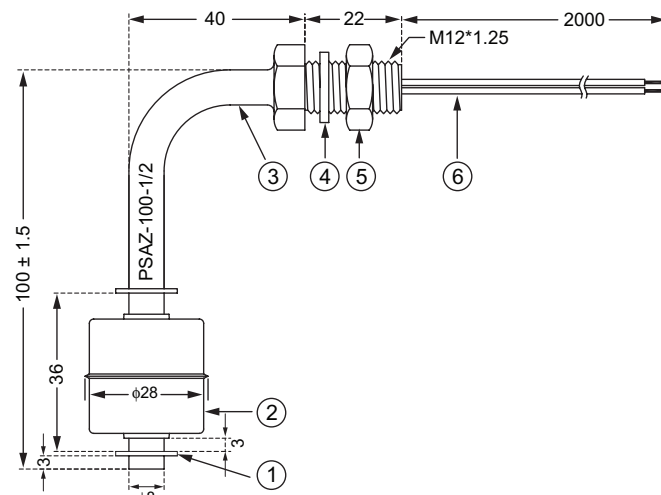
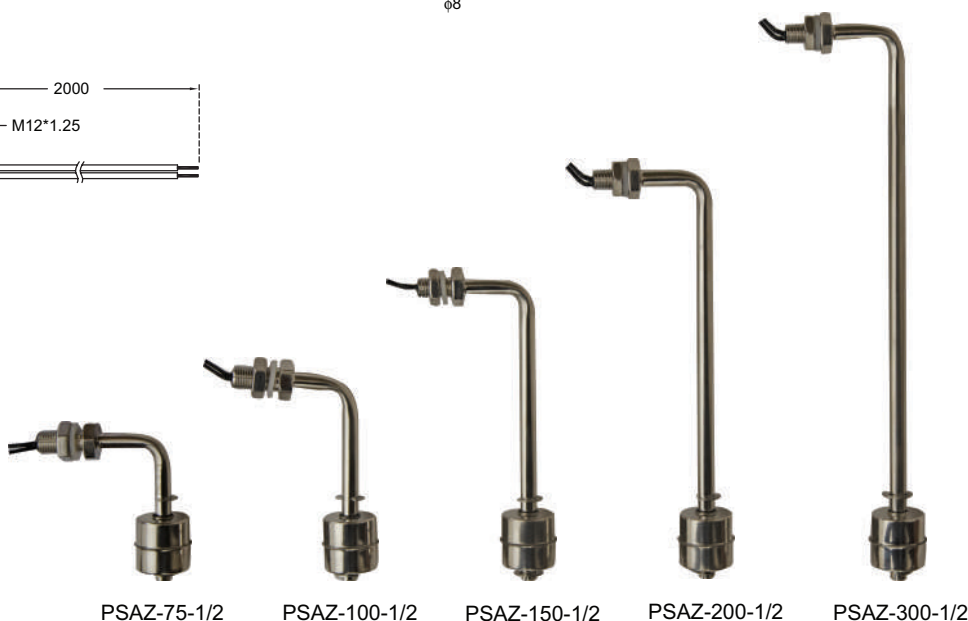


## PSAZ-100-1/2

[illegible]

### WORKING PRINCIPLE

Fig. 2 illustrates vertical activation. 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.

The 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. SG level should be 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.

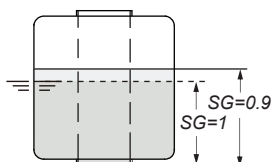


Fig.1

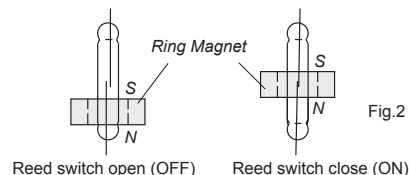
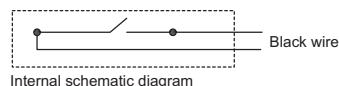
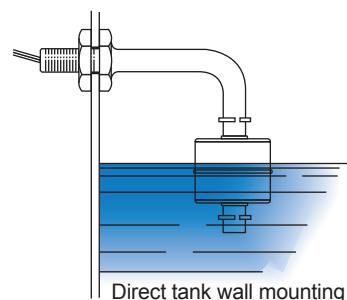


Fig.2



## Material Properties

Suitable temperature	-20°C ~ 150°C (Non freezing)
Min. shock resistance	30G
Min. vibration	30G (10~50Hz)
Medium	Liquid

## Material Description

Reed	10W
Magnet	Ferrite
Resin	Black high temp. resin
Inside PCB	Single side glass fiber material

