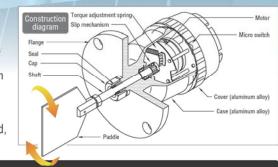
# **Rotary Paddle Type Level Switch**

# **Operation Principle**

When the substance being measured restricts the rotation of the paddle, the motor rotates around its axis. This activates the internal micro switch, which outputs a detection signal.

At the same time, the power supplied to the motor is interrupted. (This state indicates that a detection has been made.)

When the substance being measured is no longer present and the restriction on the rotation of the paddle is removed, the force of the internal spring causes the paddle to return to its original movement. The detection signal is switched and, at the same time, the power to the motor is supplied, which makes the paddle start rotating again. (This state indicates that no detection has been made.)





Power supply voltage *Made-to-order	200/220	VAC 50/60 Hz DPL Type: 24 VDC ±10% VAC 50/60 Hz Itages are also available.
Connection	Flange attachment JIS 5K 65A (aluminum) *1	
Power consumption	2.5 W	
Contact output	1C contact	PRL Type 250 VAC 5 A (resistive load) DPL Type 250 VAC 0.1 A (resistive load) PRL-Z Type 250 VAC 0.1 A (resistive load)
DDI 7	DEO MAC	014

voltage *Made-to-order		VAC 50/60 Hz Itages are also available.	
Connection	Flange attachment JIS 5K 65A (aluminum) *1		
Power consumption	2.5 W		
Contact output	1C contact	PRL Type 250 VAC 5 A (resistive load) DPL Type 250 VAC 0.1 A (resistive load) PRL-Z Type 250 VAC 0.1 A (resistive load)	
PRL-Z specifications	250 VAC	0.1 A	

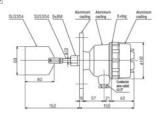
Detection torque	Approx. 10.0 N·cm		
Slip torque	Approx. 30.0 N⋅cm		
Revolutions	PRL 1 RPM, DPL 2 RPM		
Material	Main unit case & flange Shaft & paddle Seal	Die cast aluminum SUS 304 Nitrile rubber	
Paddle size	Standard specs: W-1 (80 x 80 mm) *2 500/500N Type: S-1 (30 x 60 mm)		
Operating temperature	Inside tank: Max. 70°C Outside tank: Max. 55°C		

Inside tank: 0 to 196 kPa
Munsell 10YR7.5/14
IP65

- \*1 Other flange sizes and materials also available.
- \*2 Other paddle sizes also available. (See page 2) Changing paddle size changes dimension L, so take careful note of detection position when selecting paddle. Selecting an F-type folding paddle will decrease dimension L by 30 mm \*Small-diameter seal caps are also available to
- reduce the chance of blockages when detecting fine powders.

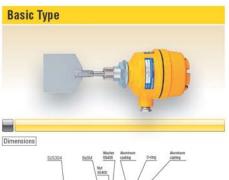


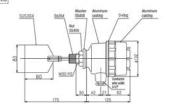
# PRL-100



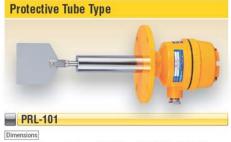
This is our most versatile model.

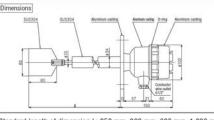
It can be mounted on the side of the tank and used for low, mid, and high level detection.





Connection: Threaded attachment M30 P2" Dimension L is fixed. As the unit employs a threaded attachment preparing special flanges will allow you to attach it in a variety of ways

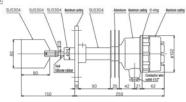




Standard length of dimension L: 250 mm, 300 mm, 600 mm, 1,000 mm \*Other lengths can be made in increments of 50 mm as required. Dimension L can be made up to 2,000 mm long.

\*A sliding flange model that allows dimension L to be adjusted on-site is also available. Specify maximum length required when ordering.





