PDI-1151MG

JX Servo
15 g waterproof digital mini servo



Read this manual carefully before first use and keep it for future reference.

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1. Product description

1.1 Intended use

JX Servo PDI-1151MG is a 15 g digital mini servo designed for RC models – airplanes, cars, boats and other modelling projects. The servo converts the control signal from the receiver into rotary motion of the output shaft, which drives a control surface, the steering or another mechanism of the model via a servo arm and a linkage.

The servo has a waterproof design, a core motor, hard-anodized aluminium gears and two ball bearings (2BB). This makes it suitable also for models operated in wet conditions, such as crawlers or boats.



JX Servo PDI-1151MG

1.2 Specifications and package contents

Product designation	JX Servo PDI-1151MG
Manufacturer	Shantou Jianxian Electronic Technology Co., Ltd. (JX Servo), 5F, No. 5, Zhuye 1st Street, Xinjin Street, Longhu District, Shantou, Guangdong, China; info@jx-servo.com
Type	digital mini servo, waterproof design
Motor	core
Gears	aluminium, hard-anodized
Bearings	2 ball bearings (2BB)
Supply voltage	4.8–6 V
Speed	0.12 s/60° at 4.8 V 0.10 s/60° at 6.0 V
Stall torque	3.2 kg·cm at 4.8 V 3.6 kg·cm at 6.0 V

Dead band	2 µs
Working frequency	1520 µs / 330 Hz
Dimensions	23.2 × 12.5 × 25.6 mm
Weight	15 g
Cable	with JR connector
Output shaft	25-tooth spline (25T)
Package contents	1× servo, 1× set of servo arms
Not included	receiver, transmitter, power source (BEC or battery), linkages and extension cables

2. Safety instructions

- Connect and disconnect the servo only with the receiver **power switched off**.
- Do not exceed the supply voltage of **6 V**. Do not power the servo from a BEC set to a voltage higher than 6 V or directly from a higher-voltage battery – this may destroy it.
- Check the connector polarity before switching on for the first time. Reversed polarity may damage both the servo and the receiver.
- When the model is switched on, the servo moves to its neutral position by itself. Keep your fingers away from servo arms, linkages and driven mechanisms.
- The servo must not push continuously against a mechanical stop (movement blocked by a linkage or control surface). It then draws a high current, heats up and both the servo and the power source may be damaged.
- After prolonged operation the servo case may be warm. Let it cool down before touching it.
- The product contains small parts (servo arms, screws). Keep it out of the reach of children and animals.
- Operation of an RC model is subject to the regulations of the country in which you operate it. The law of that country always prevails.

3. Use

3.1 Connecting to the receiver

The servo has a three-wire cable terminated with a **JR** type connector. Plug the connector into the output of the corresponding receiver channel (or into the flight controller (FC) or the servo output of another device).

- **black** wire – negative (−, GND),
- **red** wire – positive (+, power),
- **white** wire – control signal.

The wire colours correspond to the product photo. Before connecting, always compare the wire order with the pin markings on the receiver – the signal pin is usually marked S or with a pulse symbol, the negative pin with − or GND.

3.2 Power supply

The servo is powered through its connector from the receiver, which is supplied by the BEC of the electronic speed controller (ESC), a separate BEC or a receiver battery. The supply voltage must be within **4.8–6 V**.

- Servo speed and torque increase with voltage – the stated values apply at 4.8 V and 6.0 V.
- The power source must deliver enough current for all servos in the model at the same time. An insufficient BEC shows as a voltage drop, a receiver reboot or jittering servos.
- When using several servos or under high load, use a more powerful separate BEC.

3.3 Installation in the model

- Mount the servo by the mounting lugs of the servo case in a rigid bed or holder. Do not overtighten the screws so that the lugs of the case do not crack.
- The servo must be mounted without play; a loosely mounted servo reduces control precision.
- Route the cable so that it cannot be pinched, chafed on sharp edges or caught by moving parts.
- Fit the servo arm onto the splined output shaft (25T) only **after switching the power on**, when the servo is in its neutral position. Fit the arm as close as possible to perpendicular to the linkage and secure it with the screw in the shaft axis.
- Connect the linkage so that it moves freely and does not bind or hit a stop anywhere throughout the whole range of travel.

3.4 Transmitter setup

- The servo is digital and the manufacturer specifies a working frequency of **1520 µs / 330 Hz** (neutral position 1520 µs, signal refresh rate up to 330 Hz). Do not set the refresh rate of the receiver or flight controller output above 330 Hz.
- Fine-tune the neutral position in the transmitter with the *Subtrim* function; make coarse adjustments by moving the servo arm by one spline tooth.
- Set the range of travel with the endpoint function (*Endpoints*, *Limits*, *ATV*) so that the servo does not push against a mechanical stop at the ends of travel.
- Reverse the direction of rotation in the transmitter with the *Reverse* function.
- After setup, test all deflections both unloaded and under load. The servo must not buzz or heat up at the ends of travel.

4. Maintenance and troubleshooting

4.1 Maintenance and use in wet conditions

- After each use, check the mounting of the servo, the servo arm and the linkages, and the play in the gears.
- The manufacturer states a waterproof design but does not specify an ingress protection rating (IP). Therefore do not submerge the servo permanently in water and after driving in water, mud or snow clean it and let it dry.
- Do not open the servo case – you would break the seal and waterproofing.
- Protect the cable and connector from pulling and bending at the cable exit from the case.
- Store the servo in a dry place at room temperature.

4.2 Troubleshooting

Problem	Possible cause and solution
Servo does not respond	Check the polarity and insertion of the connector, the receiver power supply and binding with the transmitter. Make sure the servo is on the correct channel.
Servo jitters or twitches	Weak or fluctuating power supply – use a more powerful BEC. Check that the output refresh rate is not set above 330 Hz.
Servo buzzes at an end position and heats up	The linkage pushes against a mechanical stop. Reduce the endpoints (*Endpoints*) or adjust the linkage geometry.
Neutral position is off	The servo arm is fitted one tooth off. Reposition it and fine-tune with the *Subtrim* function.
Play or skipping gears	Gears damaged by an impact or overload. Stop using the servo and contact the seller.

5. Information for the EU and Czech Market

5.1 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

5.2 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.

6. 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 5.1.
- 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.