锐鹰传感
REAGLE SENSING

Incremental provincial line type Rotary Encoder

SROI42-2500P□-P3C-W□-5V

SROI42-2500P□-P3S□-W□-5V

SPECIFICATION

浙江锐鹰传感技术股份有限公司
ZHEJIANG REAGLE SENSING TECHNOLOGY INCORPORATED

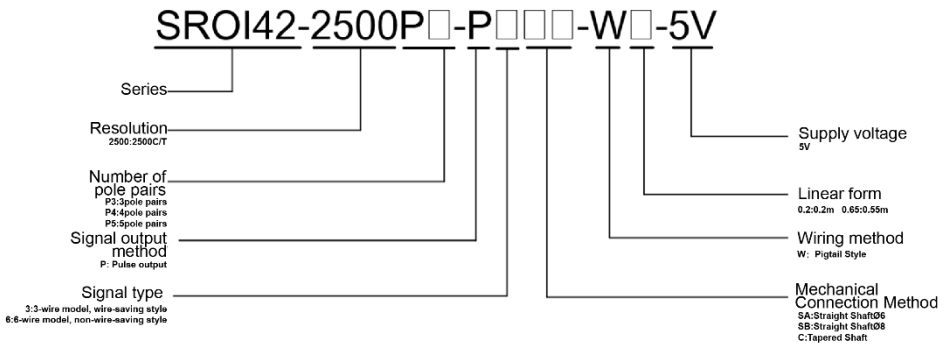
Contents

1. Summary Info

Reagle Sensing SROI42 incremental provincial line type 2500-line encoder products currently fall into three categories, as follows:

Model Series	Features	Installation Features
SROI42-2500P□-P3C-W□-5V	Resolution：2500 C/T； Pole Pairs：3 /4 /5 Linear Type：0.2m /0.65m	Tapered ShaftΦ9(1:10)
SROI42-2500P□-P3SA-W□-5V		Straight ShaftΦ6
SROI42-2500P□-P3SB-W□-5V		Straight ShaftΦ8

2. Naming convention



3. Technical Specifications

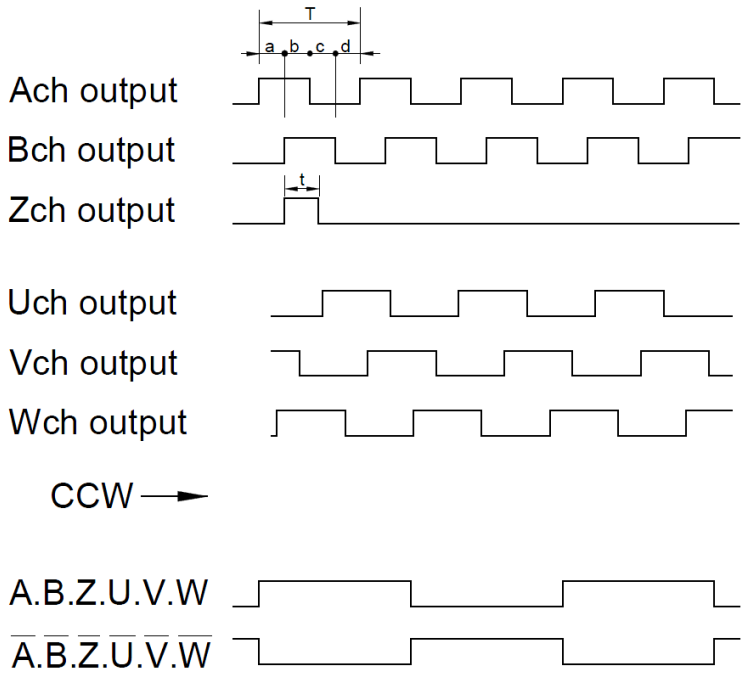
Model	SROI42-2500P□-P3C-W□-5V SROI42-2500P□-P3S□-W□-5V SROI42-2500P□-P3SB-W□-5V
Resolution	2500 C/T
Communication frequency	≤250KHz
Input shaft allowable deviation	Axial :Tapered Shaft±0.3mm Straight Shaft Unrestricted Axial play :＜0.2mm Radial :±0.1mm Radial play :＜0.05mm Tilt:＜0.1°
Main shaft speed	≤6000rpm

