MINI FLOAT
LEVEL SWITCH

MANUAL

Revision No. 001 (2022)

DFR SERIES

DONG SUNG SENSORS Co., Ltd.

710, World Meridian Venture Center II, Gasan Digital2-ro, Geumcheon-Gu, Seoul, Korea
TEL: +82-2-2025-8988~9 / FAX: +82-2-2025-8987

CONTENTS

※ Please READ carefully
and
make sure you UNDERSTAND this manual
for safely usage.

- This manual describes how to install, adjust and inspect DFR series product.

- Keep this manual in place being available to refer immediately.

- The specification of product mentioned in this manual may not be satisfied by the condition of your environment. Please check and consider carefully before using.

- The contents of this manual could be changed any time due to improvement of product. It will be updated quarterly.

- Please contact Dong Sung Sensors sales office department via email or phone for further questions.

WARRANTY & DISCLAIMER

1. Dong Sung Sensors warrants the product against defects in materials and workmanship under normal use for a period of ONE(1) YEAR form the date of purchase.

2. Dong Sung shall not be responsible for the following.

   1) Damage arising from improper use or inspection and failure to follow manual instructions.

   2) Repair is done by the person who is not from Dong Sung.

   3) Improper parts are used and replaced.

   4) Damage is occurred by device or machine not from Dong Sung.

   5) Do not include fire, earthquake, tsunami, lightning, war, radioactive pollution, acts of Government, compliance with law, regulation and order.

3. The warranty only covers the damage of products. The secondary and third kind disasters are not covered by Dong Sung Sensors.

4. This Limited Warranty applies only to Dong Sung products, that must be identified by "DSS" mark on to them.

Unpacking

- Our unit has been thoroughly inspected and packed at the factory to prevent damage during shipment.

- Thus, please unpack carefully and visually check the product's exterior for damage.

- Do not place in piles.

FRAGILE

- Please carry the sensor very carefully.
  Sensor may not work properly if you drop or damage on it.

- Do not remove the Sensor discretion.
  This may cause damage and malfunction.

1. INTRODUCTION

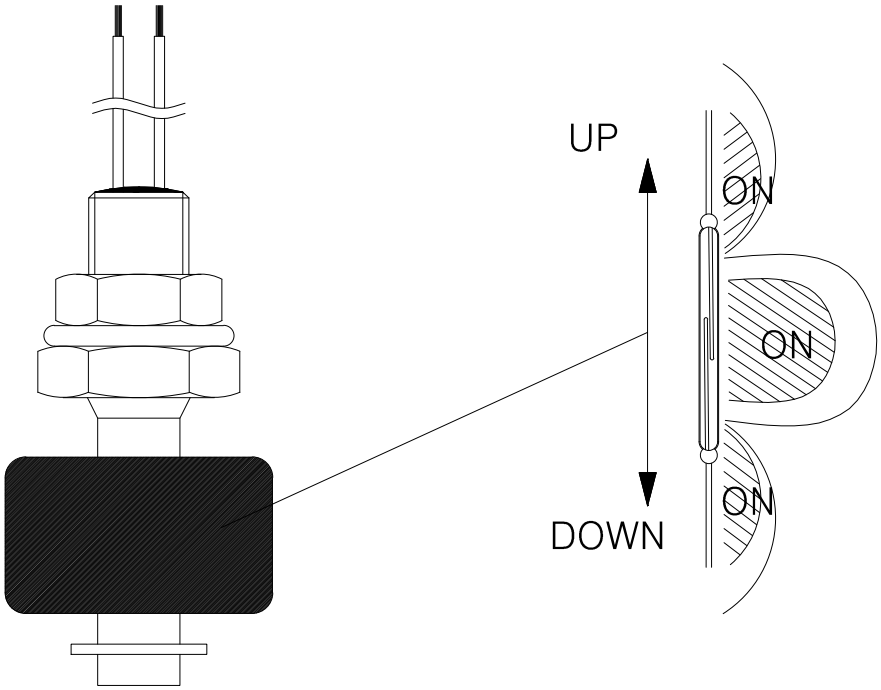
DFR series are designed to measure liquid level
by using buoyancy and magnetic force as
multi-wire signal transmission.

2. FEATURES

- Widely available with narrow space in complicated environment.
  (semiconductor manufacturing equipment, steam sauna,
  medical equipment,vending machine, air conditional and
  solar thermal plant ... etc.)
- Accurate contact output.
- Customizing in your flavor.

