

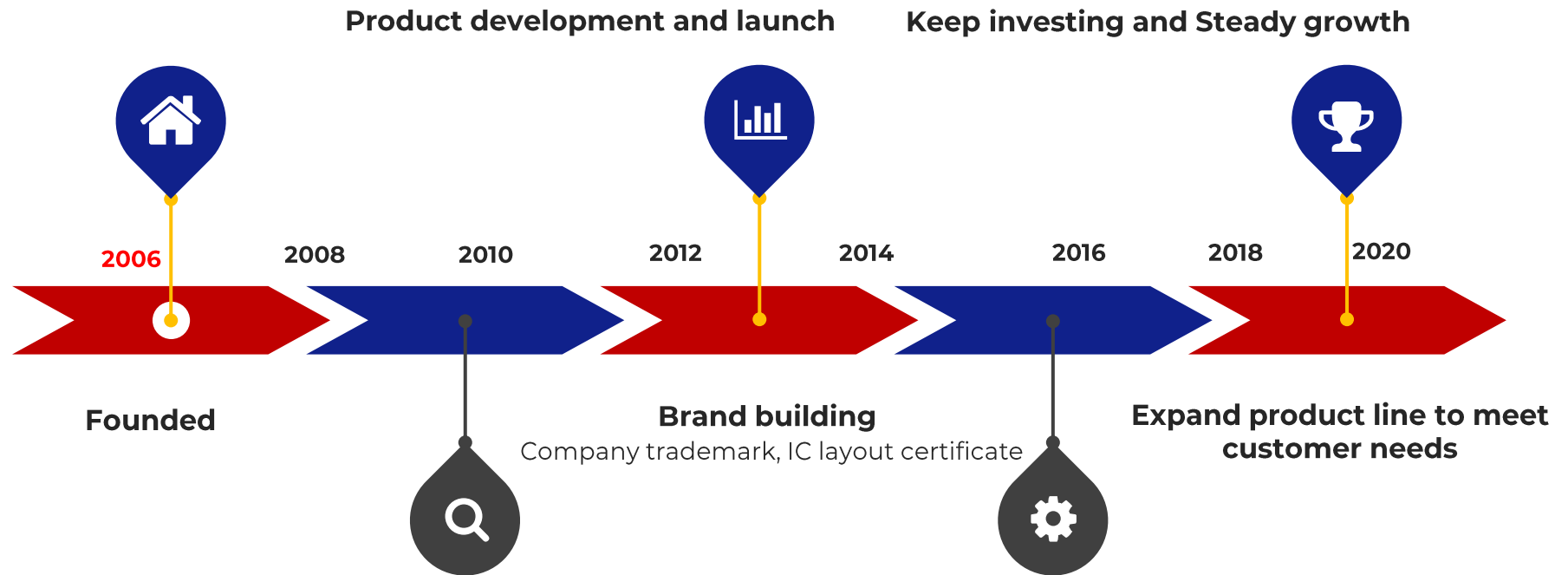


# MAGNETIC SENSORS

[www.ohallsensor.com](http://www.ohallsensor.com)



