

**BULK LEVEL  
MEASUREMENT**



## **ROTARY PADDLE LEVEL SWITCH**

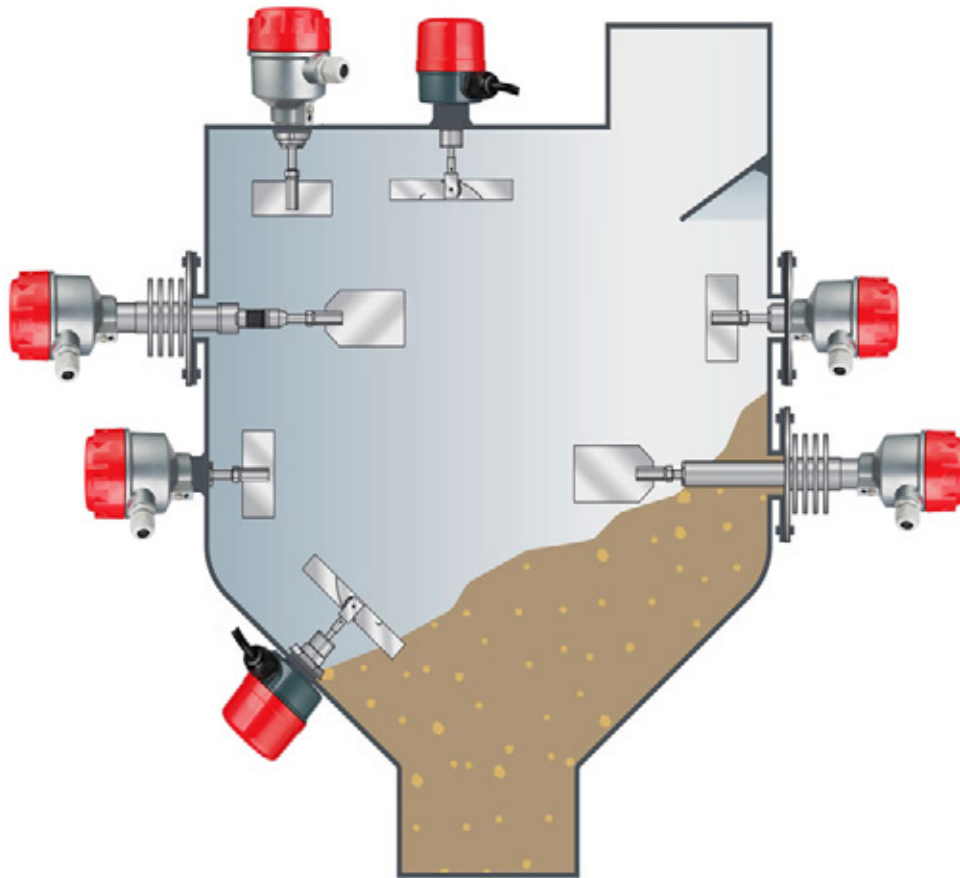
POINT LEVEL MEASUREMENT SERIES

Thailand Distributor :

Energy Power Save CO.,LTD

442/2 Chan Road, Thung Watdon Sathon Bangkok Thailand 10120 [www.7-mars.com](http://www.7-mars.com), [www.7-24part.com](http://www.7-24part.com)

Tel : +66 (02) 114 7145-9 Ext. Sales Email : [info@7-mars.com](mailto:info@7-mars.com)



## BORCHURE 2022

Thailand Distributor :

