

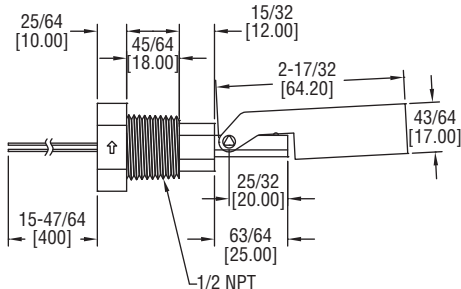


# Series F6 Horizontal and Vertical Mount Level Switches

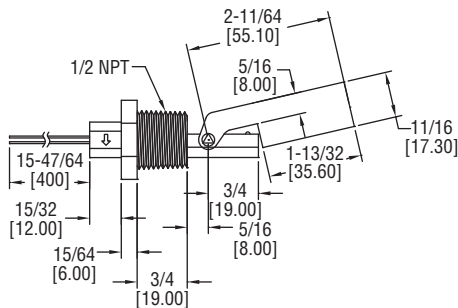
## Specifications - Installation and Operating Instructions



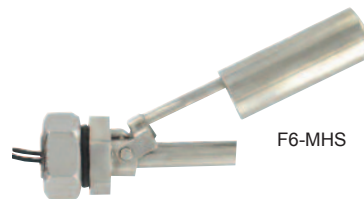
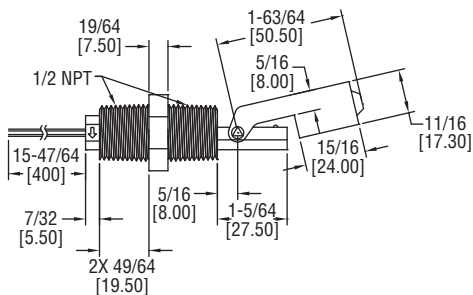
F6-HPS-11



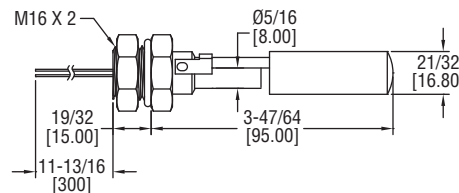
F6-HPS-21



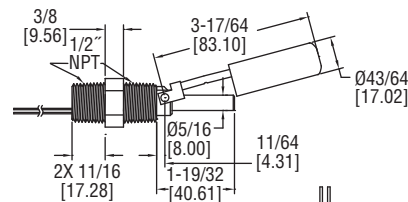
F6-HPS-31



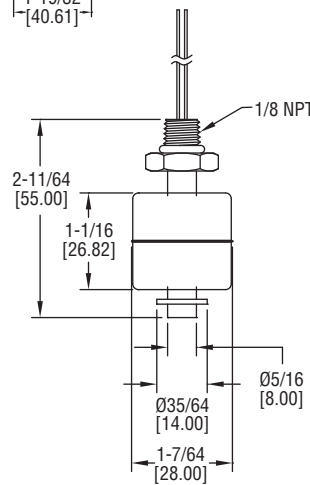
F6-MHS



F6-MHS2



F6-SS



Series F6 Level Switches provide a simple, inexpensive control of the liquid level within a tank. Switch ratings are suitable for many solid-state control systems and monitors or alarms. Simple relay interfaces can be used for higher current applications. Hermetically sealed reed switches are actuated by magnets permanently bonded inside the float and can be easily adapted to open or close a circuit on rising or falling levels.

**SPECIFICATIONS**

**Service:** Compatible liquids.

**Wetted Materials:** See model table.

**Temperature Limit:** F6-SS, F6-MHS & F6-MHS2: -4 to 257°F (-20 to 125°C); F6-HPS-11, 21, 31: 14 to 176°F (-10 to 80°C).

**Pressure Limit:** F6-SS & F6-MHS: 218 psi (15 bar); F6-HPS-11, 21, 31: 116 psi (8 bar); FS-MHS2: 363 psi (25 bar).

**Enclosure Rating:** General purpose.

**Switch Type:** SPST Hermetically sealed reed switch, reversible for N.O. or N.C.

**Electrical Rating:** 20VA: 0.17A @ 120VAC, 0.08A @ 240 VAC.

**Electrical Connections:** 22 AWG, 11.811" (300mm) long.

**Process Connection:** F6-SS: 1/8" NPT; F6-HPS-21, 31, F6-MHS2: 1/2" NPT; F6-MHS, F6-HPS-11: M16\*2.

**Mounting Orientation:** F6-SS: Vertical ±20°; F6-MHS/HPS/MHS2: Horizontal with index arrow pointing up or down.

**Weight:** F6-HPS-11, 21: 1.23 oz (38 g); F6-MHS-31: 1.41 oz (40 g); F6-MHS: 3.35 oz (95 g); F6-SS: 1.59 oz (45 g); F6-MHS2: 4.8 oz (136 g).

**Specific Gravity:** F6-SS: 0.65, F6-MHS, MHS2: 0.85, F6-HPS-11, 21, 31: 0.6.

### Switch Action (Normally Open, Normally Closed)

#### Vertical Models

Vertical mount models are shipped with normally open switch contacts that close as the float rises toward the mounting threads. To reverse the switch action, remove the float, rotate it end-for-end, and then replace it back on the stem. The floats will be marked for Normal Open and Normal Closed orientation.

#### Horizontal Models

Contacts in the horizontal models F6-HPS-11 (internally mounted), F6-HPS-21 (externally mounted), and F6-HPS-31 (internally or externally mounted) have indicating arrows on the wrench flat end of the switch to confirm float alignment. When the indicating arrow points up and the float is below the stem the switch is normally open and when the indicating arrow points down and the float is above the stem the switch is normally closed. The models F6-MHS and F6-MHS2 do not have an indication arrow to show normally open or closed orientation. The models F6-MHS and F6-MHS2 are normally open when the switch is oriented so that the float is directly below the stem and normally closed when the switch is oriented so that the float is directly above the stem.

#### Installation

Choose a location away from fill pipes, drains, or other areas where turbulence or wave motion might occur. Turbulence will cause false actuations and shorten contact life. Excess contaminants in fluid may inhibit float operation and an occasional wipe-down may be necessary. Care should be taken that switches are always operated within electrical ratings.

#### Mounting

Install the vertical mount model in an appropriate 1/8" NPT fitting. The vertical model mounts internally. It should be aligned within  $\pm 20^\circ$  of vertical, or select optional fittings for external mounting. Models F6-HPS-11, F6-MHS and F6-MHS2 must be mounted internally, which means the switch must be secured to the wall of the tank or vessel from the inside. Install horizontal models F6-HPS-11 and F6-MHS in a M16 suitable size hole and secure them with the nut provided. Models F6-HPS-21 and F6-MHS2 require a horizontal 1/2" NPT fitting and can be fitted to the tank or vessel from the outside. Models F6-HPS-31 and F6-MHS2 require a horizontal 1/2" NPT fitting and can be mounted from the inside or outside (internally or externally) of the tank or vessel.

#### MAINTENANCE

Upon final installation of the Series F6 Level Switches, no routine maintenance is required. A periodic check of system calibration is recommended. The Series F6 is not field serviceable and should be returned if repair is needed (field repair should not be attempted and may void warranty). Be sure to include a brief description of the problem plus any relevant application notes. Contact customer service to receive a return goods authorization number before shipping.