

## ZipcOm GB170C

# ZipcOm Automatic Voltage Regulator GB170C Instruction Manual

Model: GB170C

## 1. PRODUCT OVERVIEW

The ZipcOm Automatic Voltage Regulator (AVR) is designed to maintain a constant output voltage from a generator, ensuring stable power delivery. This manual provides essential information for the installation, operation, and maintenance of the GB170C model, which is a three-phase 380V unit with external adjustment capabilities. Other variants include GB160 (single phase 220V), GB170 (three phase 380V), and GB160C (single phase 220V with external adjustment).

### Key Features:

- **Integrated Solution:** Combines engine voltage regulation and rectification for comprehensive power management.
- **High-Quality Capacitance:** Ensures smooth, efficient, and reliable operation with consistent parameter performance.
- **Precise Resistance:** Utilizes high-precision resistance for stable operation across a wide temperature range.
- **Smooth Potentiometer:** Allows for easy and precise adjustments, designed for durability.
- **Reliable Components:** Constructed with high-quality capacitors for consistent performance under demanding conditions.

## 2. SAFETY INFORMATION

Please read and understand all safety instructions before installing or operating the Automatic Voltage Regulator. Failure to follow these instructions may result in electric shock, fire, serious injury, or property damage.

- **Electrical Hazard:** This device operates with high voltage. Ensure power is disconnected before any installation, inspection, or maintenance.
- **Qualified Personnel:** Installation and service should only be performed by qualified electricians or

technicians.

- **Proper Grounding:** Ensure the generator system is properly grounded according to local electrical codes.
- **Environmental Conditions:** Do not expose the AVR to moisture, rain, or extreme temperatures outside its specified operating range.
- **Inspection:** Regularly inspect the AVR and its connections for any signs of damage or wear.

### 3. PACKAGE CONTENTS

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Verify that all items are present and undamaged upon opening the package. If any items are missing or damaged, contact your supplier immediately.

- ZipcOm Automatic Voltage Regulator (GB170C)
- Instruction Manual (this document)

### 4. SETUP AND INSTALLATION

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Installation of the AVR requires knowledge of electrical systems and generator operation. If you are unsure about any step, consult a qualified professional.

1. **Disconnect Power:** Ensure the generator is completely shut down and disconnected from all power sources before beginning installation.
2. **Mounting:** Securely mount the AVR in a location that is free from excessive vibration, moisture, and extreme temperatures. Ensure adequate ventilation.
3. **Wiring Connections:** Carefully follow the wiring diagram provided with your generator or the specific AVR model. Connect the excitation windings, sensing wires, and power input wires to the appropriate terminals on the AVR. Pay close attention to polarity.
4. **External Adjustment (GB170C specific):** If your model (GB170C) includes external adjustment, connect the external potentiometer according to the wiring diagram. This allows for fine-tuning of the output voltage.
5. **Double-Check Connections:** Before restoring power, meticulously check all wiring connections to ensure they are secure and correctly terminated. Loose connections can cause damage or malfunction.



Figure 1: Top-down view of the GB170C AVR, showing the internal transformer, heat sink, and wiring terminals. The red and white wires are visible, indicating connections for the generator.