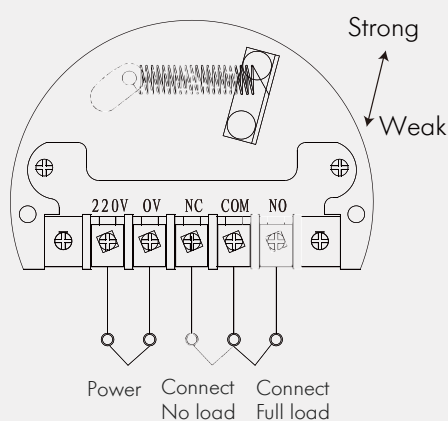
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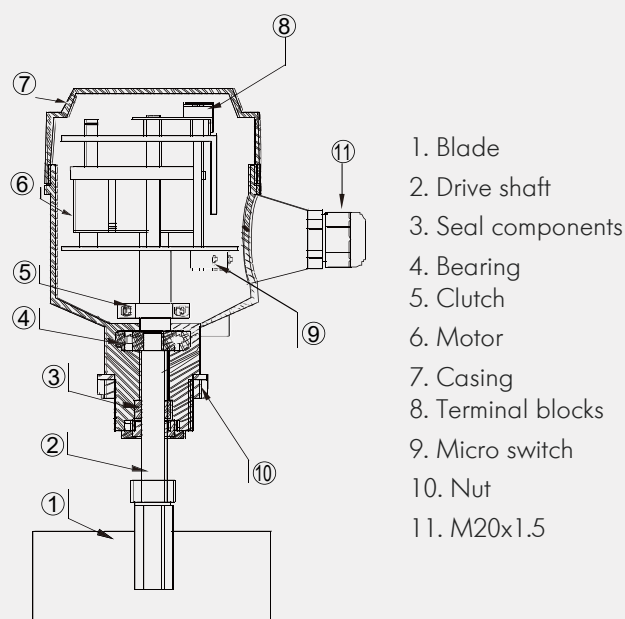
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# ROTARY PADDLE LEVEL SWITCH

## SENSITIVITY ADJUSTMENT



## STRUCTURE



Utilizes micro motor as drive device, transmission shaft contact with clutch. When it doesn't contact with material, the motor runs normally; when the blade contacts with material, the motor stops running; testing device outputs a contact signal and cuts the power and it stops rotary in the meantime. The pressure to blade is disappear when the material gradually fall down, and the testing device recovered to the original state by torsion spring. Torsion could be regulated according to different gravity of materials.

## FEATURES

- Detection of loose solid materials using the technology of the rotating blade
- The highly integrated mechanical seal to prevent infiltration of dust along the axis
- The unique elastically clutch structure, when the blade being overloaded, the automatic protection of electrical machinery could be realized
- Completely mechanical and electrical separation structure, need not to demolish, easy to maintain
- Special blades can be used for low-density mediums
- Use of the process connecting pieces, easy to install

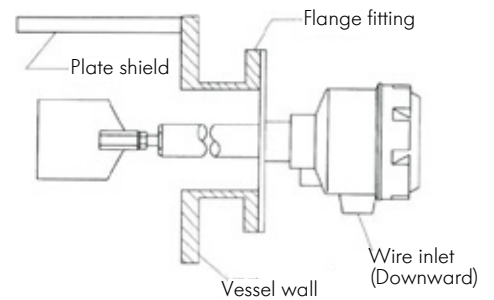
## APPLICATIONS

Used for detecting material level of warehouse, vessel, bin and tank. The material level switch can prevent warehouse flooding, tank jam and ware house empty so as to reduce flooding, material waste and standby time.

It is also suitable for plastic, food, chemical industry, mineral iron, material and other solid matter.

## MOUNTING

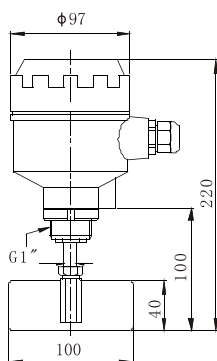
- The wire inlet of the junction box should be downward, lock the screw nut well.
- The power supply should be consistent with the power indicated on the Rotary Paddle Level Switch.
- The load in the line should be conformed to the contact capacity of the switch.
- The switch should not be installed under the solid feed inlet for reducing the impaction to the vane and fault action; if cannot avoid, please fix a protective shield on the vane as the following drawing. The minimum distance of protective shield no less 150mm.



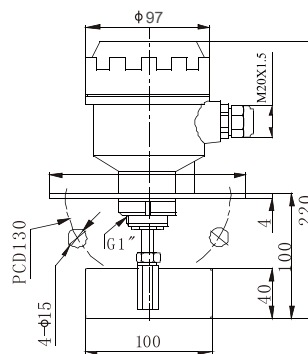
## TECHNICAL DATA

Item	Basic parameters
Supply voltage	220 V AC / 110 V AC / 24 V AC / 24 V DC
Contact capacity	250VAC/5A, SDPT
Operating temperature	-30...+80 °C ( min. -40 and max.up to +800°C is customization)
Power consumption	≤ 3 W
Rotary torque	1 N.m
Rotary speed	1 prm ( selectable 5 prm is available)
Blade material	SUS304
Suitable gravity	≥ 0.4g/cm3
Electrical connection	M20×1.5
Housing material	Aluminum
Ingress protection	IP65

