ISEN-10/20/30
Rotary Paddle Level Switch

Rotaryswitchesarelevelcontrollersusedforsolidmaterials(includingpowder,block,granule, and paste). They feature good sealing, strong overload capacity, light weight, easy installation, and large output contact capacity. For materials with different specific gravities, the spring tension can be adjusted to achieve the desired effect. The parts that come into contact with the material are all made of stainless steel.

Product Features

① American small hopper professional technology, three bearing supports, more reliable operation.
② Uniq ue sealing design prevents dust infiltration (pate nt pending);
③ Stable and reliable torque with adjustable to rque size.
④ When the blades are overloaded, the clutch automatically slips to protect the motor from damage.
⑤ Elec tromechanical separation structure, easy maintenance without disassembly.
⑥ Junction Box with IP65 protection rating, excellent sealing, suitable for outdoor use.
⑦ Special blades suitable for low-density materials.

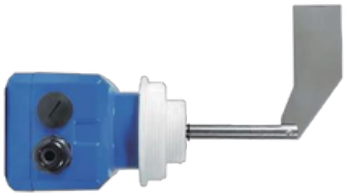
Working Principle

The rotary paddle level switch uses an AC micro motor that is slowed down by a reduction gear to drive the monitoring blade to rotate slowly. When the material level rises and obstructs the rotation of the blade, the detection mechanism rotates around the main shaft. This rotation first activates a microswitch, which sends a signal indicating that material is present. Then another microswitch activates, cutting off the power to the micro motor and stopping its rotation. As long as the material level in the silo remains unchanged, this state will be maintained.

Application Field

Rotary paddle level switches are widely used in industries such as chemicals, plastics, cement, pharmaceuticals, feed, and food. Specific application scenarios are as follows: Petrochemical industry: Used to measure the liquid level or material level of liquids or granular materials in containers, commonly used in storage tanks, reactors, pharmaceutical equipment, etc.; Food and beverage industry: Used to measure the material level of powdered or granular materials in containers, such as grain storage, sugar tanks, flour storage tanks, etc.;
Water treatment industry: Used to measure the liquid level in wastewater treatment equipment or water tanks, such as wastewater treatment tanks, sedimentation tanks, etc.; Power industry: Used to measure the material level of fuel in coal silos, fuel silos, or storage tanks to help control supply and reserves.

3 ISEN-30 Standard Square-Housing Switch



6 ISEN-22 Threaded Tube Type

9 ISEN-23F Adjustable Shaft(Flange)

12 ISEN-25 High-Temp Impact Tube

2 ISEN-10 3/4 Mini Switch

5 ISEN-21 Standard FlangeType

8 ISEN-23 Adjustable Shaft(threaded)

11 ISEN-24 F High-Temp Flange

1 ISEN-10 3/4 Mini Rotary Paddle Switch

4 ISEN-20 Threaded. Mounting

7 ISEN-22F Flanged impact Tube

10 ISEN-24 High-Temp Threaded

Product Line (Continued)

