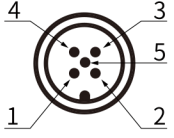
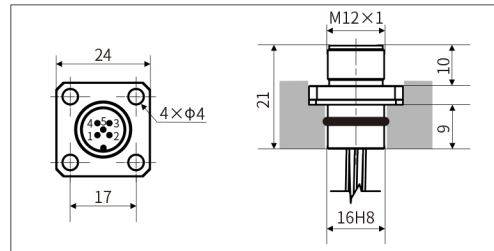


## Electrical connections

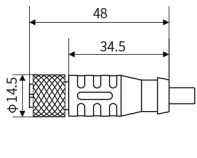
### • CAN (connector)

M12-5 Pin Definition	No.	PC
	1	Do not connect
	2	Power supply
	3	Ground
	4	CAN High
	5	CAN Low

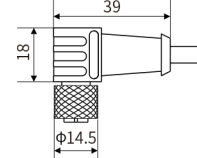
### • M12-5 pin socket




### • CAN (Cable color definition of female connector)

M12-5 pin female connector	Line color	
	Definition	PC
	Power supply	Brown
	Ground	White
	CAN High	Yellow
	CAN Low	Green

### • CAN (Cable color definition of right angle female connector)

M12-5pin right angle female connector	Line color	
	Definition	PC
	Power supply	Brown
	Ground	White
	CAN High	Yellow
	CAN Low	Green

### • CAN (cable outlet)

Cable code:511816	Definition	Line color
	Power supply	Brown
	Ground	White
	CAN High	Yellow
	CAN Low	Green



# MHA - CANopen Output Displacement Sensor

## Product Parameters-CANopen Output

### Input

Measurement data	Position (vernier magnet)
Stroke length	50~2500 mm

### Output

Interface	CANbus ISO DIS 11898, CANopen complies with CIA DS-301V3.0, Sensor Specification DS-406V3.1
Transmission speed	maximum 1Mbit/s
Resolution	±0.1mm
Nonlinearity	±0.1mm (≤250mm) or 0.04%F.S (>250mm)
Repetition accuracy	±0.1mm
Update time	2ms

### Operating conditions

Magnet velocity	Arbitrary
Protection level	IP67
Operating temperature	-40°C ~ +105°C
Humidity/dew point	Humidity 90%, no condensation
Temperature drift coefficient	<30ppm/°C
Shock index	GB/T2423.5 100g (11ms)
Vibration index	GB/T2423.10 25g/10~2000Hz
EMC test	GB/T17626.2 Electrostatic Discharge Anti-interference, Grade 3, Class A
	GB/T17626.3 Radio Frequency Electromagnetic Field Radiation Anti-interference, Grade 3, Class A
	GB/T17626.4 Electric Fast Transient Group Anti-interference, Grade 3, Class B
	GB/T17626.6 Radio Frequency Field Induced Conducted Disturbance Anti-interference, Grade 3, Class A
	GB/T17626.8 Power Frequency Magnetic Field Anti-interference, Grade 4, Class A

### Electrical connections

Input voltage	9~ 32Vdc
Power consumption	<1W
Polarity protection	maximum-30Vdc
Overvoltage protection	maximum36Vdc
Insulation resistance	>10MΩ
Insulation strength	500V
Outgoing mode	Cable outlet or connector

### Construction and materials

Electronic compartment	304Lstainless steel
Measuring rod	304Lstainless steel
Operating pressure grade	Rated pressure Pn: 35MPa maximum pressure Pmax: 45MPa for stell rod with diameter of 10mm
Assembly	Any direction
Position magnet	Various ring magnets

## ▶ Selection Guide-CANopen Output



01 - 03	Sensor shell form				
M H A	Hexagon flange shell				
04 - 08	Measuring range				
	0050~2500mm, step length 1mm				
09 - 10	Mounting thread form				
S A	Pressure-resistant rod, diameter 10mm				
11 - 14	Connection form				
P C 0 0	Custom, M12 IP69K, 5 pins (2-3-4-5)				
P C	4 wiring harness, M12 IP69K, 5 pins (2-3-4-5)				
P C 0 6	60mm, minimum length of wiring harness				
P C 2 5	250mm, maximum length of wiring harness				
D M	CAN special cable outlet				
D M 0 1	1m cable				
D M R 1	0.1m cable, ordering method within 1 m				
15 - 19	Signal output mode				
15 - 16	Output form				
C 1	CANopen				
17	Baud				
1	1000Kbit/s	2	800Kbit/s	3	500Kbit/s
4	250Kbit/s	5	125Kbit/s	6	100Kbit/s
7	50Kbit/s	8	20Kbit/s		
18	Resolution				
1	0.1mm				
19	Number of magnet rings				
1	Single magnet ring				
20 - 21	Non-usable area at head and end, customizable				
M 2	27.5mm+36mm				

### ● Selection example

For example: MHA-M0300-SA-DM50-C1411-M2

Indicates: MHA structure hexagonal flange shell, 300mm stroke length, 10mm diameter withstand voltage round pipe, cable outlet form, CANopen output, baud 250kbit/s, resolution 0.1 mm, single magnet ring, head and end non-usable area 27.5mm + 36mm.