 to +70 °C**
Measure range:	**min 100 pF**
	max 10 nF
Temperature drift:	**0,01 pF/°C**
Electric proof:	**against electrostatic discharge**
Calibration:	**trimmers**
Display:	**red led - threshold**
DRelay out:	**1 contact charge over**

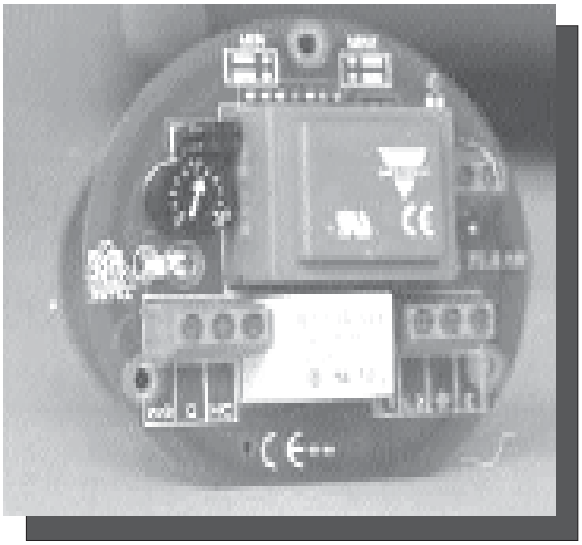

fig.1

TL31R General

TL31R inserts are capacitance switches able to make the level control. The capacitance electrode (rod or rope) and the tank wall (when conductive) form a capacitor.
The capacitance of the above condenser change the value proportionally to the product level changing. The capacitance variation is converted into an electrical signal able to drive the relay commutation.

TL31R Application

Capacitance level control with vertical mounting.

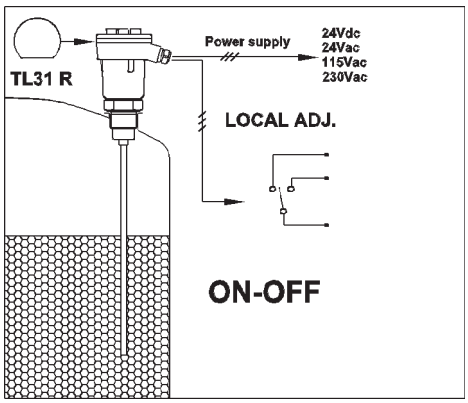

fig.2

Capacitance level control with lateral mounting.

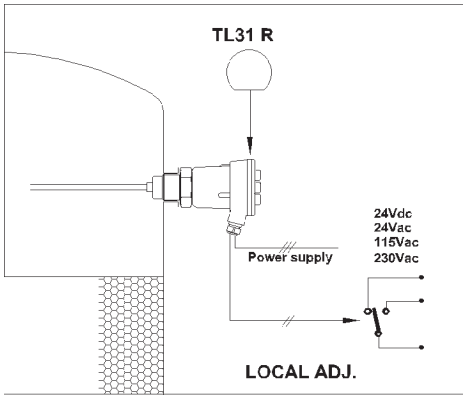

fig.3

TL31R Mechanical installation

Better to follow the below suggestion during the mechanical installation:

+70°C is the maximum working temperature. Going over this temperature can damage permanently the electronic circuits; install far from heat sources.

Mechanical vibration can damage the TL31R insert; consequently install the level control far from strong mechanical vibration.

Select the position where install the level control having care that the filling of the product don't cover the electrode.

Avoid to fix the electrode very close to the tank surface (wall) with the possibility to contact between electrode and tank wall.

TL31R Electrical connections

First, verify that the sensor ground is electrically connected to the tank wall (when conductive). If the tank is in concrete material need to connect the sensor ground to the iron structure. A good ground connection is a must for a good sensor operation.
Before supply look to the relevant label indicating the correct voltage.

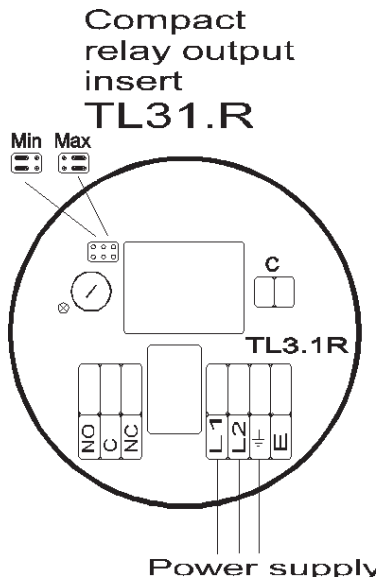

fig.4

TL31R Warranty

The warranty expires when damages they have provoked from the use not quite or from not correct installations. The warranty is valid for a period of 12 months from the acquisition behind presentation of the manual present of installation. All the reparations in warranty will have realised beside our establishment in Rodano (MI), the costs of dismounting and reinstalling of the device and the costs of transport will be paid by the customer.

TL31R Factory test certificate

In conformity to the production and check procedures I certify the equipment:

TL31R ..... serial n. .....
satisfy technical characteristics as write in TECHNICAL DATA
and it is conform to the internal procedures

Quality control Manager

.....

Date of manufacture:

.....

TL31R switch-point calibration

TL31R insert can be setted to be a MIN or MAX level control. The selection is made by the jumper position:
MAX level: normally energized relay (LED on), when product cover the electrode than relay de-energized, (LED off)
MIN level: normally energized relay (LED on) with electrode covered by the product, de-energized (LED off) when the products leaves the electrode.

VERTICAL ELECTRODE CALIBRATION:

1. make the calibration without product
2. turn potentiometer toward 0% until LED becomes off for MAX control or LED becomes ON for MIN control
3. turn slowly from 0% to 100% and stop when the led again change status (max sensibility) take note of the position
4. turn 5% more to 100% to reach a good sensibility compromise

LATERAL ELECTRODE CALIBRATION:

1. make the calibration without product
2. turn potentiometer toward 0% until LED becomes off for MAX control or LED becomes ON for MIN control
3. turn slowly from 0% to 100% and stop when the led again change status (max sensibility) take note of the position
4. increase the product level up to cover totally. The LED will be off for MAX and on for MIN control.
5. Turn slowly to 100% the potentiometer until the LED becomes again on for MAX control or off for MIN control. Take note of the potentiometer position
6. Set the potentiometer in the middle between 3. And 5. Position

If the product is very light, 5. Condition can not be reached, we suggest in this case to set directly the potentiometer to 80% value.

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