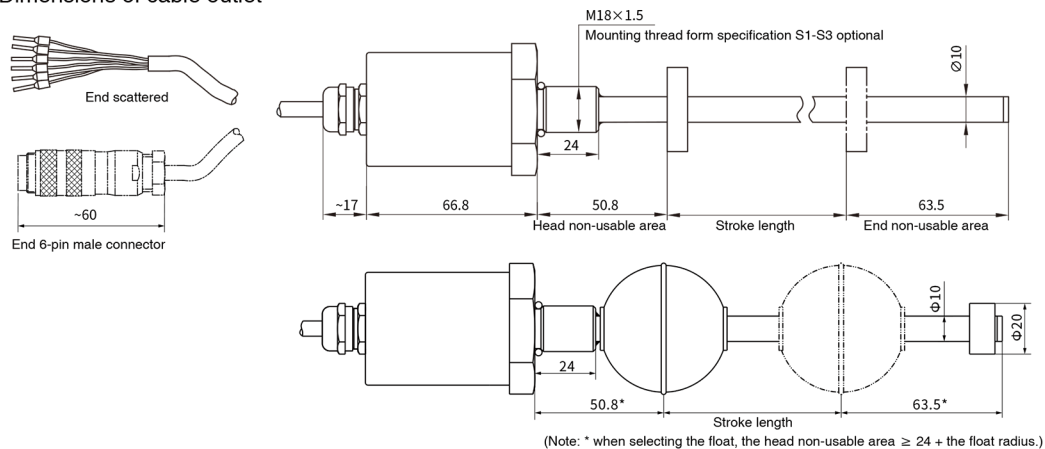
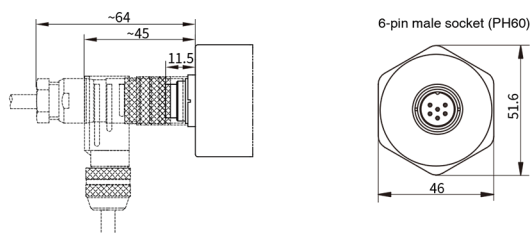


► Structural shape


- Dimensions of cable outlet



- Outline dimensions of connector outlet



► Wiring and pin definition

6-pin male connector arrangement		Cable color1*	Cable color2*	Function definition
 (facing the sensor head)	1	Blue	Grey	Magnet ring position signal+
	2	Green	Pink	Magnet ring position signal-
	3	Yellow	Yellow	Reservation
	4	White	Green	Reservation
	5	Red	brown	+24Vdc power supply (-20%~+20%)
	6	Black	White	GND (supply and return circuit)

Note:** Cable color 1: Cable PUR sheath, orange, -20~90°C

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

▶ EJ Modbus Output-Product Parameters

Input

Measuring data	Position magnet ring or position floating ball
Stroke length	25~5500 mm, others can be customized according to needs

Output

Interface	Modbus RTU protocol
Resolution	≤ 10um
Nonlinearity	Minimum ±50um(or <±0.01%F.S.)
Repeatability	Minimum ±10um(or <±0.001%F.S.)
Update time	10ms
Communication rate	4800/9600/19200/38400/57600/115200 bps
Check method	Even check

Operating Conditions

Magnet velocity	Arbitrary
Protection class	IP67
Operating temperature	-40°C ~ +75°C
Humidity/dew point	Humidity 90%, no condensation
Impact Indicator	GB/T2423.5 50g(6ms)
Vibration index	GB/T2423.10 15g/10~2000Hz
EMC test	GB/T17626.2 Electrostatic Discharge Immunity, Grade 3, Class A GB/T17626.3 Radio Frequency Electromagnetic Field Radiation Immunity, Grade 3, Class A GB/T17626.4 Electrical Fast Transient Burst Immunity, Grade 3, Class B GB/T17626.6 Conducted Disturbance Degree Induced by Radio Frequency Field, Grade 2, Class A GB/T17626.8 Power Frequency Magnetic Field Immunity, Grade 3, Class A CE certification

Electrical Connections

Input voltage	24Vdc
Power consumption	<80mA
Polarity protection	Maximum -30Vdc
Overvoltage protection	Maximum 36Vdc
Insulation resistance	> 10MΩ
Insulation strength	500V

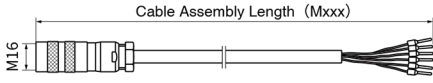
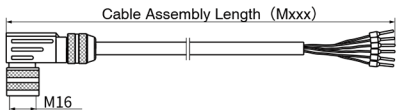
Construction and Materials

