Power

Escape215-R

COMMISSIONING GUIDE

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1. Product Component

The internal components of the Escape215-R are as shown in Table 1.

S/N	Name
1	Cabinet body
2	Battery module
3	EMS
4	High-voltage box
5	PCS
6	Liquid cooling unit
7	Liquid cooling pipeline

Table 1. The internal components

2. Power up and shutdown procedure

2.1 High-voltage Box

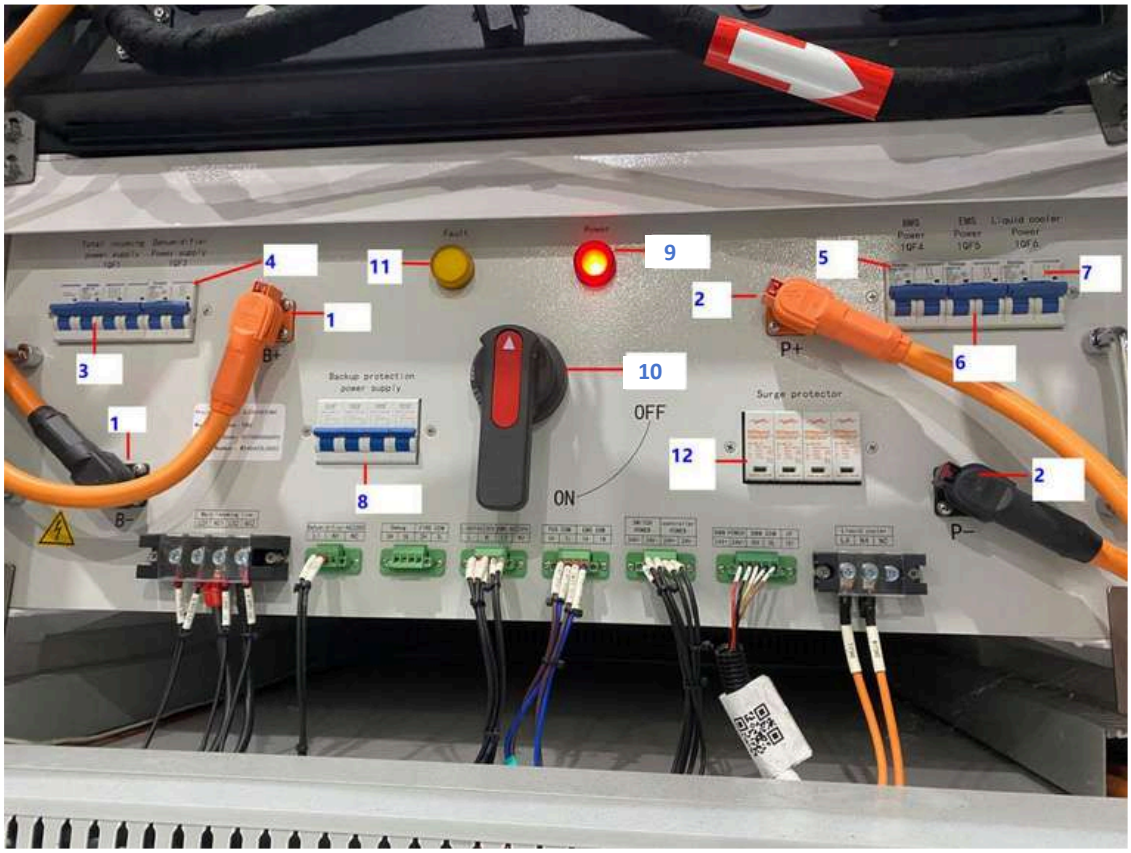
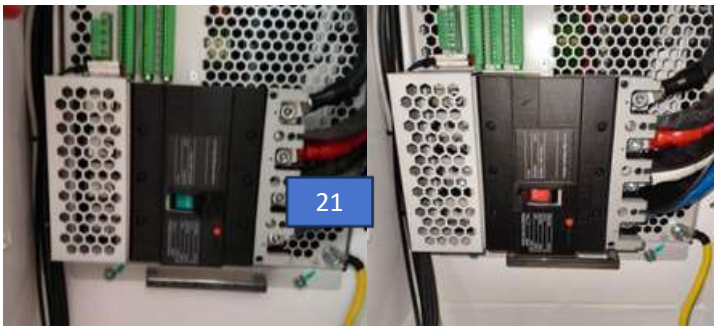


Figure Diagram of Power-on and Shutdown Marks

No	Name	Specification and Model	Purposes
1	Battery - HV box cable	ES091-01M6	Connect B+ from the Battery to the HV box
2	Battery PCS cable	ES091-01M6	Connect and P- from the HV box to the PCS
3	Power supply breaker	NDB1-63C63/4P/ AC400V&415V/63A	Main breaker of two 230V auxiliary power (“ON” with position up and “OFF” with position down)
4	Dehumidifier breaker	NDB1-63C10/AC230V/10A	Power supply for the dehumidifier (“ON” with position up and “OFF” with position down)
5	BMS breaker	NDB1-63C10/AC230V/10A	Power supply for BMS (“ON” with position up and “OFF” with position down)
6	EMS and Lighting Breaker	NDB1-63C10/AC230V/10A	Power supply for EMS and Lighting (“ON” with position up

			and “OFF” with position down)
7	Liquid cooler breaker	NDB1-63-C32/2P / AC230V/32A	Power supply for the liquid cooling system (“ON” with position up and “OFF” with position down)
8	Internal UPS breaker	TNM-SCB/40/standby protector/0/AC230/400V/	Power supply for internal power supply (“ON” with position up and “OFF” with position down)
9	Power on/off button	MP2-42R-20+MLBL-07R	Power on/off button of high-voltage box
10	DC breaker	Auxiliary accessories for DC circuit breaker	Power supply for DC
11	Warning indicator	CL2-502Y/0/22mm/ 16mA/DC24V	Indication of fault
12	Surge protector	DG M TT 385 CN FM	Surge protection

