



**TOP MOUNTED  
MAGNETIC LEVEL SWITCH**  
**[ FDI - TMLW - 505 ]**

# INTRODUCTION



A level switch is an electrical or mechanical method for measuring the level of a liquid, powder, or granule material. It is designed to activate an alarm if the material level in a container passes a predetermined height or depth. When a level switch detects that a tank is full, it is referred to as full or upper limit detection. If the level of the material drops, indicating that the tank is nearly empty, the switch will also provide an alert, which is referred to as empty or low-level detection.

Level switches are an essential part of production operations and are used in harsh conditions where there are excessive in temperature, pressure, and vibrations. The variety of level switches makes them applicable to any conditions for measuring a wide array of products. Their accuracy, reliability, and durability are a necessity for the efficiency of industrial applications.

Top Mounted Magnetic Level Switch or Liquid Level Switch moves up and down on Rod immersed in a liquid. The float energizes the hermetically sealed sensors, which change from NO to NC or otherwise as the float - passes them.

The purpose of a float level switch is to open or close a circuit as the level of a liquid rises or falls. All float operated liquid level controls operate on the basic buoyancy principle which states "the buoyancy force action on an object is equal to the mass of liquid displaced by the object." As a result, floats ride on the liquid surface partially submerged and move the same distance the liquid level moves. Because of this, they are normally used for narrow level differential applications such as high-level alarm or low-level alarm.

To complete a circuit, float switches utilize a magnetic reed switch, which consists of two contacts sealed in a tube. When a magnet comes close to the two contacts, they become attracted to each other and touch, allowing current to pass through. When the magnet moves away, the contacts demagnetize and break the circuit.

FIDICON is a pioneer in the field of manufacturing Level Switch in India since 2002 years of designing, manufacturing, installation and service of the same. Top Mounted Magnetic Level Switch manufactured by FIDICON are user friendly and easy to install. It comes in many ranges and can be tailor made as per the requirements of customers.

## Working Principle

It operates on the basic buoyancy principle. It uses float that floats on the surface of liquids. This level switch consists of – Terminal enclosure, Float stem with Hermetically sealed Reed Switches and float with magnets moves in or out of the field of the switch resulting in its opening or closing. A non-magnetic barrier tube containing the reed switch isolates it from the process. These type level controls are available for controlling level at up to four different preset locations and can virtually be made of any length. This switch is highly effective and cost discarding and also finds use in a wide range of industries.

## Operation

This is top Mounted type level switch provided single or multiple set points. It uses Level sensor that do float on the surface of liquids with certain immersed section with respect to design. Working principle of the level switch is based on a buoyancy principle.

This level switch is consisting of switch assembly, wire rope with spring Assembly & level sensor suspended on spring. Level sensor having more density than the process liquid is used. Spring selection is determined by the weight of the level sensor. When level rises it the level sensor is submerged as per the design consideration and amount of weight equal to the weight of process liquid is displaced. This displacement relieves the spring tension which is related to tension constant R, causes the actuation of microswitch.

## Application

- Research Center
- Chemical industries
- Scientific laboratory
- Pump or valve Control
- High of low-level alarm
- Heater Protection

## Features

- Snap Action
- Accurate Mechanism
- Easy to maintain
- Longer Service Life
- Easy to Install
- Sturdy design
- Accurate Dimensions

## Advantages

Level switches are an economical method for monitoring, controlling, and regulating the levels of bulk materials and fluids or liquids. Every manufacturing process require control of raw materials to avoid waste and ensure efficiency. This has become more important in today's competitive markets, where slight uncertain and errors can have multiple effects on production and product development.

The minute and small appearance of level switches may cause them to be categorized and defined as insignificant. In reality, the minor investment in level switches can lead to the effective use of raw materials.

### ■ Money Savings

In modern business, every attempt to save money helps in increasing profits. The inventory and raw materials of a company are its greatest assets and have to be protected, monitored, and controlled to avoid losses. Though there have been important developments in the automation of inventory control.

The similarity of inventory loss necessitates constant observing of assets. In the case of bulk materials and fluids, such monitoring can be difficult due to the nature of the products. Level switch manufacturers are well aware of the difficulties interrelated with controlling the loss of bulk materials and have designed a wide selection of level switches capable of providing detailed data regarding the volume and quantities of on hand raw materials.

### ■ Switch Installation

Regardless of the type of level switch, whether it is continuous level measurement or point level detection, installation is easy. They can be installed and operating in an less hour, depending on the type of switch. The ease of installation makes it possible to move and reposition them when there are changes in storage arrangements.

## ■ Automatic Advantages

Unlike floats, yardsticks, and other methods of product level monitoring, level switches are capable of automatically providing accurate data on time to a computer without the need to activate or initiate another device. In cases where the level switch is not connected to a controller, the data can be read from a digital/analogue display(if applicable) with little effort.

For many years, the monitoring of storage tanks, large containers required a routinely scheduled and constant supervision of products by personnel. In most cases, the readings were inaccurate and not completed. All the footwork and labour required by the old fashion data collection systems has been eliminated by the automatic reporting level switches.

## ■ Reliability Advantages

The design and engineering of modern level switches remove any concern for poor performance or inaccurate data. The casings and materials used to produce level switches ensure that they will provide precise accurate readings for a long time. Since level switches have few moving parts, they do not require repairs or maintenance to accumulate data. Minor calibrations and adjustments may be necessary to guarantee the accuracy of a level switch but its failure is highly unlikely.

## ■ Preventing Waste

The control of the storage of bulk and liquid materials assists in avoiding waste from discharge and overflows. A properly programmed level switch can activate a valve or pump to control overflow and avoid losses. With continuous level measurement level switches, the correct amount of raw materials is constantly maintained. Point level detector level switches can sound an alarm when a container is too full or the level is too low.

## ■ Compact Benefit

Unlike massive data collection methods, level switches are compact and can be handheld. Their compact design makes it possible to fit them into any size container regardless of its shape, dimensions, or location. Their compact configuration makes it possible to position a switch accurately such that it can collect data without interference.

## ■ Switch Sensitivity

The main reason for investing in level switches is their accurate sensitivity and ability to provide exceptional precision data. As every manager and supervisor knows, it is impossible to make correct decisions without up to date and accurate information. When materials are being sent from a container to production, they must be in the exact quantities that the process requires. It is for these reasons that level switches are an essential part of inventory control and production operations.

## Recommended Disposal

- Give it back to us & we will take care of recycling & possible disposal.
- User can dis-assemble the product in multiple stage
- The above may be handed over (state pollution board), authorized re-cycler item-wise.



## ENQUIRY SPECIFICATIONS:

- [1] Service Media Details.
- [2] Size/Connection
- [3] System Operating and Design Pressure.
- [4] System Operating and Design Temperature.
- [5] Material Specifications ( Body, Internal )

## RECOMMENDED SPARES

- [1] Gasket / as per customer need

## OTHER RANGE OF PRODUCTS

- [1] Flame Arrester
- [2] Breather Valve
- [3] Level Indicators
- [4] Rotameters
- [5] Emergency Relief Valve
- [6] Gauge Hatch
- [7] Strainers
- [8] Pressure Reducing Valve
- [9] Safety Relief Valve
- [10] Flowmeters
- [11] Level Switches
- [12] Pressure Reducing Station
- [13] Level Gauge, etc.



### Any Query?

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