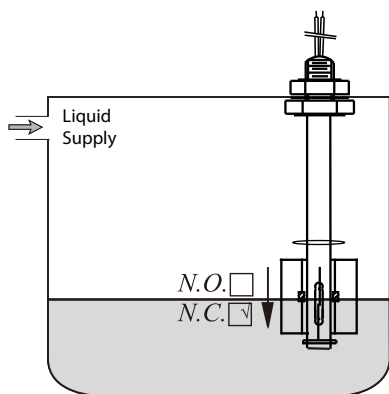


# Vertical Level Sensor one Ball one Point

40, 100, 150, 200, 300, 500mm Vertical SS Level Sensor



**Small Size  
Rugged Durability,  
With Broad Heat and  
Pressure Capabilities,**



**Rugged construction suitable for most corrosive liquids, and for high temperatures and pressures. Stainless steel is generally recognized as safe (GRAS) with FDA for food contact regulations.**

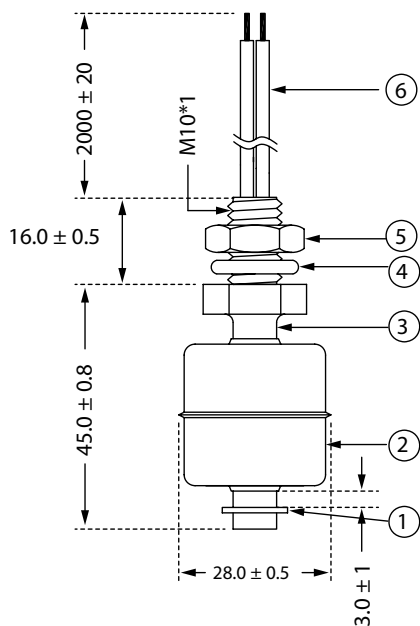


40mm 100mm 150mm 200mm 300mm 500mm

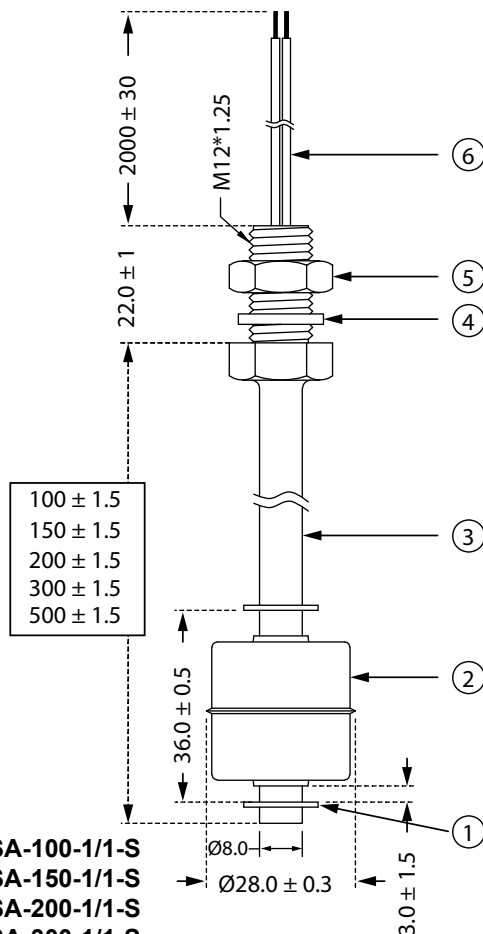
## Order code

Series	Length mm	Ball	Point	Material
<b>PSA</b>	<b>40, 100, 150, 200, 300, 500</b> Other Length are available on request	<b>1</b>	<b>1</b>	<b>S</b> Stainless steel

1. Locking Ring – SS304
2. Float Ball – SS304 (Float Ball 2828)
3. Float stem – SS304
4. O Ring – Transparent Silicone Material
5. Nuts – M10 SS304 (PSA-40-1/1-S) other models M12
6. Wire – UL3122 24AWG, Silicone insulated for high temp. Black wire



