

SmartGen

MAKING CONTROL SMARTER

CMM366A-ET

CLOUD MONITORING COMMUNICATION MODULE

USER MANUAL



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SMARTGEN(ZHENGZHOU)TECHNOLOGY CO.,LTD.

SmartGen 众智 Chinese trademark

SmartGen English trademark

SmartGen – make your generator *smart*

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Table 1 – Software Version

Date	Version	Note
2017-12-21	1.0	Original release.
2022-07-26	1.1	Update company logo and manual format.

CONTENT

1	OVERVIEW	4
2	PERFORMANCE AND CHARACTERISTICS.....	4
3	SPECIFICATION	5
4	PANEL AND TERMINAL DESCRIPTION	6
4.1	PANEL INDICATOR AND BUTTONS	6
4.2	ETHERNET	7
4.3	RS485	7
4.4	RS232	7
4.5	LINK	8
4.6	USB HOST	8
4.7	USB DEVICE.....	8
4.8	TERMINAL	9
5	PROGRAMMABLE PARAMETERS.....	10
5.1	CONTENTS AND SCOPES OF PARAMETERS	10
5.2	PC CONFIGURATION INTERFACE.....	12
6	SYSTEM DIAGRAM	13
7	CASE DIMENSION AND INSTALLATION	14
8	TROUBLESHOOTING	15
9	PACKING LIST	15

1 OVERVIEW

CMM366A-ET Cloud Monitoring Communication Module is an ETHERNET communication protocol switch module which can achieve genset (with SCI) connect to Internet. After logging into cloud server, module will receive corresponding genset controller communication protocol from cloud server. And the module gains genset data via RS485 port, USB port, LINK port or RS232 port. 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.

CMM366A-ET module 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

- Connect to cloud server via wired ETHERNET, one to one monitoring;
- 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;
- Widely power supply: DC (8~35)V, can direct use genset build-in starter battery;
- With ARM-based 32-bit SCM, high integration of hardware and strong programming ability;
- Include with GPS locate function to achieve gain location information and locate genset;
- Take JSON network data communication protocol, upload real-time data variation and take compression algorithm to vastly reduce network flow at the same time;
- When alarm occurs it can upload data to server immediately;
- 2 auxiliary digital input ports which can receive external alarm signal;
- 1 auxiliary relay output ports which can output various of alarm signal;
- Calendar and clock functions;
- Power and multiple communication status indicators on front panel that working status is clear at a glance;
- Lamp test function;
- Parameter adjust function: users can adjust parameters via USB port;
- Take standard π -type 35mm guide-rail installation or screw-fixed installation that the module can be installed in the genset control box;
- Modular design, self extinguishing ABS plastic shell, light weight, compact structure with easy installation.

3 SPECIFICATION

Table 2 – Technical Data

Items	Contents
Operating Voltage	DC 8.0V~35.0V, continuous power supply.
Power Consumption	Standby: ≤2W Working: ≤5W
Digital Input	Volt free digital Input
Relay Output	1A DC30V Volts free output
USB Host	A-type USB female port
RS485	Isolated type
RS232	General type
LINK	SmartGen exclusive port
USB Device	B-type USB female port
ETHERNET	RJ45 10/100Mbps self-adaption network interface
Case Dimensions	72.5mmx105mmx34mm
Working Temperature	(-25~+70)°C
Working Humidity	(20~93)%RH
Storage Temperature	(-25~+70)°C
Weight	0.15kg

4 PANEL AND TERMINAL DESCRIPTION

4.1 PANEL INDICATOR AND BUTTONS



Fig.1 – CMM366A-ET Front Panel Diagram

Table 3 – Indicators Description

Icon	Note
POWER/ALARM	Green LED Light: Power supply normal indicator; Red LED Light: Common alarm indicator.
RS485(Red)	Normally Extinguish: RS485 disabled; Normally Light: Communication failure; Blink: Communication normal.
USB(Red)	Normally Extinguish: USB(Host) disabled; Normally Light: Communication failure; Blink: Communication normal.
ETHERNET(Red)	Normally Extinguish: CMM366A-ET logins with server unsuccessfully; Normally Light: Login with server successfully; Blink: Real-time communication normal.
LINK(Red)	Normally Extinguish: Disabled; Normally Light: Communication failure; Blink: Communication normal.
RS232(Red)	Normally Extinguish: RS232 disabled; Normally Light: Communication failure; Blink: Communication normal.