Shaft Diameter	straight shaft Ø6/Ø8mm Tapered Shaft Ø9 mm Taper 1:10
Moment of inertia	≈0.66kg·mm^2
Weight	≈0.09 kg（0.65 m Line） ≈0.07 kg（0.20 m Line）
Rotor angular acceleration	≤10000rad/s^2
Vibration	Between 10 and 55Hz, maintain amplitude of 1.5mm. Between 55 and 2000Hz, acceleration is 98m/s². 2 hours per axis for XYZ, totaling 6 hours.
Mechanical shock	Shock acceleration of 980m/s², 11 milliseconds. 3 impacts per direction, totaling 18 impacts.
Operating Temperature/ Storage Temperature	-40℃~+105℃
Relative Humidity	≤90% (40°C/21 days, based on EN 60068-2-78); No condensation
Enclosure Protection Rating	IP 40
Electromagnetic Compatibility	Compliant with IEC 61800-3 standards
Output Format	Line Driver 26C31
ESD Resistance	4kV Contact Discharge
Magnetic Interference Resistance	Common Mode Magnetic Field Suppression

4. Electrical Parameters

Items		T=25℃		
		Min.	Typ.	Min.
Main power supply voltage		4.75 V	5V	5.25V
Main power supply Current (Typ)		--	55mA	--
Differential Level	High	2.4V	--	--
	Low	--	--	0.5V
Edge Change Time		--	--	100ns
Insulation resistance		10MΩ	--	--
Insulation Voltage Withstand		AC500V 1min		

5. Output Phase Difference



$$T = \frac{360°}{2500}$$

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

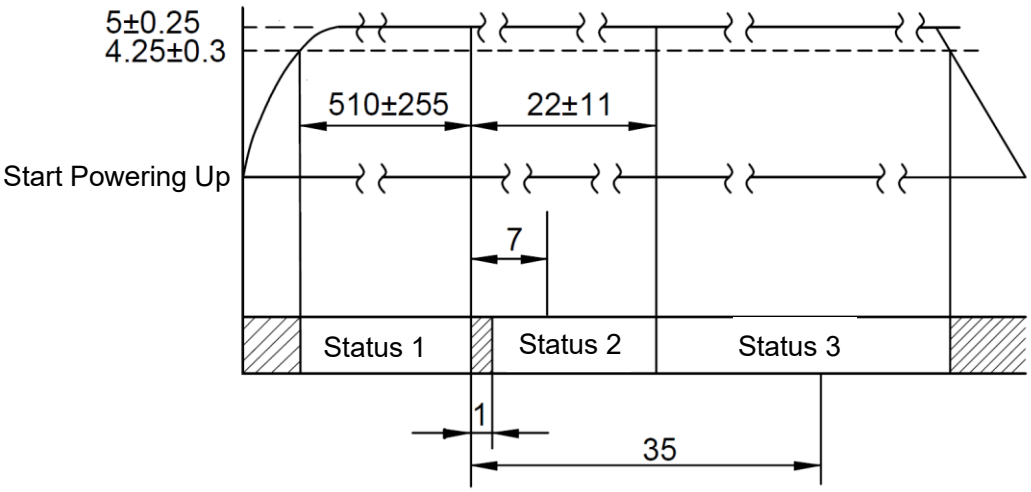
$$t = T \pm \frac{T}{2}$$

6. Cable Definition

Cable color	Definition		
	Status 1	Status 2	Status 3
Blue	HZ	U+	A+
Blue-Black	HZ	U-	A-
Green	HZ	V+	B+
Green-Black	HZ	V-	B-
Yellow	HZ	W+	Z+
Yellow-Black	HZ	W-	Z-

Brown	NC（Not connected）
Brown-Black	NC（Not connected）
Gray	NC（Not connected）
Gray-Black	NC（Not connected）
White	NC（Not connected）
White-Black	NC（Not connected）
Shielding	PE
Red	+5V
Black	GND