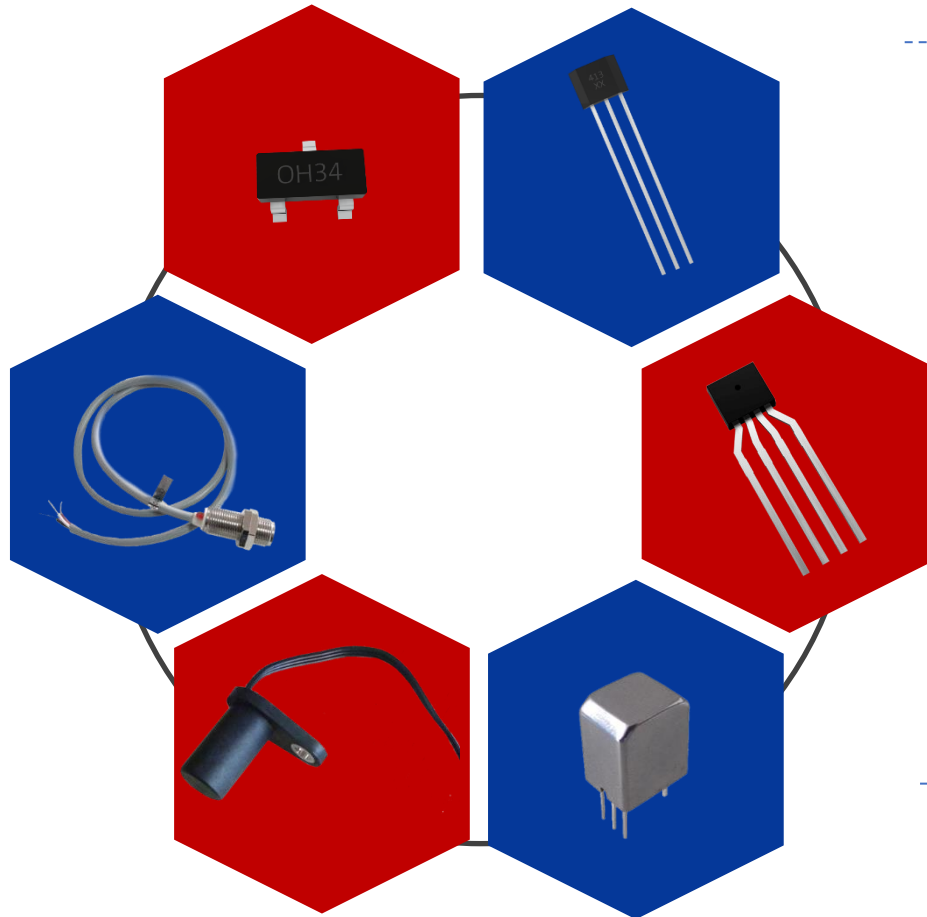
## About OUZHUO



80 million pcs of Hall IC shipped per year.

REACH & ROHS

## PRODUCTS



### Digital Hall effect Switches and Latches

- [Unipolar](#)
- Bipolar
- [Latch](#)
- [Omnipolar](#)
- Micropower

### Linear Hall effect sensor

- [InSb/ GaAs hall element](#)
- [Linear hall effect IC](#)

### Magnetic sensors

- [Hall effect Proximity sensor](#)
- [Hall effect gear-tooth sensor](#)
- [Magnetic pickup](#)
- Magnetic Heads

## Digital Hall effect IC/ Unipolar

Principle: Responding to a single pole: North or South

Typical applications: speed detection, proximity switch, flow detection, etc.

Part no	Operating Voltage	Output Current	Operating Point(Bop)	Release Point(Brp)	Operating Temp	Package
<b>OH137</b>	4.5~ 24V	25mA	<18mT	>2mT	-40~ 85°C	TO-92S
<b>OH3144</b>	4.5~ 24V	25mA	<30mT	>2mT	-40~ 85°C	TO-92S
<b>OH37</b>	4.5~ 24V	25mA	<18mT	>2mT	-40~ 85°C	SOT23
<b>OH4N</b>	4~ 30V	50mA	>-20mT	<-3mT	-40~ 125°C	SOT23
<b>OH34</b>	4~24V	25mA	<20mT	>2mT	-40 ~ 125°C	SOT23
<b>OH34N</b>	4~24V	25mA	>-20mT	<-3mT	-40 ~ 150°C	SOT23
<b>OH44E</b>	4.5~ 24V	50mA	<25mT	>3mT	-40 ~ 125°C	TO-92S
<b>OH443</b>	4~ 30V	50mA	<20mT	>2mT	-40 ~ 150°C	TO-92S

## Digital Hall effect IC/ Unipolar

Principle: Responding to a single pole: North or South

Typical applications: speed detection, proximity switch, flow detection, etc.

