IOTC310

CLOUD MONITORING COMMUNICATION MODULE

USER MANUAL

Shanghai Fortrust Power Electric Co.,LTD

CONTENT

DATE	VERSION	NOTES
2019.12.01	V1.0	CONTENTS
2021.02.20	V1.1	PARAMETER CHANGES

1. OVERVIEW

IOTC310 can realize that different brand controllers can achieve the requirements of generator sets and other industrial equipment on the cloud through different types of communication interfaces and different network modes. With GPS and BDS positioning system, it can realize the function of positioning and other related.

2. PERFORMANCE AND CHARACTERISTICS

- Transmitting data through 4G network and Ethernet, transferring the controller data to the cloud for corresponding cloud computing, and then displaying the data on different terminals (such as computers and mobile phones).
- GPS+BDS hybrid location.
- Supporting the function of one-key repair, 34 kinds of data upload (0.1 second) for ten seconds to assist remote fault diagnosis.
- Remote message push: we can push messages to the controller through the cloud.
- Remote locking and unlocking machine: realizing the function of remote lock and unlock together with the Fortrust controller.
- Connecting the engine ECU through CAN port.
- Connecting the digital electronic governor through LIN port.
- Automatic recovery and re-connection when disconnection.

- Remote updating the software and setting.

3. SPECIFICATION

- Power Supply ： DC(9~32V)
- Power Consumption：when standby≤2W，when working ≤5W
- Temperature：-25℃~70℃
- Humidity：<95 % rh
- Dimension ： 116mm*82mm*33.6mm
- Weight：0.16kg

4. IDENTIFER AND TERMINAL DESCRIPTION

4.1 IOTC310 APPEARANCE IDENTIFICATION

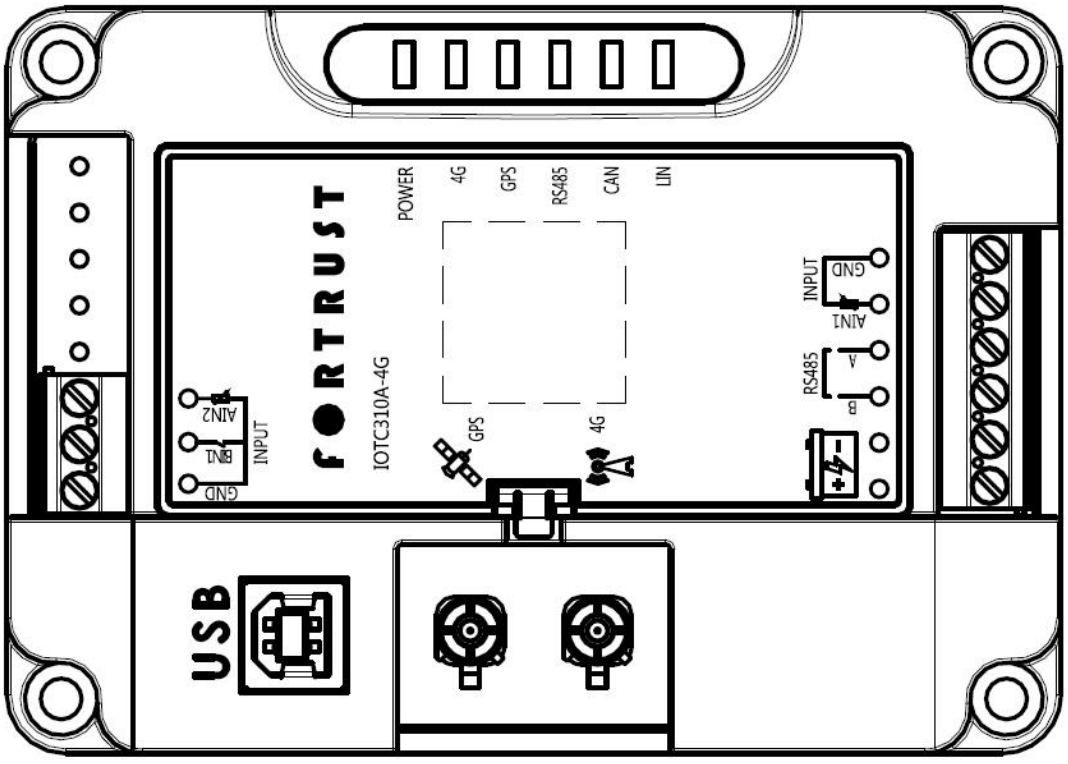
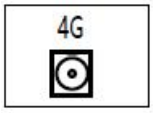
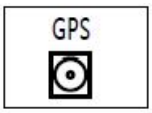


