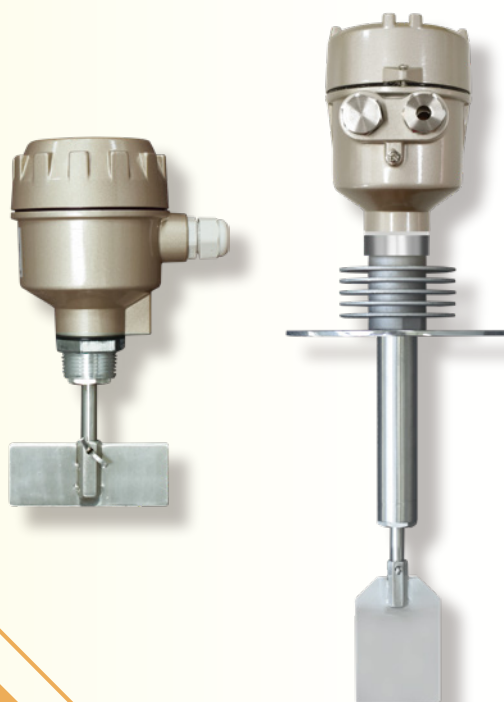
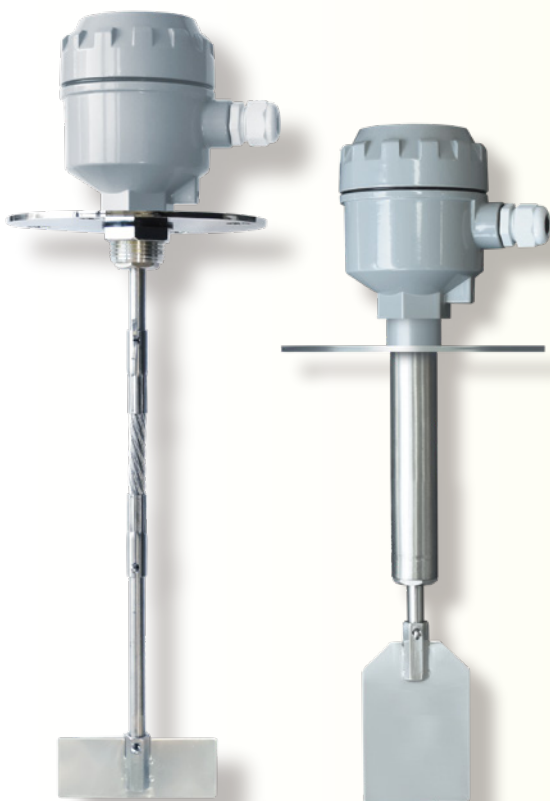




上海思派电子科技有限公司
SHANGHAI SPES ELECTRONIC TECHNOLOGY CO.,LTD.



ROTARY PADDLE LEVEL SWITCH

► SELECTION CATALOGUE ◀

ISO9001:2015 CE

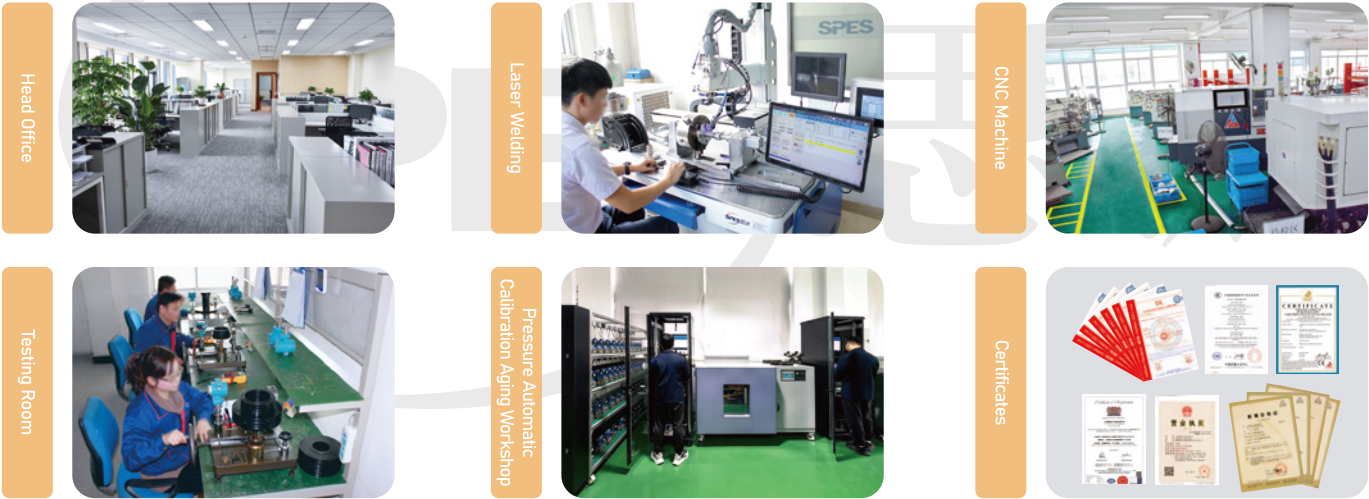


COMPANY INTRODUCTION

Shanghai SPES Electronic Technology Co., Ltd. (<https://www.spes.com.cn>) was founded in January, 2003 with a registered fund of 10.1 million Yuan, which is a professional high-tech private company specializing in R&D, production, and sales of various level meters. At the very beginning of establishment, SPES has gathered a group of professionals and managerial personnel, and brought together many senior engineers. Their R&D experience of automation instruments guaranteed the quality and excellent performances of products.

SPES has won international certificates such as ISO, CE, and SIL, as well as anti-explosion and metrology certificates, specializing in the production of level switches, RF admittance sensors, capacitance sensors, radar level meters, magnetic level indicators, float switches, and temperature/pressure/differential pressure instruments. Our comprehensive product portfolio caters to diverse industrial applications across chemical processing, pharmaceuticals, new energy, grain & oils, environmental power, feed production, cement, plastics, and construction machinery sectors. Widely distributed across domestic and global markets, we serve as a trusted supplier to Fortune 500 companies including SANY Heavy Industry, CNPC, and CSSC, having earned the distinction of "Outstanding Supplier" from our clients.

