aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding

Parker Level Switch

Pneumatic Technology Products

Parker

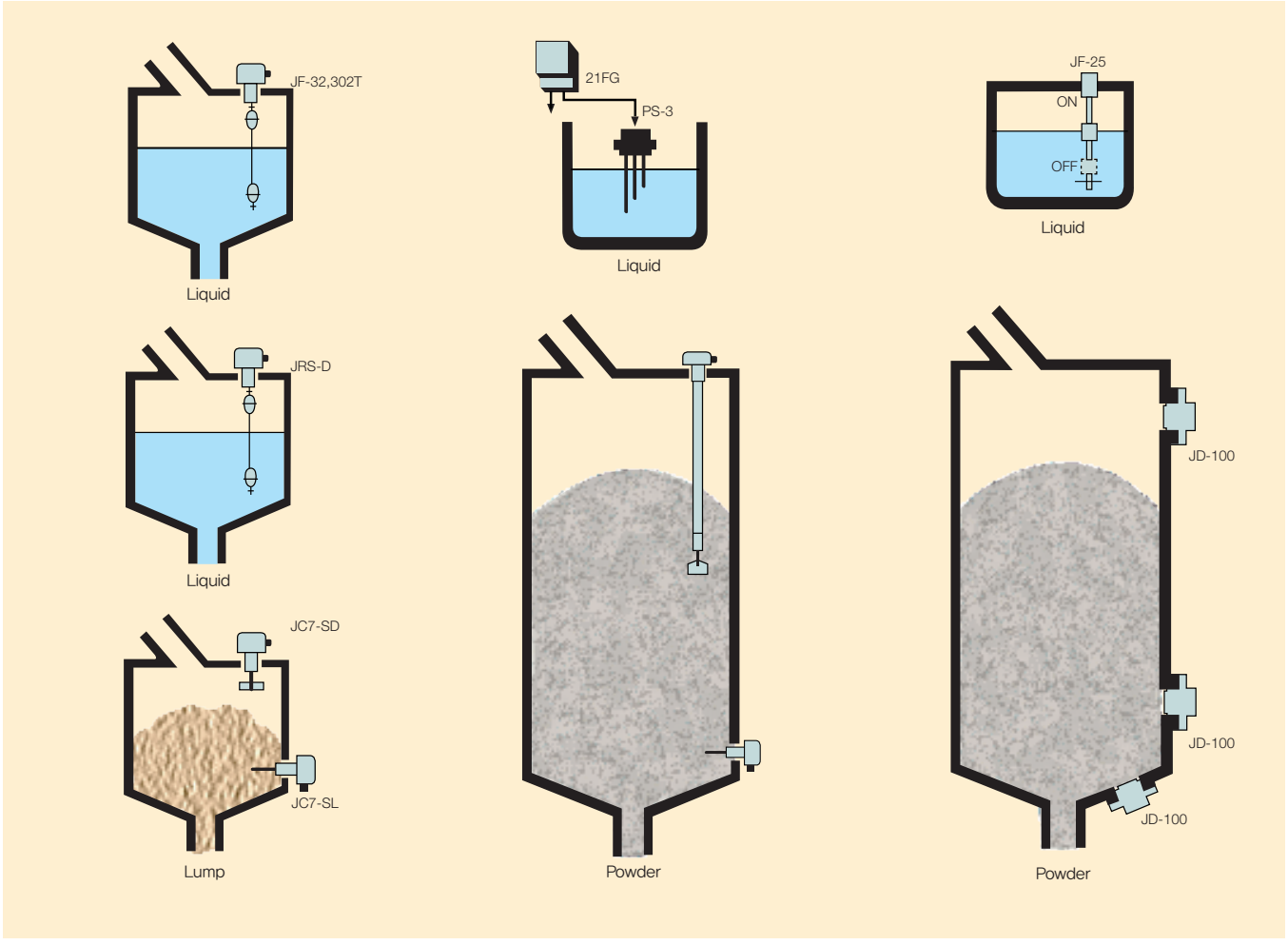
ENGINEERING YOUR SUCCESS.

