HGM6100U-RM

REMOTE CONTROL MODULE

USER MANUAL

SMARTGEN (ZHENGZHOU) TECHNOLOGY CO., LTD.

CONTENT

1   OVERVIEW 4

2   PERFORMANCE AND CHARACTERISTICS...5

3   SPECIFICATION 6

4   OPERATION..7

    4.1   KEYS DSCRIPTION 7

    4.2   CONTROLLER PANEL 8

    4.3   REMOTE CONTROL MODE OPERATION 9

5   CONNECTIONS 10

6   TYPICAL APPLICATION 11

7   INSTALLATION..12

    7.1   FIXING CLIPS 12

    7.2   OVERALL DIMENSION AND PANEL CUTOUT 13

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Software Version

Date	Version	Content
2016-12-29	1.0	Original release

1 OVERVIEW

HGM6100U-RM remote monitoring control module is designed for HGM6100U/6100E/6100U2C series controllers remote monitoring. It is used for single unit remote monitoring system to realize functions of remote start/stop genset, data monitoring, alarms display and etc. via RS485 port. Module can be in monitoring mode, only monitor not control, or be transferred to remote control mode by local module to remote control and monitor genset. One HGM6100U/6100E/6100U2C controller can connect with 2 HGM6100U-RM modules.

HGM6100U-RM remote monitoring control module uses micro-processing technique and 132 x64 LCD display with 8 kinds of languages can be optional by users (Simplified Chinese, English, Spanish, Russian, Portuguese, Turkish, Polish and French). It can be widely used in all types of automatic control system for its compact structure, simple connections and high reliability.

2 PERFORMANCE AND CHARACTERISTICS

HGM6100U-RM series has two types:

HGM6110U-RM: remote monitoring module for HGM6110U/6110E/6110U2C series controllers;

HGM6120U-RM: remote monitoring module for HGM6120U/6120E/6120U2C series controllers

➢ 132*64 LCD display with backlight, optional language interface (Simplified Chinese, English, Spanish, Russian, Portuguese, Turkish, Polish and French), push-button operation;

➢ Acrylic screen, improved wearable and scratch resistance property;

➢ Silica-gel panel and keys can well adapt to higher and lower temperature;

➢ With RS485 communication port, can achieve "three remote"(remote control, remote measurement and remote communication) functions via MODBUS protocol;

➢ Parameter setting: Allow user to modify setting and store them in internal FLASH memory. The parameters cannot be lost even when power off. All of parameters can be set not only from the front panel, but also use PS485 interface to adjust them via PC. All parameters of HGM6100U-RM must be configured same as local module's of HGM6100U controller;

➢ Power supply range: (8~35)V DC, accommodating to different starting battery volts;

➢ All parameters use digital modulation, instead of analog modulation using conventional potentiometer, having improved reliability and stability;

➢ Add rubber gasket between shell and controller screen, the waterproof can reach IP55;

➢ Controller is fixed by metal fixing clips;

➢ Modular design, flame-retardant ABS shell, embedded mounting, compact structure and easy installation.

3 SPECIFICATION

Items	Contents
Working Voltage	DC8.0V to DC35.0V, continuous
Power Consumption	<3W(Standby mode: ≤2W)
Overall Dimensions	197 mm x 152 mm x 47mm
Panel Cutout	186mm x 141mm
Working Condition	Temperature: (-25~70)ºC; Humidity: (20~93)%
Storage Condition	Temperature: (-25~+70)ºC
Protection Level	IP55 Gasket
Insulation Intensity	Apply AC2.2kV voltage between high voltage terminal and low voltage terminal; The leakage current is not more than 3mA within 1min.
Weight	0.56kg