SPES has established offices and branch subsidiaries in multiple locations, including Guangzhou and Chengdu, and has actively participated in international exhibitions such as the Hannover Messe in Germany. Adhering to the principles of innovation, pragmatism, and professionalism, Shanghai SPES maintains an open global vision and a keen industry insight, delivering cutting-edge technology, high-quality products, and efficient services to both domestic and international clients.



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Rotary Paddle Level Switch

Working Principle SR2 P01

Technical Specification SR2/SR4 P02-04/05-06

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Small Rotary Paddle Level Switch

Working Principle SR-80 P08-09

Working Principle SR5-80 P10-11

Selection Guide SR-80/SR5-80 P12

Working Principle

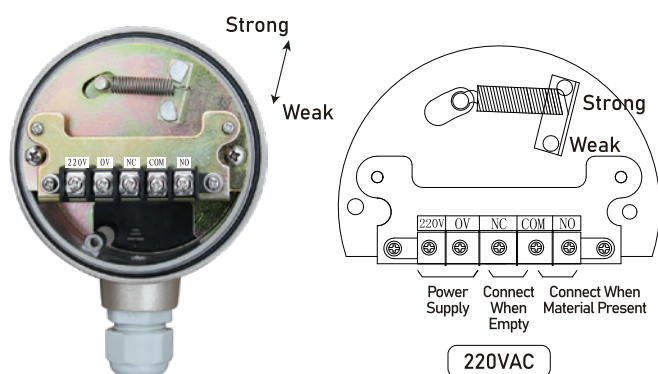
The motor is used to drive the paddle to rotate. When the measured medium rises to the paddle position, the paddle stops rotating by dielectric barrier and outputs contact signal ON or OFF through the relevant control mechanism; when the medium drops away from the paddle, the blade restores to the beginning position to rotate and detect the position change of the medium under the function of spring.

Features

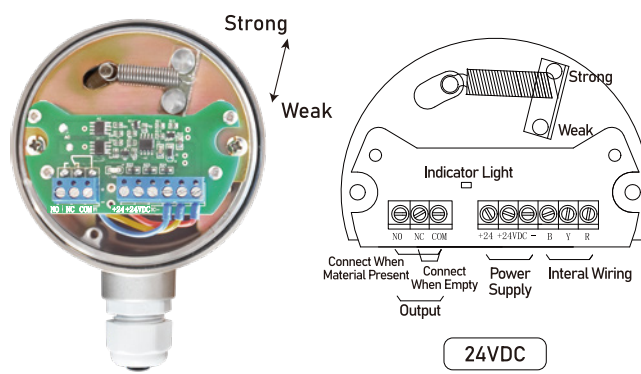
- ◆ Detection of bulk solid materials with rotary paddle switch technology.
- ◆ Highly integrated mechanical seal to prevent the filtration of dust along the shaft.
- ◆ Unique flexible clutch structure to conduct automatic protection of the motor when paddle is overloaded.
- ◆ Separate mechanical and electrical structure for simple maintenance without disassembly.
- ◆ Special paddles for low-density mediums.
- ◆ Process connection pieces for easy installation.



SR2 Series



Sensitivity Adjustment



Sensitivity Adjustment

Technical Specifications

Power Supply : Standard: 220VAC(110VDC; 24VAC; **24VDC; 240VAC**)

Contact Capacity : 250VAC/5A(Resistive Load), SPDT

Working Temperature: -30°C~80°C(Normal high temperature up to 200°C; Special high temperature up to max800°C)

Power: 3W

Rotating Torque: 1N·M

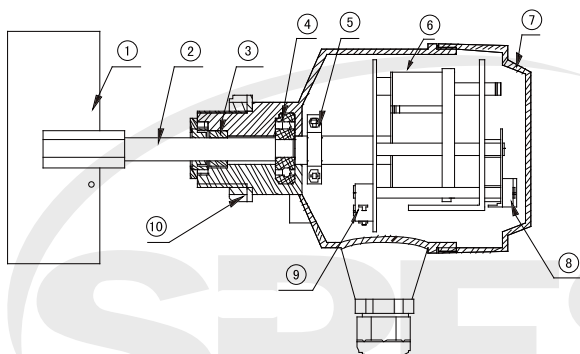
Blade Rotating Speed: 1rpm/5rpm

Blade Material: SUS304

Protection Grade: IP65

Electrical Interface: M20×1.5

Proportion of the Applicable Medium: $\geq 0.4\text{g/cm}^3$

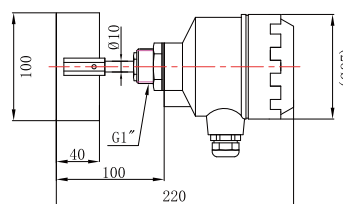


- | | |
|---------------------|------------------------|
| ① Blade | ⑥ Motor |
| ② Drive Shaft | ⑦ Junction Box (Shell) |
| ③ Sealed Components | ⑧ Terminal Blocks |
| ④ Bearing | ⑨ Micro Switch |
| ⑤ Clutch | ⑩ Nut |

SR2-10S

Standard Screw Type

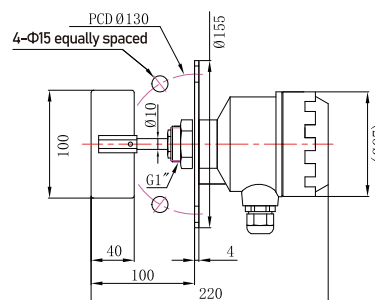
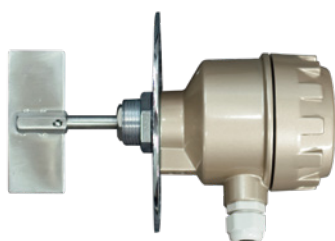
(Vertical or horizontal installation)



SR2-10F

Standard Flange Type

(Vertical or horizontal installation)

