

SmartGen

MAKING CONTROL SMARTER

CMM366-ET

CLOUD MONITORING COMMUNICATION MODULE

USER MANUAL



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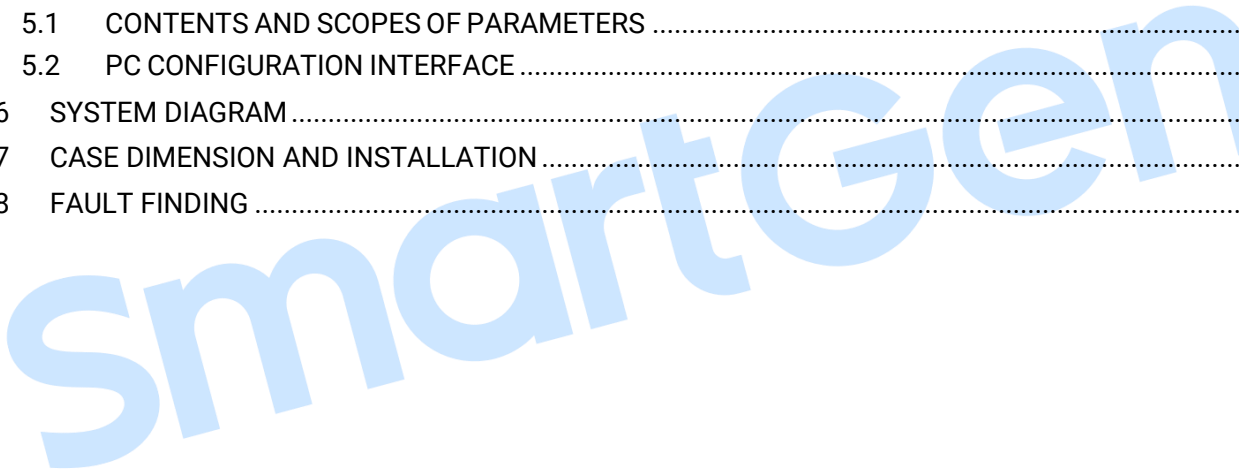
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Table 1- Software Version

Version	Date	Note
1.0	2015-11-18	Original release.
1.1	2016-01-21	Modify parameter: URL; add Auto Gain Comm. Port; add Time Zone.
1.2	2023-03-29	Update the manual format; update the logo of SmartGen.

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1 OVERVIEW

CMM366-ET Cloud Monitoring Communication Module is Ethernet communication protocol switch module which can achieve genset (with SCI) connect to Internet. The module obtains genset data via RS485 port, USB port, LINK port or RS232 port of genset controller modules of international first-class brands including SmartGen, DeepSea, ComAp, etc. Then the module transmits the data to corresponding cloud server via wired Ethernet for achieving user's real-time monitoring to running status and searching of running records via APP (IOS or Android) and pc terminal devices.

CMM366-ET module has already integrated protocols of mainstream genset control module. It not only can achieve genset monitoring but also can insert some digital alarm input/output signal to achieve monitoring of generator room entrance guard, guard against theft and fire facilities.