Electronic compartment	304Lstainless steel
Measuring rod	304L/316Lstainless steel
Outer tube pressure	35Mpa (continuous)/70Mpa (peak) measuring rod diameter ϕ 10
Installation	Any direction, mounting thread form (thread form specification is optional)
Position magnet	Various annular magnets or floating balls
Outgoing mode	Cable outlet (scattered connection) or connector (M12 connector)

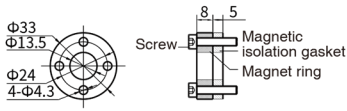
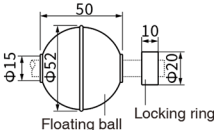
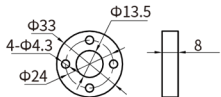
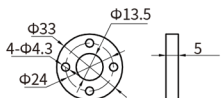
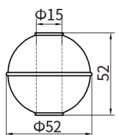
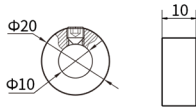
EJ Modbus Output Displacement Sensor

► EJ Modbus Output-Common Options

• Plug assembly cable

Accessory name/model	Dimensions	Description
Modbus Interface Cable assembly Order No.:AST-Mxxx-H01 (U01)		Mxxx represents the cable length in meters; H01-6-pin PUR orange sheath, temperature -20~90°C cable assembly; U01-6-pin PVC orange sheath, temperature resistance -20~105°C cable assembly.
Modbus Interface right angled Cable Assembly Order No.:AST-Mxxx-H03 (U03)		Mxxx represents the cable length in meters; H03-6-pin PUR orange sheath, temperature resistance -20~90°C cable assembly; U03-6-pin PVC orange sheath, temperature resistance -20~105°C cable assembly.

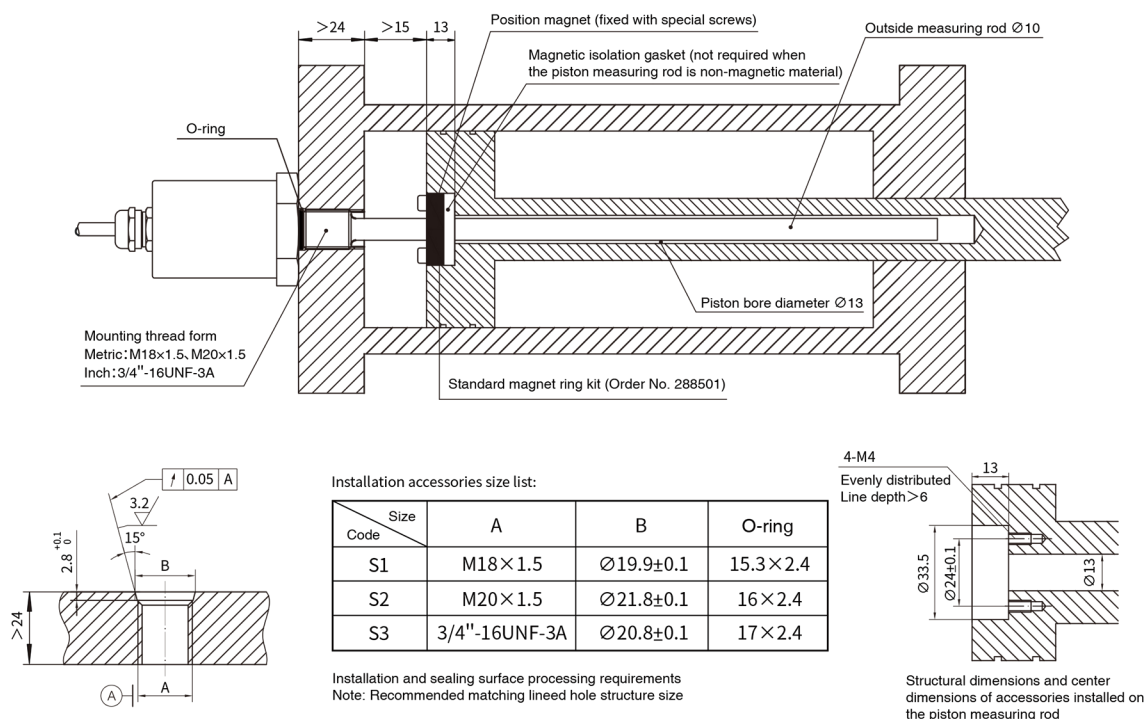
• Magnet ring/float

Accessory name/model	Dimensions	Description
Standard magnet ring kit Order No.:288501		One magnet ring 211501, one gasket 211521 (thickness 5mm), four M4X20 socket screws with spring wgreyers.
Floating ball kit Order No.:266001		One floating ball 211546, a set of locking rings 211589. Floating ball material 304, pressure resistance 2.5MPa, density 0.6; locking ring material 304.
Standard magnet ring Order No.:211501		
Magnetic isolation gasket Order No.:211521		
Floating ball Order No.:211546		Material 304, pressure resistance 2.5MPa, density 0.6
Locking ring Order No.:211589		Material 304

