FORTRUST 6110D/ 6120D CONTROLLER USER MANUAL

This document provides a brief operation instruction for using GEC6100D series controllers.

1. MODELS:

Model	Function
GEC6110D	It is used for single machine automation, controlling the start and stop of genset by remote signal.
GEC6120D	It adds the functions of mains monitoring and AMF on the basis of GEC6110D.

2. KEY DESCRIPTIONS:

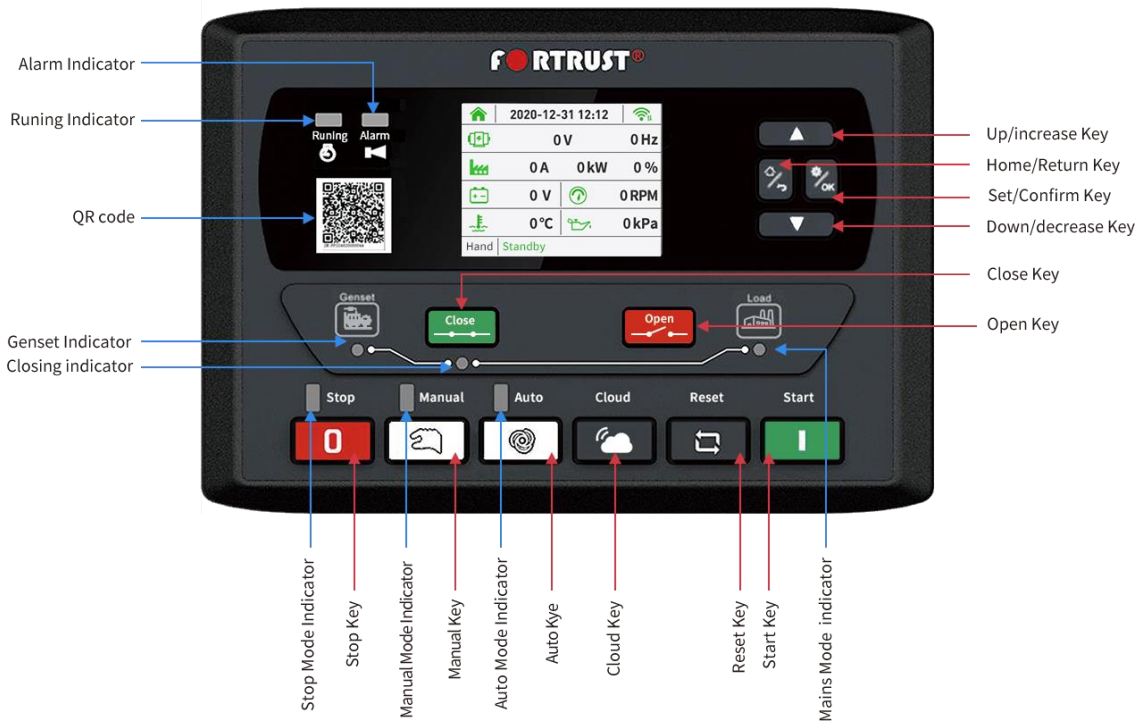
	Stop	In manual/ auto mode, it stops the running genset. During stopping process, pressing this key again stops generator immediately.
	Start	In manual mode, pressing this key starts the genset.
	Manual	Pressing this key will set the controller as Manual mode.
	Auto	Pressing this key will set the controller as Auto mode.
	Close/ Open	***** To open/ close genset's breaker in Manual Mode. **** Only for GEC6120D.***
	Close	* To close genset's breaker in Manual Mode. **** Only for GEC6110D.***
	Open	* To open genset's breaker in Manual Mode. **** Only for GEC6110D.***
	Set/Confirm	Press this key to enter menu interface, Shift cursor to confirm in ***parameters setting menu.***
	Up/ Increase	Screen scroll; Press the up cursor and increase value in setting menu.
	Down/ Decrease	Screen scroll; Press the down cursor and decrease value in setting menu.
	Home/ Return	Return to homepage when in ***main interface***; Exit when in ***parameters setting interface***.
	Reset	In case of alarm, the alarm light is on, the sixth line of the screen shows the alarm. After pressing this key alarm will be reset and the screen alarm display bar disappears; If the fault still exists, the screen alarm is still displayed, and the alarm light is still on.

	Cloud Service	Press this key to enter the cloud service mode. Press this key to enter the Interface of WIFI connection with TWO-DIMENSIONAL code. Press it again to exit and enter the main interface. This key only takes effect on the home page of the controller. You can item 10 of Mobile cloud Service Functions.

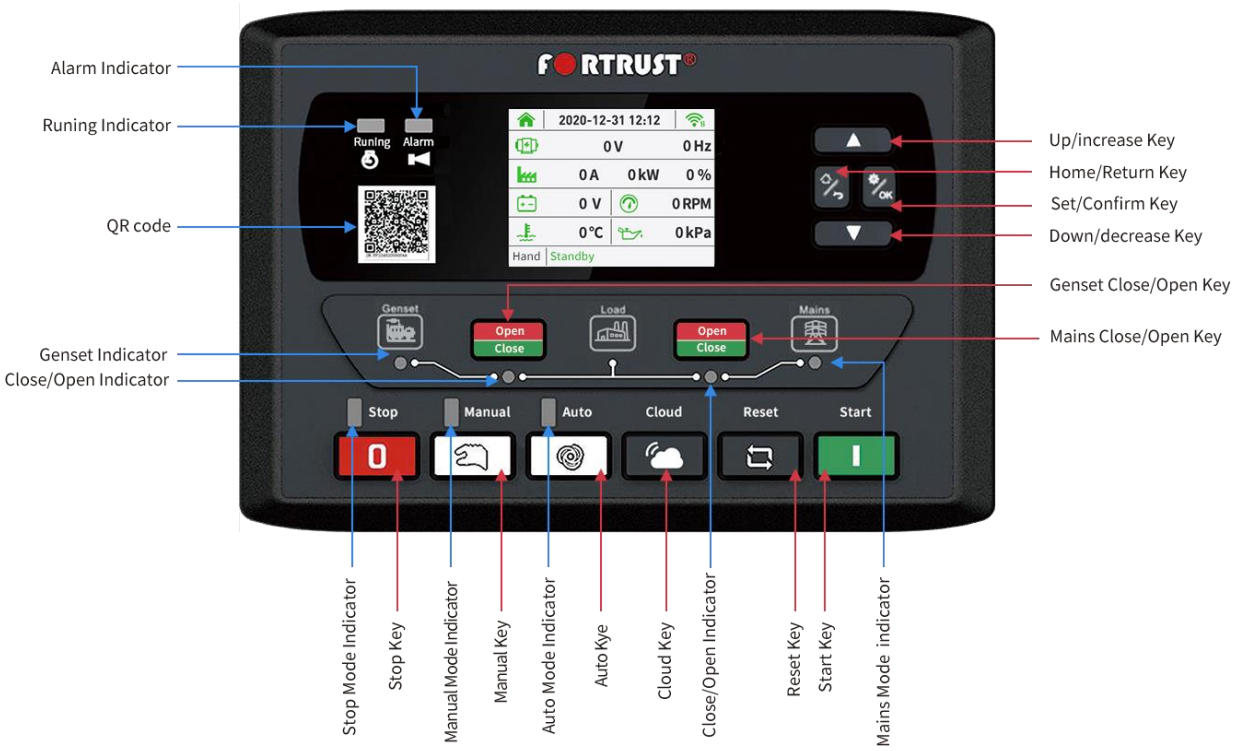
3. DIMENSIONS:

Overall Dimension:	Panel Cutout:
221mm x 152mm x 56.8mm	185mm x 139mm

4. CONTROLLER PANEL:



GEC6110D



GEC6120D

5. SETTINGS:

A. Settings Menu:

1) After the controller starts up, press the button to enter the settings menu.