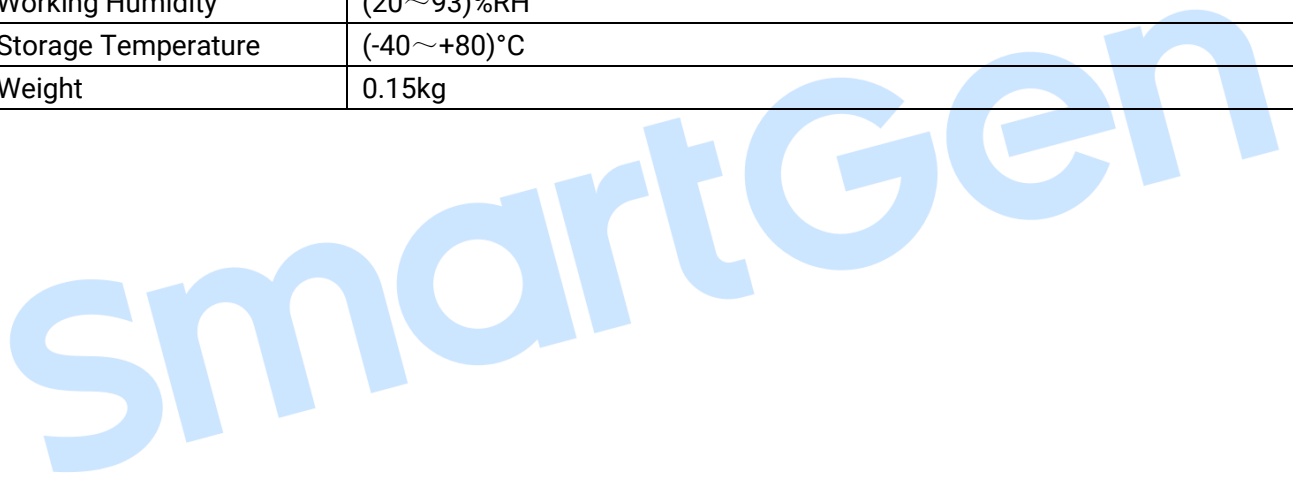
2 PERFORMANCE AND CHARACTERISTICS

- 1) Connect to cloud server via wired Ethernet, one to one monitoring;
- 2) Multiple ports for communication with genset control module: RS485, RS232, LINK and USB (Host); can monitor great majority genset control modules of international first-class brands;
- 3) Widely power supply: DC (8~35)V, can direct use genset build-in battery;
- 4) With ARM-based 32-bit SCM, high integration of hardware and strong programming ability;
- 5) Include with location information to achieve genset location;
- 6) Take JSON network data communication protocol, upload real-time data variation and take compression algorithm to vastly reduce network flow at the same time;
- 7) Users can set up history data upload rest to upload monitoring data to server (history data can be analyzed);
- 8) When alarm occurs it can upload data to server immediately;
- 9) 2 auxiliary digital input ports which can receive external alarm signal;
- 10) 1 auxiliary relay output ports which can output various of alarm signal;
- 11) Perpetual calendar and clock;
- 12) Power and multiple communication status indicators on front panel that working status is clear at a glance;
- 13) Lamp test function;
- 14) Parameter adjust function: users can adjust parameters via USB port;
- 15) Take standard π -type 35mm guide-rail installation or screw-fixed installation that the module can be installed in the genset control box;
- 16) Modular design, self extinguishing ABS plastic shell, light weight, compact structure with easy installation.

3 SPECIFICATION

Table 2 – Technical Parameters

Items	Contents
Operating Voltage	DC 8.0V~35.0V, continuous power supply.
Power Consumption	Standby: ≤2W Working: ≤5W
Auxiliary Input	Volts free output
Auxiliary Output	1A DC30V Volts free output
USB Host	A-type USB mother port
RS485	Seclusion type
RS232	General type
LINK	SmartGen exclusive port
USB Device	B-type USB mother port
Ethernet	RJ45 10/100Mbps self-adaption network port
Case Dimensions	73mmx105mmx35mm
Working Temperature	(-30~+70)°C
Working Humidity	(20~93)%RH
Storage Temperature	(-40~+80)°C
Weight	0.15kg



4 PANEL AND TERMINAL DESCRIPTION

4.1 PANEL INDICATOR AND BUTTONS



Fig.1 – Panel Indication
Table 3 – Indicator Description

Icon	Note
POWER/ALARM	GreenLED Light: Power supply normal indicator RedLED Light: Common alarm indicator
RS485(Red)	Normally Extinguish: RS485 disabled Normally Light: Communication fail Blink: Communication normal
USB(Red)	Normally Extinguish: USB(Host) disabled Normally Light: Communication fail Blink: Communication normal
ETHERNET(Red)	Extinguish: CMM366-ET login with server unsuccessfully Light: Login with server successfully Blink: Real-time communication normal
LINK(Red)	Normally Extinguish: Disabled Normally Light: Communication fail Blink: Communication normal
RS232(Red)	Normally Extinguish: RS232 disabled Normally Light: Communication fail Blink: Communication normal

Lamp test/Rest:

Press this button for 1s, all the LEDs are illuminated; press for 10s, reset the module to default and all the LEDs blink for 3 times.

▲Note: After reset the module, set up the parameters via PC software is recommended. Please operate cautiously.

4.2 ETHERNET

The Ethernet port of CMM366-ET module is auto-consult 10/100Mbps working mode which takes one-to-one direct connect with Router.