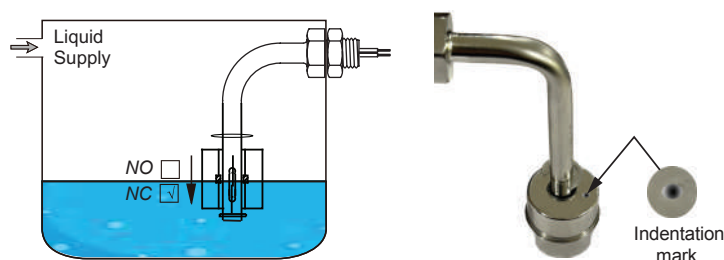
## Switching Characteristics

Operation life	1*10 <sup>6</sup> (DC: 5V, 10mA)
Insulation resistance	≥ 100MΩ
Contact resistance	≤ 0.4Ω
Max. limiting current	1.0A
Max. switching current	0.5A
Max. switching voltage	100V
Max. contact power	10W
Switch type (factory set)	Normally open (NO)

1. Locking ring	SS316
2. Float ball	SS316 (Float ball 2828)
3. Float stem	SS304
4. O Ring	Transparent silicone material
5. Nuts	M12 SS304
6. Wire	UL3122 24AWG, Silicone insulated for high temperature

## Switch Operation

Units are shipped NO unless otherwise specified.  
Selectable NO or NC by inverting float on unit stem.  
To change from NO to NC pull out locking ring and invert the float.  
Please note there is indentation mark at top surface of float.



## REED SWITCH PROTECTION

### INDUCTIVE LOADS

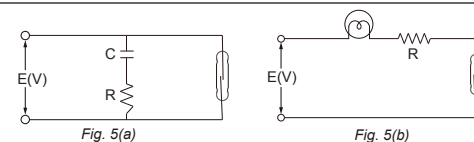
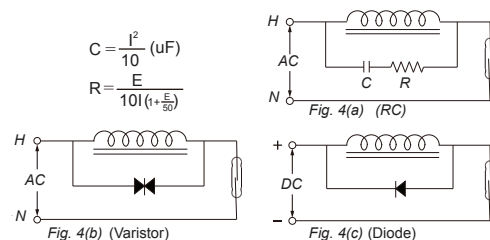
When using reed sensor for inductive loads such as motors, relay coil, solenoids, etc., the contact point will sometimes be subjected to high voltages. Such high induced voltages may damage the reed switch inside or significantly reduce its life.

Therefore, circuit protectors such as: \*RC snubbers, varistors or clamping diodes are recommended. (see fig. 4a, fig. 4b, fig.4c)

### CAPACITIVE LOADS

When using reed sensor for capacitive loads such as capacitors, incandescent lamps or long cables, the contact points will be subjected to electrical, surges. Therefore, protective circuits such as: surge suppressors or current limiting resistors are recommended. (fig.5a, fig.5b)

Therefore, circuit protections such as: \*RC snubbers, varistors or clamping diodes are recommended (fig.5a, fig.5b)



\*RC snubbers, varistors or clamping diodes (not included in the box)

## Usage

### Automotive & Marine

- Water storage system
- Braking system
- Fuelling system

### Scientific/Medical

- Water purification
- Liquid inventory, waste and media management
- Cryogenic liquid storage and dispensing systems
- Liquid gas storage
- Solvent and chemical control

### Food/Beverage

- Storage vessels – pumps and valves
- Food processing monitoring systems, alarms and alerts
- Water purification
- Cryogenic fast freeze technologies
- Food test laboratories
- Liquid gas storage
- Transport
- Liquid dispensing
- Solvent and chemical control

## MAINTENANCE

Maintenance should consist of inspection to see that the float is free to move and not coated with any substance, which would change its weight or volume significantly. If this occurs, the float should be cleaned. This is easily accomplished without disturbing the installation. In addition, the stem may be wiped down to remove any build-up. The only repair possible in the field is replacement of float. Dents or nicks on the float are usually of no consequence to operation.

## Cautions

1. The pressure, temperature and electrical limitations shown for the specified level switches must not be exceeded.
2. The pressures and temperatures must take into consideration possible surges in the temperature and pressure of the system.
3. The liquids used must be compatible with the materials of construction. Specifications of materials will be given upon request.
4. Life expectancy of the sensor varies with applications.
5. Ambient temperature changes can affect switch set points, since specific gravities of liquids vary with temperature.
6. Level switches have been designed to be shock and vibration resistant. For maximum life, both shock and vibration should be minimized.
7. Excessive contaminants in fluid may inhibit float operation, and occasional wipe down may be necessary.
8. Level switches must not be field repaired.
9. Physical damage to product may render product unserviceable.
10. Installation in a vessel made from magnetic materials may affect operation.
11. Do not directly connect the solenoid valve, motor or magnetic switch.