



## User Guide

### SG90 TowerPro Micro Servo Motor

Tiny and lightweight with high output power. Servo can rotate approximately 180 degrees (90 in each direction), and works just like the standard type but smaller. You can use any servo code, hardware or library to control these servos. Good for beginners who want to make stuff move without building a motor controller with feedback & gear box, especially since it can fit in small places. It comes with a 3 arms and hardware.



SKU: [EMH1140](#)

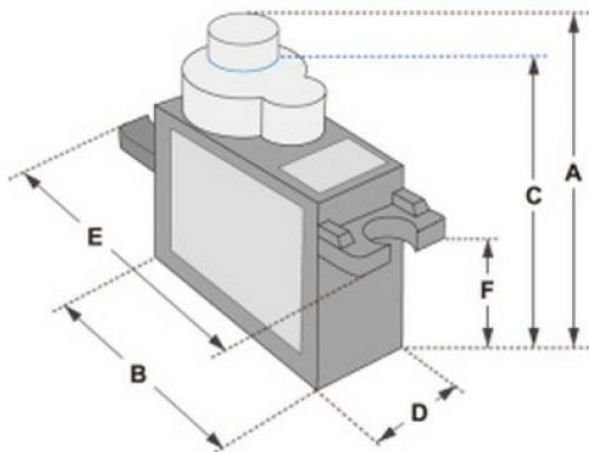
#### **Brief Data:**

- Modulation: Analogue.
- Torque @ 4.8V: 25.00 oz-in (1.80 kg-cm).
- Speed: @ 4.8V: 0.12 sec/60°.
- Weight: 0.32oz (9.0 g).
- Dimensions: Length:0.91 in (23.0 mm).
- Width: 0.48 in (12.2 mm)
- Height: 1.14 in (29.0 mm)
- Motor Type: 3-pole
- Gear Type: Plastic
- Rotation/Support: Bushing
- Pulse Width: 500-2400  $\mu$ s
- Connector Type: JR

#### **Package Included:**

- 1x SG90 TowerPro Servo Motor
- 3x Arms.
- 3x Fixing Screws.

## Mechanical Dimensions:

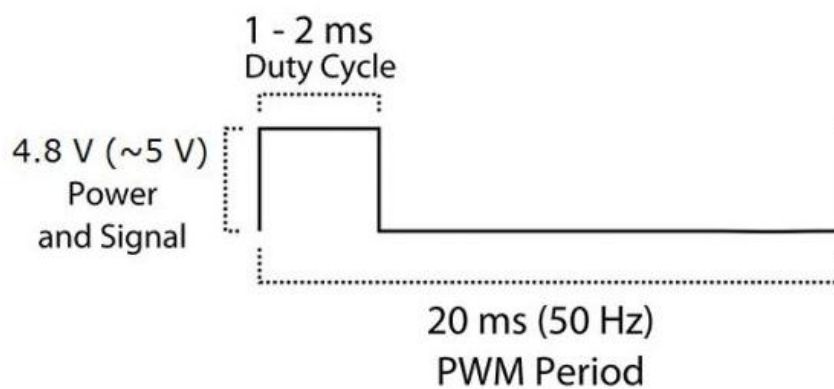


### Dimensions & Specifications

A (mm) : 32
B (mm) : 23
C (mm) : 28.5
D (mm) : 12
E (mm) : 32
F (mm) : 19.5
Speed (sec) : 0.1
Torque (kg-cm) : 2.5
Weight (g) : 14.7
Voltage : 4.8 - 6

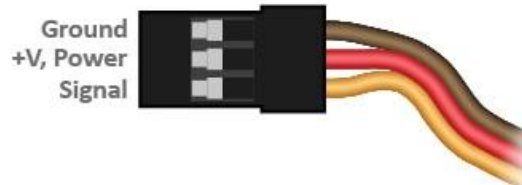
## Electrical Control Signal:

PWM=Orange (⏏)  
Vcc = Red (+)  
Ground=Brown (-)



Position "0" (1.5ms pulse) is middle, "90" (~2ms pulse) is middle, is all the way to the right, "-90" (~1ms pulse) is all the way to the left.

