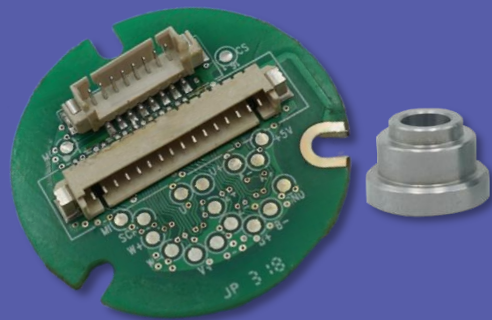


# Split incremental magnetic encoder

SRMI34-2500PC-PBO-C-5V

SRMI34-1024PC-PBO-C-5V

SPECIFICATION



# Contents

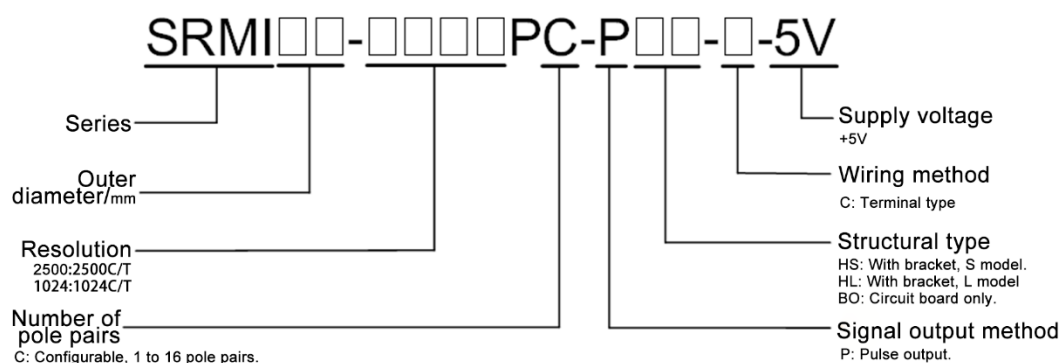
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## 1. Summary Info

The SRMI34 incremental magnetic encoder products from Reagle Sensing currently come in two models, with specific information as follows:

Model Series	Mounting Feature Description	Features
SRMI34-2500PC-PBO-C-5V	Without a bracket, single circuit board, outer diameter of 34mm, mounting interface evenly distributed with 3×Φ2.6 holes around a circumference of Φ29.	Resolution: 2500 C/T; Pole Pairs: Default is 5 pole pairs, Configurable from 1 to 16
SRMI34-1024PC-PBO-C-5V	Without a bracket, single circuit board, outer diameter of 34mm, with a mounting interface consisting of 3 holes of Φ2.6 evenly distributed around a circle with a diameter of Φ29.	Resolution: 1024 C/T; Pole Pairs: Default is 5 pole pairs, Configurable from 1 to 16

## 2. Naming convention



## 3. Technical Specifications

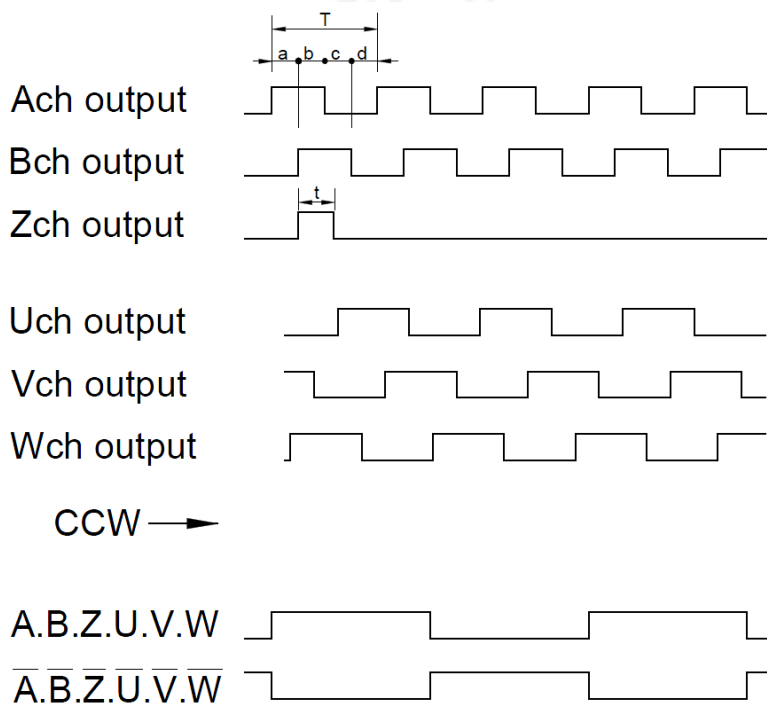
Model	SRMI34-2500PC-PBO-C-5V SRMI34-1024PC-PBO-C-5V
Resolution	2500 C/T 、 1024C/T
Pole Pairs	Default is 5 pole pairs, users can configure from 1 to 16 pole pairs
Communication frequency	<250KHz