13 ISEN-25F High-Temp Flanged Impact Tube

14 ISEN-26F Suspension flanged Cable Type

15 ISEN-26 Cable Suspension Type (Threaded)

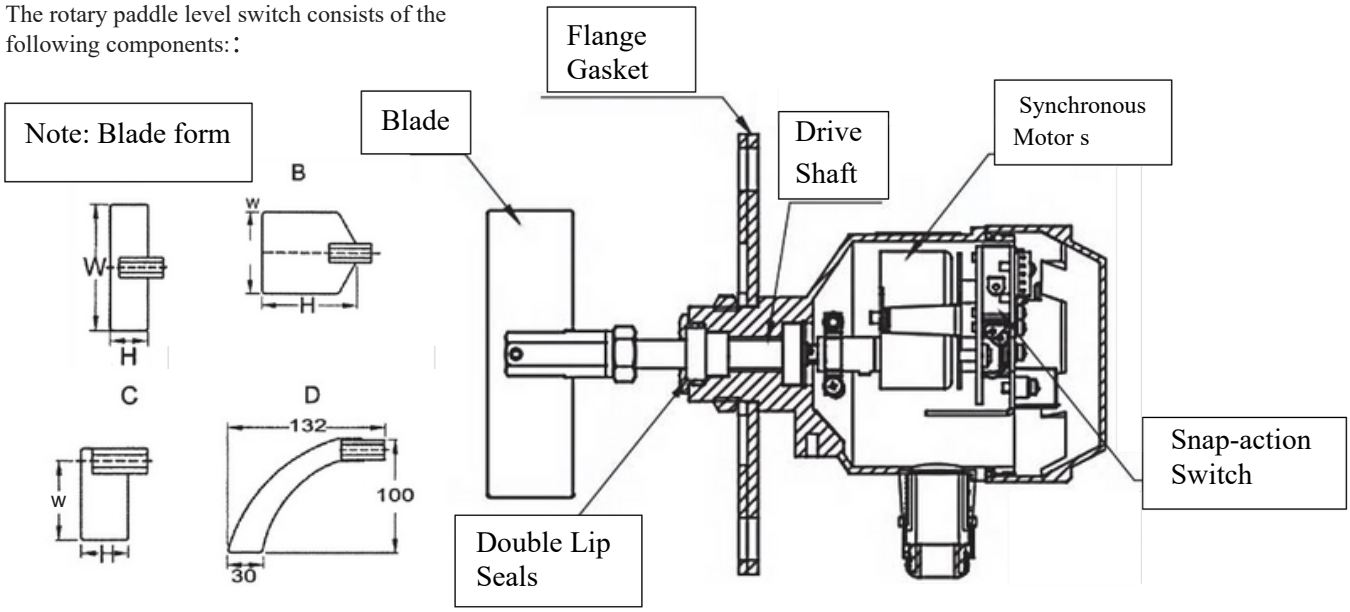
16 ISEN-27 All Stainless-Steel Type

17 ISEN-28 Yellow-Housed Switch

18 ISEN-29 Dual-Flange High-Temp Switch

Exploded Assembly View (with Critical Dimensions)

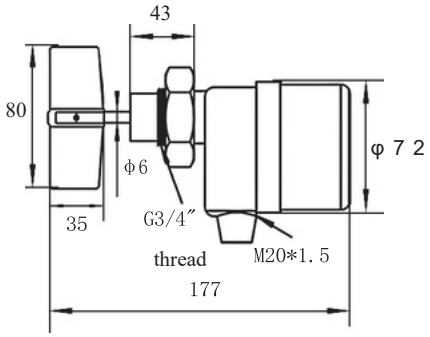
The rotary paddle level switch consists of the following components:



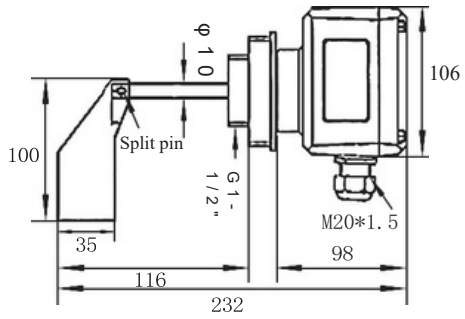
Technical Specification

Power Supply	220VAC/24VDC/110VAC	Power Consumption	4W
Contact Rating	SPDT 5A/250VAC	Blade Speed	1RPM
Withstand Voltage	AC 1500V×1minute	Measuring Torque	1.0 N·m
Applicable Density	0.5g/cm3 or Higher	Operating Temperature Range	-20～80℃/High-Temp Type-20～400℃

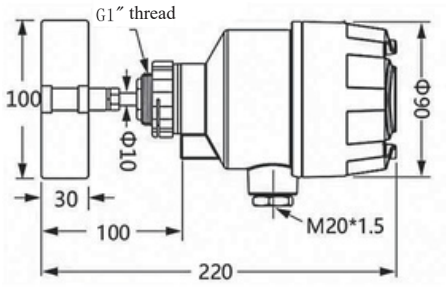
Product dimensions and Specification(Reference)