4   OPERATION

4.1   KEYS DSCRIPTION

Icon	Keys	Description
⬤	Stop/ Reset	Stop generator under Manual/Auto mode; Reset shutdown alarm; Press this key at least 3 seconds to test panel indicators are OK or not(lamp test); During stopping process, press this key again can stop generator immediately.
❙	Start	Start genset under Manual or Manual Test mode.
✋	Manual	Pressing this key will set the module as Manual mode.
AUTO	Auto	Pressing this key will set the module as Auto mode.
🗼	Test on load	Controller is under manual testing mode. Under this mode, gen-set will run automatically with load when gens normal. (HGM6110U-RM without)
C/O	Gens Close/Open	Can control gens to switch on or off in Manual mode.
OK	Set/ Confirm	Shift cursor to confirm In parameters setting menu.
△	Up/Increase	Screen scroll; Up cursor and increase value in setting menu.
▽	Down/Decrease	Scroll screen; Down cursor and decrease value in setting menu.
☰	Menu	Pressing this key will set menu; Again pressing this key can return main interface.

⚠**NOTE: if remote mode is active, all keys in the panel are functional; if not, only**△,▽,☰,OK**keys are functional in the panel.**

4.2 CONTROLLER PANEL
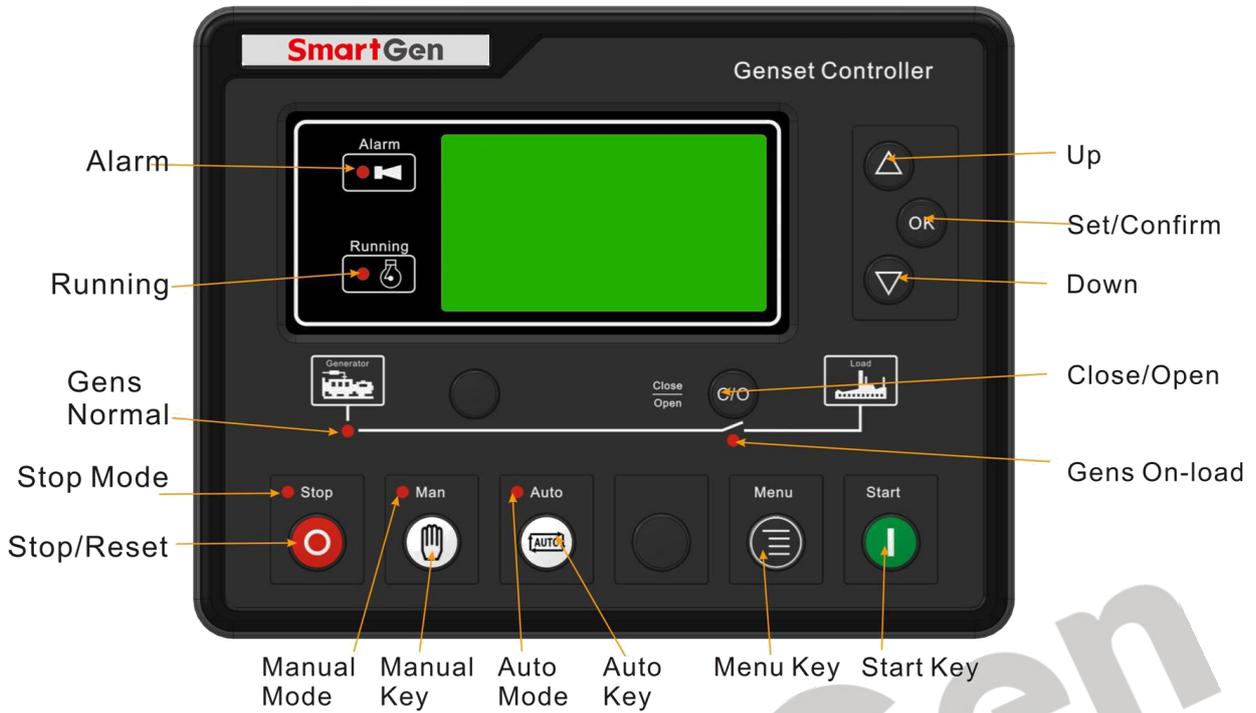
HGM6110U-RM Panel Indicators
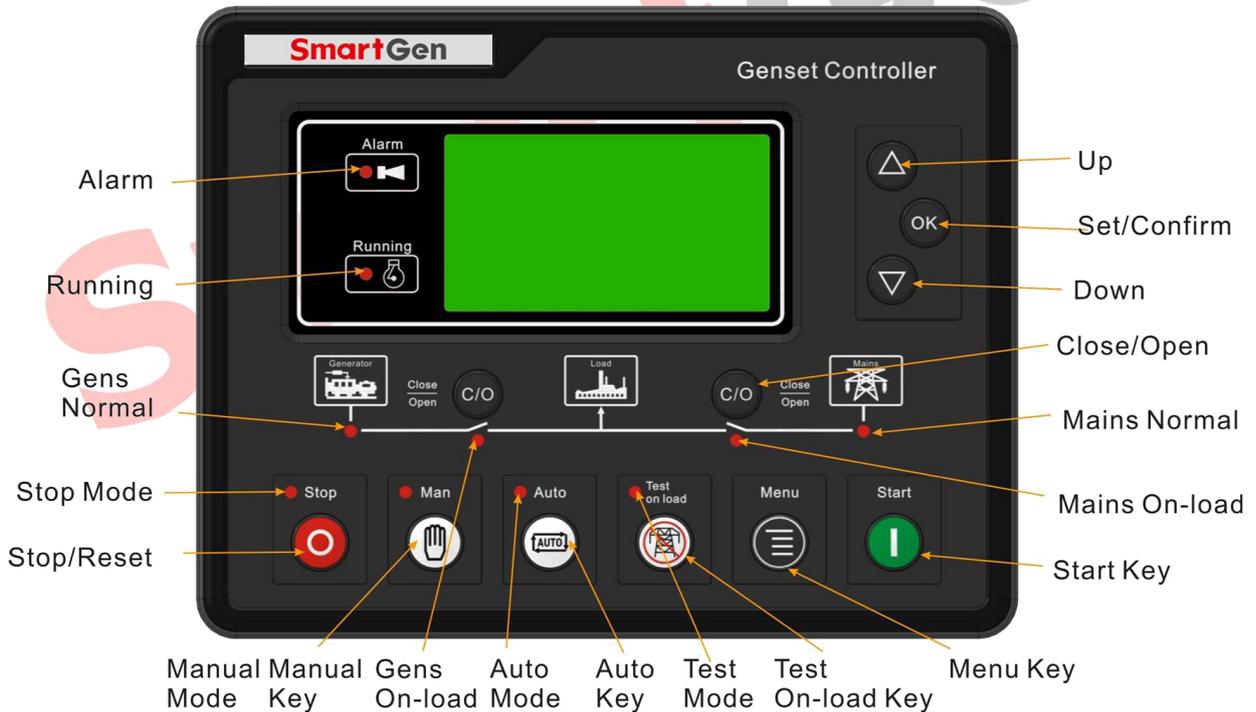
HGM6120U-RM Panel Indicators

