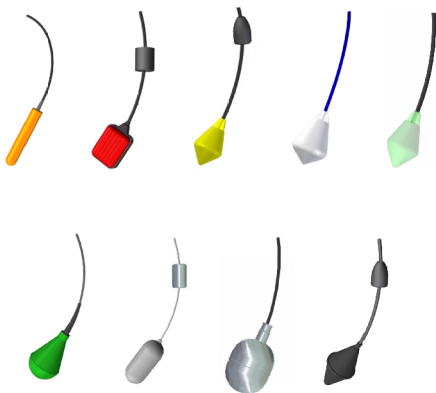


User's manual



Float Level Switches **IN**

Before starting

Please read these instructions before unpacking and the start-up of the instrument containing. Follow the instructions as described in this document.

The instruments should be treated only by personnel familiar with these instructions and in accordance with specific standards of health, safety and the prevention of accidents regulated for the area where you are.

When used in machinery, measuring equipment should be installed only when the machine meets the guidelines of the EN60204 standard, or equivalent.

Inspection of the instrument

The instruments are inspected before being packed and shipped in perfect condition.

If when you receive the package observes that the packaging is damaged, do not open it and immediately report to the forwarding agency since it is responsible for damage during the transit of the goods.

Content of a standard shipping:

- Float Level Switch, family IN.
- Manufacturing sheet with the technical and operating characteristics. This sheet is exclusive for the model that accompanies and should not be used externally as a reference for other similar models. The sheet and the instrument are related by the manufacturing number, easily identifiable in both.

Application area

The Float Level Switches are used to control the level of liquids in tanks, reservoirs, wells, etc. There are innumerable applications of various kinds where a Float Level Switch is required, which are manufactured under different specifications to adapt to the requirements of each installation.

It is essential to ensure that the materials with which the instrument is manufactured are of enough chemical strength to withstand the liquid to be controlled, and the temperature and pressure conditions of operation do not cause mechanical deformations affecting it.

Below are some of the most frequent fields of application for Float Level Switches:

- Reservoirs, rafts, small tanks
- Underground drilling
- Pumping stations
- Water distribution
- Chemical industries
- Treatment plants
- Sewage water

Operating principle

Float Level Switches are provided inside with a microswitch that is operated by a steel ball that moves due to the action of the liquid in the body of the float.

The contact is of the SPDT type. Consult the characteristics of each model to connect the appropriate electric charge and not exceed its capacity.

Counterweight

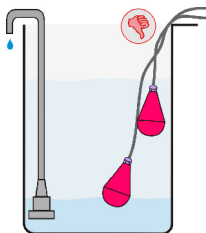
In the models used for the control of a single point of level it is not essential to use the counterweight, although it can serve to improve the stability of the float in case of liquid agitation.

In the models used for the control of maximum and minimum level, the counterweight is used to establish the differential between both points. The working angle of each model must be taken into account.

Mechanical processing

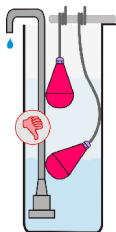
Despite the robustness of these devices, they must not be subjected to impacts or hits that could damage it or compromise its sealing. The electric cable also fulfills the function of supporting the float and special attention must be paid during installation in that it does not receive cuts or scrapes.

Installation tips



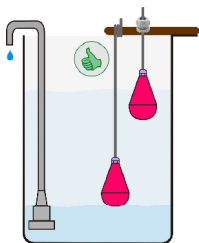
When using two or more sensors, avoid cables intertwining between them.

Protect the cable from sharp edges or protrusions that may damage it.



Observe the working angle of the sensor and do not install it in tanks with insufficient width.

Avoid excessive proximity to the walls or other elements of the installation.



Provide a rigid and reliable support to fix the sensors. Use flanges, cable glands or other similar elements to maintain the desired height.



The guided support for float switches SG provides a robust and effective solution to keep the sensors in their position and prevent them from becoming entangled between them. Any of the existing sensors in the catalog can be used.

Electrical connection

The manufacturing sheet that accompanies each instrument clearly details the maximum permissible voltage and current values, which must not be exceeded even for short periods of time.

Work values are referred to resistive load. When connecting inductors (coils of relays or contactors, solenoid valves, etc.), appropriate means should be used to protect the contacts from the voltage spikes they produce (RC filters, diodes, etc.). Any special care is required when connecting the contacts to PLC.

Each sensor has models with different cable lengths. Choose a length greater than necessary. In case you need to extend the cable, it should always be done outside the well or reservoir and protecting the splice from moisture or other external agents through a sealed box.

Important: When the electrical connections of the instrument is made, the appropriate security measures, rules, regulations and safety guidelines should be considered.

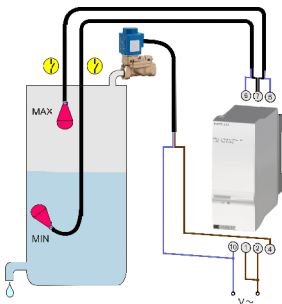
Maintenance

In general, the physical shape of the Float Level Switches prevents the accumulation of particles in suspension and guarantees reliable operation with liquids under agitation.

In spite of this, in especially dirty, viscous liquids or in certain chemical substances, it is possible that over time a deposition is formed on the float that could affect its correct functioning. Periodically check its condition and clean the surface of the float and the cable without damaging them. The frequency of cleaning depends on the time it takes the liquid to be deposited and it is each user who best knows this circumstance.

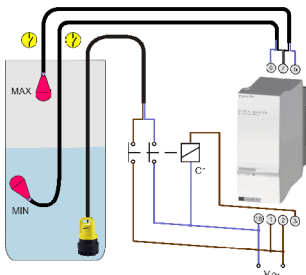
Choosing the right model for each case can minimize maintenance actions.

Connection examples



Filling controls using the relay PPS

The PPS relay simply executes the start-stop maneuver in a filling application. Use normally open contacts at rest.

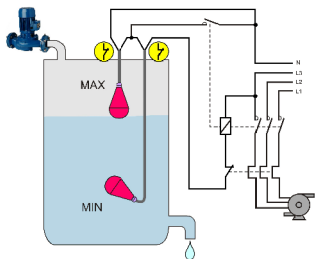


Emptying controls using the relay PPS

The joint use of the PPS relay and an auxiliary relay allows the start-stop maneuver in a pouring application. Use normally open contacts at rest.

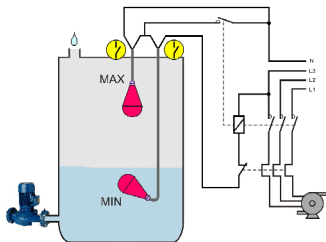
Filling controls

Use normally closed contacts at rest.



Emptying control

Use normally open contacts at rest.



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