

OH Series Hall Proximity Sensor

1. General Description

OH Series Hall proximity sensor is a new type of automatic switching device made by the principles of the Hall effect. The signal of magnets is accepted through hall ICs in the sensor and then amplified and shaped to control the on-off state. The sensor is composed of Hall IC, protection circuit, status light, the waterproof shell and could change the magnetic signal into a digital voltage output. So it is widely used in Position control, state control, speed count, identify the direction, automatic protection, etc. The object to be detected should be magnetic objects.

2. Features

- high response frequency
- Multiple protection: reverse polarity protection, surge voltage protection, and over-temperature protection
- High repetition accuracy
- A variety of types: general-purpose, enhanced load type, intelligent
- With the working status indication
- Variety of operating modes: normally open, normally closed, self-locking, NPN output, PNP output
- Direct interface with a programmable controller

3. Applications

- Position control
- Speed detection
- Processing size control
- Liquid level detection
- Various process automation convergence

4. Order Instructions

- Please specify the full model name, such as OHKK5020D. The class "I" of high-temperature proximity switches must be described.
- NPN sensor is the default type without notified. Request other output types, please describe.
- The cable is the sheathed cable without a shielded layer, length 50cm. For the shielding layer, increase or decrease the line length, please specify.
- If a magnet needed, please specify. Supporting magnet $\varnothing 8 \times 3.5$ NdFeB magnets S surface (surface magnetic flux density of 0.3T); other magnets can also be used, but the working distance may vary.
- The shape structure parameters can also be customized according to the customer.



5. Electronic characteristics

Parameter	OHK(normally open)、OHB(normally closed)、OHZ(self-locking)								
	5002C	8002C	5002D	8002D	5020D	8020D	5050D	8050D	8100D
Supply Voltage (V)	5 ~ 24	5 ~ 24	8 ~ 30	8 ~ 30	8 ~ 30	8 ~ 30	8 ~ 30	8 ~ 30	8 ~ 30
Load current(mA)	20	20	20	20	200	200	500	500	1000
Magnet	NFBΦ8×3.5, Surface magnetic field strength0.3T.								
Working distance(mm)	5 ~ 7	8 ~ 11	5 ~ 7	8 ~ 11	5 ~ 7	8 ~ 11	5 ~ 7	8 ~ 11	8 ~ 11
Output low voltage(V)	≤0.4			≤0.5			≤1.0		
Response frequency (KHz)	50								
Detection accuracy(mm)	0.02								
LED Light	no		yes						
Polarity and surge protection	no		yes						
Overheat protection	no		yes						
Package	E-2		E-1						
Output Mode	NPN		NPN、PNP						
Working temperature(°C)	Class I: -40 ~ +125, Class II : -25 ~ +85								
Storage temperature(°C)	Class I: -60 ~ +150, Class II : -40 ~ +100								

Note:

1. There are 3 types according to working status: OHK-normally open-type OHB-normally closed-type OHZ-self-locking-type

2.If not a particular statement, the sensors are NPN output polarity.

NPN said that output current flows from the power supply positive to the output end, and load should be connected between the power supply positive and the output end.

PNP said that output current flows from the output end to the power supply negative. The load should be connected between the output and power supply negative.

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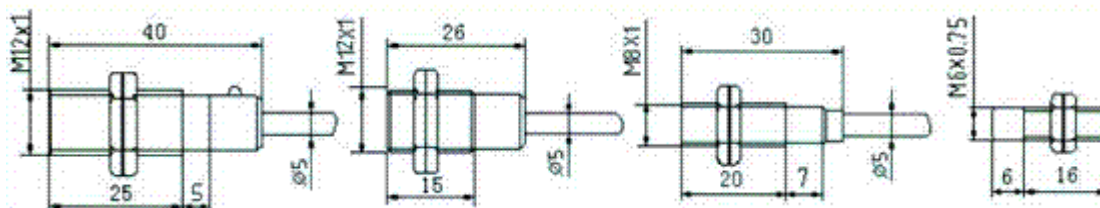
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6. Structure diagram and dimensions

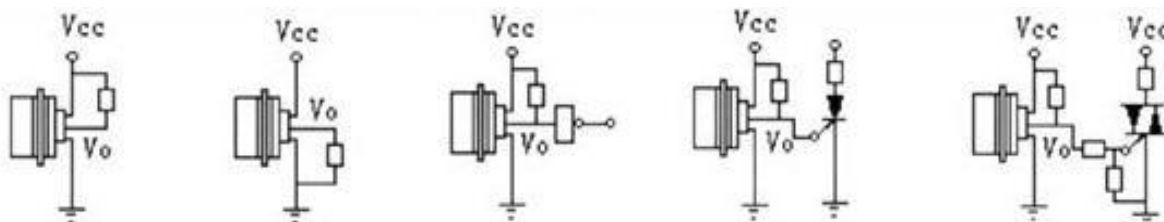


Wiring Red: supply (Vcc); yellow: output (VOUT); Black: Ground (GND).

7. Precautions

- Proximity switches operating voltage is DC voltage. Be careful not to Hall power reverse. Operating voltage fluctuations within the specified range, will not change the output state of the proximity switch. Unfiltered rectified pulsating DC voltage must not be as the operating voltage. Or it may cause abnormal output signal, and even failure. The conduction state output terminal of the power supply can not be shorted.
- May not work in a strong magnetic field.

8. Wiring diagram



- 1) NPN output load connected
- 2) PNP output load connected
- 3) NPN type connected digital circuit
- 4) NPN type connected load by one-way SCR
- 5) NPN type connected triac



For more information:

Ouzhuo Technology service you through a worldwide network of sales offices and distributors. For application assistance, current specifications, pricing, or the nearest Authorized Distributor, you could reach us the way you are convenient, thank you for your support!

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NOTICE:

The information presented in this datasheet is for reference only. Specifications may change without notice.