Level switch

Scope of application

Classification	Model Name	Fluid used	Use division	Scope of application
Propeller type	JB-SD	Powder Granules Lumps	Grains Cement Sand Flour	Styrofoam, Resin
	JC7-SD, SL			Wheat flour, Soybean, Feed, Sugar, Cement, Sand, Gravels, Molding sand, Ore, Coal, Coke
	JC7-SH			
	JC7-ST			
Diaphragm type	JD-100			Wheat flour, Soybean, Feed, Sugar, Sand, etc.
Float type	JF-25	Liquids	Water	Clean water
	JF-32		Oil Industrial liquid materials Chemical solvent	Clean water, Waste water, Saline solution, Distilled water, Industrial chemical water, Cooking oil, Soybean oil, Heavy oil, Petroleum, Insulating oil, Mineral oil, Alcohol, Benzene, etc.
	JF-302T			
Lead Switch type	JRS-S			
	JRS-D			

Application examples



JB-SD Series

Features

- A compact type product that can be easily maintained and repaired in small spaces
- Optimum for controlling powders and fine particles such as flour, wheat flour, sugar, and plastic materials
- Highly sensitive with built-in springs that can be adjusted to four levels
- Usable in various kinds of small hoppers such as grain tanks and rice husk tanks

Specifications

Item	Unit	JB-SD
Voltage	V	AC 110V, AC220V(50/60Hz)
Regulation of voltage	%	±10
Power consumption	W	When the wing turns: 3W
Contact point capacity		AC 250V, 3A
Pressure used		Atmospheric pressure (ATM)
Rotation speed	RPM	6
Torque	g/cm	300~600
Oprating Temperature	°C	0~60 (Non-Condencing)

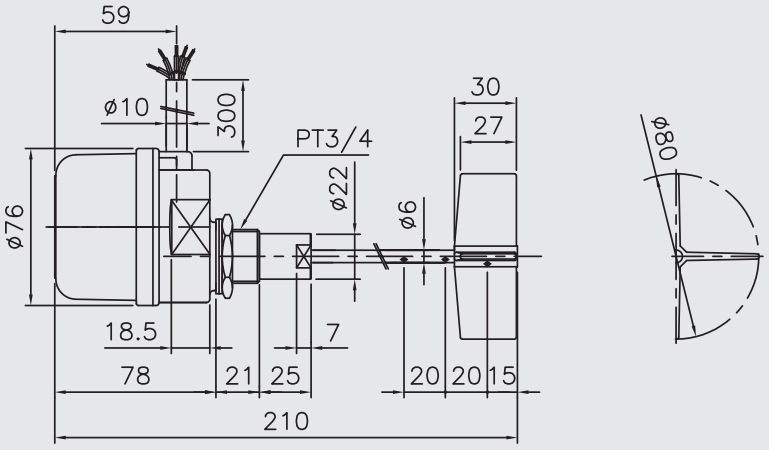
How to order

JB - SD - AC220V

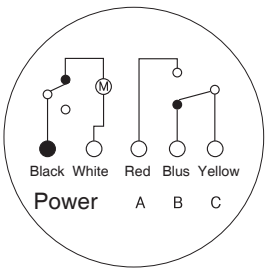
WorkingVoltage	
AC110V	AC110V
AC220V	AC220V

Dimensions

Unit: mm



Wiring

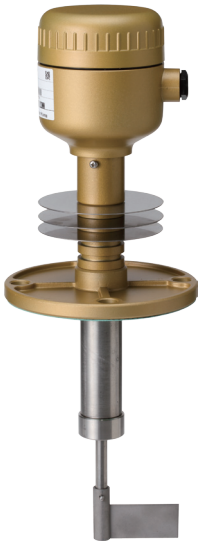


JC7 Series

JC7-SD
Basic model

JC7-SL
For lower level

JC7-ST
For higher level



JC7-SH
For heat resistance

Features

- Using mechanical detection methods, these types are not affected by temperatures, humidity, gases, etc. in the tank
- Made with aluminum cases, these types can be installed and used outdoors

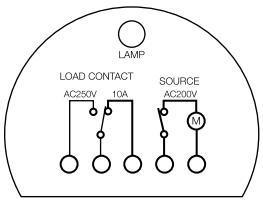
Operation principle

- Operated with mechanical structures, JC7 series detect the heights of stored goods through the rotational movements of their wings
- The wings are rotated by the motor. When resistance is generated on the wings by stored goods, the two micro-switches are operated by the built-in cam.
- The first switch turns the control circuit on/off and the next switch turns off the motor to prevent motor overload