2.2 Wiring of back of PCS



No	Name	Specification and Model	Purposes Connect
21	PCS Breaker	All-in-one with PCS	AC to PCS Green = Off Red = On

2.3 Power Up

Please follow the steps below to power up the battery system:

1. Check the wiring of energy meter to the EMS. Check Appendix 4. In some electrical topologies, it is needed to install a Grid Meter or Grid Meter + Solar Meter both but not all.
2. Check power connectors (1) and (2),and confirm they are connected firmly.
3. Switch on the main breaker in the switchbox.
4. Switch on PCS breaker at the back of battery system. No 21 of section 2.2
5. Switch on main breakers (3), (4), (5), (6), (7) and (8) (breaker “ON” with position up and breaker “OFF” with position down).
6. Lighting and UPS will be on after above step.
7. Power on the high-voltage box by pressing the switch (9).
8. Turn the breaker (10) handle clockwise to position “ON”.
9. Wait for about 30 seconds until the main positive (P+) and main negative (P-) contactors in the high-voltage box are closed, and the total voltage output is detected at U(V) in range (648V ~ 864V), reflecting the current voltage of the battery in the EMS home screen.
10. High voltage is applied successfully. The system is now on.

2.4 Connect device to Internet

Before moving forward to self-test, it is required to link the battery to internet.

Please refer to the Appendix 1, 2 or 3 for the internet connection by Wifi, 4G Mobile Network or Ethernet.

2.5 Self-test

Once the system turns on successfully, it should go into the self-test process.

Tap on the Self-Test button at the bottom right corner. The system will ask for login, please input account =”admin” and password=”888888”. There is a functional password for self-test, please input password=”123456”.

It will start the self—test which runs for 15 minutes. Self-test runs through the following:

1. Start up the system.
2. EMS Power.
3. Review alarms.
4. Internet connection.
5. Charging for 5 minutes, 5kW.
6. Discharging for 5 minutes, 5kW.
7. Shutdown the system.

Once the self-test is passed, the system is now ready to start up. Please tap on the “Power on” to kick start the system.

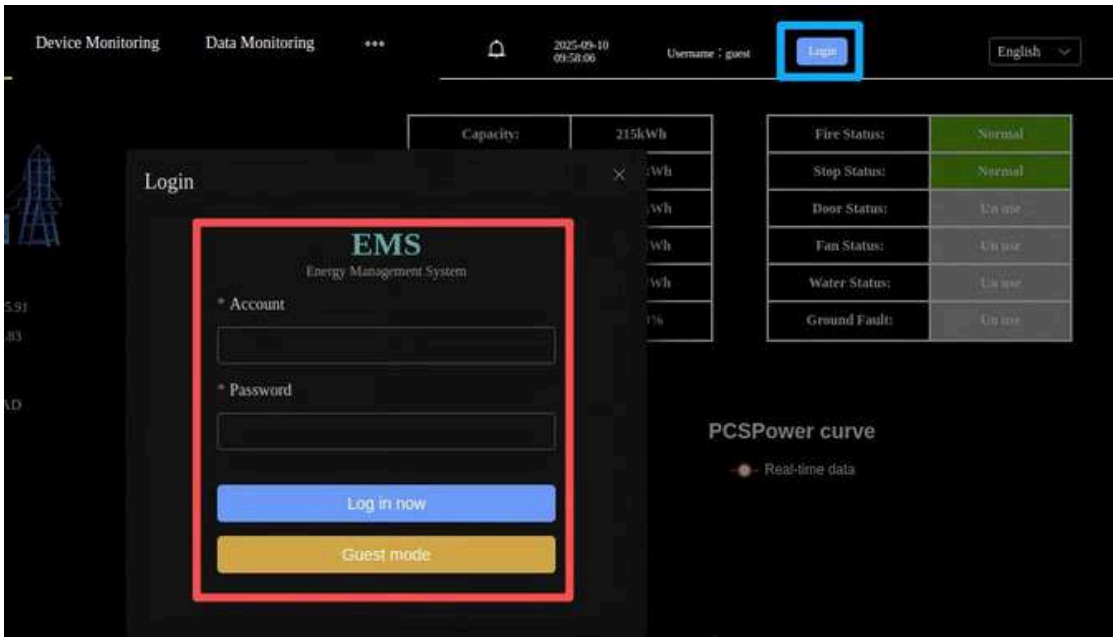
2.6 Shutdown

1. Turn the handle (10) of the circuit breaker to position “OFF”.
2. Wait 30 seconds until the main positive (P+) and main negative (P-) contactors in the high-voltage box are opened. Check that the total voltage U(V) of Battery is not detected from EMS, then the system is in the OFF state.
3. Turn off the high voltage box by pressing (9). The lighting will then be turned off.
4. Switch off all breakers (8), (7), (6), (5), (4) and (3).
5. Switch off the PCS breaker (21).
6. Switch off the main breaker from switchboard.
7. The energy storage system is now shut down.

Appendix 1 - Network Configuration

After all setup completed, please tap on the EMS application client which showed as back icon to switch back to EMS application system.

