

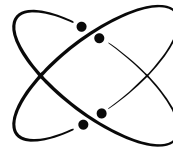
ATOM METRIC
FINEST MEASUREMENTS, HIGHEST PRECISION

EP Displacement Sensor



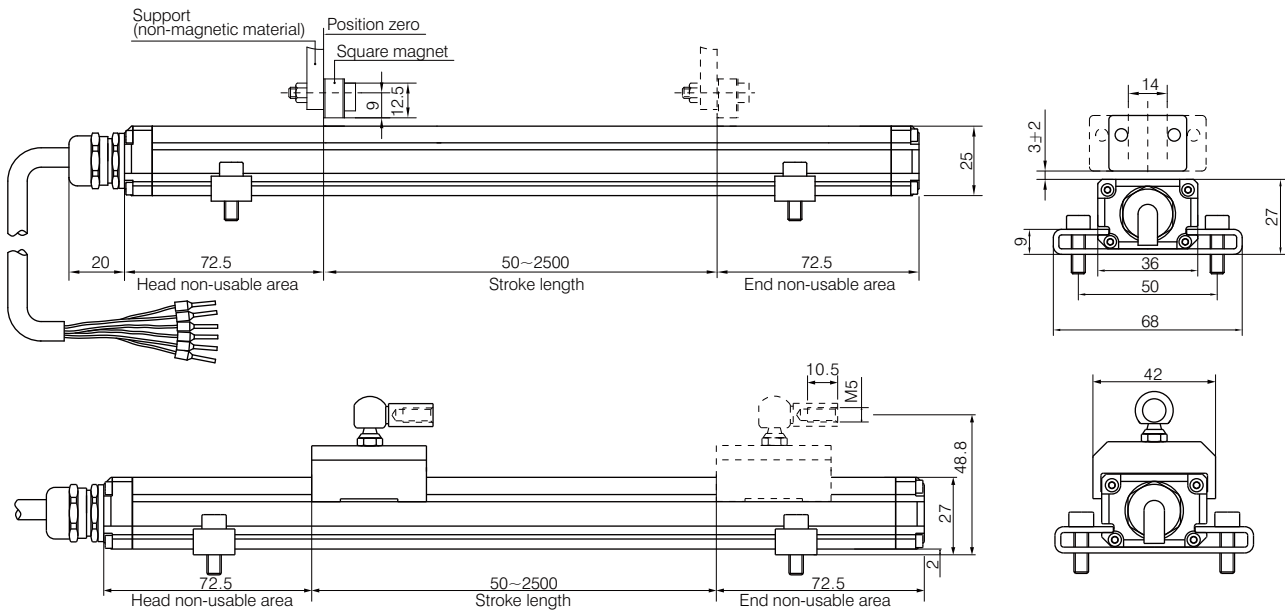
Technical Characteristics:

- 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.