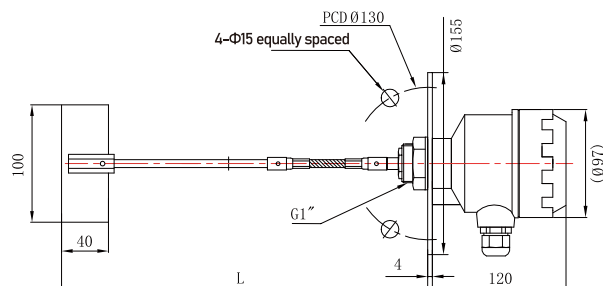


SR2-10F-L

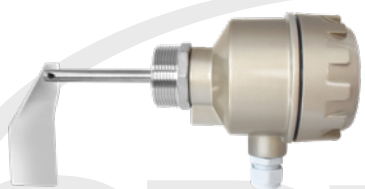


Extended Straight Shaft Type

(Only for vertical installation)

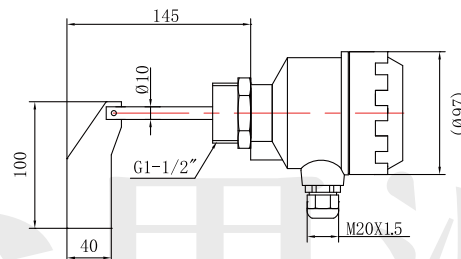


SR2-10XLT

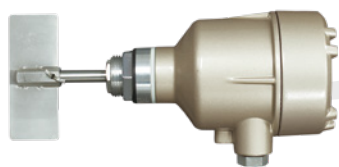


Special Order Type

(Vertical or horizontal installation)

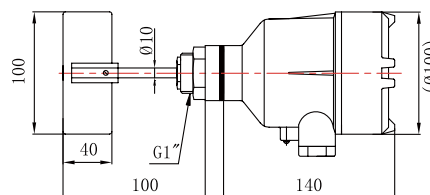


SR7-7010S



Standard Explosion-proof Type

(Vertical or horizontal installation)

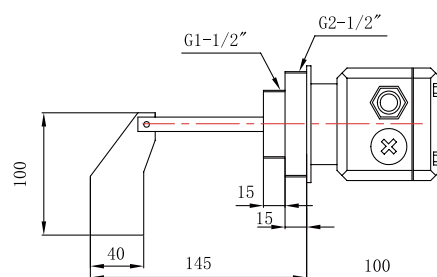


SR-XLT



Special Type with Cuboid Junction Box

(Vertical or horizontal installation)

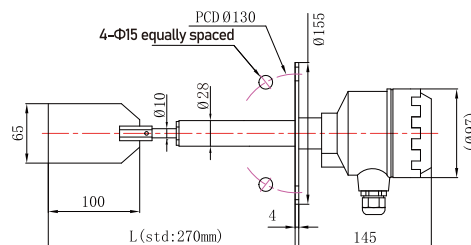


SR2-20F

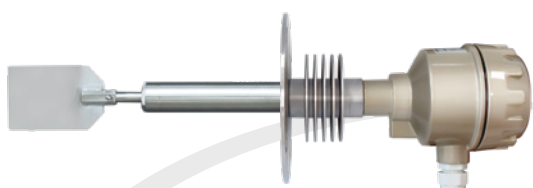


Shaft Protection Tube Type

(Vertical or horizontal installation)

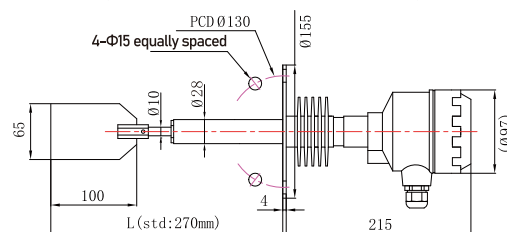


SR2-20F-T

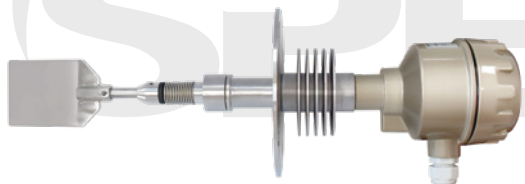


High Temperature with Shaft Protection Tube Type

(Vertical or horizontal installation)

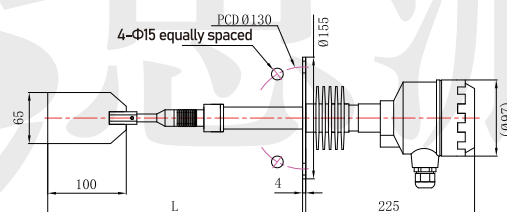


SR2-20F-H



Special High Temperature Type

(Vertical or horizontal installation; max 800°C)

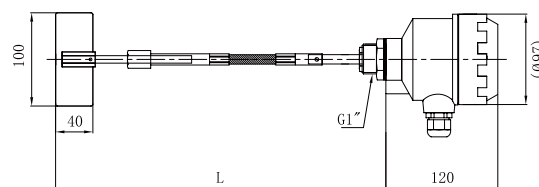


SR2-30S



Adjustable Shaft Length Type

(Only for vertical installation)

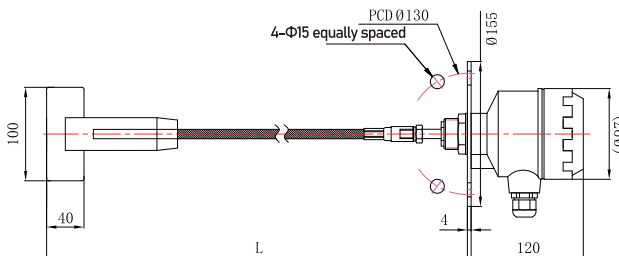


SR2-40F



Steel Cable Type

(Only for vertical installation)



SR4 Series

Sensitivity Adjustment

The diagram illustrates the internal components of the 220VAC sensor, specifically the potentiometer and the spring mechanism used for sensitivity adjustment. The potentiometer is shown with terminals labeled 220V, 0V, NC, COM, and NO. The spring mechanism is shown in two positions: 'Strong' (left) and 'Weak' (right). The diagram also shows the connection points for the Power Supply, Connect When Empty, and Connect When Material Present.

