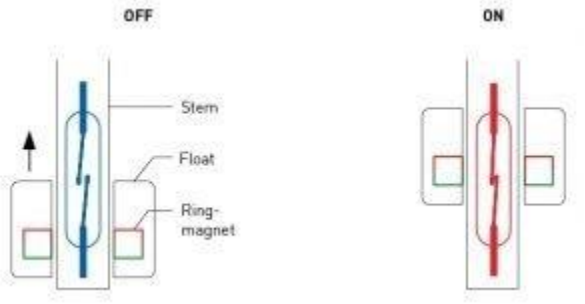
Magnetic Float Switch

What is a Magnetic Float Switch?

A magnetic float switch is a type of liquid level sensor that uses a magnet and a reed switch to detect the level of liquid in a tank or container. It's one of the most common and reliable types of float switches, especially for industrial and commercial applications. At Alan Butcher Components, we stock the PIC range of magnetic float switches.

How Magnetic Float Switches Work



Float with Magnet: The float contains a small permanent magnet inside.

Reed Switch: A reed switch is installed either inside the float or in a stationary position in the tank. The reed switch consists of two thin metal reeds sealed inside a glass envelope, which are sensitive to magnetic fields.

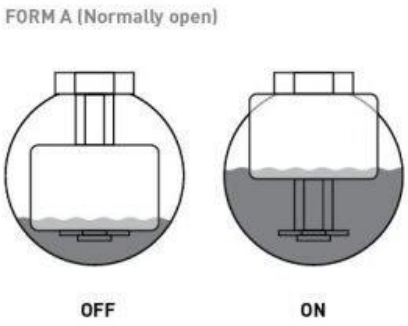
Movement of the Float: As the liquid level rises or falls, the float moves up or down with it.

Magnetic Activation: When the float reaches a certain level, the magnetic field of the float closes or opens the reed switch, completing or interrupting the electrical circuit.

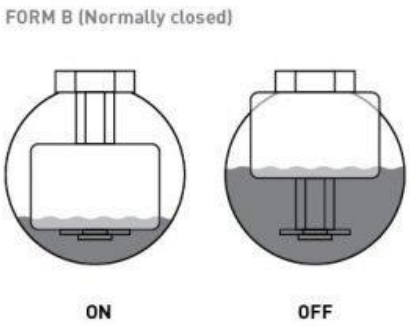
Electrical Action: This change in the circuit can be used to send a signal to control a pump, alarm, indicator light or valve, depending on the application.

Contact Forms:

Normally Open Float Switch (NO) / Form A: The circuit remains open until the liquid level rises or falls to the trigger point, causing the magnet to close the switch and complete the circuit.



Normally Closed Float Switch (NC)/ Form B: The circuit is closed (on) until the float moves to the designated position, where it opens the switch and breaks the circuit.



Mounting Options:

Vertical Float Switch – for tanks with top or bottom access

PLS-PP Series – Polypropylene float switch

PLS-PA Series – Polyamide level sensors

PLS-VA Series – Stainless Steel float switches

Horizontal Float Switch – mounted on the side of a container. The PLS-PPH Series allows assembly from outside, in a closed tank. The special seal safely seals the required drill hole.

PIC Float Switch Materials:

PLS-PP Series – Polypropylene housing

PLS-PA Series – Polyamide housing

PLS-VA Series – Stainless Steel housing

Advantages of PIC Float Switches

Reliability: Because there are few moving parts, magnetic float switches are known for their long operational life and durability.
Cost-Effective: They offer a good balance of performance and price compared to other liquid level detection systems.
Simple Installation: They are easy to install in both new and existing tanks or systems.
Chemical Resistance: The PLS float switch series is designed to be compatible with a wide range of chemicals, making them suitable for various applications. Click here to download a copy of the PIC Chemical Resistance Chart.
Non-Contact Design: The reed switch is typically isolated from the liquid, making the design durable and less prone to corrosion.
No Power Supply: no power supply is required to operate the float switches.
Multi-Level Detection: Some designs allow for detecting multiple levels by placing a series of reed switches along a vertical rod. PIC Reed Chains offer simple and effective continuous measuring of liquid

levels. Please contact us to find out more.
Suitable for Food Contact: The PIC float switch range is suitable for food contact (FDA and NSF)

Applications:
Fluid tanks – Tanks in industrial and commercial environments or machines containing operating fluids, lubricants and other crucial materials. The level of the fluid is detected using a float switch or specifically designed Reed Switch Chains and matching floats containing a magnet. They will detect overfill, spill prevention, leaks, low fluid conditions.
Examples being:
Tumble dryer – condenser dryers collect water within the condenser tank. Once the water reaches a specified level an alarm or visual alert is triggered. It could also start an integrated pump to remove the water.
Printers – float switches can be used to monitor the levels of printing ink within inkjet printers.
Bilge pumps in boats – the pump is activated when water reaches a certain level to prevent flooding.

As mentioned, we stock the PLS Series of magnetic float switches, manufactured by PIC gmbH. We offer level sensors with two switching voltages, 140V and 240V. The 240V float switch is identified with a 6 in the part number ie PLS-031-A-6. Our most popular float switches include:

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Float Switch

Code: PLS-020-A-3

NO, 130VAC, 18mm float diameter

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Float Switch

Code: PLS-031-A-6

NO, 250VAC, float diameter 24mm

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Float Switch

Code: PLS-041-B-6

NC, 250VAC, vertical, 24mm diameter float

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Float Switch

Code: PLS-045A-6VAI

NO, Stainless Steel, 250VAC, 28.2mm diameter float

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Float Switch

Code: PLS-080A-6VAL

NO, Stainless Steel, 250VAC, 28.2mm diameter float

There is a float switch within the PIC range to suit many applications.

Click here to visit our website

Give us a call or email to find out more:

01258 456360

sales@abcomponents.co.uk