2) Press the cursor (up/ increase) or (down/ decrease) to select the controller's information.

3) Press the button to enter the password settings interface.

4) Enter the password: **"1921"** to set all the parameters. Follow the setting method is as step 5 and 6.

5) Press the button (up/ increase) or (down/ decrease) to move the item up and down or modify the value. Press the button (set/ confirm) to confirm the current value and move the cursor to the right.

6) Press the  button (home/ return) to return to the previous menu.

CAUTION! The value that entered in parameters should be between within range otherwise it will not be saved.

B. Work Calendar Settings:

1) When the main switch of work calendar is enabled, the setting of start and stop time of work calendar is effective; otherwise, it is invalid.

2) Set the start and stop time of work calendar than genset will be self-started. In other words self-start signal will be valid.

CAUTION! The start time of the day should not be greater than or equal to the stop time. When the start and stop time value are both "0", this function is invalid.

C. Experiment Calendar Settings:

1) When the main switch of experiment calendar is enabled, the setting of start and stop time of working calendar is effective; otherwise, it is invalid.

2) Set start and stop time for each day. Four groups of time can be set each day. In automatic mode with no self-start signal, the machine will start automatically at the selected start time and stop automatically after reaching the stop time. This function is associated with the work calendar function.

CAUTION! The start time of each group should not be later than or same with the stop time, and the time of each group on the same day should not be crossed. For example, if the time of the first group is 14:00-17:00 on Monday, the time of the second group should be later than 17:00. When the start and stop time value are both "0", this function is invalid.

6. PARAMETER SETTING:

No	Parameter	Range	Default	Description
1	Mains Normal Delay	(0-3600)s	10	The delay from abnormal to normal or from normal to abnormal. It is used for ATS (Automatic Transfer Switch) control.
2	Mains Abnormal Delay	(0-3600)s	5	
3	Mains Under Voltage	(30-60000) V	18	When mains voltage is lower the value, mains under voltage is active.
4	Mains Over Voltage	(30-60000) V	276	When mains voltage is higher than the value, mains over voltage is active.
5	Transfer Delay	(0-99.9)s	1.0	It's the delay from mains' breaker open to generator's breaker closed or from generator's breaker open to mains' breaker closed.
6(1)	Start Delay	(0-3600)s	1	When mains abnormal or remote start signal is active this is the delay time of starting genset.
7(2)	Stop Delay	(0-3600)s	1	When mains normal or remote start signal is inactive this is the delay time of stopping genset.
8(3)	Start Times	(1-10)	3	This is the number of cranking. If engine has a start failure, genset cranks as set value times. When cranking times finish, controller sends start fail signal.
9(4)	Preheat Delay	(0-300)s	0	Time of pre-powering heat plug before crank is powered up.
10(5)	Cranking Time	(3-60)s	8	Time length of cranking time.
11(6)	Crank Rest Time	(3-60)s	10	When engine has a start fail it is the waiting time between crankings.
12(7)	Safety On Time	(1-60)s	10	Alarm for low oil pressure, high tempareture, under speed, under frequency/ voltage, failed to charge are all checked within this time, if it continues alarm would rise.
13(8)	Start Idle Time	(0-3600)s	0	It is the idle running time of genset while starting.
14(9)	Warming-up Time	(0-3600)s	10	It is the warming time between genset switch on and high speed running.
15(10)	Cooling Time	(3-3600)s	10	It is the time for cooling before genset stopping.
16(11)	Stop Idle Time	(0-3600)s	0	It is the idle running time while genset stopping.

No	Parameter	Range	Default	Description
17(12)	ETS Solenoid Hold	(0-120)s	20	Solenoid's power-on time while genset is stopping.
18(13)	Fail to Stop Delay	(0-120)s	0	If "ETS Solenoid Hold" set as "0", it is the time from end of idle delay to genset at rest; if not "0", it is from end of ETS solenoid delay to genset at rest.
19(14)	Switch Close Time	(0.0-10.0)s	5.0	Mains' or generator's switch closing pulse width, when it is "0", output is continuous.
20(15)	Flywheel Teeth	(10-300)	118	Number of flywheel teeth, it can detect disconnection conditions and engine speed.
21(16)	Gens Abnormal Delay	(0-20.0)s	10.0	It is the genset's over or under voltage alarm delay.
22(17)	Gens Over Voltage	(30-60000) V	264	When genset voltage is over the value, generator over voltage is active.
23(18)	Gens Over Voltage	(30-60000) V	196	When generator voltage is under the value, generator under voltage is active.
24(19)	Under Speed	(0-6000) r/ min	1200	When the engine speed is under the value for 10s, shutdown alarm signal is sent.
25(20)	Over Speed	(0-6000) r/ min	1710	When the engine speed is over the value, shutdown alarm signal is sent.
26(21)	Engine Rated Idle Speed	(0-6000) r/ min	750	This value means engine started successfully and reached the required rated idle.
27(22)	Engine Rated Speed	(0-6000) r/ min	1500	This is the rated speed required by high speed engine operation.
28(23)	Gens Under Frequency	(0-75.0)Hz	45	When generator frequency is lower than the value (should not equal to "0") for 10s, shutdown alarm signal is sent.
29(24)	Gens Over Frequency	(0-75.0)Hz	57	When generator's frequency is over the value and continues for 2s, generator overfrequency is active.
30(25)	High Temperature	(80-300)ºC	98	When the temperature sensor value is over this point, it sends out high temperature alarm. When the value is "300", warning alarm won't be sent. (This function is only suited for temperature sensor, except for high temperature pressure alarm signal inputted by programmable input port.)

No	Parameter	Range	Default	Description
31(26)	Low Oil Pressure	(0-400)kPa	103	When the oil pressure sensor value is under this point, Low Oil Pressure alarm is sending out. When the value is “0”, warning alarm won’t be sent. (This function is only suited for oil pressure sensor, except for low oil pressure alarm signal inputted by programmable input port.)
32(27)	Low Fuel Level Warning	(0-100)%	10	When fuel level sensor value is under this point and remains for 10s, genset sends out warning alarm. This function is only warning but not shutdown.
33(28)	Low Fuel Level Shutdown	(0-100)%	5	If the liquid level of the external liquid level sensor is lower than this value and lasts for 5 seconds, the shutdown signal will be sent.
34(29)	Speed Signal Loss Time	(0-20.0)s	5.0	When the delay setting as “0”s, this function is only warning but not shutdown.
35(30)	Charge Fail Voltage	(0-30)V	6.0	During genset normal running, when B+ and charger D+ (WL) voltage difference is above this value for 5s, the controller issues “Charging Failure” warning.
36(31)	Battery Over Voltage	(12.0-40.0) V	33	When generator battery voltage is over this value and remains for 20s, battery over voltage signal is active. This function is only warning but not shutdown.
37(32)	Battery Under Voltage	(4.0-30.0)V	8	When generator battery voltage is under this value and remains for 20s, battery under voltage signal is active. This function is only warning but not shutdown.
38(33)	CT Ratio/5	(5-6000)/5	500	External current transformer ratio.
39(34)	Full Load Current	(5-6000)A	500	Rated current of generator, used for calculating over load current.
40(35)	Over Current Action	(0-2)	2	According to the selected action, action for the power generation over current 0: No Action, 1: Electrical Trip, 2: Alarm Shutdown
41(36)	Over Current Percentage	(50-130)%	120	When load current is over this value, the over current delay is initiated.
42(37)	Over Current Delay	(0-3600)s	30	This is delay time in case of over current.
43(38)	Fuel Pump On Value	(0-100)%	25	When the fuel level lower than the set value for 2s, it sends a signal to open fuel pump.
44(39)	Fuel Pump Off Value	(0-100)%	80	When the fuel level higher than the set value for 2s, it sends a signal to close fuel pump.
45(40)	Aux. Output 1 Function	(0-25)	2	Factory default: Energized to stop. See 7. Outputs Title.
46(41)	Aux. Output 2 Function	(0-25)	3	Factory default: Idle control. See 7. Outputs Title.
47(42)	Aux. Output 3 Function	(0-25)	5	Factory default: Gens closed. See 7. Outputs Title.

