

INSTRUCTIONS MANUAL FOR LEVEL SWITCHES SERIE 10

1. DESCRIPTION OF THE INSTRUMENT

Series 10 level switches are designed to be mounted in tanks horizontally through threaded or flanged pipe connections. The standard model is fitted with an electrical contact for high or low-level alarm. Series 10 is recommended for use with clean liquids.

2. DESIGNATION OF THE MODEL

The designation of the model is explained in the general catalogues. The instruments we supply are always identified by a serial number on the data plate of the instrument, which is fastened on the housing of the instrument.

3. OPERATING PRINCIPLE

When the level of the fluid to be controlled changes, it causes the float (6) to which a permanent magnet (5) is fastened to turn. In turning, this magnet rotates a second magnet (8) mounted on the switch group (9) which controls the microswitch. A wall of non-magnetic material, capable of withstanding the tank's pressure, is fitted between the two magnets.

4. INSTALLATION

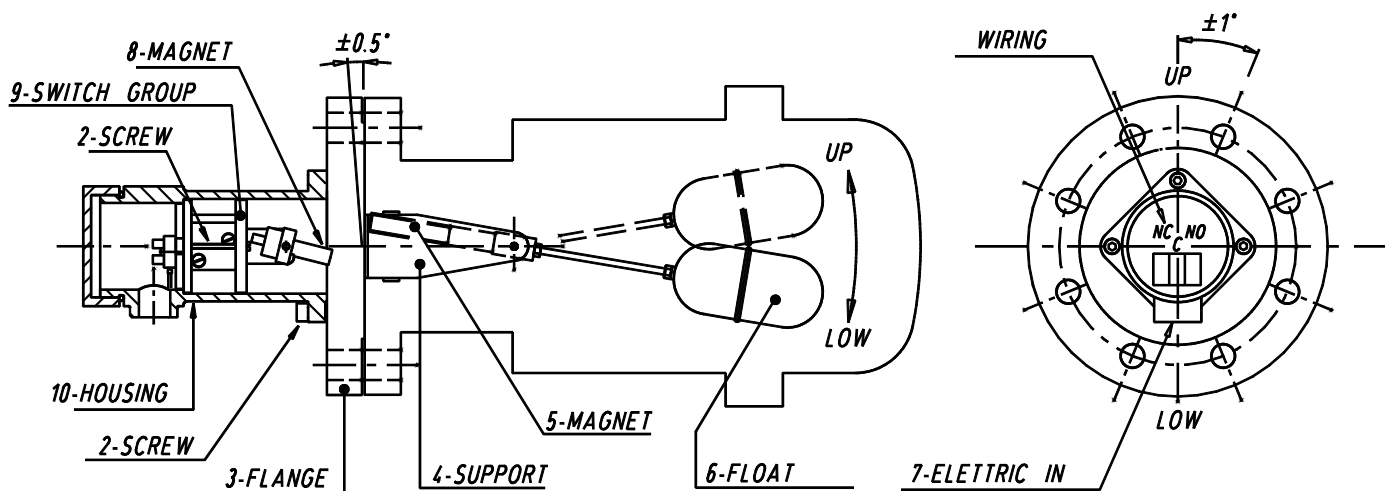
CAUTION : Before installing the instrument, make sure that the magnet has not attracted any metal particles.

MOUNTING ON THE PLANT

- The place where the instrument is installed on the tank must leave sufficient clearance to disassemble it. The float within the tank must be in a position where it is not affected by any turbulence of the liquid. If this is not possible, protections must be provided to eliminate the turbulence.
- Before installing the instrument, make sure that the flanged attachment is large and long enough (the float must fit into the tank) and that the attachment is perfectly horizontal (max. 0.5° angle) and with a max. 1° misalignment if flanged.
- The instrument must be fitted with the electrical connection facing downward.

ELECTRICAL WIRING

- The instrument is fitted with a terminal block situated inside the housing which is accessible by removing the threaded cover.
- The terminal block is provided with three terminals (NC - C - NO) which are referred to the absence of liquid. Before connecting the power supply, make sure that the housing is closed.



