



## MG996R Metal Gear Servo Motor

This High-Torque MG996R Digital Servo features metal gearing resulting in extra high 10kg stalling torque in a tiny package. It features upgraded shock-proofing and a redesigned PCB and IC control system that make it much more accurate than its predecessor MG995. The gearing and motor have also been upgraded to improve dead bandwidth and centering. This high-torque standard servo can rotate approximately 120° (60° in each direction). The MG996R Metal Gear Servo also comes with a selection of arms and hardware to get you set up nice and fast servo control projects!



SKU: EMH-1056

### Brief Data:

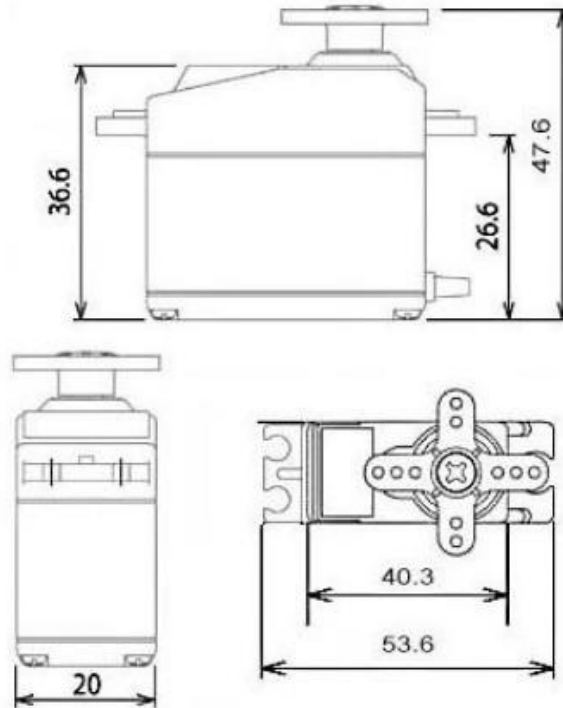
- Stall torque: 9.4 kgf·cm (4.8V ), 11 kgf·cm (6 V)
- Operating speed: 0.17 s/60° (4.8 V), 0.14 s/60° (6 V)
- Operating voltage: 4.8V a 7.2V
- Running Current: 500mA.
- Stall Current: 2.5A (6V).
- Dead band width: 5μs
- Stable and shock proof double ball bearing design.
- Weight: 55g.
- Dimension: 40.7 x 19.7 x 42.9 mm approx.

### **Package Included:**

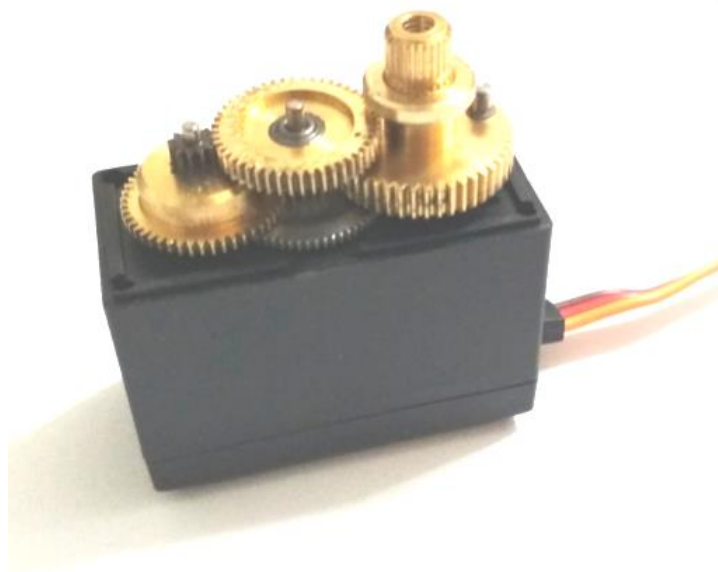
- 1x MG996R Servo Motor.
- 4x Arms.
- 4x Fixing Screws and rubber grommet.
- 1x M4 arms fixing screw.

