

Smartgen HGM6120CAN

Smartgen HGM6120CAN Diesel Generator Controller User Manual

Model: HGM6120CAN

INTRODUCTION

The Smartgen HGM6120CAN is an advanced automatic mains failure (AMF) control module designed for diesel generator sets. It provides comprehensive monitoring, protection, and automatic start/stop functions for the generator, ensuring reliable power supply. This manual provides detailed instructions for the setup, operation, and maintenance of the HGM6120CAN controller.



Figure 1: Front view of the HGM6120CAN Controller, showing the LCD display, alarm indicators, and control buttons for manual, auto, start, and stop operations.

KEY FEATURES

- Automatic Mains Failure (AMF) functionality.
- Automatic start/stop control for generator sets.

- Comprehensive monitoring of generator parameters (voltage, current, frequency, power, engine speed, oil pressure, water temperature, fuel level).
- Multiple protection functions for engine and generator.
- LCD display for clear status indication and parameter viewing.
- Configurable inputs and outputs.
- RS485 communication port with CAN bus support for remote monitoring and control.

SETUP AND INSTALLATION

1. Safety Precautions

- Ensure all power sources are disconnected before installation or maintenance.
- Only qualified personnel should perform installation and wiring.
- Verify correct wiring according to the provided diagrams to prevent damage to the controller or generator.
- Protect the controller from moisture, dust, and extreme temperatures.

2. Mounting the Controller

The HGM6120CAN controller is designed for panel mounting. Ensure adequate space for ventilation and wiring connections at the rear of the unit.

1. Cut a panel cutout of appropriate dimensions (refer to specifications for exact size).
2. Insert the controller into the cutout from the front.
3. Secure the controller using the provided mounting clips from the rear of the panel.

3. Wiring Connections

Refer to the wiring diagram on the back of the controller and in the detailed product documentation for precise connections. Below is a general overview of common connections.

