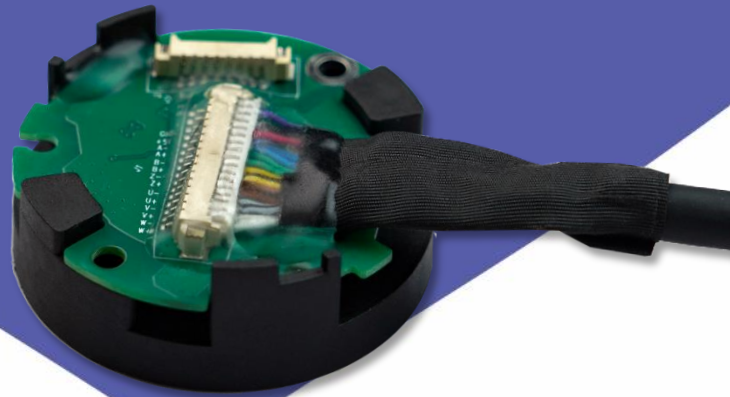


# Split incremental magnetic encoder

SRMI46-2500PC-PHS-C-W0.65-

5V-F6

SPECIFICATION



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## 1. Summary Info

The Split incremental magnetic series SRMI46 encoder from Reagle Sensing Overview Information as Follows:

Model Series	Mounting Feature Description	Features
SRMI46-2500PC-PHS-C-W0.65-5V-F6	With bracket, cable, outer diameter 46mm, height 15.7mm, mounting interface with 2×M3 holes spaced 40mm apart, cable length 0.65m	Resolution: 2500 C/T; Pole Pairs: Default is 5 pole pairs, Configurable from 1 to 16

## 2. Technical Specifications

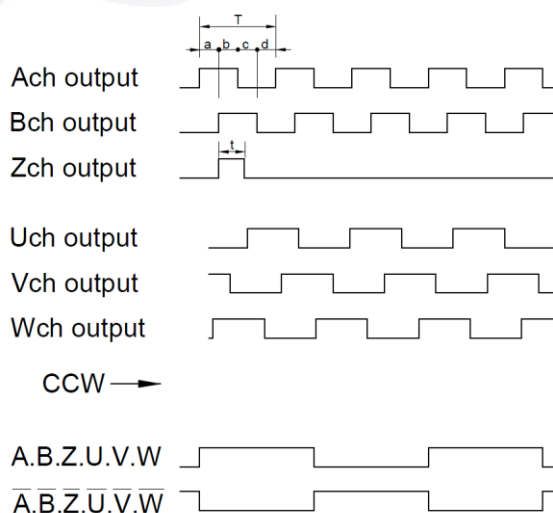
Model	SRMI46-2500PC-PHS-C-W0.65-5V-F6
Resolution	2500 C/T
Pole Pairs	Default is 5 pole pairs, users can configure from 1 to 16 pole pairs
Communication frequency	<250KHz
Input shaft allowable deviation	Axial: $\pm 0.3\text{mm}$ Axial play: $<0.2\text{mm}$ Radial: $\pm 0.1\text{mm}$ Radial play: $<0.05\text{mm}$ Tilt: $<0.2^\circ$
Main shaft speed	$\leq 7200\text{rpm}$
Moment of inertia	straight shaft $\varnothing 6/\varnothing 8\text{mm}$
Moment of Inertia	$6.5 \times 10^{-6} \text{ kg} \cdot \text{m}^2$
Weight	$\approx 0.12 \text{ kg}$ (With Cable)
Rotor angular acceleration	$\leq 10000\text{rad/s}^2$
Vibration	Between 10 and 55Hz, maintain amplitude of 1.5mm. Between 55 and 2000Hz, acceleration is $98\text{m/s}^2$ . 2 hours per axis for XYZ, totaling 6 hours.
Mechanical shock	Shock acceleration of $980\text{m/s}^2$ , 11 milliseconds. 3 impacts per direction, totaling 18 impacts.
Operating Temperature/ Storage Temperature.	$-40^\circ\text{C} \sim +105^\circ\text{C}$ $-40^\circ\text{C} \sim +105^\circ\text{C}$
Relative Humidity	$\leq 90\%$ ( $40^\circ\text{C}/21$ days, based on EN 60068-2-78); No condensation
Enclosure Protection Rating	— (Motor Rear Case Protection)

Electromagnetic Compatibility	Complies with IEC 61800-3 standard requirements
Output Format	Line Driver 26C31
ESD Resistance	4kV Contact Discharge
Magnetic Interference Resistance	Common Mode Magnetic Field Suppression

### 3. Electrical Parameters

Items	T=25°C		
	Min.	Typ.	Max.
Main power supply voltage	4.75 V	5V	5.25V
Main power supply Current (Typ)	--	50mA	--
Differential Level	High	2.4V	--
	Low	--	0.5V
Edge Change Time	--	--	100ns
Insulation resistance	10MΩ	--	--
Insulation Voltage Withstand	AC500V 1min		

