

S3003 Servo Motor Continuous (3.2kg/cm) – Reliable Continuous Rotation Servo

The **S3003 Servo Motor Continuous (3.2kg/cm)** is a **durable and versatile continuous rotation servo** designed for **RC vehicles, robotics, and DIY electronics projects**. Known for its **reliability and smooth operation**, this servo is ideal for applications that require **continuous 360-degree rotation**, such as **wheeled robots, rotating platforms, or automated mechanisms**.

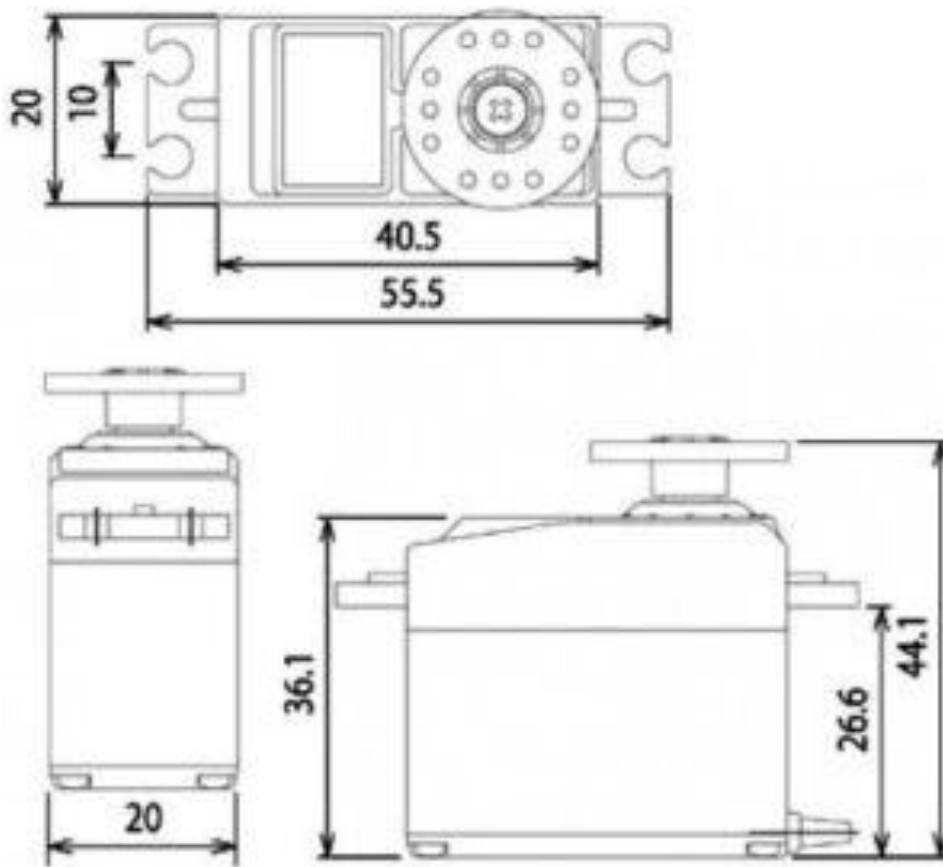
With a **torque rating of 3.2 kg/cm**, the S3003 provides sufficient power for small to medium loads while maintaining **smooth, precise control**. Its **standard PWM control interface** makes it easy to integrate with **Arduino, Raspberry Pi, or other microcontroller boards**, making it a popular choice for hobbyists, students, and professionals.

Key Features

- **Continuous Rotation:** 360-degree rotation capability for full motion applications.
- **Torque:** 3.2 kg/cm at 4.8V, ideal for small robotics and RC applications.
- **Speed:** Smooth rotation with controlled speed using PWM signals.
- **Voltage Range:** Operates from 4.8V to 6V, suitable for most small electronic projects.
- **Compact Size:** Lightweight and easy to integrate into tight spaces.
- **Standard 3-Pin Connector:** Compatible with microcontrollers and servo controllers.
- **Durable Construction:** Built for reliability and long operational life.

Technical Specifications

- **Model:** S3003 Continuous Rotation Servo Motor
- **Torque:** 3.2 kg/cm at 4.8V
- **Operating Voltage:** 4.8V – 6V
- **Rotation:** Continuous 360-degree rotation
- **Control Type:** PWM (Pulse Width Modulation)
- **Connector:** Standard 3-pin servo connector
- **Dimensions:** Approx. 40.7 x 19.7 x 42.9 mm
- **Weight:** 37g
- **Speed Control:** Adjustable via PWM signal from microcontroller



Advantages of the S3003 Continuous Servo

1. **Continuous Motion:** Ideal for wheeled robots, conveyor belts, and rotating mechanisms.
2. **Lightweight and Compact:** Easily fits into small robotic platforms and DIY projects.
3. **Reliable Performance:** Smooth and consistent rotation for extended periods.
4. **Easy Integration:** Compatible with Arduino, Raspberry Pi, and standard servo controllers.
5. **Cost-Effective:** Provides dependable performance at an affordable price.

Applications

The **S3003 Continuous Servo Motor** is perfect for a wide range of projects:

- **Robotic Wheels & Drive Systems:** Continuous rotation for wheeled robots and mobile platforms.
- **Conveyor Systems:** Small automated conveyors for moving lightweight objects.
- **Pan-and-Tilt Mechanisms:** Rotating platforms or camera mounts for smooth motion.
- **DIY Robotics Projects:** Control arms, grippers, or any small rotating components.
- **RC Vehicles:** Provides continuous rotation for steering, tracks, or turret movement.
- **Educational Projects:** Ideal for students learning about robotics, PWM control, and motion systems.

How the S3003 Servo Works

The S3003 servo motor operates using a **DC motor with internal feedback**, modified for **continuous rotation**. Unlike standard 180-degree servos, the potentiometer is adjusted to allow full rotation in both clockwise and counterclockwise directions.

A **PWM (Pulse Width Modulation) signal** from a microcontroller controls both **rotation direction and speed**. A 1.5 ms pulse typically stops the servo, while pulses above or below 1.5 ms control rotation in opposite directions. This makes the S3003 ideal for projects requiring **precise speed and directional control**.

Example Project

A common application is a **wheeled robot**. Two S3003 servos can be mounted as drive wheels, allowing precise control over speed and direction for movement and navigation.

Another example is a **rotating camera platform**. Using a single S3003 servo, the camera can rotate continuously, capturing panoramic views or tracking objects automatically.

Additionally, the S3003 is excellent for **small conveyor systems in automation projects**, moving lightweight objects smoothly and efficiently.

Why Choose the S3003 Continuous Servo

The **S3003 Servo Motor Continuous (3.2kg/cm)** is a **reliable, lightweight, and versatile solution** for projects requiring continuous rotation. Its compact design, smooth operation, and compatibility with standard microcontrollers make it ideal for **hobbyists, educators, and professionals**. Whether for **robots, RC vehicles, or DIY electronics**, the S3003 delivers consistent performance at an affordable cost.

Conclusion

The **S3003 Continuous Servo Motor (3.2kg/cm)** is a **dependable, cost-effective, and precise actuator** for a wide range of applications. With its **360-degree rotation, PWM compatibility, and reliable torque**, it is perfect for **robotics, automation, RC vehicles, and educational projects**.

Upgrade your projects with the **S3003 continuous servo motor** to achieve **smooth, precise, and consistent motion** in all your robotic and mechanical systems.