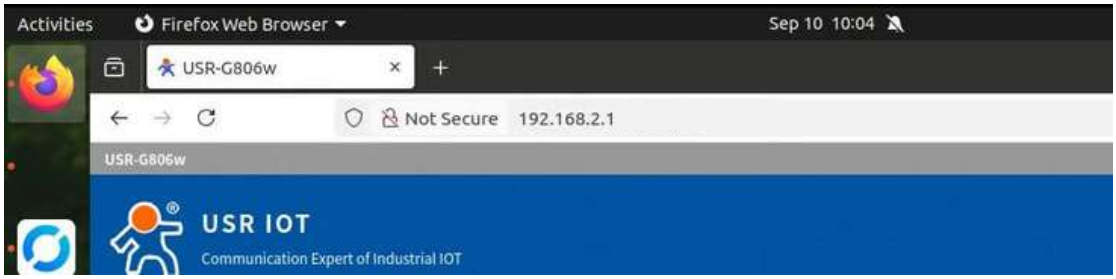
Setup WiFi (Only support 2.4G WiFi) Go to homepage of EMS. Login EMS System by tapping on “Login”, input account = “admin” and password “888888”.



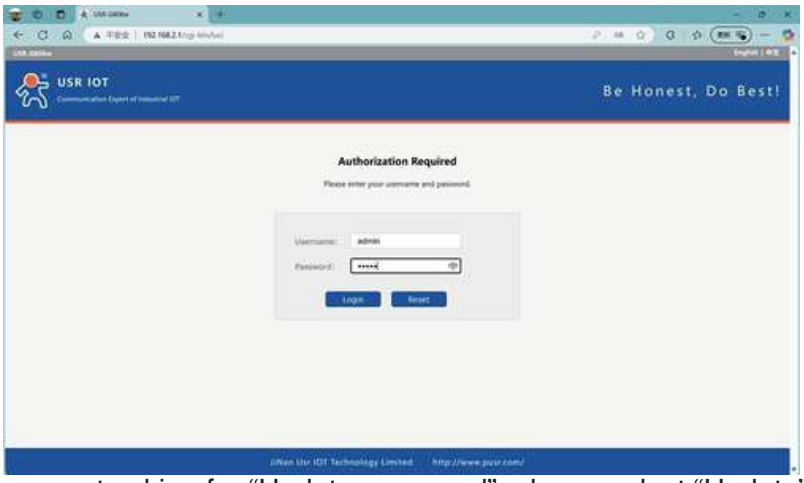
Go to Homepage and tap on “Min”

Tap onthe Firefox browser on top left corner.

Type the following URL in Firefox browser 192.168.2.1



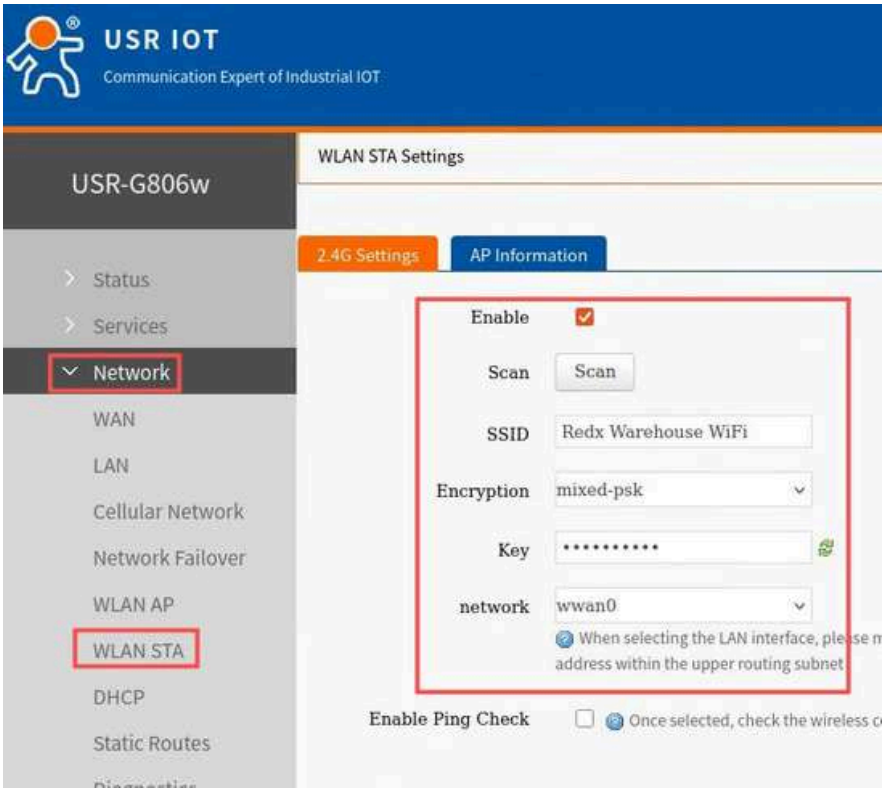
Input username = “admin” and password = “admin”



If there is a prompt asking for “Update password”, please select “Update” (Optional)

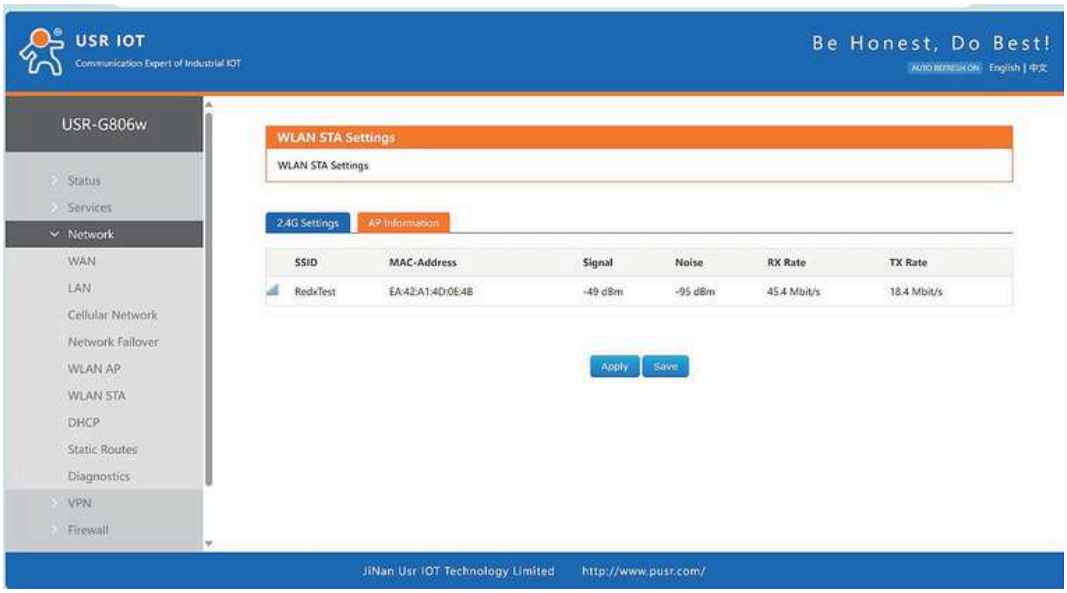
On the left menu of website, tap on “Network” > “WLAN STA”.