Part no	Operating Voltage	Output Current	Operating Point(Bop)	Release Point(Brp)	Operating Temp	Package
<b>OH44EW</b>	4.5~ 24V	50mA	<20mT	>2mT	-40 ~ 150°C	SOT89
<b>OH543</b>	4~ 30V	50mA	<20mT	>2mT	-40 ~ 150°C	SOT89
<b>OH44L</b>	4~ 30V	50mA	<12mT	>3mT	-40 ~ 150°C	TO-92S
<b>OH443H</b>	4~ 30V	50mA	<10mT	>1mT	-40 ~ 150°C	TO-92S
<b>OH3141E</b>	4.5~ 24V	50mA	<12mT	>3mT	-40 ~ 150°C	TO-92S

## Digital Hall effect IC/ Latch

Principle: Responding to alternating North and South poles.

Typical applications: position sensing of BLDC, odometer sensors, power sensors, speed detection, anti-trap windows.

Part no	Operating Voltage	Output Current	Operating Point(Bop)	Release Point(Brp)	Operating Temp	Package
<b>OH413</b>	4~30V	50mA	<6mT	>-6mT	-40 ~ 150°C	TO-92S
<b>OH513</b>	4~30V	50mA	<8mT	>-8mT	-40 ~ 150°C	SOT89
<b>OH13</b>	4~30V	50mA	<6mT	>-6mT	-40 ~ 150°C	SOT23
<b>OH41A</b>	4.5~ 24V	25mA	>3mT	<-3mT	-40 ~ 150°C	TO-92S
<b>OH41F</b>	4~ 30V	50mA	<7mT	>-7mT	-40 ~ 150°C	TO-92S
<b>OH41</b>	4.5~ 24V	25mA	<6mT	>-6mT	-40 ~ 150°C	TO-92S
<b>OH1881</b>	4.5~ 24V	25mA	<6mT	>-6mT	-40 ~ 125°C	TO-92S
<b>OH175</b>	3.5~20V	25mA	<6mT	>-6mT	-40 ~ 150°C	TO-92S
<b>OH920-S</b>	3.5~ 20V	25mA	<4mT	>-4mT	-40 ~ 125°C	SOT23

## Digital Hall effect IC/ Omnipolar

**Principle:** IC have two operation modes: detection and sleep, in detection mode, sensing the magnetic flux, output make appropriate response, when in sleep mode, keep its previous state.

**Typical applications:** battery powered device, mobile phone, notebook, electronic lock etc.

Part no.	Operating Voltage	Output Current	Operating Point(Bop)	Release Point (Brp)	Sleep time	Awake time	Operating Temp	Package
<b>OH9248</b>	2.5~5.5V	Awake: 2mA Sleep:6 $\mu$ A	+/-3mT	+/-2mT	90ms	150us	-40~ 85°C	TO-92S
<b>OH9249</b>	2.5~ 5.5V	Awake: 2mA Sleep:6 $\mu$ A	+/-3mT	+/-2mT	90ms	150us	-40~ 85°C	SOT23
<b>OH4913</b>	2.4-6V	Awake: 2mA Sleep:1.9 $\mu$ A	+/-3.5mT	+/-2.6mT	140ms	100us	-40~ 85°C	TO-92S
<b>OH9213</b>	1.8-6V	Awake: 2mA Sleep:1.9 $\mu$ A	+/-3.5mT	+/-2.6mT	140ms	100us	-40~ 85°C	SOT23

## Omnipolar without sleep

Part no.	Operating Voltage	Output Current	Operating Point(Bop)	Release Point (Brp)	Operating Temp	Package
<b>OH9253</b>	2.5-6V	No sleep, typ:2.6mA	+/-3mT	+/-2.5mT	-40~ 85°C	TO-92
<b>OH9245</b>	3.5-24V	No sleep, typ:2mA	+/-3.5mT	+/-2mT	-40~ 125°C	TO-92 SOT23



