



- Heavy design
- Aluminium housing
- Easy connection
- Different mounting options
- Competitive price
- ATEX approval
- Adjustable sensibility



Featured Applications

Flowtech Rotary Paddle Level Switch (controller) can be installed in any shape of silo, bucket, tank and other containers to measure most solid materials.

Widely used in places with blocky or powdery solid materials such as feed, flour, leather, abrasives, soil, stone, wood, rubber, beans, calcium powder, sand, pills, sawdust, coal, synthetic resin, grain, limestone, mixed sand, metal, salt, etc.

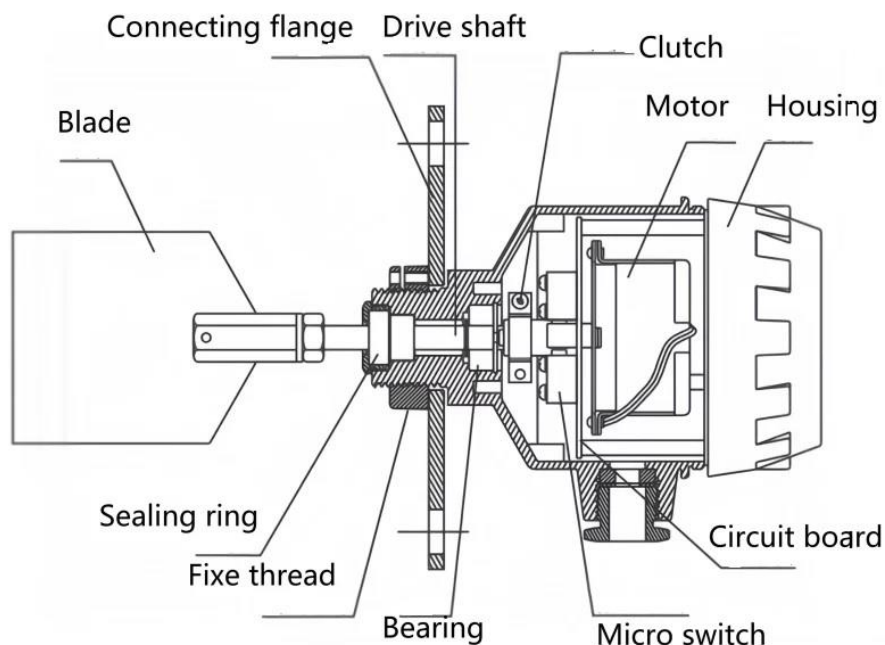
Technical Parameter

Power supply	220VAC, 110VAC, 12VDC ,24 VDC
Power consumption	3W
Contact rating	5A/250VAC SPDT(Single Knife Double Throw)
Blade speed	anti-clockwise 1r.p.m.(RPM)
Moment	10kg-m (1.0N.m)
Material density	$\geq 0.4g/cm^3$
Explosion protection	Standard Model : Not explosion-proof Explosion Proof Model : Ex d IIC T6 Gb / Ex tb IIIC T80°C Db
Working temperature	-20...80°C (Normal Model) -20...200°C (High Temperature Model)
Insulation impedance	$\geq 100M\Omega(500VDC)$
Dielectric strength	1500V 1min

Working Principle

The working principle of the RS anti-rotation level switch is to use a permanent magnet motor to drive the rotation of the blades. When the detected material rises to the position of the blades, the rotation of the blades is blocked, and this resistance is transmitted to the detection device in the junction box. The detection device outputs a switch signal to the outside and cuts off the power to stop the rotation of the blades.

When the material level drops, the blade resistance disappears, and the detection device relies on the tension of the spring to restore to its original state. The spring tension is adjusted for different material densities. When the density is high, the spring tension is adjusted to be strong or strongest. Otherwise adjust to weak or weakest



The Flowtech rotary level switch is available in two versions: standard and explosion-proof (Ex). Examples of both versions are shown in the image below.