Chart 4-1 Overall Appearance

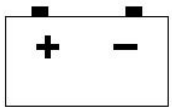
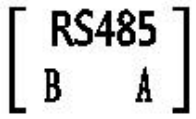
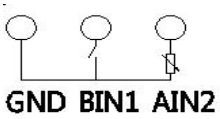
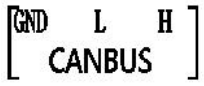
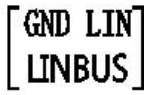
4.2 IDENTIFER AND LIGHT DISPLAY

IDENTIFER	FUNCTION	INTRODUCTION
	4G Port	GSM Communication Port
	GPS Port	GPS Communication Port
GPS	GPS Communication Light	GPS Normal Communication
4G	4G Communication Light	As 4.3
USB	USB Communication Port	USB Communication Port
POWER	Power Light	Power Normal
ENTHERNET	Network Communication Port	Network Communication Port
RS485	RS485 Communication	RS485 Normal Communication
CAN	CAN Communication	CAN Normal Communication
LINK	LINK Communication	LINK Normal Communication

4.3 COMMUNICATION LIGHT

The state of the light	The state of the module
Always On	Searching the network
Quick flashing（200ms on and 200ms off)	The data connection has been built.
Slow flashing（800mson and 800msoff)	The network has been registered.
Always Off	Shutdown, or other abnormalities

4.4 TERMINAL IDENTIFER

ITEM	FUNCTION	INDENTIFER	PORT	DESCRIPTION
1	POWER		Positive	Positive
			Negative	Negative
2	RS485		485B	485B
			485A	485A
3	Signal Output		AIN1	Analog Input 1
			COM	Common Negative
4	Signal Input		COM	Common Negative
			AIN2	Analog Input 2
			BIN1	Binary Input 1
5	CAN Communication Port		H	H
			L	L
			SCR	Communication Negative
6	LINK Communication		LIN	LIN
			GND	Link Negative

5. INSTALLATION

5.1 SIM INSTALLATION

- 5.1.1. Remove the head cover.
- 5.1.2. Unlock.
- 5.1.3. Open the slot.
- 5.1.4. Insert the SIM card.

- 5.1.5. Lock the SIM card.
- 5.1.6. Buckle the card.

5.2 CASE FIXATION

The IOTC310 can be installed in two different ways: guide rail installation and screw fixation. Customers can choose a more convenient method according to the actual situation. The clamped rail installation can use DIN standard guide rail and screw fixation can adopt φ4 and the countersunk hole is φ8.