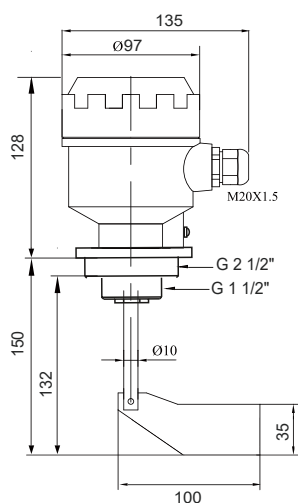




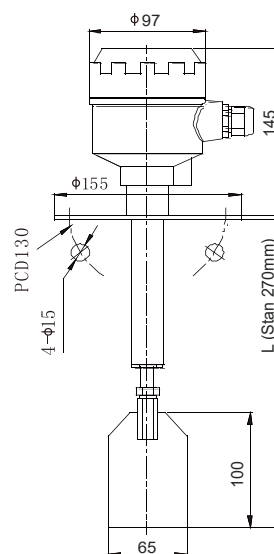
STANDARD THREAD VERSION  
VRS-10S



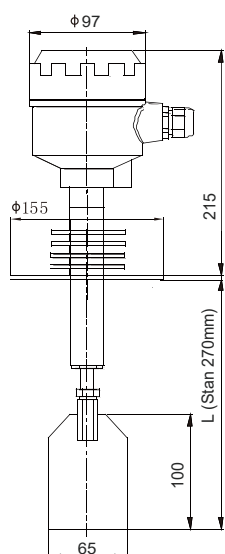
STANDARD FLANGE VERSION  
VRS-10F



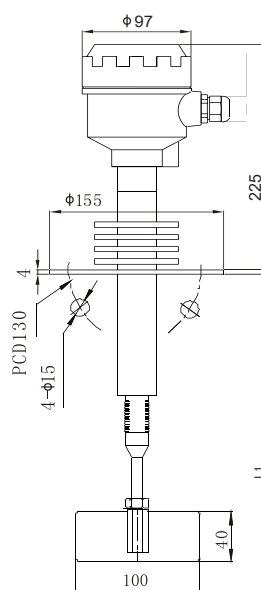
CUSTOMIZED THREAD VERSION  
VRS-10XLT



FLANGE WITH PROTECTION ROD  
VRS-20F



HIGH TEMP WITH PROTECTION ROD  
VRS-20FT



SPECIAL HIGH TEMPERATURE VERSION  
VRS-20FH (max 800°C)

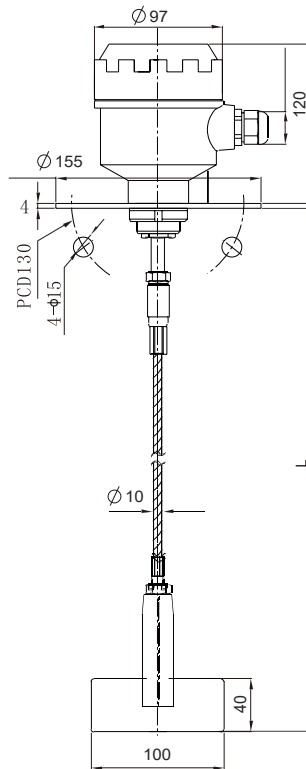
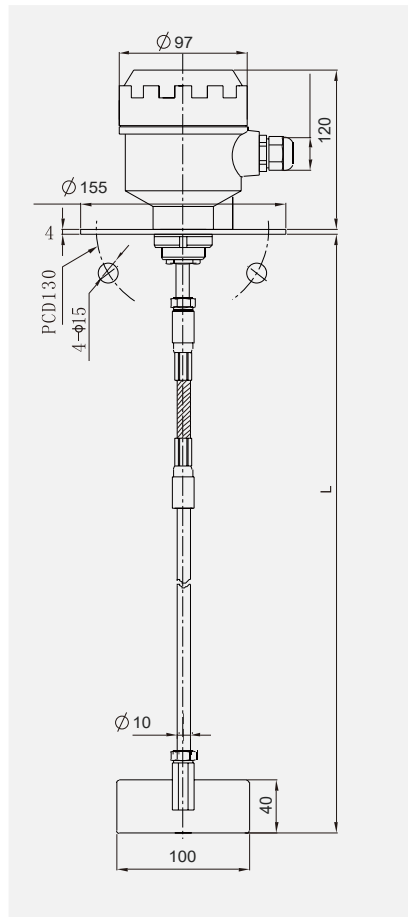