1. Tick on the “Enable” to enable Wi-Fi connection
2. Click on the “Scan” button to scan the on-premises SSID and wait for 30s
3. Select the desired “SSID”
4. Select “Encryption” = “mixed-psk”
5. Input “Key” – the Wi-Fi password of the desired “SSID”
6. Select “Network” = “wwan0”
7. Click the “Apply” button

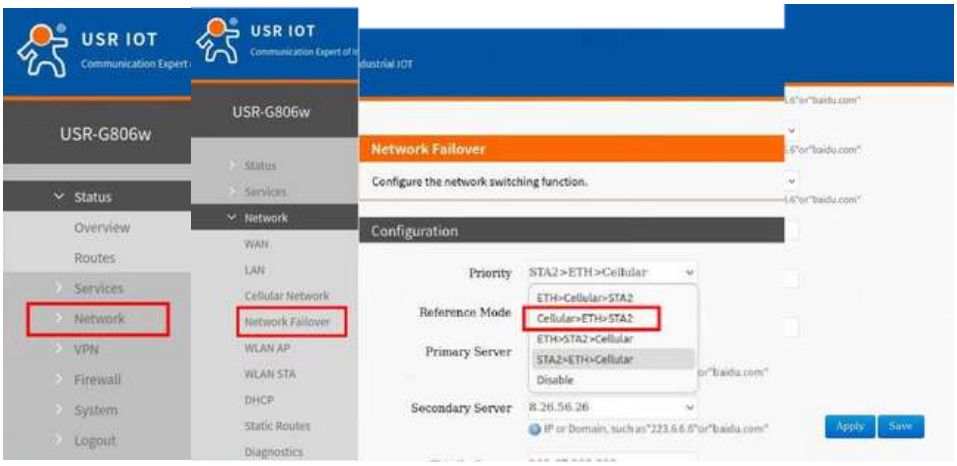


Review Wi-Fi Connection

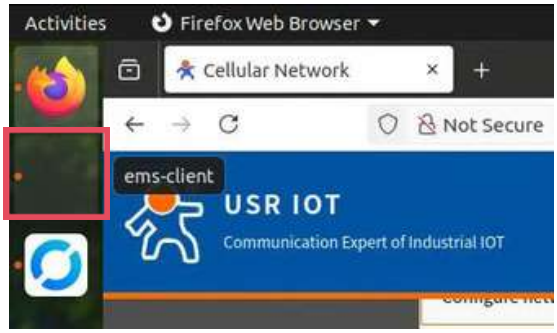
1. Select “WLAN STA” > “AP Information”
2. Check Wi-Fi signal > -70dBm (suggested)



On the left menu, tap on “Network” > “Network Failover”, Change the network priority to “Cellular>ETH>STA2” and confirm with “Apply”. (Optional, only if this is needed to prioritise multiple connections.)



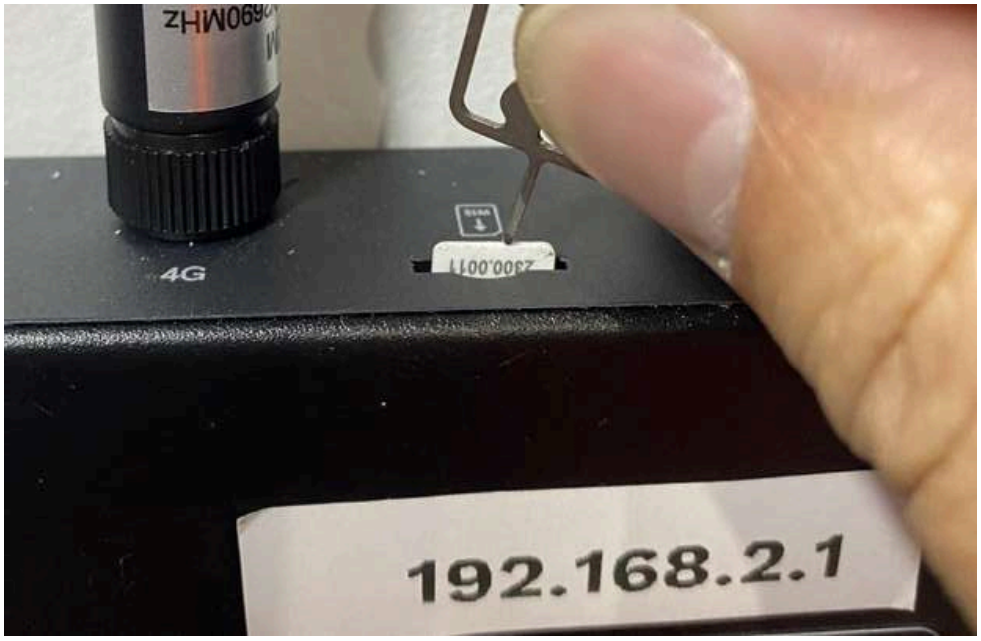
After all setup completed, please tap on the EMS application client which showed as back icon to switch back to EMS application system.



