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› YIYIBYUS 110V 15W AC Single Phase Gear Reduction Motor with Adjustable Speed Controller (Model: WMTCE) Instruction Manual

## YIYIBYUS WMTCE

# YIYIBYUS 110V 15W AC Single Phase Gear Reduction Motor with Adjustable Speed Controller

Model: WMTCE - Instruction Manual

## 1. PRODUCT OVERVIEW

The YIYIBYUS 110V 15W AC Single Phase Gear Reduction Motor is designed for applications requiring variable speed control and stable operation. This unit includes a gear motor, a reduction gearbox, and an adjustable speed controller, providing a comprehensive solution for various industrial and home improvement tasks.

# 15W 25K AC GEAR MOTOR + SPEED CONTROLLER



Figure 1: YIYIBYUS 15W AC Gear Motor and Speed Controller.

## Key Features:

- **Main Parameters:** Rated voltage AC 110V, Rated speed 54 RPM/min, Reduction ratio 1:25 (25K), Power Phase single-phase.
- **Stable Operation:** Features low noise, strong stability, and a long service life with heat resistance.
- **Adjustable Speed Controller:** Equipped with a reduction gearbox and governor for precise speed adjustment to suit various applications.
- **Wide Application:** Suitable for packaging, printing, textile, dyeing, chemical, food, medical, pharmaceutical construction machinery, advertising, office, petrochemical, instrumentation, stage lighting, transmission, automatic warehouses, and parking access control systems.

## 2. SAFETY INSTRUCTIONS

Please read and understand all safety instructions before operating the motor. Failure to follow these instructions may

result in electric shock, fire, or serious injury.

- Ensure the power supply matches the motor's rated voltage (AC 110V).
- Always disconnect power before performing any installation, maintenance, or troubleshooting.
- Do not operate the motor in wet or damp conditions.
- Keep hands and clothing clear of moving parts during operation.
- Ensure proper ventilation to prevent overheating.
- Only use the motor for its intended purpose.

### 3. PACKAGE CONTENTS

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Verify that all items are present in the package:

- 1 x Gear Motor
- 1 x Speed Controller
- 1 x Reducer

# 3 parts



motor



reducer



speed  
controller

Figure 2: Components included in the package.

## 4. SPECIFICATIONS

| Parameter          | Value      |
|--------------------|------------|
| Brand              | YIYIBYUS   |
| Model Number       | WMTCE      |
| Rated Voltage      | AC 110V    |
| Rated Speed        | 54 RPM     |
| Reduction Ratio    | 1:25 (25K) |
| Power (Horsepower) | 15 Watts   |

| Parameter    | Value           |
|--------------|-----------------|
| Power Phase  | Single-phase    |
| Motor Size   | 58 x 70 x 92 mm |
| Gearbox Size | 58 x 70 x 32 mm |
| Shaft Size   | 10 mm diameter  |
| Material     | Metal           |
| Item Weight  | 10 kg           |



Figure 3: Motor and reducer dimensions.

## 5. INSTALLATION (SETUP)

Proper installation is crucial for the motor's performance and longevity. Consider the following guidelines:

### 5.1. Load Assessment

Before installation, accurately assess the load requirements. The product description provides guidance:

- If the speed is within the safe range (e.g., 315-450 RPM), choose wattage according to your actual load.
- If the speed is outside the safe range (e.g., 100-450 RPM), choose a motor with 2-3 times your actual load wattage. For example, if you need a 15W motor for 100-450 RPM, consider a 30-45W motor.
- If the torque is 10Nm, the load is generally  $\leq 10\text{kg}$ . For loads exceeding 1 meter in product length, consult a specialist.

### 5.2. Continuous Working Time

- For continuous working times exceeding 4 hours, select a motor with increased wattage.
- For continuous working times less than 4 hours, wattage selection does not typically need to be increased.