Specifications

Item	Unit	JC7
Voltage	V	AC 110V, AC220V/50/60Hz
Regulation of voltage	%	±10
Power consumption	W	When the wing turns: 3
Contact point capacity		AC 250V, 3A
Pressure used		Atmospheric pressure
Rotation speed	RPM	6
Torque	g/cm	500~1000
Weight	kg	2.0kg, Heat radiating type (Separate weight for special products)
Ambient Temperature	°C	Standard type: 0~60
		For heat resistance: 0~120

Wiring



How to order

JC7 - SD - AC220V N MM P

Propellar Type	
SD	Two wings
SH	Oblique wing
SL	Half wing
ST	Half wing (for heat resistance)

Voltage	
AC110V	AC110V
AC220V	AC220V

Protection tube	
Blank	Non
P	Protection tube attached

LENGTH

150~3000

100

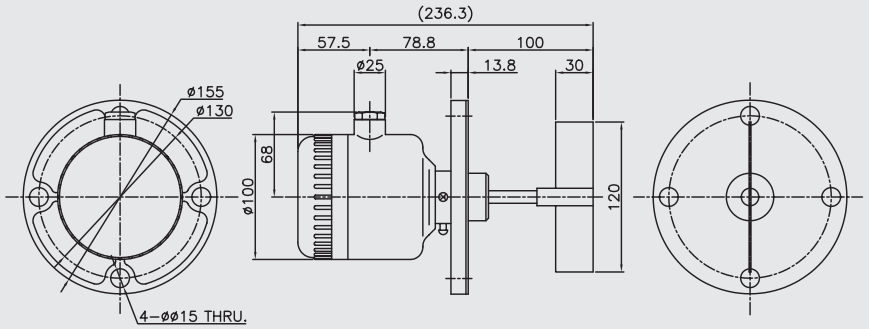
~~Diaphragm material~~	
100~3,000	SD
~~200~3,000~~	SH
100~3,000	SL
~~200~~400	ST

Note) The detection rod length is the length from the bottom of the flange to the end of the wing.

