

SpringRC SM-S4303R Continuous Rotation Servo




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1	12.95
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50	10.35

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The SM-S4303R is a standard-sized servo that has been built by SpringRC specifically for continuous rotation, making it an easy way to get your robot moving. It features two ball bearings on the output shaft for reduced friction, and it offers easy access to the rest-point adjustment potentiometer. This is the most popular continuous rotation servo we carry.

Key specs at 6 V: 54 RPM (no-load), 71 oz-in (5.1 kg-cm), 41 g

Description **Specs (9)** **Pictures (4)** Resources (0) **FAQs (1)** **On the blog (1)**

Overview

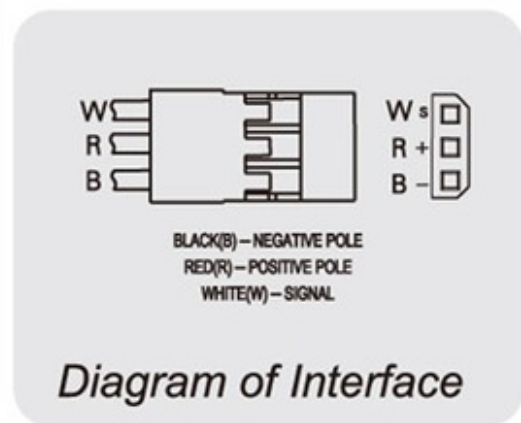
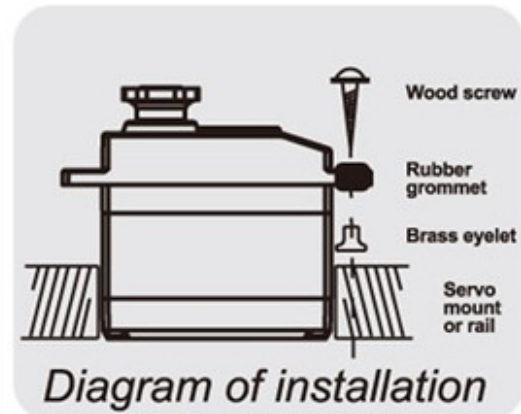
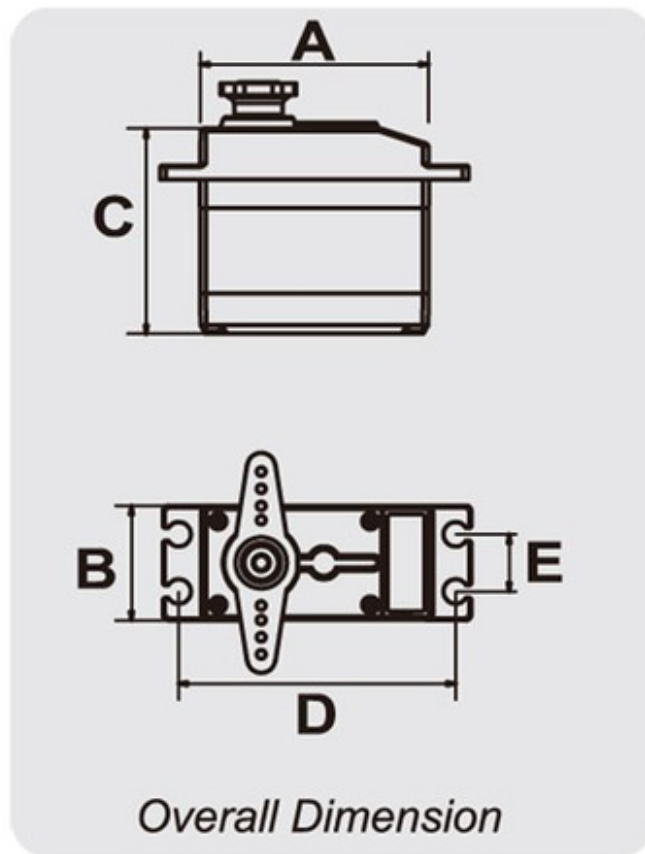
The SM-S4303R is a standard-sized servo that has been built by SpringRC specifically for continuous rotation. At 6 V, it has a maximum rotation speed of 54 RPM (no-load) and can produce up to 71 oz-in (5.1 kg-cm) of torque. It features two ball bearings on the output shaft for reduced friction, and it 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
								Speed	Torque		Speed	Torque		
A	B	C	D	E	g	oz	cm	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.)



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.



	<u>SpringRC SM-S4303R</u>	<u>PowerHD AR-3606HB</u>	<u>Parallax S148</u> (<u>Futaba</u>)	<u>FEETECH FS90R</u>
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

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[Micro Maestro 6-Channel
USB Servo Controller
\(Assembled\)](#)



[0.100" \(2.54 mm\) Breakaway
Male Header: 1×40-Pin,
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[2-5/8" plastic Yellow wheel Futaba servo hub](#)[Solarbotics SW-LB BLUE Servo Wheel with Encoder Stripes, Silicone Tire](#)[Micro Maestro 6-Channel USB Servo Controller \(Assembled\)](#)[Mini Maestro 12-Channel USB Servo Controller \(Assembled\)](#)[Mini Maestro 18-Channel USB Servo Controller \(Assembled\)](#)[Mini Maestro 24-Channel USB Servo Controller \(Assembled\)](#)[Servo Extension Cable 6" Female - Female](#)[Servo Extension Cable 12" Female - Female](#)[Servo Extension Cable 24" Female - Female](#)[Servo Extension Cable 12" Male - Female](#)[Servo Extension Cable 24" Male - Female](#)[Servo Y Splitter Cable 12" Female - 2x Male](#)[Pololu 5V, 9A Step-Down Voltage Regulator D24V90F5](#)[Pololu 6V Step-Up Voltage Regulator U3V50F6](#)

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