## Hall effect IC/ Linear

**Principle:** Base on the magnetic field pole and density, output voltage increase or decrease proportionally.

**Typical applications:** accelerator pedal, speed regulation handle, pressure sensing, etc.

Part no	Operating Voltage	Quiescent Output	Output voltage	Output current	Typical sensitivity	Operating Temp	Package
<b>OH3503</b>	4.5to 6V	2.5±0.15V	0.8-4.2V	5mA	2.0mV/GS	-20 ~ 85°C	TO-92S
<b>OH49E</b>	3.0 to 6.5V	2.5±0.15V	0.8-4.2V	4mA	1.6 to 3.0mV/GS	-20 ~ 100°C	TO-92S
<b>OH49ES</b>	3.0 to 6.5V	2.5±0.15V	0.8-4.2V	7mA	2.0mV/GS	-20 ~ 100°C	SOT23
<b>OH496</b>	4.5~10.5V	2.5±0.15V	0.2-4.8V	5mA	2.5±0.2mV/GS	-20 ~ 125°C	TO-92S
<b>OH495</b>	4.5~10.5V	2.5±0.075V	0.2-4.8V	5mA	3.125±0.125mV/GS	-20 ~ 125°C	TO-92S
<b>OH549E</b>	3.0 to 6.5V	2.5±0.15V	0.8-4.2V	4mA	2.0mV/GS	-20 ~ 100°C	SOT89





## Hall effect Element/ Insb and GaAs

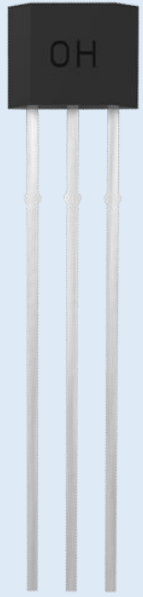
**Principle:** High-sensitivity Hall element based on the Hall effect, which induces changes in the magnetic field and outputs a mV pole voltage signal, which can be amplified as required.

**Typical applications:** motor, fan, ISM, mobile phone

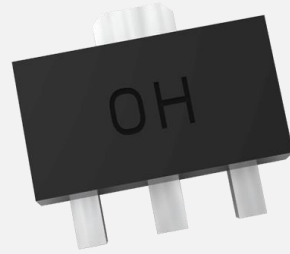
Part no	Output Hall voltage Vin=1V, B=500G	Input Resistance Ic=0.1mA	Output Resistance Ic=0.1mA	Offset Voltage Vin=1V, B=0G	Temp. Coef.	Operating Temp	
OH12A	120 to 370mV	240 to 550Ω	240 to 550Ω	-7 to 7mV	-1.8%/°C	-40 ~ 120°C	InSb
OH12B	196 to 320mV	240 to 550Ω	240 to 550Ω	-7 to 7mV	-1.8%/°C	-40 ~ 120°C	InSb
OH14A	168 to 274mV	240 to 550Ω	240 to 550Ω	-7 to 7mV	-1.8%/°C	-40 ~ 120°C	InSb

Part no	Output Hall voltage Vin=6V, B=50mT	Input Resistance Ic=0.1mA	Output Resistance Ic=0.1mA	Offset Voltage Mv Vin=6V, B=0mT	Linearity B=0.1T/0.5T Ic=5mA	Operating Temp	
OH61D	78 to 102mV	1600 to 2400Ω	3200 to 4800Ω	-8 to 8mV	2%	-40 ~ 125°C	GaAS

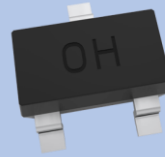
## Package



TO-92S



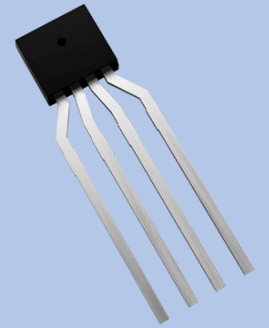
SOT89



SOT23



SOT143



And more

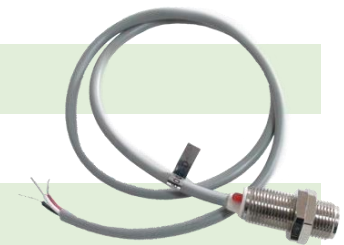
More packages, please consult the datasheets.