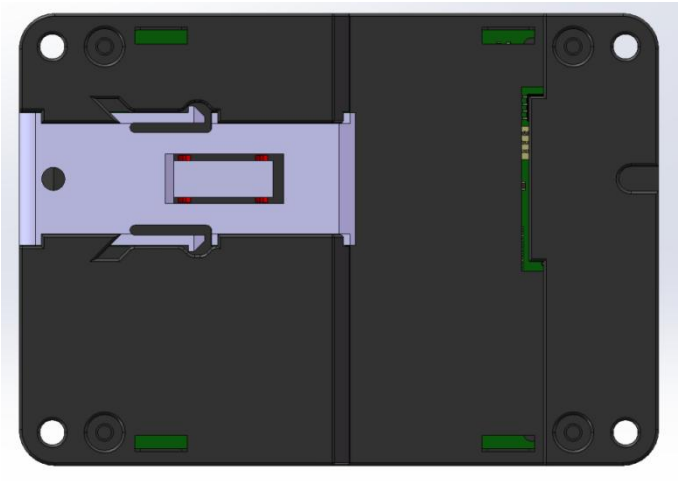


Chart 5-2-1 Guide Rail Installation

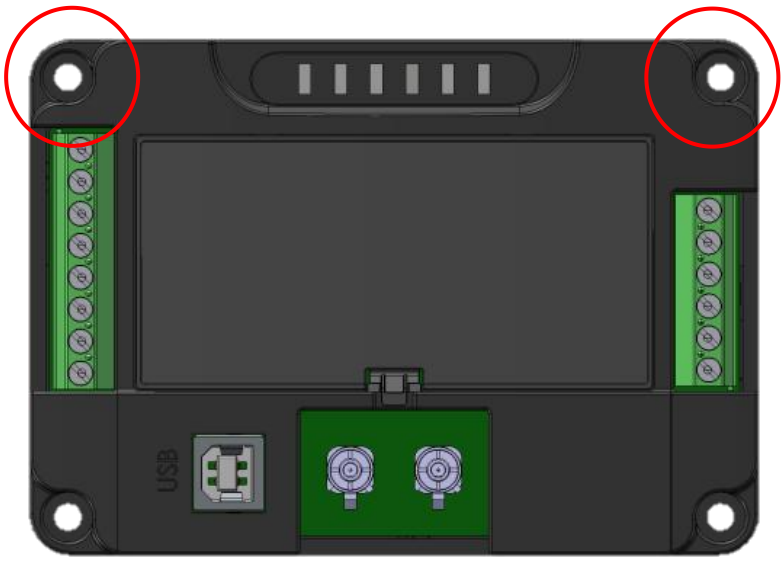


Chart 5-2-2 Screw Fixation Installation

6. PC CONNECTION AND PARAMETER SETTING

6.1 SERIAL PORT CONNECTION

Chart 6-1 Selecting the Serial Port and Baud Rate

Select the serial port number and baud rate as shown in Chart 6-1, and click the 'Connect' button to connect to the PC. After the connection is successful, the PC is displayed as chart 6-2.

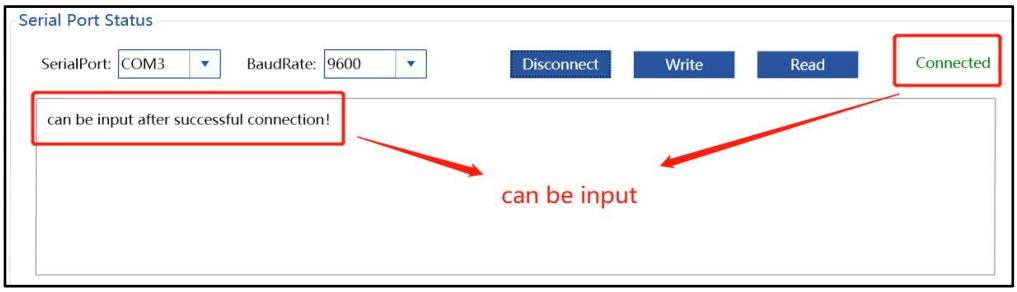


Chart 6-2 Page for Showing Successful Connection

6.2 PARAMETER READ

Click the "Read" button in Chart 6-2 to read and write the parameters. (Default parameters are available at factory)

6.3 PARAMETER INPUT

The module provides two sets of Settings for customers to set up and it can also be set according to customer requirements before the delivery. Users can set up items as follows:

1. Customers can change parameters such as the data transmission time, sensor line curve type and others according to project requirements. Chart 6-3 shows the Settings.