Sensitivity Adjustment

Strong ← Weak

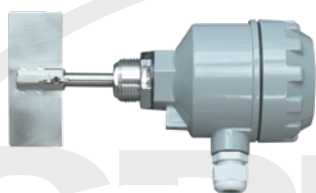
Weak
Strong

24V 0V NC COM NO

Power Supply Connect When Empty Connect When Material Present

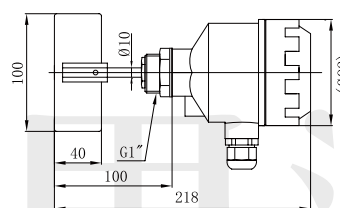
24VDC

SR4-10S

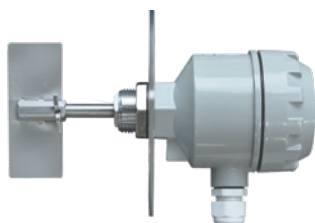


Standard Screw Type

(Vertical or horizontal installation)

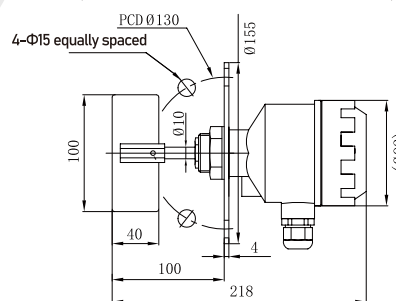


SR4-10F



Standard Flange Type

(Vertical or horizontal installation)

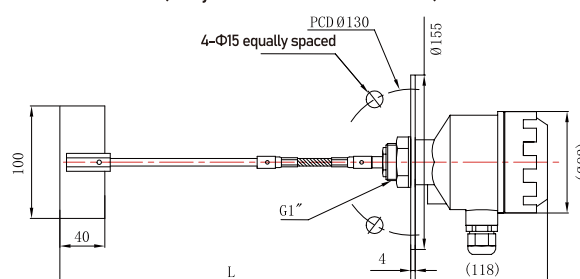


SR4-10F-L

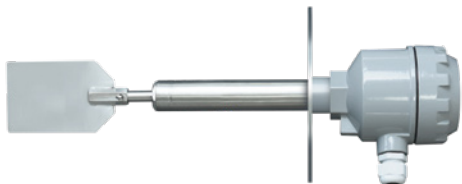


Extended Straight Shaft Type

(Only for vertical installation)

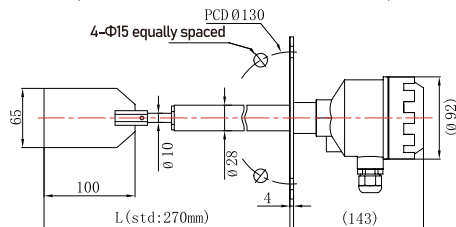


SR4-20F

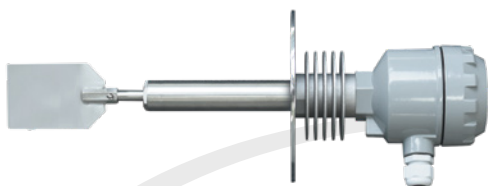


Shaft Protection Tube Type

(Vertical or horizontal installation)

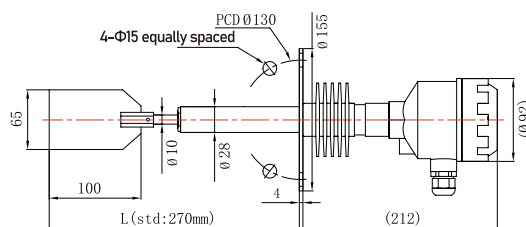


SR4-20F-T

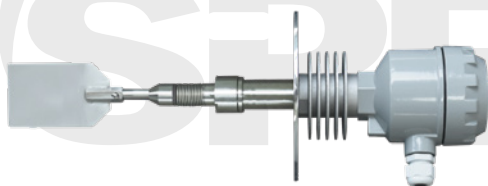


High Temperature with Shaft Protection Tube Type

(Vertical or horizontal installation)

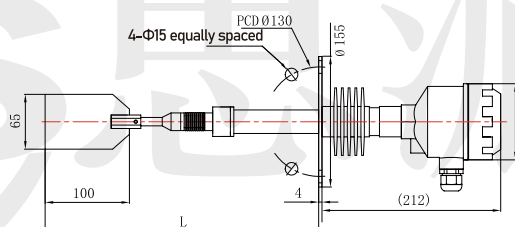


SR4-20F-H



Special High Temperature Type

(Vertical or horizontal installation; max 800°C)

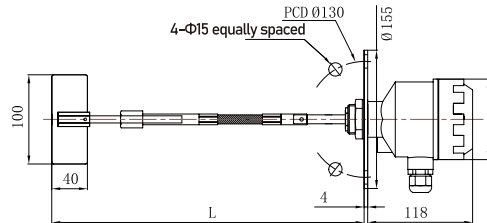


SR4-30S



Adjustable Shaft Length Type

(Only for vertical installation)

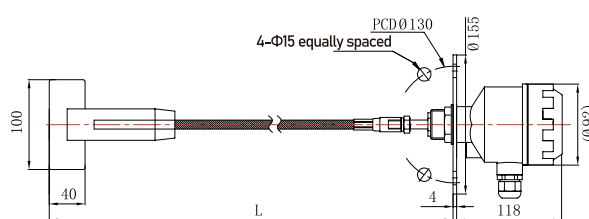


SR4-40F



Steel Cable Type

(Only for vertical installation)



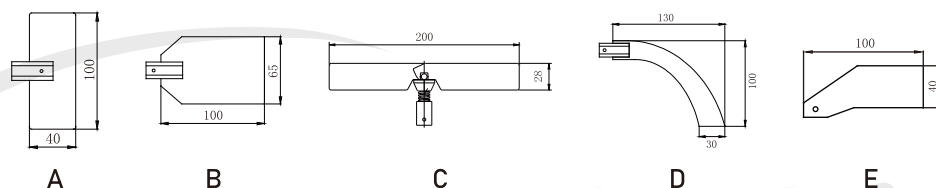
Selection Guide

SR2 — ☐ ☐ ☐ ☐ — ☐ ☐ ☐ ☐ ☐
 SR4 — ☐ ☐ ☐ ☐ — ☐ ☐ ☐ ☐ ☐

Others: The Default Is Normal Temperature.
 T. Standard high temperature type (max200°C)
 H. High temperature for special order (max800°C)

Inserting Depth:
 Unit: mm

Blade Type: See the following diagram



Special Order

S

Power Supply:
 A. 220VAC B. 110VAC C. 24VAC D. 24VDC E. 240VAC

Connection Method:
 F. Flange(Standard: JIS 2-1/2"×5kg/cm²)
 S. Screw
 X. Others(Note for detailed specification)

Shaft Connection Method:
 10. Standard Type
 20. Shaft Protection Tube Type
 30. Adjustable Shaft Length Type
 40. Steel Cable Type

SR7-70 series are explosion-proof products.