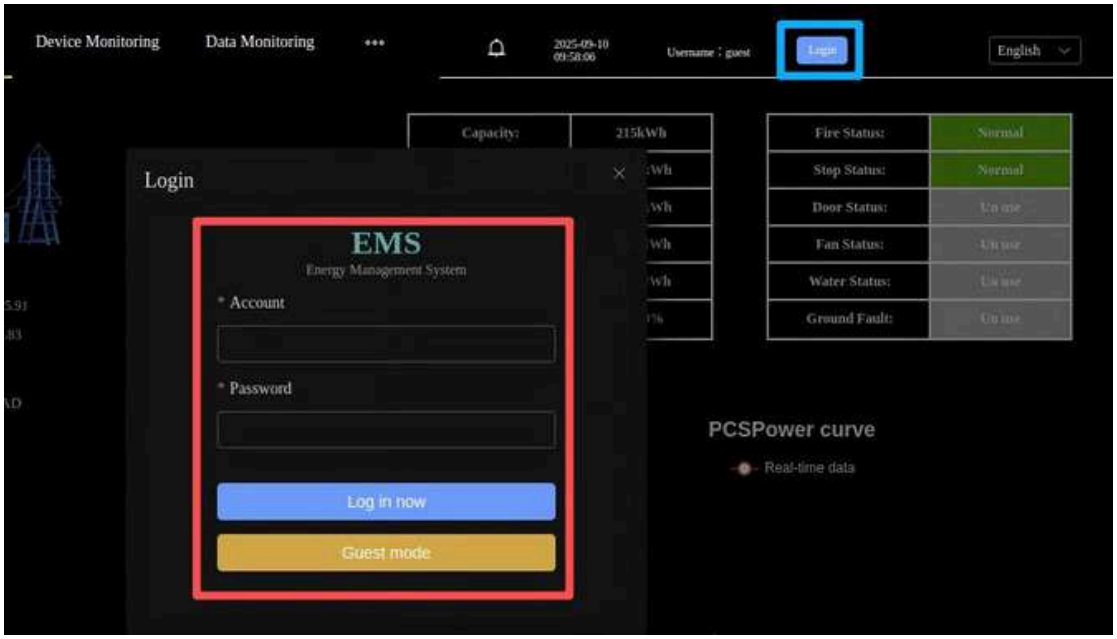
To confirm the Wi-Fi connection is ready, the “WLAN” LED turns on.

Appendix 2 - Network Configuration – 4G Mobile Network

Insert a 4G SIM card from Telstra / Vodafone / Optus 4G as follows:

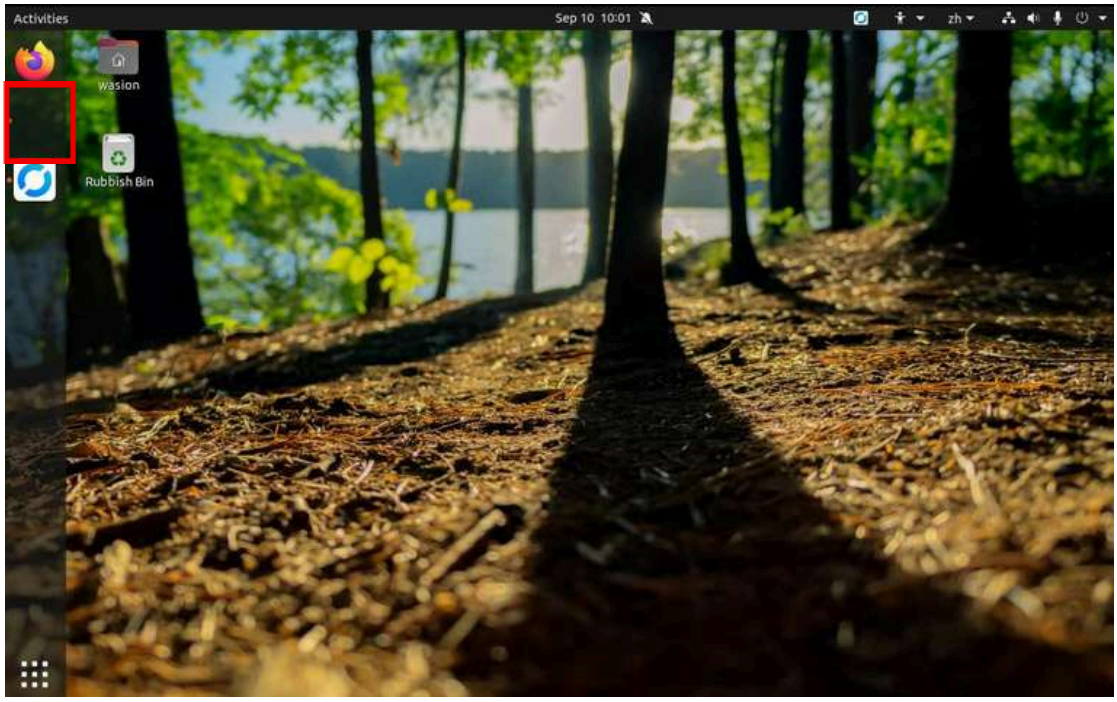


Go to the homepage of EMS. Log in to the EMS System by tapping on “Login”, input account = “admin” and password “888888”.

