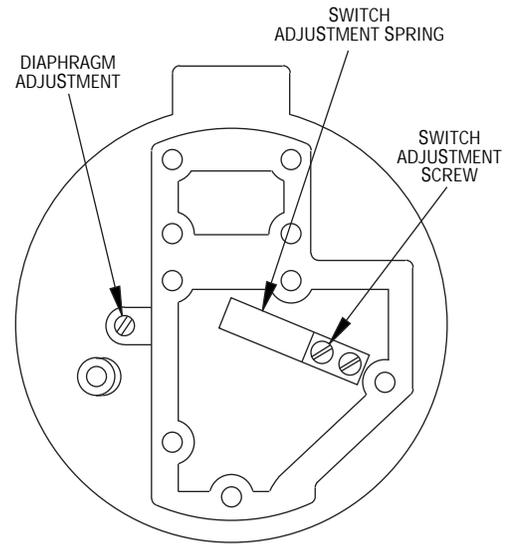
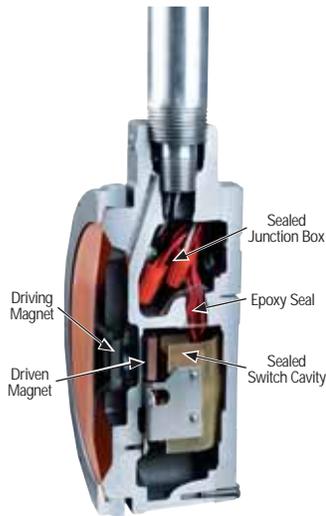




# Series P/G Explosion Proof Ultra Mag™ Level Switches

## Specifications - Installation and Operating Instructions



The **Series P/G Ultra Mag™ Level Switch** provides level indication by detecting pressure applied by the bulk material to the sensing diaphragm. The switch is tripped magnetically, as the result of 2 magnets with like poles repelling one another. The fields of the magnets perform through the nonferrous wall of the switch housing. Pins, links and "O" rings, which often cause failure due to moisture, dirt, and corrosion, are eliminated. The switch enclosure is completely sealed.

The unit performs as follows:

1. When the diaphragm is forced inward by the product bulk material, the "driving" magnet moves inward, as does its magnetic field.
2. The field of the "driving" magnet repels the field of the "driven" magnet attached to the switch arm, and the switch is tripped.
3. Deactivation occurs when product is removed from the vessel and the diaphragm and "driving" magnet returns to their original positions.

### SENSITIVITY ADJUSTMENT

The P/G Ultra Mag™ offers a sensitivity adjustment that is accessible from outside of the bin and easily adjusted with a screwdriver. This enables the user to adjust the sensitivity of the unit, should vessel contents change, without removing the unit from the vessel. Turning the adjustment screw inward increases operating forces, and turning the screw outward decreases operating forces. A maximum of 4 turns is available. When the screw is bottomed, the force is at a maximum. With 4 turns out the diaphragm force is at a minimum. Normal setting is two turns out. See Figure 1.

### SWITCH ADJUSTMENT

The switch adjustment determines whether actuation occurs early in diaphragm travel or late. Turning the screw inward retards action and causes the switch to trip late. Backing the screw out results in early actuation when the diaphragm is slightly depressed. A center switching position is desirable.

Regardless of the position (angle) in which the control is eventually mounted, the switch should trip at mid travel of the diaphragm. "Break" (switch off) should never occur within the last 1/4 of travel outward. "Make" (switch on) should not occur after 3/4 travel inward.

### MOUNTING

A choice of either suspension or flange mounting is available to match your application. Flange mounting is the best choice for control of low or intermediate level in vessels containing granular product that does not "bridge", "rathole", or otherwise build up on vessel walls. Choose suspension mounting for high level in vessels and for better operation with "bridging" product. Note that the mounting configuration is represented by the letter "S" for suspension or "F" for flange.

### SPECIFICATIONS

**Service:** Compatible powder or bulk solids.

#### Wetted Materials:

Mounting Flange: Aluminum or 304 SS.

Diaphragm: Urethane, Buna-N, PTFE, Silicone Rubber,

Polyester, Fluoroelastomer, White Buna-N (food grade), or EPDM.

**Temperature Limits:** Depends on diaphragm material.

Standard switch: -40 to 185°F (-40 to 85°C), high temperature switch: -40 to 350°F (-40 to 176°C).

**Pressure Limit:** 60 psig (4.14 bar).

**Enclosure Rating:** General purpose or weatherproof and explosion-proof.

**Electrical Connections:** 18 gage solid core, 600 volt TEW 105°C, style 1015.

Epoxy sealed at conduit entrance. 12" (304.8 mm) long.