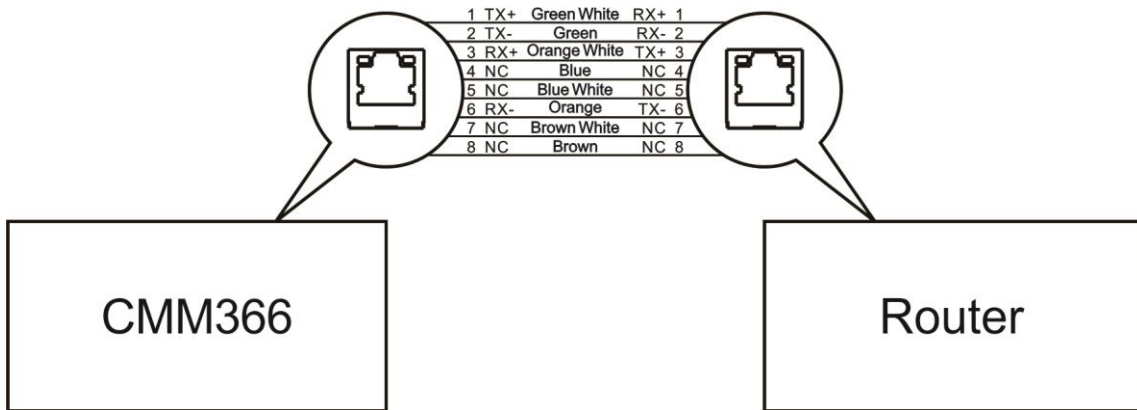


Fig.2– Ethernet and Router Connection

4.3 RS485

Receive genset data information by CMM366 RS485 port connecting with Genset Controller RS485 port. If communication is abnormal, 120Ω terminal resistance is recommended. One end of shield wire hangs in the air and the other one connects with SCR.

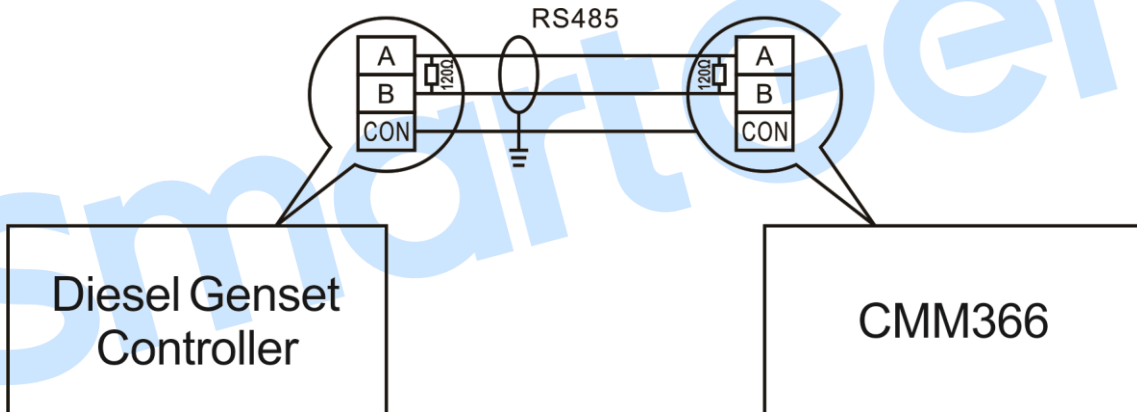


Fig.3 – RS485 Connection

4.4 RS232

Receive genset data information by CMM366 RS232 port connecting with Genset Controller RS232 port.