Selection for example

SR2-10SAA-0800

Standard Screw Type / Power Supply: 220VAC / Linear blade(100×40mm) / Normal temperature rotary blade level switch with the total length of 800mm

Application

Applicable to the manufacturing and processing equipment of industries such as food, feed, cement, plastics processing, basic engineering, chemical and chemical fiber.

Working Principle

The motor is used to drive the blade to rotate. When the measured medium rises to the blade position, the blade stops rotating by dielectric barrier and outputs contact signal ON or OFF through the relevant control mechanism; when the medium drops away from the blade, the blade restores to the beginning position to rotate and detect the position change of the medium under the function of the spring.

Features

- ◆ Compact structure with exquisite appearance.
- ◆ Solid and reliable zinc alloy shell.
- ◆ Imported motor with stable performance.
- ◆ Detection of different mediums with many kinds of blades for selection.
- ◆ The optimum choice of material level detection in small container (hopper).



Technical Specifications

Power Supply : Standard:220VAC(110VAC, 24VAC, 24VDC)

Output: 250VAC/5A (Resistive Load), SPDT

Guide Wire: 5 cores with 500mm sheath wire

Installation: Screw 3/4"PF (customizable as required)

Power : 1.5W

Rotating Torque: about 4.9N-cm

Blade Rotational speed: 1rpm

Blade Size: 80×35mm (Linear, sickle, spring blade for selection)

Inserting Length: Standard: L=85mm (customizable for special length)

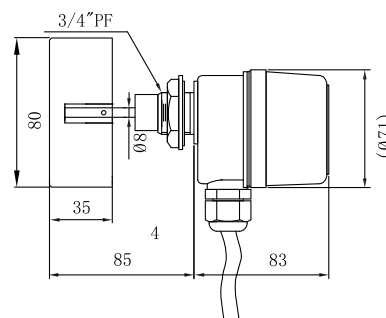
Medium Temperature: Normal Temperature: -30°C~80°C; High Temperature: max200°C

Proportion of the Applicable Medium: $\geq 0.3\text{g/cm}^3$

SR-80



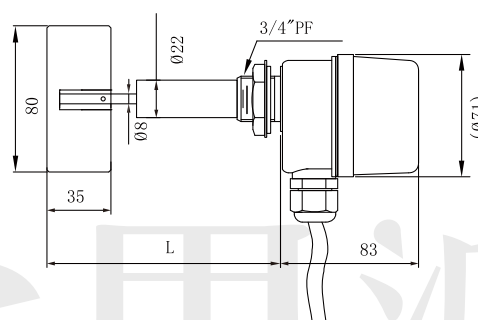
Standard Type



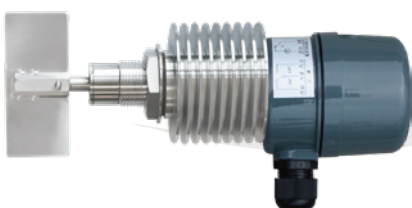
SR-80L



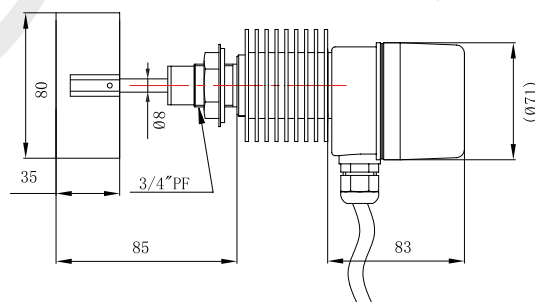
Extended Shaft with Protection Tube Type



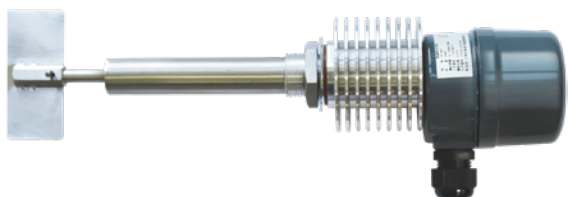
SR-80T



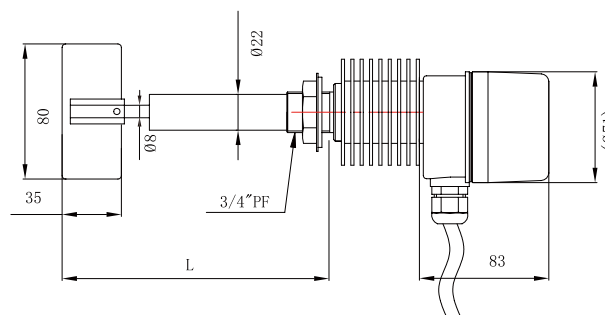
High Temperature Type



SR-80LT



High Temperature Extended Type



SR5-80 Series

Working Principle

The motor is used to drive the blade to rotate. When the measured medium rises to the blade position, the blade stops rotating by dielectric barrier and outputs contact signal ON or OFF through the relevant control mechanism; when the medium drops away from the blade, the blade restores to the beginning position to rotate and detect the position change of the medium under the function of spring.

Features

- ◆ Compact structure with exquisite appearance.
- ◆ Detection of different mediums, many kinds of blades to choose.
- ◆ Small tank, the best choice for detection.