No	Parameter	Range	Default	Description
48(43)	Aux. Output 4 Function	(0-25)	6	Factory default: Mains closed. See 7. Outputs Title.
49(44)	Aux. Input 1 Function	(0-25)	1	Factory default: High temperature alarm input. See 8. Inputs Title.
50(45)	Aux. Input 1 Valid	(0-1)	0	Factory default: Closed.
51(46)	Aux. Input 1 Delay	(0-20.0)s	2	Input signal active delay.
52(47)	Aux. Input 2 Function	(0-25)	2	Factory default: Low oil pressure alarm input. See 8. Inputs Title.
53(48)	Aux. Input 2 Valid	(0-1)	0	Factory default: Closed.
54(49)	Aux. Input 2 Delay	(0-20.0)s	2	Input signal active delay.
55(50)	Aux. Input 3 Function	(0-25)	10	Factory default: Remote start input. See 8. Inputs Title.
56(51)	Aux. Input 3 Valid	(0-1)	0	Factory default: Closed.
57(52)	Aux. Input 3 Delay	(0-20.0)s	2	Input signal active delay.
58(53)	Aux. Input 4 Function	(0-25)	11	Factory default: Low fuel level alarm input. See 8. Inputs Title.
59(54)	Aux. Input 4 Valid	(0-1)	0	Factory default: Closed.
60(55)	Aux. Input 4 Delay	(0-20.0)s	2	Input signal active delay.
61(56)	Aux. Input 5 Function	(0-25)	12	The factory default: low cooling liquid level alarm input. See 8. Inputs Title.
62(57)	Aux. Input 5 Valid	(0-1)	0	Factory default: Closed.
63(58)	Aux. Input 5 Delay	(0-20.0)s	2	Input signal active delay.
64(59)	Power On Mode	(0-2)	0	0：Stop; 1：Manual; 2：Auto (When the controller energized, controller starts with this mode.)
65(60)	Controller Adress	(1-254)	1	Module communication address.
66(61)	Password Setting	(0-9999)	1921	All parameters can be set. See title 5.
67(62)	Disconnect Gens Speed	(0-3000) r/ min	360	When engine speed reached this value, starter will disconnect.
68(63)	Disconnect Gens Frequency	(0.0-30.0) Hz	14	When generator frequency reached this value, starter will disconnect.
69(64)	Disconnect Gens Oil Pressure	(0-400)kPa	200	When engine oil pressure is over this value, starter will disconnect.

No	Parameter	Range	Default	Description
70(65)	High Temp. Stop Inhibit	(0-1)	0	Default: When temperature is overheat, the genset alarms and shutdown.
71(66)	Low OP Stop Inhibit	(0-1)	0	Default: When oil pressure is too low, the genset alarms and shutdown.
72(67)	AC system	(0-2)	0	0 3 Phase 4 Wire (3P4W) 1 2 Phase 3 Wire (2P3W) 2 1 Phase 2 Wire (1P2W)
73(68)	Temp. Sensor Curve Type	(0-10)	8	SGX. See title 9.
74(69)	Pressure Sensor Curve Type	(0-9)	8	SGX. See title 9.
75(70)	Level Sensor Curve Type	(0-3)	3	SGX. See title 9.
76(71)	Generator Poles	(2-64)	4	Number of magnetic poles, used for calculating rotating speed of generator without speed sensor.
77(72)	Temp. Sensor Open Action	(0-2)	1	0: Disabled; 1: Warning; 2: Shutdown
78(73)	Oil Pressure Sensor Open Action	(0-2)	1	0: Disabled; 1: Warning; 2: Shutdown
79(74)	Level Sensor Open Action	(0-2)	1	0: Disabled; 1: Warning; 2: Shutdown
80(75)	Disconnect Oil Pressure Time	(0-20.0)s	0	When disconnect conditions include oil pressure and engine oil pressure is higher than disconnect oil pressure delay, the genset is regarded as start successfully and starter will disconnect.
81(76)	Over Power Setting	(0-2)	0	0: Disabled; 1: Warning; 2: Shutdown When the power is greater than the set value and the duration is greater than the delay value, the overpower alarm is effective. The return value and delay value can also be set.
82(77)	Welcome Page Setting	(0-1)	1	0: Disabled; 1: Enabled. Start interface delay can be set.
83(78)	Maintenance Password	(0-9999)	1234	Enter password interface of maintenance configuration.
84(78)	Date/ Time			Set the date/ time of controller.
85(79)	Fuel Output Time	(1-60)s	1	It is the time of the genset fuel output during power on.
86(80)	Manual Mod ATS	(0-1)	0	0: Key Switch; 1: Auto Switch.
87(81)	Speed Raise Pulse	(0-20.0)s	0.2	It is the speed-up pulse output time, when the unit begin the high-speed warm-up.

No	Parameter	Range	Default	Description
88(83)	Speed Drop Pulse	(0-20.0)s	0.2	It is the speed-drop pulse output time, when the unit begin to idling for stop.
89(84)	ATS Open Time	(1.0-60.0)s	3.0	It is duration to open ATS.
90(85)	Custom Sensor Curve	(0-2)	0	0 User-defined temperature sensor, 1 User-defined pressure sensor, 2 User-defined level sensor, Choose sensor which need to be set, input every point resistance (or current/ voltage) and corresponding value of curve, 8 points need to be entered.
91(86)	Engine Type	(0-29)	00	00 Conventional Gen-set 01 Standard J1939
92(87)	CAN Address	(0-255)	3	Enter the CAN address.
93(88)	Rated Active Power	(0-6000) kW	100	Used to calculate active power/ rated power percentage.
94(89)	Crank Disconnect	(0-6)	04	Conditions of disconnecting starter (generator, magnetic pickup sensor, oil pressure), each condition can be used alone and simultaneously to separating the starter-motor and genset as soon as possible.
95(90)	Over Speed Warning	(0-6000) r/ min	1650	When the engine speed is over the value for 2s, alarm signal is sent.
96(91)	Under Speed Warning	(0-6000) r/ min	1300	When the engine speed is under the value for 10s, alarm signal is sent.
97(92)	Gens Under Voltage Warning	(30-60000) V	200	It is the generator's A/B/C phase low voltage alarm value.
98(93)	Gens Over Voltage Warning	(30-60000) V	260	It is the generator's A/B/C phase high voltage alarm value.
99(94)	Gens Under Frequency Warning	(0-75.0)Hz	43	When generator's frequency is lower than the value (not equal to "0") for 5s, alarm signal is sent.
100(95)	Gens Over Frequency Warning	(0-75.0)Hz	54	When generator's frequency is over the value and continues for 1s, alarm signal is sent.
101(96)	Enable D+	(0-1)	0	Enable or Disable
102(97)	Low Load Setting	(0-3)	0	0 Disabled; 1 Pre-warn; 2 Electrical Trip; 3 Shutdown When the load power is under the value and continues for less than the delay value, alarm signal is sent. The return value and delay value can also be set.

