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## OPERATING MANUAL FOR INSTALLATION AND MAINTENANCE FOR 'LSR SERIE' LEVEL SWITCHES

### AREAS OF USE AND PROCESS APPLICATIONS

Electromagnetic level switches have been designed to control the level of any fluid into a tank and to send an electric signal to a control panel. They are normally used on industrial processes, power fluids equipments, storage tanks, industrial vehicles, water and waste water treatments, galvanic applications, dosing equipments, etc.

Trough a very accurate selection of components and the control done on any production step, our company may guarantee a very reliable product of high quality.

### OPERATING PRINCIPLE

"ON-OFF" electromagnetic level switches are based on the operating principle of proximity magnetic sensors, "reed" type. This contact, hermetically sealed, installed inside the guide tube, is magnetically activated by the float, when this one is in front of the "reed" sensor. The float travels along the guide tube, following the liquid level changes.

These units have a process connection, threaded or flanged, and an electric output.

While using this kind of level switches, to get a correct operation of reed contacts, it is suggested to use additional relays, to operate power charges, or transition charges dampners.

Be aware that voltage and/or current values higher than maximum contacts rating may reduce the contacts life.

The used electric contacts may be "SPST" or "SPDT" type. The "SPST" contact without liquid level can be closed "NC" or open "NA".

The level switches are wired in accordance to an internal standard specification. They can be wired in accordance to any specific requirement and delivered with wiring diagram.

CAUTION on our units is possible to change the contact position, installing the float on reverse position. In this case, leave float out from guide tube and turn it by 180°.

CAUTION when a plug is threaded on the bottom of guide tube, take it away very carefully. Put it back in original position, use a sealing paste.

### MECHANICAL INSTALLATION

In accordance with the process connection of the unit, it has to be installed through threaded or flanged nozzle on the tank. A gasket has to be used.

To have a correct operation of the level switch, the vertical or horizontal position must be carefully checked after installation.

CAUTION installation must be done with proper tools. DO NOT use the housing to do it.



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### ELECTRIC WIRING

The electrical wiring can be done in different ways, as follows :

- by sealed cable
- by connecting terminal on IP65 separate box

The magnetic switches, when inductive charges occur, must be protected by RC circuits or Shunt diodes.

### MAINTENANCE

These units, when installed in the proper way, don't need any special maintenance. If used with steaking liquids, a regular cleaning of float and guide tube is suggested.