Technical Specifications

Power Supply : Standard:220VAC(110VAC, 24VAC, 24VDC)

Output: 250VAC/5A (Resistive Load), SPDT

Installation: Screw 3/4"PF (customizable as required)

Power : 3W

Rotating Torque: about 4.9N·cm

Blade Rotational speed: 1rpm

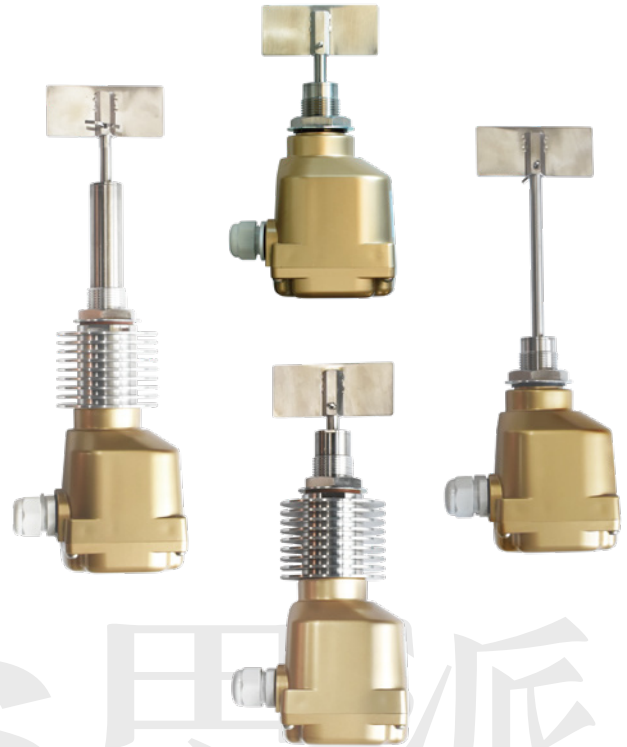
Blade Size: 80×35mm (Linear, sickle, spring blade for selection)

Inserting Length: Standard: L=85mm (customizable for special length)

Medium Temperature: Normal Temperature: -30°C~80°C; High Temperature: max200°C

Electrical Interface: M20×1.5

Proportion of the Applicable Medium: $\geq 0.3\text{g/cm}^3$

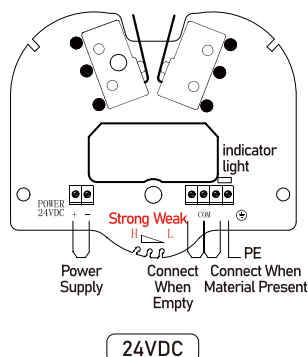


SR5-80 Series



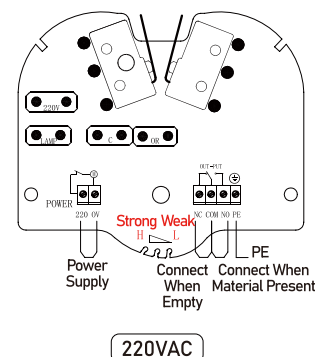
Weak
Strong

Sensitivity Adjustment

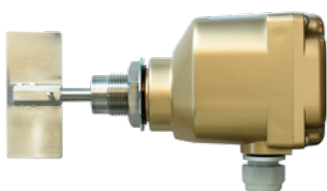


Weak
Strong

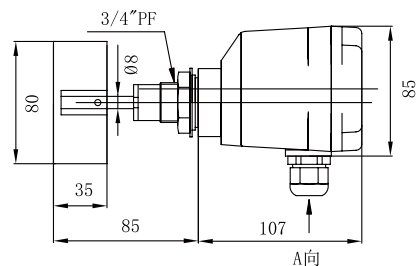
Sensitivity Adjustment



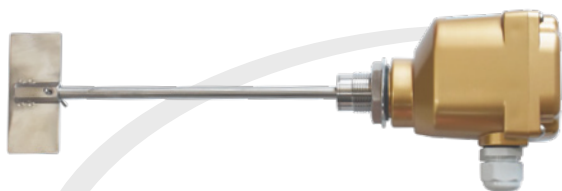
SR5-80



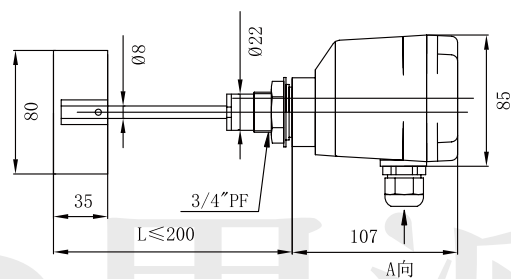
Standard Type



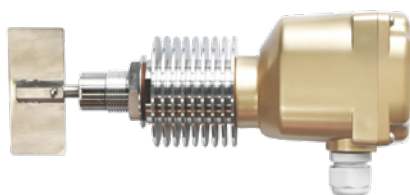
SR5-80L



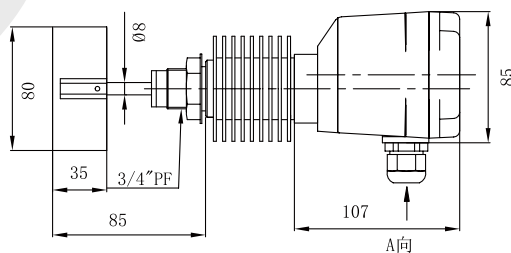
Extended Shaft with Protection Tube Type