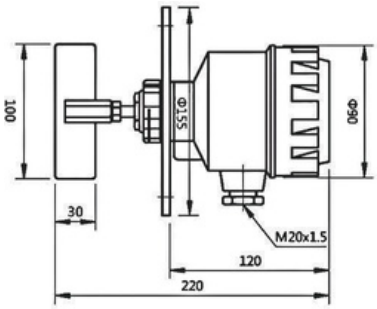
Product Name	ISEN-10 3/4Small screw rotor (plastic)
Operating Voltage	220VAC
Power Consumption	4W
Contact Rating	SPDT 5A/250VAC
Process Connection	G3/4" thread (customization available)
Temperature Range	-20~80℃
Cable Entry	M20×1.5
Junction Box	Aluminum Alloy with Baked Paint Finish Junction Box
Protection Rating	IP65
Installation	Vertical/Horizontal Mounting



Product Name	ISEN-30 Standard square shell rotary valve
Operating Voltage	220VAC
Power Consumption	4W
Contact Rating Process	SPDT 5A/250VAC
Connection	G1-1/2" thread (customization available)
Temperature Range	-20~80℃
Cable Entry	M20×1.5
Junction Box	Aluminum Alloy with Baked Paint Finish Junction Box
Protection Rating	IP65
Installation	Vertical/Horizontal Mounting

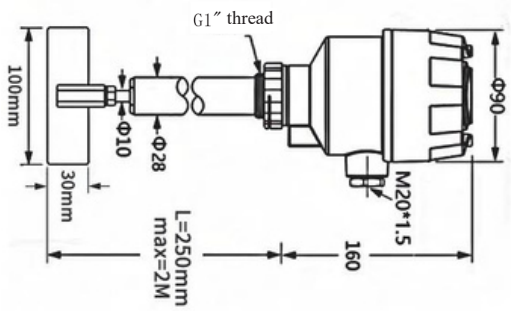


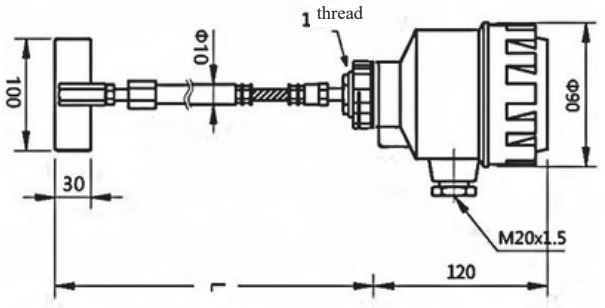
Product Name	ISEN-20 Standard Thread Type
Operating Voltage	220VAC
Power Consumption	4W
Contact Rating	SPDT 5A/250VAC
Process Connection	G1" thread (customization available)
Temperature Range	-20~80℃
Cable Entry	M20×1.5
Junction Box	Aluminum Alloy with Baked Paint Finish Junction Box
Protection Rating	IP65
Installation	Vertical/Horizontal Mounting



Product Name	ISEN-21 Standard Fla nge Type
Operating Voltage	220VAC
Power Consumption	4W
Contact Rating	SPDT 5A/250VAC
Process Connection	Flange (customizable)
Temperature Range	-20~80℃
Cable Entry	M20×1.5
Junction Box	Aluminum Alloy with Baked Paint Finish Junction Box
Protection Rating	IP65
Installation	Vertical/Horizontal Mounting

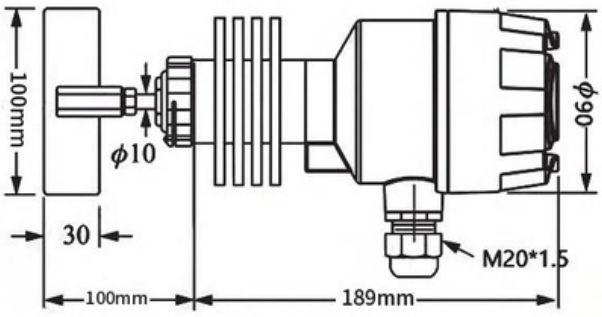
Product Dimensions and Specifications (Continued)

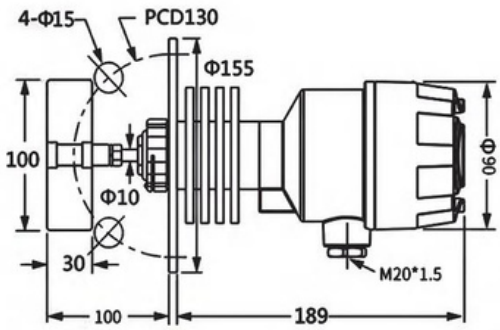




Product Name	ISEN-22 Shaft protection tube type
Operating Voltage	220VAC
Power Consumption	4W
Contact Rating	SPDT 5A/250VAC
Process Connection	G1" Thread (Customization Available)
Temperature Range	-20~80℃
Cable Entry	M20×1.5
Junction Box	Aluminum Alloy with Baked Paint Finish Junction Box
Protection Rating	IP65
Installation	Vertical/Horizontal Mounting