**PSA-40-1/1-S**



**PSA-100-1/1-S**  
**PSA-150-1/1-S**  
**PSA-200-1/1-S**  
**PSA-300-1/1-S**  
**PSA-500-1/1-S**

### Material Description

1. Reed : 10W
2. Magnet : Ferrite
3. Resin : Black high temperature resin

### Switching Characteristics

1. Operation Life:  $1 \times 10^6$  (DC: 5V, 10mA)
2. Insulation resistance :  $\geq 100M\Omega$
3. Contact resistance :  $\leq 0.4\Omega$
4. Max. limiting current : 1.0A
5. Max. switching current : 0.5A
6. Contact the min. pressure DC:250V
7. Max. switching voltage : 100V
8. Max. contact power : 10W
9. Switch type : Normally open (A)

### Material Properties

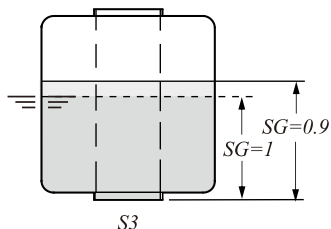
1. Min. Shock Resistance : 30G
2. Suitable temperature :  $20^\circ\text{C} + 120^\circ\text{C}$
3. Min. vibration : 30G (10~50Hz)
4. Humidity : 95%RH (80°C)
5. Waterproof : (Float Ball) 6% (1000hr)
6. For : water

### INTRODUCTION

The reed switch relies on two basic scientific principles namely: buoyancy and magnetism. Buoyancy causes the float (which contains a magnet) to rise with the liquid and magnetism helps open and close the switch. Since this product's this product has been introduced to the market, it has seen significant improvement and advances with regards to convenience, safety and lowering costs. The float switches are extremely compact, simple and are easy to install on any small locations. These switches are not affected by electrical interference and can withstand chemicals, high temperatures and pressures if the correct material of float switch is selected.

### LIQUID PROPERTIES AND FLOATS

The switch's float should always have a specific gravity (SG) less than the liquid that holds the float. ( $SG_{float} < SG_{liquid}$ ) When the liquid level rises the float will rise up due to its buoyancy. The float's upward movement will actuate the switch and close the circuit. Different float materials can be used to ensure the float's SG level is less than the liquid. (Water's SG level is 1 while gasoline SG levels tend to be less than 1). Because the float switches are activated by the magnetic field inside the float, make sure the liquid contains no iron traces or substances that can induce magnetic interference.



### LIQUID PROPERTIES AND FLOATS

Fig. 1 illustrates the pivot activation (FCH Type reed switch). When float's magnet is moved close to the switch's stationary stem, the float magnet pushes the stem's switch circuit together and closes the electrical circuit. When the float magnet is moved away from the stem, the switch circuit separates and the circuit is opened.

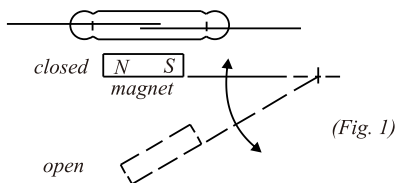
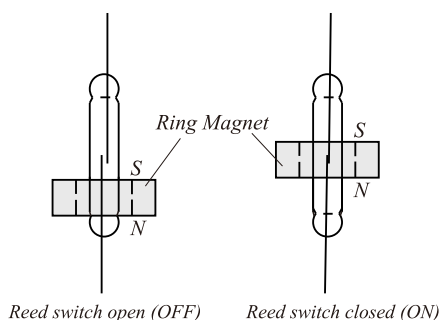


Fig. 2 illustrates perpendicular activation (FC VTYPE float reed switches). When the liquid level rises and pushes the float up, the float's ring magnet (sealed in the float) moves close to the switch's stationary stem. The magnet pushes the circuit together and when it makes contact, it closes the electrical circuit. When the float magnet moves away from the switch, the circuit contact is released and the switch is opened.



(Fig. 2)