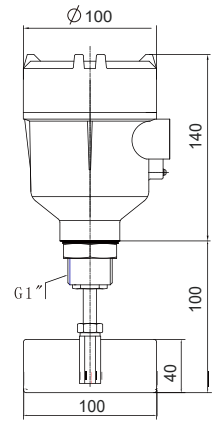
EXTENSION ROD VERSION  
VRS-10FL



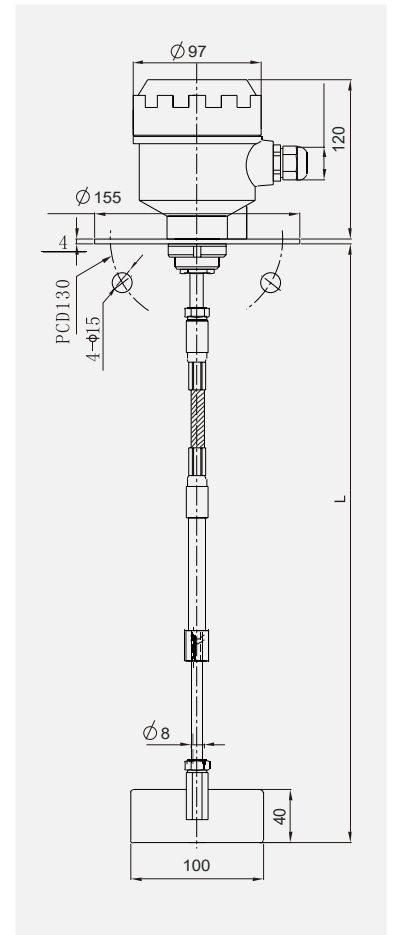
FLEXIBLE ROPE VERSION  
VRS-40F



EXPLOSION-PROOF VERSION  
VRS-EX10



ADJUSTABLE SHAFT LENGTH VERSION  
VRS-30F



## NAMING RULES

<u>VRS(5)</u>	<u>□</u>	<u>□</u>	<u>□</u>	<u>□</u>	<u>□</u>	<u>□</u>	<u>□</u>
1	2	3	4	5	6	7	8

### 1 Product code

VRS - Standard type, rotary speed 1rpm  
VRS5 - Rotary speed is 5 rpm

### 2 Version code

10 - Standard type  
20 - Protection rod type  
30 - Adjustable shaft length type  
40 - Flexible steel rope type  
EX - Explosion-proof type  
X - Customized

### 3 Process fitting

SG - G Thread+size, for example: SG1: G1"  
SB - BSPT Thread+size  
SN - NPT Thread+size  
F - Flange (JIS 2-1/2"x5kg/cm2)  
O - Others

### 4 Supply voltage

1 - 220 V AC  
2 - 110 V AC  
3 - 24 V AC  
4 - 24 V DC

### 5 Blade code

A - 100x40 (WxH)  
B - 65x100 (WxH)  
C - 200x28 (WxH)  
D - 100x130, Sickle type  
E - 100x40 (WxH)  
S - Customized

### 6 Insertion length, L

Blank: standard  
L500 - insert length is 500mm  
L750 - insert length is 750mm  
.....

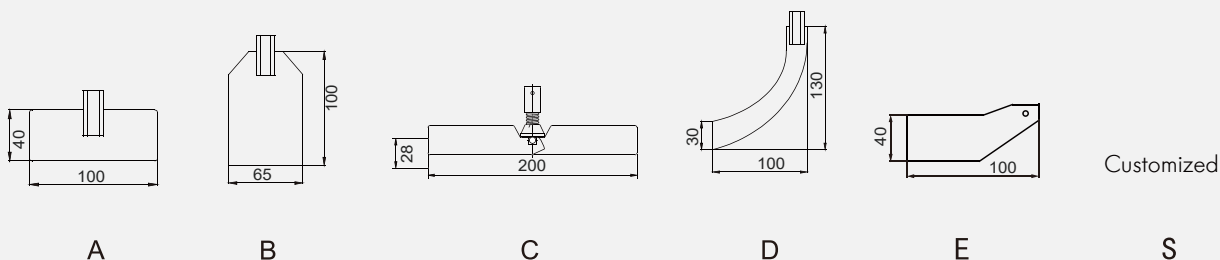
### 7 Process temperature

Blank - standard, -30...+80°C  
T - Standard high temperature type, max. to +200°C  
H - Ultra high temperature type, max. to +800°C

