

MG995 Servo Motor Tower Pro 360 Degree (Full Metal Gear) – Continuous Rotation & High Torque

The **MG995 Servo Motor Tower Pro 360 Degree (Full Metal Gear)** is a **high-performance continuous rotation servo** designed for **robotics, RC vehicles, automation, and DIY electronics projects**. Unlike standard 180-degree servos, the MG995 360° offers **full rotation capability**, making it ideal for applications that require **continuous motion**, such as **wheeled robots, conveyor systems, and rotating mechanisms**.

Built with **full metal gears**, this servo provides **maximum durability, high torque, and reliable operation**, making it suitable for heavy-duty tasks and repeated use in demanding environments. Its combination of **strength, precision, and continuous rotation** makes it a favorite among hobbyists, educators, and professionals alike.



Key Features

- **Full Metal Gears:** Strong, durable gears for long-lasting performance under load.
- **Continuous Rotation:** 360-degree movement for robotics and automation applications.
- **High Torque:** Up to 12 kg.cm at 6V, capable of moving heavy loads.
- **Speed:** 0.20 seconds per 60 degrees at 6V (for standard movement mode).
- **Wide Voltage Range:** Operates between 4.8V–7.2V for flexible integration.
- **PWM Control:** Standard 3-pin interface compatible with Arduino, Raspberry Pi, and other microcontrollers.
- **Compact Design:** Easy to mount in robotic and mechanical systems.

Dimension



Technical Specifications

- **Model:** MG995 Tower Pro Servo Motor
- **Torque:** 12 kg.cm at 6V (approx. 10 kg.cm at 4.8V)
- **Speed:** 0.20 sec / 60° at 6V
- **Operating Voltage:** 4.8V – 7.2V
- **Rotation:** Continuous 360° rotation
- **Gear Type:** Full metal gears for durability and strength
- **Motor Type:** DC motor with potentiometer feedback
- **Connector Type:** Standard 3-pin PWM
- **Dimensions:** Approx. 40.7 x 19.7 x 42.9 mm
- **Weight:** 60g

PRODUCT SPECIFICATION



YELLOW	Signal wire/PWM
RED	Positive Pole(+)
BROWN	Negative Pole/GND(-)

Dimension
40x19x43mm/1.57x0.74x1.69in
Connector Wire Length
290mm/11.4 in
Weight
56g
Operating Speed
0.17sec / 60° (4.8V no load)
0.13sec / 60° (6.0V no load)
Stall Torque
9.4 kg-cm (4.8V)
12 kg-cm (6V)
Operation Voltage
4.8 - 7.2Volts
Stall Torque
9.4 kg-cm (4.8V)
12 kg-cm (6V)
Operation Voltage
4.8 - 7.2Volts
Operation Voltage
4.8 - 7.2Volts

Advantages of the MG995 360° Servo

1. **Continuous Motion:** Full 360-degree rotation allows continuous movement in wheeled robots, turntables, and rotating mechanisms.
2. **High Torque:** Moves heavier loads efficiently, ideal for robotic arms, conveyor belts, or RC vehicles.
3. **Durable Gears:** Full metal gear construction ensures long life and minimal maintenance.
4. **Precise Control:** Can switch between position control and continuous rotation for versatile applications.
5. **Easy Integration:** Compatible with Arduino, Raspberry Pi, and other microcontrollers for easy programming.

Applications

The **MG995 Servo Motor Tower Pro 360 Degree (Full Metal Gear)** is suitable for numerous applications:

- **Robotic Wheels & Drive Systems:** Provides continuous motion for wheeled robots and mobile platforms.
- **Conveyor Belts:** Can drive small conveyors in automation projects.
- **Pan-and-Tilt Mechanisms:** Enables continuous camera rotation or robotic turret movement.
- **DIY Robotics:** Perfect for project arms, grippers, or rotating platforms.
- **RC Vehicles:** Continuous steering or rotating mechanisms for cars, boats, and tanks.
- **Educational Kits:** Helps students learn about continuous rotation, PWM control, and torque applications.



How the MG995 360° Servo Works

The MG995 continuous rotation servo operates using a **DC motor and potentiometer feedback system**. Unlike standard 180-degree servos, its **potentiometer is modified for continuous rotation**, allowing it to rotate endlessly in either direction.

A **PWM (Pulse Width Modulation) signal** from a microcontroller controls **rotation speed and direction**. A 1.5 ms pulse typically stops the servo, while pulses above or below 1.5 ms control rotation in opposite directions. The **full metal gears** transmit torque efficiently, allowing continuous motion even under heavier loads.

Example Project

A popular application is a **wheeled robot**. Two MG995 360° servos can act as the left and right drive wheels, allowing precise control over speed and direction.

Another example is a **rotating surveillance camera**. The servo provides smooth, continuous rotation for monitoring a wide area without needing multiple servos for full coverage.

Additionally, the MG995 is ideal for **conveyor belt mechanisms in DIY automation**, moving small items or components with precise speed control.

Why Choose the MG995 Tower Pro 360°

The **MG995 Servo Motor Tower Pro 360 Degree (Full Metal Gear)** stands out for its **durability, high torque, and continuous rotation capability**. Its **full metal gears** ensure long-lasting performance, while its 360-degree rotation expands its applications beyond standard servos. Whether for **robotics, RC vehicles, automation, or educational projects**, the MG995 360° servo delivers reliable, smooth, and powerful motion.

Conclusion

The **MG995 Tower Pro Full Metal Gear 360° Servo Motor** is a **robust, versatile, and high-torque actuator** ideal for projects requiring **continuous rotation and precise control**. With its **durable metal gears, strong torque, and PWM control compatibility**, it is perfect for **robotics, automation, RC vehicles, and DIY electronics**.

Upgrade your projects with the **MG995 360° servo motor** for **powerful, continuous, and reliable movement** in all your robotic and mechanical applications.