

# FD7 Series Explosion Type Magnetic Float Level Switch Operation Manual

## APPLICABLE MODEL:FD7 Series

### SPECIFICATION

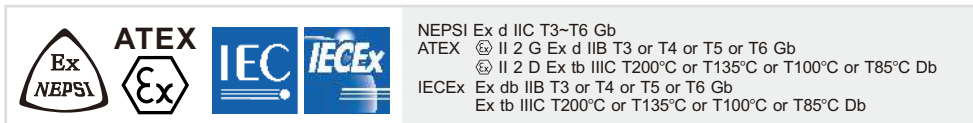
- 1.Pressure Rating : Max. pressure of plastic floats is 5kg/cm<sup>2</sup> and max. pressure of SUS floats is 35kg/cm<sup>2</sup> (S10 floats can reach 50kg/cm<sup>2</sup>)
- 2.Lead Wire : XLPE (UL3266, AWG22)

### SPECIFICATION

Tube Type	Material	Switching Contact from	Switching Capacity Max.	Switching Voltage Max.	Switching Current Max.	Carry Current Max.
OD8	SUS	SPST	50W	250Vac	0.5A	1A
OD9.5	SUS	SPST	50W	250Vac	0.5A	1A
		SPDT	10W	110Vac		
OD12.7	SUS	SPST	50W	250Vac	0.5A	1A
		SPDT	50W	250Vac		
OD16	PVDF	SPST	50W	250Vac	0.5A	2.5A
		SPDT	50W	250Vac		
OD17.2	PP	SPST	50W	250Vac	0.5A	2.5A
		SPDT	50W	250Vac		

### INDUCTIVE / CAPACITIVE LOADS

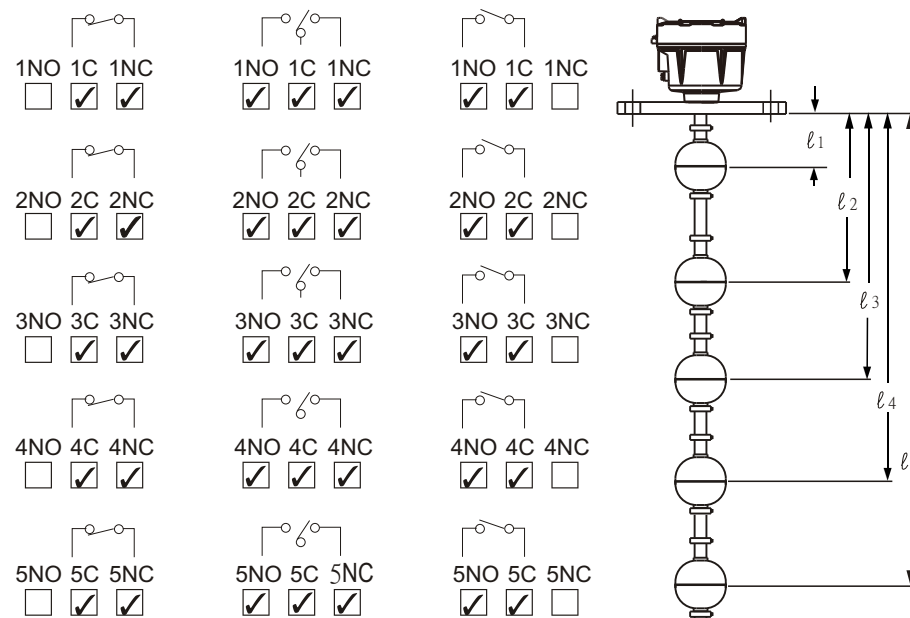
- 1.Inductive : When using a reed switch with inductive loads such as motors, relays,solenoids..etc, the contact will be subjected to a high induced voltage during opening of the contact(load circuit). Such high induced voltage(transients) may cause damages to the reed switch or significantly reduce it life. Therefore,protective circuits such as : RC(snubber), varistors or clamping diodes are recommended.
- 2.Capacitive : When using a reed switch with capacitive loads such as capacitors,incandescent lamps or long cables, the contact will be subjected to a high surge(inrush) current. Therefore, protective circuits such as: surgesuppressors or current limiting resistors are recommended.