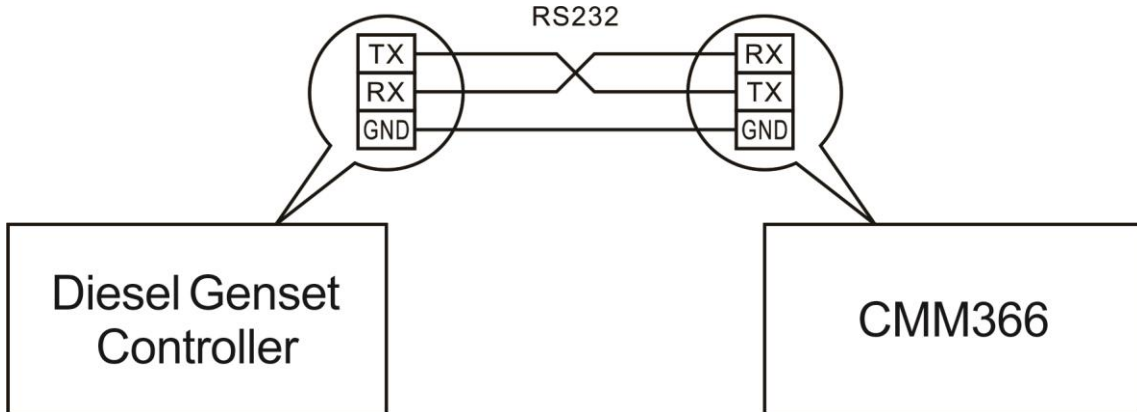


Fig.4 – RS232 Connection

4.5 LINK

Receive genset data information by CMM366 LINK port connecting with Genset Controller LINK port.

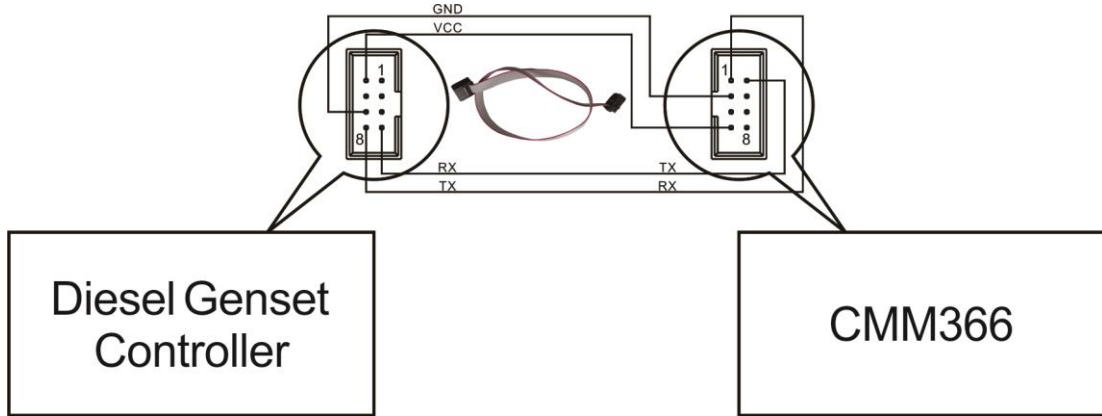


Fig.5 – LINK Connection

4.6 USB HOST

Receive genset data information by CMM366 A-type USB mother port connecting with Genset Controller USB port.

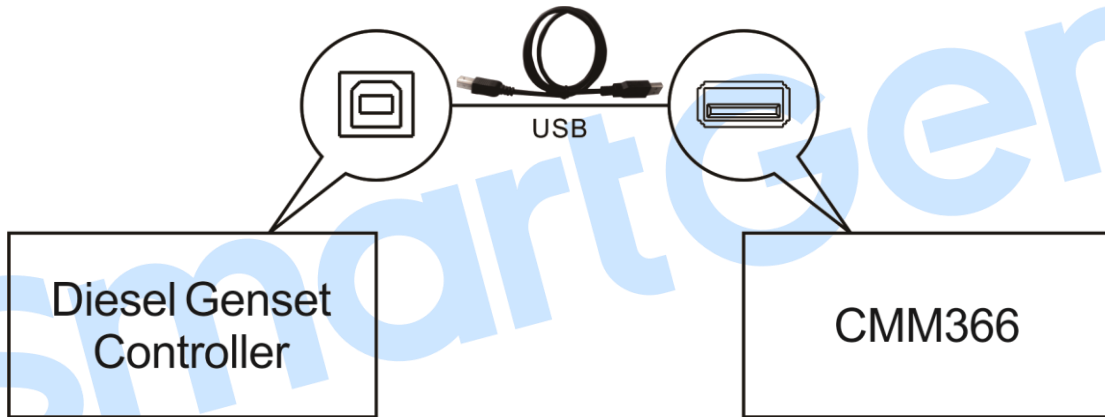


Fig.6 – USB Host Connection

4.7 USB DEVICE

Set up all the parameters and view CMM366-ET ID&Login password by CMM366 USB port connecting with PC USB port.