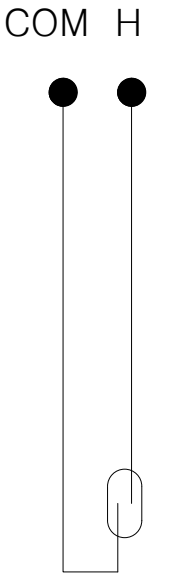
3. OPERATION PRINCIPLE

While float moves up / down as liquid level rises / falls,
the magnetic force within the float will operate the reed switch(stem)
so that the resistance value(measurement) varies.

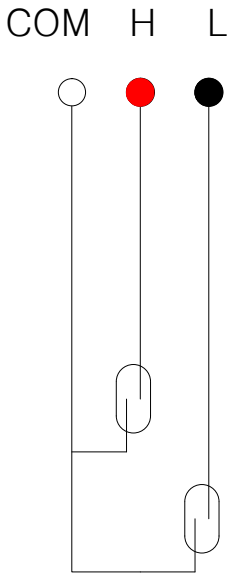


4. Reed Wire Color

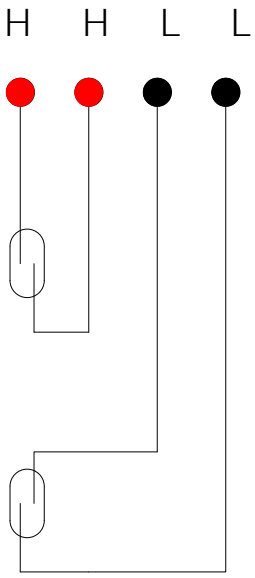
– Please see the colors below for using multiple reed switches.