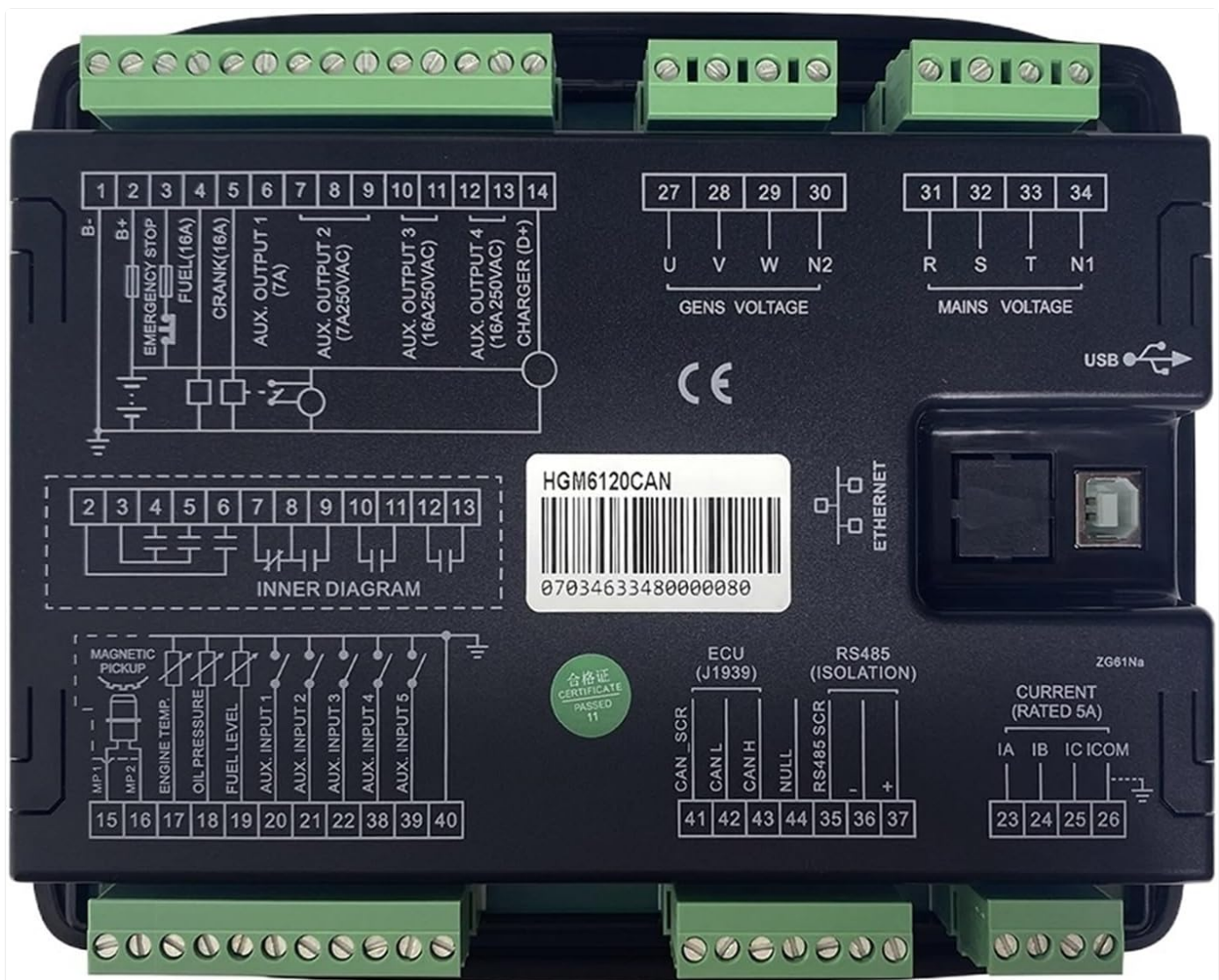


Figure 2: Rear view of the HGM6120CAN Controller, illustrating the various terminal blocks for power, sensor inputs, auxiliary outputs, and communication interfaces like RS485 and CAN.

- **DC Power Supply:** Connect to terminals B+ and B-. Ensure correct polarity and voltage (DC8V-35V).
- **Generator Voltage Inputs:** Connect to U, V, W, N terminals for generator phase voltages.
- **Mains Voltage Inputs:** Connect to R, S, T, N1 terminals for mains phase voltages.
- **Engine Sensors:** Connect oil pressure, water temperature, fuel level sensors to designated analog input terminals.
- **Auxiliary Inputs:** Connect emergency stop, remote start, and other digital inputs.
- **Auxiliary Outputs:** Connect to fuel solenoid, start motor, and other control relays.
- **Communication:** Connect RS485 (A, B) and CAN (CAN H, CAN L) for remote communication.

OPERATING INSTRUCTIONS

1. Control Panel Overview

The front panel features an LCD display, navigation buttons, and dedicated control buttons for various modes of operation.



Figure 3: Detailed front view of the HGM6120CAN Controller, showing the clear LCD display for real-time data and the intuitive button layout for mode selection and manual control.

- **LCD Display:** Shows generator parameters, alarms, and operational status.
- **Navigation Buttons:** Used to scroll through menus and adjust settings (Up, Down, Left, Right, OK).
- **Manual Button:** Puts the controller in manual mode for direct control.
- **Auto Button:** Puts the controller in automatic mode for AMF operation.
- **Start Button:** Initiates generator start sequence (in Manual mode).
- **Stop Button:** Initiates generator stop sequence.

2. Operating Modes

- **Manual Mode:**
Press the **Manual** button. In this mode, the generator can be started and stopped manually using the **Start** and **Stop** buttons. Load transfer is also manual.
- **Auto Mode:**
Press the **Auto** button. The controller will automatically monitor the mains supply. If the mains fail, the controller will initiate the generator start sequence, transfer load, and stop the generator when mains power is restored.

