SmartGen

MAKING CONTROL SMARTER

GCPBE62/B

GCPBE62CAN/B

GENSET CONTROL PANEL

USER MANUAL

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Table 1 Software Version

Date	Version	Content
2024-07-25	1.0	Original release.

1 OVERVIEW

GCPBE62/B_E62CAN/B Backpack Control Panel (referred to as Control Panel) consists of control box, HGME62/HGME62CAN controller, BAC06A-24V battery charger, ESC (provided by genset manufacturer), shock absorber and so on.

GCPBE62/B_E62CAN/B Backpack Control Panel is used for single genset automation system of one power supply and one generator set. It can realize auto start/stop of genset via remote start signal, and the functions of speed control, data measurement, and alarm protection. With compact structure and easy wiring, it will simplify the wiring connection with the control panel, and improve the productivity of genset control panel.

2 PERFORMAMCE AND CHARACTERISTICS

HGME62/HGME62CAN Genset Controller adopts LCD display, optional language interface including Chinese, English and Russian. The micro-processing technique can achieve precision measurement, value adjustment, timing and threshold setting etc. All the parameters can be configured from front panel or use USB interface (or RS485 interface) to adjust via PC. It can be widely used in all types of automatic control system for its compact structure, simple connections and high reliability.

BAC06A series battery charger adopts the latest switch power components, which is designed for charging lead-acid starting battery according to its property. The charger is suitable for lead-acid battery float charge. The maximum charge current for BAC06A-12V charger is 6A; the maximum charge current for BAC06A-24V charger is 3A.

3 MODEL COMPARISON

Table 2 Model Comparison

Item	HGME62	HGME62CAN
Mains Monitoring	●	●
CAN BUS Port		●
MPU Port	●	

HGME62: With MPU port, it is suitable for engines controlled by electronic governor.
HGME62CAN: With CAN BUS port, it is suitable for electronic fuel injection engines controlled by ECU.
Different length of wiring harnesses are optional:
XS-HGME62(standard installation of backpack-type control panel), **XS-HGME62-S** (installation of silent control box). See details in Section 7.2 Instruction of HGME62 Wiring Harnesses.
Additional length demand requires special order.
HGME62/HGME62CAN: It has mains monitoring and genset generation electricity monitoring functions, which are applied in the AMF system between mains power and genset. And it is suitable for single genset automation system of mains power and genset. The automatic start/stop of genset can be controlled by the remote start/stop signal.

4 SPECIFICATIONS

Table 3 Technical Parameters

Category	Items	Contents
Working Parameters	Working Voltage	DC12/24V
	AC Charger Line Voltage (3P4W)	AC400V
	AC Charger Frequency	50Hz
	Secondary Current of CT	5A
Working Environment	Working Temperature	(-25~+55)°C
	Storage Temperature	(-30~+80)°C
	Working Humidity	20%RH～93%RH (No condensation)
	Storage Humidity	10%RH～95%RH (No condensation)
Appearance & Structure	Weight	12kg (including accessories)
	Case Dimensions	430mmx306mmx220mm
	Panel Cutout	340mmx100mm
	Appearance Color	Black
	Protection Level	IP31

5 MAIN FUNCTIONS AND PARAMETER SETTING

5.1 OPERATION FUNCTIONS

The control panel consists of power switch, manual start/stop mode, auto start/stop mode, switch close/open, emergency stop and other functions.

5.2 DISPLAY

a) Engine parameter display: diesel engine speed, oil pressure, coolant temperature, battery voltage, charger voltage and running time;

b) Generator parameter display: generation voltage/frequency/phase sequence, load current, active/reactive/apparent power;

c) Alarm indication: genset over/under voltage shutdown, genset over/under frequency shutdown, over/under speed shutdown, high water temperature warning/shutdown, low oil pressure warning/shutdown, emergency stop, etc.

5.3 PARAMETER SETTING

Table 4 Main Parameters Setting

Items	Alarm Parameter Set Value	Function
High Water Temp	>98°C	Shutdown
Low OP	<103Kpa	Shutdown
Over Speed	>1710rpm	Shutdown
Under Speed	<1200rpm	Shutdown
Over Voltage	>264V	Shutdown
Under Voltage	<196V	Shutdown
Over Frequency	>57Hz	Shutdown
Under Frequency	<45Hz	Shutdown

6 HGME62/HGME62CAN OPERATION INSTRUCTION

Fig.1 Front Panel of Controller

Table 5 Key Function Description

Icon	Key	Description
	Stop/Reset	Press it to stop the running genset under Manual/Auto mode; Press it to reset any shutdown alarm when the genset alarms; Press and hold it for at least 3 seconds to test whether panel indicators are normal or not (lamp test); During stopping process, press this key again to stop the genset quickly.
	Start	Start genset under Manual mode; During starting process, press this key to make genset transfer to next status.
	Manual	Press this key to set the controller as Manual mode.
	Auto	Press this key to set the controller as Auto mode.

