ADL100-EYNK plus AWT100-WiFiHW Series (Wiring&Operation Instruction)

Author: Aaron
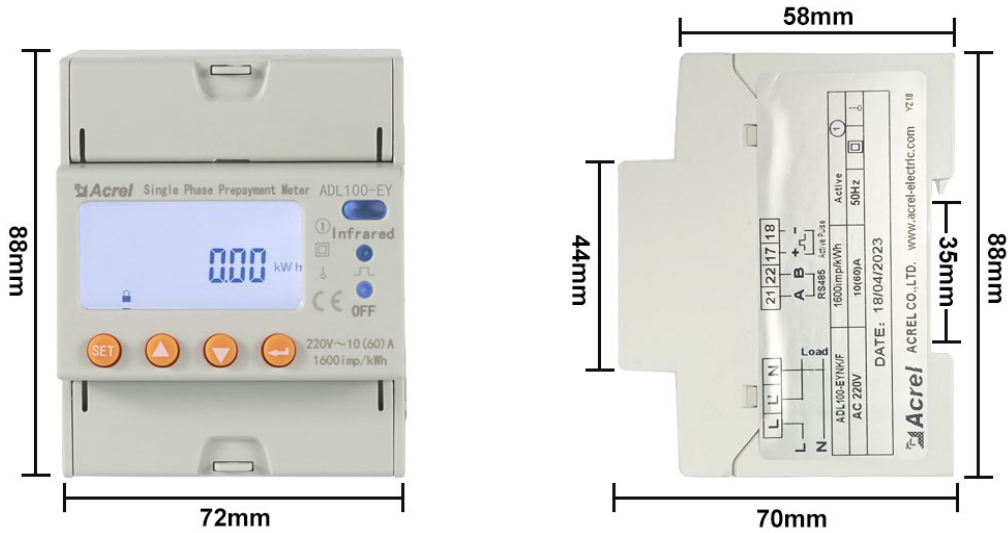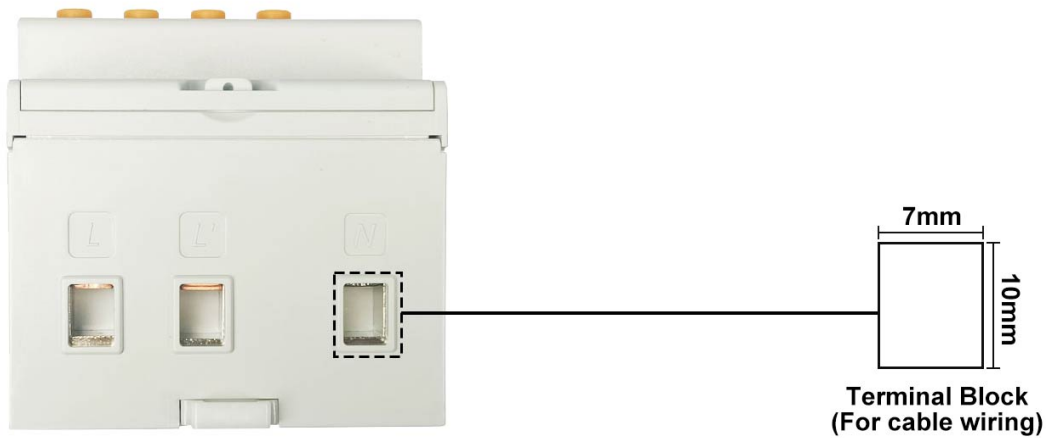E-mail: aaron@acrel.cn
Wb: www.acrel-electric.ke