Standard Model



Explosion -Proof Model



Each type of the Flowtech rotary level switch is available in Standard and High-Temperature versions. The High-Temperature version can operate at temperatures up to 200 °C, as illustrated below. The connection of this equipment can be either threaded or flanged

High-Temperature Model








Flanged Type



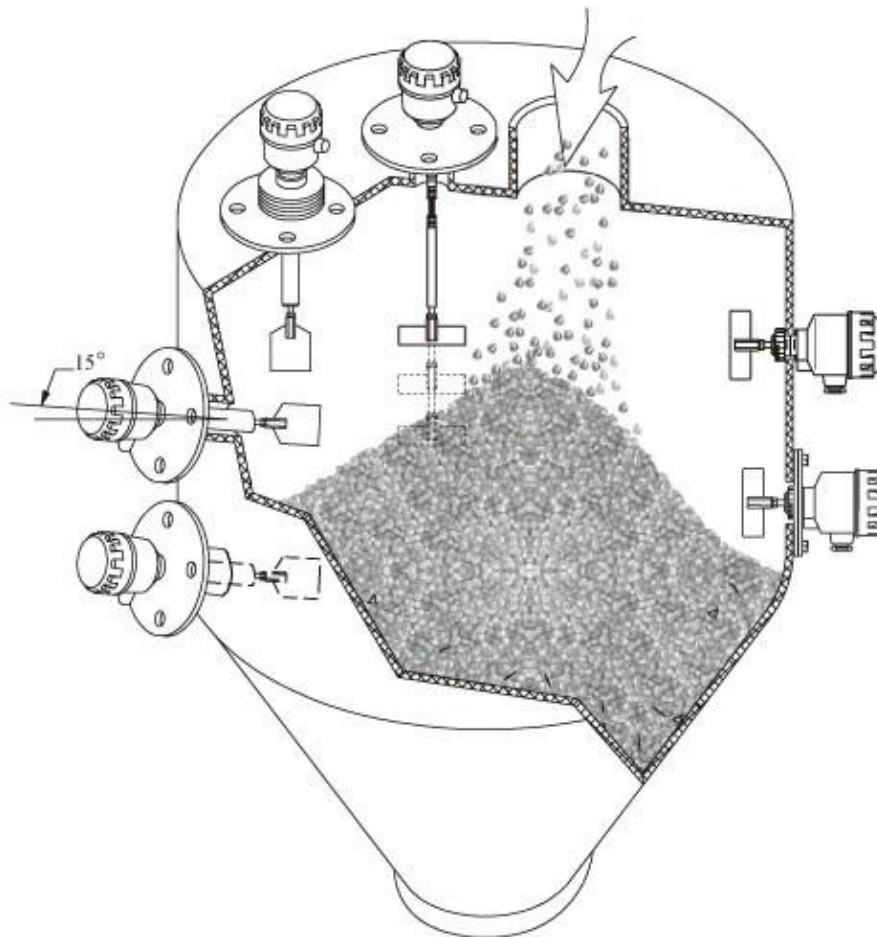
Types of Rotary Paddle Blades

Rotary paddle level switches are available with different blade types designed to match various bulk materials in terms of density, shape, and flow behavior. The right paddle type ensures reliable operation and extended service life.

Sample Image	Paddle Type	Paddle Name	Application Description
	A	Double Blade Paddle	Designed for light or low-density materials (e.g., plastic powder, grains). Provides better accuracy in high-level detection.
	B,C	Single Blade Paddle	Used for materials with medium to high bulk density such as flour, cement, sand, or feed. Simple and durable design.
	E	Angled Paddle	Ideal for narrow tanks or applications requiring higher sensitivity. Engages with material even at small rotation angles.
	F	Curved Paddle	Suitable for light, powdery materials that do not compact easily. Offers higher sensitivity and smoother operation.
	G	Cross Paddle	Best for heavy, coarse materials. Creates higher torque and is ideal for large silos or bins.

Installation Precautions

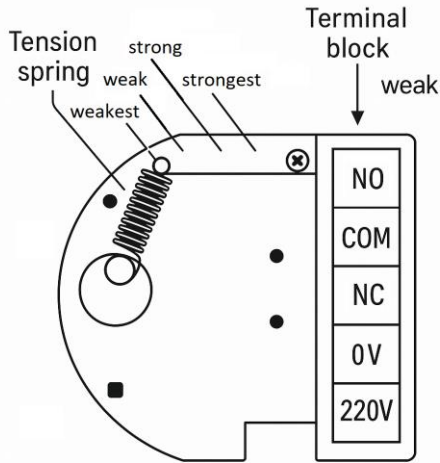
- 1.The wire inlet of the junction box must face downwards, and the cable fixing nut must be locked tightly.
- 2.When delivering power, it should be confirmed that the power supply voltage is the same as the voltage marked on the rotary switch.
- 3.The load of the controlled circuit must match the contact capacity of the resistance rotary switch.
- 4.The anti-rotation switch should be avoided from being installed under the discharge port to reduce material impact on the blades and misoperation. When unavoidable, protective plates can be installed above the blades.
- 5.When disassembling and installing the adjustable shaft length resistance rotary switch on site, the locking nut must be coated with oxygen-deficient adhesive when connecting the steel wire rope joint to the transmission shaft, and then tightened with a wrench.
- 6.There should be no toxic gases that corrode aluminum alloys on the installation site.