# Magnetic Sensor/ Hall effect Proximity Sensor

## OHK(normally open)、OHB(normally closed)、OHZ(self-locking)

Parameter	5002C	8002C	5002 D	8002 D	5020D	8020D	5050D	8050D	8100D
<b>Supply Voltage (V)</b>	5~24	5~24	8~30	8~30	8~30	8~30	8~30	8~30	8~30
<b>Load current(mA)</b>	20	20	20	20	200	200	500	500	1000
<b>Magnet</b>	NFBφ8×3.5, Surface magnetic field strength 0.3T.								
<b>Working distance(mm)</b>	5~7	8~11	5~7	8~11	5~7	8~11	5~7	8~11	8~11
<b>Output low voltage(V)</b>	≤0.4		≤0.5			≤1.0			
<b>Response frequency(KHz)</b>	50								
<b>Detection accuracy(mm)</b>	0.02								
<b>Overheat protection</b>	no					yes			
<b>Package</b>	E-2					E-1			
<b>Output Mode</b>	NPN					NPN、PNP			
<b>Working temperature(°C)</b>	Class I: -40 ~ +125, Class II: -25 ~ +85								
<b>Storage temperature(°C)</b>	Class I: -60 ~ +150, Class II: -40 ~ +100								



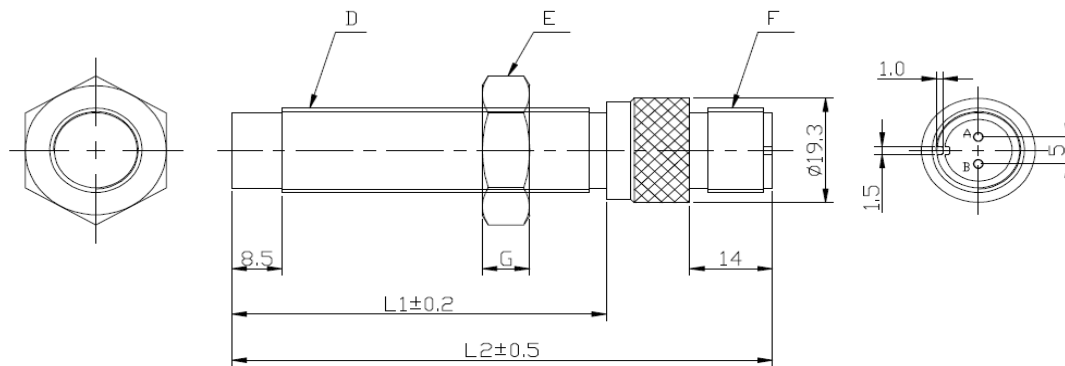


# Magnetic Sensor / OH Series Inductive Magnetic Pickup

This series of Inductive Pickups are used to measure the speed of engines, such as diesel engine, gasoline engine and steam turbine. It can detect gear, crankshaft, rotating spokes, no need of power supply and without any excitation circuit from control device.

They can be equivalents of similar sensors from America WOODWARD.

Part No.	D	E	F	G	L1	L2
OH-DG-01	M16*1.5	M16*1.5	5/8"-24 BSW-2A	8mm	63.2mm	91.2mm
OH-DG-02	M16*1.5	M16*1.5	5/8"-24 BSW-2A	8mm	86.2mm	114.2mm
OH-DY-01	5/8"-18BSW-2A	5/8"-18BSW-2B	5/8"-24 BSW-2A	3/8"	63.2mm	91.2mm





# Magnetic Sensor / Hall effect Gear tooth sensor

Hall effect gear tooth sensor utilize magnetic biased hall-effect IC to measure the movement of ferrous-like metal. Specially designed IC with separate electric capacity and biased alnico are sealed in a probe type outer casing.

