

Magnetostrictive Displacement Sensors Operating Manual

E Series
EJ Structure
Analog/SSI/Modbus interface

 **400-809-1101**
Customer Service Hotline



■ Use Regulations

Magnetostrictive displacement sensor is used to detect the displacement of motion mechanism. According to the selection regulations, the magnet ring (block) matched with magnetostrictive displacement detection electronic components is selected for detection applications in different occasions. Please ensure that the cable, connector, magnet ring (block) and sensor body are the original parts of the manufacturer when using. Please do not open the shell of the sensor without authorization, so as not to affect the normal warranty period of the product.

■ Safety matters

Please read the operating manual carefully before powering up the sensor. Firstly, confirm the outgoing mode and pin signal definition, and make correct electrical connection to prevent power-on from damaging the sensor or causing misoperation of the equipment.

During the construction and use of the sensor, the current of high-power equipment such as welding machine should be avoided from entering the working circuit of the sensor.

If you find abnormal sensor data or obvious changes in appearance (such as bumping deformation), please stop using it immediately, and contact the manufacturer to confirm the current state of the sensor before continuing to use it.

■ Application environment

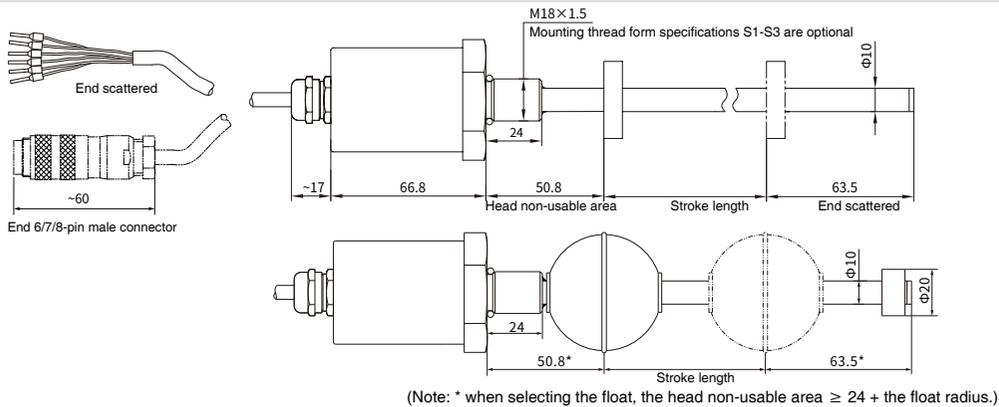
Magnetostrictive displacement sensor is a kind of magnetic measurement sensor. Make sure there is no strong magnetic field around the sensor, which may interfere with the data. The displacement output signal cable of magnetostrictive displacement sensor should be away from the power cable or large current or strong pulse interference source. Confirm the environmental parameters including temperature, vibration, etc., and ensure that the working conditions are within the nominal working parameters of the sensor.

■ Status indication/fault analysis

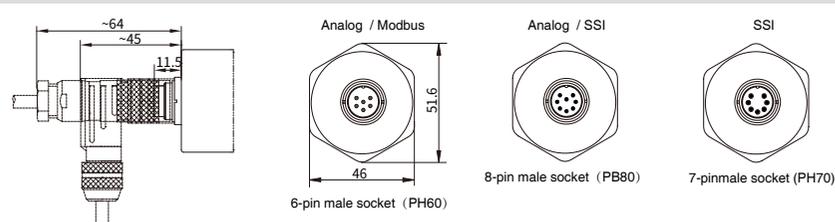
EJ structure magnetostrictive displacement sensor has no LED lamp for status indication.

■ Installation Dimensions

Dimensions of cable outlet



Dimensions of connector outlet



■ Electric interface

Analog



• 6-pin male connector arrangement (facing the sensor head)

Pin	Cable color 1*	Cable color 2*	Function definition
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	+24Vdcpower supply (-20%~+20%)
6	Black	white	GND(power supply circuit)

Analog



• 8-pin male connector arrangement (facing the sensor head)

Pin	Cable color 3*	Function definition
1	yellow	Current output
2	Grey	current/voltage circuit
3	Pink	Reservation
4	-	Reservation
5	Green	Voltage output
6	Blue	GND (power supply circuit)
7	Brown	+ 2 4 V d c power supply (- 2 0 % ~ + 2 0 %)
8	white	Reservation

SSI



• Pin arrangement of seven-pin male connector (facing the sensor head)

Pin	Cable color 1*	Cable color 2*	Function definition
1	White	Grey	Data (-)
2	Yellow	Pink	Data (+)
3	Blue	Yellow	Clock (+)
4	Green	Green	Clock (-)
5	Red	Brown	+24Vdcpower supply (-20%~+20%)
6	Black	White	GND(power supply circuit)
7	-	-	Do not connect

SSI



• 8-pin male connector arrangement (facing the sensor head)

Pin	Cable color 3*	Function definition
1	yellow	Clock (+)
2	Grey	Data (+)
3	Pink	Clock (-)
4	-	Reservation
5	Green	Data (-)
6	Blue	GND (power supply circuit)
7	Brown	+ 2 4 V d c power supply (- 2 0 % ~ + 2 0 %)
8	white	Reservation

■ Installation

The installation of magnetostrictive displacement sensor mainly includes sensor body, magnet and cable fixing.

The installing forms of the sensor body are: thread installing, clamp installing and matching fixing installing. Before installation, make sure that the packaging is in good condition, and the sensor body has no obvious bending and bumping. The sensor body should be assembled according to the specific installation form.

When installing magnets, please use matching magnetic insulation gaskets to ensure normal magnetic field circuit.

When installing plugs or cables, please connect them accurately according to the electrical interfaces in the instructions.

■ After-sales support

If the sensor malfunctions, please contact the after-sales department of the company in time. Do not attempt to repair it yourself.

Modbus



• 6-pin male connector arrangement (facing the sensor head)

Pin	Cable color 1*	Cable color 2*	Function definition
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	+24Vdcpower supply (-20%~+20%)
6	Black	white	GND(power supply circuit)

Note: * Cable color1: cable PUR sheath, orange, -20~90 C

* Cable color2/3: cable PVC sheath orange, -20~105 C