Fig.7 – USB and PC Connection

4.8 TERMINAL

Table 4 – Terminal Description

No.	Function	Cable Size	Note
1	B-	1.0mm ²	Connected with negative of starter battery.
2	B+	1.0mm ²	Connected with positive of starter battery. 3A fuse is recommended.
3	Aux. Input 1	1.0mm ²	Active when connect to B-.
4	Aux. Input 2	1.0mm ²	Active when connect to B-.
5	Aux. Output	Normally Open	Normally open outputs, rated 1A DC30V
6		Common	
7		Normally Close	
8	RS485 B(-)	0.5mm ²	Impedance-120Ω shielding wire is recommended, its single-end earthed.
9	RS485 A(+)	0.5mm ²	
10	SCR	0.5mm ²	
11	RS232 RX	0.5mm ²	RS232
12	RS232 TX	0.5mm ²	
13	RS232 GND	0.5mm ²	



5 PROGRAMMABLE PARAMETERS

5.1 CONTENTS AND SCOPES OF PARAMETERS

Table 5 – Contents and Scopes of Parameters

No.	Items	Parameters	Defaults	Description
IP				
1	DHCP Enabled	(0-1)	1	0: Disabled 1: Enabled, auto acquire
2	IP Address	(0-255)	192.168.0.101	The changes of all Ethernet settings (such as:IP address, Subnet mask, etc.) will be active after power on again.
3	Subnet Mask	(0-255)	255.255.255.0	
4	Gateway IP	(0-255)	192.168.0.2	
5	DNS Address	(0-255)	211.138.24.66	
6	MAC Address	(0-255)	00.08.DC.01.02.03	
Gateway				
1	Website	(0-65535)	20 Chinese characters, letters or numbers	
2	URL	(0-65535)	monitor.smartgen.com.cn	40 characters
3	Server Port	(0-65535)	81	
4	Password	(0-65535)	123456	16 characters
GPS				
1	Location Info	(0-1)	0	0: Disabled 1: Manual Input
2	Longitude	(-180-180)°	0.000000	GPS location, altitude
3	Latitude	(-90-90)°	0.000000	
4	Altitude	(-9999.9-9999.9)	100.0	
Cloud Server				
1	Auto Gain Comm. Port	(0-1)	1	0: Disabled 1:Enabled
2	ID	(1-254)	1	Module ID
3	Communication Port	(0-4)	2	0:Disabled; 1:LINK; 2:RS485; 3:RS232; 4:USB
4	Baud Rate	(0-2)	0	0:9600bit/s; 1:19200bit/s 2:Reserved
5	Location Info	(0-1)	0	0:Disabled 1:Manual input
6	Longitude	(-180-180)°	0.000000	GPS location, altitude
7	Latitude	(-90-90)°	0.000000	
8	Altitude	(-9999.9-9999.9)	100.0	
9	Type	HGM6110 See: Form4		
10	Name	(0-65535)	Module Names(20 Chinese characters, letters or numbers)	
11	Debug Staff Name	20 Chinese characters, letters or numbers		
12	Telephone	20 Chinese characters, letters or numbers		

No.	Items	Parameters	Defaults	Description
13	Installation Time	20 Chinese characters, letters or numbers		
14	History Data Rest	(0-3600)s	0	History data upload rest. Note: No upload when it is 0s
15	Time Zone	(-12-12)	8	Time Zone
Module Configuration Info				
1	Type	(0-5)	1	0:AMF module 1:Single-unit self-starting module 2: Single-single parallel module 3:Mains-genset parallel module 4:Mains-bus parallel module 5:Bus-bus parallel module Note: The parameter will auto change according to genset type.
2	Rated Speed	(0-6000)r/min	1500	Rated Speed
3	AC Supply	(0-3)	0	0:3P4W;1:3P3W;2:2P3W;3:1P2W。
4	Rated Volt	(30-30000)V	230	Rated Volt
5	Rated Freq	(10-600)Hz	50	Rated Freq
6	Rated Current	(5-6000)A	500	Rated Current
7	Rated Power	(0-6000)kW	276	Rated Power
8	Custom Description 1	(0-65535)	Custom Description (20 Chinese characters, letters or numbers)	
9	Custom Description 2	(0-65535)	Custom Description (20 Chinese characters, letters or numbers)	
10	Custom Description 3	(0-65535)	Custom Description (20 Chinese characters, letters or numbers)	
11	Custom Description 4	(0-65535)	Custom Description (20 Chinese characters, letters or numbers)	
12	Custom Description 5	(0-65535)	Custom Description (20 Chinese characters, letters or numbers)	
Digital Input				
Digital Input 1				
1	Setting	(0-9)	0	Default: Not used
2	Type	(0-1)	0	0:Active when close 1:Active when open See: Form2
3	Delay	(0-20.0)	0.0	Action delay
Digital Input 2				
3	Setting	(0-9)	1	Default: Lamp test
4	Type	(0-1)	0	0:Active when close 1:Active when open See: Form2
5	Delay	(0-20.0)	0.0	Action delay
Digital Output				
1	Setting	(0-14)	0	Default: Not used See: Form3