Internal lamp test/reset key:

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

NOTE: After reset the module, parameters need to be re-configured via PC software. Please operate cautiously.

4.2 ETHERNET

CMM366A-ET EHTERNET port is automated negotiation 10/100Mbps working mode, which adopts one to one cross-over cable connect with router as follows,

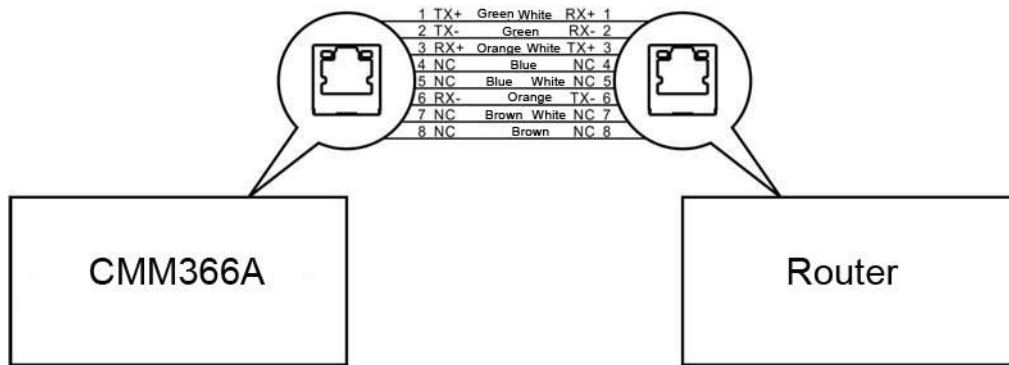


Fig.2 – ETHERNET Connet With Router

4.3 RS485

Receive genset data information by connecting module RS485 port with Genset Controller RS485 port.

If communication is abnormal, 120Ω terminal resistance is recommdoned. One end of shield wire hangs in the air and the other one connects with SCR.