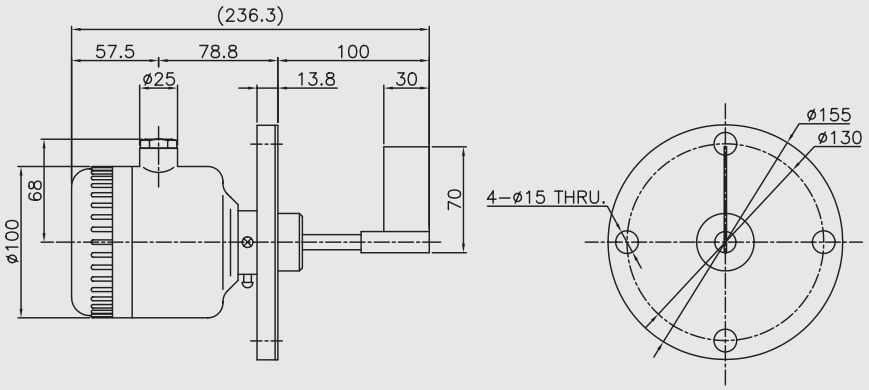
Dimensions

Unit: mm

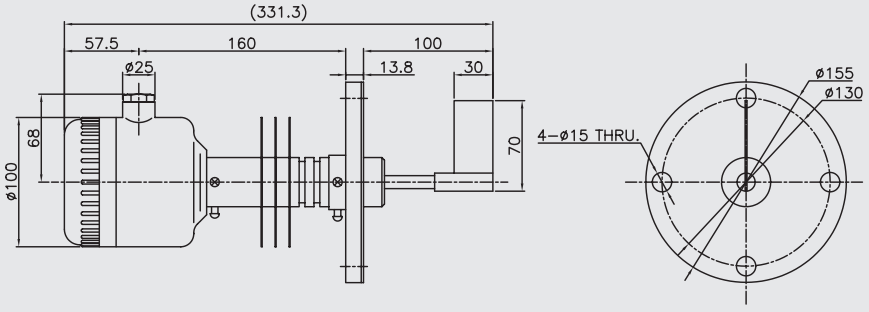
JC7-SD



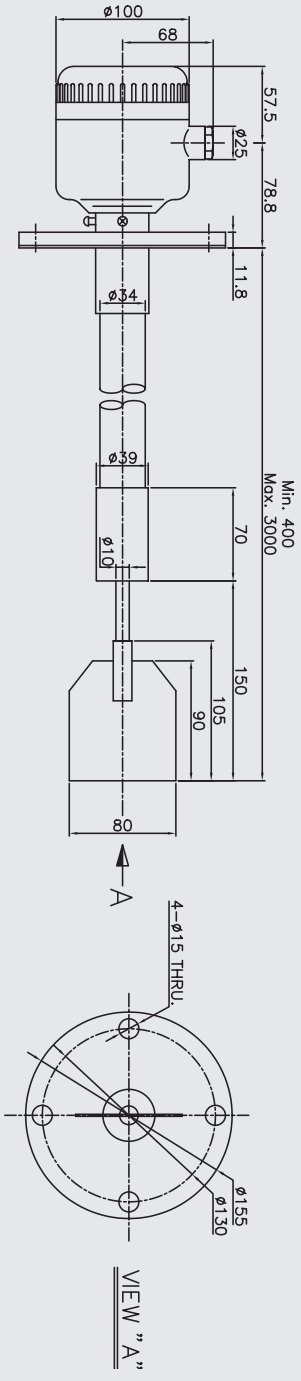
JC7-SL



JC7-ST



JC7-SH



JD-100 Series

JD-100

Basic model

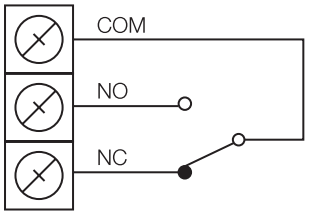
Features

- Sensitivity can be easily adjusted using an internal high strength spring
- Since the structure is simple, troubles occur rarely and maintenance is easy
- Easy handling and wiring

Specifications

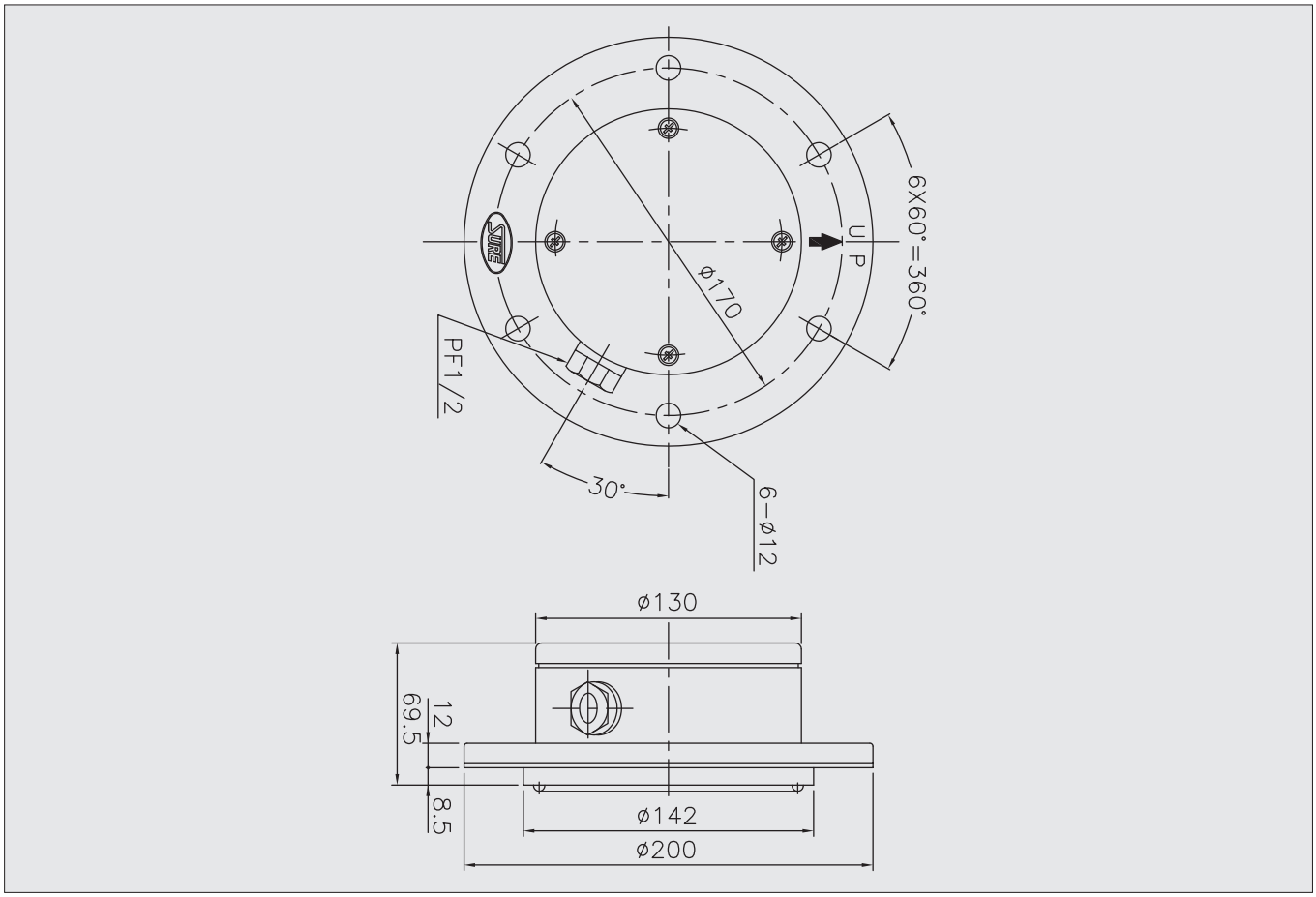
Item	Unit	JD-100
Contact point capacity		AC 250V 5A, DC125V 0.5A
Pressure used		Atmospheric pressure (ATM)
Torque	g/cm	500~1000
Operting Temperature	°C	60
Ambient Temperature	°C	0~60 (Provided that, there should be no freezing)

