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SmartGen HMC9800RM Remote Monitoring Controller User Manual

Contents

SmartGen HMC9800RM Remote Monitoring Controller

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Table 1Version History

Date	Version	Content
2018-09-20	1.0	Original release

OVERVIEW

HMC

9800 RM is a remote monitoring module for HMC4000 engine controller which is used for remote monitoring system of single unit to achieve remote start/stop marine engine, data measurement, alarm s display and etc. functions via RS485 port. Meters on the module can automatically synchronize the name and alarm threshold set by the HMC4000 controller, and each meter can set different ranges and data sources.

PERFORMANCE AND CHARACTERISTICS

Main features are as follows:

- 8 inch LCD with 800*600 resolution;
- Each meter s data source, range and resolution can be defined by users;
- Each meter s alarms display area can automatically synchronize alarm threshold set by t he

  HMC4000 controller
- Each meter s name can automatically synchronize sensor name set by the HMC4000 controller;
- Enable CANBUS communication and RS485 communication;
- With LCD brilliance level (5 levels) adjusting button, it is convenient to us e in differe nt occasion;
- This module must be used together with host controller;
- Widely power supply range 1 8~35) VDC to meet requirement of different voltage of start batteries;
- Modular design, embedded installation way; compact structure with easy mounting

TECHNIC AL PARAMETERS

Table 2 Technical Parameters

Items	Content
Working Voltage	DC18.0V to DC35.0V, uninterrupted power supply.
Overall Power Consumption	<8W
RS485 Baud Rate	9600bps
LCD Brightness	5 levels can be adjustable
Case Dimension	262mm x 180mm x 58mm
Panel Cutout	243mm x 148mm
Working Conditions	Temperature: (-25~+70)ºC; Relative Humidity: (20~93)%RH
Storage Conditions	Temperature: (-25~+70)ºC
Weight	0.95kg

OPERATION

KEYS FUNCTION DESCRIPTION

Table 3– Push Buttons Descriptionescription:

Icons	Function	Description
⏹	Stop	Stop running generator in remote control mode; Controller will show confirm stop information after this button is pressed, if confirmed, controller will stop the genset.
▮	Start	In remote control mode, press this button will start genset. Controller will show confirm start information after this button is pressed, if confirmed, controller will start the genset.
☀	Lamp Test	After pressing this button, LCD highlighted with blue and all LEDs on the front panel are illuminated.
☀▲	Dimmer +	Press this button to increase LCD brightness, 5 levels can be adjusted.
☀▼	Dimmer -	Press this button to decrease LCD brightness, 5 levels can be adjusted.
⚙	Set	Press this button to enter into password page (parameters can be set after entering the correct password).

LCD DISPLAY

NO POWER DATA DISPLAY

All data displayed on HMC9800RM are real real-time collected from HMC4000 via RS485 port. Specific display screen is as below,
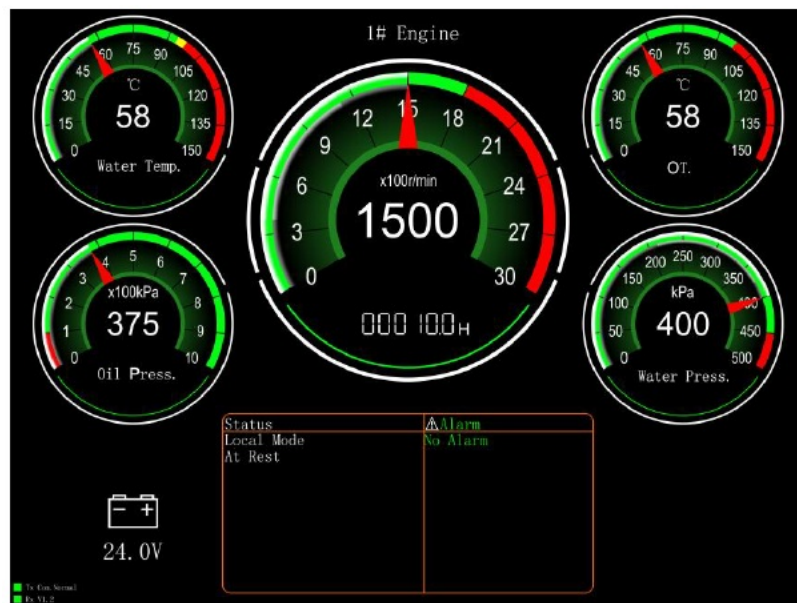

Fig.1 – No Power Data Display Drawing

Meter: it is consist with 5 meters, an d each meter meter's data source, range, and resolution can be configured. Each meter meter's name and alarm threshold display area (red and yellow color area areas) will change with the settings of the HMC4000 controller.