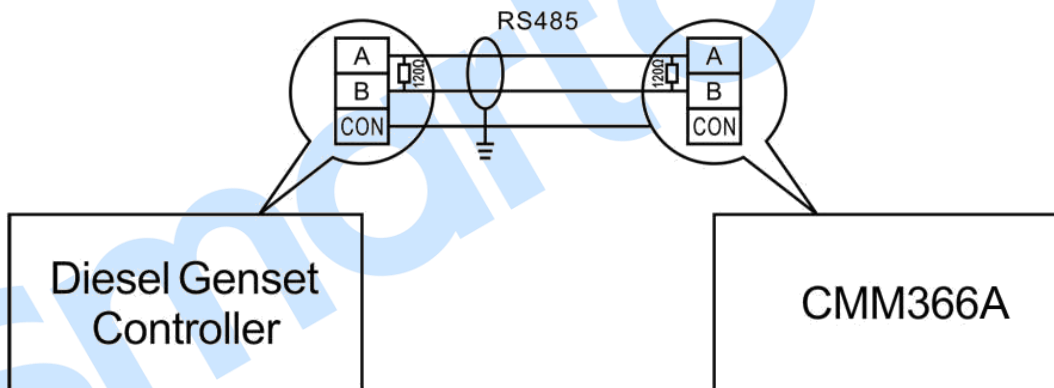


Fig.3 – RS485 Connection

4.4 RS232

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

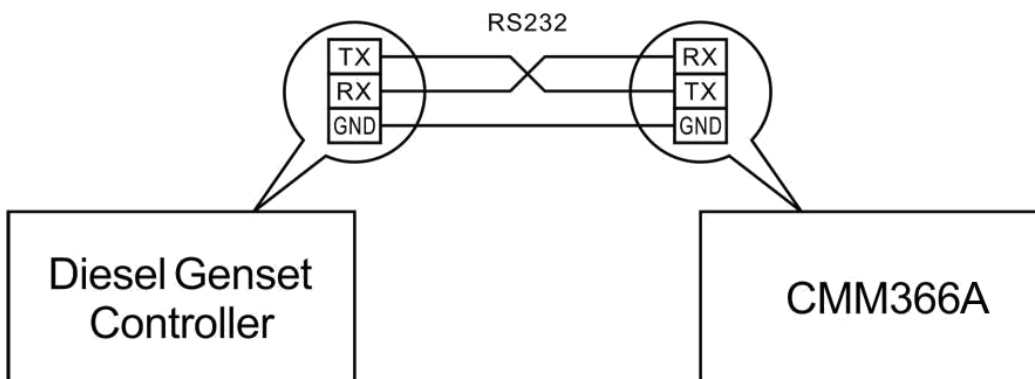


Fig.4 – RS232 Connection

4.5 LINK

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

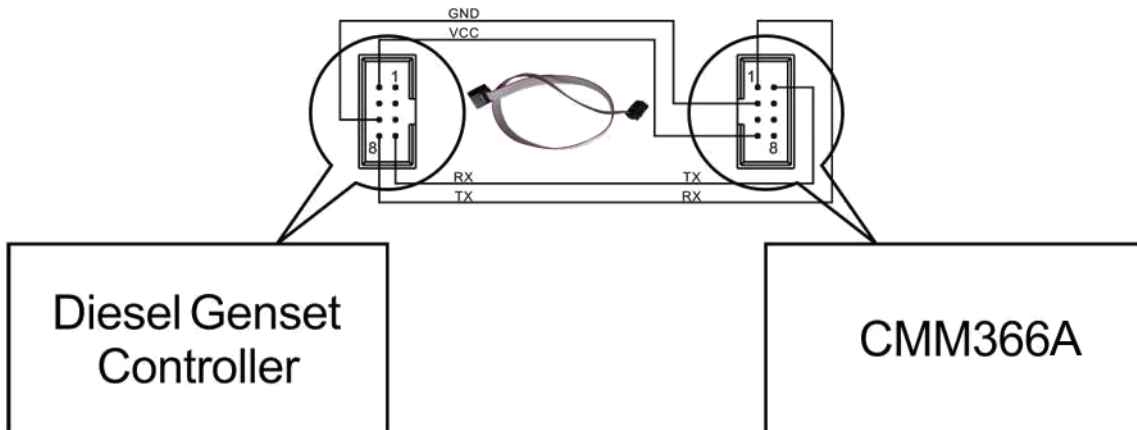


Fig.5 – LINK Connection

4.6 USB HOST

Receive genset data information by connecting module A-type USB port (female port) with Genset Controller USB port via USB cable.

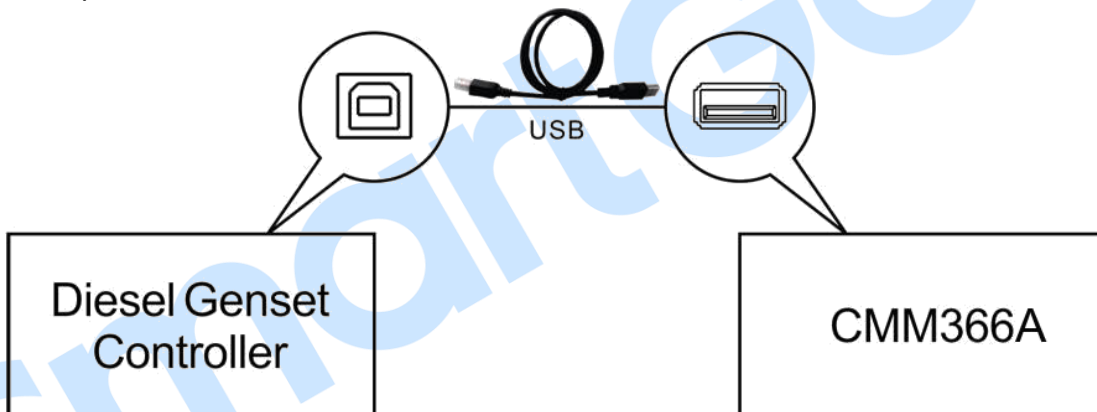


Fig.6 – USB Host Connection

4.7 USB DEVICE

All the parameters can be configured and view CMM366A-ET ID&Login password by connecting USB port with USB disk of PC software.