0. Installation Dimension
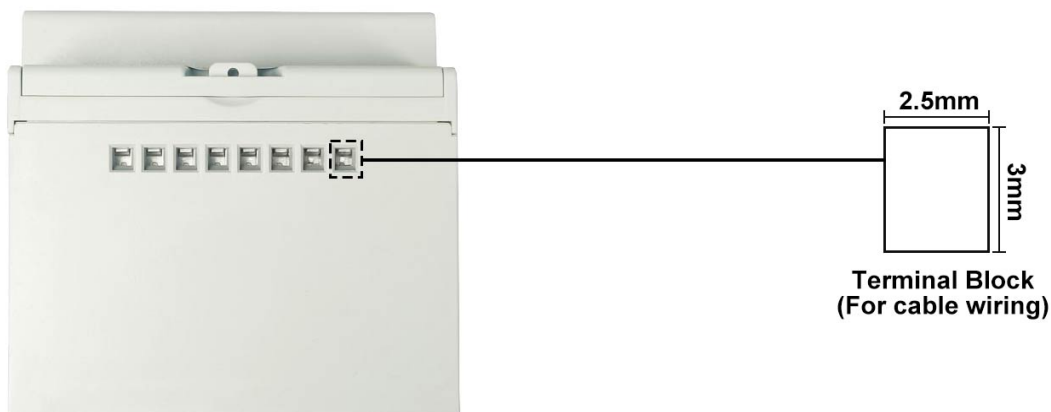
Dimension of necessary hardware including:

(1) ADL100-EYNK 1-phase Prepaid&Postpaid Energy Meter (Main Body&Terminal Block/PIN)

(2) AWT100-WiFiHW + AWT100-POW [Combined Overall Dimension & WiFi Antenna Dimension]

(1) Dimension of Main Body of ADL100-EYNK

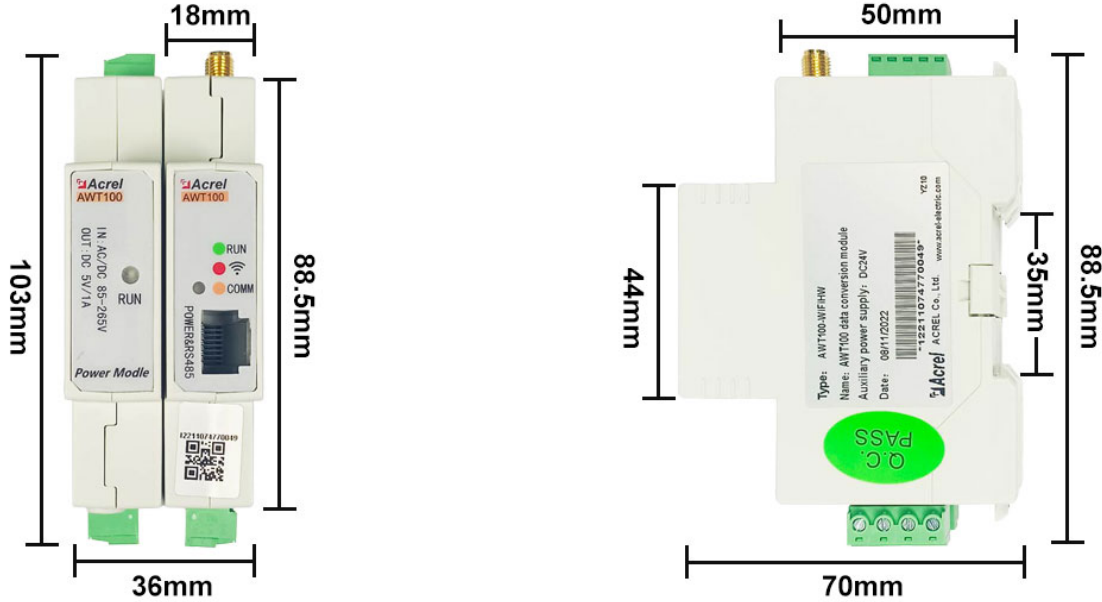(1) Dimension of Terminal Block of ADL100-EYNK [for Power Wiring]

(1) Dimension of Terminal Block of ADL100-EYNK [for RS485 and Other Wiring]

ADL100-EYNK plus AWT100-WiFiHW Series (Wiring&Operation Instruction)

Author: Aaron
E-mail: aaron@acrel.cn
Wb: www.acrel-electric.ke

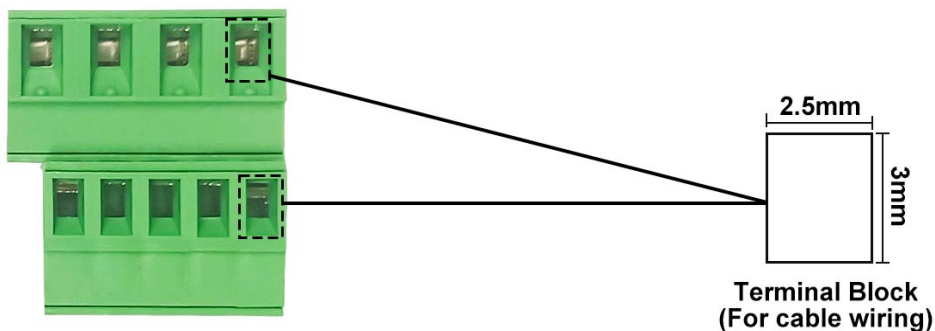## 0. Installation Dimension

Dimension of necessary hardware including:

(1) ADL100-EYNK 1-phase Prepaid&Postpaid Energy Meter (Main Body)

(2) AWT100-WiFiHW + AWT100-POW [Combined Overall Dimension & WiFi Antenna Dimension]

(2) Dimension of Main Body of AWT100-WiFiHW + AWT100-POW Set [with Terminal Block]
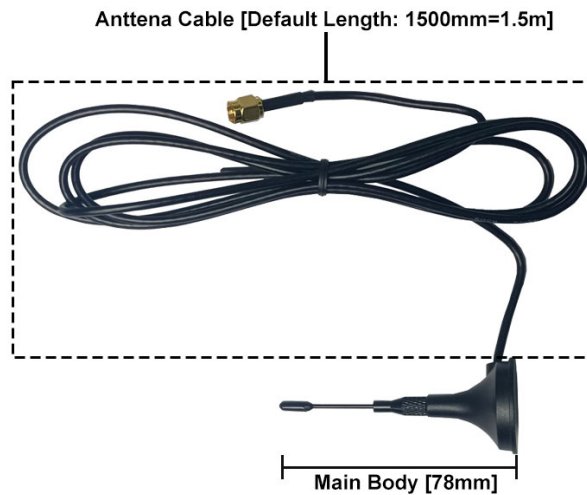
(2) Dimension of WiFi Antenna of AWT100-WiFiHW

(2) Dimension of Terminal Block of AWT100-WiFiHW + AWT100-POW Set

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ADL100-EYNK plus
AWT100-WiFiHW Series
(Wiring&Operation Instruction)

Author: Aaron
E-mail: aaron@acrel.cn
Wb: www.acrel-electric.ke

1. Wiring Illustration

Only 3 part of wiring was necessary for wiring of ADL100-EYNK 1-phase Prepaid&Postpaid Energy Meter and AWT100-WiFiHW IoT WiFi Gateway [paired with AWT100-POW Power Supply Module].

(1) Power Wiring of ADL100-EYNK: Use PIN L, L', N on ADL100-EYNK for current and voltage input (Noted,the wiring must be according to the actual live line forward current/energy direction)
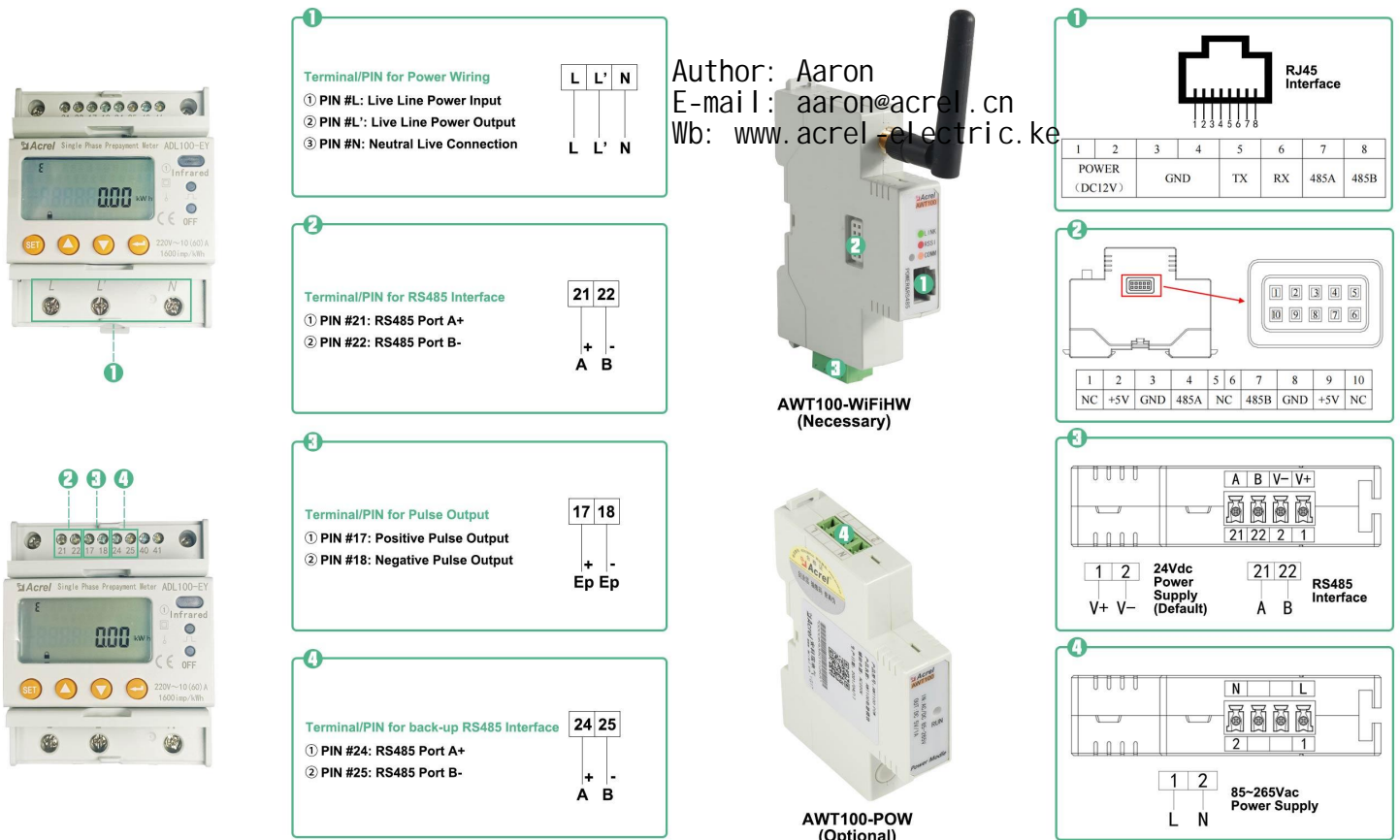
(2) Power Supply of AWT100-WiFiHW: Use PIN L, N on AWT100-POW for power supply (Noted: voltage level of power source must be with the range of 85~265Vac)