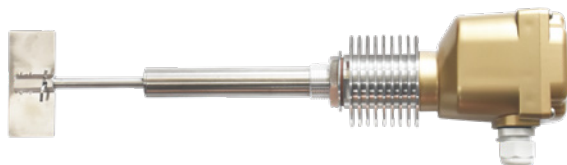
SR5-80T



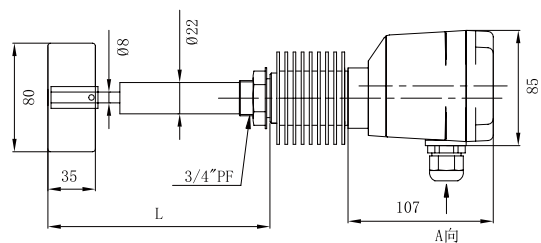
High Temperature Type



SR5-80LT



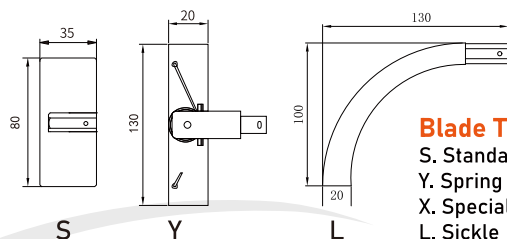
High Temperature Extended Type



Selection Guide

SR-80 ☐ — ☐ ☐ — ☐ ☐ ☐ ☐ ☐ ☐
 SR5-80 ☐ — ☐ ☐ — ☐ ☐ ☐ ☐ ☐ ☐

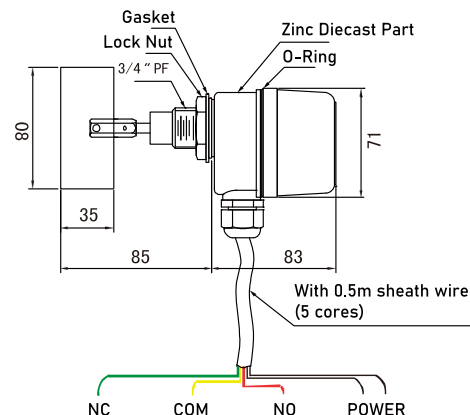
Inserting Depth:
Unit: mm



Blade Type:
 S. Standard Linear Blade
 Y. Spring Blade
 X. Special Ordered Blade
 L. Sickle Blade

Power Supply:
 A. 220VAC B. 110VAC C. 24VAC D. 24VDC

Type:
 S. Standard Type L. Extended Shaft with Protection Tube Type
 T. High Temperature Type LT. High Temperature Extended Type
 X. Others (Note for detailed specification)