5. STARTING UP

- Make sure that the operating conditions do not exceed the rated values (higher pressure and temperatures, lower specific gravity) and that the electrical rating is the correct one.
- Test the instrument for correct switching by changing the liquid level a few times.

6. CALIBRATION

The instrument is factory-calibrated and does not require any adjustments on the spot.

7. MAINTENANCE

Routine inspections should be carried out (every six months or so) to check the performance of the instrument from the time it is installed. The checks are simple and quick and are of two types: inspection of the body/float and inspection of the contact.

WARNING

- NEVER remove the cover before making sure that the power supply is disconnected.
- NEVER leave the housing uncovered for longer than it takes to carry out the inspection.
- NEVER use the instrument for pressure or temperature exceeding the rated values shown on the data plate.
- NEVER use the instrument at higher electrical rating than shown on the data plate.
- NEVER carry out adjustments or replace parts before reading carefully the instructions. In case of doubt, check with our aftersales service.
- NEVER lubricate any of the instrument's components.
- NEVER use the instrument in liquids containing iron particles in suspension: the magnet might attract them and cause the instrument to stop working.
- If the instrument operates at high temperature, take all precautions to avoid any contact with hot parts.

ROUTINE INSPECTION OF THE BODY / FLOAT

Carry out regular cleaning of the float (6) and of the magnet (5) on the fluid side. Make sure there are no scales or filth between the magnet and the process flange (3) and between the magnet and the fulcrum supports (4) that prevent the float from moving freely.

ROUTINE INSPECTION OF THE CONTACT

When the instrument is removed for routine cleaning, move the float (6) manually to check that the microswitch switch regularly.

REPLACING THE SWITCH GROUP

The microswitch is an integral part of the switch group and never needs to be removed. If the microswitch shows malfunctioning, the whole switch group - supplied as a standard spare - needs to be replaced. Remove the housing (10) from the process flange by means of the screws (1) which fasten it. Remove the two screws (8) inside the housing which fasten the switch group and extract it pushing from the terminal block side. Insert the new switch group taking care that the terminal block is on the side of the electric input (7). The switch group is not reversible and does not run properly if it is held upside down. Screw the unit together again and check for proper operation like when executing routine inspections.

8. TROUBLE - SHOOTING

Series 10 level switches are designed for long fault-free life. If a level switch does not emit the alarm signal, the tripping unit should be checked and then the body/float as described in the preventive servicing paragraph. If the fault is not identified after all tests have been carried out, please refer to our after-sales service.

9. WASTE DISPOSAL

Disposal of the instruments must comply with rules in force with regard to noxious toxic materials as well as to special materials (PVC , PTFE , PP , PVDF , neoprene, viton , asbestos free joints, steel and metal alloys, aluminium, copper, brass, plexiglas and glass).



10. GUARANTEE

All series 10 switches are guaranteed free from faulty material and workmanship for 5 years from the date of dispatch. If an instrument shows malfunctioning and is returned within the time indicated and if the cause for the fault is covered by guarantee, OFFICINE OROBICHE will carry out all necessary operations (even replacing the instrument) without any cost to the purchaser except for transport of the instrument.

OFFICINE OROBICHE are not answerable for an incorrect use of its products and in such a case all claims will be rejected. Any direct damages and/or expenses arising from an incorrect installation or use cannot be assigned or charged to OFFICINE OROBICHE.

FINAL NOTES

All instruments are supplied fully assembled and with all accessories required. Some parts are supplied separately only in special cases. The consignment must therefore be inspected carefully on arrival and any differences reported promptly.

When ordering spare parts, always indicate the appliance's serial number. This number is shown on the data plate fixed to the housing. It is a five-digit number preceded by the letter "F" (e.g. F47521).

N.B. IN CASES WHEN THE INSTRUMENTS ARE MEANT TO BE USED IN AREAS FEATURING POTENTIALLY EXPLOSIVE ATMOSPHERES, THE USER SHALL COMPLY WITH THE **ADDITIONAL SAFETY INSTRUCTIONS ATTACHED TO THE STANDARD ONES.**