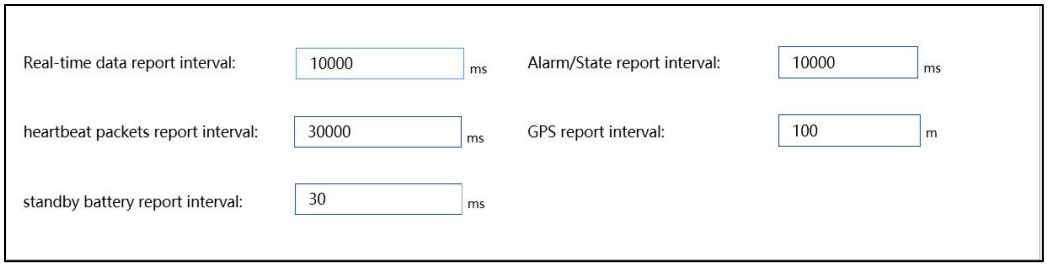


Chart 6-3 Page Setup for Customers

2. Set the address and baud rate of the device connected to the module (usually the generator set controller), as shown in chart 6-4.

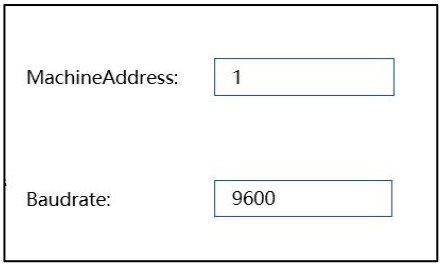
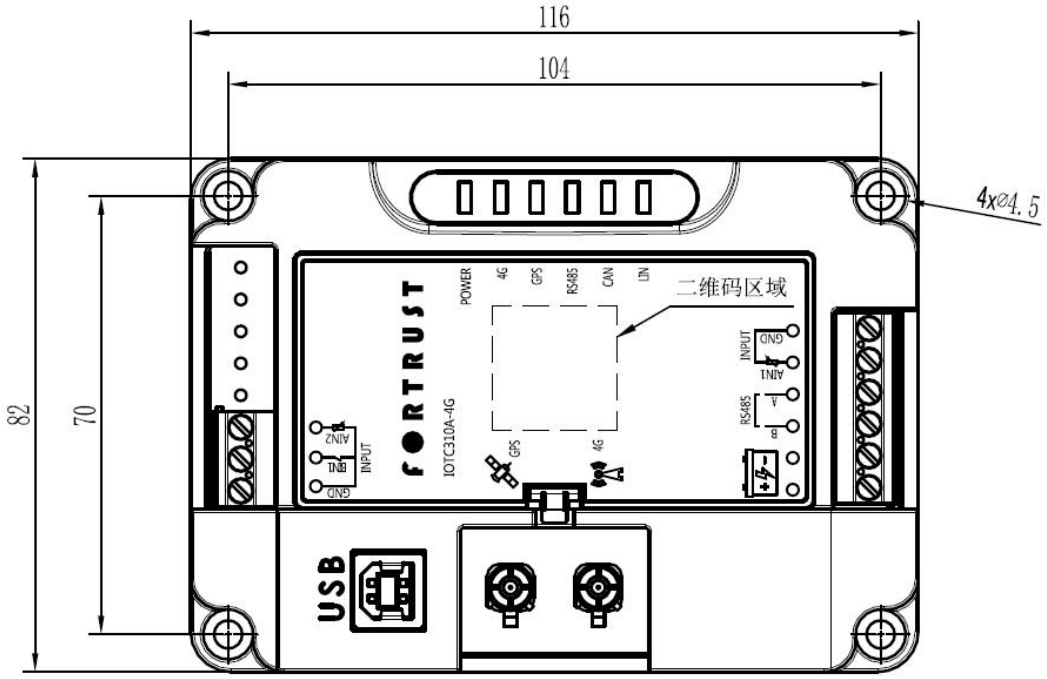


