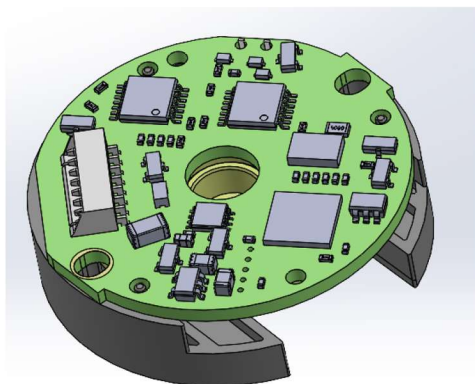


RSU Series Bearingless Absolute



RSU3506

Uses

This product is mainly used for servo-driven control system. Provide feedback information and auxiliary signals required by accurate position and speed control units for the system.

Features

- Working temperature $-20\text{ }^{\circ}\text{C} \sim +105\text{ }^{\circ}\text{C}$
- Current consumption $< 100\text{mA}$
- Battery voltage 3.6V DC
- Battery fault voltage 2.5V
- Battery warning voltage 3.1V
- Differential output
- Single 5V Supply
- Rise/Fall time around 100ns
- Insulated resistance $50\text{M}\Omega$

Technical Parameters

- Resolution 131072 (17bit) ~ 16777216 (24 bit)
- 16 bits multi-turn resolution counter
- Absolute Positioning Accuracy - (Dependent on motor shaft rotational accuracy)
 - Note: The specific accuracy depends on the motor
 - Repetition positioning accuracy $< \pm 3$ angular seconds
 - Note: The specific accuracy depends on the motor and mechanical assembly fit
- Battery voltage fault warning
- Interface RS485
- Communication frequency $\leq 16K$
- Baud rate 2.5MHz
- Enter allowable deviation of shaft Dip angle: 0.1°
 - Axial endplay: $< 0.1mm$
 - Radial runout: $< 0.01mm$
- Operation speeds of up to 6000rpm
- Moment of inertia $0.21kg \cdot mm^2$
- Rotor angular acceleration
 - During power supply $\leq 80000rad/s^2$
 - When battery powered $\leq 4000rad/s^2$
- Mechanical shock
 - Impact acceleration $980m/s^2$
 - 11ms. Impact 3 times in each direction, totally 18 times
- Vibrate
 - 10 to 55Hz, keeping the amplitude of 1.5mm
 - Acceleration between 55 and 2000Hz is $98ms^2$ XYZ 2 hours per axial direction, 6 hours in total
- Working temperature $-20^\circ C \sim +105^\circ C$
- Relative humidity $\leq 90\%$ ($40^\circ C/21d$, based on EN 60068-2 -78) without condensation.
- Degree of protection IP40

RSU Series Bearingless Absolute

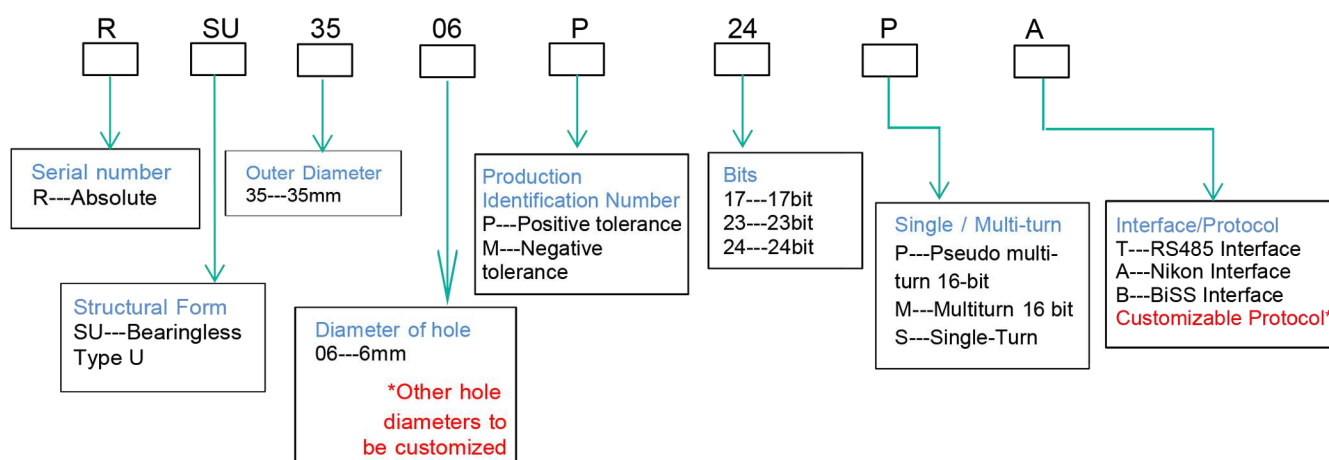
Cable Definitions

Pin Number	1	2	3	4	5	6	7	8
Signal Definition	5V	GND	485+	485-	Battery +	Battery GND	NC	PE
Cable Color	Red	Black	Blue	Yellow	Brown	White		Shielded Mesh

