Datasheet	PRODUCT SPECIFICATION	**Rev:** A/0 **Page:** 1/4
Model: MR-10118	**Document:** Micro Digital Servo Motor	

1. Description

MR-10118 is a compact digital micro servo motor designed for robotics, RC models, and embedded control applications. It features a metal gear transmission, carbon-film potentiometer feedback sensor, and a digital comparator control system supporting PWM control with a 180° rotation range.

2. Key Features

- Compact 9g class micro servo
- Metal gear transmission for improved durability
- 180° rotation control
- PWM control interface
- JR connector compatible
- Suitable for robotics, RC models, and automation

3. Quick Specifications

Operating voltage	3.3V – 6V
Rotation range	180°
Stall torque (6V)	2.2 kg · cm
No-load speed (6V)	0.07 sec / 60°
Weight	12.7 g ±1 g
Dimensions	22.5 × 12.1 × 26.7 mm

Note: Servo should be powered from a stable supply capable of delivering stall current up to 800 mA.

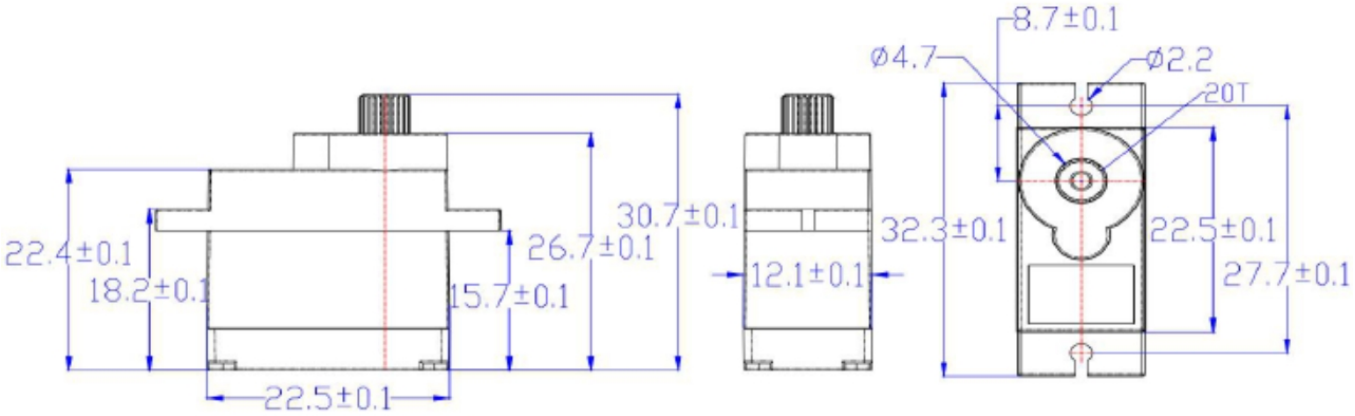
4. Environmental Conditions

Storage temperature	-30°C to 80°C
Operating temperature	-10°C to 60°C
Test temperature	25°C ±5°C
Test humidity	65% ±10%

5. Electrical Characteristics

Parameter	3.3V	4.8V	6V
No-load speed	0.125 s/60°	0.087 s/60°	0.07 s/60°
Running current	120 mA	190 mA	220 mA
Stall torque	1.2 kg · cm	1.8 kg · cm	2.2 kg · cm
Stall current	400 mA	600 mA	800 mA
Idle current	5 mA	6 mA	6 mA
Rated torque	0.4 kg · cm	0.6 kg · cm	0.75 kg · cm
Rated current	200 mA	300 mA	400 mA

6. Mechanical Specifications



Dimensions	22.5 × 12.1 × 26.7 mm
Weight	12.7 g ±1 g
Case material	PC plastic
Gear material	Copper
Gear ratio	1:263
Horn type	20T / 4.7 mm
Cable length	25 cm
Connector type	JR
Backlash	2°
Motor type	Core motor

7. Control Specifications

Control signal	PWM (Pulse Width Modulation)
Pulse width range	500 s – 2500 s
Neutral position	1500 s
Operating travel	180°
Dead band width	8 s
Centering deviation	2°
Rotation direction	Counterclockwise (1500 → 2000 s)

8. Reliability Testing

No.	Item	Specification
1	Motor noise	50 ±5 dB
2	Servo noise	70 ±5 dB
3	Waterproof performance	No

Note: Noise measured at 30 cm distance under 6V supply and no-load condition.

9. Connector Pin Definition

Pin	Name	Description
1	Signal	PWM control signal input
2	VCC	Power supply (3.3V – 6V)
3	GND	Ground reference

10. Control Signal Parameters

Signal period	20 ms
Pulse width	500 s – 2500 s
High level voltage	2V – 5V
Low level voltage	0V – 0.45V