

**Rotary Paddle level Switch**  
**MODEL: SB-RPLS**

**SMART BIENE.**





## WORKING PRINCIPLE

- The purpose of the rotary paddle level switch is to detect the presence of solid/powdery material in most kinds of tanks, bins and containers.
- The unit is usually located through a bin wall at the top, middle or low level of a bin. During normal operation (no material present) a synchronous motor rotates the paddle at 2 RPM. When this paddle rotation is impeded by material, surrounding the paddle, motor will stall and cause the Micro-switch to change state (indicating an alarm or control).

## APPLICATION

- Plastics and synthetics
- Chemicals and fertilizer
- Pharmaceuticals
- Food and beverage
- Agriculture and fodder mills/depots
- Cement as well as ceramics
- Power plants
- Various incinerators

## SPECIFICATION

- Power source: 12-24 VDC 110-220 VAC
- Power consumption: 3W / 11W.
- Contact capacity: SPDT 250Vac/5A.
- Rotary speed: 2 r.p.m.
- Insulation test voltage: 2500V.
- Connection: 1" pipe thread.
- Protection material: IP 66.
- Conduit: M20\*1.5.
- Material density: 0.5 gr/cm3.

## FEATURES

- Rugged sealing ring prevents dust from infiltrating the housing body along the shaft.
- Adjustable torque.
- If the rotary paddle encounters overloading, the motor will automatically shut down the motor to prevent damage to the inner mechanisms and extend motor life.
- Very suitable for small tanks and low density materials
- Adjustable and extendible shaft models available A wide variety of paddles are available



Figure 1: Typical Rotary Paddle Level Switch

## ENVIRONMENTAL CONDITIONS

- Operating temperature: -25 ...+85°C
- Media temperature: -25 ...125°C
- Humidity: max. 95%
- Relative vibration: 2g (10...2000 Hz)
- Shock: 5g/ 8 msec.

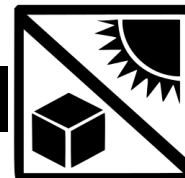


## ESD CAUTION

- ESD (electrostatic discharge) sensitive device. Electrostatic charges as high as 4000 V readily accumulate on the human body and test equipment and can discharge without detection. Although this product features proprietary ESD protection circuitry, permanent damage may occur on devices subjected to high energy electrostatic discharges. Therefore, proper ESD precautions are recommended to avoid performance degradation or loss of functionality.



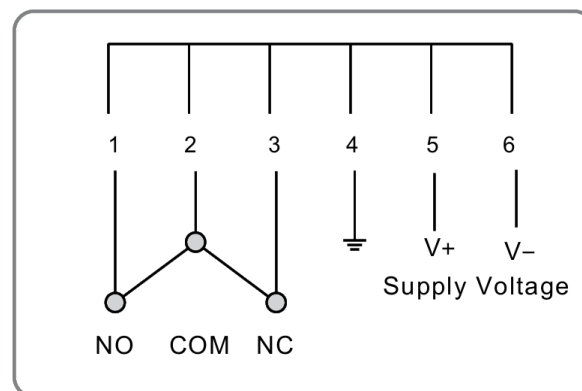
## CAUTION



- Some liquid and gas mixtures are dangerous. This includes mixtures that occur because of contamination. Make sure that the device is safe to use with the necessary media.
- It is dangerous to ignore the specified limits for the device or to use the device when it is not in its normal condition. Use the applicable protection and obey all safety precautions.
- Before you start an operation or procedure, make sure that you have the necessary skills (if necessary, with qualifications from an approved training establishment).
- Follow good engineering practice at all times.

## TERMINAL WIRING

01. Normally open relay: NO
02. Common relay: COM
03. Normally Closed relay: NC
04. Earth terminal
05. Supply voltage: 24vdc, 12vdc, 220 VAC or 110VAC based on order code
06. Supply Voltage: 0 VDC, 220 VAC or 110VAC based on order code.