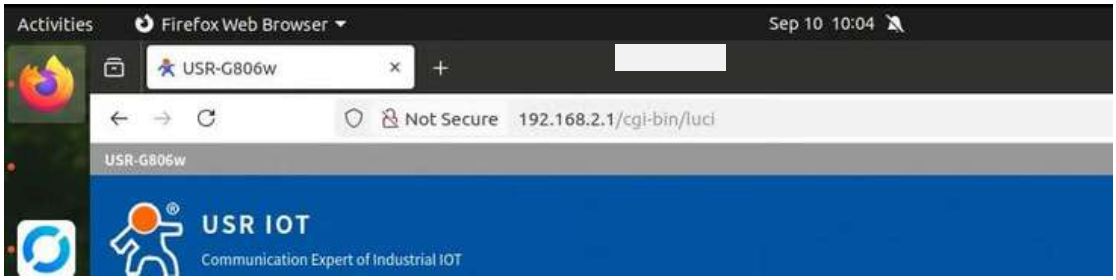


Go to the Homepage and tap on “Min”

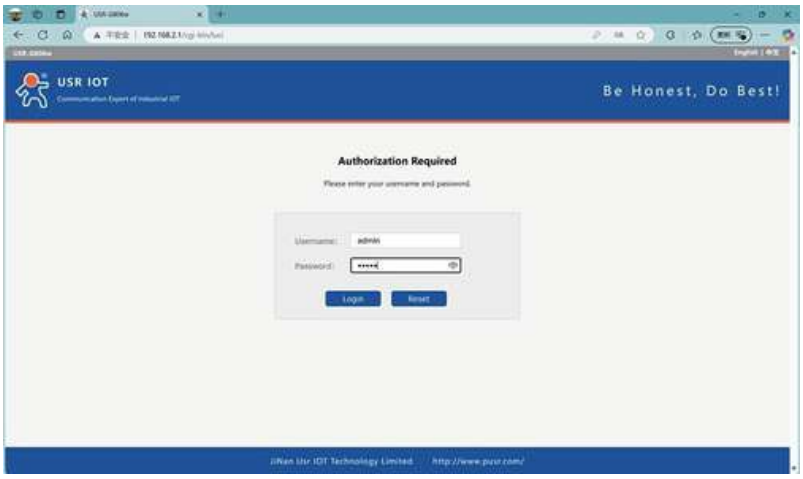
Tap onthe Firefox browser in the top left corner.



Type the following URL in the Firefox browser: 192.168.2.1



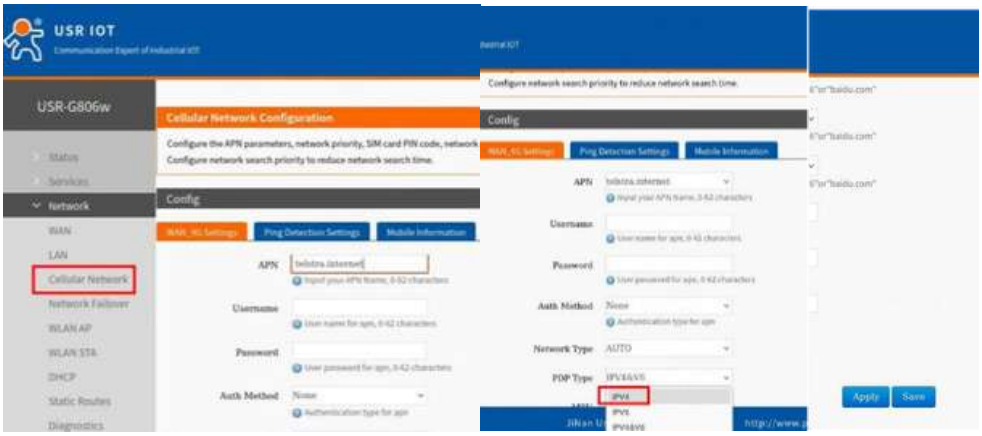
Input username = “admin” and password = “admin”



If there is a prompt asking for “Update password”, please select “Update” (Optional)

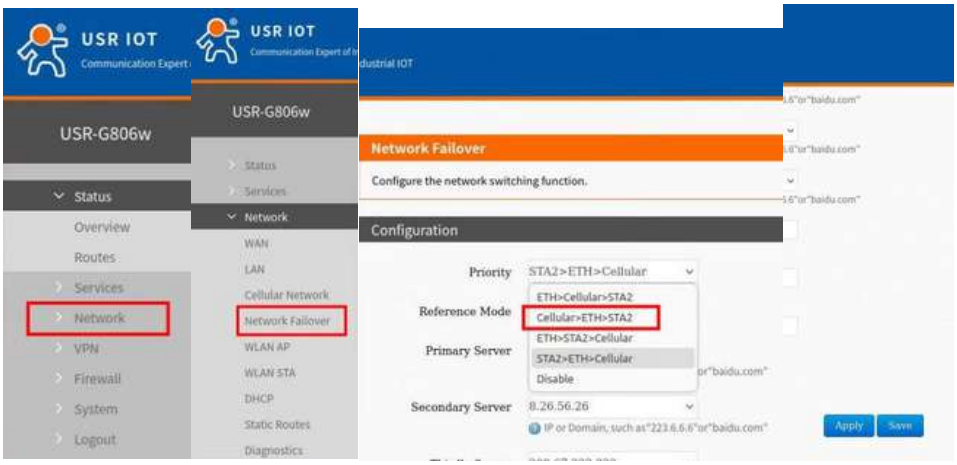
Tap on Cellular Network from the menu, set the 4G mobile network as follows: Telstra: set APN = “custom” and input “telstra.internet” for Telstra Vodafone: set APN = “custom” “live.vodafone.com” for Vodafone Optus: set APN = “custom” “yesinternet” for Optus.

Then, set PDP Type =
“IPv4”



Finally, confirm by tapping on “Apply”

On the left menu, tap on “Network” > “Network Failover”, change the network priority to “Cellular>ETH>STA2” and confirm with “Apply”. (Optional, only if this is needed to prioritise multiple connections.)