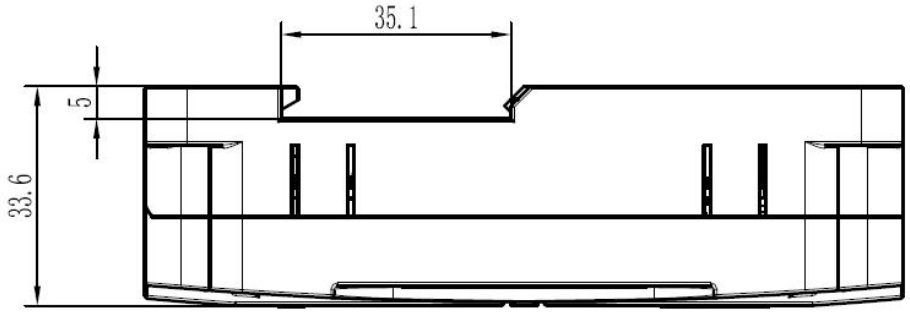
Chart 6-4 Page for Setting the address and baud rate of the device

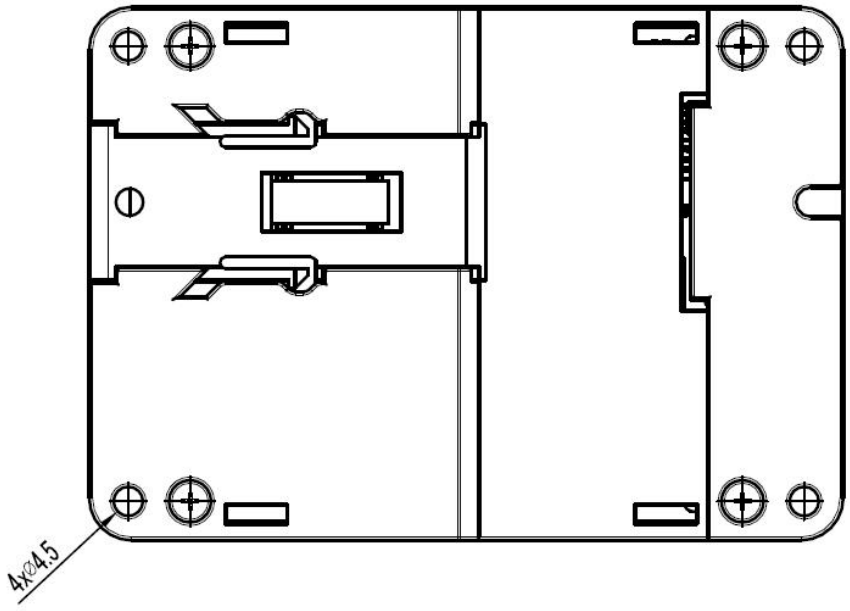
6.4 POSSIBLE PARAMETER SETTING

Type	No.	Option	Range	Default	Unit
Sundry	1	Interval for real-time data uploading	(0~30000)	10000	ms
	2	Interval for alarm and status data report	(0~30000)	10000	ms
	3	Interval for heart beat packet data updating	(0~30000)	30000	ms
	4	Interval for GPS location report	(0~65535)	100	m
	5	Interval for emergency battery report	(0~30000)	30	ms
	6	Sensor Type	JKS05164 (350mm) JKS05165 (400mm)	JKS05164	/
Modbus	1	Slave Address	(0~100)	1	/
	2	Baud Rate Setting	(0~65535)	9600	/

7. CASE DIEMENSION AND INSTALLATION







8. PRODUCT MODEL

Item	IOTC310A-4G	IOTC310A-ET
Appearance		
4G	√	
Ethernet		√
GPS	√	
RS485	√	√
LIN	√	√
CAN	√	√
Two analog inputs (voltage, resistance)	√	√
Switch input	√	√

9. FAULT FINDING

Symptoms	Possible Solutions
Controller no response with power	Check the power; Check controller connection wrings.
Network not connected	Check if the SIM card is overdue or if the network cable can connect to the network normally or not; Check GPS parameters are enabled or not;
4G Indicator Not Light	Check SIM card is inserted or not.
GPS not gained location	Check GPS parameters are enabled or not; Check GPS antenna is connected or not and placed outdoor or not
RS485 Communication Abnormal	Check RS485A and RS485B is reverse connection or not.
CAN Communication Abnormal	Check CANH and CANL is reverse connection or not.
LIN Communication Abnormal	Check LIN and GND is reverse connection or not.

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