HRC12

BLUETOOTH MODULE

USER MANUAL

SMARTGEN (ZHENGZHOU) TECHNOLOGY CO.,LTD.

Chinese trademark

English trademark

SmartGen — make your generator ***smart***

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Table 1 Software Version

Date	Version	Note
2020-03-20	1.0	Original release.

CONTENTS

1 OVERVIEW

HRC12 Bluetooth Module is a transition module of data communication between mobile and genset. It is connected with genset controller via RS485. By mobile APP genset information can be obtained and genset start/stop can be controlled.

2 PERFORMANCE AND CHARACTERISTICS

- Mobile bluetooth can monitor genset status from far away, and communication distance is longer than 50m;
- From mobile genset controller power can be controlled or genset controller can be awaken up;
- Wide supply range DC (8~35)V, which can directly use the start battery self-contained in the engine;
- Module panel has power and communication status indicator, so module working status is very clear;
- Standard 35mm rail installation and M4 fixing installation is applied;
- Modular structure design, flame retardant ABS enclosure, light weight, compact structure with easy installation.

3 SPECIFICATION

Table 2 Product Parameters

Items	Contents
Operating Voltage	DC 8.0V~35.0V continuous supply
Power Consumption	Standby: 24mW Running: 60mW
RS485 Port	Non isolated type
Communication Distance	>50m
Dimension	80mmx65mmx35.5mm
Working Temperature	Temperature: (-25～+70)°C; Humidity: (20~93)%RH
Storage Temperature	(-30～+80)°C
Weight	0.07kg

4 FACE PANEL AND WIRE TERMINAL DESCRIPTION

4.1 PANEL INDICATOR

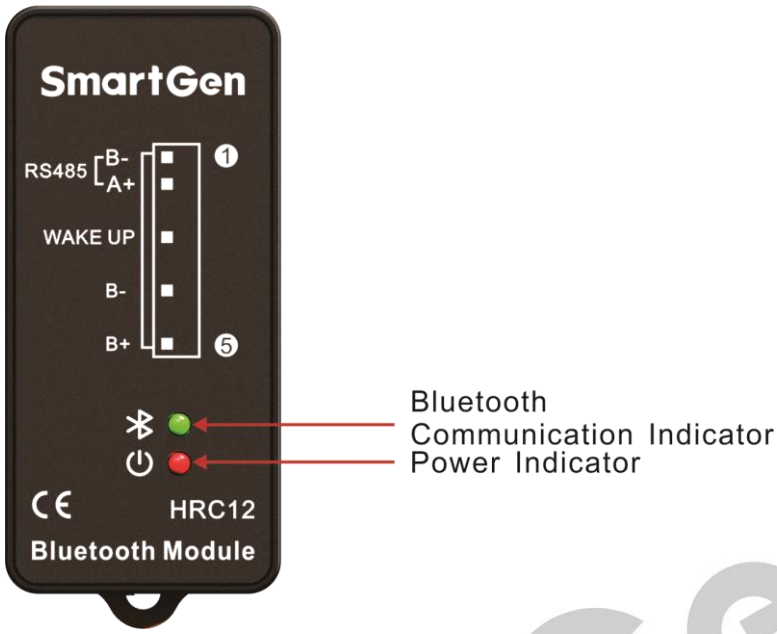

Fig. 1

Table 3 Indicator Description

Mask Icon	Illustration
Power Indicator	Illuminated when communication module power is normal; extinguished when it is abnormal.
Bluetooth Communication Status Indicator	Data transmitting: Flash based on data sending and receipt; No data transmitting: Illuminated when Bluetooth connection is normal; Extinguished when Bluetooth connection is abnormal.

4.2 RS485 PORT

User can obtain genset information by connecting RS485 port and genset controller RS485 port. It is recommended to use 120Ω terminal matched resistance.