## MODEL SELECTION

**S** **B** - **R** **P** **L** **S** - **2** - **A** - **2** **2** **0** - **2**

**Device Type:**

**RPLS:** Rotary paddle level switch

**Sensor Length ( L: as specified in drawings ):**

**0:** L= 40mm

**1:** L= 200mm

**2:** L= 400mm

**3:** L=600mm

**L:** Customized length

**C:** Cable wire shaft with customized length

**Paddle Type:**

**A B C D E**

**Supply Voltage:**

**012:** 12 VDC

**024:** 24 VDC

**110:** 110 VAC

**220:** 220 VAC

**material:**

**1:** SS 304

**2:** SS 316

**3:** SS 316 (L)

**4:** High temperature Application(90°c to 120°c)



**DIMENSIONAL DRAWING & INSTAALLATION**

Dimensions in mm.

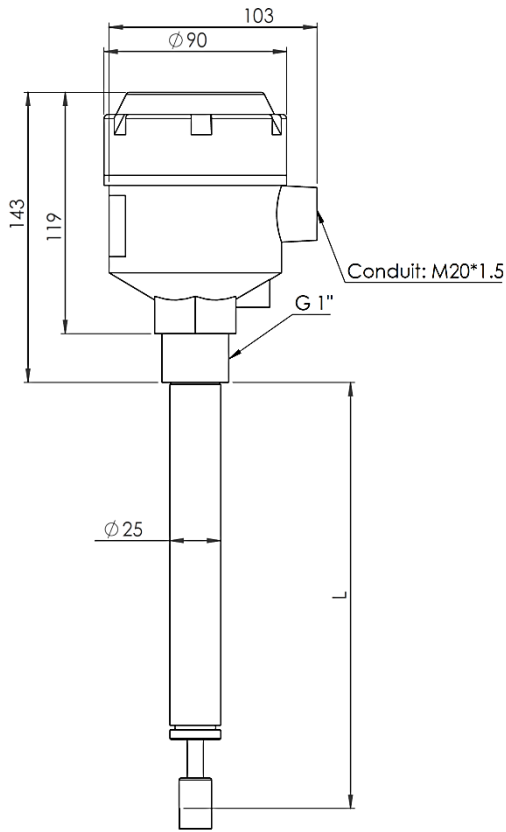


Figure 2: Rotary Paddle Level Switch Dimensions.

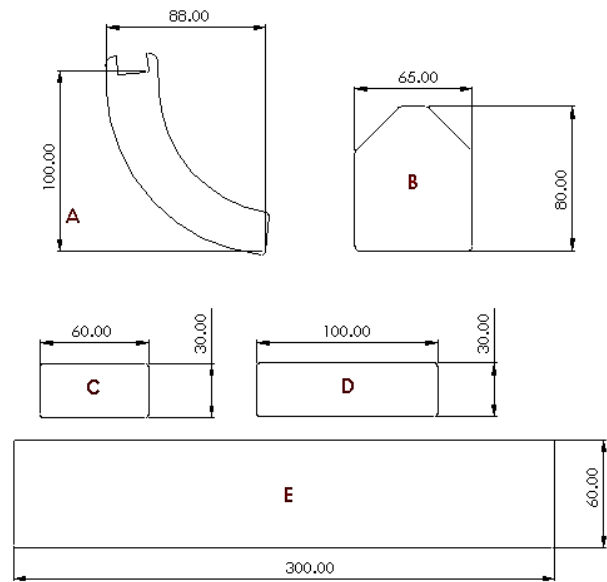


Figure 3: Rotary Paddles types and dimensions.



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**Smart Biene** ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of 12 months from date of purchase. **Smart Biene's** WARRANTY adds an additional one (1) month grace period to the normal one (1) year product warranty to cover handling and shipping time. This ensures that **Smart Biene's** customers receive maximum coverage on each product. If the unit malfunctions, it must be returned to the factory for evaluation. **Smart Biene's** Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by **Smart Biene**, if the unit is found to be defective, it will be repaired or replaced at no charge. **Smart Biene's** WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of **Smart Biene's** control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and Relays. **Smart Biene** is pleased to offer suggestions on the use of its various products. However, **Smart Biene** neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use of its products in accordance with information provided by **Smart Biene**, either verbal or written. **Smart Biene** warrants only that the parts manufactured by the company will be as specified and free of defects.

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