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	$\approx 0.008 \text{ kg}$ (Without 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	

#### 4. 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		

## 5. Output Phase Difference



$$T = \frac{360^\circ}{X} \quad (X=1024/2500)$$

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

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

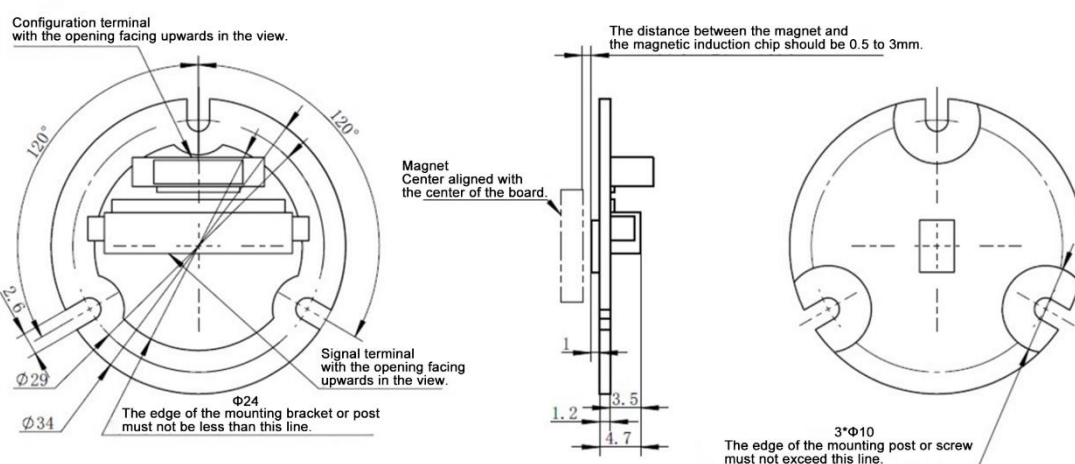
## 6. Cable Definition

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

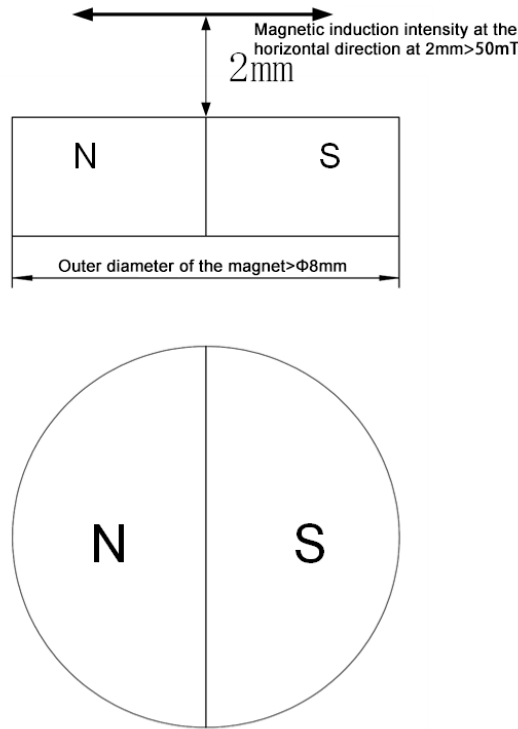
## 7. Mechanical Specifications

### ◇ Product Structure Dimension Diagram

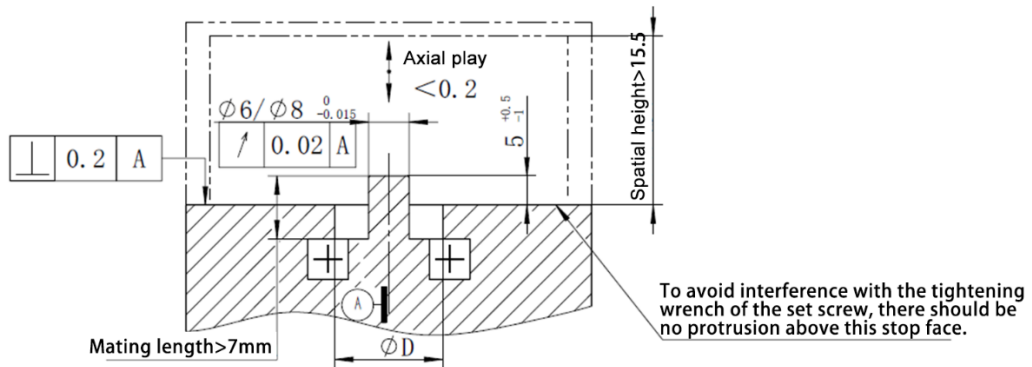


#### 【Note】

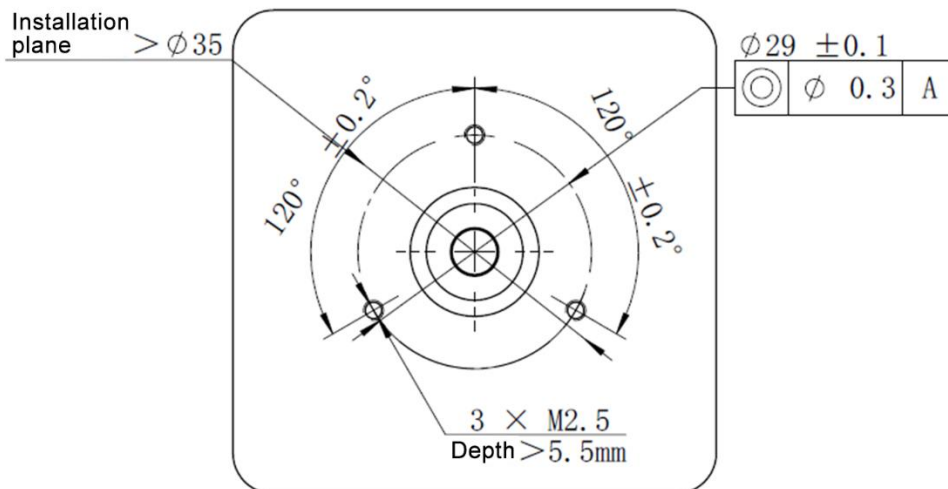
1. Cables need to be ordered separately according to the code, and the terminals should be fixed after insertion.
2. The axis and magnet assembly can use our company's products or be configured by yourself. When configuring by yourself, the magnet must meet the following conditions:



◇ Recommended motor end design dimensions



- ① When the encoder shaft end is sunk into the motor end cover.  
 if the shaft is  $\Phi 6$ , the  $\Phi D$  needs to be larger than  $\Phi 12.5$ ,  
 if the shaft is  $\Phi 8$ , the  $\Phi D$  needs to be larger than  $\Phi 14.5$ .
- ② It is recommended that the motor rear cover be equipped with a magnetic shielding made of magnetic material with a diameter of  $\Phi 35$  or larger



## 8. Zero Position and Pole Pair Adjustment Method

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 Num	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



### Revision History

Date	Version Number	Modification Details or Changes	
		Location	Content
20220615	V1.0	/	New Version
20230602	V1.1	Technical parameters	Operating temperature update
20240612	V1.2	Structural dimensions	Add recommended motor end design dimensions

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