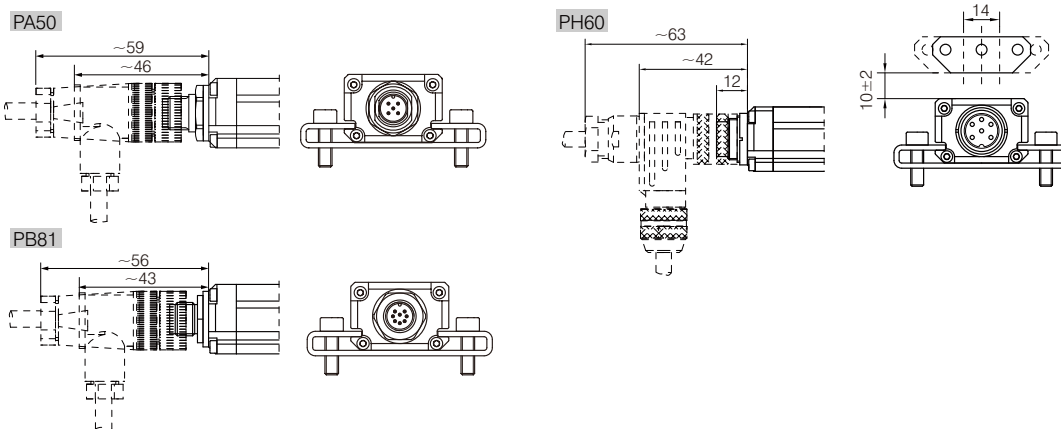


Structural shape

• Cable outlet DHXX/DUXX/DWXX



• Connector PA50/PB81/PH60



Wiring and pin definition

PA50 pin arrangement	Cable color3*	Function definition	PH60 pin arrangement	Cable color1*	Cable color2*	Function definition	PB81 pin arrangement	Function definition
 (facing the sensor head)	1	Brown	 2-wire system (facing the sensor head)	1	Blue	Grey	1	Do not connect
	2	White		2	Green	Pink	2	Magnet ring position signal-
	3	Blue		3	Yellow	Yellow	3	Do not connect
	4	Black		4	White	Green	4	Sensor programming line
	5	Grey		5	Red	Brown	5	Magnet ring position signal+
				6	Black	White	6	GND (power supply circuit)
							7	+24Vdc power supply (-20%~+20%)
							8	Sensor programming line

Note: * Cable color 1: Cable PUR sheath, black, -20~90°C
 * Cable color 2: Cable PVC sheath, orange, -20~105°C
 * Cable 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℃ ~ +85℃
Temperature coefficient	< 30ppm/℃
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 or M12 connector)

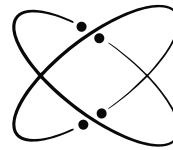


$$\begin{array}{cccccccccccccccccccc}
 \boxed{E} & \boxed{P} & - & \boxed{M} & \boxed{} & \boxed{} & \boxed{} & \boxed{} & - & \boxed{C} & \boxed{} & \boxed{} & - & \boxed{} & \boxed{} & \boxed{} & \boxed{} & - & \boxed{} & \boxed{} & \boxed{1} & \boxed{} & - & \boxed{} & \boxed{} \\
 01 & 02 & & 03 & 04 & 05 & 06 & 07 & & 08 & 09 & & & & 10 & 11 & 12 & 13 & & 14 & 15 & 16 & 17 & & 18 & 19
 \end{array}$$

14 - 17		Signal output mode
14 - 15		Signal output mode
A	0	Current output 4 ~ 20mA
A	1	Current output 20 ~ 4mA
A	2	Current output 0 ~ 20mA
A	3	Current output 20 ~ 0mA
V	0	Voltage output 0 ~ 10V
V	1	Voltage output 10 ~ 0V
V	4	Voltage output 0 ~ 5V
V	5	Voltage output 5 ~ 0V
16		Reserved bit
1		Single magnet ring
17		No magnet ring state
A		Keep the original value
B		Maximum value
C		Minimum value
18 - 19		Non-usable area at head and end
B	1	72.5mm+72.5mm
D	2	73mm+73mm

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.

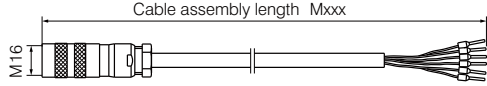
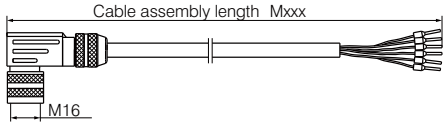
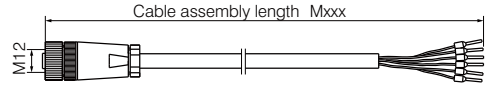
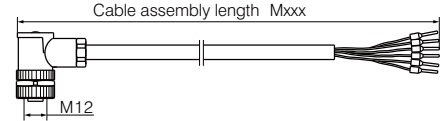
Sensor, certificate, instruction manual, optional parts (optional separately)