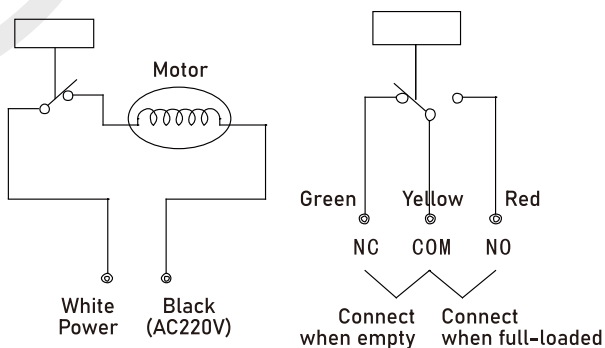


SR-80 Chart

Sensitivity Adjustment

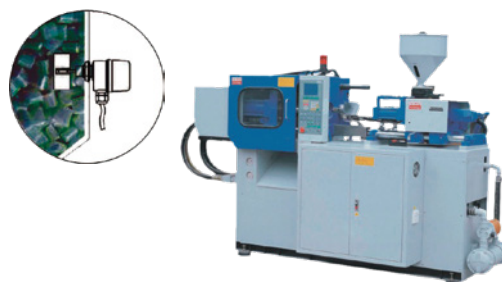


Connection Diagram

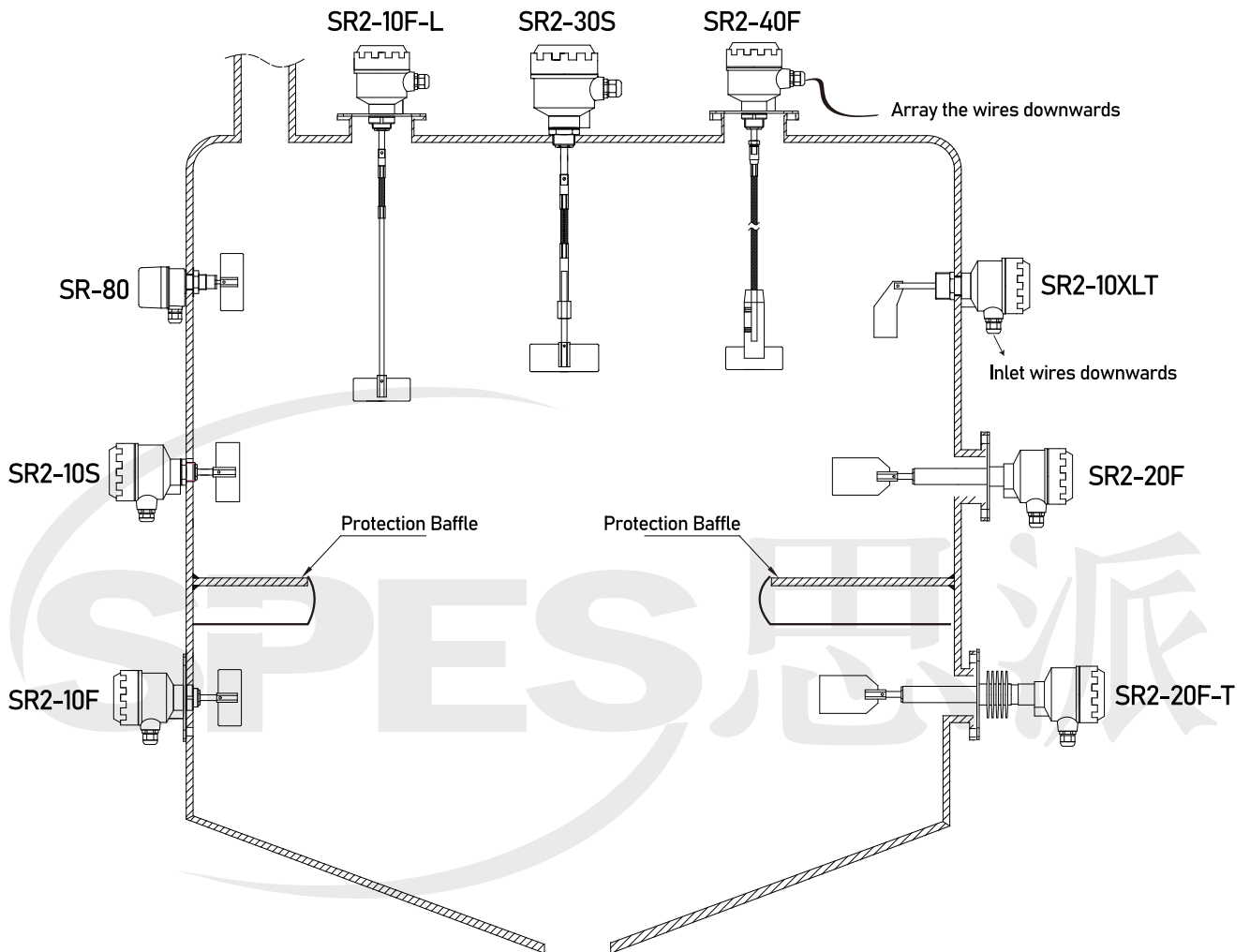


Application

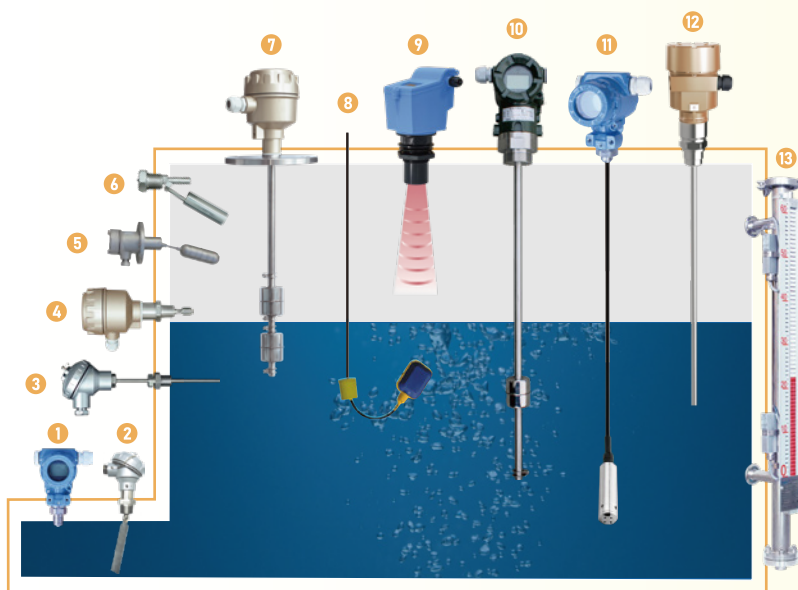
Applicable to the equipment in the industry of plastic, food, medicine, feed and cement etc., such as injection molding machine, extrusion machine, drying machine, packing machine, mixer and automatic feeding system.



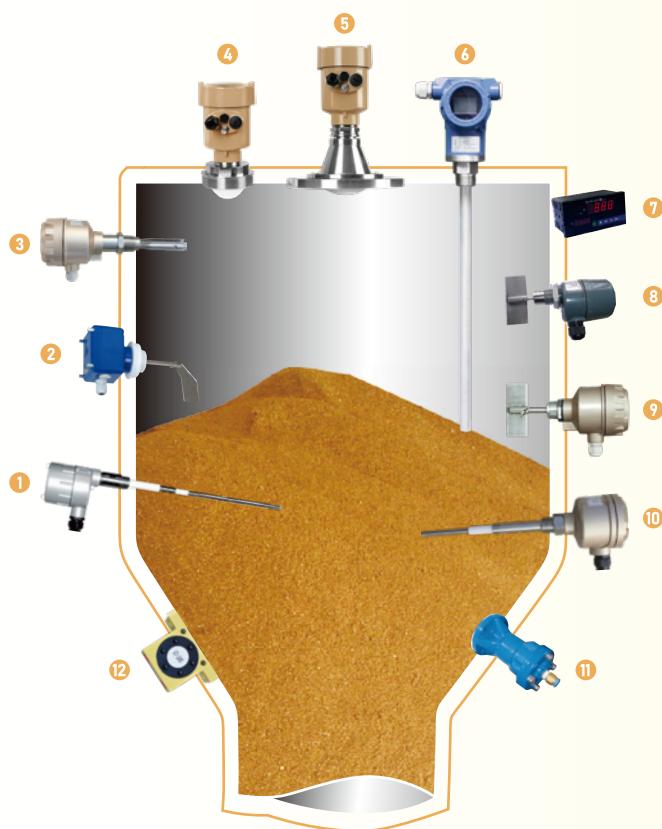
Installation Precaution



1. Please confirm the power supply before installation to avoid damage to the motor.
2. Do not install under the inlet to avoid material impact.
3. During horizontal installation, please keep the wire inlet downward; during vertical installation, please keep the external wires downward (see the diagram above) and fasten the inlet connector and the upper cover of the junction box to avoid the infiltration of rainwater and other substances so as to guarantee normal operation.
4. During vertical installation, the level switch can be tilted down horizontally at 15°-20° to reduce material accumulation.
5. When the rotary paddle level switch is installed horizontally at a low level in a large container, please install a protection baffle (see the diagram above). The baffle can be a semi-round tube (radius about 150mm) which is 50mm longer than the rotary paddle level switch, fixed at 250mm directly above the material level switch.



1. Pressure Transmitter
2. Flow Switch
3. Temperature Transmitter
4. Tuning Fork Level Switch
5. Side-mounting Float Level Switch
6. Float Level Switch
7. Multi-point Float Level Switch
8. Cable Float Level Switch
9. Ultrasonic Level Gauge
10. Magnetostrictive Liquid Level Gauge
11. Immersion Static Pressure Liquid Level Gauge
12. Guided Wave Radar Level Gauge
13. Magnetic Level Gauge



1. RF Admittance Level Switch
2. Rotary Paddle Level Switch
3. Tuning Fork Level Switch
4. Radar Level Meter
5. Radar Level Meter
6. RF Admittance Level Gauge
7. Intelligent Digital Displayer
8. Small Rotary Paddle Level Switch
9. Rotary Paddle Level Switch
10. Capacitance Level Switch
11. Pneumatic Hammer
12. Pneumatic Vibrator

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