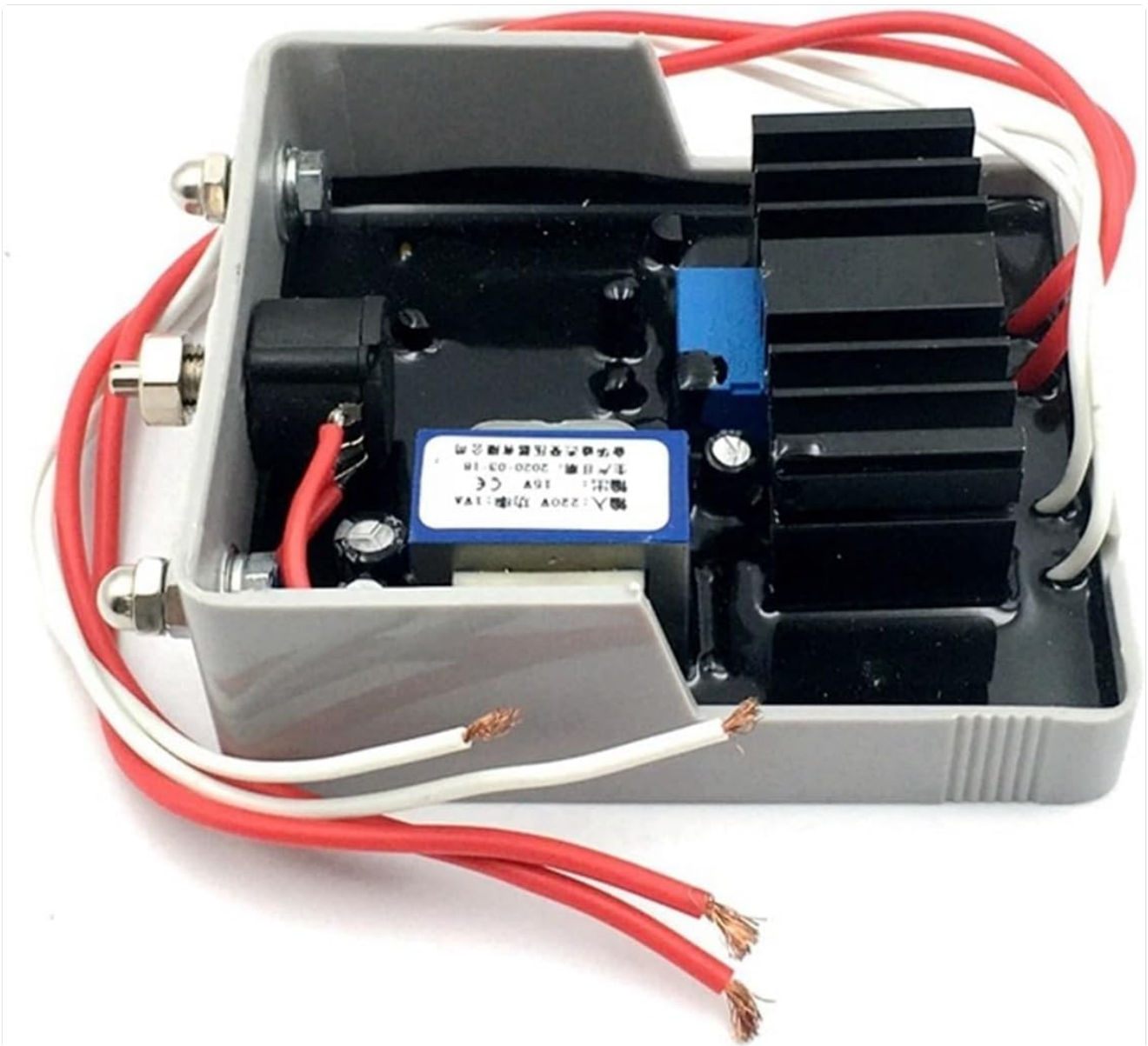


Figure 3: Side view of the GB170C AVR, illustrating the compact enclosure and the various connection points for integration into a generator system. The mounting bolts are also visible.

## 6. MAINTENANCE

The ZipcOm AVR is designed for reliability and requires minimal maintenance. However, periodic checks are recommended to ensure optimal performance and longevity.

- **Visual Inspection:** Periodically inspect the AVR for any signs of physical damage, loose connections, or overheating (discoloration).
- **Cleanliness:** Keep the AVR free from dust, dirt, and debris. Use a soft, dry cloth for cleaning. Do not use solvents or abrasive cleaners.
- **Connection Integrity:** Ensure all wiring connections remain tight and secure. Vibrations from generator operation can sometimes loosen connections over time.
- **Environmental Check:** Confirm that the operating environment remains within the specified conditions (temperature, humidity).



Figure 4: An alternative angled view of the GB170C AVR, providing a comprehensive look at its assembled state, including the protective casing, internal components, and wiring leads.

## 7. TROUBLESHOOTING

If you encounter issues with your AVR, refer to the following common troubleshooting steps. Always disconnect power before performing any checks or repairs.

Problem	Possible Cause	Solution
No Voltage Output	Loose wiring connections Faulty excitation winding AVR failure	Check and secure all connections. Test excitation winding for continuity. Replace AVR if other components are functional.
Unstable Voltage Output	Incorrect voltage adjustment Loose sensing wires Generator speed fluctuations	Adjust voltage potentiometer carefully. Check and secure sensing wire connections. Ensure stable engine speed.
Overheating AVR	Insufficient ventilation Overload condition Internal component failure	Ensure proper airflow around the AVR. Reduce generator load. Consult a technician for internal inspection.

## 8. SPECIFICATIONS

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The following specifications apply to the ZipcOm Automatic Voltage Regulator GB170C:

**Model:** GB170C

**Type:** Automatic Voltage Regulator for STC Alternator Generator

**Phase:** Three phase

**Voltage:** 380V (with external adjustment)

**Package Dimensions:** 1.18 x 0.79 x 0.39 inches

**Item Weight:** 7.1 ounces

**Manufacturer:** ZIPCOM

**Assembly Required:** No

**Number of Pieces:** 1

## 9. WARRANTY AND SUPPORT

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For warranty information or technical support, please contact your point of purchase or the manufacturer directly. Keep your purchase receipt as proof of purchase.

- **Return Policy:** Typically 30 days for refund/replacement (as per Amazon listing).
- **Manufacturer:** ZIPCOM
- **Contact:** Refer to the contact information provided with your purchase or visit the official ZipcOm website for support resources.