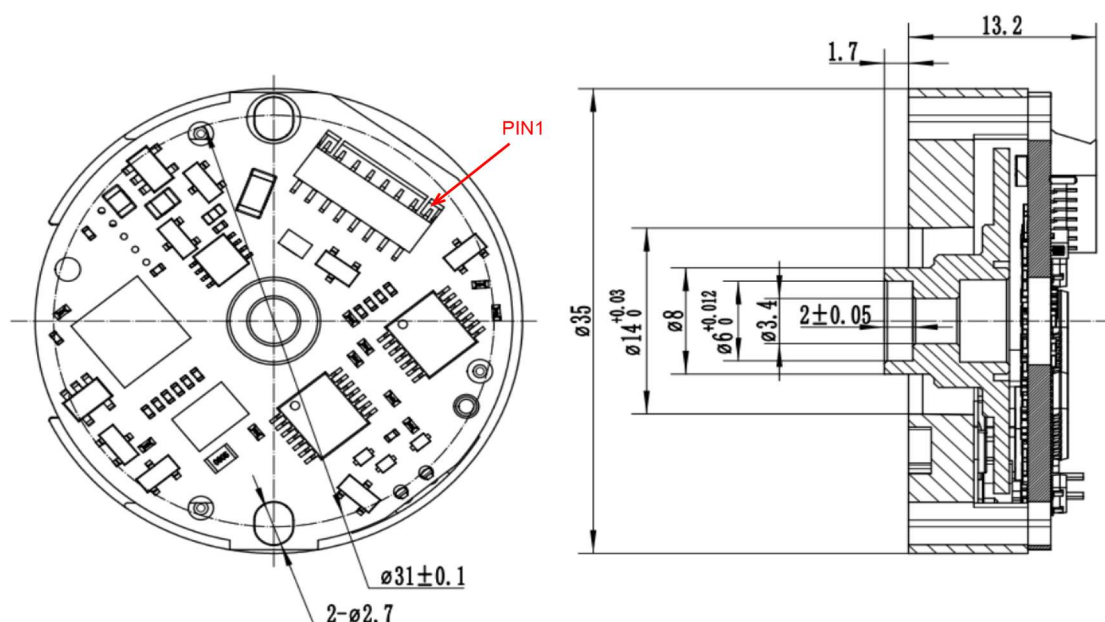
Recommended Screws

Name	Specification	Strength grade	Quantity	Application position
Hex socket screw with threadlocker	M3*6	Grade 9.8	1 pc	Shaft end
Hex socket screw with threadlocker	M2.5*12	Grade 9.8	2 pc	Encoder body

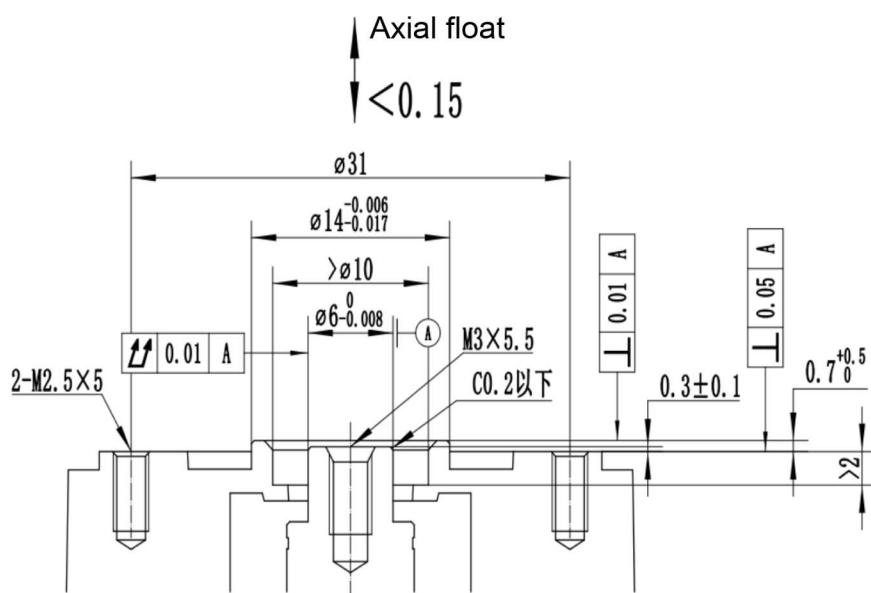
Technical Parameters



Mechanical Dimension



RSU3506 Mechanical Dimension Drawing



RSU3506 Recommended Motor-side Dimensions