Wiring



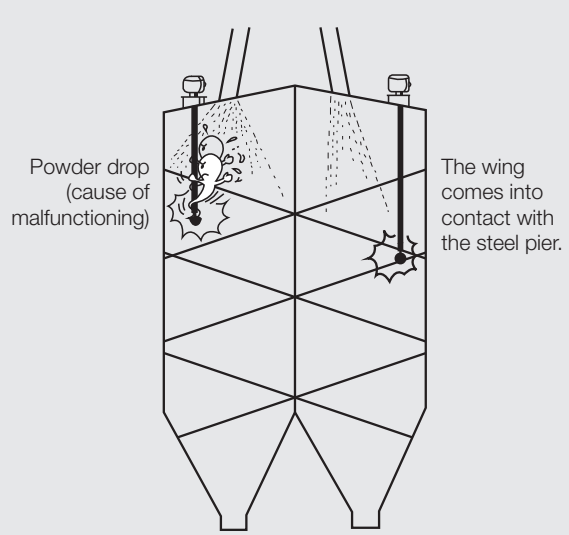
Dimensions

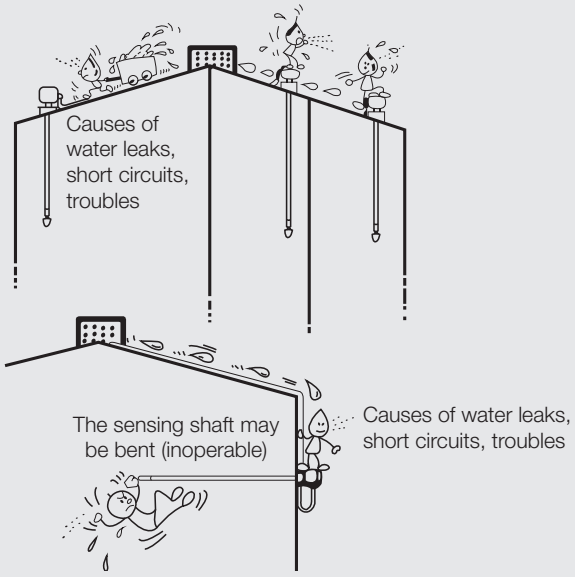
Unit: mm



Example of installation

Precautions for installation





- Check the voltage of the power supply.
  The built-in small motor requires a predetermined voltage which cannot be adjusted.
- Carefully review places to be selected for installation
  -The wings should not come into contact with parts such as steel piers in silos or tanks
  -Avoid places where powder drops. Upper limit switches should be installed vertically to have the device exert its performance.
- When the switch has been installed outdoors, problems may easily occur in electric piping in particular. If the level switch is lower than the wiring duct as shown in the figure, rainwater many flow into the electric piping and into the main body of the level switch in rainy seasons. Therefore, please pay special attention to this matter.
- The level switch is mechanical and has a small built-in synchronous motor(torque: 0.1-1kgf/cm). Therefore, please be careful so that no foreign matter or impurities would go into the level switch while being installed.
- If pressure is applied to the diaphragm surface by powder in the silo or tank, the built-in micro-switch will operate due to the force. If there is no powder in the silo or tank, the switch will be automatically restored by the force of the built-in spring.
  When necessary, the internal spring's force may be adjusted to adjust the sensitivity.
- Caution
  Do not use this switch in use environments where the rubber diaphragm may be damaged.