Product Name	ISEN-23 Adjustable shaft length
Operating Voltage	220VAC
Power Consumption	4W
Contact Rating	SPDT 5A/250VAC
Process Connection	G1" Thread (Customization Available)
Temperature Range	-20~80℃
Cable Entry	M20×1.5
Junction Box	Aluminum Alloy with Baked Paint Finish Junction Box
Protection Rating	IP65
Installation	Vertical/Horizontal Mounting

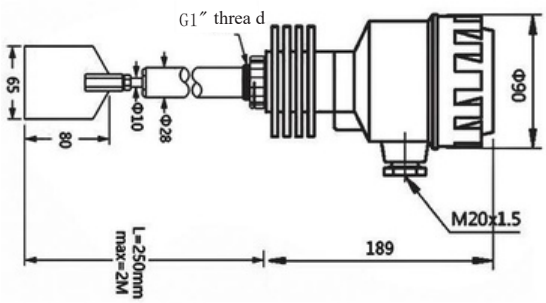


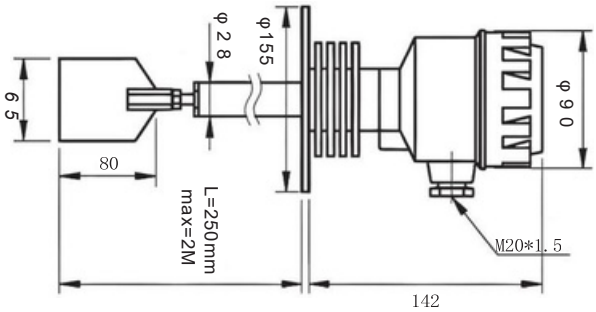


Product Name	ISEN-24 High-temperature threaded type
Operating Voltage	220VAC
Power Consumption	4W
Contact Rating	SPDT 5A/250VAC
Process Connection	G1" Thread (Customization Available)
Temperature Range	-20~200℃（Max Up to 350℃）
Cable Entry	M20×1.5
Junction Box	Aluminum Alloy with Baked Paint Finish Junction Box
Protection Rating	IP65
Installation	Vertical/Horizontal Mounting

Product Name	ISEN-24F High temperature flange type
Operating Voltage	220VAC
Power Consumption	4W
Contact Rating	SPDT 5A/250VAC
Process Connection	Flange (Customization Available)
Temperature Range	-20~200℃（Max Up to 350℃）
Cable Entry	M20×1.5
Junction Box	Aluminum Alloy with Baked Paint Finish Junction Box
Protection Rating	IP65
Installation	Vertical/Horizontal Mounting

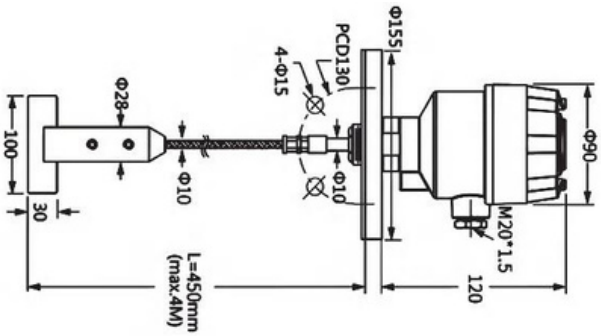
Product Dimensions and Specifications (Continued)