### 5.3. Installation Form

There are generally two types of installation forms:

1. **Direct Drive:** The output shaft directly drives the load. Compare the load data with the motor's specifications.
2. **Equipment Power Source:** The motor acts as a power source for an entire equipment assembly (e.g., with rollers, poles). In such cases, it is recommended to choose a motor with 1-2 times larger wattage than initially calculated. For example, if a 15W motor was initially considered, a 30-45W motor might be more appropriate.

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The keyway is equipped with a fixed key pin, which is fixed and installed according to the shape of the keyway.



Figure 4: The keyway on the motor shaft ensures fixed and secure installation.

## 6. OPERATION

The motor is controlled by the included speed controller, allowing for variable speed adjustment.

### 6.1. Connecting the Speed Controller

Connect the speed controller to the motor and to the 110V AC power supply according to the wiring diagram provided with the controller. Ensure all connections are secure before powering on.

### 6.2. Adjusting Speed

1. Turn the power switch on the speed controller to the 'RUN' position.
2. Rotate the knob on the speed controller to adjust the motor's RPM. Turning the knob towards 'High' increases the speed, while turning it towards 'Low' decreases it.

3. Monitor the motor's performance and adjust the speed as needed for your specific application.

The speed regulator offers a large torque and a variety of optional speeds, allowing you to achieve the desired effect for different products and tasks.

## 7. MAINTENANCE

Regular maintenance helps ensure the longevity and optimal performance of your gear motor.

- **Cleaning:** Keep the motor and speed controller free from dust and debris. Use a dry cloth to wipe surfaces. Do not use liquids directly on electrical components.
- **Inspection:** Periodically check all connections for tightness and signs of wear. Inspect the motor shaft and gearbox for any unusual play or damage.
- **Heat Dissipation:** The motor features a built-in fan fin for effective heat dissipation. Ensure the motor's tail exhaust area is not obstructed to allow for smooth airflow and prevent overheating.

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Motor tail exhaust smoothly,  
built-in fan fin, effective heat dissipation.



Figure 5: Motor tail exhaust with built-in fan fin for effective heat dissipation.

### Fine accessories

integrated reducer, heat treatment process,  
improve gear wear resistance

### All copper coil

stator and rotor parts of pure copper coil,  
SKT test through durability test



### Heat sink

motor tail exhaust smoothly,  
built-in fan heat sink,  
effective heat dissipation

### Rotor

The rotor is equipped with  
ball bearings at both ends.  
The friction is small and the  
temperature of friction is low.

Figure 6: Internal components showing the all-copper coil, rotor with ball bearings, and heat sink for durability and efficient operation.

## 8. TROUBLESHOOTING

If you encounter issues with your YIYIBYUS gear motor, refer to the following common problems and solutions:

### • Motor Not Starting:

- Check power connections to ensure they are secure and receiving 110V AC.
- Verify the speed controller switch is in the 'RUN' position.
- Ensure the speed knob is not set to minimum ('Low').

### • Motor Running Erratically or at Incorrect Speed:

- Adjust the speed controller knob slowly to find the desired speed.
- Check for any obstructions or excessive load on the motor shaft.
- Ensure the motor is not operating outside its recommended load or continuous working time parameters.

- **Unusual Noise or Vibration:**

- Inspect mounting bolts for tightness.
- Check for any foreign objects near moving parts.
- Reduce the load if it appears to be excessive.

- **Motor Overheating:**

- Ensure the motor's ventilation areas are clear and unobstructed.
- Verify the motor is not continuously operating under an excessive load or for too long without rest.
- Confirm the ambient temperature is within acceptable limits.

If problems persist after attempting these solutions, please contact customer support.

## 9. WARRANTY AND SUPPORT

YIYIBYUS is committed to providing quality products and customer satisfaction. Your product comes with dedicated support.

- **Customer Support:** For any concerns or assistance, please contact our 24-hour email customer support. We will endeavor to help you resolve any issues.
- **Warranty Information:** Specific warranty details may vary. Please refer to your purchase documentation or contact customer support for comprehensive warranty information.

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#### Question

Example: How do I reset this device or fix this error?

#### Details

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

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