CAUTION! The value in first line of "Number" column is for GEC6120D and the value in brackets is for GEC6110D.

7. OUTPUTS:

No	Parameter	Description
0	Not Used	Output is disabled when this item is selected.
1	Common Alarm Output	This output includes all shutdown alarm and warning alarm. When warning alarm occurs, the alarm won't self-lock; when a shutdown alarm occurs, the alarm will self-lock until alarm is reset.
2	Energised to Stop	This output valid for gen-sets with stop solenoid. Pick-up when idle speed is over, disconnect when ETS delay is over.
3	Idle Control	This output valid for the gen-sets with idle speed. It is active while gen-set warming up when starter disconnecting. Also it is active to stop gen-set completely while stop idle disconnecting.
4	Preheat Control	This output controls preheat.
5	Close Gens	This output used for to control gen-set's breaker.
6	Close Mains	This output used for control mains' breaker. Only for GEC6120 models.
7	Open ATS	When close time is set as "0", Open Breaker is disabled.
8	Speed Raise Relay	Activated when gen-set enter into warming up time. Disconnected when raise speed auxiliary input active.
9	Speed Drop Relay	Activated when gen-set enter into stop idle or ETS solenoid stop (shutdown alarm). Disconnected when droop speed auxiliary input active.
10	Running Output	Activated when gen-set is in normal running, disconnect when rotating speed is lower than engine speed after fired.
11	Fuel Pump Control	Activated when the fuel level lower than the open threshold or low fuel level warning is active; disconnected when the fuel level over the close threshold and the low fuel level warning input is disabled.
12	High Speed Control	Activated when gen-set enters into warming up time, and disconnectted after cooling.
13	Auto Mode	The controller is in Auto Mode.
14	Trip and Stop Output	Activated when shutdown alarm occurs.
15	Audible Alarm	When shutdown alarm and warn alarm occur, audible alarm is set as 300s. In audible alarm output duration, when panel any key or "alarm mute" input is active, it can remove the alarm.
16	Reserve	
17	Fuel On	Active when genset is starting and disconnect when stop is completed.
18	Start Output	Active when gen-set starting.
19	Reserve	

No	Parameter	Description
20	Reserve	
21	Reserve	
22	Reserve	
23	Reserve	
24	Speed Raise Pulse Output	Active while the unit entering into high-speed warming up.
25	Speed Drop Pulse Output	Active while the unit entering into stop idling.
26	Oil Pump Control	Activated when the fuel level lower than the open threshold or low fuel level warning is active; disconnected when the fuel level over the close threshold and the low fuel level warning input is disabled.
27	Reserve	
28	Reserve	
29	Aux. Input 1	It is active when signal gets to Aux. Input 1
30	Aux. Input 2	It is active when signal gets to Aux. Input 2
31	Aux. Input 3	It is active when signal gets to Aux. Input 3
32	Aux. Input 4	It is active when signal gets to Aux. Input 4
33	Aux. Input 5	It is active when signal gets to Aux. Input 5

8. INPUTS:

No	Parameter	Description
0	Not Used	Input is disabled when this item is selected.
1	High Temperature Shutdown	If the signal is active after safety run delay over, gen-set will immediately alarm to shutdown.
2	Low Oil Pressure Shutdown	If the signal is active after safety run delay over, gen-set will immediately alarm to shutdown.
3	Warn Input	This input only warning, not shutdown.
4	Shutdown Input	If the signal is active, gen-set will immediately alarm to shutdown.
5	WTH STOP by Cool	During engine running and the input is active, if high temperature occurs, controller will stop after high speed cooling; when the input is disabled, controller will stop immediately.
6	Generator Closed Auxiliary	This signal give information of gen-set is on or not. Connect the gen-set's breaker's auxiliary port to this input.
7	Mains Closed Auxiliary	This signal give information of mains is on or not. Connect the mains' breaker's auxiliary port to this input.
8	Inhibit WTH STOP	When it is active, high water temperature stop is inhibited.

No	Parameter	Description
9	Inhibit OPL STOP	When it is active, low oil pressure stop is inhibited.
10	Remote Start	In Auto mode, when input active, gen-set can start and take load after gen-set is OK; when input inactive, gen-set will stop automatically.
11	Low Fuel Level Warning	Connected to sensor's digital input. The controller sends a warning alarm signal when it is active.
12	Low Coolant Level Warning	
13	Low Fuel Level Shutdown	Connected to sensor digital input. The controller sends a shutdown alarm signal when active.
14	Low Coolant Level Shutdown	
15	Inhibit Auto Start	In Auto Mode, when the input is active, no matter mains normal or not, gen-set won't start. If gen-set is in normal running, stop process won't be executed. When input is disabled, gen-set will automatically start or stop judging by mains normal or not.
16	Remote Control	All buttons in panel is inactive and Remote Mode is displayed on LCD. Remote module can switch module mode and start/ stop operation via panel buttons.
17	Charge Alt Fail IN	Connect to failed to charge output.
18	Panel Lock	All keys in panel are inactive except set-keys and there is  in the first row of the front page in LCD when input is active.
19	Alarm Mute	This input can prohibit "Audible Alarm" output when input is active.
20	Idle Control Mode	In this mode, under voltage, under frequency and under speed are not protected.
21	Fuel Leakage	When input is active, controller will initiate fuel leakage alarm.
22	Speed Raise Pulse	If engine type is common J1939 engine target speed will increase 5RPM.
23	Speed Drop Pulse	If engine type is common J1939 engine target speed will decrease 5RPM.
24	Over Current Shutdown	In case of over current, controller will initiate shutdown alarm.
25	Over Speed Shutdown	In case of over speed, controller will initiate shutdown alarm.

No	Parameter	Description
26	User Set 1	Input can be customized by user.
27	User Set 2	Input can be customized by user.

9. SENSORS:

No	Parameter	Options	Description
1	Temp. Sensor Curve Type	0 Not Used 1 Defined Curve 2 VDO 3 SGH 4 SGD 5 CURTIS 6 DATCON 7 VOLVO-EC 8 SGX 9 PT100 10 Euro III 11 DF-3845	Defined input resistance range is; “0 Ω~600 Ω”, Factory default is; SGX Sensor.
2	Press Sensor Curve Type	0 Not Used 1 Defined Curve 2 VDO 10Bar 3 SGH 4 SGD 5 CURTIS 6 DATCON 10Bar 7 VOLVO-EC 8 SGX 9 Reserve 10 24V/12V Voltage Type	Defined input resistance range is; “0 Ω~600 Ω”, Factory default is; SGX Sensor.
3	Fuel Level Sensor Curve Type	0 Not Used 1 Defined Curve 2 SGH 3 SGD	Defined input resistance range is; “0 Ω~600 Ω”, Factory default is; SGX Sensor.

10. CLOUD SERVICE:

A. The Cloud button provides remote access to your controller, thus to your generator, with your mobile phone.

B. By connecting to the controller wirelessly from your mobile phone via an application you can download to your phone, you can monitor the status and alarms of your generator, request service assistance, and set its parameters.

C. Cloud system, it is functional at a distance maximum 20 m between your mobile phone and controller and only supports Android 8.0, Android 9.0 and Android 1.0 for now.