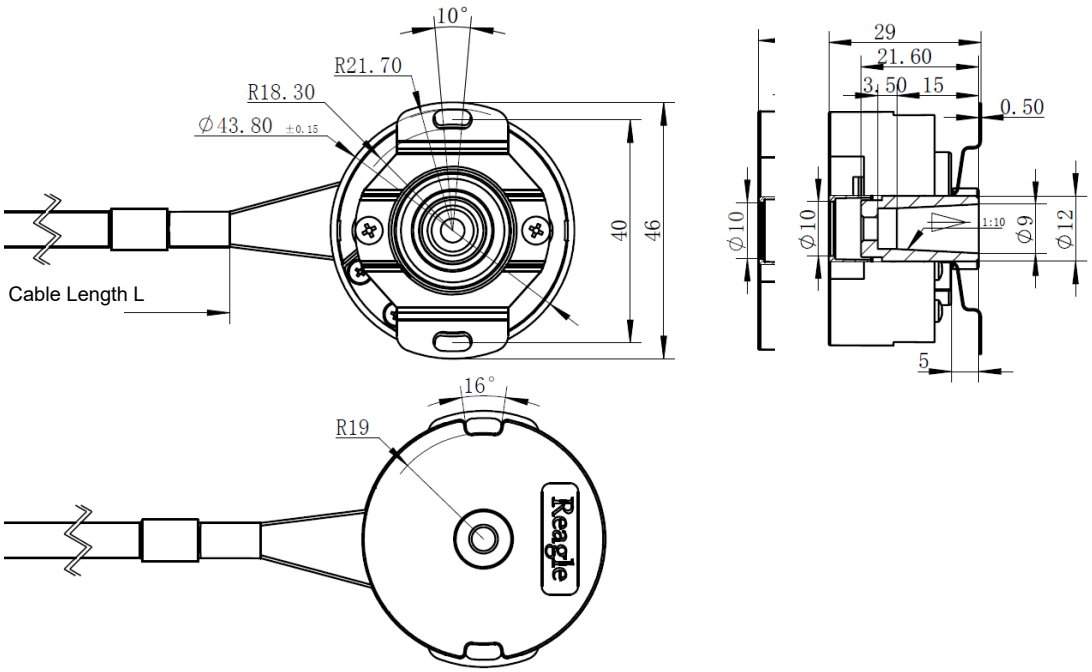
7．Power-up Sequence Diagram



- Status 1: Output is in high-impedance state (after power supply is stabilized).
- Status 2: Outputs U, V, W (sampling is prohibited within the first 1ms of Status 2; it is recommended to read U, V, W after 7ms).
- Status 3: Outputs A, B, Z (it is recommended to read A, B, Z 35ms after the start of Status 2).
- Other timing periods are sampling prohibition periods.

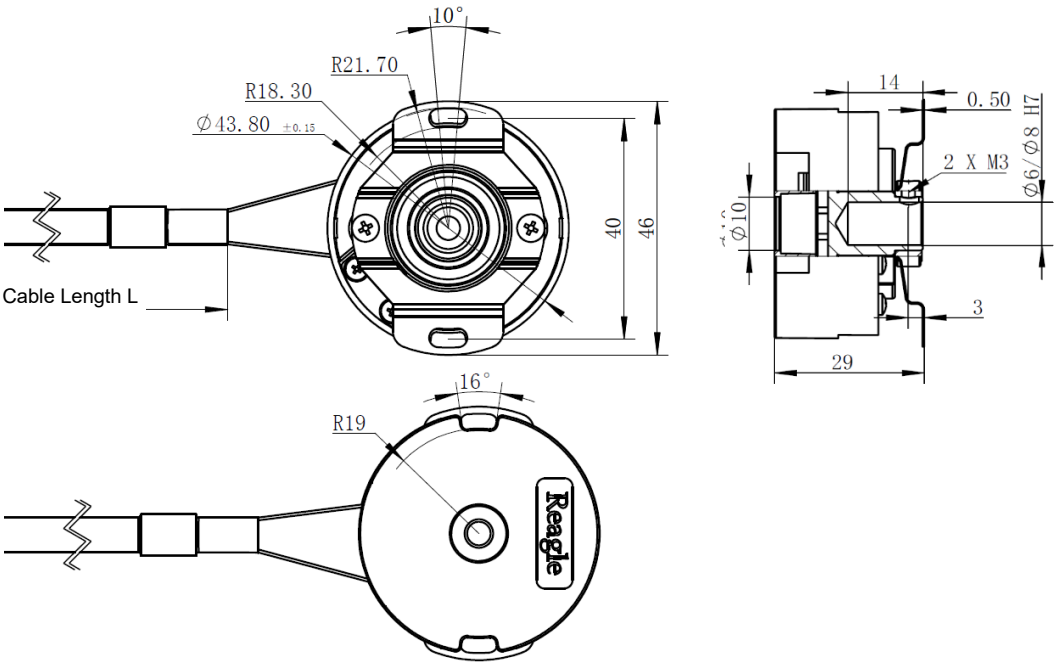
8．Mechanical Specifications

8.1 SROI42-2500P□-P3C-W□-5V Tapered Shaft



【Note】The above refers to the default connecting plate.

8.2 SROI42-2500P□-P3S□-W□-5V Straight Shaft



【Note】The above refers to the default connecting plate.

9．Configuration Description

Ordering codes can be found in the " REAGLE SENSING Incremental Photoelectric Encoder Ordering Instructions."

Revision History

Date	Version Number	Modification Details or Changes	
		Location	Content
20210831	V1.0	/	New Version
20240611	V1.2		Ordering codes can be found in the " REAGLE SENSING Incremental Photoelectric Encoder Ordering Instructions."

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