Note: For other accessories, please refer to general options

EJ-Hydraulic cylinder Application

► Built-in installation



► How to choose the sensor range according to the hydraulic cylinder

When selecting the sensor range for the existing hydraulic cylinder, ensure that the sensor range covers the cylinder piston measuring rod stroke, that is, the sensor range 0 point is before the piston measuring rod stroke starting point, and the sensor range end point is after the piston measuring rod stroke ends.

► Precautions

- Hydraulic cylinder installation—the sensor of the pressure-resistant round tube casing is usually installed with a built-in hydraulic cylinder. The mounting thread form specifications Includes: M18×1.5, M20×1.5, 3/4"-16UNF-3A. Before installation, make sure that the hydraulic cylinder is as given in the picture book. Finished to the correct size.
- Mechanical installation - The sensor has no requirements on the installation position and direction, but must ensure that the installation is firm and reliable. The position magnet should be installed on the moving part under test and maintains a proper distance from the measuring rod. Position magnet - To ensure the accuracy of measuring, the installing parts of the position magnet must be made of non-magnetic materials, such as screws, magnetic isolation gaskets, etc.
- Notes: The sensor is a magnetic sensitive device and must be kept away from the interference of strong external magnetic fields. The stability and accuracy of the power supply should also be considered when measuring with high precision. During use, it is also necessary to prevent the electronic compartment from being hit by foreign objects.

EJ Modbus Output Displacement Sensor

► EJ Modbus Output-Selection Guide

EJ - M - S - - -

01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21

01 - 02 Sensor shell form

E J Pressure-resistant pipe

03 - 07 Range (0025~5500mm, others can be customized as needed)

0025~0500mm step length 5mm

0500~0750mm step length 10mm

0750~1000mm step length 25mm

1000~5500mm step length 50mm

08 - 09 Mounting thread form

S 1 M18X1.5, measuring rod diameter 10mm, 304 material

S 2 M20X1.5, measuring rod diameter 10mm, 304 material

S 3 3/4"-16UNF-3A, measuring rod diameter 10mm, 304 material

10 - 13 Connection form

10 - 11 Cable outlet mode

D H PUR sheath, orange, -20~90°C, end scattered, Cable color 1

D U PVC sheath, orange, -20~105°C, end scattered, Cable color 2

D I PUR sheath, orange, -20~90°C, end 6-pin male connector (直出线缆方式)

D V PVC sheath, orange, -20~105°C, end 6-pin male connector

12 - 13 Cable length, 01~99

10 - 13 Connector form

P H 6 0 M16 6-pin male socket, plug cable needs to be selected separately

14 - 19 Signal output mode

14 Communication protocol and power supply

R RTU, 24Vdc power supply

15 communication rate

1 19200 bps 5 38400 bps

4 4800 bps 6 57600 bps

9 9600 bps 7 115200 bps

16 Output forward and reverse

0 Forward (when the magnet ring or floating ball is far away from the electronic compartment, the output value increases)

1 Reverse (when the magnet ring or floating ball is away from the direction of the electronic compartment, the output value decreases)

17 Reserved bit

1 Single magnet ring

2 Single floating ball

18 No magnet ring state

C Minimum value

19 Check method

2 Even parity

20 - 21 Front and end non-usable area

S 0 50.8mm+63.5mm

● Selection example

For example: EJ-M0300-S1-DU02-R912-S0

Indicates: E series EJ structure, Stroke length is 300mm, mounting thread form is M18 × 1.5, diameter is 10, material is 304 measuring rod, straight orange cable is 2 meters (PVC orange sheath, -20~105°C, end scattered), 24Vdc power supply RTU protocol output, baud rate is 9600bps, reverse output, single position magnet ring, standard head and end non-usable area is 50.8 mm + 63.5 mm. (Note: Factory default address 1)

● Supply list

Sensor, certificate, manual, optional accessories (sold separately)