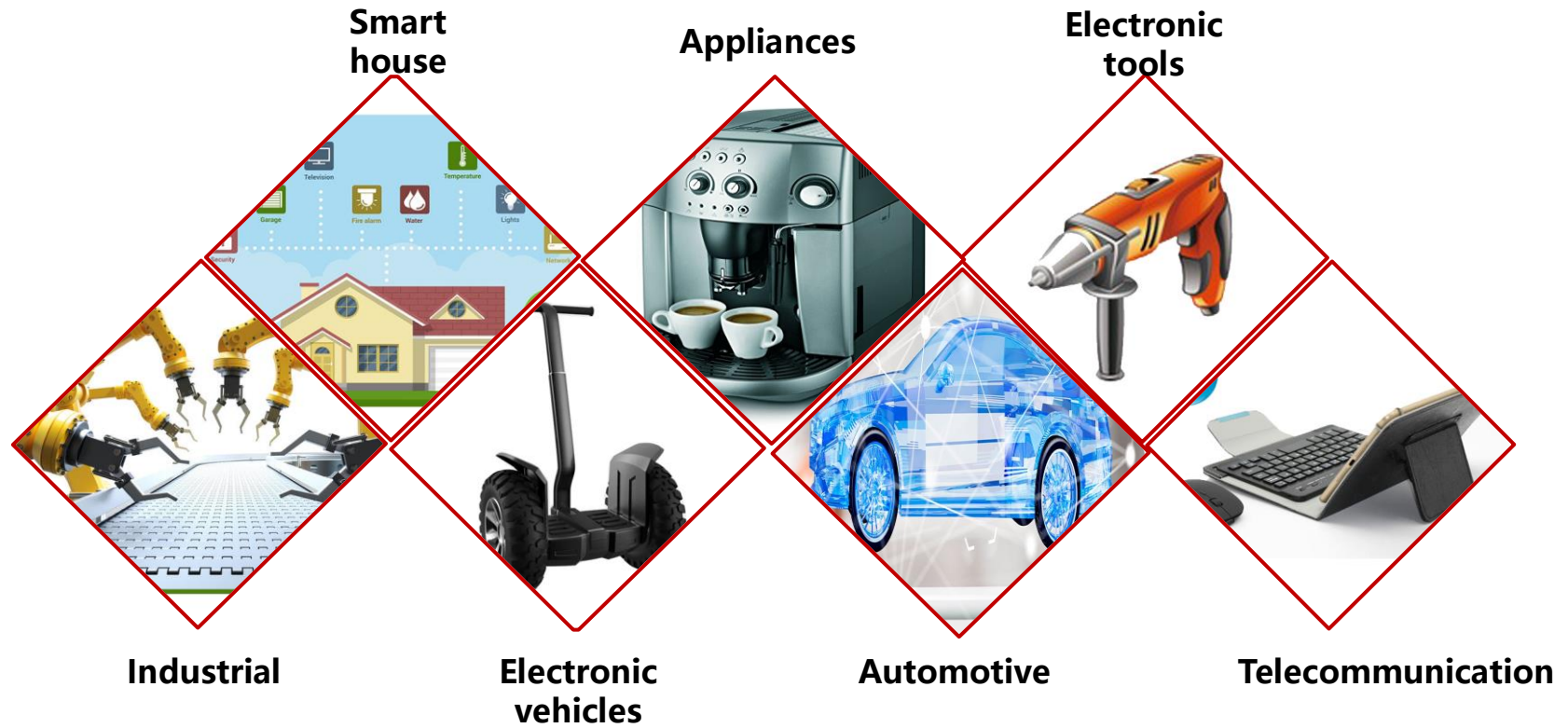
### Typical applications :

Camshaft Position Sensor ; Active Crankshaft Position Sensor; Pulse Speed and Mile Sensor ;Wheel Speed Sensor

