

---

# Rotary Paddle Level Switch

## Operation Manual



Version: 2023.04.

---

## 1. Basic Parameters

Power supply: 220V AC / 24V DC / 110V AC

Power consumption: 4 W

Capacity of contact: SPDT 5A/250VAC

Rotary speed: 1 rpm

Voltage resistance: AC 1500W × 1 minute

Measuring torque: 1.0 N.m

Specific gravity: higher than 0.5g/cm<sup>3</sup>

Working temperature: -20~80C / -20~400C (with heat sinks)

## 2. Working Principle

The blade of rotary paddle level switch is connected with the clutch by driving shaft, the motor will keep working before the blade touching the materials, once the blade contacts with the materials, the motor power will be shut off and stops moving, at the same time, the device will output a signal to indicate that the material level has reached the height configured.

## 3. Installing Notes

1. It is recommended to install the switch horizontally at an angle of 15° - 20° to reduce the impact of materials.
2. The junction box of cable inlet must be downward and the nuts must be fastened well to keep the cable fixed.
3. Make sure the voltage of power supply is correct and safe.
4. The load of whole circuit being controlled must match with the capacity of switch contacts.
5. Avoid any bridge breaker or vibration motor near the switch installed.
6. The switch shall be installed to avoid being close to the feeding port, so as to reduce the damage of blade caused by feeding or misoperation. If it has to do so, make sure a protective baffle will be installed at 200mm above the switch.
7. Choose the suitable installation method by vertical or horizontal according to the different models of each product.
8. When the switch of shaft length adjustable type being disassembled and installed on site, make sure the lock nut will be coated by anoxic glue and fastened tightly when the universal joint is connected with the transmission shaft.

- 
9. On-site installation and maintenance must comply with the warning of “ open the cover after power supply is cut off”.
  10. There is no toxic gas which is corrosive to aluminum alloy at the installation site.
  11. The maximum temperature of medium being measured should not exceed the temperature indicated on the product label.
  12. Do not knock on the blade and driving shaft directly during installation.

#### 4. Torsion Adjustment

1. The user can adjust the torque according to the specific gravity of the measured object. When the measured object has a large specific gravity, the spring torsion can be adjusted to the strongest position, at this time the sensitivity of the blade is poor; the smaller the measured object's specific gravity, the weaker the spring can be adjusted, and better sensitivity of the blade we will get.
2. Specific method: Open the junction box, take out the torsion spring near the end of the hole, and insert it into the corresponding hole as needed (the hole near the terminal block has the weakest torque).
  - Pay attention to the torsion force of the torsion spring during use, please do not replace it at will to avoid malfunction.

#### 5. Common faults and troubleshooting

NO.	Faults	Reasons	Methods
1	Still rotating when material reach	Discrepancy between blade dimension and material sp. gr.	Change blade
2	Blade or shaft bends	Impact force is too heavy	Add shield
3	Stop rotating	1. power is off	Check wiring
		2. motor damaged	Change new motor

---

## 6. Routine Maintenance

- 1、 Check the shaft or blade to see whether it is bent or damaged or not.
- 2、 Check the connection between shaft and blade is well or not.
- 3、 Clean the materials or others on blade and shaft regularly.

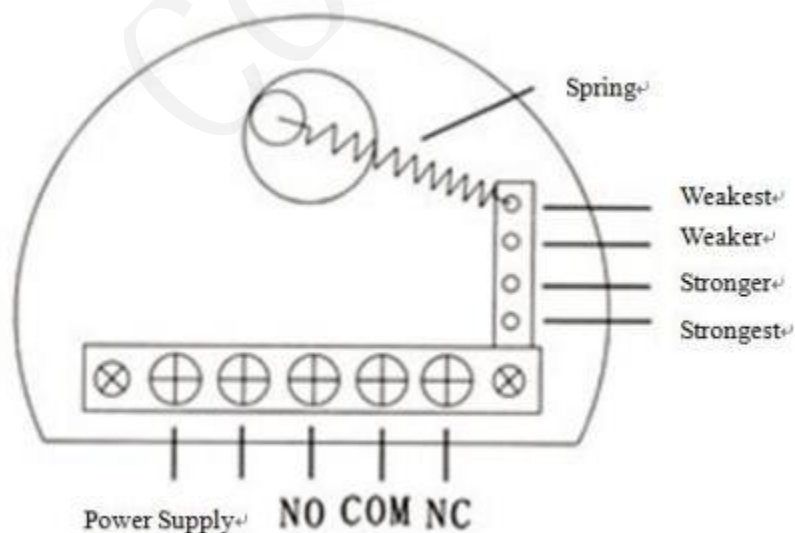
## 7. Unpack and Inspect

1. Packing should be safe and well without damage.
2. Contact with us if you found any damage of the product or accessories loosen.
3. Packing list in cartons:

Level switch	1pc
Operation manual	1pc
Qualification certificate	1pc

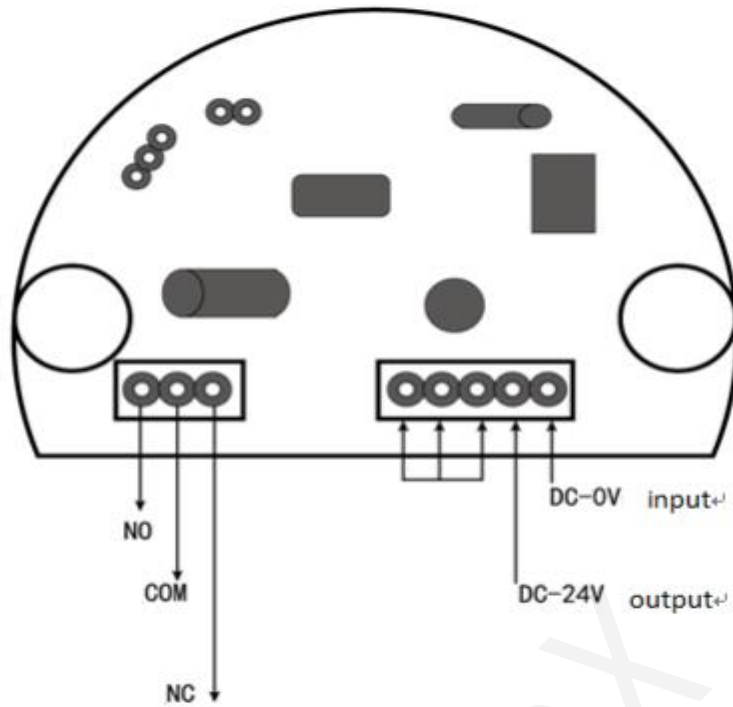
## 8. Wiring diagram

220V AC



---

## 24V DC



### Mini rotary paddle level switch wiring diagram:

1. Black : white -----Power Supply
2. Green:-----Earth
3. Yellow:---COM ;    Blue—NC,    Red: NO