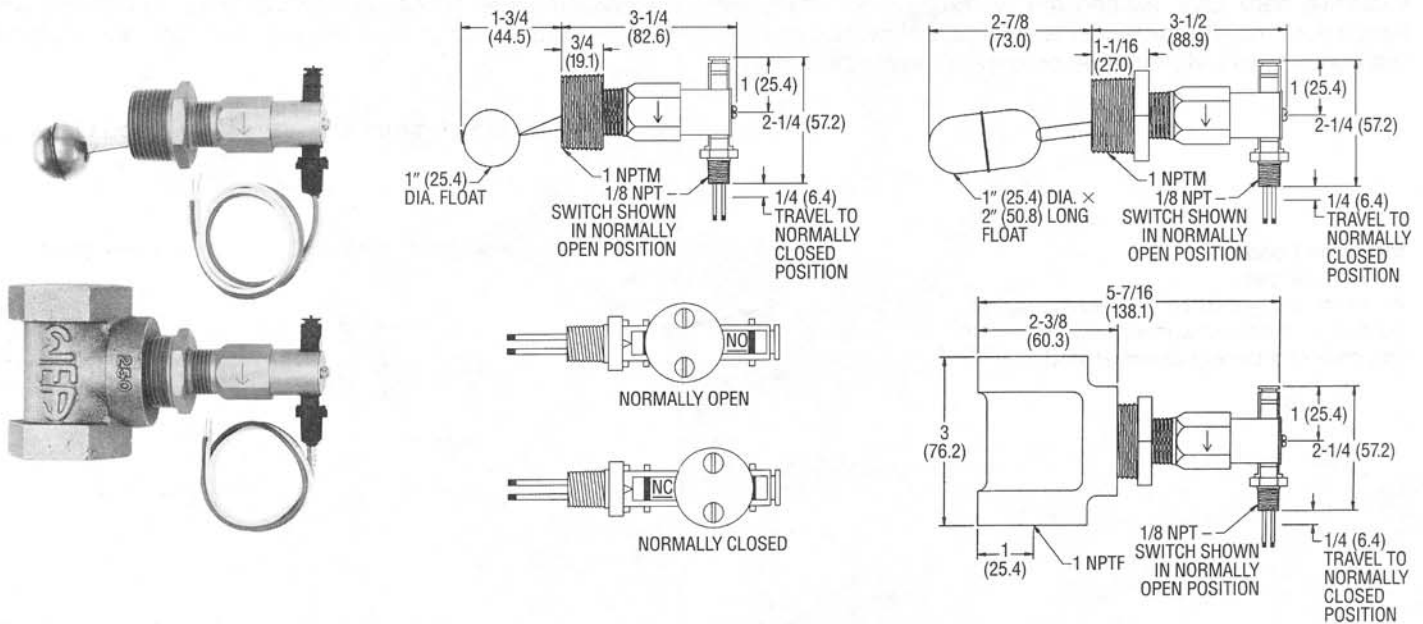




SERIES L10 FLOTECT™ MINI-SIZE LEVEL SWITCH

Specifications – Installation and Operating Instructions



PHYSICAL DATA

Temperature Limit: 200°F (93°C).

Maximum Pressure: See chart.

Piping Connection: 1" NPTM (sidewall mount); 1" NPTF (external tee).

Switch: Hermetically sealed single pole, single throw reed switch. Field adjustable between normally open and normally closed.

Electrical Ratings: 1.5A @ 24 VDC resistive, 0.001A @ 200 VDC resistive, 0.5A @ 120 VAC.

Listings: UL recognized and CSA listed.

Wire: 22 AWG × 18 inches (460 mm) long.

Switch Body: Choice of brass or 303 stainless steel.

Reed Switch Housing: Polypropylene.

Installation: Install horizontally with index arrow pointing down.

Weight: Without tee: 9 oz. (255 gr); with tee: 2 lb., 4 oz. (1.02 kg).

STOCKED MODELS

| Model Number | Body Material | Installation/Mounting | Float Material | Max. Press. psig (bar) | Min. S.G. |
|--------------|---------------|-----------------------|-----------------------|------------------------|-----------|
| L10-B-3-O | Brass | Side Wall | Solid Polypropylene | 1000 (68.9) | 0.9 |
| L10-B-3-A | Brass | Side Wall | Cylindrical St. Steel | 200 (13.8) | 0.5 |
| L10-B-3-C | Brass | Side Wall | Round St. Steel | 350 (24.1) | 0.7 |
| L10-B-3-B | Brass | Ext. Tee | Solid Polypropylene | 250 (17.2) | 0.9 |
| L10-B-3-H | Brass | Ext. Tee | Round St. Steel | 250 (17.2) | 0.7 |
| L10-S-3-O | St. Steel | Side Wall | Solid Polypropylene | 2000 (137.8) | 0.9 |
| L10-S-3-A | St. Steel | Side Wall | Cylindrical St. Steel | 200 (13.8) | 0.5 |
| L10-S-3-C | St. Steel | Side Wall | Round St. Steel | 350 (24.1) | 0.7 |
| L10-S-3-S | St. Steel | Ext. Tee | Solid Polypropylene | 2000 (137.8) | 0.9 |
| L10-S-3-L | St. Steel | Ext. Tee | Round St. Steel | 350 (24.1) | 0.7 |