JF Series

Features

- Since these products operate regardless liquid resistance, these products are optimum for control the level of liquids such as clean water, waste water, saline solution, milk, heavy oil, diesel, cooking oil, etc.
- Not affected by the capacitance between external lead wires and can be operated remotely.
- Can be installed outdoors because a water proof main body cover is employed.
- Floats for organic solvents such as gasoline, heavy oil, benzene, and alcohol can be manufactured
- Can be used for single phase and three phase

JF-32
Plastic floater

JF-302T
STS floater

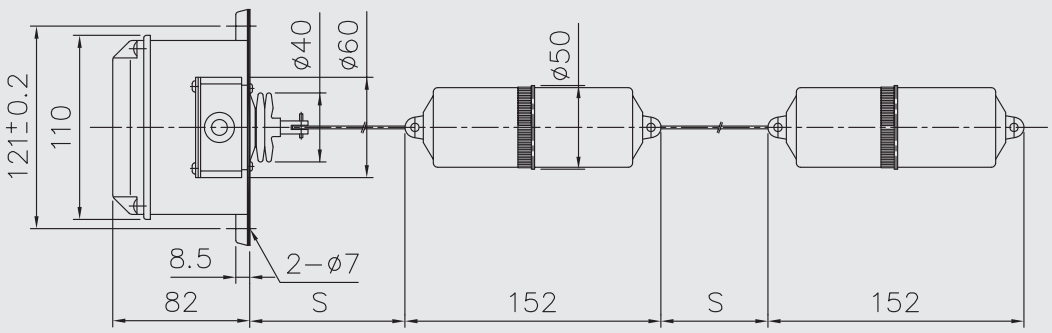
Specifications

Item	JF-32	JF-302T
Rated contact point capacity	AC250V 10A	
Frequency	50/60Hz	
Usable control range	0.18~10M	
Air pressure in the water tank	1 Atmosphere	
Usable temperature range	0~50°C	0~120°C
Rod material	Resin	STS 304
Scope of applicable fluids	Clean water, waste water, saline solution, corrosive liquids	Milk, heavy oil, diesel, cooking oil, benzene, alcohol, etc.