### 8 Others

Blank - standard  
N - Noting request in the text of the order

## PADDLE SELECTION GUIDE



## Compact Rotary Paddle Small Bin Level Switch series MVRS

**MVRS** series compact rotary paddle Level indicator small size and rugged design allows reliable level sensing for dry bulk solids where mounting space is limited. It's ideal use for small hoppers and bins. It's economical and available in a variety of configurations, as standard, high temp version, extended shaft with protection tube version. Wide variety of paddles are available, making it adjustable for a wide range of material densities.

The **MVRS** level indicator operates by using a 1 rpm synchronous motor to rotate a blade, and when material surrounds vane and impedes rotation, the motor is de-energized and triggers a SPDT snap switch. The mini-rotary is simple to install on the side or top of a bin and is appropriate for a variety of light to heavy materials.

### FEATURES

- Compact and rugged design
- Zinc alloy housing, high quality seal
- Economical and low cost
- Simple to install, no calibration required and adjustable sensitivity
- Motor slip-clutch prevents gear damage extends service life

### APPLICATIONS

- Widely applications across many industries in the plastics and synthetics; Chemical and Fertilizer; Pharmaceutical; Food & beverage;
- Agriculture and Feed mill; Cement as well as ceramics; Feed mill; Cement as well as ceramics; Power plant and various incinerators.

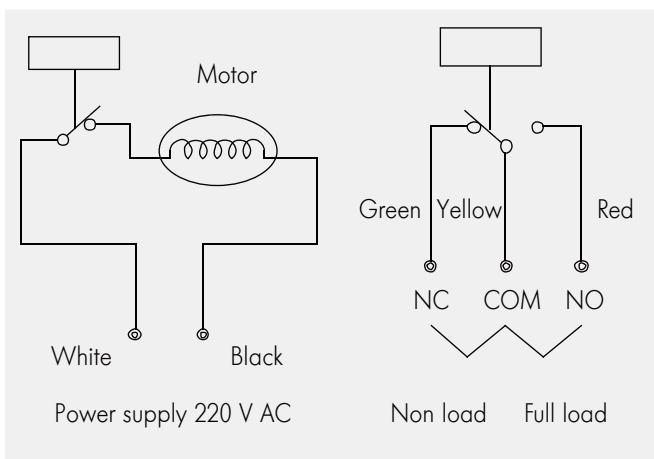
### TECHNICAL DATA

Item	Basic parameters
Supply Voltage	220 VAC / 110 V AC / 24V AC / 24 V DC
Output	250 V AC / 5 A, SPDT
Lead wire	5 wire, standard L is 500mm (available for custom length)
Process fitting	Thread 3/4" PF (available to custom others)
Power consumption	1.5 W
Torque	About 4.9 N.cm
Rotary speed	1 rpm
Insertion length	85mm for standard model, extension is available
Medium temperature	-30...+80°C, high-temp. version max. 200°C
Vane type	Rectangular, Scimitar, Flexible scissor models