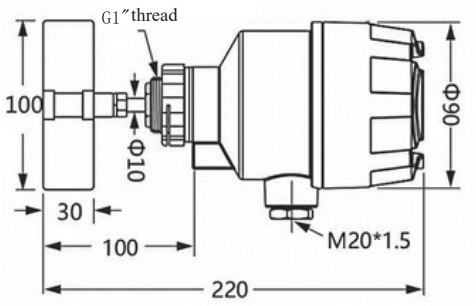




Product Name	ISEN-25 High temperature shaft protection tube type
Operating Voltage	220VAC
Power Consumption	4W
Contact Rating	SPDT 5A/250VAC
Process Connection	G1" Thread (Customization Available)
Temperature Range	-20~200℃（Max Up to 350℃）
Cable Entry	M20×1.5
Junction Box	Aluminum Alloy with Baked Paint Finish Junction Box
Protection Rating	IP65
Installation	Vertical/Horizontal Mounting

Product Name	ISEN-25F High-temperature flange shaft protection tube type
Operating Voltage	220VAC
Power Consumption	4W
Contact Rating	SPDT 5A/250VAC
Process Connection	Flange (customization available)
Temperature Range	-20~200℃（Max up to350℃）
Cable Entry	M20×1.5
Junction Box	Aluminum Alloy with Baked Paint Finish Junction Box
Protection Rating	IP65
Installation	Vertical/Horizontal Mounting

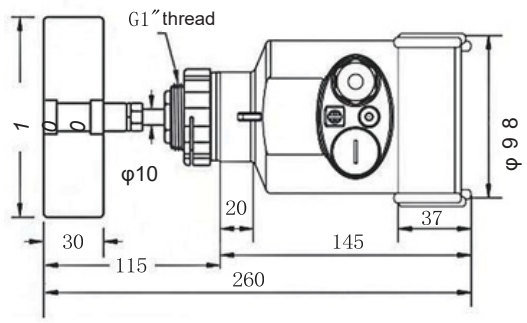




Product Name	ISEN-26F Flange Cable Type
Operating Voltage	220VAC
Power Consumption	4W
Contact Rating	SPDT 5A/250VAC
Process Connection	Flange (customization available)
Temperature Range	-20~80℃
Cable Entry	M20×1.5
Junction Box	Aluminum Alloy with Baked Paint Finish Junction Box
Protection Rating	IP65
Installation	Vertical/Horizontal Mounting

Product Name	ISEN-27 All Stainless-Steel Type
Operating Voltage	220VAC
Power Consumption	4W
Contact Rating	SPDT 5A/250VAC
Process Connection	G1" Thread (Customization Available)
Temperature Range	-20~100℃
Cable Entry	M20×1.5
Junction Box	Stainless steel
Protection Rating	JunctionBox
Installation	IP65 Vertical/Horizontal Mounting

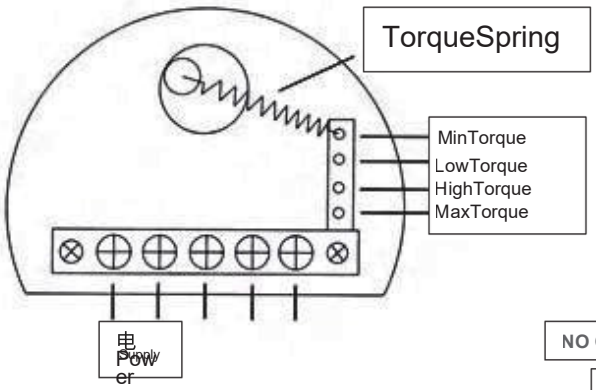
ProductDimensions & Specifications (Extended Reference)



Product Name	ISEN-28 Rotary Paddle Level Switch (Yellow Housing)
Operating Voltage	220VAC
Power Consumption	4W
Connect Rating	SPDT 5A/250VAC
Process Connection	G1" Thread (ISO 228-1) Customizable
Temperature Range	-20~80℃
Cable Entry	M20×1.5
Junction Box	Aluminum Alloy with Baked Paint Finish
Protection Rating	Junction Box
Installation	IP65 Vertical/Horizontal Mounting

