



SpringRC SM-S4303R Continuous Rotation Servo



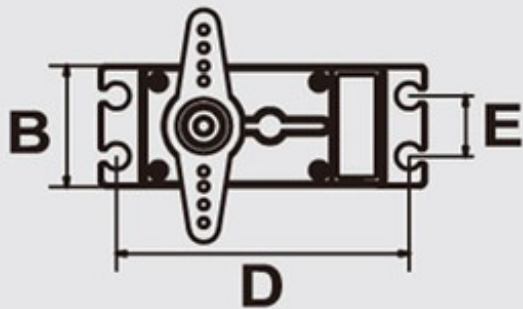
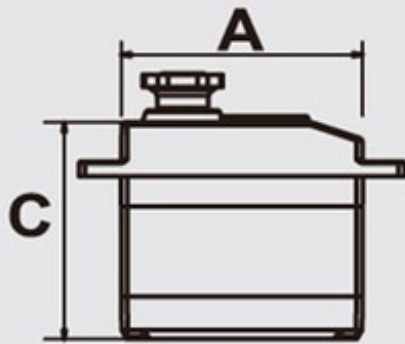
Overview

The SM-S4303R is a standard-sized servo that has been built by SpringRC specifically for continuous rotation. At 6 V, it has a maximum rotation speed of 54 RPM (no-load) and can produce up to 71 oz-in (5.1 kg-cm) of torque. It features two ball bearings on the output shaft for reduced friction, and it offers easy access to the rest-point adjustment potentiometer. The servo can be controlled using a direct connection to a single microcontroller I/O line without any additional electronics, which makes it a great actuator for beginner robotics projects.

The SM-S4303R continuous rotation servo converts standard RC servo position pulses into continuous rotation speed. The default rest point is 1.5 ms, but this can be adjusted by using a small slotted screwdriver to turn the middle-point positioner. Pulse widths above the rest point result in counterclockwise rotation, with speed increasing as the pulse width increases; pulse widths below the rest point result in clockwise rotation, with speed increasing as the pulse width decreases.

| Products specification | | | | | | | | Technical parameters | | | | | | |
|------------------------|-------|-------|------|-------|--------|------|------|----------------------|--------|-------|-------|--------|-------|----------------|
| Size (mm) | | | | | Weight | | Wire | 4.8V | | | 6V | | | Rotation angle |
| A | B | C | D | E | g | oz | cm | Speed | Torque | | Speed | Torque | | |
| rpm | kg·cm | oz·in | rpm | kg·cm | oz·in | | | | | | | | | |
| 41.3 | 20.7 | 40.2 | 50.3 | 10.0 | 41 | 1.45 | 30.0 | 43 | 3.3 | 45.91 | 54 | 5.1 | 70.95 | 360° |

(Specifications are subjected to change without notice.)



Overall Dimension

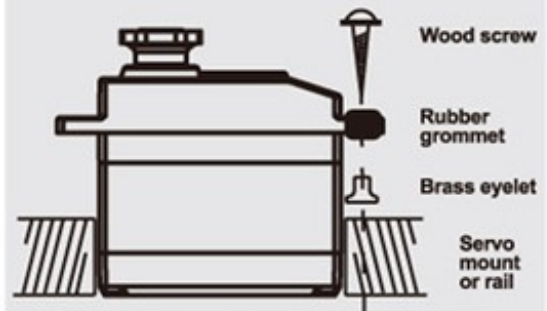


Diagram of installation



BLACK(B) – NEGATIVE POLE
 RED(R) – POSITIVE POLE
 WHITE(W) – SIGNAL

Diagram of Interface

The servo has an 11" (270 mm) lead that is terminated with a JR-style connector and includes additional servo horns and mounting hardware. The following picture shows an example of the hardware that might be included (actual hardware could vary):



This robotics servo is compatible with our servo controllers and has a Futaba-compatible output shaft, which means it works with our servo wheels and sprockets. If you are looking for a similar servo that is capable of limited-range position control as opposed to continuous rotation speed control, consider the Power HD standard servo 6001HB, which has comparable size, weight, speed, and torque.



Note: Our Futaba servo wheels are a very tight fit with this servo's output shaft (tighter than our other continuous rotation servos). They do work together, but typically you must push hard to get them on.

Continuous rotation servo comparison



Continuous rotation servo size comparison. From left to right: SpringRC SM-S4303R, Power HD AR-3606HB, Parallax, and FEETECH FS90R.

| | SpringRC SM-S4303R | PowerHD AR-3606HB | Parallax (Futaba S148) | FEETECH FS90R |
|----------------------|--------------------|-------------------|------------------------|---------------|
| Max Speed @ 6 V: | 54 RPM | 71 RPM | 50 RPM | 130 RPM |
| Stall torque @ 6 V: | 71 oz-in | 93 oz-in | 42 oz-in | 21 oz-in |
| Max Speed @ 4.8 V: | 43 RPM | 62 RPM | 39 RPM | 100 RPM |
| Stall torque@ 4.8 V: | 46 oz-in | 83 oz-in | 33 oz-in | 18 oz-in |
| Weight: | 41 g | 40 g | 43 g | 9 g |
| Size (mm): | 41.3×20.7×40.2 | 40.5×20.0×38.0 | 40.5×20.0×38.0 | 23.2×12.5×22 |
| Price: | \$12.95 | \$14.95 | \$13.95 | \$4.95 |

[Documentation on producer website.](#)