Table 6 – Programmable Input Port

No.	Item	Description
0	Not Used	Not used.
1	Lamp Test	All the indicators are illuminated when input is active.
2	Remote Control Inhibited	Cloud start/stop control is prohibited when input is active.
3	Access Alarm Input	Access alarm is uploaded to server when input is active.
4	Fire Alarm Input	Fire alarm is uploaded to server when input is active.
5	Alarm Input	External alarm is uploaded to server when input is active.
6	Reserved	
7	Reserved	
8	Reserved	
9	Factory Test Mode	It is only used for factory hardware port test when active.

Table 7 – Programmable Output Port

No.	Item	Description
0	Not used	Output port won't output when this item is selected.
1	Digital Input 1 Active	Output when auxiliary input 1 is active.
2	Digital Input 2 Active	Output when auxiliary input 2 is active.
3	RS485 Comm. Fail	RS485 communication fails.
4	Network Comm. Fail	Network communication fails.
5	LINK Comm. Fail	LINK communication fails.
6	RS232 Comm. Fail	RS232 communication fails.
7	Common Alarm	Output when there is an alarm.
8	Reserved	
9	Reserved	
10	Reserved	
11	Reserved	
12	Reserved	
13	Reserved	
14	Reserved	

Table 8 – Model List

Manufacturers	Type	Note
SmartGen	HGM6110	Single-unit self-starting module
	HGM6120	AMF module
	HGM7x10	Single-unit self-starting module
	HGM7x20	AMF module
	HGM410	Single-unit self-starting module
	HGM420	AMF module
	HGM9120	AMF module
	HGM9210	Single-unit self-starting module
	HGM9220	AMF module
	HGM9310	Single-unit self-starting module
	HGM9320	AMF module
	HGM9410	Single-unit self-starting module
	HGM9420	AMF module
	HGM9510	Single-single parallel module
	HGM9520	Mains-genset parallel module
	HGM9530	Single-single parallel module
	HGM9540	Mains-genset parallel module
	HGM9560	Mains-bus parallel module
	HGM9580	Bus-bus parallel module
	HGM9610	Single-unit self-starting module
HGM9620	AMF module	
DeepSea	DSE7110MKII	Single-unit self-starting module
	DSE7120MKII	AMF module
	DSE7210	Single-unit self-starting module
	DSE7220	AMF module
	DSE7310	Single-unit self-starting module
	DSE7320	AMF module
	DSE7410	Single-unit self-starting module
	DSE7420	AMF module
	DSE7450	Single-unit self-starting module
	DSE8610	Single-single parallel module
	DSE8620	Mains-genset parallel module
	ComAp	MRS10 II
MRS16 II		Single-unit self-starting module
AMF25 II		AMF module
Harsen	GU620A	Single-unit self-starting module
	GU621A	AMF module
	GU630A	Single-unit self-starting module
	GU631A	AMF module

5.2 PC CONFIGURATION INTERFACE

The USB port of CMM366-ET communication module connects PC port to configure the parameters.

IP

Obtain an IP address automatically

Use the following IP address

IP Address: 192 . 168 . 0 . 101 Ping

Subnet Mask: 255 . 255 . 255 . 0

Default Gateway: 192 . 168 . 0 . 2

DNS Address: 0 . 0 . 0 . 0

MAC Address: 00 - 08 - DC - 01 - 02 - 03

Fig.8 - IP Configuration

Click "Ping" for testing the IP address is correct or not.