**Conduit Connection:** 1/2" female NPT.

**Process Connection:** For flanged models standard is 8-3/8" (212.725 mm) diameter bolt hole circle.

**Mounting Orientation:** Flange mount or suspend depending on model.

**Set Point Adjustment:** Internal screw.

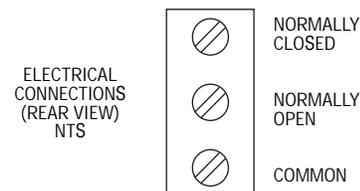
**Weight:** 7 lb (3.18 kg).

**Options:** Suspension kits and flange adaptor rings.

**Agency Approvals:** UL and CSA.

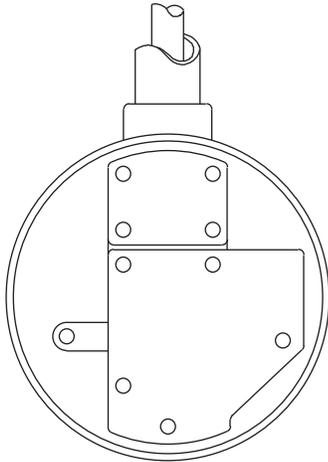
### WIRING

The P/G Ultra Mag™ has a 1/2" NPT conduit connection. Remove the back plate to access the single pole double throw snap-switch. The switch rating is: 15A @ 125, 250, or 480 VAC. There are three terminals on the snap-switch: "Common", "Normally Open", and "Normally Closed".

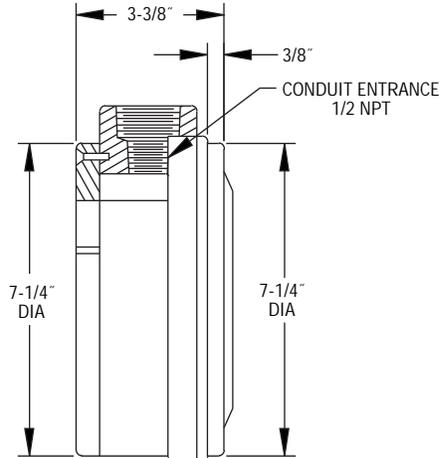


ELECTRICAL RATING  
15 AMPS @ 125, 250, OR 480 VAC

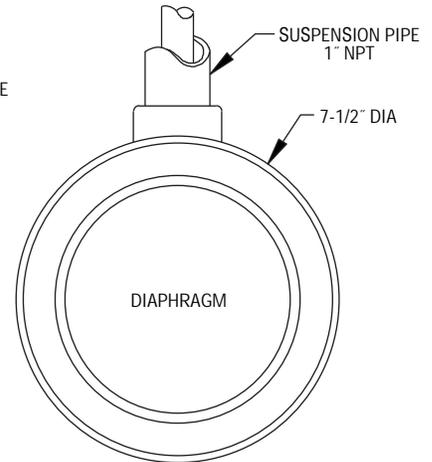
**SUSPENSION MOUNTING  
MODELS P-S-D-A ; G-S-D-A**



REAR VIEW

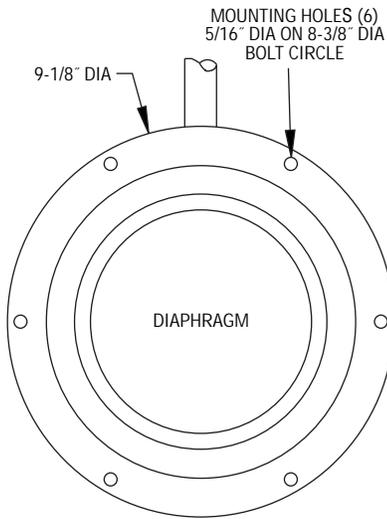


LEFT SIDE VIEW

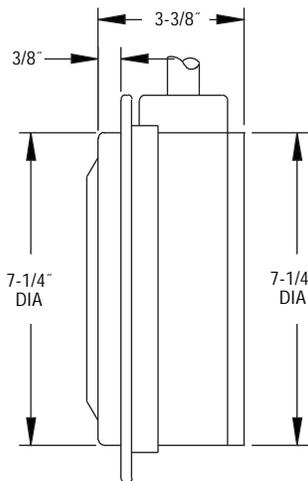


FRONT VIEW

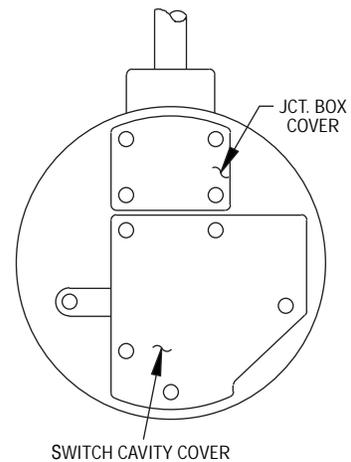
**FLANGE OR SIDE MOUNTING  
MODELS P-F-D-A ; G-F-D-A**



REAR VIEW



RIGHT SIDE VIEW



FRONT VIEW

**MAINTENANCE**

The P/G Ultra Mag 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 (RGA) number before shipping.