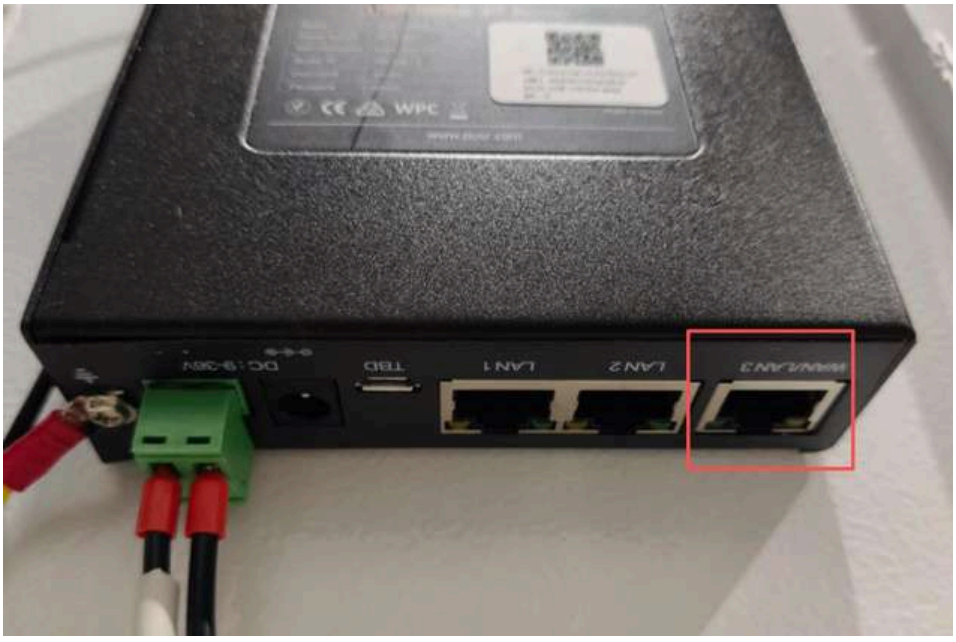


After all setup is complete, please tap the EMS application client, which is represented by a back icon, to switch back to the EMS application system.

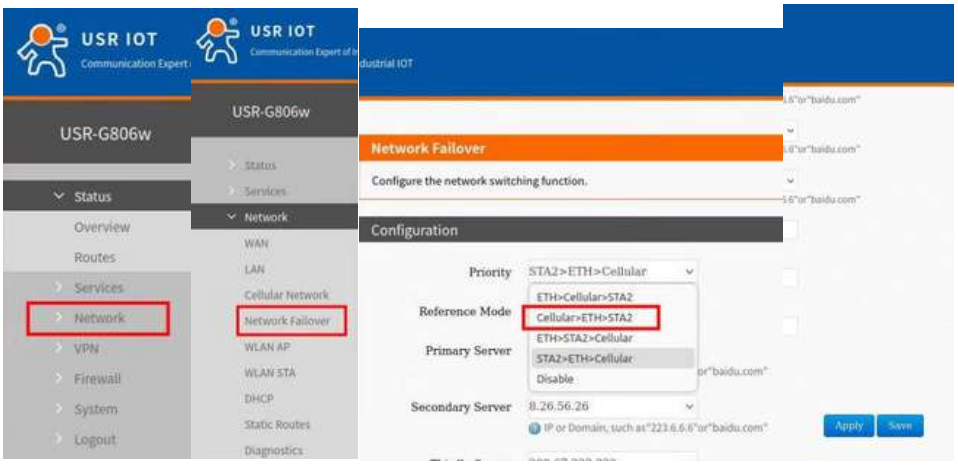
Confirm that the 4G signal is normal by checking the 2G + 3G connection, with both LED lights on, which indicates that the 4G connection is ready.

Appendix 3 - Network Configuration – Ethernet

There is no special configuration on the router to connect to Ethernet. It is a physical connection via a network cable with an RJ45 plug to the router. Plug that cable into the WAN port on the right. The router will automatically connect to the Internet.



On the left menu, tap on “Network” > “Network Failover”, change the network priority to “Cellular>ETH>STA2” and confirm with “Apply”. (Optional, only if this is needed to prioritise multiple connections.)



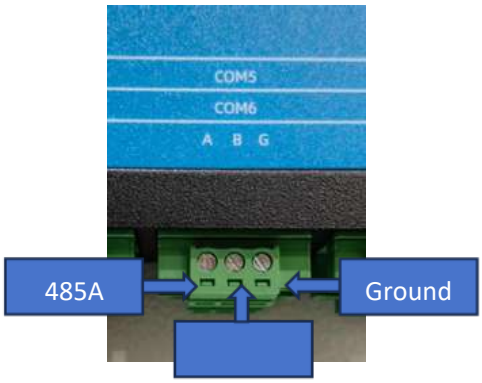
To confirm the WiFi connection is ready, the “WLAN” LED turns on.