Gateway

Site Name:

Server Url: monitor.smartgen.com.cn

Server Port: 81 (0-65535)

Security Code: 123456

Fig.9 - Gateway Configuration

Cloud Servers

Debugger Name:

Phone Number:

Installation Date:

Time zone: (GMT+08:00) Beijing, Chongqing, Hong Kong, U

Historic upload interval: 0 s (0-3600)s

Module Name	Config	<input checked="" type="checkbox"/> Obtain Port automatically			Module	<input type="checkbox"/> Location Info		Altitude
		Port	Baud	ID		Longitude	Latitude	
	Config	RS485	9600	1	HGM6110	0.000000	0.000000	100.0

Fig.10 - Cloud Server Configuration

Monitoring




Satellite Num.	0	Altitude	100
Longitude	113.571129	Hardware Ver.	V 1.2
Latitude	34.806438	Software Ver.	V 1.3
Input 1		Issue Date	2016-01-19
Input 2		Module Time	2016-01-28(4) 08:45:19
Output 1			
Module ID	<input type="text" value="383033313334510900230035"/>	<input type="button" value="Print"/>	<input type="button" value="Print Preview"/>

Fig.11 - Module Monitoring Interface

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6 SYSTEM DIAGRAM

1 CMM366-ET module connects with 1 genset monitor module. It can be connected via RS485 port, LINK port, RS232 port or USB port.

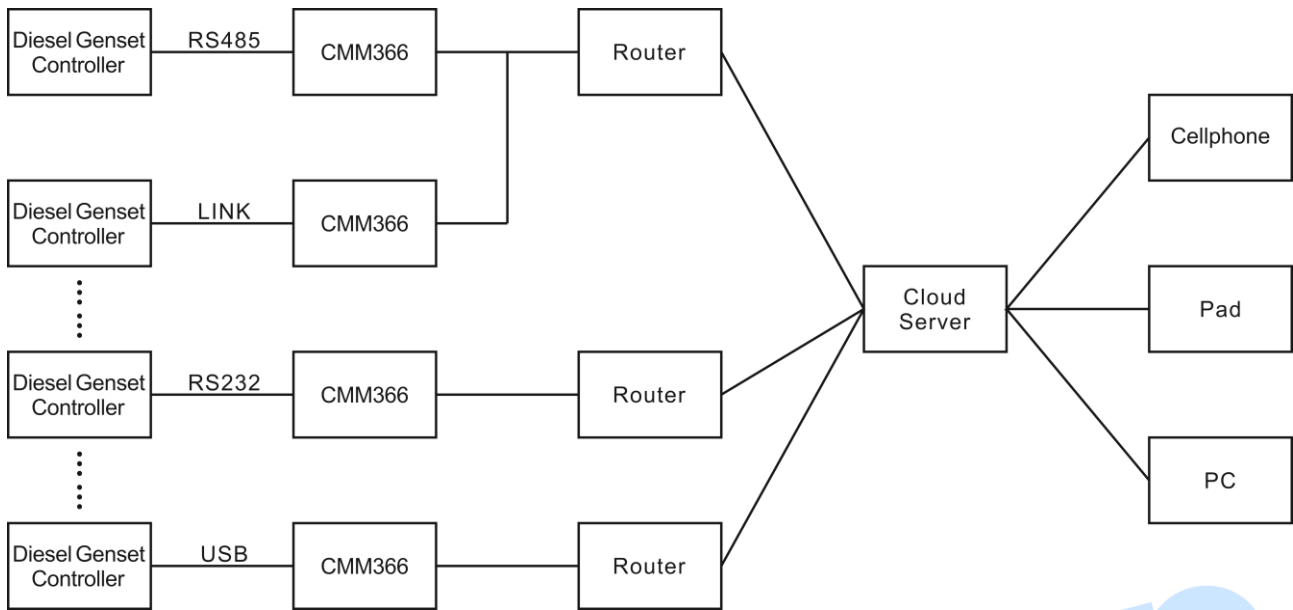
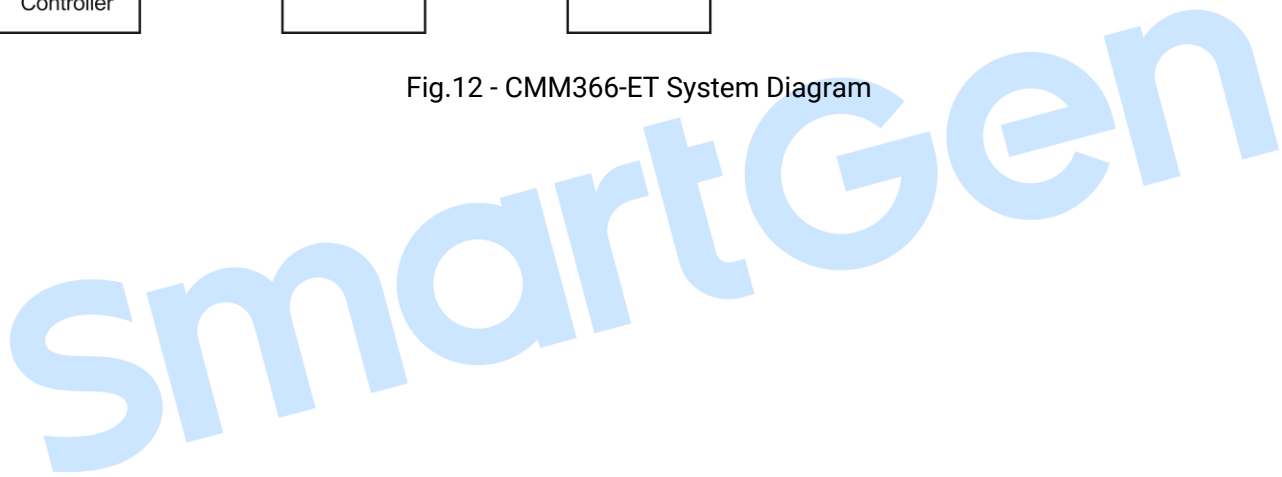


