SG92R

Digital micro servo with plastic gears
User manual



Read the entire manual before first use and keep it for future reference.

www.rotorama.com

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1. Product description

1.1 Purpose

The SG92R is a digital micro servo with plastic gears and a weight of 10 g. It converts the control signal from a receiver or a flight controller (FC) into rotation of the output shaft, thereby moving the connected linkage or mechanism.

It is typically used to operate control surfaces and flaps of smaller RC aircraft and gliders, to tilt a camera or to drive small mechanisms in models. The servo is connected with a standard three-pin connector and is controlled by pulses with a width of 1000–2000 µs.



SG92R micro servo with three-pin connector

1.2 Specifications and package contents

Product designation	SG92R
Type	digital micro servo
Gears	plastic
Dimensions	23 × 12.2 × 27 mm
Weight	10 g
Supply voltage	4.8–6 V
Travel	90° (1000–2000 µs)
Torque	1.3 kg·cm (4.8 V) 1.8 kg·cm (6 V)
Speed	≤ 0.1 s / 60° (4.8 V) ≤ 0.08 s / 60° (6 V)
Cable length	24 cm
Package contents	1× servo, 1× set of servo horns

※ The package does not include a receiver, power supply (BEC), battery, pushrods or an extension cable.

2. Use

2.1 Parts overview



Main parts of the servo

① **Output shaft** with splines for fitting the servo horn.

② **Mounting tabs** for screwing the servo to the model.

③ **Three-pin connector** with a brown, red and orange cable.

④ **Label** with the type designation SG92R.

2.2 Connection

Plug the connector into a servo output of the receiver or flight controller (FC). The wires follow the usual servo colour code:

Wire	Function
brown	negative supply (GND, −)
red	positive supply (+)
orange	control signal

- Before connecting, check that the brown wire is on the negative (−) side of the output. The pin markings can be found on the receiver or in the flight controller documentation.
- The supply voltage of the servo must be within **4.8–6 V**. Never connect the servo directly to a battery with a higher voltage, such as a 2S Li-Po.
- The power supply (BEC) must be able to handle the load of all connected servos at the same time, including current peaks when starting and under load.
- Connect and disconnect everything only with the power switched off.

2.3 Mounting and fitting the servo horn

① Fasten the servo to the model by its mounting tabs using suitable screws. The servo must sit firmly and without play.

② Switch on the transmitter and the model's power and let the servo move to the **neutral position** (centre of the range, 1500 µs).

③ Choose a suitable horn from the supplied set and fit it onto the splined shaft so that it is perpendicular to the pushrod in the neutral position. If the shaft has a hole for a screw, secure the horn with a suitable screw.

④ Attach the pushrod and check that the control surface or mechanism is centred in the neutral position.

※ Do not turn the output shaft forcibly by hand – you may damage the plastic gears.

2.4 Travel adjustment

A control signal range of 1000–2000 µs corresponds to a travel of 90°. Set the travel, direction and centre in the transmitter or in the flight controller configuration:

- **Direction** – if the control surface moves the wrong way, reverse the channel in the transmitter or in the servo output settings.
- **Centre** – correct a small deviation of the neutral position with fine centre adjustment (subtrim). Correct a larger deviation by moving the horn by one spline tooth.
- **End points** – set them so that neither the pushrod nor the control surface is **mechanically stopped** at the end positions. A servo pushing against a stop heats up, draws unnecessary current and may damage its gears.
- Do not use a signal range outside 1000–2000 µs when adjusting.

2.5 Safety and maintenance

- Before each flight or run, check that the servo responds in the correct direction, the horn is firmly on the shaft and the pushrods have no play.
- A digital servo actively holds its position and draws current even at rest. A slight noise from the servo at rest is normal.
- Protect the servo from water, moisture, dust and sand.
- Do not continue to use a servo with damaged gears, play on the shaft or a damaged cable – servo failure can lead to loss of control of the model.
- Keep small parts (horns, screws) out of the reach of children.

2.6 Troubleshooting

Problem	Cause and solution
Servo does not respond	Check the connector orientation, the power supply of the output and the channel assignment in the transmitter or flight controller.
Servo buzzes and heats up at an end position	The pushrod hits a stop. Reduce the travel end points or adjust the linkage geometry.
Servo jitters or twitches	The supply voltage fluctuates or the BEC is overloaded. Check the power supply and wiring.
Control surface moves the wrong way	Reverse the channel.
Horn slips, servo is noisy	Damaged gears or splines. Replace the servo.

3. Information for the EU and Czech Market

3.1 Importer and responsible person in the EU

The product is placed on the European Union market by the importer stated below, who is at the same time the responsible person within the meaning of Article 16 of Regulation (EU) 2023/988 of the European Parliament and of the Council on general product safety (GPSR).

Importer / responsible person in the EU	Rotorama, s.r.o.
Company ID (IČO)	051 57 692
VAT ID (DIČ)	CZ05157692
Registered office	Okrajová 1351, 674 01 Třebíč, Czech Republic
E-mail	info@rotorama.cz
Phone	+420 252 252 098
Website	www.rotorama.com

3.2 Product conformity

CE

- The product bears the **CE** marking and complies with the requirements of the applicable European Union harmonisation legislation.
- A copy of the **EU Declaration of Conformity** is available from the importer at the address stated above or at the e-mail address info@rotorama.cz.
- **Product identification:** the type designation (SG92R) is given on the label on the side of the servo.

3.3 Disposal of electrical equipment



- The crossed-out wheeled bin symbol on the product, its packaging or in the documentation means that at the end of its service life the product **must not be disposed of together with mixed municipal waste**.
- Hand it over at a take-back point for electrical equipment – at a collection yard, at a take-back point of a collective system, or at the retailer when purchasing a new equivalent product. Take-back is free of charge for the end user.
- The obligations under Act No. 542/2020 Coll., on end-of-life products, are fulfilled by the importer through a collective take-back system.
- Proper disposal helps prevent negative impacts on the environment and human health and contributes to the reuse of secondary raw materials.

Through its contractual partner **ASEKOL a.s.**, the company ensures the take-back of waste electrical equipment from households and the separate collection of waste electrical equipment, batteries and accumulators in accordance with the applicable legislation. The customer is entitled to hand over old electrical equipment or a battery or accumulator at any collection point of the above contractual partner. The addresses of these take-back points are listed at www.asekol.cz, www.ecobat.cz and also https://visoh2.mzp.cz/RegistrMistZO/RegistrMistZOPublic/MapaMistZpetOdberu.

4. Warranty and rights arising from defective performance

The rights and obligations of the contracting parties are governed by Czech law, in particular by Act No. 89/2012 Coll., the Civil Code, and Act No. 634/1992 Coll., on consumer protection.

- The seller is liable to the buyer for the product being free of defects on receipt. If the buyer is a consumer, a defect may be notified **within two years of receipt** of the product (Section 2165 of the Civil Code).
- If a defect appears within **one year** of receipt, the product is deemed to have been defective already at the time of receipt (Section 2161(5) of the Civil Code).
- When purchasing online, a consumer has the right to **withdraw from the contract within 14 days** of receiving the goods without giving a reason (Section 1829 of the Civil Code).
- Claims should be made with the retailer from whom you purchased the product. The importer's contact details are given in Chapter 3.1.
- The competent body for out-of-court settlement of consumer disputes is the **Czech Trade Inspection Authority**, Štěpánská 796/44, 110 00 Prague 1, www.coi.cz.