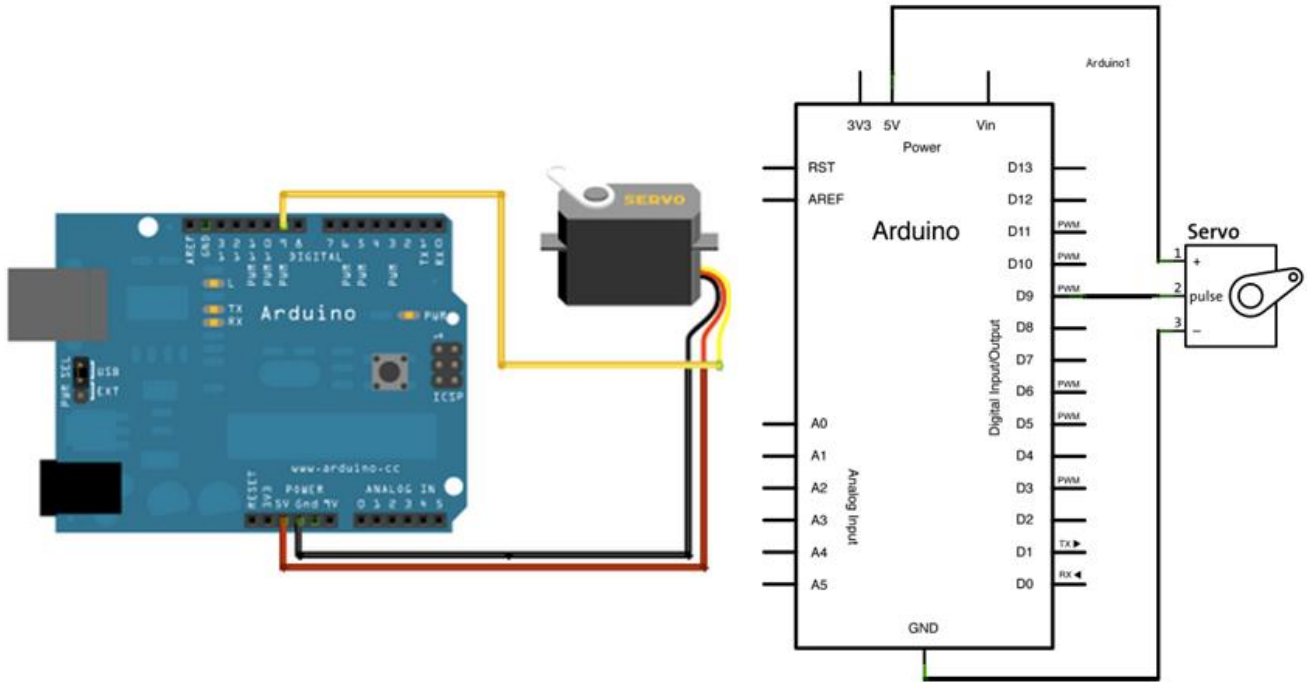
### CONNECTOR PINOUT:



## Application With Arduino:

### Circuit:

Servo motors have three wires: power, ground, and signal. The power wire is typically red, and should be connected to the 5V pin on the Arduino board. The ground wire is typically black or brown and should be connected to a ground pin on the board. The signal pin is typically yellow, orange or white and should be connected to pin 9 on the board.



Open Arduino IDE, go to “File” > “Examples” > “Servo” > “Sweep”. Open the “Sweep” sketch and upload to your Arduino board. Attach a arm to the servo motor, you should see the arm sweeping at 180° to and fro.

## **Related Products:**



[MG996R All Metal Gear Servo Motor](#)



[25T Metal Horns Round Disc For MG995 Servomotor](#)



[Aluminum Dual Clamping Arm/Horn for Servo Motor](#)



# Handsontec.com

*We have the parts for your ideas*

---

HandsOn Technology provides a multimedia and interactive platform for everyone interested in electronics. From beginner to diehard, from student to lecturer. Information, education, inspiration and entertainment. Analog and digital, practical and theoretical; software and hardware.



open source  
hardware

HandsOn Technology support Open Source Hardware (OSHW) Development Platform.

*Learn : Design : Share*

*handsontec.com*



## The Face behind our product quality...

In a world of constant change and continuous technological development, a new or replacement product is never far away – and they all need to be tested.

Many vendors simply import and sell without checks and this cannot be the ultimate interests of anyone, particularly the customer. Every part sold on Handsontec is fully tested. So when buying from Handsontec products range, you can be confident you're getting outstanding quality and value.

We keep adding the new parts so that you can get rolling on your next project.



[www.handsontec.com](http://www.handsontec.com)

[Breakout Boards & Modules](#)



[Connectors](#)



[www.handsontec.com](http://www.handsontec.com)

[Electro-Mechanical Parts](#)



[Engineering Material](#)



[www.handsontec.com](http://www.handsontec.com)

[Mechanical Hardware](#)



[Electronics Components](#)

P



[www.handsontec.com](http://www.handsontec.com)

[Power Supply](#)



[Arduino Board & Shield](#)

[Tools & Accessory](#)



[www.handsontec.com](http://www.handsontec.com)

[Tools & Accessory](#)