4.3 REMOTE CONTROL MODE OPERATION

Remote control mode is active if the fourth line on the LCD will display Remote Mode (both local module and remote module are displayed) after local module remote control input is active,
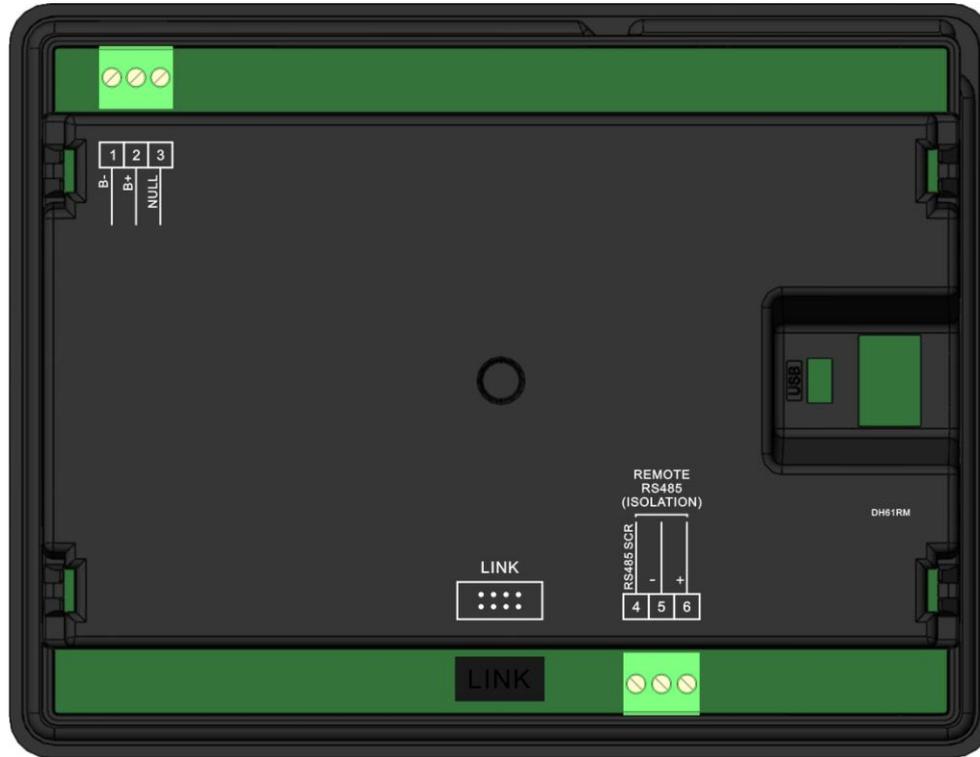
After remote control is active, genset mode can be transferred to start/stop genset.

⚠**NOTE: if alarms occur in start/stop process, corresponding alarm information will be synchronous displayed on the LCD of HGM6100U-RM.**

5 CONNECTIONS

HGM6100U-RM controller back panel wiring diagram as follow,


Descriptions of terminal connection as following,

No.	Function	Cable Size	Description
1	DC input B-	2.5mm^2	Connected to negative of starter battery
2	DC input B+	2.5mm^2	Connected to positive of starter battery. If wire length is over 30m, better to double wires in parallel. Max. 20A fuse is recommended.
3	NULL	/	
4	RS485 Common Ground	/	Impedance-120Ω shielding wire is recommended, its single-end connect with ground.
5	RS485 -	0.5mm^2	
6	RS485+	0.5mm^2	

6 TYPICAL APPLICATION
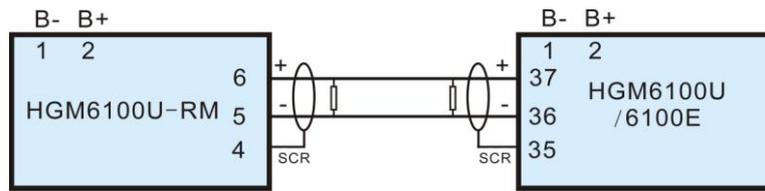
HGM6100U-RM and **HGM6100U/E** Typical Application Diagram
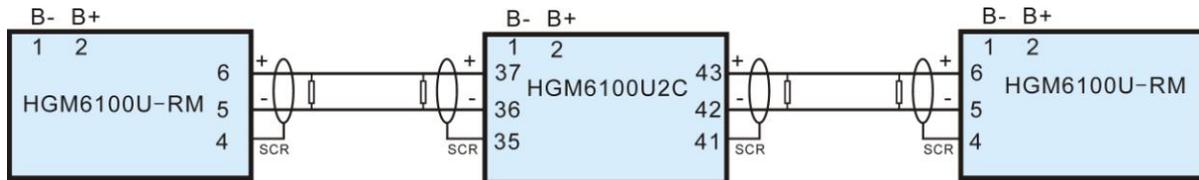
**HGM6100U-RM** and **HGM6100U2C** Typical Application Diagram

7 INSTALLATION

7.1 FIXING CLIPS

The module is held into the panel fascia using the supplied fixing clips.