For example, water temperature meter shows as below,

Fig.2 – Water Temperature Meter Display Drawing

Data of this meter comes from sensor 1 data, name is water temperature. Display resolution is 1 1; alarm limit is 98 98°C; stop limit is 100 °C.

b)Status : engine status and controller mode are real real-time displayed on this module.

c)Alarm: if no alarms occur, icon shows as white color; if warning alarms occur, both icon and alarm information display as yellow color; if shutdown alarms occur, both icon and alarm information display as red color.

d)Communication Indication: When the communication is normal, the TX icon and the RX icon flash alternately for 500ms; when the communication fails, the RX icon is grayed out and does not flash.

The communication status is displayed as a communication failure.

WITH POWER DATA DI SPLAY

All data displayed on HMC9800RM are real real-time collected from HMC4000 via RS485 port. Specific display screen is as below,
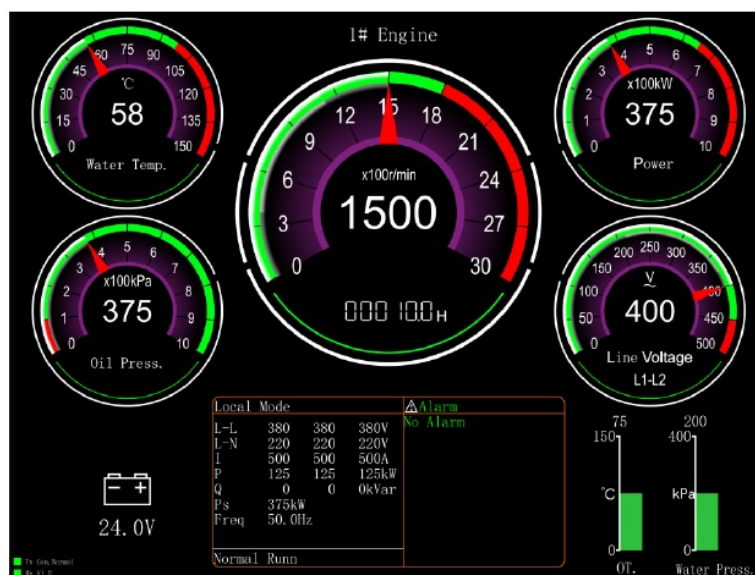
Fig.3 - With Power Data Display Drawing

a)Battery: If any meter meter's data comes from battery voltage, icon of battery on the left bottom will disappear automatically; otherwise, battery voltage will display on the left bottom.

b) Two columnar data sources can be selected from sensors 14 and the range is also selectable. It automatically disappears when select not to use it.

OPERATION

Press

Remote Mode button on HMC4000 panel, controller enters into remote mode. Users can remote start/stop engine

via HMC9800RM controller after remote mode is active.

1. Remote Start

   Press of HGM9800RM, confirm information will display on LCD of the controller. After confirmed, controller initiate s start commend and countdown information of start pre-heat delay, safety on time, start idle delay, warming up time and etc. will displayed on LCD of the controller different engine co nfiguration with different display content

2. Remote Stop

   Press of HGM9800RM , confirm information will display on LCD of the controller. After confirmed, controller initiates st op commend and countdown information of cooling delay, st op idle delay, ETS delay, wait for stop time and etc. will displayed on LCD of the controller (different engine configuration with different display content.

NOTE:
if alarms occur red during start/stop process, alarms information will synchronous display on the

LCD of HMC9800 RM.

PARAMETER CONFIGURATION

Display of 5 meters and 2 c olumnar tables can be configured by controller, details of parameter configuration is as below,

