RS stock number : 7800383

Float switch evaluation kit - Vertical

7 different float switches for testing

- ***7 different types and 1 extension tube***
- ***5 different materials; Nylon, PP, PPS, SS, Buna***
- ***Internal and external mounting types***
- ***A variety of types for evaluating which type may be suitable in applications***

This is a kit for designers/developers of systems or equipment that use liquids and need level control or indication.

The types in this kit are manufactured in Nylon, Polypropylene, Polyphenylene Sulfide or Stainless Steel and are representative of the range of Vertical mounted float switches that are available from Cynergy3 Components. Most of these types are also available in materials other than those supplied in this kit.

RSF50 series are miniature internal mounting plastic float switches for general applications. Can be used as N/O or N/C switch.

RSF50 1/8NPT series are miniature internal mounting plastic float switches with 1/8NPT mounting thread for general applications.

RSF100 series are miniature external mounting plastic float switch for use in applications where access is not available to the inside of the tank or where a small diameter float is needed. Can be used as N/O or N/C switch.

LLF59 series are designed to give a switch output at very low liquid levels for use in drip trays and other applications where early indication of rising level is required.

EXT these extension tubes extend the reach of vertically mounted float switches

SSF22 series are miniature internal mounting stainless steel float switches for general applications. Can be used as N/O or N/C switch.

RSF60 series are internal mounting plastic float switches with 1, 2 or 3 level switching points, with either N/O or N/C switch action.

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Float switch evaluation kit - Vertical

Selecting the right float switch

Many industrial processes need devices to sense the level of liquids within various chambers. The signals from these devices may control the processes or give indication of the status.

One of the most reliable technologies for liquid level sensing is with the use of a magnet contained within a moving float and a magnetic reed switch contained within a fixed housing. The movement of the float, due to the changing liquid level, will cause the reed switch to operate at a particular level.

Physical arrangement and choice of float switch style.
The choice of styles that may be suitable for an application will depend on the physical arrangement of the tank, the available mounting positions and whether access is available to the inside of the tank. The main types are horizontal, or side, mounting and vertical mounting. The horizontal mounting types normally have a fixed housing, which passes through the side wall of the tank, and a hinged float attached to the fixed housing.

Consideration should also be given to whether there is the possibility of a build up of deposits, from the liquid, on the float body. These deposits can, over a period of time, accumulate to such an extent that the float switch can fail to operate. There are particular types (RSF10 and RSF20 series) designed to limit the effects of this build up.

Material selection

It is very important to select switches that are constructed of materials that will be compatible with the liquids and temperatures of the particular application. Component damage due to incorrect selection can cause failure of a float switch, which may have severe consequences.

Nylon - good in many oils, diesel, organic chamicals and MEK based printing inks.

Polypropylene (PP) - good in many acids and alkali, detergents. inorganic and organic chemicals, oil and water.

Polyphenylene Sulphide (PPS) - good in many of the more aggressive chemicals and higher process temperatures, up to 120ºC.

Buna/Nitrophyl - goods in many oils, including diesel and petrol, water (non-potable applications).
Other materials are available on request.

Stainless steel - medical and food applications, many chemicals, hydraulic fluids, fuel oils and applications with process temperatures up to 135ºC.

The selection of suitable materials , for float switch and gasket, can be made by reference to Cynergy3's Chemical Compatibility table. This table gives a good indication of the suitability, of the float switch materials, in a wide range of liquids. It may be necessary, for some liquids, to obtain a sample float switch to test the compatibility.

Electrical

It is important to fully understand the nature of the electrical load, to be switched by the float switch, and to make sure that the switch is capable of handling this load. The electrical ratings, shown float switch specifications, are all for purely resistive loads. Any loads that have either inductive or capacitive components should have the appropriate contact protection measure applied.

Cables

It may be important in some applications, where aggressive liquids may spill onto external wiring, to have particular insulating materials for the cables used to connect to the float switches. There are standard, UL approved, cable types for the various float switches, as well as high temperature, LSZH (Low Smoke Zero Halogen) and other specialised materials. Other cables, or connectors, can be supplied subject to special quotation and order.

Options

Cynergy3 has, over the years, produced many variants of its float switches to match particular customer requirements. Please contact Technical Support for advice about any particular requirement.

The application environment is critical to the choice of float switch. A water tank for an industrial process control may only require a simple plastic float switch. However, if the application is in a hazardous area, for example a petrochemical storage tank, where flammable gases, vapours or dust are present, a stainless steel explosion proof switch will be required.

Cynergy3 can supply float switches for all environments, including industrial process control, Safe Area, Intrinsically Safe, Hazardous Area (ATEX) and Lloyds Approved meeting the required industry directives.