INSTALLATION

- Unpack switch and remove any packing material found inside lower housing or float chamber (tee).
- WARNING** Mechanical shock and vibration can cause damage to the reed switch. Care should be taken to avoid dropping the switch on hard surfaces or impacting the switch assembly.
- Switch must be installed with body in a horizontal plane with arrow on side of body pointing down.
- If switch has an external float chamber (tee), connect it to vertical sections of 1" NPT pipe installed outside vessel walls at appropriate levels. If unit has no external float chamber, it must be mounted in a 1" NPT half coupling welded to the vessel wall. The coupling must extend through the wall. Use Teflon® thread tape or pipe joint compound to assure a good seal.
- Connect wiring in accordance with local electrical codes. NOTE: the 1/8" NPT fitting is *not* a conduit connection and any loading on this fitting can adversely affect switch operation. Also, any rigid connection to this fitting will prevent adjustment of switching action between normally open and normally closed.
- Inductive, capacitive and lamp loads can all create conditions harmful to the reed switch.

A) **Inductive loads** can be caused by electromagnetic relays, electromagnetic solenoids and electromagnetic counters, all with inductive components as the circuit load.

B) **Capacitive loads** can be caused by capacitors connected in series with or parallel to the reed switch. In a closed circuit, the cable length (150 ft. or more) to the switch can introduce a capacitance.

C) **Lamp loads** can be caused by switching lamp filaments which have low cold resistance.

In addition to these causes, exceeding any of the maximum electrical ratings can lead to premature or immediate failure. This includes inrush and surge currents greater than the maximum switching current. To accommodate these conditions, see diagrams on the reverse for possible solutions.

7. After installation, set the switch action to **NO** (normally open) or **NC** (normally closed). Normally open contacts close and normally closed contacts open when liquid level in the vessel lifts the float past the actuation point. To change, loosen, but do not remove, the two screws on the switch cap. Slide the reed switch assembly to expose the switch action needed. Tighten screws when adjustment is complete.

CIRCUIT INFORMATION FOR REED SWITCH PROTECTION

READ INFORMATION BELOW BEFORE INSTALLING YOUR NEW REED SWITCH CONTROL!

Exceeding the current capacity of this Reed Switch control may cause **FAULTY OPERATION!** Be aware of the inductive and capacitive or lamp loads you may be placing on your Reed Switch Control. The circuits below outline possible solutions to preventing overloads due to inrush or surge currents exceeding maximum or when the switch current and product of the inductive back EMF exceed the switch's power rating. Also the circuit for prevention of overload when switching filament lamps (low "cold" resistance) is outlined below. Failure to follow these measures to protect Reed Switch Contacts may cause the contacts to weld together or result in premature wear.

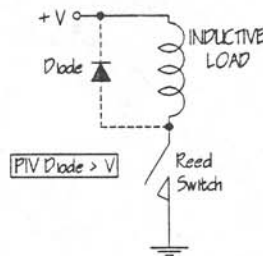
Possible Circuit Solutions Indicated by Dashed Lines

Inductive Loads

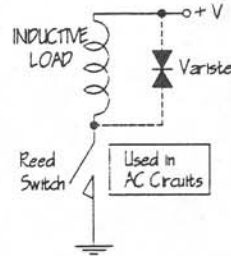
Possible causes –

An electromagnetic relay, electromagnetic solenoid, electromagnetic counter with inductive component as circuit load

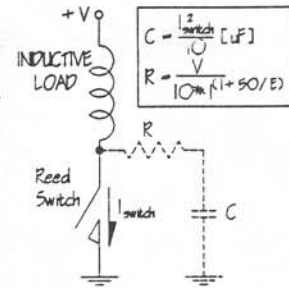
DIODE SUPPRESSION



VARISTER PROTECTION



RC SUPPRESSION

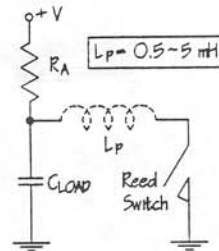


Capacitive Loads

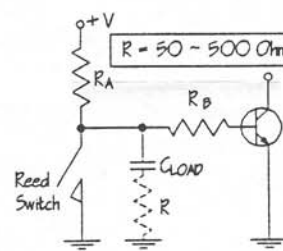
Possible causes –

A capacitor connected in series or parallel with Reed Switch Control. In a closed circuit, a cable length (usually greater than 50m [162.5 ft]) used to connect reed switch may also introduce static capacitance.

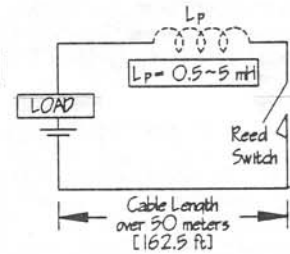
SURGE LIMITER FOR CAPACITANCE IN SERIES



RESISTOR PROTECTION FOR CAPACITIVE LOAD



INDUCTIVE PROTECTION FOR CABLE LENGTH CAPACITANCE

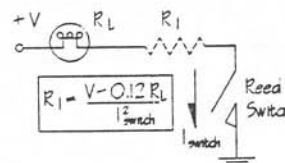


Lamp Loads

Possible causes –

A tungsten filament lamp load.

CURRENT LIMITING RESISTOR IN SERIES



CURRENT LIMITING RESISTOR IN PARALLEL