Icon	Key	Description
	Close/Open	Press it to control genset switch on or off in Manual mode.
	Setting/Confirm	Press this key to enter menu interface; Shift cursor and confirm the setting in parameters setting menu.
	Page Up/Increase	Scroll up pages, or move the cursor up and increase the value of the cursor position.
	Page Down/Decrease	Scroll down pages, or move the cursor down and decrease the value of the cursor position.
	Home/Return	Press it to return to the homepage in main interface, or exit the parameters setting interface.

7 START/STOP OPERATION

7.1 CONNECTION

Connect the control panel to the wires on the genset according to the electrical schematic diagram, check and confirm it is correct.

7.2 PARAMETER SETTING

Set the genset parameters of controller, including the number of flywheel teeth, starting condition, genset power, CT ratio, input/output port, etc.

7.3 MANUAL START/STOP (Refer to the user manual of HGME62 series controller for details)

7.3.1 MANUAL START

After the control panel is power on, switch on SA1  on the panel, then the LCD of HGME62 (HGME62CAN) controller lights up, press the manual key  (the indicator is illuminated), confirm it and press the start key  , after the fuel relay outputs for 1s, the starting relay starts to output and the controller will control the diesel genset to start.

7.3.2 RUNNING

After the crank disconnect, the status indicator of controller will always be illuminated, check whether the parameters of the diesel engine on the controller are correct.

7.3.3 MANUAL STOP

In normal condition, press the red stop key  on the controller, the fuel relay will stop running, the ESC is powered off, the diesel generator will stop normally. Press the stop key again to make the diesel generator stop rapidly.

7.4 AUTO START/STOP (refer to the user manual of HGME62 series controller for details)

7.4.1 AUTO START

Press the auto key  and the indicator of the auto mode is illuminated. When mains power is abnormal, if the remote start signal of HGME62 (HGME62CAN) controller is active (closed), the controller will send the start command to start the genset automatically.

7.4.2 AUTO STOP

When mains power recovers to normal, the remote start signal of HGME62 (HGME62CAN) controller is inactive (open), the controller will send the stop command to stop the genset automatically.

7.5 EMERGENCY STOP

During the running process of diesel genset, when the emergency stop is required when the abnormal situation occurs, the emergency stop key SB1  on the control box can make the diesel genset stop rapidly. When the troubleshooting is done, SB1  needs to be reset by pressing the reset key (stop), and the controller can start normally after the emergency stop faults are cleared up.

7.6 ALARM

When there is a fault alarm, the Alarm indicator will flash, the alarm information can be viewed via the LCD of HGME62 (HGME62CAN).

NOTE: Clear up the alarms and press the reset (stop) key to restart the genset when the there's shutdown alarm.

8 NOTES

a) Violent vibration and collision are avoided during moving and installation. The control box should be stored indoors in dry, clean and non-corrosive gas environments. The installation of control box should be firmly base mounted.

b) Please keep the user manual, accessories and electrical schematic diagram provided by the manufacturer properly for debugging and maintenance.

c) The repair and routine maintenance of the control panel should be done by a skilled electrician that professionally trained. If there is a fault of the control panel, please check the connection according to the electrical schematic diagram, whether the wiring is loose or falls off, and then replace the relevant devices.

d) If there is a fault or the spare parts are needed, please contact our sales or service personnel. The corresponding panel model and factory serial number should be informed, so that the problems can be

solved timely and accurately.

9 FAULT FINDING

When the failure occurs, first to check whether the external wiring of the system is correct and the power supply is normal according to the electrical schematic diagram provided by the company. Then check the fault phenomena and troubleshooting methods of the control panel listed in the following table. If the problem is not solved, please contact the relevant personnel of the manufacturer for consultation.

Table 6 Fault Finding

Symptom	Possible Solutions
Controller Inoperative	Check battery; Whether power switch (SA1) is open; Check input connections of controller power.
Genset Stops	Check alarm information of controller; Check ESC.
Emergency Stop	Check if the position of emergency stop button SB1 is correct and if the contact works normally; Check the connections of controller.
Low OP Alarm (After Crank Disconnect)	Check OP sensor and its connections (OPL, OPS); Check whether the battery negative wire is in good contact with the ground wire.
High Water Temp Alarm (After Crank Disconnect)	Check water temperature sensor and its connections (WTH, WTS); Check whether the battery negative wire is in good contact with the ground wire.
Shutdown Alarm During Running	Check relevant switch and connections according to the information on LCD; Check the configurable inputs.
Crank Disconnect Failed	Check fuel circuit and its connections; Check starting battery; Check speed sensor and its connections; Check ESC.
Starter Inoperative	Check connections of starter (CRANK); Check starting battery.

