SERVO MOTOR

SG90 Micro Servo Motor (9g)

The SG90 is the most popular micro servo for learning robotics. It's small and light (9 g) and rotates precisely to any angle from 0 to 180°, set from an Arduino pin.



Key Features

- Plastic gears
- Torque: 1.8 kg·cm at 4.8 V
- Rotation: approx. 180°
- 3-wire control (power, ground, PWM signal)
- Works with the Arduino Servo library

Technical Specifications

Model	SG90 (9 g micro)
Operating voltage	4.8–6 V
Stall torque	1.8 kg·cm at 4.8 V
Speed	0.1 s / 60° at 4.8 V
Rotation	approx. 180°
Gears	Plastic
Weight	9 g
Control signal	PWM, 50 Hz, approx. 0.5–2.5 ms pulse

Pinout / Connections

Brown / black	GND
Red	+V (power)
Orange / yellow	Signal → PWM-capable digital pin

Typical Applications

- Robotic arms
- Pan-tilt camera mounts
- RC steering
- Automatic doors and locks
- Animatronics

Usage Notes & Safety

! One SG90 can run from the Arduino 5 V pin. For two or more, use a separate 5 V supply with a shared GND.

! Don't force the horn by hand. The plastic gears strip easily.