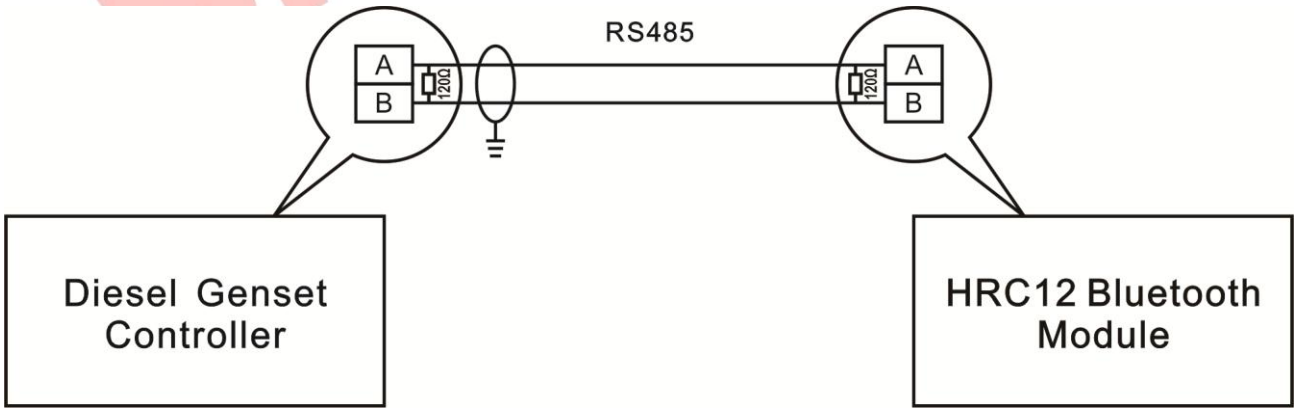

Fig. 2 RS485 Connection

4.3 WIRE TERMINAL

Table 4 Wire Terminal Description

No.	Function	Cable Size	Remark
1	RS485B(-)	0.5mm^2	It is recommended to use 120Ω terminal matched resistor.
2	RS485A(+)	0.5mm^2	
3	WAKE UP	1.0mm^2	B- output, rated 1A;
4	B-	1.0mm^2	Connect DC negative;
5	B+	1.0mm^2	Connect DC positive;

5 TYPICAL APPLICATION DIAGRAM

One HRC12 module connects one genset monitoring module. They can be connected by RS485 port.

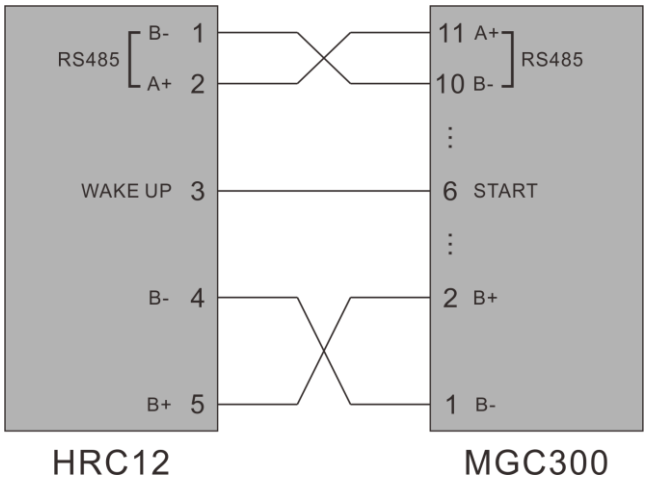

Fig. 3 HRC12 Application Demonstration

6 CASE DIMENSION AND MOUNTING SIZE

35mm rail mounting or M4 fixing mounting can be applied. Case dimensions are as below:

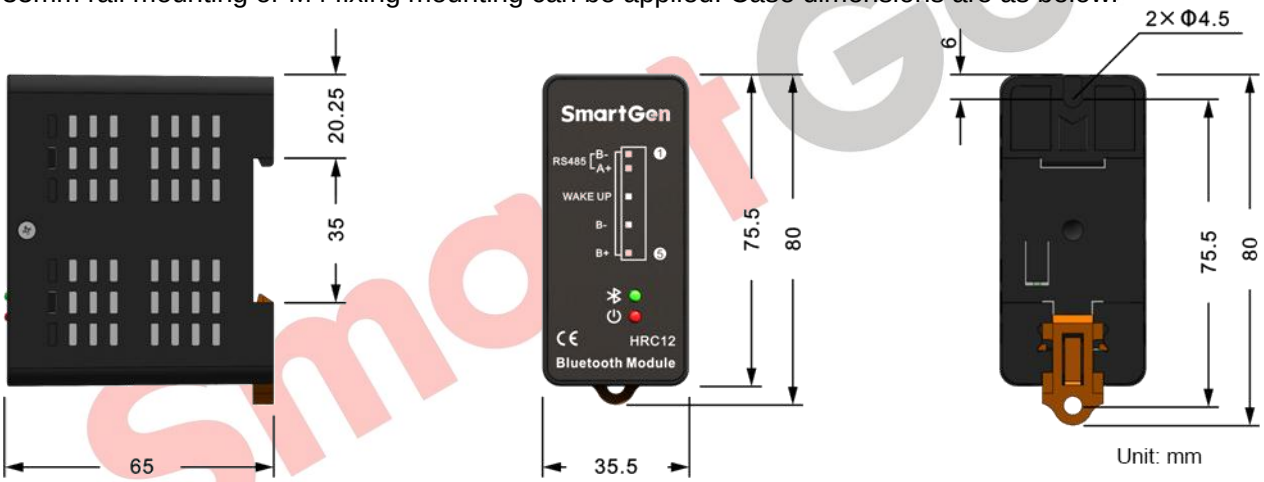

Fig. 4 Case Dimensions and Mounting Size

7 APP CONNECTION ILLUSTRATION

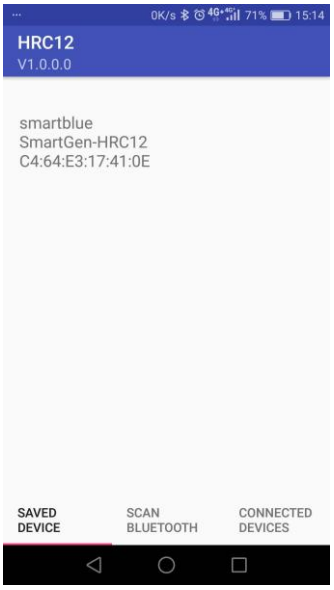

Fig. 5 Saved Device Interface

(1) Download HRC12 Bluetooth Communication Module APP from SmartGen and install it in the mobile phone; open mobile APP interface as Fig. 5 Saved Device Interface, and the list shows the saved device. Click the connected device (it will jump to the connected interface if the connection is successful. If connection is overtime, or device is far to connect, it will display on the current page.). Press longer to delect (Delect Dialog Box will appear.).

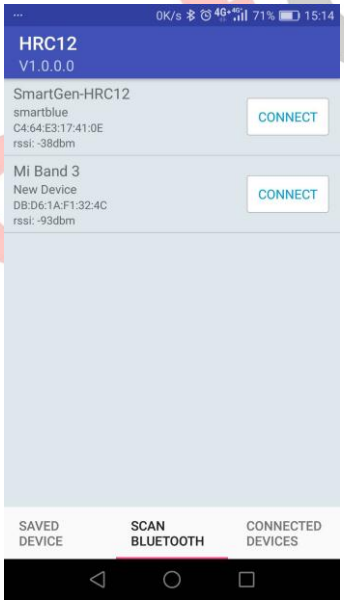

Fig. 6 Scan Bluetooth Interface

(2) Click Scan Bluetooth page, pull down and refresh, as Fig. 6 Scan Bluetooth Interface.
Display contents: 1. Bluetooth Name
2. Saved Name (unsaved one is New Device.)
3. Bluetooth Address
4. Signal Intensity

Click CONNECT and jump to Connected Devices page (HRC12 Bluetooth Name - SmartGen-HRC12).

Fig. 7 Connected Devices Interface

(3) Connected Devices page is as Fig. 7 Connected Devices Interface; after successful communication, it will read out software and hardware version numbers.

Rename - Change current saved device name;

Module Address - Lower computer module address;

Alarm information occurs in the middle - When genset is running normally, Unit Run displays green, otherwise it is red; when Mains fault occurs, Mains Failure displays red.

Disconnected - Disconnect Connection (only supports one to one connection; for changing Bluetooth device, it needs to disconnect current device and then to connect with others); enter Connected Devices page, it needs to input lower computer password for the first time to operate on the lower computer.

Power On - Controller connected with WAKE UP terminal is awaken up;

Power Off - Controller connected with WAKE UP terminal is low power consumption mode;

8 WAKE UP OUTPUT ILLUSTRATION

When click POWER ON button in Fig. 7 Connected Devices Interface, controller connected with Bluetooth Module WAKE UP terminal goes from low power consumption to normal working mode.

9 FAULT FINDING

Table 5 Fault Finding

Fault Symptom	Measures taken
Communication module is power on but no response	Check power voltage; Check communication module wiring;
Bluetooth indicator is not on	Check mobile Bluetooth is on or not;
RS485 abnormal communication	Check wiring connection; Check genset controller ID, communication settings(Baud rate:9600; Data bit: 8; Stop bit: None; Parity: None) are correct or not; Check RS485 A and B are connected reversely or not; Use 120Ω terminal matched resistor;
Genset uncontrolled	Check Wake Up signal is outputted or not.

10 PACKING LIST

Table 6 Packing List

No.	Accessory Name	Number	Remark
1	HRC12 Bluetooth Module	1	
2	120Ω Resistor	1	
3	Certificate	1	
4	User Manual	1	