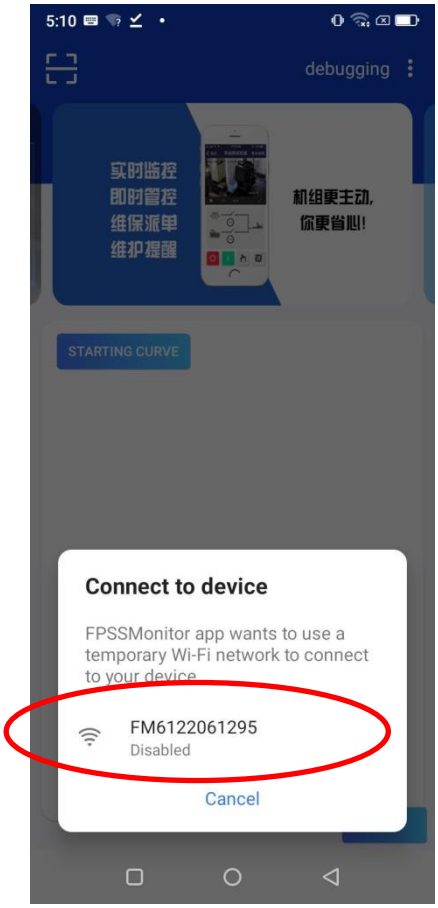
D. To connect your controller via your mobile phone:

Step 1: Scan the QR code below with your mobile phone camera and download the FPSS application with the "" icon which is in the lower right corner of the page;

CAUTION! After downloading the application to your mobile phone, allow the application to use location services!

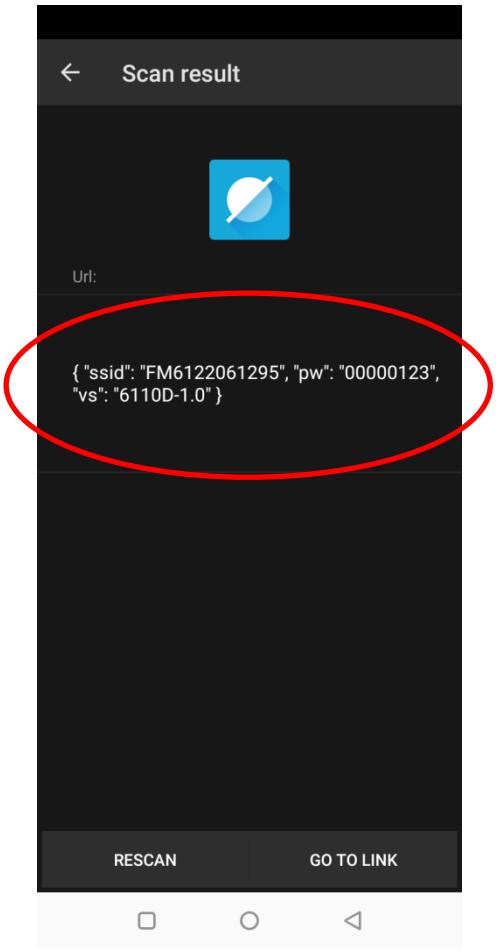
Step 2: Open the app with "" icon on your mobile phone. Press the "Cloud" key on your controller. Scan the QR code on the screen that opens by pressing the camera button in the upper left corner of the application on your mobile phone.

Step 3: A warning as below will appear in your mobile phone application. Click on the number that starts with FM (which is the ID number of your controller also and press the connect button,



or without downloading the application;

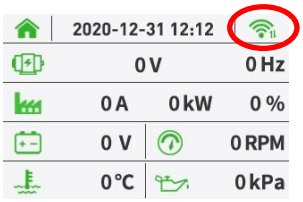
- Press the "Cloud" button on your controller,
- Scan the QR code on the screen of your controller with the camera of your mobile phone,
- On the screen of your mobile phone "ssid: FM6122061295" (Wireless Network Name and Controller Identity Number) and "pw: 00000123" (Password) will appear, the wireless network user name and password of your controller, take a note,



- In wireless networks, click on the wireless network name starting with FM code and enter the password,
- After downloading the application, the wireless connection between your mobile phone and your controller will be established.

Step 4: On the main page of your controller, the "" grey icon in the upper right corner turns green "" after the connection is established.

Not connected



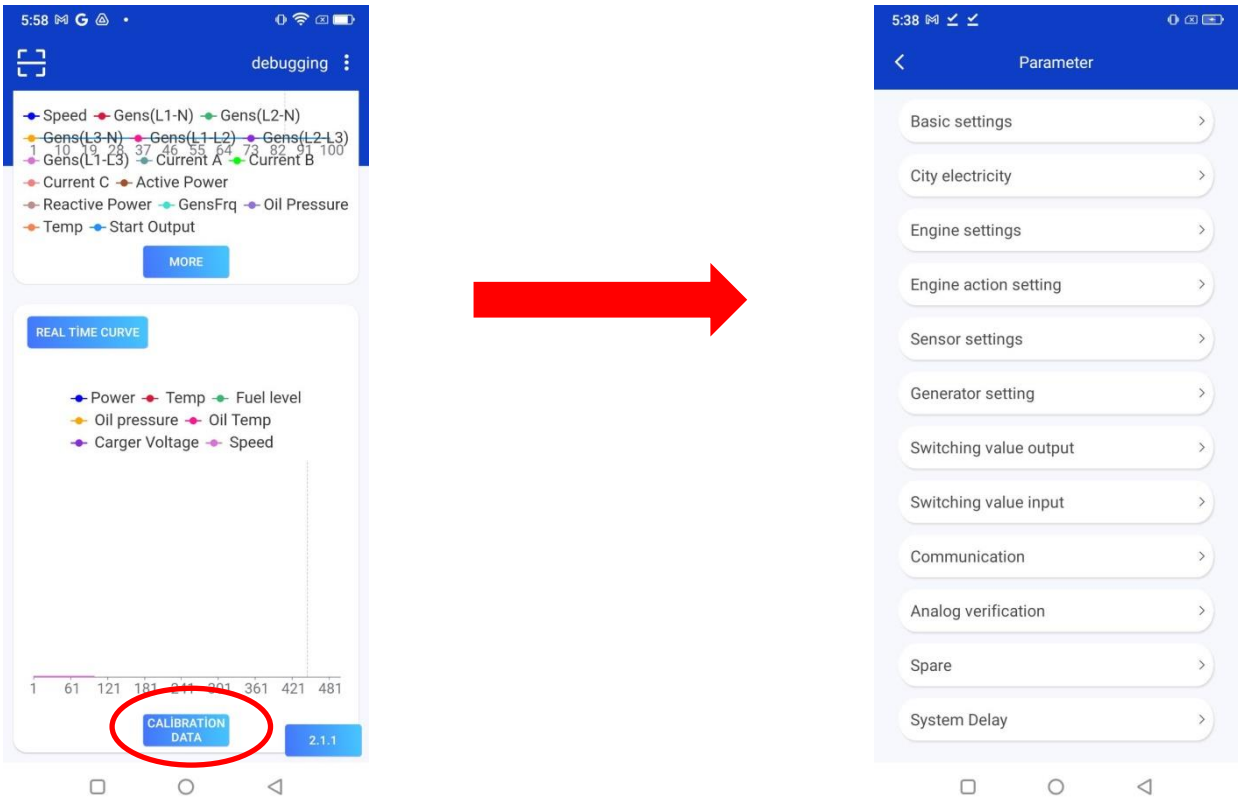
Connected

E. After the connection is established, you can monitor the operating information of your generator, faults, emergency stops, real-time instantaneous operating information in the form of curves and tables from your mobile phone application,

F. You can share fault conditions or operating curves and information with the service over "Cloud".

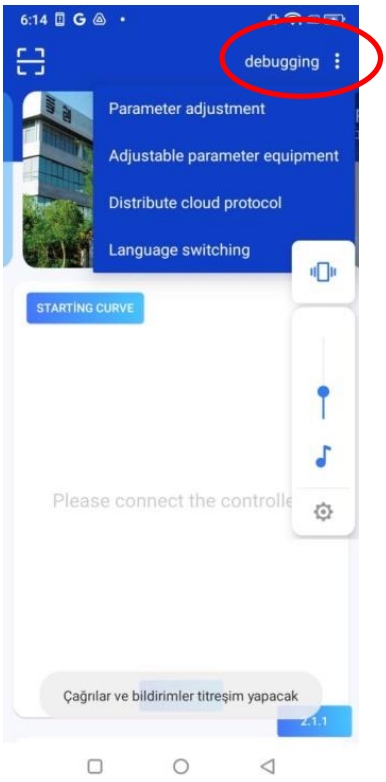
CAUTION! After the connection between the mobile phone and the controller is established, the synchronization takes approximately 90 seconds takes.