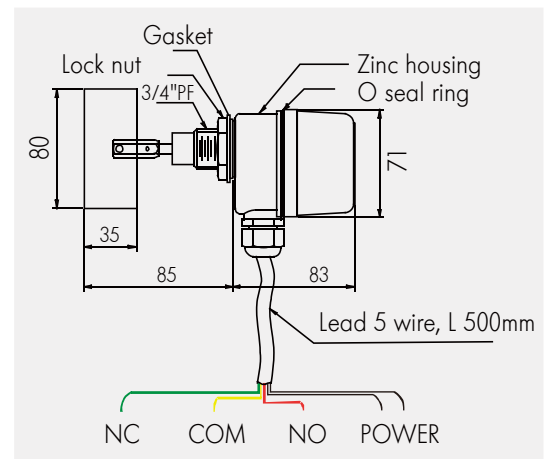


ROTARY PADDLE LEVEL MEASUREMENT

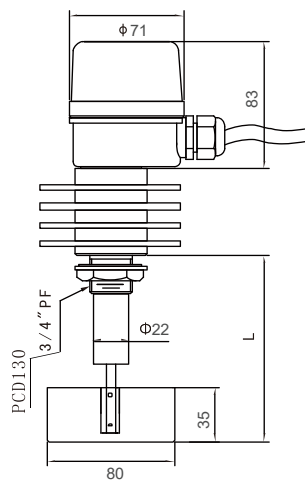
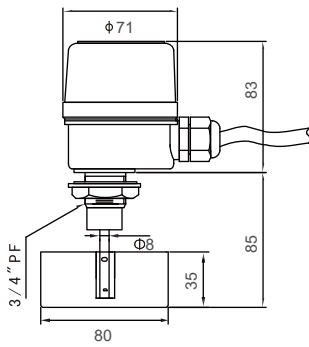
### Wiring



### Struction

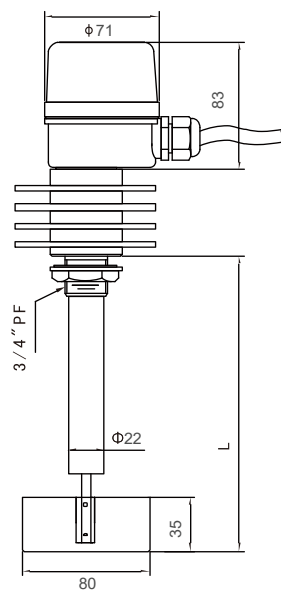
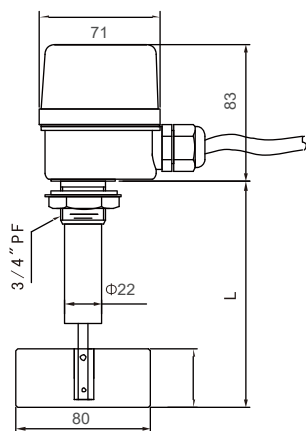






STANDARD VERSION  
MVR-S

HIGH-TEMPERATURE VERSION  
MVR-T (max +200 °C)



EXTENDED VERSION WITH SHAFT  
PROTECTION TUBE  
MVR-S-L

HIGH TEMPERATURE AND  
EXTENDED VERSION  
MVR-S-LT

## NAMING RULES

MVRS							
1	2	3	4	5	6	7	8

### 1 Product code

Rotary Vane Level Switch  
Compact with zinc housing version

### 2 Version code

S - Standard type  
L - Extended with shaft rotation tube  
T - High-temperature type  
LT - Extended and High temperature  
X - Customized

### 3 Process fitting

SF - Thread 3/4" PF  
SB - Thread 3/4" BSPT  
O - Others

### 4 Supply voltage

1 - 220 V AC  
2 - 110 V AC  
3 - 24 V AC  
4 - 24 V DC

### 5 Blade code

A - Rectangular, 80x35 (WxH)  
C - Flexible scissor, 130x20 (WxH)  
D - Scimitar, 100x20 (WxH)  
S - Customized

### 6 Insertion length, L

Blank: standard  
L500 - insert length is 500mm  
L750 - insert length is 750mm  
.....

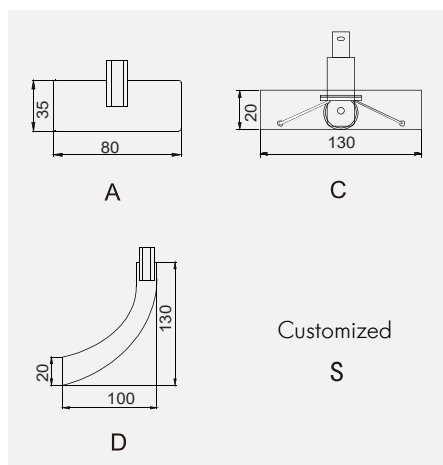
### 7 Process temperature

Blank - standard, -30...+80°C  
T - High temperature type, max. to +200°C  
+120°C = T120  
+200°C = T200

