

# Magnetostrictive Displacement Sensors Operating Manual

R Series  
RD Structure  
Profibus-DP 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 magnets matched with magnetostrictive displacement detection electronic components are selected for detection applications in different occasions. During use, ensure that the cable,connector, magnet and sensor body are the original parts of the manufacturer.

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 manual carefully before powering up the sensor. First, confirm the outlet mode and pin signal of the sensor, 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 that the sensor data is abnormal or the appearance has obvious changes, please stop using it immediately, and contact the manufacturer to confirm the current state of the sensor before continuing to use it.

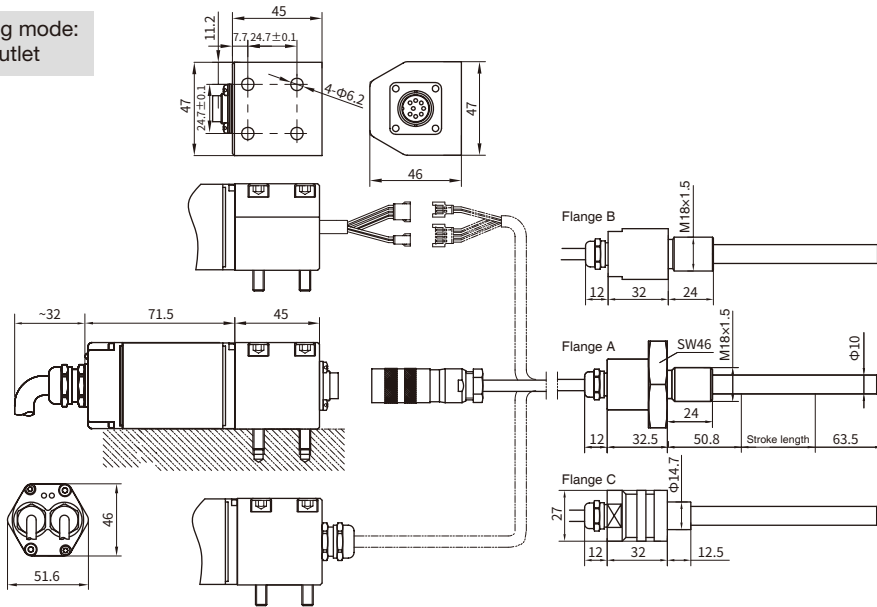
- Status indication/fault analysis



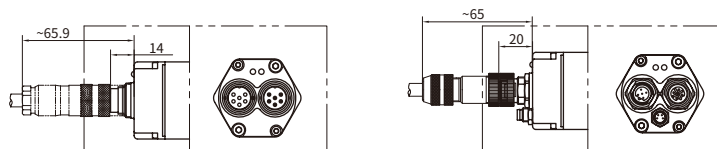
Green light	Red light	Function
ON	OFF	Normal work
ON	ON	Magnets not detected or incorrect number
Flash	OFF	Waiting for host parameters
Flash	ON	Programming state

## ■ Installation Dimensions

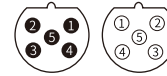
Outgoing mode:  
Cable outlet



Outgoing mode:  
Connector



- Electric interface



- 5-pin male connector, female connector pin arrangement (facing the direction of the sensor head)

Pin	Cable color	Pin/wire function definition
1	-	VP+5N(applicable to end wiring only) *
2	Green	RxD/TxD-N(Bus)
3	-	DGnd(end connection only) *
4	Red	RxD/TxD-P(Bus)
5	Shielded wire	Ground the cable shield

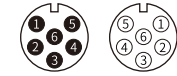
Note: \* Only applicable to signal connection of sensor female connector



4-pin connector socket (for power supply)

- 4-pin male connector pin arrangement (facing the sensor head direction)

Pin	Cable color	Pin/wire function definition
1	Brown	+24Vdc power supply (-20%+20%)
2	White	Do not connect
3	Blue	0Vdc(power supply circuit)
4	Black	Do not connect



- 6-pin male connector, female connector pin arrangement (facing the direction of the sensor head)

Pin	Cable color	Pin/wire function definition
1	Green	RxD/TxD-N(bus)
2	Red	RxD/TxD-P(bus)
3	-	DGnd(for end wiring only) *
4	-	VP+5N(for end wiring only) *
5	Black	+24Vdc power supply (-20%~+20%)
6	Blue	0 Vdc (power supply circuit)

Note: \* Only applicable to signal connection of sensor female connector

- 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.

## ■ 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.