



MECHANICAL INSTALLATION



In sensors installed laterally and provided with connector, route the cable entry to the ground to avoid a possible entry of fluid during tank cleaning.

Models equipped with 3 or more electrodes should not be mounted on the side of the tank.

Ensure that the common electrode and/or the minimum level electrode does not rest on the bottom of the tank where they can be deposited sediments that would hinder the correct operation of the relay level.

Cut the electrodes as the detection distance of each of them using a suitable stainless steel saw. Hold firmly the rod to avoid damaging the sensor.

Make sure the female thread is the same step that is provided with the equipment supplied. Use an appropriate tool to thread the spindle in the corresponding sleeve. Especially in the case of side mounting, use Teflon tape to seal the threads or appropriate gaskets.

In the installation made with non-threaded brackets, use the a nut to hold the sensor firmly in place.

COMMON ELECTRODE

The common electrode is one of the key elements in the installation because the resistivity reading is taken between it and the rest of the electrodes. Should always be in contact with the medium so it should be installed in the lower part of the tank or immediately below the electrode with the lowest point (minimum or minimum alarm level). The ideal location is that it is located as close as possible to the other electrodes. The greater the distance between the common electrode and the remaining ones, worse behavior can be set because ...

The resitivity measured will be higher and you may be away from the measuring range of the relay. Use different relays for different ranges of resistivity.
The sensitivity to radiated disturbances by electromagnetic interference will be higher

and can cause unexpected effects in the relay level.

If the tank is metallic, it can be used as a common electrode as the liquid will always be in contact therewith. It is advisable that the remaining electrodes are located as close as possible to the vessel wall in order to avoid the above problems.



By using separate electrodes is advisable not to keep them apart from the common electrode.



In metal tanks where it is used as a common electrode, the other electrodes are to be kept as close as possible to the walls.

ELECTRICAL INSTALLATION

Cables can be crucial for the proper functioning of the whole. It is imperative to always use the best features cable but must conform to the conditions of distance, pumping elements, electromagnetic interference, etc. that may exist in the system.

The recommended cable section depends on the type of it considering that the longer is the cable, the greater must be the same section.

The maximum distance between the probes and the relay is always depending on the factors mentioned so far, so it should take them into account when planning your installation. It could exceed the 1000 meters with optimal performance or it might not work with less than 3 meters.



Ensure maximum separation between the probes and power cables.



Installation with standard cable (1..2,5 mm²):

No immunity against electromagnetic disturbances



Avoid installation in parallel and a short distance between the probes and cables power.



Installation with shielded cable (1..1,5 mm²):

The shield is connected to electrical ground, preferably at the end of the relay. Moderate immunity.



Power cables and probes cables can cross without inconvenience.



Installation with twisted pair shielded cable $(0,52 \text{ mm}^2)$:

Each uses one pair of wires connected to the common electrode. The shield is connected to electrical ground, preferably at the end of the relay. Offers greater immunity.

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