Table 4 Parameter Configuration List

No.	Parameter Name		Range	Default	Remark
1.	Meter 1 Set	Data Sources	0-31	2: Sensor1 Data	Data source please to see Table 5
2.		Meter Range	15-3000	150	
3.		Resolution	1-100	1	
4.	Meter 2 Set	Data Sources	0-31	3: Sensor 2 Data	Data source please to see Table 5
5.		Meter Range	15-3000	1000	
6.		Resolution	1-100	100	
7.	Meter 3 Set	Data Sources	Fixed as speed	Fixed as speed	
8.		Meter Range	15-3000	3000	
9.		Resolution	1-100	100	
10.	Meter 4 Set	Data Sources	0-31	4: Sensor 3 Data	Data source please to see Table 5
11.		Meter Range	15-3000	150	

| No.	Parameter Name		Range	Default	Remark
12.		Resolution	1-100	1	
13.	Meter 5 Set	Data Sources	0-31	5: Sensor 4 Data	Data source please to see Table 5
14.		Meter Range	15-3000	1000	
15.		Resolution	1-100	100	
16.	Meter 6 Set	Data Sources	0-4	0: Not Used	Selectable range of meter 6 data source is sensor 1~ sensor 4.
17.		Meter Range	15-3000	1000	
18.	Meter 7 Set	Data Sources	0-4	0: Not Used	Selectable range of meter 7 data source is sensor 1~ sensor 4.
19.		Meter Range	15-3000	1000	
20.	Meter Color		0~2 0: Green 1: Brown Red 2:Purple	0: Green	This parameter can change display colors of the meter. It is active after re-power up.
21.	Genset No. Set		1-9	1	This parameter can configure which engine will be monitored. Main screen will display related genset number according to the setting.

Table 5 Data Source List

No.	Data Source	Remark
0.	Reserved	
1.	Reserved	
2.	Sensor 1 Data	
3.	Sensor 2 Data	
4.	Sensor 3 Data	
5.	Sensor 4 Data	
6.	Battery Supply	
7.	Fuel Pressure(ECU)	
8.	Reserved	
9.	Reserved	
10.	Generator UA	
11.	Generator UB	
12.	Generator UC	

No.	Data Source	Remark
13.	Generator UAB	
14.	Generator UBC	
15.	Generator UCA	
16.	Frequency	
17.	A Phase Current	
18.	B Phase Current	
19.	C Phase Current	
20.	Reserved	
21.	Reserved	
22.	Reserved	
23.	Total Power	
24.	Reserved	
25.	Reserved	
26.	Reserved	
27.	Reserved	
28.	Reserved	
29.	Reserved	
30.	Reserved	
31.	Reserved	

WIRING CONNECTION
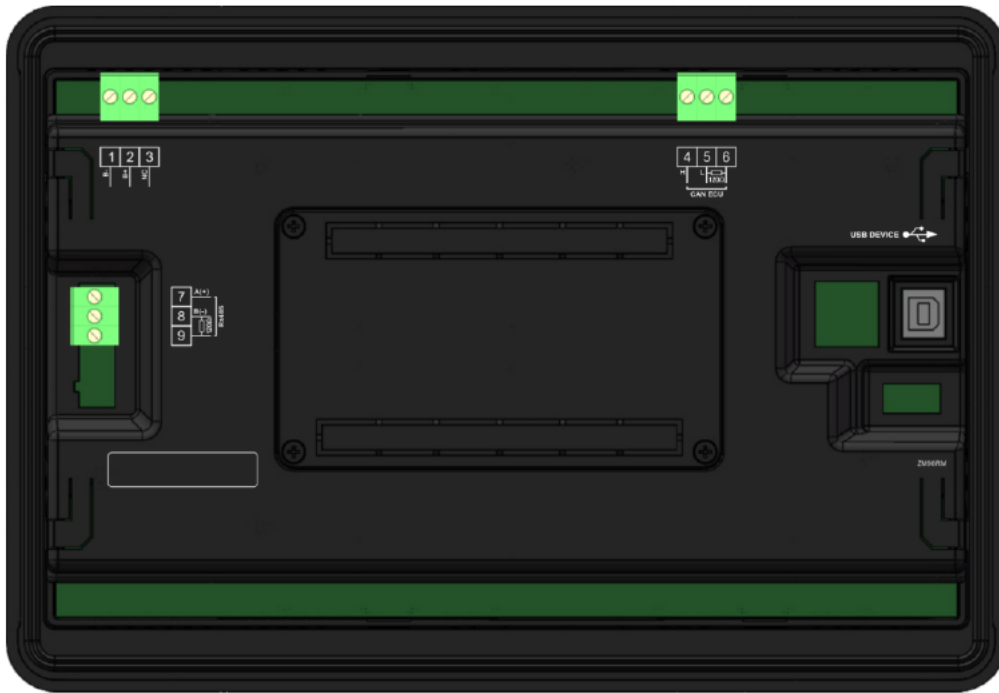
Fig.4 HMC9 800RM Terminals Drawing