Fig.7 – USB Connect PC Device

4.8 TERMINAL

Table 4 – Terminals 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	Digital Input 1	1.0mm ²	Active when connect to B-.
4	Digital Input 2	1.0mm ²	Active when connect to B-.
5	Relay Output	Normally Open	Normally open output with 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 – Parameter Content & Scope

No.	Items	Parameters	Defaults	Description
IP				
1	DHCP Enable	(0-1)	1	0: Disabled 1: Enabled, obtain IP automatically
2	IP Address	(0-255)	192.168.0.101	All changes of Ethernet (e.g. IP address, subnet mask) will activate after repowering the module.
3	Subnet Mask	(0-255)	255.255.255.0	
4	Default Gateway	(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	Site Name	(0-65535)		20 Chinese characters, letters or numbers
2	Server URL	(0-65535)	www.monitoryun.com	40 characters
3	Server Port	(0-65535)	91	
4	Security Code	(0-65535)	123456	16 characters
GPS				
1	Location Information	(0-1)	0	0: Disabled 1: Manual Input
2	Longitude	$((-180)-180)^{\circ}$	0.000000	GPS location, altitude information
3	Latitude	$((-90)-90)^{\circ}$	0.000000	
4	Altitude	$((-9999.9)-9999.9)m$	100.0	
Digital Input				
Digital Input 1				
1	Setting	(0-9)	0	Default: Not used
2	Type	(0-1)	0	0: Close to Activate 1: Open to Activate See: Table 6 – Digital Input Ports Content
3	Delay	(0-20.0)	0.0	Action delay
Digital Input 2				
1	Setting	(0-9)	1	Default: Lamp test
2	Type	(0-1)	0	0: Close to Activate 1: Open to Activate See: Table 6 – Digital Input Ports Content
3	Delay	(0-20.0)	0.0	Action delay
Digital Output				
1	Setting	(0-14)	0	Default: Not used See: Table 7 – Relay Output Ports Content

NOTE: Configuration of monitoring genset controller model, communication port, communication baud rate, and communication ID need to be set on the platform, and reboot the monitoring module after setting parameters.

Table 6 – Digital Input Ports Content

No.	Item	Description
0	Not Used	Not used.
1	Lamp Test	All the indicators are illuminated when input is active.
2	Remote Control Inhibit	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 test when active.

Table 7 – Relay Output Ports Content

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. Failure	Output when RS485 communication fails.
4	Network Comm. Failure	Output when Network communication fails.
5	LINK Comm. Failure	Output when LINK communication fails.
6	RS232 Comm. Failure	Output when RS232 communication fails.
7	Common Alarm	Output when there is an alarm.
8	Remote Control Output	Send remote control commands via cloud platform with fixed output delay 20s.
9	Reserved	
10	Reserved	
11	Reserved	
12	Reserved	
13	Reserved	
14	Reserved	

5.2 PC CONFIGURATION INTERFACE

Connecting the USB port of CMM366A-ET communication module with PC USB 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

Through pressing “ping” key to test whether IP address is correct or not.

Gateway

Site Name	<input type="text"/>
Server Url	www.monitoryun.com
Server Port	91 (0-65535)
Security Code	123456

Fig.9 – Gateway Configuration

Monitoring

Satellite Num.	0	Altitude	100
Longitude	113.571129	Hardware Ver.	V 1.2
Latitude	34.806438	Software Ver.	V 1.0
Input 1		Issue Date	2017-11-29
Input 2		Module Time	2018-01-02(2) 12:16:10
Output 1			
Module ID	3839373934355111004E0051	Print	Print Setup
	<input type="text"/>		

Fig.10 – Module Monitoring Interface

6 SYSTEM DIAGRAM

One CMM366A-ET module connects with one genset monitor module. It can be connected via RS485 port, LINK port, RS232 port or USB port.