### **Mechanical Dimensions:**

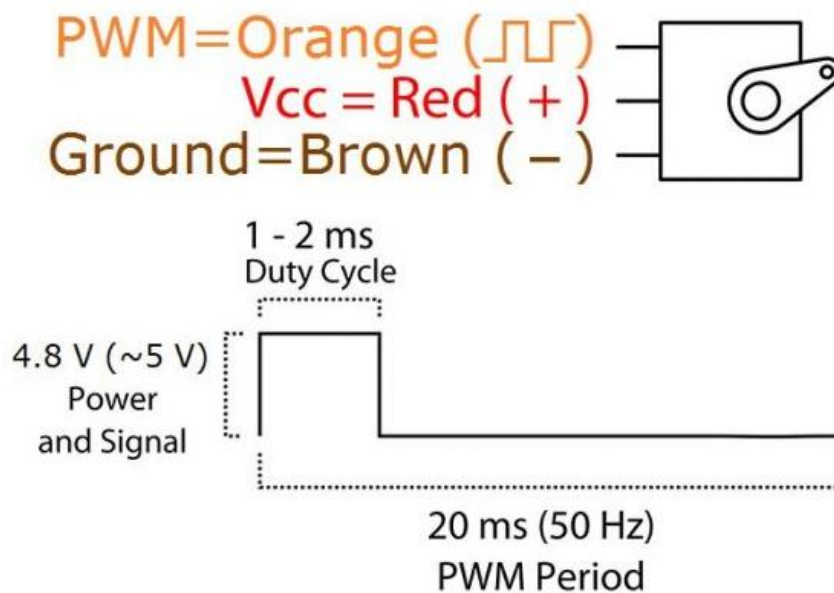
**Unit: mm**



### **Metal Gear Construction:**

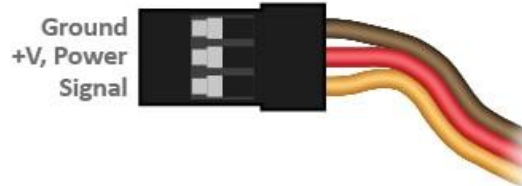


## Electrical Control Signal:



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.

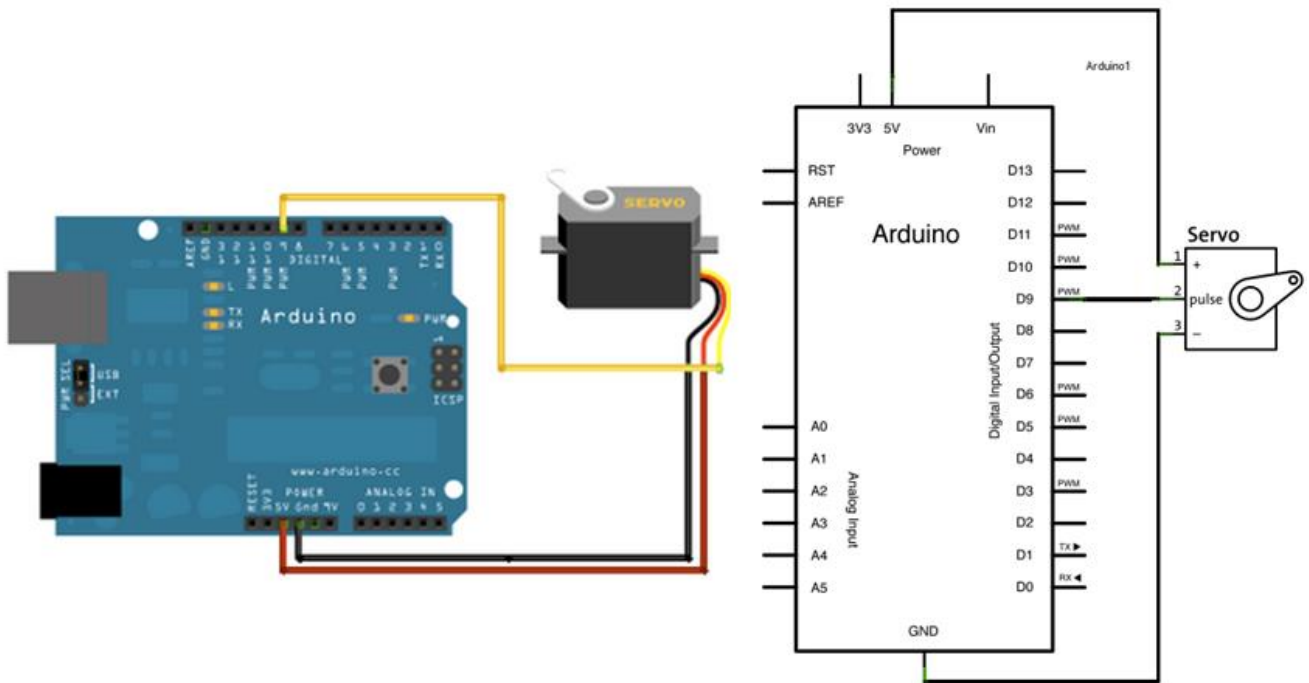
### CONNECTOR PINOUT:



## 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 an arm to the servo motor, you should see the arm sweeping at 180° to and fro.

### Web Resources:

- <http://handsontec.com/index.php/product/sg90-micro-servo-motor/>

## Motor/Fan & Driver Selection Guide



[SG90 Tower Pro Gear Micro Servo Motor](#)



[Nema17 Planetary Geared Stepper Motor](#)



[Nema 17 1.5A High Torque Stepper Motor](#)



[JGB37-3530 High Torque DC Gear Motor](#)



[40A Reversible Motor Speed Controller](#)



[50mm DC Brushless Cooling Fan](#)



[775 Ball Bearing DC Motor](#)



[GA12-N20 Geared Mini DC Motor](#)



[1.7A Nema 17 Dual Shaft Stepper Motor](#)



[A4988 Stepper Motor Driver Board](#)



[L298N Dual H Bridge DC Motor Driver](#)



[L298P 2-A Dual H-Bridge Motor Shield for Arduino](#)



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