

# EP Displacement Sensor



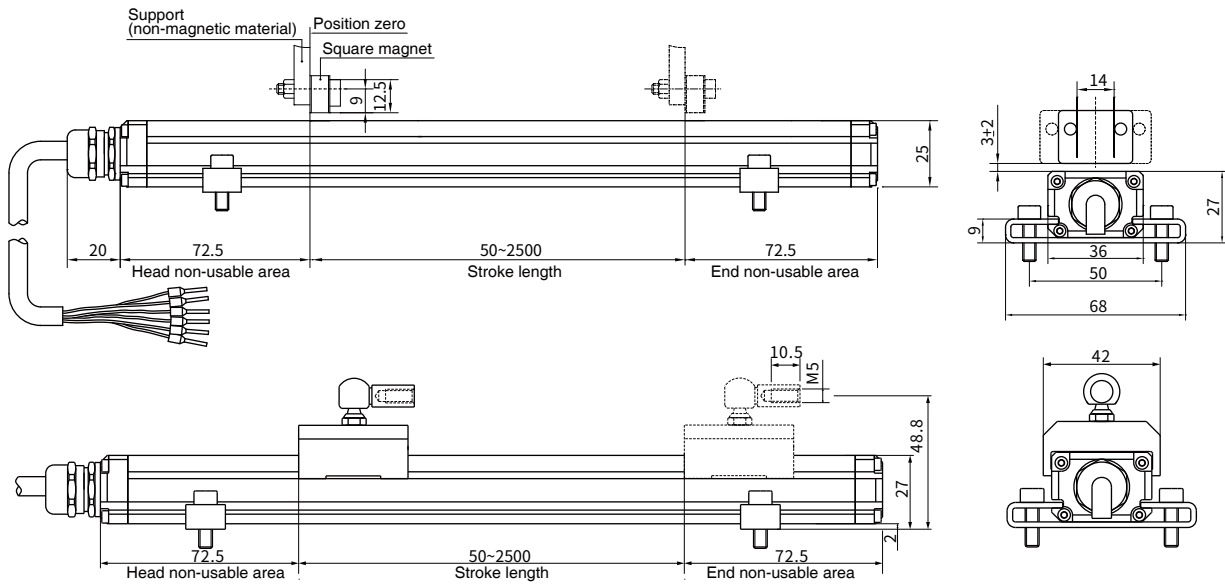
## Technical characteristics

- Compact structure, convenient disassembly and assembly
- Linear measuring, absolute position output
- Never wear and tear, not affected by power failure
- Replaceable: LVDT, electronic ruler, encoder, etc.

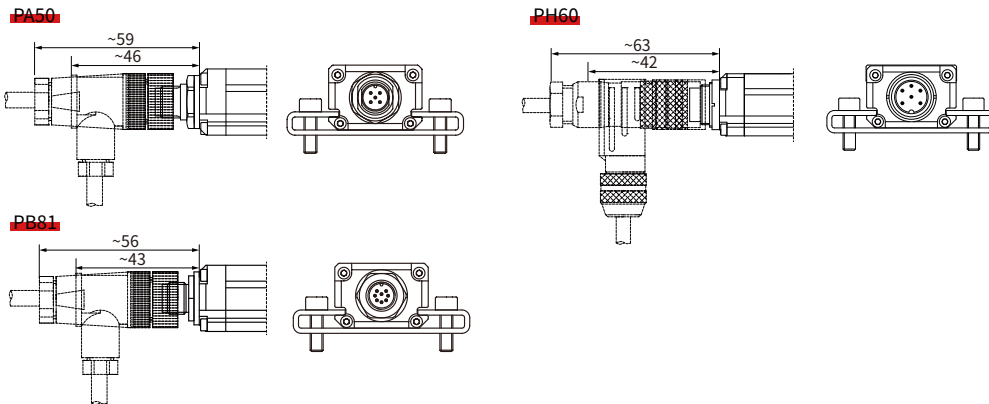
# EP-Analog Output

## ▶ Structural shape

- Cable outlet DHXX/DUXX/DWXX



- Connector PA50/PB81/PH60

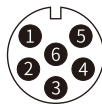


## ▶ Wiring and pin definition



- 0050 pin arrangement (Sensor Oriented)

Pin	Line color <sup>3*</sup>	Function definition
1	Brown	+24Vdc±20% power supply
2	White	0 Vdc (power supply loop)
3	Blue	Magnet ring position signal+
4	Black	Magnet ring position signal-
5	Grey	Sensor programming line



- 0060 pin arrangement - 2-wire system (Sensor Oriented)

Pin	Line color <sup>1*</sup>	Line color <sup>2*</sup>	Function definition
1	Blue	Grey	Magnet ring position signal+
2	Green	Pink	Magnet ring position signal-
3	Yellow	Yellow	Sensor programming line
4	White	Green	Sensor programming line
5	Red	Brown	+24Vdc±20% power supply
6	Black	White	0 Vdc (power supply loop)