Appendix 4 - Meter Configuration

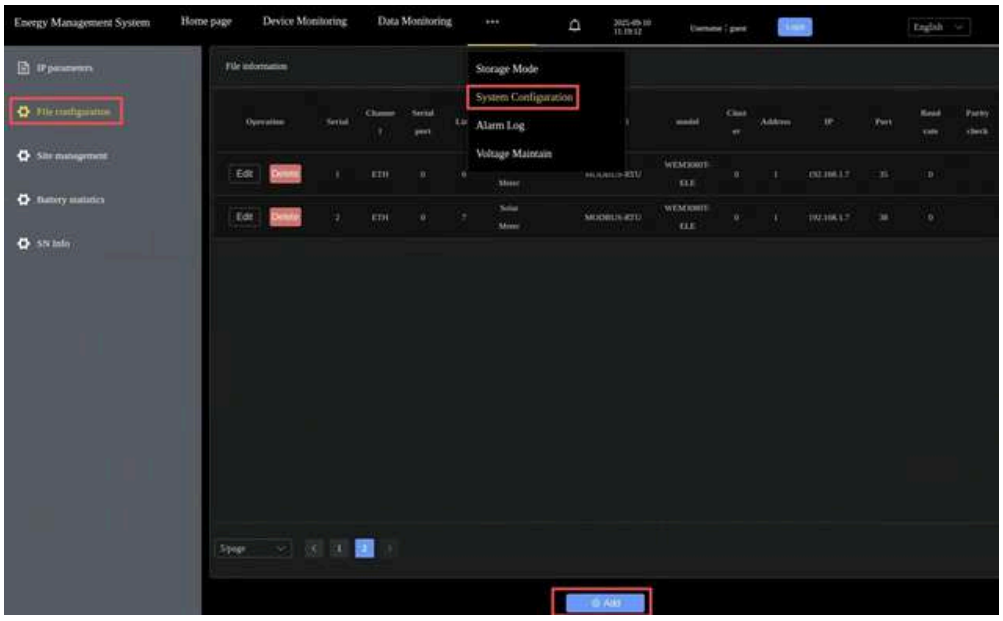
There are two supported meters: WEM3046T and WEM3080T WEM3080T supports 250A and 500A CT

WEM3046T supports only 5A input CT targeting 800A, 1000A, 1500A, 2000A, 3000A

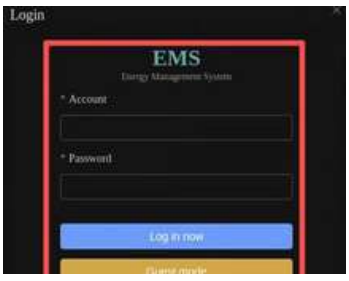
Physical connectivity for the meter. COM5 for the Grid Meter and COM6 for the PV Meter.



When adding a meter, go to “System Configuration” > “File configuration”, tap on “Add”.



If this system has not been logged in, the system will prompt for login. Input account = “admin” and password “888888”.

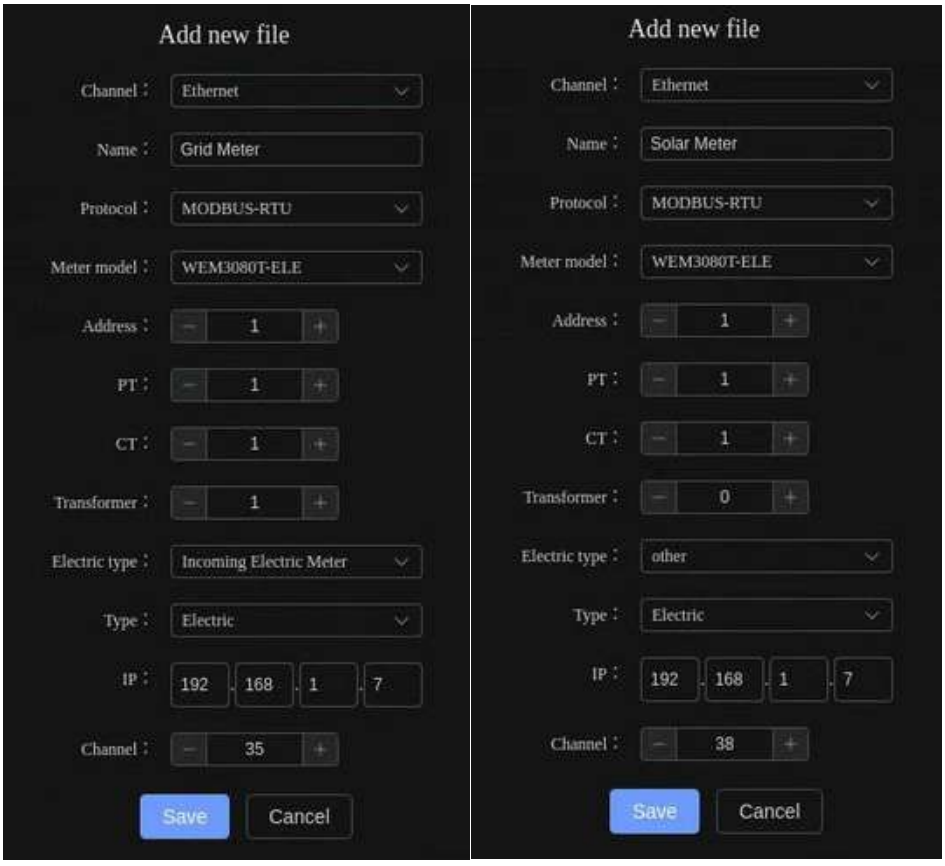


Please input the following data

1. Channel = “Ethernet”
2. Name = “Grid Meter” for Grid tied meter
3. Name = “Solar Meter” for PV tied meter
4. Protocol = “MODBUS-RTU”
5. Meter Model = “WEM3046T-ELE” or “WEM3080T-ELE”
6. Address = “1”
7. PT = “1”
8. CT = “1”

- Note for PT and CT:
  (i) WEM3080T, PT=”1”, CT=”1”
  (ii) WEM3046T, PT=”1”, CT = 160 for 800A; CT = 200 for 1000A ; CT = 300 for 1500A ; CT = 400 for 2000A ; CT = 600 for 3000A

9. Transformer = “1” for Grid Meter, = ”0” for Solar Meter
10. Electric type = “Incoming Electric Meter” for Grid Meter; “other” for “Solar Meter”
11. Type = “Electric” which means add a meter
12. IP = “192.168.1.7”
13. Channel = “35” for COM5; “38” for COM6



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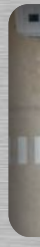

Renox

PowerPlus Technical Partner

Power

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