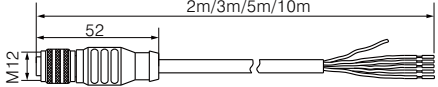
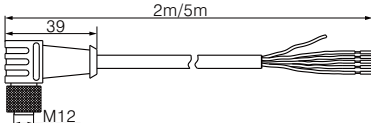
ATOM METRIC
FINEST MEASUREMENTS, HIGHEST PRECISION

■ EP Analog Output-Common Options

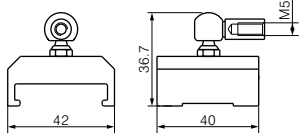
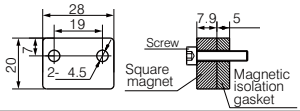
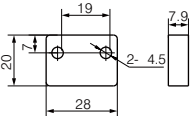
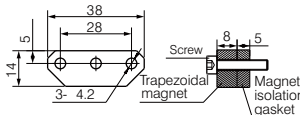
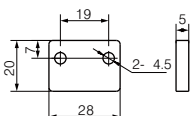
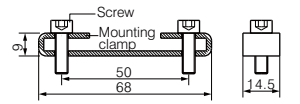
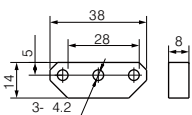
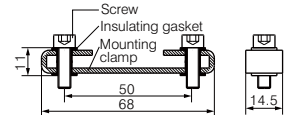
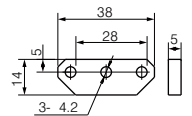
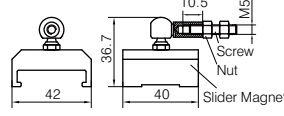
• Plug assembly cable

Accessory name/model	Dimensions	Description
Analog wiring cable assembly Order No.: AST-Mxxx-H01 (U01)		Mxxx denotes cable length in meters; H01-6-pin PUR orange sheath, temperature-resistant-20~90 cable assembly; U01-6-pin PVC orange sheath, temperature resistance -20~105 cable assembly.
Analog wiring right angled cable assembly Order No.: AST-Mxxx-H03 (U03)		Mxxx denotes cable length in meters; H03-6-pin PUR orange sheath, temperature-resistant -20~90 cable assembly; U03-6-pin PVC orange sheath, temperature resistance -20~105 cable assembly.
Analog output cable assembly Order No.: AST-Mxxx-W06		Mxxx denotes cable length in meters; W06-5-pin PUR black sheath, temperature -40~80 cable assembly.
Analog output right angled cable assembly Order No.: AST-Mxxx-W05		Mxxx denotes cable length in meters; W05-5-pin PUR black sheath, temperature -40~80 cable assembly.

• Finished plug cable

Accessory name/model	Dimensions	Description
M12 female connector Order No.: 521801-2 (3/5/10)		PUR black sheath, line core 1 brown, 2 white, 3 blue, 4 black, 5 gray, temperature resistance-40 ~80 .
M12 Right angle female connector Order No.: 521804-2 (5)		PUR black sheath, line core 1 brown, 2 white, 3 blue, 4 black, 5 gray, temperature resistance-40 ~80 .

• Magnet ring/floating ball

Accessory name/ model	Dimensions	Accessory name/ model	Dimensions	Description
Slider Magnet Order No.: 211517		Square Magnet Order No. 288508		One square magnet 211508, one square magnet gasket 211529 (thickness 5mm), two M4X20 socket screws
Square magnet Order No.: 211508		Trapezoidal magnet kit Order No. 288514		One trapezoidal magnet 211514, one trapezoidal magnet gasket 211530 (thickness 5mm), three M4X20 socket screws
Square magnet gasket Order No.: 211529		Mounting clamp kit Order No. 211561		One mounting clamp, two M5X16 socket screws
Trapezoidal magnet Order No.: 211514		Mounting clamp kit (With insulation) Order No. 211801		One mounting clamp, two M5X16 socket head cap screws, four insulating washers
Trapezoidal magnet gasket Order No.: 211530		Slider Magnet Kit Order No. 288517		One slider Magnet 211517, one M5×25Screw, Two M5 Nuts

Note: For other accessories, please refer to general options