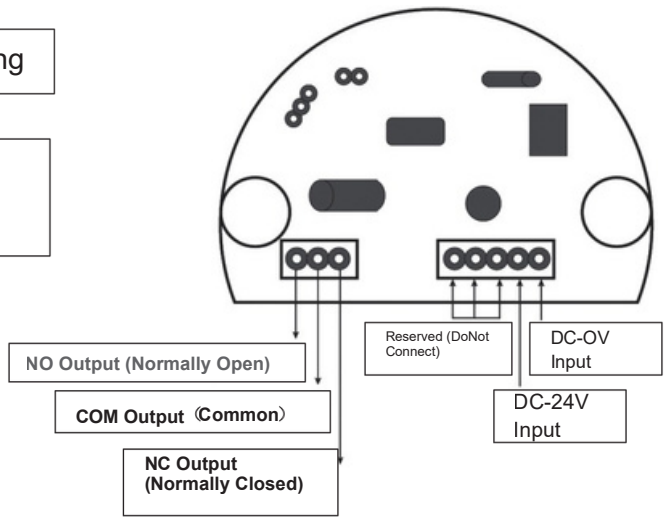
Product Wiring Diagram

Wiring Diagram for 220VAC Rotary Paddle Level Switch

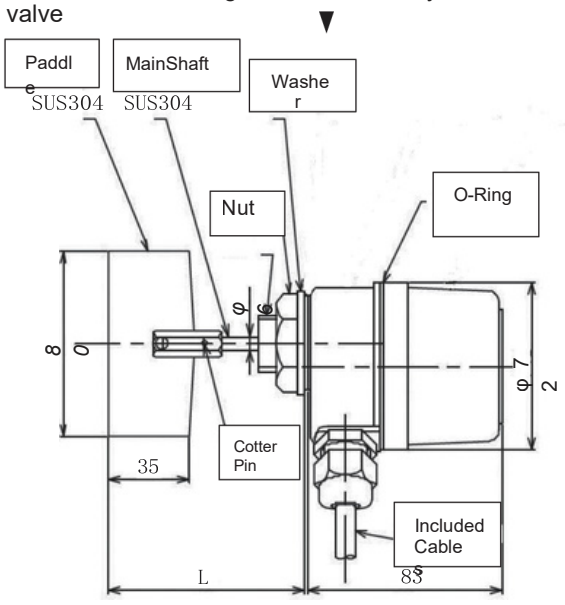


NO: Normally Open NC: Normally Closed COM: Common Terminal

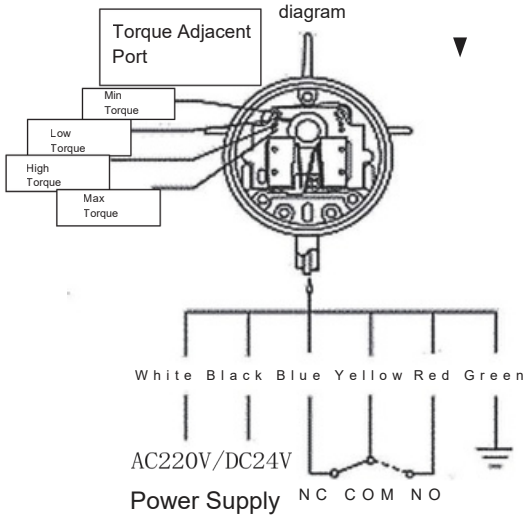
Wiring Diagram for 24VDC Rotary Paddle Level Switch



① Overall structure diagram of small rotary valve



② Small resistance rotation wiring diagram



1. Black, white - power supply 2. Yellow - common line (COM)

3. Blue - normally closed (NC) Red - normally open (NO) 4.

Green - ground wire

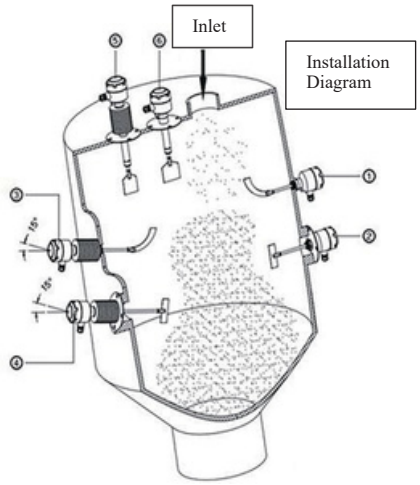
Torque Adjustment

1. Users can adjust the torque based on the specific gravity of the measured object. When the specific gravity of the measured object is high, the spring torque can be adjusted to the strongest position, at which point the sensitivity of the blade is relatively poor; when the specific gravity of the measured object is low, the spring can be adjusted to a weaker position, at which point the sensitivity of the blade is relatively good.