NOTE: please refer to the user manual in the control box for parameter details and function setting. If you have any questions, please contact the staff of the company.

10 OVERALL DIMENSIONS AND PANEL CUTOUT

Unit: mm

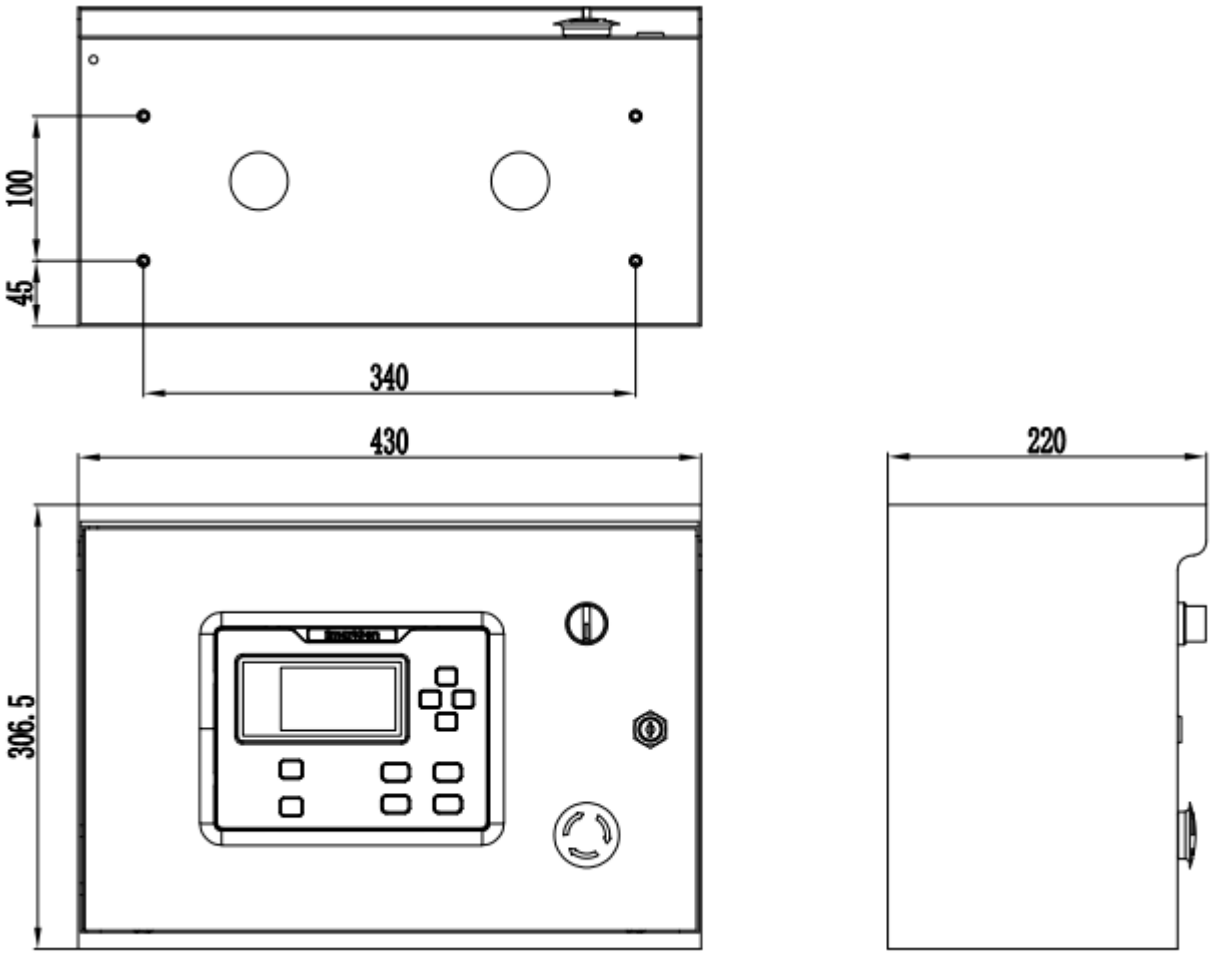

Fig.2 Overall Dimensions