

DISPLACER
LEVEL SWITCH

(MANUAL)

MODEL : SMC-95

SEOJIN INSTCH CO., LTD

Contents

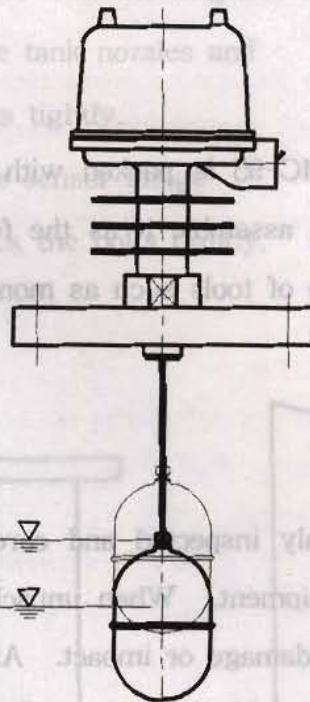
1. Introduction	2
2. Principle	2
3. Specification	3
4. Adjustment	3
5. Installation	3
5 - 1 Unpacking	
5 - 2 Environment	
5 - 3 Installation	
5 - 4 Cautions When Installing	
6. Wiring	4
1) DPDT	
6 - 1. Caution in Wiring	
7. Service and Maintenance	5
8. Ordering Information	8

1. Introduction

This vertical magnet type level switch is designed to detect the liquid level by buoyancy and magnetic force. Unlike the other type level switch, its performance is very good for boiler level of high temperature and pressure in power plant.

2. Principle

Vertical level switch applies magnetic force that it is possible to output the switch actuation of DPDT, called Snap Switch Mechanism. When the material is filling in chamber, the float level rises, magnetic switch is actuated, and contact outputs as shown in the above figure.



3. Specification

Description	SHM-95 Series
Application	Liquid
Specific Gravity	0.75
Operating Temperature	400°C Max.
Ambient Temperature	-20 ~ 200°C
Pressure	70 Kgf/cm ²
Enclosure	Weather Proof Explosion Proof (Exd IIB T4)
Output	1 DPDT, 1SPDT
Switch Type	Snap Switch
Contact Life	1,000,000 Times
Contact Rating	10A, 250VAC
Cable Gland	PF 1/2", PF3/4"
Material Housing	ADC
Flange	SS304 & SS 316
Spacer	SS 316
Rod	SS 316
Float	SS 316

4. Adjustment

Without specified indication, SMC-95 is packed with separation between the sensor and chamber. After unpacking, assemble it as the following procedure. When you assemble, you should have some of tools such as monkey.

5. Installation

5-1. Unpacking

The SMC-95 has been thoroughly inspected and carefully packed at the factory to prevent from damage during shipment. When unpacking, it must be careful not to provide the SMC-95 with any damage or impact. After unpacking, confirm that the products you ordered is complete, and check if the float is squeezed out of shape and the rod connected to float is bended. Check the situation of magnetic switch actuation, when the float is raised and fallen by hand. If any part is missing, wrong, or damaged, consult factory.