2. Specific method: Open the Junction Box, remove the torque spring from the end with multiple holes, and insert it into the corresponding hole as needed (the hole closest to the terminal block has the weakest torque). Note: During use, do not arbitrarily change the torque of the spring to avoid causing malfunctions.

Installation Precautions

1.For horizontal installation, the switch should be installed at a 15° to 20° downward angle from horizontal to reduce material impact. (Note: "℃" is incorrect for degrees angle; "°" is used. Assuming "15℃~20℃" is a typo for angle degrees.)
2.The Junction Box entry must be oriented downwards, and the cable gland must be securely tightened.
3.Verify the correct Operating Voltage before energizing the switch.
4.The load on the controlled circuit must match the switch's Contact Rating.
5.Installation should avoid proximity to bridge breakers or vibrating motors.
6.Install switches away from material inlet points to prevent damage to the paddle and false actuation from falling material. If installation near an inlet is unavoidable, install a 2mm thick protective baffle approximately 200mm above the switch.
7.Select horizontal or vertical installation based on the specific product model requirements.
8.For field assembly of adjustable shaft length switches: When connecting the universal joint to the drive shaft, apply anaerobic adhesive to the locknut threads before tightening it securely with a wrench.
9.Always disconnect power before opening the enclosure for field installation or maintenance, as per the warning label.
10.The installation site must be free of toxic gases corrosive to aluminum alloys.
11.The maximum temperature of the measured medium must not exceed the Temperature Range specified on the product label.
12.Avoid direct impact on the paddle or drive shaft during installation.



① Horizontal threaded installation ② Horizontal flange installation ③ Horizontal 15-degree hightemperature threaded installation
④ Horizontal 15-degree high-temperature flange installation ⑤ Vertical shaft protection high-temperature flange installation ⑥ Vertical shaft protection flange installation

Common Faults & Troubleshooting

NO	Failure Diagnosis and Troubleshooting	Cause Analysis	Corrective Measure
1	Paddle continues rotating during material conveying	Paddle size incompatible with material density	Respecify paddle dimensions
2	Paddle deformation or drive shaft bending	Excessive material impact force	Implement proper protective measures
3	Paddle fails to rotate	1. Improper power supply connection	Inspect and secure wiring connections
		2. Motor burnout	Contact manufacturer for motor replacement

Selection Chart

Model	Product Name
ISEN-（ ）-AAS	Rotary Paddle Level Switch

Code	Rotary Paddle Structure Type
10	Mini Rotary Paddle Level Switch
20	Standard Threaded Type
21	Standard Flange Type
22	Shaft Protection Tube Type
23	Adjustable Shaft Length Type
24	High-Temperature Type
25	High-Temperature Shaft Protection Tube Type
26	Cable Type
27	Full Stainless-Steel Type
28	Yellow Housing Rotary Paddle
29	Double Flange High-Temperature Rotary Paddle
30	Square Housing Rotary Paddle

	Code	Process Connection G3/4" Thread Mounting (Standar d for
	S0	Mini Rotary Paddle)
	S1	G1" Thread Mountin g (Standard)
	S2	G1-1/2"Thread Mounting
	F1	DN50 Flange Connection
	F2	DN65 Flange Connection
	T	50.5 Clamp Connect ion (Default)
	Y	Customizable

	Code	Temperature Range
	N	-20~80℃
	T	-20~200℃
	H	200~800 ℃

	Code	Power Supply
	A	220VAC
	D	24VDC

	Code	Junction Box Material
	P	Plastic
	L	Aluminum Alloy
	4	Stainless Steel 304
	6	Stainless Steel 316

	Code	Paddle Type (Refer to Paddle Sel ection Table Below)
	A	Straight Blade
	B	Shovel Type
	C	Flag Type
	D	Sickle Type
	E	Foldable Type
	F	Cross Type