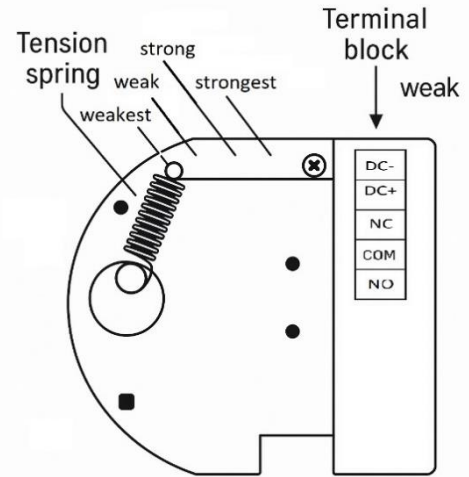
Torque Adjustment

1.Users can adjust the torque based on the specific gravity of the tested material. When the specific gravity of the measured object is high, the spring torque can be adjusted to the strong or strongest position, and the sensitivity of the switch is poor at this time. When the specific gravity of the tested material is small, the tension spring can be adjusted to the weak or weakest position, and the sensitivity of the switch is better at this time.

2.Specific method: Open the junction box, take out the torque spring near the porous end, and insert it into the corresponding hole as needed (the hole near the terminal block has the strongest torque).



220 VAC version



24VDC Version

Note: Do not replace the tension spring randomly to avoid misoperation

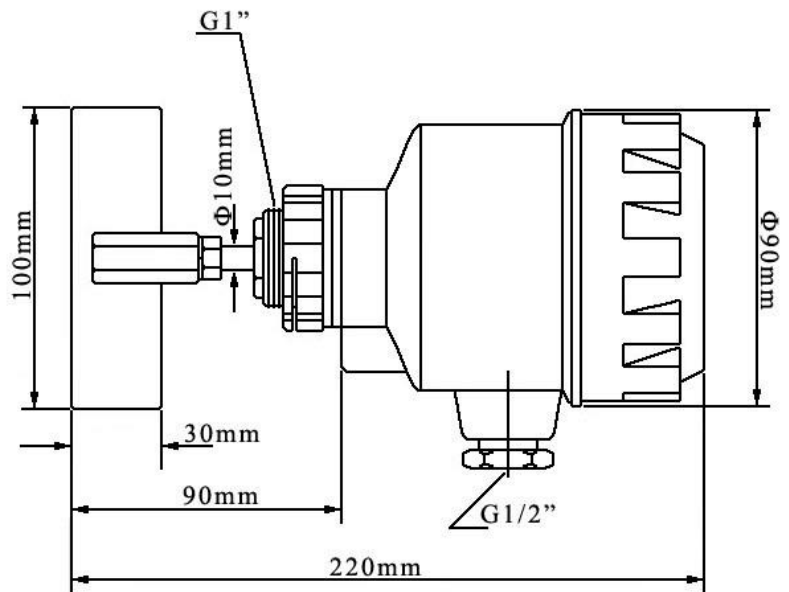
Mechanical Construction

Model:

Working Temperature: Standard

Explosive Mode : Standard

Connection : Thread

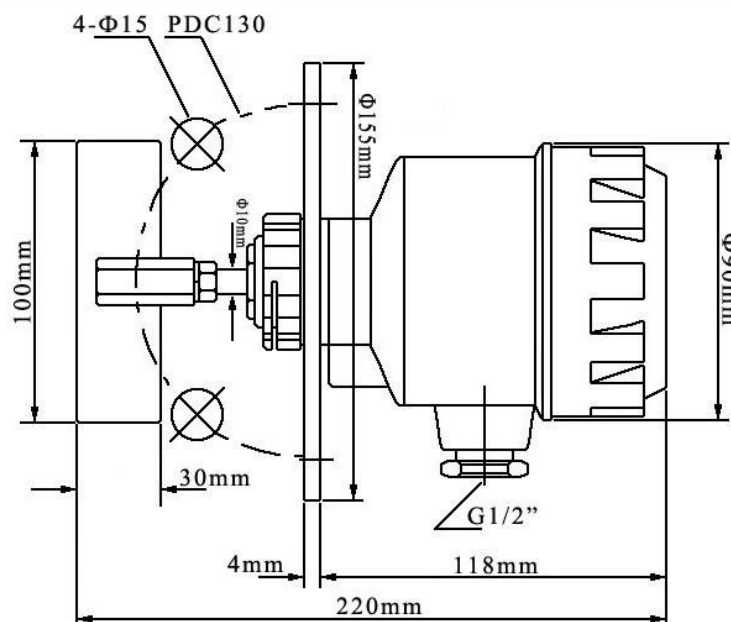


Model:

Working Temperature: Standard

Explosive Mode : Standard

Connection : Flange

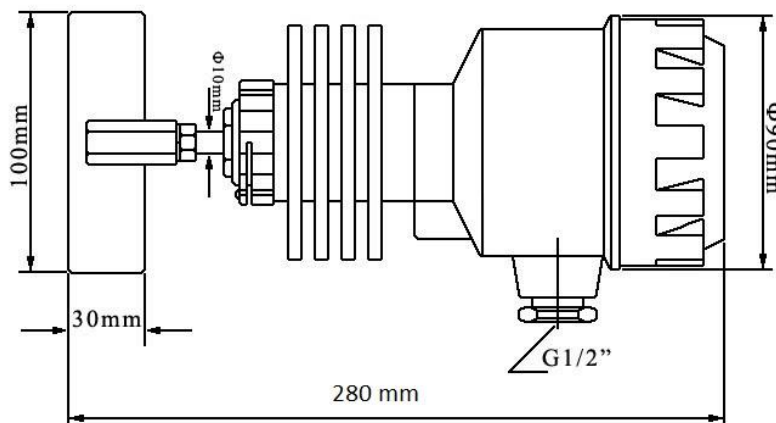


Model:

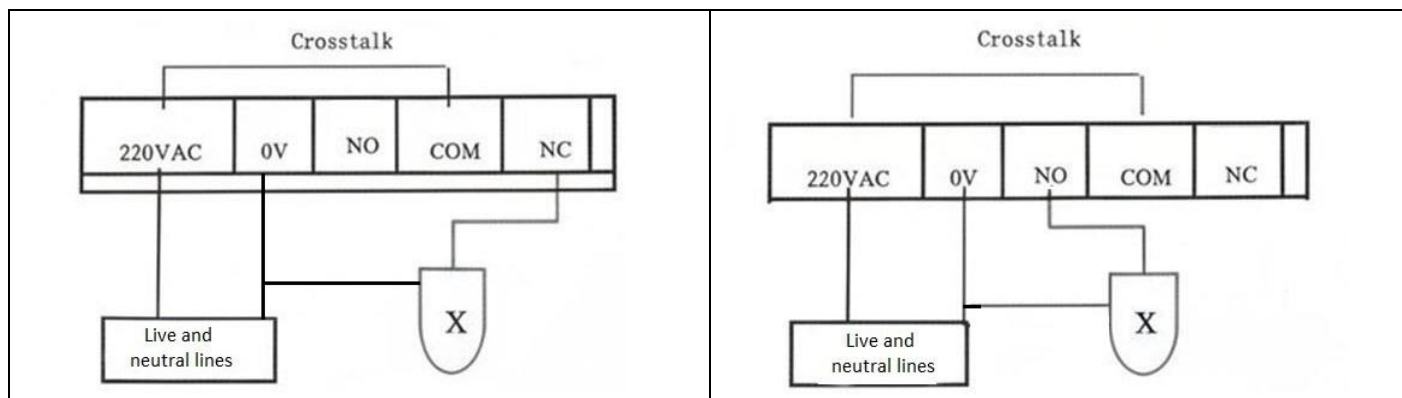
Working Temperature: High Temperature

Explosive Mode : Standard

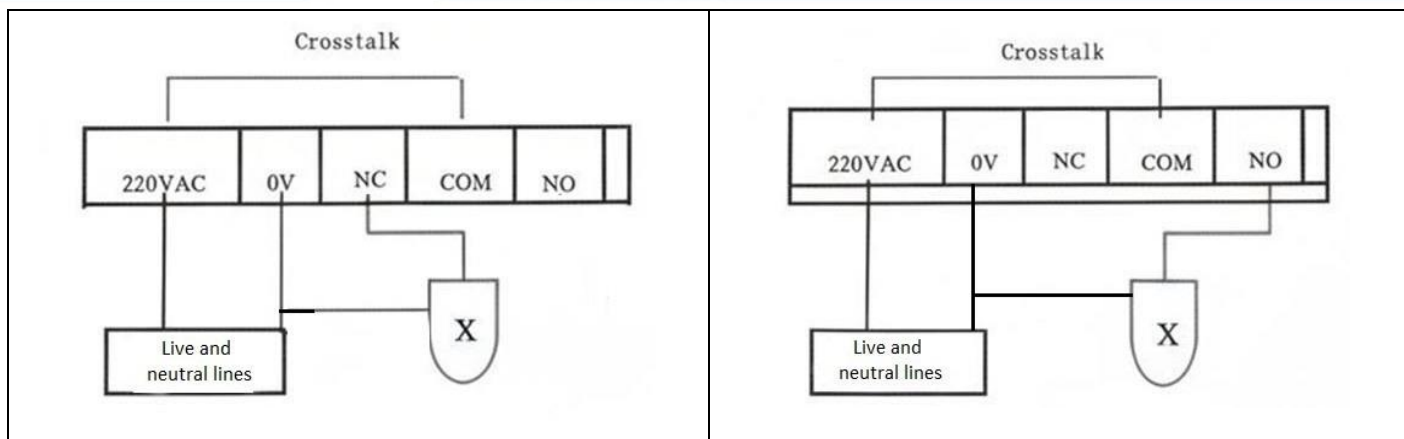
Connection : Thread



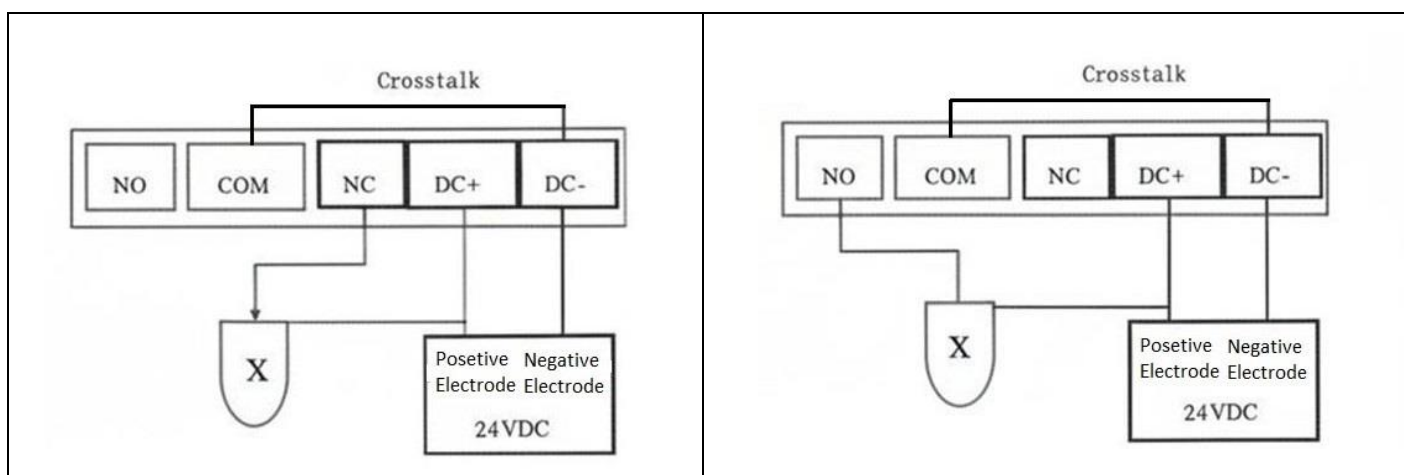
Wiring



220 VAC - Standard



220 VAC - Explosion Proof



24VDC – Standard & Explosion Proof

Order Code

	Working Temperature	Explosion-proof type	Supply
FTRS	-	-	---
	S : Standard	S : Standard	220 : 220VAC
	H : high temperature	X : explosion proofe	24 : 24VDC

Other parameters to be determined include: **probe length and blade shape.**

Common faults and troubleshooting

NO.	Fault phenomenon	Cause analysis	Exclusion method
1	When the material reaches, the blades still rotate	The blade size does not match the specific gravity of the material	Redetermine blade size
2	Blade deformation or transmission shaft deformation and bending	The material impact force is too strong	Add protective plates or take other protective measures above the blades
3	Blade does not rotate	1. Power supply not connected properly	Check the wiring and connect it properly
		2. Motor burnt out	Contact our company to replace the motor

Daily maintenance

1. Check if the drive shaft and blades are bent, deformed, damaged, or loose.
2. Check if the connection between the drive shaft and the blades is secure.
3. Regularly remove materials and debris from the blades and drive shaft