INJORA INJS235

INJORA 35KG Brushless Waterproof High Voltage Digital Servo Motor Instruction Manual

Model: INJS235

Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of your INJORA 35KG Brushless Waterproof High Voltage Digital Servo Motor. Designed for RC car models, this servo offers high torque, precision, and durability in various conditions.

Key Features:

- **High Torque:** Up to 35 kg/cm (486.06 oz/in) at 8.4V for powerful steering.
- **Brushless Motor:** Provides smooth operation, increased efficiency, and extended lifespan.
- **Waterproof Design:** Maintains functionality in wet environments (IP66 rated).
- **High Precision:** Features full metal gears and dual ball bearings for stable and accurate control.
- **High Voltage Compatibility:** Operates efficiently with 4.8V-8.4V power sources.
- **Durable Construction:** Plastic case with an aluminum center band for heat dissipation.

Setup and Installation

Proper installation is crucial for optimal performance and longevity of your servo. Follow these steps carefully.

1. Unpacking and Inspection

Carefully remove the servo and included accessories from the packaging. Inspect all components for any signs of damage.



Image: The INJORA 35KG Brushless Digital Servo, showing its blue and black casing with the INJORA logo and specifications. A red 25T servo horn is attached to the output shaft.



Image: Contents of the INJORA 35KG Brushless Digital Servo package, including the servo, various plastic servo horns, mounting screws, and rubber grommets.

2. Mounting the Servo

1. Identify the designated servo mounting location in your RC vehicle chassis.
2. Use the provided mounting screws and rubber grommets (if applicable) to secure the servo firmly to the chassis. Ensure the servo is mounted straight and does not bind with any other components.
3. Avoid overtightening screws, which can damage the servo casing or cause vibration.

3. Attaching the Servo Horn

1. With the servo connected to your receiver and powered on (but not yet connected to the steering linkage), ensure the servo is at its neutral position. This is typically achieved by turning on your transmitter and receiver first.
2. Select an appropriate servo horn from the included accessories. The servo comes with a 25T spline output shaft.
3. Attach the servo horn to the servo output shaft, ensuring it is as centered as possible.
4. Secure the servo horn with the small screw provided.

4. Connecting to the RC System

1. Connect the servo's three-wire connector (typically orange, red, brown/yellow) to the appropriate channel on your RC receiver. The signal wire (orange/yellow) usually goes to the top pin, positive (red) to the middle, and negative (brown) to the bottom. Refer to your receiver's manual for exact pin assignments.
2. Ensure your power source (battery/ESC with BEC) can provide sufficient voltage and current for the servo (4.8V-8.4V). High voltage operation (e.g., 7.4V or 8.4V) will yield maximum performance.

Operation

Once installed and connected, the INJORA 35KG servo is ready for operation. Follow these guidelines for proper use.

1. Initial Power-Up and Calibration

1. Turn on your RC transmitter, then power on your RC vehicle's receiver/ESC.
2. Verify that the servo moves freely and responds correctly to steering inputs from your transmitter.
3. Adjust the trim settings on your transmitter to ensure the servo horn and steering linkage are perfectly centered when the steering wheel is at neutral.
4. Adjust the End Point Adjustments (EPA) or Dual Rate (D/R) settings on your transmitter to prevent the servo from over-traveling and binding the steering mechanism at full lock. This prevents unnecessary strain and potential damage to the servo.

2. Performance Characteristics

This digital servo provides precise and rapid response. Its brushless motor ensures consistent performance and durability. The waterproof design allows for operation in damp conditions, but prolonged submersion is not recommended unless the vehicle itself is designed for such use and additional sealing measures are taken.



Image: The INJORA 35KG Brushless Digital Servo with water splashing over it, illustrating its waterproof protection (IP66).

Maintenance

Regular maintenance will help extend the life and maintain the performance of your INJORA servo.

- **Cleaning:** After use, especially in dirty or wet conditions, gently clean the exterior of the servo with a soft brush or cloth. Avoid using harsh chemicals.
- **Inspection:** Periodically check the servo for any loose screws, damaged wires, or signs of wear on the gears.
- **Gear Lubrication:** While the metal gears are factory-lubricated, if you notice increased noise or stiffness over time, a small amount of high-quality silicone grease can be applied to the gear train. This typically requires opening the servo case, which should be done carefully to avoid compromising the waterproof seal.
- **Storage:** Store the servo in a clean, dry place away from extreme temperatures.



Image: An exploded view of the INJORA 35KG Brushless Digital Servo, highlighting its durable all-metal gear train.