5-2. Environment

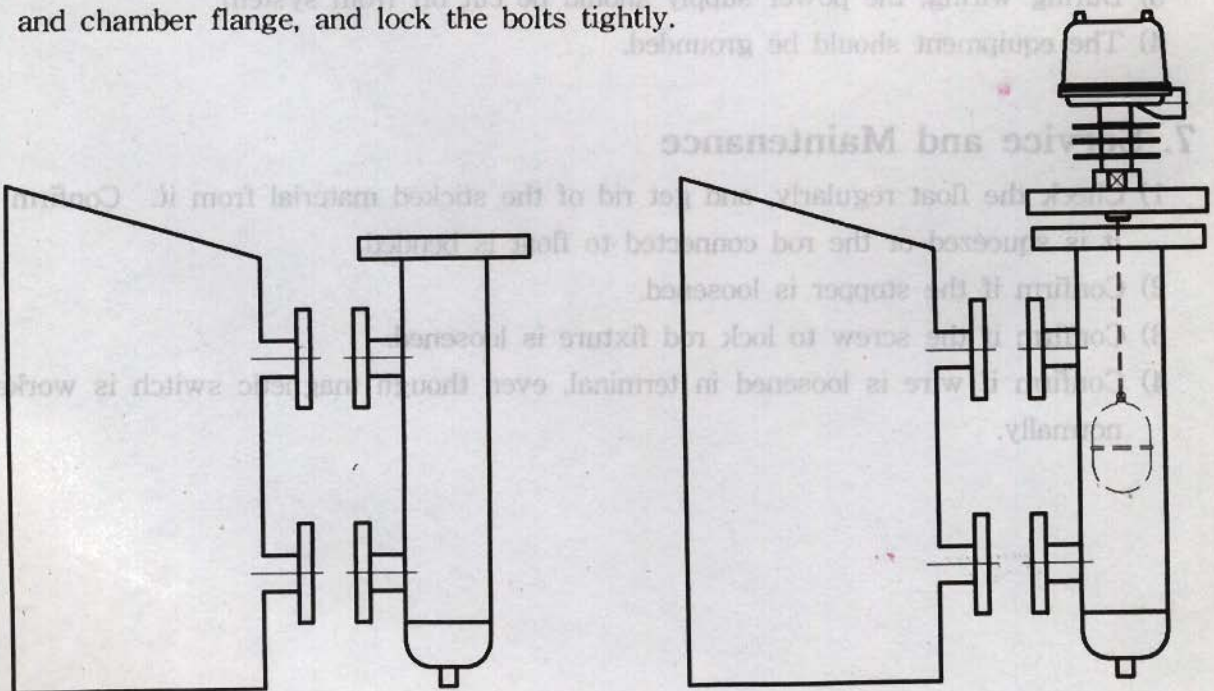
The SMC-95 should be installed in an area that meets the following conditions.

- ① The ambient temperature is $-25 \sim 200^{\circ}\text{C}$.
- ② Within the liquid temperature range specified.
- ③ Avoid it to install within the strong magnetic fields produced by motors, transformers, solenoid valves, etc.
- ④ Free from metallic substances and other foreign matters in the liquid.
- ⑤ Locate away from splashing water.
- ⑥ No corrosive gases such as NH_3 , SO_2 , Cl_2 , etc.
- ⑦ Low humidity and vibration.
- ⑧ Avoid it to install in the high sticky measuring material.

5-3. Installation

Install the SMC-95 at the position that the liquid level variation will actually make a contact with it. DO NOT locate it in the neighbor of liquid inlet or outlet.

- 1) Put the gasket between the tank nozzles and chamber, and lock the bolts tightly.
- 2) Put the gasket between the sensor flange and chamber flange, and lock the bolts tightly.

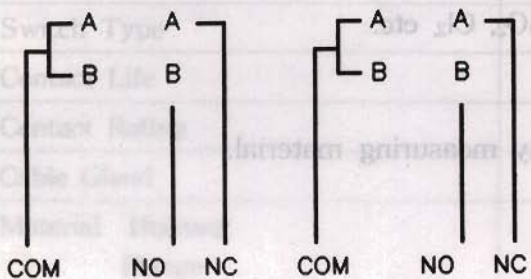


5-4 Cautions When Installing

- 1) Take care that the rod connected to float is not bended.
- 2) Take care that the float is not squeezed, when it is installed.
- 3) Do not impact or drop the unit.

6. Wiring

- 1) DPDT



6-1 Caution in Wiring

- 1) Do not use the unit over the specified contact rating.
- 2) When the ambient temperature or operating temperature is high, the heat-proved cable should be used.
- 3) During wiring, the power supply should be cut off from system.
- 4) The equipment should be grounded.

7. Service and Maintenance

- 1) Check the float regularly, and get rid of the stucked material from it. Confirm if it is squeezed or the rod connected to float is bended.
- 2) Confirm if the stopper is loosened.
- 3) Confirm if the screw to lock rod fixture is loosened.
- 4) Confirm if wire is loosened in terminal, even though magnetic switch is worked normally.