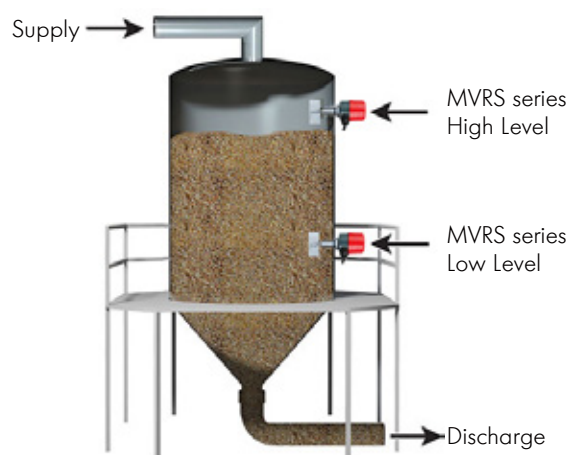
### 8 Others

Blank - standard  
N - Noting request in the text of the order

## PADDLE SELECTION GUIDE



## LEVEL CONTROL IN GRAIN BIN BY SERIES MVRS



## Rotary Paddle Level Switch series PVRS

PVRS rotary paddle level switch with ABS plastic housing is used to detect a high or low level of bulk products in storage silos, hoppers and containers (only in non ATEX area.). His main body is in glass fiber reinforced ABS.

The operation mode of the PVRS is easy. When the paddle is covered with the bulk product, the rotation is stopped, the signal is cut and gives the signal that the level is reached. When the level of the bulk product decreases, the paddle is released, the signal is restored and the engine restarts to fill the silo or the hopper.

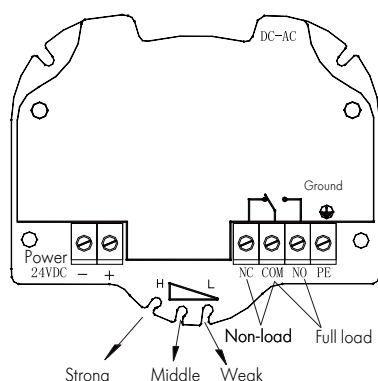
### FEATURES & APPLICATIONS

- Low cost; A compact type product that can be easily maintained and repaired in small spaces.
- 3 different types of paddle or process connection make it possible to adapt to the tanks and the products to be detected according to the density of the product.
- Highly sensitive with
- Optimum for controlling powders and fine particles such as flour, wheat flour, sugar, and plastic materials; Usable in various kinds of small hoppers such as grain tanks and rice husk tank.

### TECHNICAL DATA

Item	Basic parameters
Supply Voltage	220 VAC / 110 V AC / 24V AC / 24 V DC
Output	250 V AC / 3 A, SPDT
Process fitting	Thread 3/4" PF (available to custom others)
Power consumption	1.5 W
Torque	About 4.9 N.cm
Rotary speed	1 rpm
Insertion length	85mm for standard model, extension is available
Medium temperature	-30...+80°C, high-temp. version max. 200°C
Vane type	Rectangular, Scimitar, Flexible scissor models

### WIRING & SENSITIVITY ADJUSTMENT



### HOW TO ORDER

PVRS	1	2	3	4	5	6	7	8
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#### 1 Product code

Rotary Vane Level Switch  
Plastic ABS housing version

#### 2 Version code

S - Standard type  
L - Extended with shaft rotation tube  
T - High-temperature type  
LT - Extended and High temperature  
X - Customized

#### 3 Process fitting

SF - Thread 3/4" PF  
SB - Thread 3/4" BSPT  
O - Others

#### 4 Supply voltage

1 - 220 V AC  
2 - 110 V AC  
3 - 24 V AC  
4 - 24 V DC

#### 5 Blade code

A - Rectangular, 80x35 (WxH)  
C - Flexible scissor, 130x20 (WxH)  
D - Scimitar, 100x20 (WxH)  
S - Customized

#### 6 Insertion length, L

Blank - standard  
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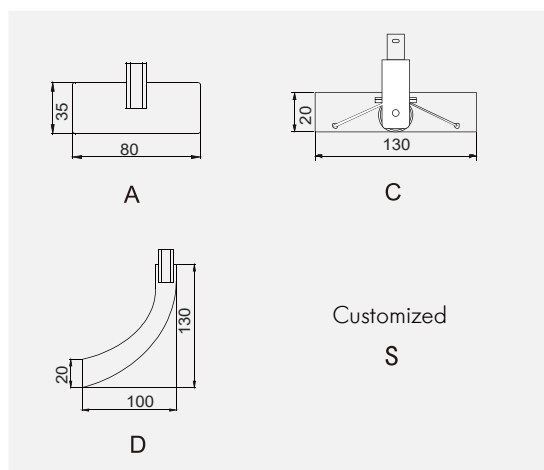
#### 7 Process temperature