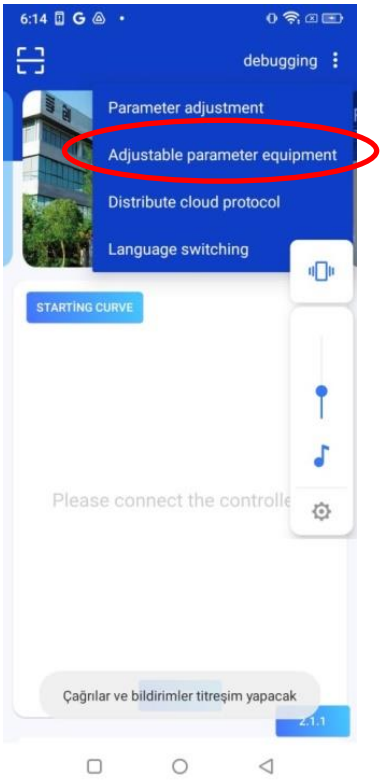
G. By pressing the **"Calibration Data"** button at the bottom of your application, you can change all the parameters of your controller from your mobile phone;



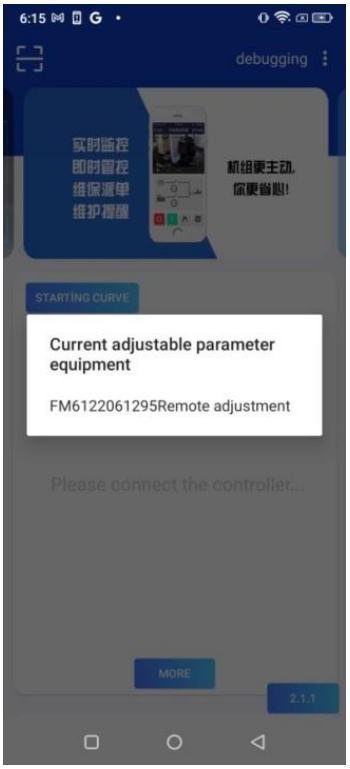
H. If you as a user do not know what values to enter in the parameters, you can have an administrator set the parameters with remote access. For this process;

- Click on the three dots in the upper right corner of the application,
- Select "Adjustable parameter equipment" from the drop-down options,
- Select the controller ID number from the question screen,
- Follow all the steps on the screen in order, end the parameter setting.


6:14
debugging
Parameter adjustment
Adjustable parameter equipment
Distribute cloud protocol
Language switching
STARTİNG CURVE
Please connect the controlle
Çağrılar ve bildirimler titreşim yapacak
2.1.1


6:14
debugging
Parameter adjustment
Adjustable parameter equipment
Distribute cloud protocol
Language switching
STARTİNG CURVE
Please connect the controlle
Çağrılar ve bildirimler titreşim yapacak
2.1.1


6:15
Not connected
START DEBUGGİNG
DOWNLOAD CALİBRATİON FİLE
CONNECT CONTROLLER WİFİ
IMPORT CONTROLLER
UNRESOLVED
END


6:15
debugging
STARTİNG CURVE
Current adjustable parameter equipment
FM6122061295Remote adjustment
Please connect the controller...
MORE
2.1.1

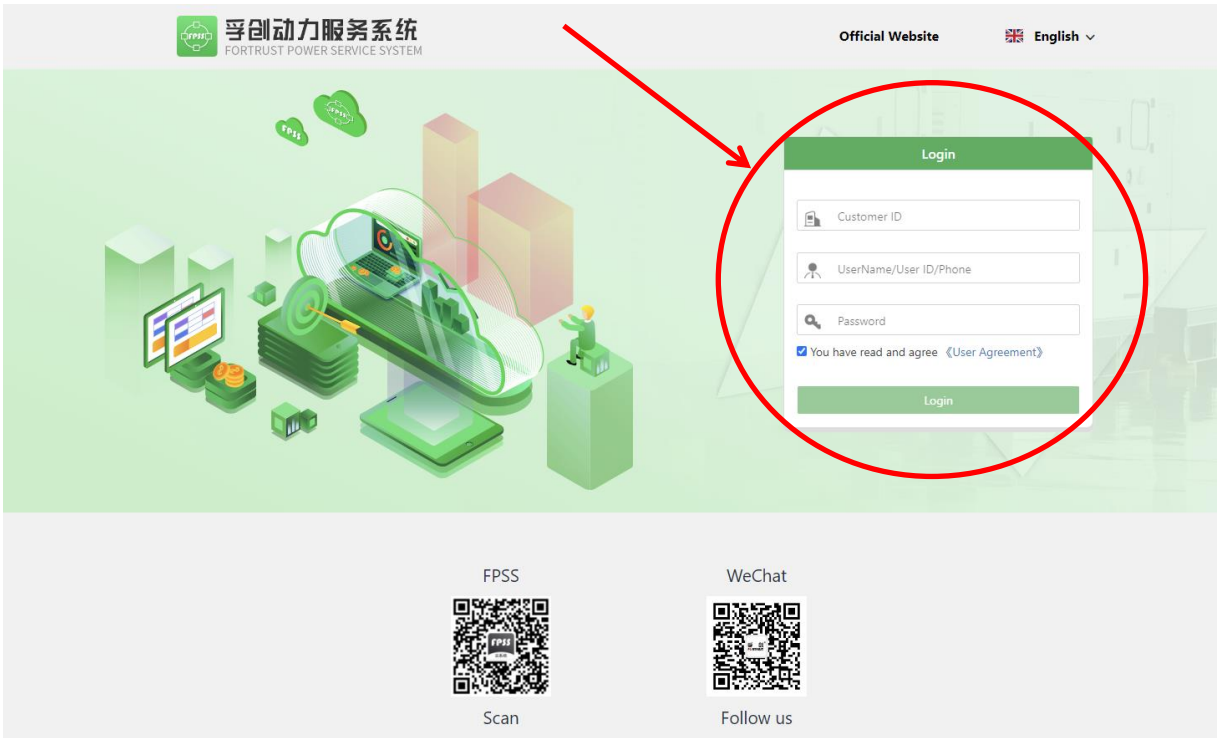
11. EXTERNAL CLOUD SERVICE AND DEVICE (MODEM):

External Cloud Service provides remote access, monitoring and remote control to your controller. External Cloud device; it can be added to the controller, a data sim card can be inserted into it, so over satellite and internet; It is an additional device that allows connection to the controller with a mobile phone, tablet, laptop or desktop computer from anywhere in the world, regardless of distance.