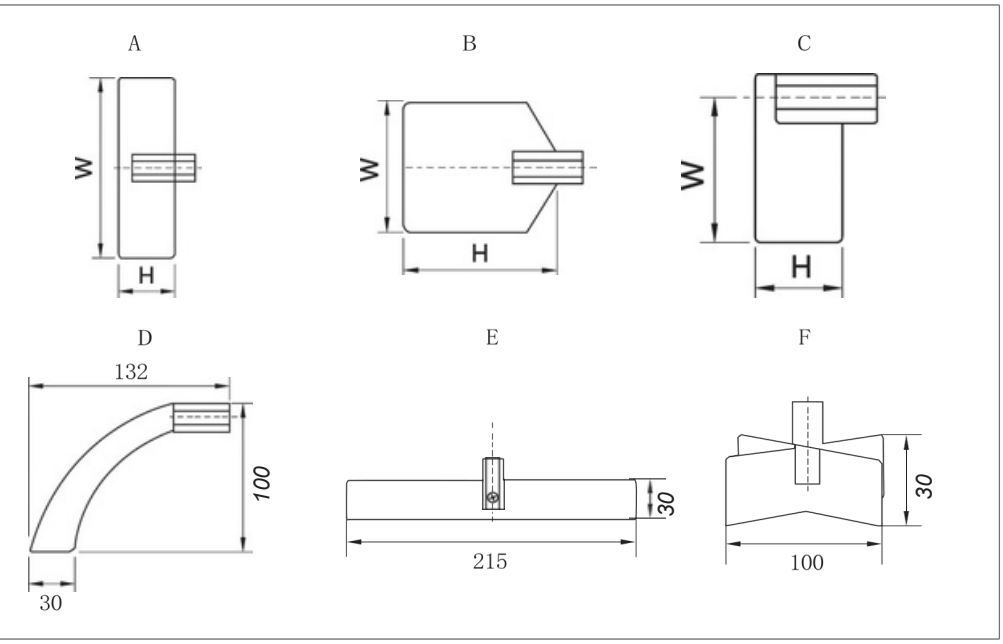
Selection Chart (Continued)

	Code	Junction Box Color
	B	Blue
	H	Gray
	R	Red
	Y	Yellow
	N	Royal Blue（Square shell rotary padd le）

	Code	Measuring Range
	xxxx	（）mm（Selet Range as Required）

BladeSelection Chart

A: 100×30 (W×H)
B: 65×80 (W×H)
C: 100×30 (W×H)
D: Sickle-Type
E: 215×30 (W×H)
F: 100×30 (W×H)



Selection Examples

Example: ISEN-10-AAS-S0NAPAB200, small rotary paddle level switch, G3/4" threaded mounting, temperature -20~80 °C, power supply 220VAC, plastic junction box, flat blade, blue junction box, range 200mm.

ISEN-21-AAF-F2NALAH240, standard flange type, DN65 flange connection, temperature range -20 to 80°C, power supply 220VAC, aluminum alloy junction box, straight blade, gray junction box, measurement range 240mm.

ISEN-30-ADS-S2NALDN300, square housing rotary paddle level switch, G1-1/2" threaded installation, temperature range -20~80°C, power supply 220VAC, aluminum alloy junction box, sickle-shaped blade, royal blue junction box, measurement range 300mm.

VALVE Link
All your process control needs

Website

WhatsApp

Valvelink Co., Ltd. (VIETNAM)

Address: 399 Nguyen Thi Kieu Street, Tan Thoi Hiep Ward, Ho Chi Minh City, Vietnam
Hotline: +84 933 603 406
WhatsApp: +84 979128773
Email: contact@valvelink.vn / tech@valvelink.vn
Website: valvelink.vn

Valvelink Europe Ent (EUROPE)

Address: Via Roma 108, Cassina de Pecchi, 20060, Milan, Italy
Hotline: +90-2123818702
WhatsApp: +84 979128773 / +84 933 603 406
Email: sales@valvelink.eu
Website: valvelink.eu

Valvelink Sdn Bhd (ASEAN)

Address: 1-20-02, M-City Ampang, Jalan Ampang, 57450 Kuala Lumpur, Malaysia
Hotline: +60-173700361
WhatsApp: +84 979128773 / +84 933 603 406
Email: sales@valvelink.asia
Website: valvelink.asia

Boon (tianjin) Environment Technology Industry Co.,ltd. (CHINA)

Address: Unit B, 1F, Building A, No. 5 Ziyang Road, Nankai District, Tianjin, China
Hotline: +84 979128773
WhatsApp: +84 933 603 406
Email: sales@valvelink.asia
Website: valvelink.com.cn