Operating temperature inside tank PRL-200 Max. 200°C PRL-200S Max. 250°C to 400°C Operating temperature outside tank Max. 55°C

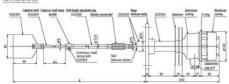
\*Dimension L for PRL-200 is 150 mm. If a longer length is required, order model number PRL-201



450 to 600 mm	
650 to 1,000 mm	
750 to 1,200 mm	
1,000 to 1,500 mm	
1,200 to 2,000 mm	
1,500 to 2,500 mm	
1,700 to 3,000 mm	
	650 to 1,000 mm 750 to 1,200 mm 1,000 to 1,500 mm 1,200 to 2,000 mm 1,500 to 2,500 mm

\*Special model for vertical attachment.



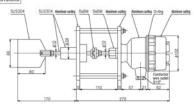


PRL-200EB dimension L	450 to 600 mm	
	650 to 1,000 mm	
	750 to 1,200 mm	
PRL-200ED dimension L	1,000 to 1,500 mm	
	1,200 to 2,000 mm	
	1,500 to 2,500 mm	
	1,700 to 3,000 mm	

### **Double Flange Type**



### PRL-100F



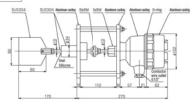
Shaft rotation can be checked visually from outside the tank Dimension L can be made up to 2,000 mm long. Coupling parts can be made with acrylic piping for outdoor use

# Heat-resistant Double Flange Type



### PRL-200F

#### Dimensions



Heat-resistant up to 200°C (seal: silicone)

Models with a special paint scheme that allows rotation to be checked are also available

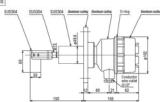
Coupling parts can be made with acrylic piping for outdoor use

# **Heavy Duty Type**



# PRL-500

#### Dimensions



Operating pressure: Inside tank 0 to 49 kPa

\*If a longer length for dimension L is required, order model number PRL-501.

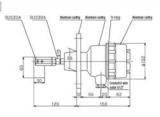
In this case the standard W-1 paddle (80 x 80 mm) is included.

# **Heavy Duty Type**



# PRL-500N

# Dimensions



Operating pressure: Inside tank 0 to 49 kPa

\*Not available with different length for dimension L.

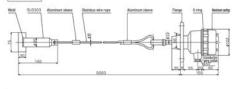
If a longer length for dimension L is required, select model number 501.

#### Mid/Low Level Type



# PRL-500W

#### Dimensions



Dimension L can be made up to 10,000 mm long.

Operating pressure: Inside tank 0 to 49 kPa

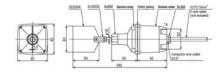
- \*Adjustable wire-length (clip type) models are also optionally
- \*Use for mid- and low-level detection.
- \*Paddle size is fixed and cannot be changed

# Suspended, Pipe-mounted Type



### PRL-300

### Dimensions



Can be used by screwing unit directly onto a pipe of your choice Pipe must be supplied separately. Models with lead wire included are also available

(Lead wire length must be specified in meters.)

# **Paddle Sizes**



Standard paddle

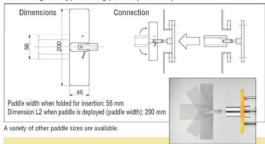








# ■ Drawing of F-type folding paddle (45 x 200)



Selecting a folding paddle facilitates attachment and removal of the unit during maintenance.

A single-bladed FS-type folding paddle 45 x 100 mm is also available.

# Example Application Preventing blockages in fine powder detection and similar applications

Air purge model

 When the substance being measured consists of fine particles that can easily infiltrate sealed parts, performing an air purge improves seal performance.

Unit with air purge nozzle L-100 mm, Rc 1/4"

 Restrictions apply to equipment that can be connected.

■ Redundant protection tube model
■ PRL-□□□GS Type

Special model with a redundant design consisting of a purge protection tube on top of a normal protection tube. The air purge is performed between the two tubes. . Blowing compressed air through the system also produces a cooling effect. (Dimension L: 500 mm or less)

Also ideal for use in environments where blockages due to powder are common.

Others

Models with overlapping seals and small-diameter caps are also available. Contact Towa Seiden for details.