### 4. Output Phase Difference



$$T = \frac{360^\circ}{2500}$$

$$a.b.c.d = \frac{T}{4} \pm \frac{T}{8}$$

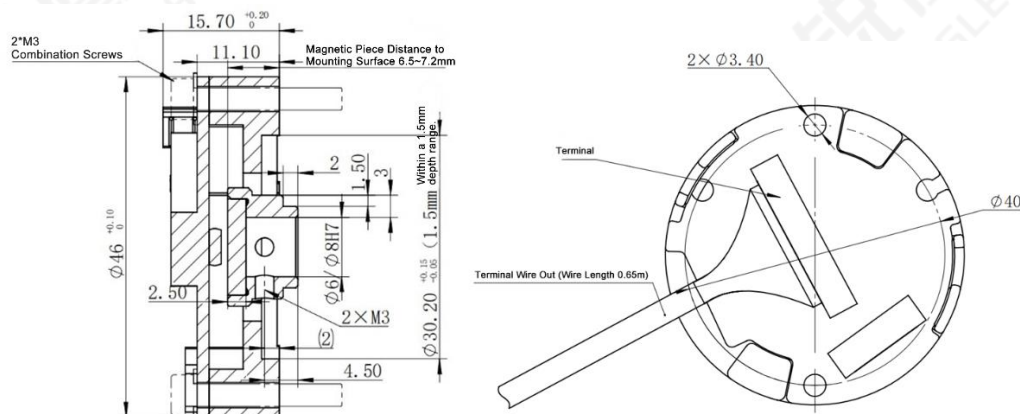
t=1/4T、1/2T、1T、2T、3T、4T (Default is 1T configurable)

## 5. Cable Definition

Cable color	Definition
Red	5V
Black	GND
Blue	A+
Blue-Black	A-
Green	B+
Green-Black	B-
Yellow	Z+
Yellow-Black	Z-
Brown	U+
Brown-Black	U-
Gray	V+
Gray-Black	V-
White	W+
White-Black	W-
Shielding	PE

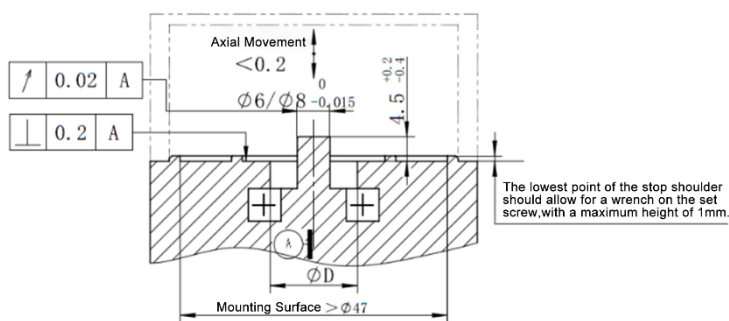
## 6. Mechanical Specifications

### ◇ Product Structure Dimension Diagram

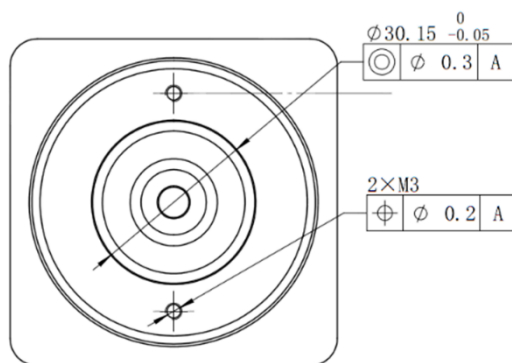


· Distance between the magnetic piece and the magnetic induction chip is 0.55~1.3mm

✧ Recommended Motor End Design Dimensions

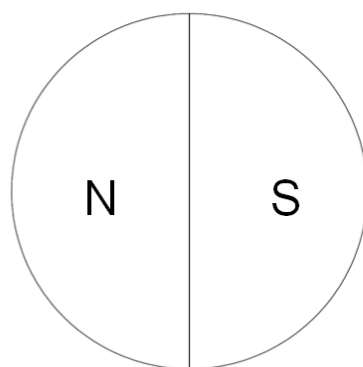
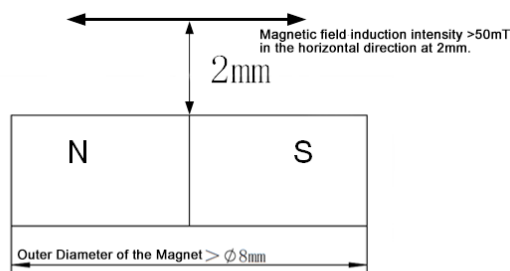


\* The lower end of the encoder shaft will be sunk into the motor end cover. When the shaft is  $\phi 6$ ,  $\phi D$  needs to be greater than  $\phi 12.5$ , when the shaft is  $\phi 8$ ,  $\phi D$  needs to be greater than  $\phi 14.5$ .



\* The main body of this product can be positioned using either screw fastening or positioning with the inner circle of  $\phi 30.15$  at the bottom of the main body. Either method is sufficient.

**【Note】** : The shaft and magnetic piece assembly can use our company's product or can be configured by yourself. When configuring by yourself, the magnet must meet the following conditions:



## 7. Zero Position and Pole Pair Adjustment Method

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After the motor shaft is locked, use the provided configurator connected to the 8-pin terminal of the encoder to adjust to the required number of pole pairs. Once the LED on the configurator quickly alternates between red and green and then stays green, it indicates that the pole pair and zero position adjustment is complete.

Appendix: Meaning of Status Indicator Lights

Serial Numbe	Status	Green Light Display	Red Light Display	Status Description
1	Initialization	Constantly Off	Constantly Off	-
2	Parameter Error	Constantly Off	Constantly On	-
3	Connection Detection	Blink Cycle 0.5 Seconds	Constantly Off	-
4	Configuration in Progress	Alternating Flash, Cycle 0.2 Seconds		-
5	Configuration Successful	Constantly On	Constantly Off	-
6	Configuration Failed A	Constantly Off	Blink Cycle 0.5 Seconds	Configuration Read Failed
7	Configuration Failed B	Constantly Off	Blink Cycle 0.2 Seconds	Configuration Comparison Failed
8	Removal Detection	-	-	Same Configuration Result: 5~7

## 8. Special Requirements

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The PCB surface is coated with UV-resistant triple-proof glue for product protection. The dry film thickness of the triple-proof glue is 30~75 $\mu$ m, and it has a temperature tolerance range of -40~130 $^{\circ}$ C, meeting the ROHS requirements.






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