- 0081 pin arrangement (Sensor Oriented)

Pin	Function definition
1	Do not connect
2	Magnet ring position signal-
3	Do not connect
4	Sensor programming line
5	Magnet ring position signal+
6	0 Vdc (power supply loop)
7	+24Vdc power supply (-20%~+20%)
8	Sensor programming line

Note: \* Line color 1: Cable PUR sheath, black, -20~90°C

\* Line color 2: Cable PVC sheath, orange, -20~105°C

\* Line color 3: Cable PUR Sheath, Black, -40~85°C

Note: The shield wire of the shielded cable is grounded

## ▶ EP Analog Output-Product Parameters

### • Input

Measuring data	Position magnet ring
Stroke length	50~2500 mm, others can be customized according to needs

### • Output

Current	0 ~ 20mA or 4 ~ 20mA (min/max load 0/500Ω)
Voltage	0 ~ 10Vdc or 0~5Vdc (minimum load resistance ≥ 10KΩ)
Resolution	14-bit D/A or 0.0065% of full scale (minimum 10μm)
Nonlinearity	<±0.03% of full scale
Repeatability	<±0.005% of full scale
Update time	1ms(range ≤ 1m) 2ms(1m < range ≤ 2m) 3ms(2m < range ≤ 3m)
Hysteresis	<10μm

### • Operating conditions

Magnet velocity	Arbitrary
Protection class	IP65
Operating temperature	-40 C ~ +85 C
Temperature coefficient	< 30ppm/ C
Humidity/dew point	Humidity 90%, no condensation
Shock index	GB/T2423.5 50g(11ms)
Vibration index	GB/T2423.10 10g/10~2000Hz
EMC test	GB/T17626.2 Anti-interference Degree of Electrostatic Discharge, Grade 4, Class A
	GB/T17626.3 Radiation Anti-interference Degree of Radio Frequency Electromagnetic Field, Grade 3, Class A
	GB/T17626.4 Anti-interference Degree of Electrical Fast Transient Train, Grade 4, Class A
	GB/T17626.6 RF Field Induced Conducted Disturbance Immunity, Grade 2, Class A
	GB/T17626.8 Power Frequency Magnetic Field Immunity, Grade 3, Class A
	CE certification

### • Electrical Connections

Input voltage	+24Vdc±20%
Power consumption	<80mA
Polarity protection	Maximum-30Vdc
Overvoltage protection	Maximum36Vdc
Insulation resistance	> 10MΩ
Insulation strength	500V

### • Construction and Materials

Measuring rod	Aluminum profile
Installation	Any direction, clamp installation
Position magnet	Square magnet, trapezoidal magnet
Outgoing mode	Cable outlet (scattered connection), connector (M16 connector)

## EP Analog Output-Selection Guide



### 01 - 02 Sensor shell form

E	P	Overall profile structure series
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### 03 - 07 Range (0050~2500mm, others can be customized as needed)

0050~0500mm	step length 5mm
0750~1000mm	step length 25mm
1000~2500mm	step length 50mm

### 08 - 09 Magnet form

V	2	Slider magnet (211517)
V	3	Square magnet (211508)
V	4	Trapezoidal magnet (211514)

### 10 - 13 Connection form

#### 10 - 11 Cable outlet mode

0	1	PUR sheath, orange, -20~90°C, end scattered, line color 1
0	2	PVC sheath, orange, -20~105°C, end scattered, line color 2
0	4	PUR sheath, black, -40~85°C, end scattered, line color 3

#### 12 - 13 Cable length, 01~99 units: m (cable outlet mode)

#### 10 - 13 Connector form

0	0	5	0	M12 5-pin male connector
0	0	6	0	M16 6-pin male connector
0	0	8	1	M12 8-pin male connector

### 15 - 18 Signal output mode

#### 15 - 16 Signal output mode

A	0	Current output, 20 ~ 4mA
A	1	Current output, 4 ~ 20mA
A	2	Current output, 20 ~ 0mA
A	3	Current output, 0 ~ 20mA
V	0	Voltage output, 0 ~ 5V
V	1	Voltage output, 5 ~ 0V
V	4	Voltage output, 0 ~ 10V
V	5	Voltage output, 10 ~ 0V

#### 17 Reserved bit

1	Single magnet ring
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#### 18 No magnet ring state

A	Keep the original value
B	Maximum value
C	Minimum value

#### 19 - 20 Non-usable area at head and end

B	1	72.5mm+72.5mm
D	2	73mm+73mm

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### ● Selection example

For example: EP-M0300-V0-0081M-A11C-B1R

Indicates: EP integral profile structure, mounting clamp installation, 300mm Stroke length, no magnet block, M12 connector outlet form, current output of 4~20mA, output value of non-magnet ring less than 4mA, non-usable area at head and end of 72.5 mm+72.5mm.

### ● Supply list

Sensor, certificate, instruction manual, optional parts (optional separately)