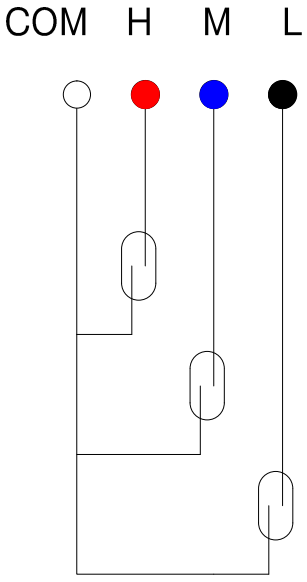
1P 2WIRE



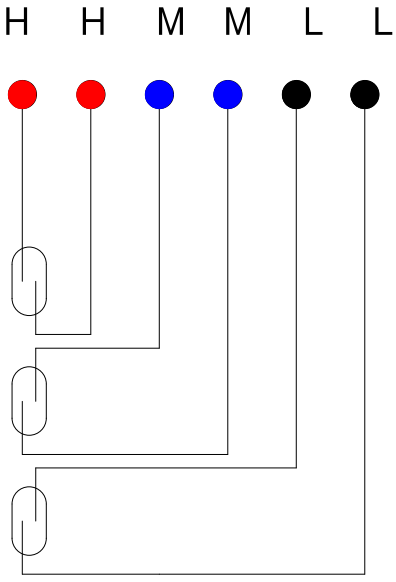
2P 3WIRE



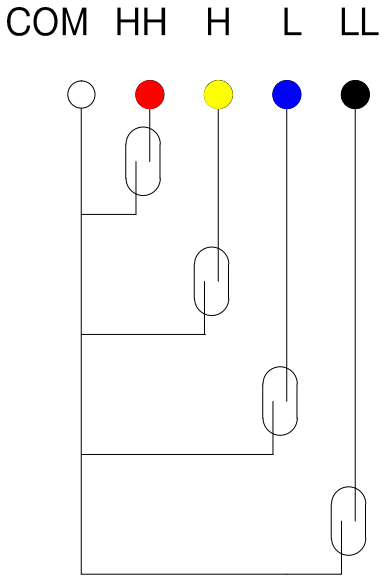
2P 4WIRE



3P 4WIRE



3P 6WIRE



4P 5WIRE

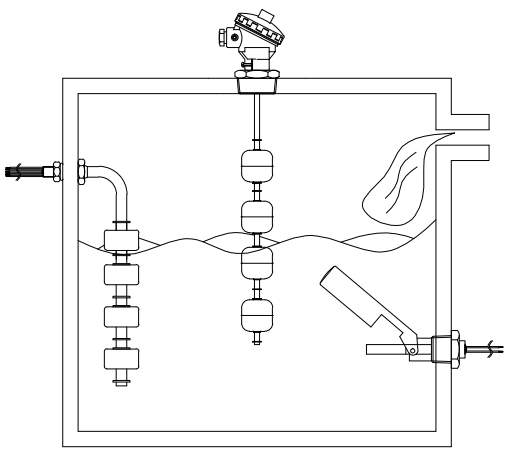
5. Cautions

Cautions in Reed switch,

1) Do not drop it. It may cause critical damage on reed switch.
2) Reed switch is operated by magnetic. Thus, it may not works nearby strong magnetic devices.
3) Inrush current(motor, ramp) may cause contact fusion. To avoid this problems, You may need to use relay switch.

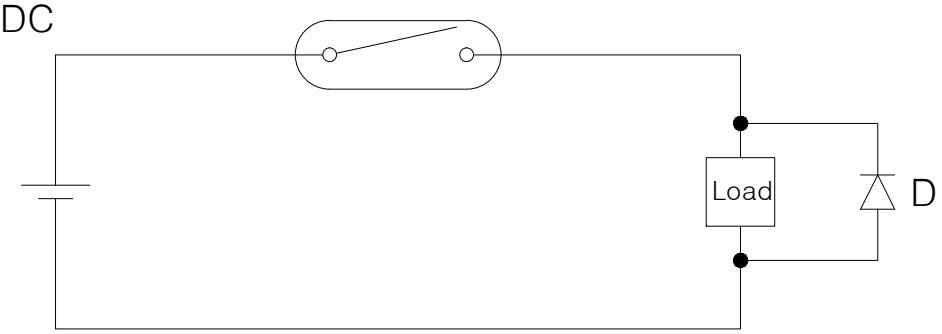
Cautions in Float Level Switch,

1) Use hysteresis type if there is a wave on the surface of liquid.
2) Sensor may not works with sticky liquid or liquid includes floating matters. Please contact us if you need use them.
3) When using resin float, please avoid two cases listed below.
   - The places with prolonged exposure to hot steam
   - A case in which the float sensor alternates between cold and hot water
4) Since the float switch has a protective IP67 structure, please avoid folllowing location because it causes insulation failure.
   - Where the lead wire touches the steam.
   - Where the lead inlet/outlet touches the water.
   - Where water vapor touches exposed portion of the lead wire.

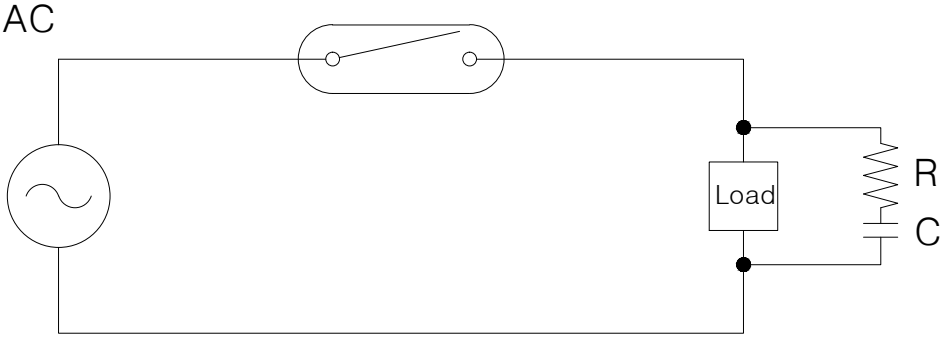


6. Wire Connection

▶ DC



▶ AC



R: 1~5kΩ 1/4W
C: 0.1uF600V

※ Do not apply power directly to the sensor, if loads exceed contact rating.

- When using an induction load such as a relay solenoid, use a capacity less than 1/10 of the capacity for the maximum opening.

- Also, be sure to install a protective circuit because there is a possibility that the contact may be welded due to the counter voltage.

7. Maintenance

1) Voltage: Max AC220V / DC200V

2) Current: Max 1A

3) Power: Max 50W

4) Must read and follow "wire connection" part in this manual for accurate connection.

5) Check the contact direction. (UP or DOWN)

6) See if float moves up / down as liquid rise / falls.

For any inquiries, please contact us via email.