TROUBLESHOOTING

If you encounter issues with your servo, refer to the following common problems and solutions.

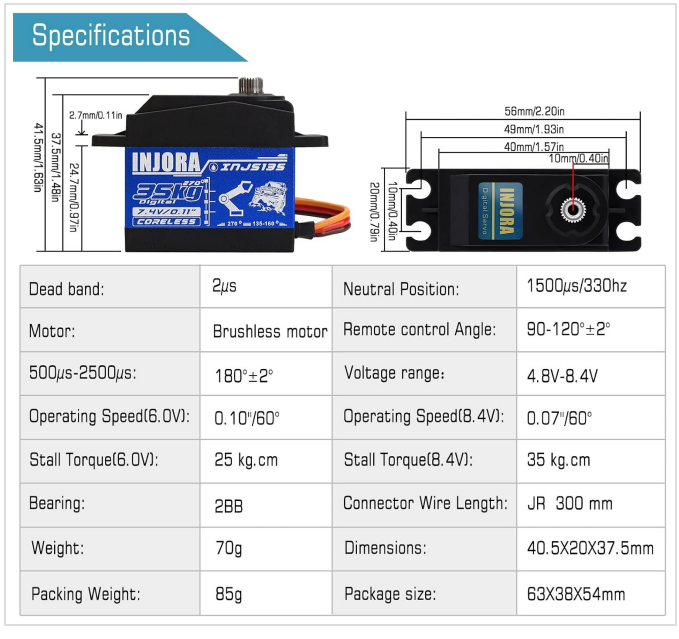
- **Servo Not Responding:**
  - Check all connections between the servo, receiver, and power source.
  - Ensure the receiver and transmitter are properly bound and powered on.
  - Verify that the power source (battery/BEC) is providing adequate voltage and current.
  - Test the servo on a different channel or with a servo tester to rule out receiver or transmitter issues.
- **Servo Jittering or Glitching:**
  - Check for radio interference. Ensure receiver antenna is properly positioned.
  - Verify that the power supply is stable and sufficient. A weak BEC can cause jittering.
  - Inspect the servo wires for damage or loose connections.
  - Ensure the servo is not binding mechanically with any part of the chassis or linkage.
- **Servo Lacks Power/Speed:**
  - Confirm the power source voltage. The servo performs best at higher voltages (e.g., 7.4V-8.4V).
  - Check for mechanical binding in the steering linkage.
  - Ensure the servo horn is securely attached and not slipping.
- **Servo Overheating:**
  - Excessive load or continuous binding can cause overheating. Reduce mechanical resistance.
  - Ensure proper ventilation around the servo.

- Verify that the servo is not constantly fighting against the steering limits (adjust EPA).

Specifications

Detailed technical specifications for the INJORA 35KG Brushless Digital Servo (Model: INJS235).

Feature	Value
Dead band	2µs
Motor	Brushless motor
500µs-2500µs	180°±2°
Operating Speed (6.0V)	0.10"/60°
Stall Torque (6.0V)	25 kg.cm
Bearing	2BB
Weight	70g
Packing Weight	85g
Neutral Position	1500µs/330hz
Remote control Angle	90-120°±2°
Voltage range	4.8V-8.4V
Operating Speed (8.4V)	0.07"/60°
Stall Torque (8.4V)	35 kg.cm
Connector Wire Length	JR 300 mm
Dimensions	40.5 x 20 x 37.5 mm
Package size	63 x 38 x 54 mm



Dead band:	2µs	Neutral Position:	1500µs/330hz
Motor:	Brushless motor	Remote control Angle:	90-120°±2°
500µs-2500µs:	180°±2°	Voltage range:	4.8V-8.4V
Operating Speed(6.0V):	0.10"/60°	Operating Speed(8.4V):	0.07"/60°
Stall Torque(6.0V):	25 kg.cm	Stall Torque(8.4V):	35 kg.cm
Bearing:	2BB	Connector Wire Length:	JR 300 mm
Weight:	70g	Dimensions:	40.5X20X37.5mm
Packing Weight:	85g	Package size:	63X38X54mm

Image: A diagram showing the physical dimensions of the INJORA 35KG Brushless Digital Servo and a table summarizing its technical specifications.

Warranty and Support

INJORA products are manufactured to high quality standards. For specific warranty information, please refer to the documentation included with your purchase or visit the official INJORA website. For technical support or inquiries, please contact INJORA customer service through their official channels.

Manufacturer: INJORA

Model Number: INJS235_Arm

Ask a question about this manual

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Model number, symptoms, what you tried, or the section of the manual you are using.

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