Table 6 Terminals Wiring Connection Description

No.	Function	Cable	Remark
1	B-	1.0mm2	Negative of DC power supply input
2	B+	1.0mm2	Positive of DC power supply input
3	NC		Not connected
4	CAN(H)		It is CANBUS port which communicates with host controller; impedance-120Ω shielding wire is recommended with its single-end earthed.
5	CAN(L)	0.5mm2	
6	120Ω		
7	RS485(A+)		It is CANBUS port which communicates with host controller; impedance-120Ω shielding wire is recommended with its single-end earthed.
8	RS485(B-)	0.5mm2	
9	120Ω		
	USB	It is port to configurate parameters.	

TYPICAL APPLICATION

HMC9800RM communicates with HMC4000 via RS485 port. HMC4 HMC4000RM must be selected enabled on HMC4000 before communicartion. Details application is as below,
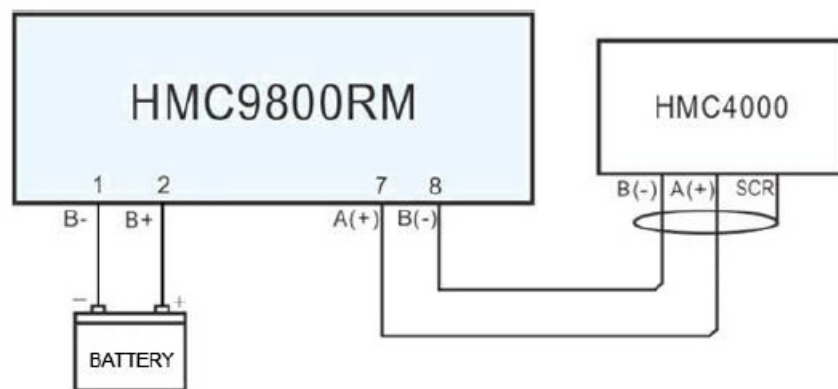
Fig.5 – HMC9800RM Typical Application
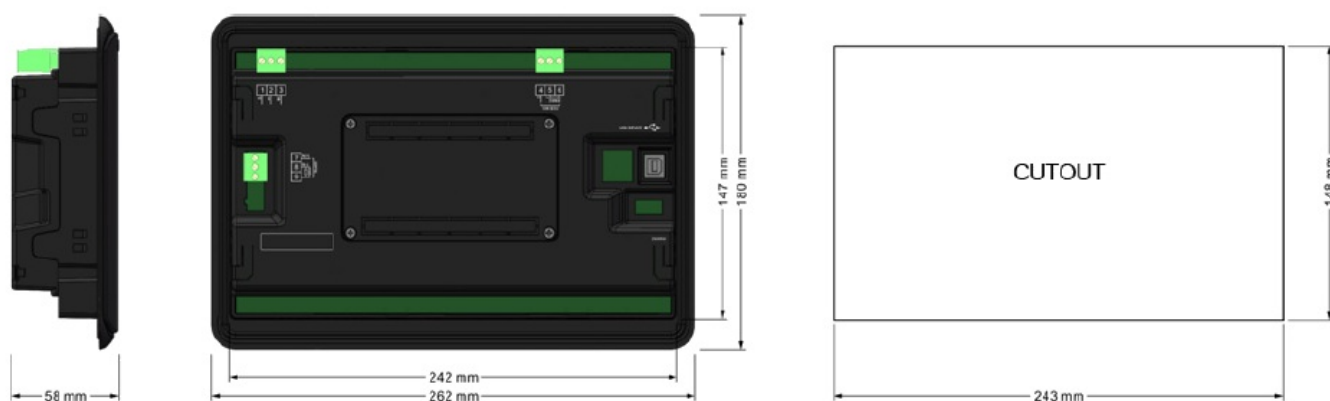
OVERALL AND INSTALLATION DIMENSIONS

Fig.6 – Overall Dimensions

TROUBLESHOOTING

Table 7– Troubleshooting

Problem	Possible Solution
Controller no response with power.	Check controller connection wirings;
Communication failure	Check RS485 connection wirings.
Big error of meter data display	Check correctness of rated meter settings.

Documents / Resources

SmartGen HMC9800RM Remote Monitoring Controller [pdf] User Manual
HMC9800RM Remote Monitoring Controller, HMC9800RM, Remote Monitoring Controller, Monitoring Controller, Controller

References

- 众智____
- 众智____