### CONNECTION INFORMATION

- 1) Open the cap of housing, connect the wire onto terminal through the conduit.
- 2) Check the terminal wire connection is correct for each float.
- 3) Connection Type : Please refer to Fig.1 below.
  - A) 1NO : Meaning that the NO-C circuit will be close while liquid level higher than the float ball by mark of "↑ ON".
  - B) 1NC : Meaning that the B-C circuit will be close while liquid level lower than the float ball by mark of "↓ ON".
  - C) 1C : Meaning that the NO-C circuit will be close while liquid level higher than the float ball and NC-C circuit will be close while liquid level lower than the float ball.
- 4) Please screw up the housing cap and fix the conduit outlet to prevent the moisture to soak in.

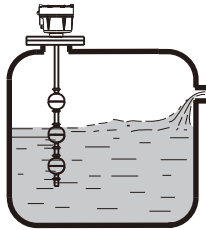
### WIRING



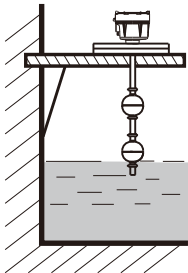
(Fig.1)

INSTALLATION

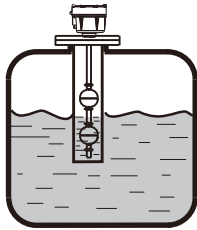
The float level switch should be mounted far away from liquid inlet, any strong liquid fluctuation will produce error output signals.



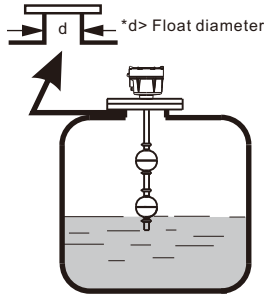
It is requested a pipe shield or equivalent device to normalize the switch actuation if the switch is used with any agitator application.



There better be an L type supporter, when the switch is mounted in concrete wall tank as figure below.



It is recommended to select the standpipe with diameter larger than the float ball for installation process.



INSTALLATION INSTRUCTION FOR EX-PROOF PRODUCTS:

- 1. There is an internal/external ground terminal in the housing. Please be sure to ground terminals when you use.
- 2. When install or maintain in the field, to comply with the caution "Open after power off"
- 3. Cable conduit should equip with explosion approval device (AD105DS). It can't be revised arbitrarily and have to lock well.
- 4. Be sure to obey the safe regulation of electric appliance for dangerous field when install and maintain.
- 5. Corrosive gas or liquid application isn't available for Aluminum & Stainless (SUS) material.
- 6. The level of temperature class for explosion sign and its maximum allowed temperature relating to the medium.

Temp. categories	T3	T4	T5	T6
Max. surface temp.	≤ 195°C	≤ 130°C	≤ 95°C	≤ 80°C
Medium temp.	≤ 200°C	≤ 135°C	≤ 100°C	≤ 85°C

- 7. Customers can't change the internal components and have to check the outer.

TROUBLE SHOOTING

Trouble	Possible cause	Solution
Float Doesn't Work	The float's S.G. is bigger than liquid	Confirm the S.G. Again.
	The float leaks.	Contact us to change the float.
	The granule blocks float	Clean the granule.
No Signal	The float is out of position	Adjust float position.
	The reed switch is malfunction.	To change reed.
Un-Normal Signal	Interfered by magnetic field.	Solve Magnetic field problem.

★ Please contact us if there are any queries. ★

MAINTENANCE

- 1) Please clean the impurity from pivot & float regularly.
- 2) Please check if the stopper's screws are loose.

BEFORE USE

- 1) Please check the packing situation.
- 2) Please contact us while find the damage.
- 3) Please check carton content :
  - a) One set of Complete Product.
  - b) One set Operation Manual.
  - c) One set Quality Approval.



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