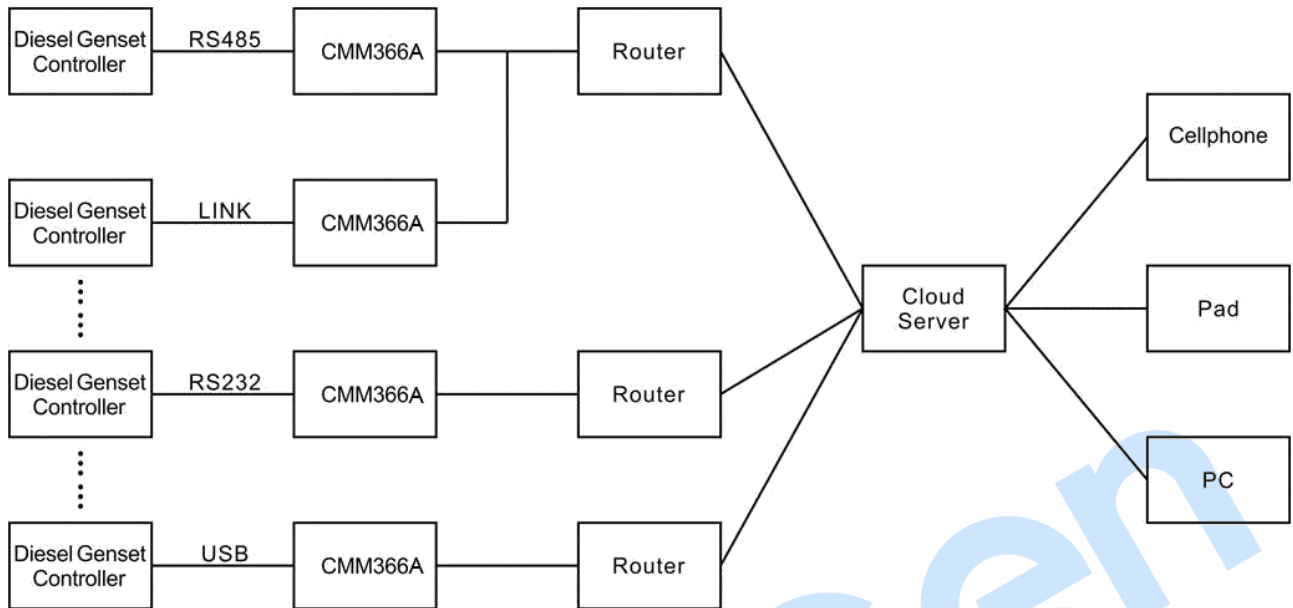


Fig.11 – CMM366A-ET System Diagram

7 CASE DIMENSION AND INSTALLATION

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

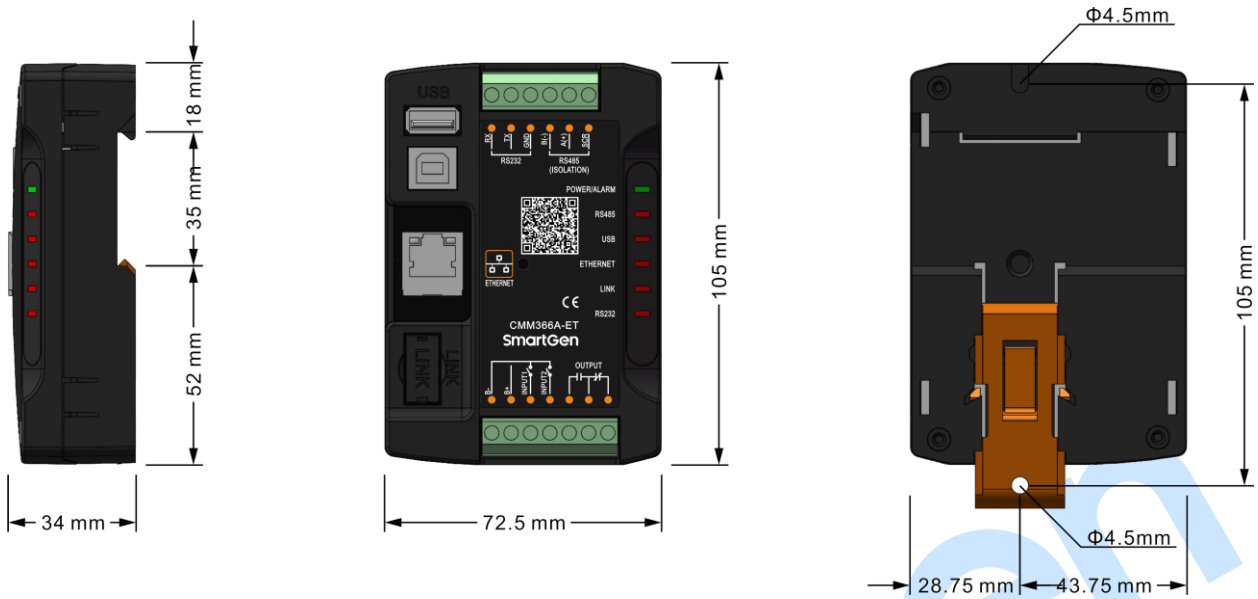


Fig.12 – CMM366A-ET Case Dimension

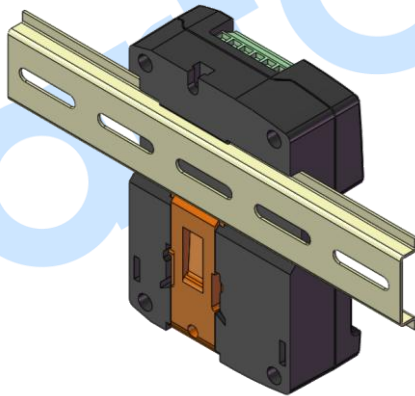


Fig.13 – CMM366A-ET Guide Rail Installation

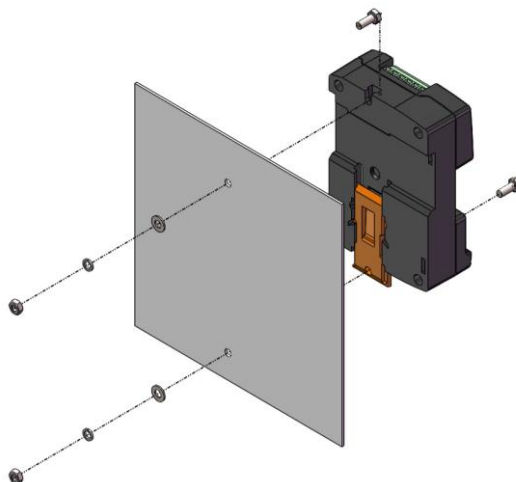


Fig.14 – CMM366A-ET Screw Installation

8 TROUBLESHOOTING

Table 8 – Troubleshooting

Symptoms	Possible Solutions
Controller no response with power	Check power voltage; Check controller connection wirings.
ETHERNET indicator off	Check Ethernet setting correct or not; Check whether Ethernet socket indicator is blink or not; Check cable connection.
RS485 comm. abnormal	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 comm. abnormal	Check connections; Check RS232 port is enabled or not; Check settings of genset ID and baud rate are correct or not.
LINK comm. abnormal	Check connections; Check LINK port is enabled or not; Check settings of genset ID and baud rate are correct or not.

9 PACKING LIST

Table 9 – Packing List

No.	Name	Quantity	Remark
1	CMM366A-ET	1	
2	120Ω matched resistor	2	
3	Certification	1	
4	User manual	1	