Fig.12 - CMM366-ET System Diagram



7 CASE DIMENSION AND INSTALLATION

2 ways for installation: 35mm guide rail in box or screw (M4) installation as below:



Fig.13 - CMM366-ET Case Dimension

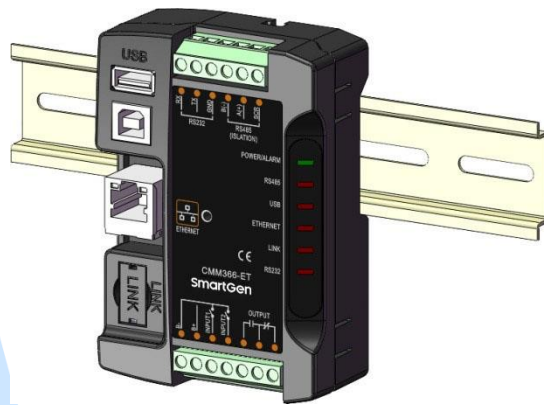


Fig.14 - CMM366-ET Guide Rail Installation

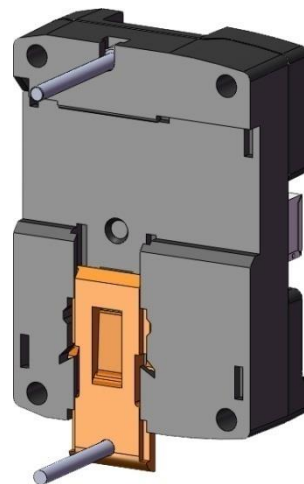


Fig.15 - CMM366-ET Screw Installation

8 FAULT FINDING

Table 9- Fault Finding

Symptoms		Possible Solutions
Controller no response with power.		Check power voltage; Check controller connection wirings.
Network Indicator Not Light		Check Ethernet parameters setting is correct or not; Check network plug indicator is blinking or not; Check reticle is normal or not.
RS485 Abnormal	Communication	Check connections; Check RS485 port is enabled or not; Check settings of genset ID and baud rate are correct or not. Check RS485's connections of A and B is reverse connect or not.
RS232 Abnormal	Communication	Check connections; Check RS232 port is enabled or not; Check settings of genset ID and baud rate are correct or not.
LINK Abnormal	Communication	Check connections; Check LINK port is enabled or not; Check settings of genset ID and baud rate are correct or not.

