JX PDI-1143HB

4.5 g digital micro servo with coreless motor
User manual



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

Rotorama, s.r.o. · www.rotorama.com

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1. Product description

1.1 Purpose

JX Servo PDI-1143HB is a miniature digital servo with a lightweight coreless motor and plastic gears. It is designed to drive control surfaces and other mechanisms of lightweight RC models – typically small aircraft, gliders and other modelling projects where every gram counts.

The servo connects via a cable with a JR connector to a receiver, flight controller (FC) or any other source of a PWM control signal. The position of the output shaft corresponds to the width of the control pulse, and the servo holds the commanded position until the signal changes.



JX Servo PDI-1143HB with cable and JR connector

1.2 Specifications and package contents

Product designation	**JX Servo PDI-1143HB** (label “1143HB DIGITAL”)
Type	digital servo, coreless motor, plastic gears
Operating voltage	4.8–6.0 V DC
Speed	0.10 s/60° (4.8 V) 0.08 s/60° (6.0 V)
Torque	0.5 kg·cm (4.8 V) 0.6 kg·cm (6.0 V)
Neutral pulse / frequency / deadband	1520 µs / 300 Hz / 1 µs
Dimensions	19.8 × 8.2 × 24.2 mm
Weight	4.5 g
Cable	150 mm, JR connector
Package contents	1× servo, set of servo horns (single-sided, double-sided and cross horn), screws
Not included	receiver, power source (BEC, battery), pushrods and pushrod connectors

2. Connection and installation

2.1 Connection

Connect the servo with its JR connector to the output of the corresponding channel on the receiver or flight controller (FC). The servo cable has three wires:

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

The pin order is usually marked on the receiver (−, +, S). If the servo does not respond, check the connector orientation.

The servo supply voltage must be 4.8–6.0 V. Never connect the servo directly to a 2S LiPo battery (8.4 V fully charged, i.e. 4.20 V/cell) – use a BEC or an ESC with a BEC whose output voltage is within this range.

The BEC must supply enough current for all servos at once; otherwise the voltage may drop and the receiver may lose power.

2.2 Installation in the model

- Fasten the servo by its mounting lugs with the supplied screws, or seat it in a servo bay. The case must not be under stress.
- Before fitting the horn, switch on the transmitter and receiver and let the servo move to its neutral position (stick and trim centred). Fit the horn as close to perpendicular to the pushrod as possible and secure it with the screw.
- The pushrod must move freely, without binding and without play. The control surface must never reach a mechanical stop before the servo reaches its end position.
- Route the cable without tension, away from sharp edges and moving parts.

2.3 Transmitter setup

- **Travel** (endpoints, output limits): set it so that the servo does not push against a mechanical stop. Otherwise it draws more current, heats up and the gears wear.
- **Neutral**: the servo neutral corresponds to a 1520 µs pulse. Correct a small centre offset by moving the horn by one spline or with subtrim, never by putting the pushrod under tension.
- **Operating frequency** specified by the manufacturer is 300 Hz. Do not set the servo output refresh rate of the receiver or FC above this value.
- **Direction** (reverse): set it so that the control surface deflection matches the movement of the transmitter stick.

3. Safety, maintenance and troubleshooting

3.1 Safety instructions

- This product is not a toy and is not intended for children under 14. It contains small parts that could be swallowed.
- When connecting and setting up servos in a model with a motor, always remove the propeller or disconnect the motor. An unexpected motor start can cause serious injury.
- The servo is not marked by the manufacturer as waterproof. Protect it from water, moisture, dust and high temperatures.
- Do not open the servo case or tamper with its electronics. Damage caused by improper intervention is not covered by the rights arising from defective performance.
- When operating the model, follow the regulations of the country in which you operate it – the law of that country is decisive.

3.2 Maintenance

- Before every flight, check that the horn is firmly tightened, the pushrod is not bent and the control surface moves smoothly over its full range.
- After a crash or hard landing, verify that the servo does not skip, does not bind and holds its position correctly. Damaged plastic gears show up as clicking, play or a skipping horn.
- Store the servo in a dry place at room temperature.

3.3 Troubleshooting

Problem	Possible cause and solution
Servo does not respond	Connector reversed or not fully seated – check the orientation (−, +, S). No power to the receiver (BEC). Channel not assigned in the transmitter.
Servo buzzes and gets warm at rest	Servo is pushing against a stop or the pushrod is under tension – adjust the endpoints or pushrod length. A faint sound from a digital servo holding position under load is normal.
Servo jitters or oscillates	Voltage drop from an overloaded BEC, output refresh rate above 300 Hz, loose connector.
Horn skips, servo makes a clicking sound	Damaged gears – replace the servo.
Travel is not equal in both directions	Horn was not fitted at neutral – refit it, or correct with subtrim.

4. Information for the EU and Czech Market

4.1 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

4.2 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.

5. 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 4.1.
- 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.