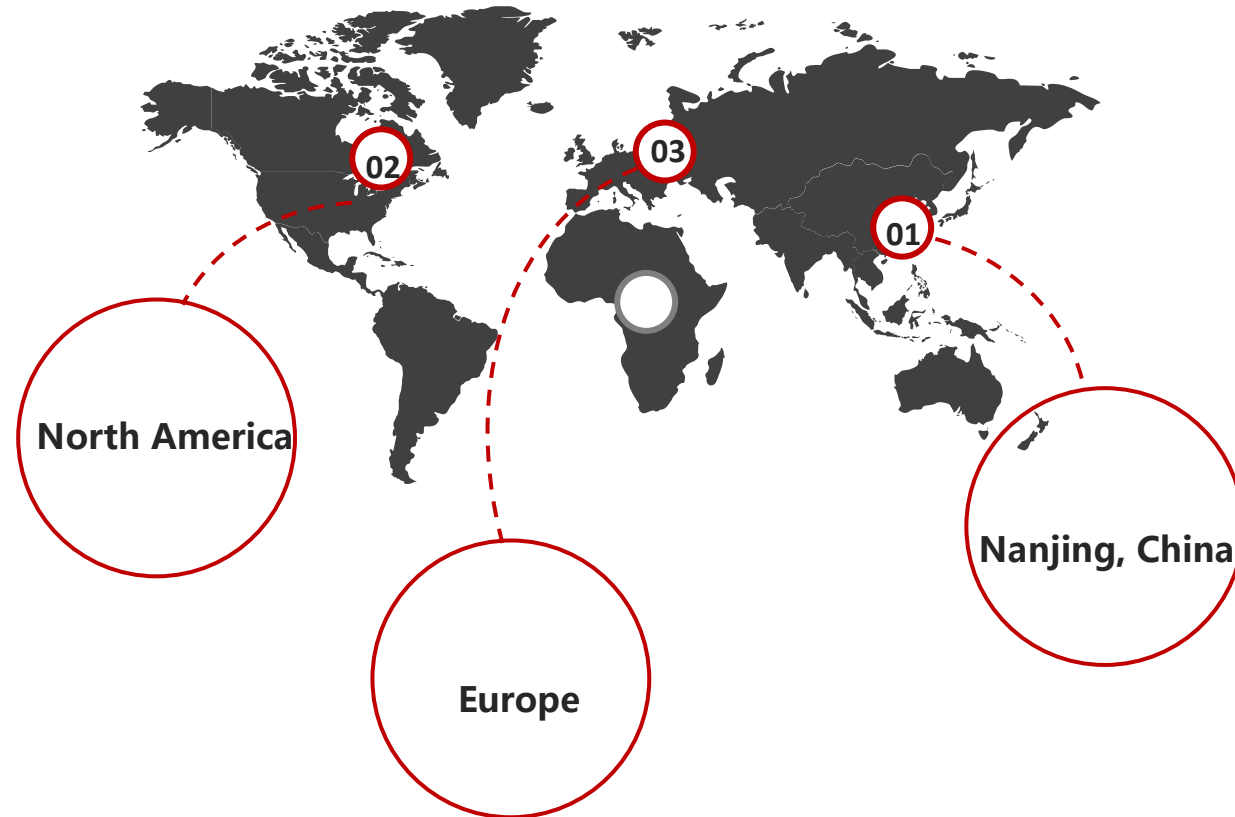
Part NO.	Supply Voltage VCC	Output current I <sub>o</sub>	Output low voltage VOL	Operate Temperature T	Distance between Sensor and Gear tooth	Frequency F <sub>max</sub>	Gear for reference
<b>OHG101DC</b>	4.5 ~ 24V	≤ 40 mA	≤0.4 V	-40 ~ 135°C	1 ~ 2 mm	10 ~ 8000rpm	Tooth Height= 5.08mm, tooth width= 2.54mm, tooth spacing 17.78mm, Target thickness 6.35mm, teeth number =60
<b>OHG019</b>	4.5 ~ 24V	≤ 25 mA	≤0.6 V	-40 ~ 130°C	0.1 ~ 1.5 mm	15 KHZ	m=2, number of teeth=40, Thickness:10
<b>OHG020</b>	4.5 ~ 24V	≤ 40 mA	≤0.6 V	-40 ~ 150°C	0.1 ~ 1.5 mm		m=2, number of teeth=40, Thickness:10
<b>OHG12K073</b>	4.5 ~ 24V	≤ 40 mA	≤0.6 V	-40 ~ 150°C	0.1 ~ 2.0 mm		m=2, number of teeth=40, Thickness:10



# Applications



## Sales Network



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**Your success is our success**



We, at OUZHUO, believe we can do better with partners than we could by ourselves. We look forward to explore partnering opportunities that would maximize respective strengths and common goals.