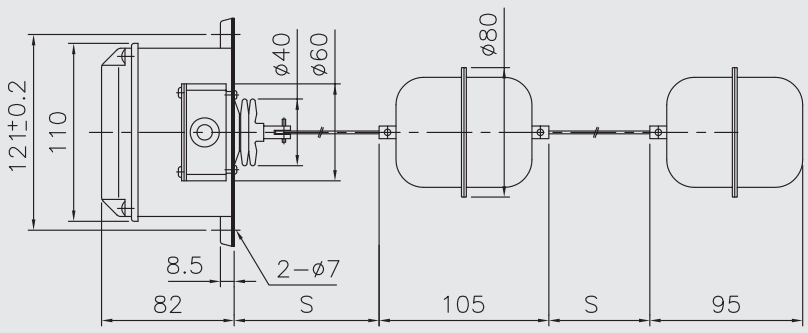
Dimensions

Unit: mm

JF-32



JF-302T



Liquid specific gravity table

Water	1.0
Sea water	1.01~1.05
Diesel	0.83~0.88
Heavy oil	0.85~0.9

Contact point rated capacity

JF32-JF-302T

AC110~125V	10A
AC220~250V	10A
AC440~480V	3A
AC600V	2A

21FG

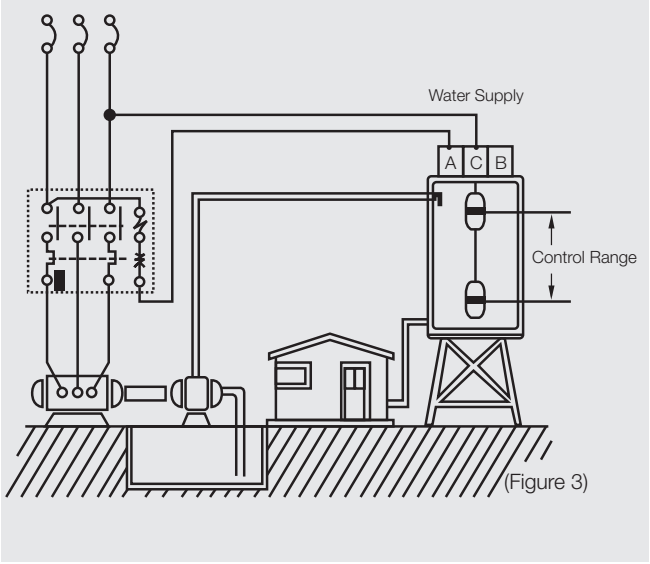
AC110~125V	5A
AC220~250V	4A

The above written rated capacities are values for resistive loads (cos ø ≒ 1). In the case of inductive loads, the rated capacities may be regarded as 1/2 of the above written values.

How to use and matters to be attended

External connection diagram (water supply/three phase)

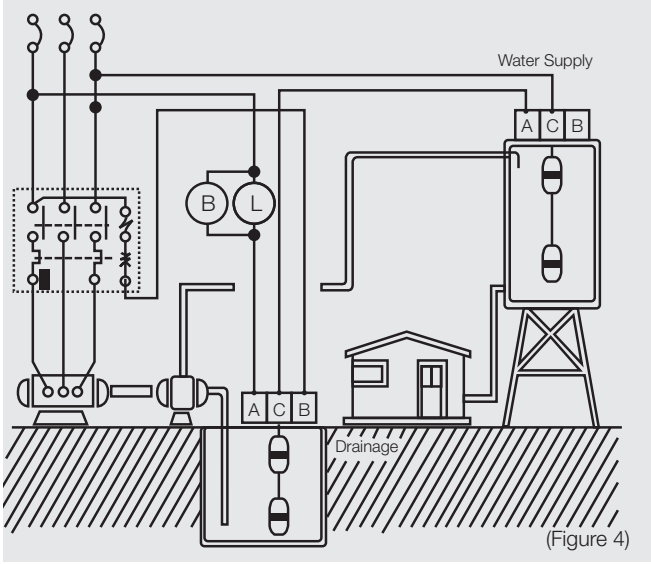
- When using for water drainage, use terminal B instead of terminal A.
- Ensure that the float would not be shaken by water flows or impacts
- This is suitable for level control that operates regardless of drained liquids' resistance
- Not affected by external induction or capacitance between wires and easily operated remotely.



(Figure 3)

Diagram of connection for pump idling prevention, alarms, and water supply control

- Please use JF-32 type floats at temperatures not exceeding 50°C because they are made of synthetic resins. Use JF-302T floats made of a stainless steel rod for high temperatures



(Figure 4)

JRS Series

Features

- Detection balls and detection rods are completely enclosed and thus the products are not affected by pressure, vacuum, or gases
- The lead switch is enclosed in a glass tube containing inert gas and thus the products operate safely in combustible gases
- When the detection ball moves up and down due to buoyancy, the lead switches fixed to the upper/lower limit contact point positions are sensed.
- Can be used for simultaneous control of water supply/ drainage or alarms for water shortage/full water by additionally installing electrode type level switches (21F-G)
- In particular, types with the control unit not built in the products can be used in regions with the risk of explosion or cases where the location of detection is far away from the location of control by installing the power supply part and the amplification part separately
- Depending on connections, either N.C or N.O can be used or both can be used.

JRS-S
One detection ball

JRS-D
Two detection ball

Specifications (built-in type)

Item	JRS-S	JRS-D
Power supply/voltage	AC110V, AC220V/50/60Hz	
Voltage fluctuation range	±10%	
Power consumption	2VA	
Contact point capacity	AC250V 3A	
Internal pressure	7kgf/cm2	
Insulation resistance	At least 100 Ω DC 500V MEGA	
Life	Electric: at least 500,000 times / Mechanical: at least 5,000,000 times	
Workable temperature range	0-80°C (Non Condencing)	