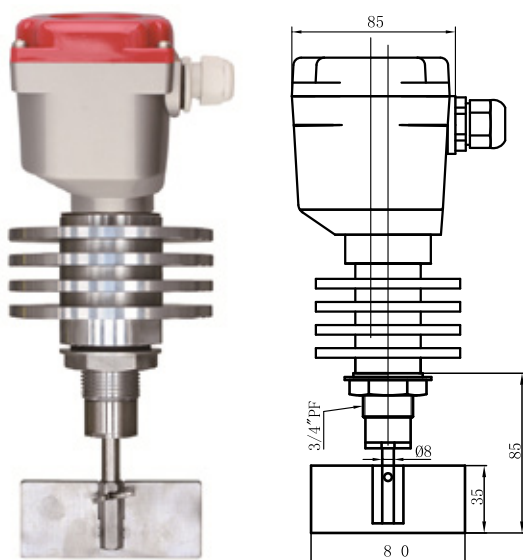
Blank - standard, -30...+80°C  
T - High temperature type  
(Max.+200°C)  
+120°C = T120  
+200°C = T200

#### 8 Others

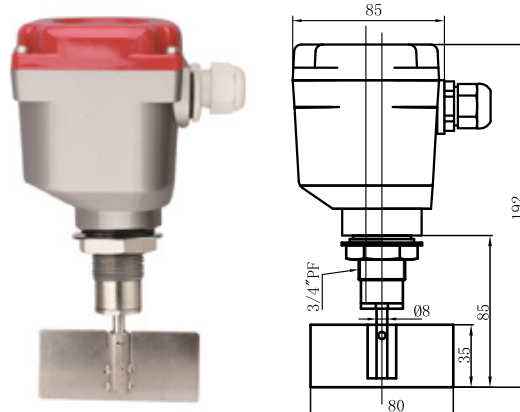
Blank - standard  
N - Request in the text of the order

### PADDLE SELECTION GUIDE

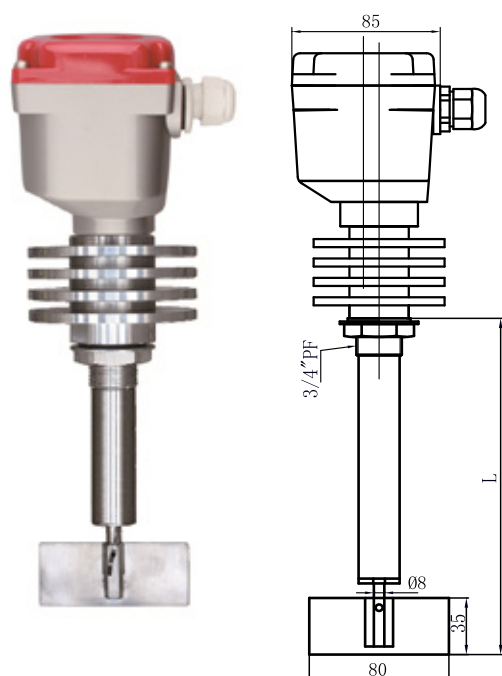




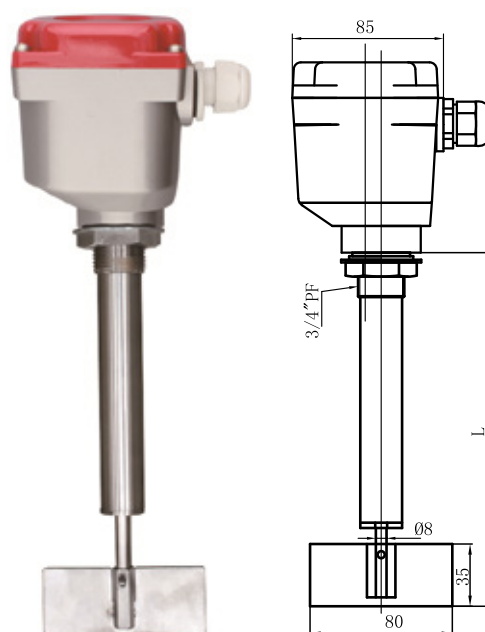
HIGH-TEMPERATURE VERSION  
PVRs-T



STANDARD VERSION  
PVRs-S



HIGH-TEMPERATURE AND  
EXTENDED VERSION  
PVRs-LT



EXTENDED VERSION WITH SHAFT  
PROTECTION TUBE VERSION  
PVRs-L

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