



## APS060

Angle sensor

**VOLBUFF**

SENSORS

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## 1 Product Description

The APS060 series Hall effect rotation position sensor can monitor angle in the harsh transportation system and industrial application environment. This product uses a magnetic bias Hall effect integrated circuit (IC) to detect the rotation of the drive shaft of the drive shaft within the scope of the working range. The rotation of the actuator's shaft makes the magnet's position relative to the position of the IC. The changes in magnetic flux density caused by the above are finally converted into linear output.

Induction chips, conditioning and protection circuits and permanent magnet are sealed in sturdy packaging that meets the IP67 level, ensuring that it also has good durability in the worst environment.

The impact of the typical EMI/RFI in extreme temperature, vibration, impact, and walking mechanical operation environment is mainly used in fields such as forklifts, industrial machinery, and wireless remote controls.

The main features are as follows:

- Can be calibrated by various working angle strokes
- Voltage input: 5VDC
- Linear precision:  $\pm 1\%$
- High service life: more than 1 million full strokes
- Work temperature:  $-40 \sim +85^{\circ}\text{C}$
- Protection level IP67
- Double road output: 0.5V to 4.5V / 4.5V to 0.5V
- Angle: multi-angle can be calibrated

## 2 Technical specification

### Electrical parameter

Rated voltage	DC5V
Working current	20mA Max
Temperature coefficient	≤100ppm/°C
Electrical angle	Bringing function(15~165°),no residence function(180~360°)
Linearity	±1%FS
Repeatability	±1%FS
Resolution	12bit
The minimum load resistance of the output end	10kΩ
The maximum load capacitance of the output end	100nF

### Mechanical parameter

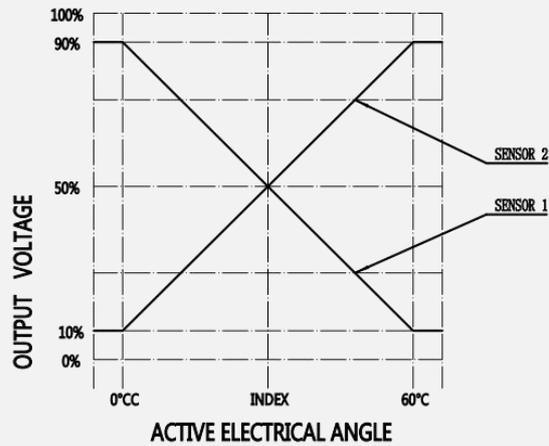
Work life	≥1 million times
Mechanical itinerary	Bringing function of 180°, no residence function 360°

### Environmental parameters

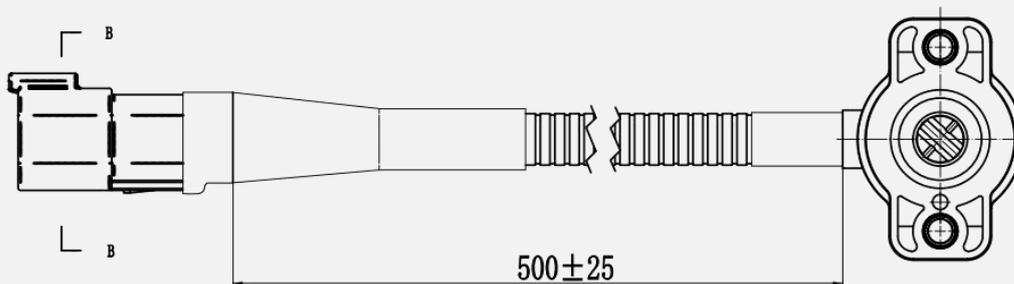
Working temperature	-40~85°C
Humidity environment	The temperature is 40°C,the relative humidity is 93%,and the test is 48H
Anti-vibration	10...500 Hz,peak 10g per shaft 2 hours x axis,y axis,Z axis
Shock	50g,11ms impact per shaft 100 times X-axis,Y axis,Z axis
Protection level	IP67

### 3 Signal output diagram (similar angles)

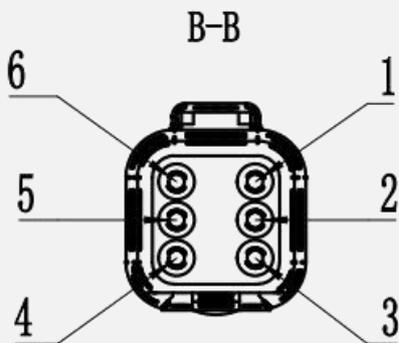
(Option 5D for 60° electrical angle shown)



### 4 Exit method

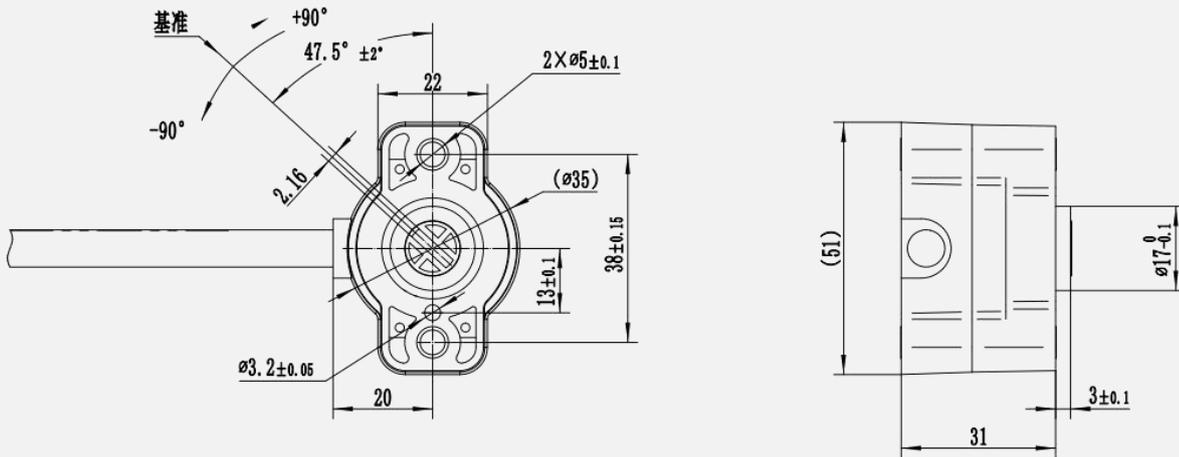


### 5 Interface definition



Connector terminal definition		
Sensors	Function	color
1	GND 1	Brown
2	Supply Voltage 1	Red
3	OUT1	Orange
4	GND 2	Green
5	Supply Voltage 1	Blue
6	OUT2	Yellow

### 6 Style installation chart (unit: mm)



## 6 Precautions for use

(1)The power supply of this product uses an independent power supply.It is recommended not to connect with other loads.use, In the process,the power supply does not allow serious safety hazards or instability,otherwise it will lead to production The product is invalid!



(2)When using this product,please strictly follow the specified wiring under the specified power supply voltage, Method operation to prevent short circuits caused by errors,damage power and sensors.

(3)Do not disassemble the sensor without permission,so as not to cause the sensor to work properly.

(4)This sensor is a precision device.Please bring it lightly during use.

(5)Do not use it in a strong magnetic field environment.