How to order

JRS - S - I - [ ] - [ ] - [ ]
① ② ③ ④ ⑤

①. Number of detection balls	
S	One detection ball
D	Two detection balls

②. Control unit	
I	Built-in control unit
O	Control unit not built in

③. Total length (Enter the dimension of L in dimension)	
S	80~
D	80~

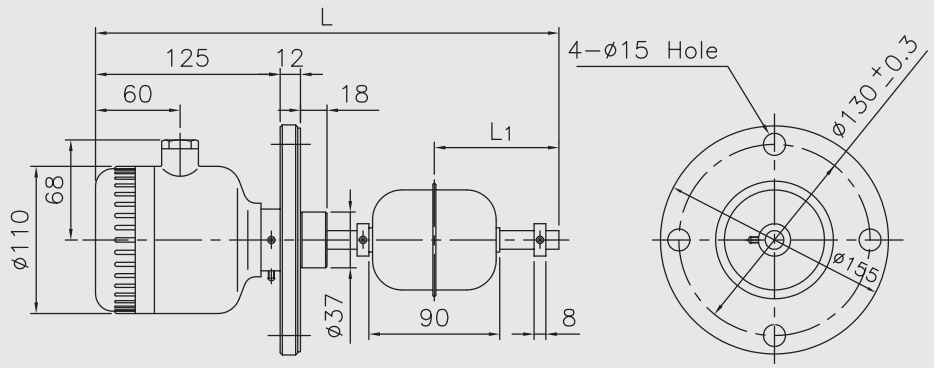
④. Upper limit contact point position (Enter the dimension of L3 in dimension)	
S	80~
D	80~

⑤. Lower limit contact point position (Enter the dimension of L1 in dimension)	
S	Blank
D	60~

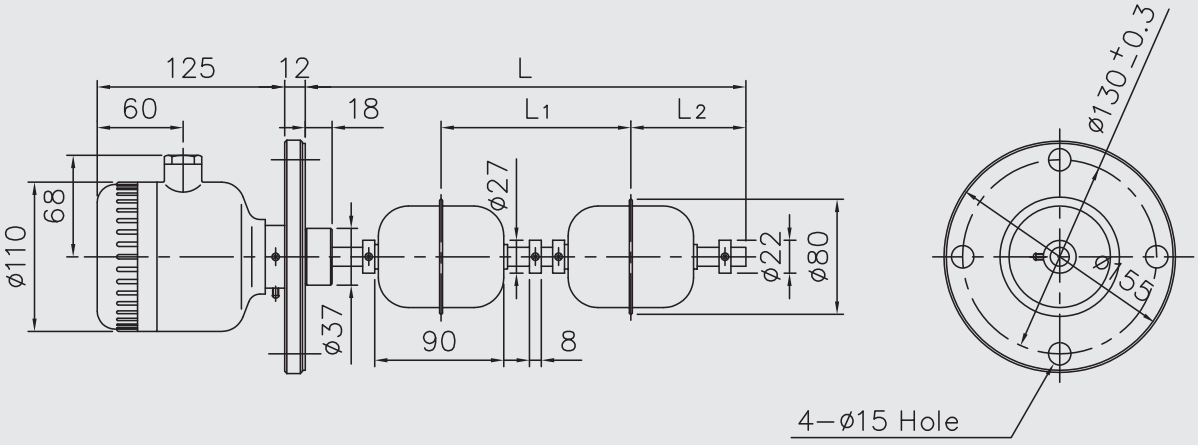
Dimensions (built-in type/exterior type)

Unit: mm

JRS-S

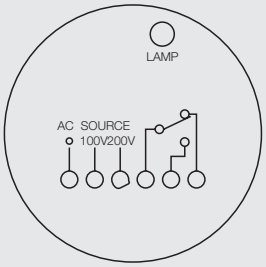


JRS-D

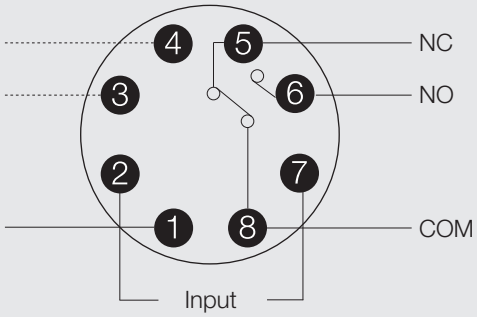


Wiring

Built-in type



Exterior type



Example of use

JRS-DO connection diagram

*Electrode type level switches (21F-G) may be additionally installed to simultaneously control water supply/drainage