External Cloud Device

A. After sim card is inserted and the physical connection of the external device is completed with the controller; **To access the controller via the website;**

- Obtain your user name and password from the authorized person from whom you purchased the controller and external cloud device,
- Go to **www.fortrustyun.com** website, enter the system by entering the user name and password information on the main page,



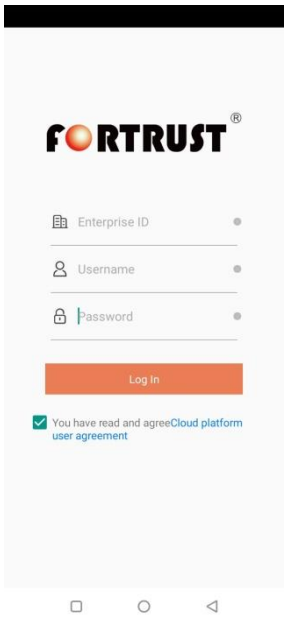
B. For remote access to the controller with a external cloud device **from a mobile phone;**

- Download the application to your mobile phone by scanning the QR code below with your phone's camera,

or,

- Go to **www.fortrustyun.com** website,
- Scan the QR code of the mobile phone application in the lower left part of the main page with your camera and download the application to your phone,

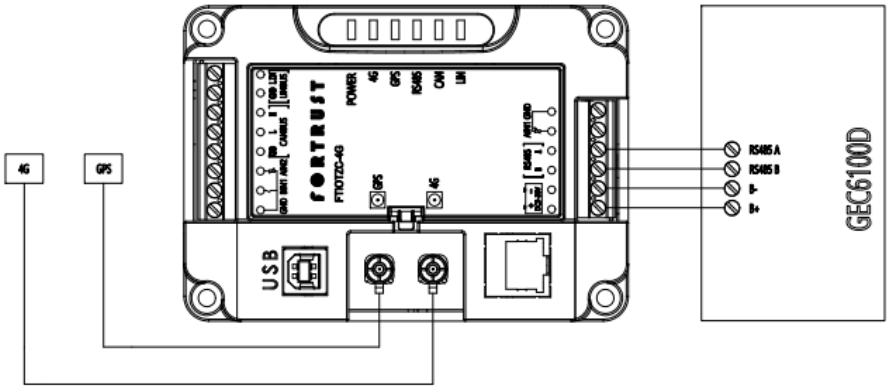
- Start using remote access by entering your user name and password on the main screen of the mobile phone application.



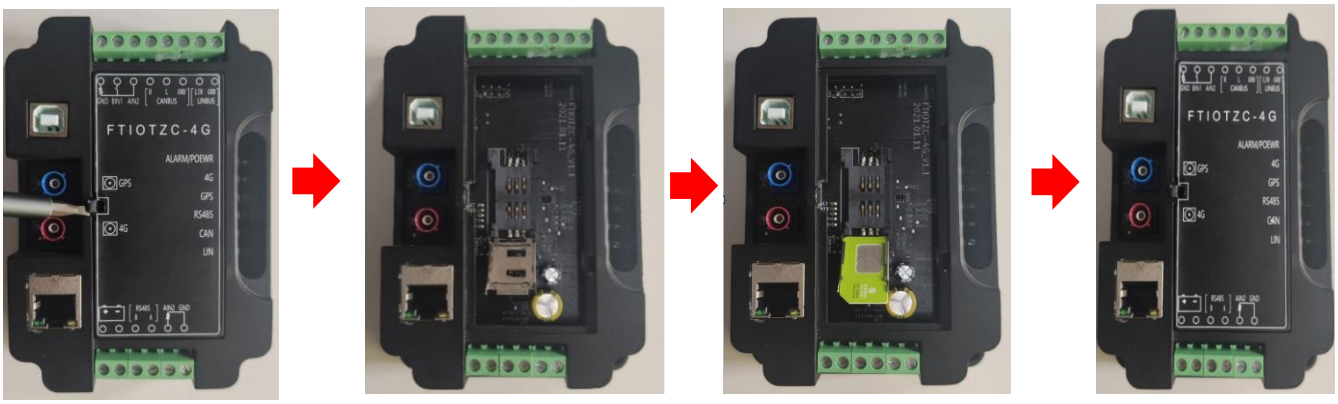
12. CONTROLLER AND EXTERNAL CLOUD DEVICE CONNECTION:

A. External Connection:

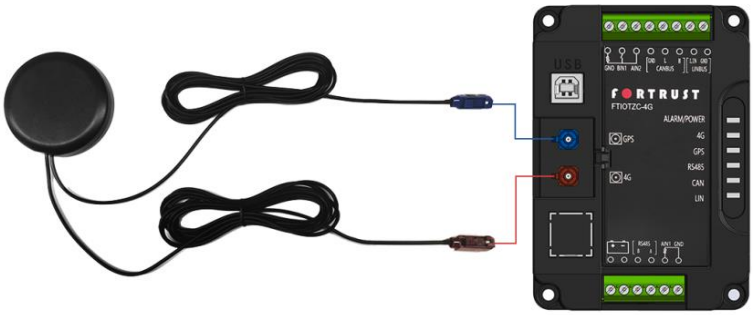
Step 1: According to the wiring diagram, connect RS485 to GPS and 4G signal.



Step 2: Open the front cover, insert the sim card into the slot and close the cover again.

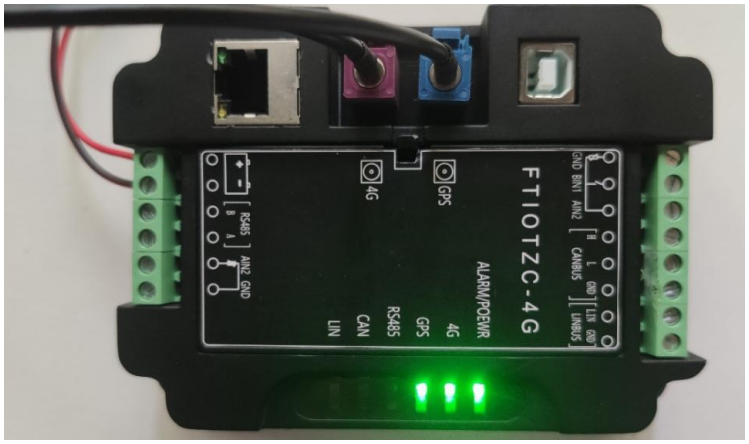


Step 3: Connect the antenna cables. Make sure to connect the 4G signal to the socket shown in red and the GPS antenna to the socket shown in blue as shown below.



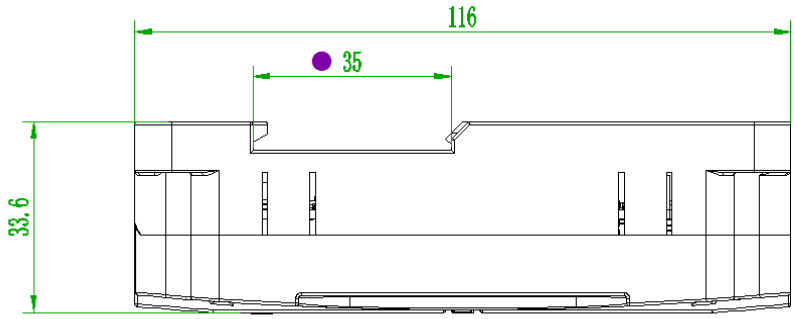
B. External Cloud Device Indicators:

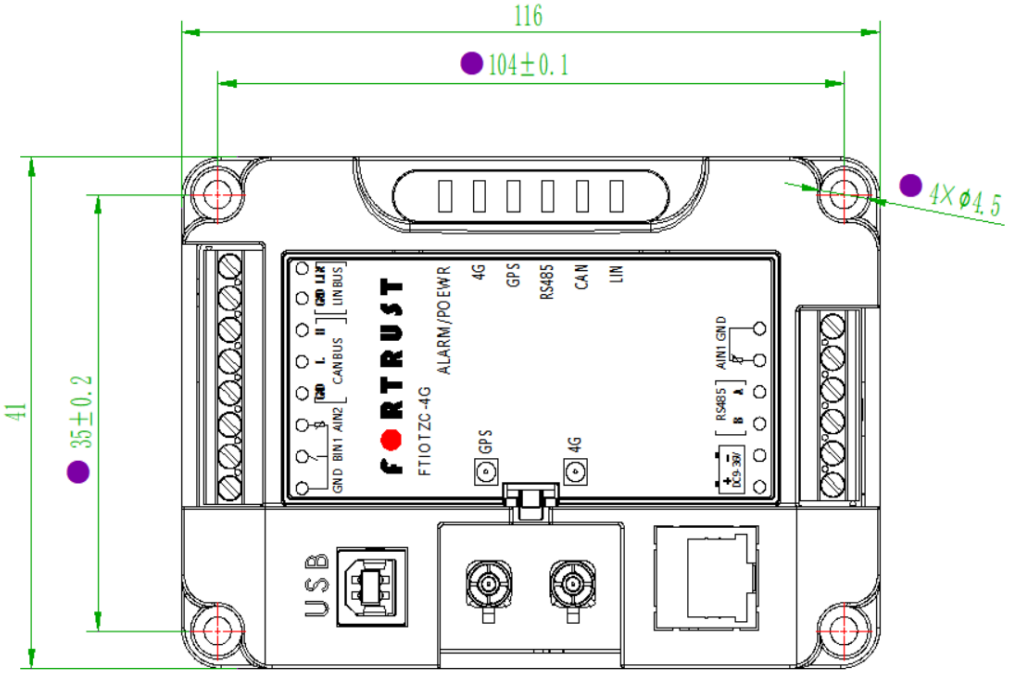
Symbol	Definition	Description
POWER	POWER	On：Successfully powered on
4G	4G	Off：Network registration failed On：Network registration succeeded Flashing：Data upload normal
GPS	Location	On：GPS not powered on On：GPS not located Flashing：GPS got satellite signals
RS485	RS485	Off：RS485 not used On：Communication failed Flashing：Communication normal
CAN	CAN	Off：CAN not used On：Communication failure Flashing：Communication normal
LIN	LIN	Off：LIN not used On：Communication failure Flashing：Communication normal



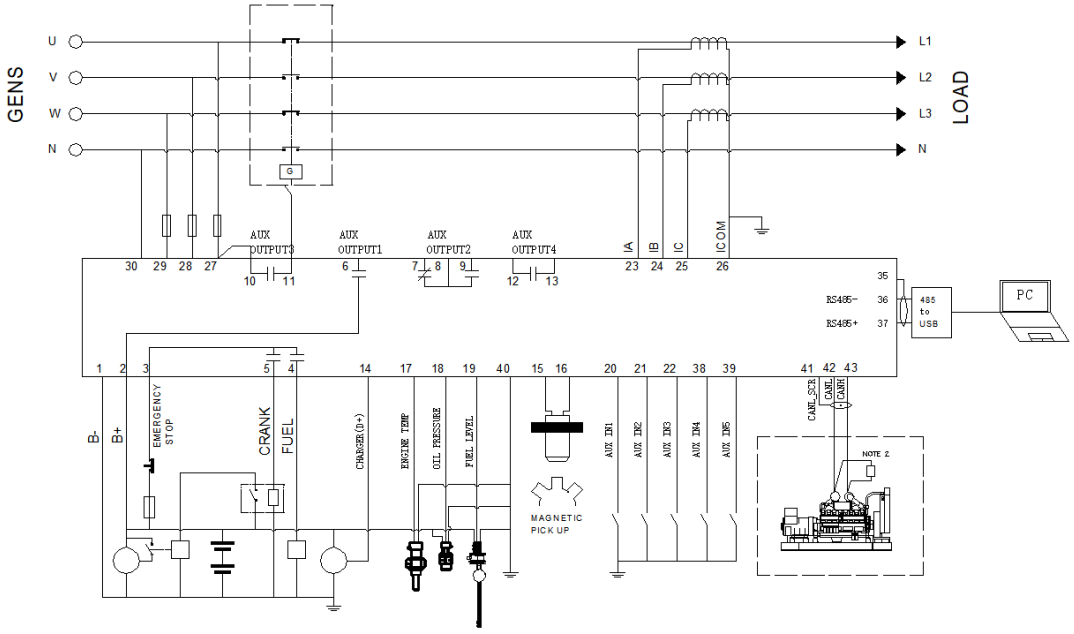
C. Installation Dimensions:

Cloud module can be installed by either guide rail or screw. The guide rail supports 35mm, and screws is M3.





13. TYPICAL APPLICATION:



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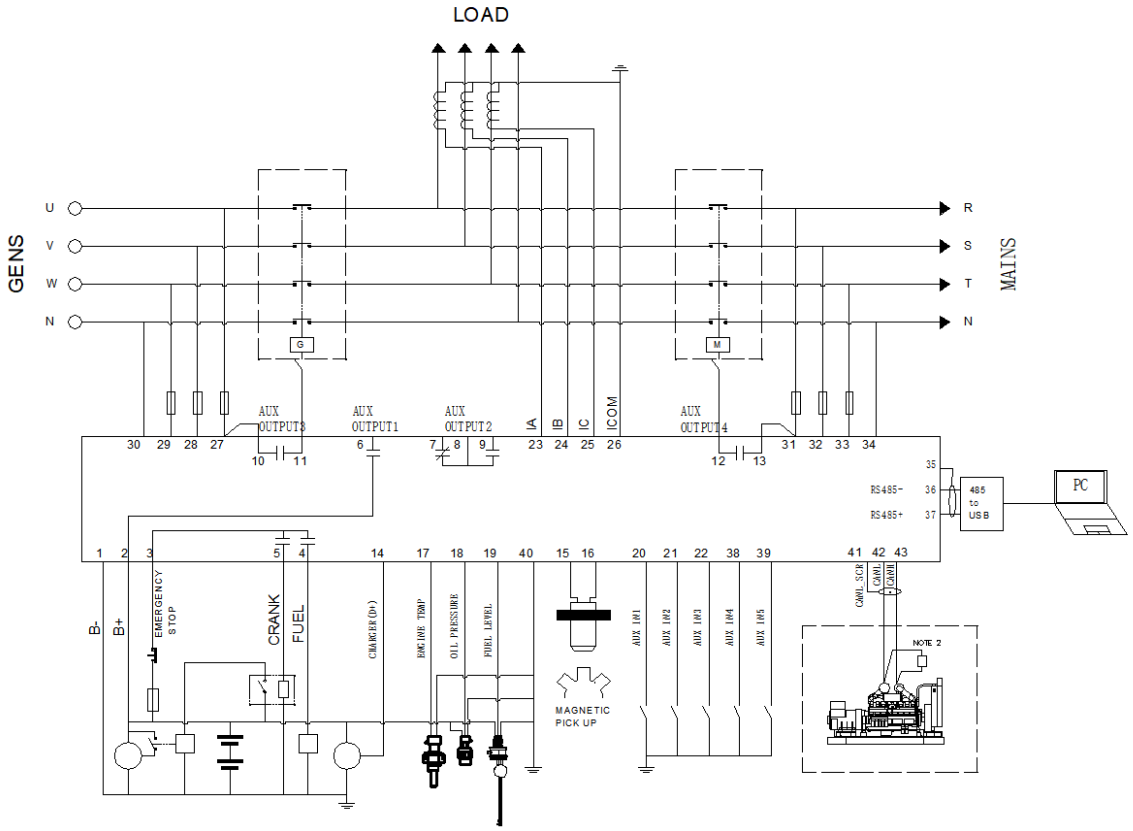

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