3. Parameter Viewing and Configuration

Use the navigation buttons to scroll through the various display screens to view generator parameters, engine status, and alarm logs. Configuration of parameters requires entering the programming mode, typically protected by a password.

Refer to the detailed programming manual for specific parameter settings.

MAINTENANCE

Regular maintenance ensures the longevity and reliable operation of the HGM6120CAN controller and the generator set.

- **Cleaning:** Periodically clean the controller's front panel with a soft, dry cloth. Do not use abrasive cleaners or solvents.
- **Connections:** Annually check all wiring connections for tightness and signs of corrosion. Loose connections can lead to intermittent operation or damage.
- **Firmware Updates:** Check the manufacturer's website for any available firmware updates. Updates can improve performance or add new features.
- **Environmental Conditions:** Ensure the operating environment remains within the specified temperature and humidity ranges to prevent damage.

TROUBLESHOOTING

This section provides basic troubleshooting steps for common issues. For complex problems, consult a qualified technician or the manufacturer's support.

Problem	Possible Cause	Solution
Controller display is blank.	No DC power supply; Blown fuse; Loose power connection.	Check DC power input (8V-35V); Inspect and replace fuse; Secure power connections.
Generator fails to start in Auto mode.	Mains power present; Auto mode not selected; Engine fault (low oil, high temp); Fuel issue.	Verify mains status; Ensure Auto mode is active; Check engine parameters and alarms; Verify fuel level.
Generator starts but does not take load.	Load transfer inhibited; Circuit breaker tripped; Generator output fault.	Check load transfer settings; Reset circuit breakers; Inspect generator output.
Alarm indication on display.	Specific fault detected (e.g., overspeed, low oil pressure).	Note the alarm code/message; Refer to the detailed manual for alarm definitions and corrective actions.

SPECIFICATIONS

Technical specifications for the Smartgen HGM6120CAN controller.

- **Model:** HGM6120CAN
- **Power Supply:** DC 8V-35V Continuous
- **AC Voltage Input:** 15V AC - 360V AC (Ph-N)
- **Frequency:** 50Hz / 60Hz
- **Auxiliary Outputs:** Configurable, typically 7A (250VAC) and 16A (250VAC)
- **Analog Inputs:** Configurable for various sensors (oil pressure, water temperature, fuel level)
- **Communication:** RS485, CANBUS (J1939)
- **Operating Temperature:** -25°C to +70°C

- **Dimensions:** Approximately 1.18 x 0.79 x 0.39 inches (Note: These are listed as package dimensions, actual unit dimensions for panel mounting may vary.)
- **Weight:** Approximately 1.76 ounces (Note: This is listed as item weight, actual unit weight may vary.)
- **Manufacturer:** EQIMMFLJ
- **Country of Origin:** China

WARRANTY AND SUPPORT

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

Manufacturer/Seller: EQIMMFLJ

Refer to your purchase documentation for specific contact details or visit the product page on Amazon for seller information.

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ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page’s manual context to help answer it.

Name

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After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

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.

Submit question

Answered questions about this manual

How do I reset the screen or parameters on the Smartgen HGM6120CAN Diesel Generator Controller?

To reset or adjust the settings on the Smartgen HGM6120CAN, you must enter the programming mode. Please

follow these steps:Accessing Configuration: Use the navigation buttons (Up, Down, Left, Right, OK) to scroll through the...

[Read full answer](#)

How do I adjust the cooling and heating time settings on the Smartgen HGM6120CAN Diesel Generator Controller?

To adjust the cooling and heating (preheating) time on the Smartgen HGM6120CAN, you must enter the controller's programming mode. Please follow these steps:Enter Programming Mode: Press and hold the OK (or Set) button and...

[Read full answer](#)

How can I activate the remote start function on the Smartgen HGM6120CAN controller if my board only has motor protection and no city power input?

To activate the remote start function on your Smartgen HGM6120CAN controller, you should utilize the auxiliary input terminals. According to the manual, the controller supports configurable digital inputs for remote start operations.Wiring: Connect your...

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