1) Withdraw the fixing clip screw (turn anticlockwise) until it reaches proper position.

2) Pull the fixing clip backwards (towards the back of the module) ensuring four clips are inside their allotted slots.

3) Turn the fixing clip screws clockwise until they make contact with the panel.

Note: Care should be taken not to over tighten the screws of fixing clips.
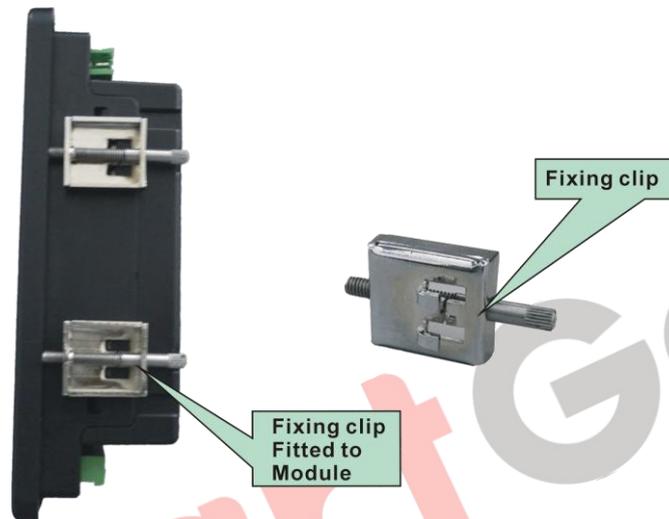
7.2 OVERALL DIMENSION AND PANEL CUTOUT
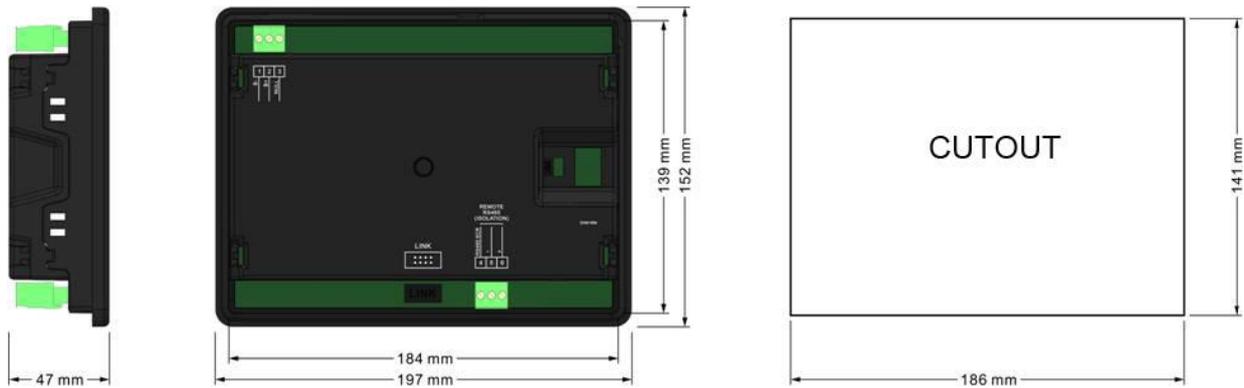
1) Battery Voltage Input

HGM6100U-RM series controller can be applicable to (8~35) V DC battery voltage. Battery negative must be reliably connected to engine shell. The connection between controller power and battery should not be less than 2.5mm^2. If a float charger is fitted, please connect output line of the charger with battery directly, and then connect battery positive and negative to power input of controller separately, in case that charger will interfere with the normal running of controller.