(3) RS485 Communnication Wiring between AWT100-WiFiHW and ADL100-EYNK:

PIN 21 of AWT100-WiFiHW connected to PIN 21 of first ADL100-EYNK to PIN 21 of second ADL100-EYNK and to PIN 21 of last ADL100-EYNK. (RS485 Port A to Port A to Port A)

PIN 22 of AWT100-WiFi HW connected to PIN 22 of first ADL100-EYNK to PIN 22 of second ADL100-EYNK and to PIN 22 of last ADL100-EYNK. (RS485 Port B to Port B to Port B)

*Extra Noted: Before powering ADL100-EYNK and AWT100-WiFiHW for the first time, make sure all the wiring was done and the WiFi configuration in your internet WiFi router keep the same with the WIFi configuration in AWT100-WiFiHW.
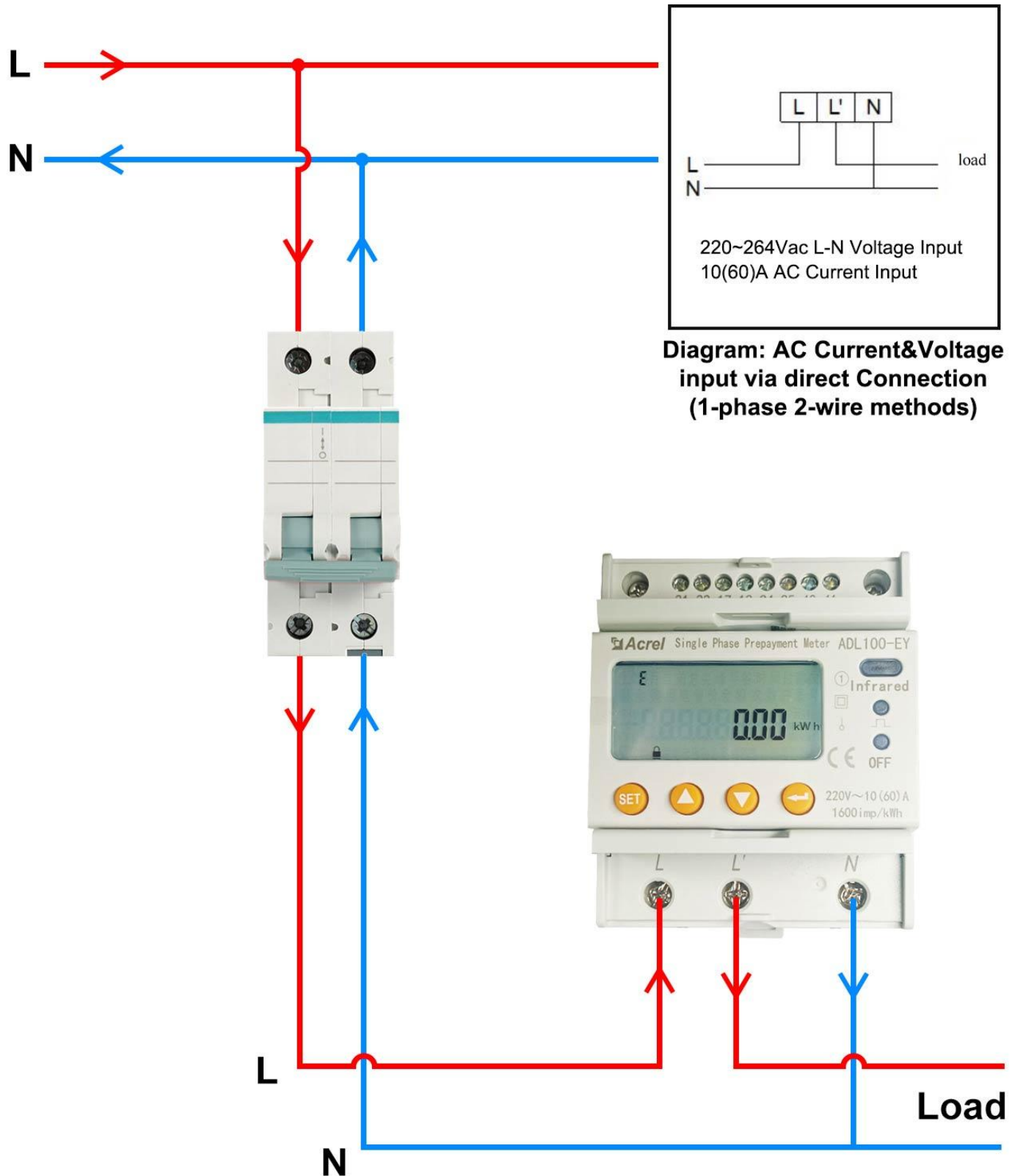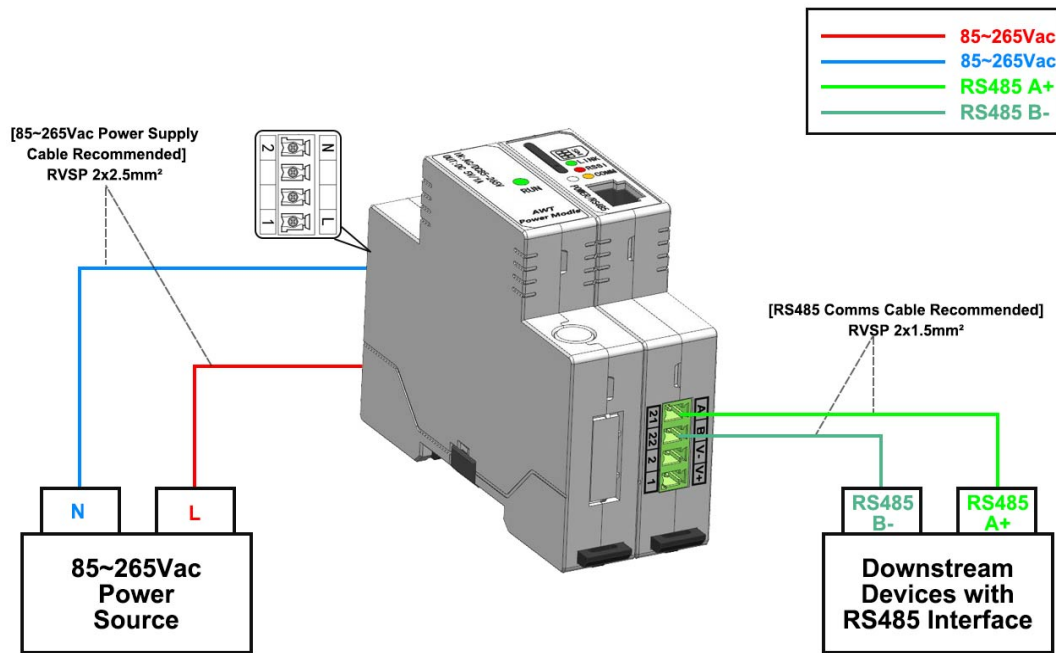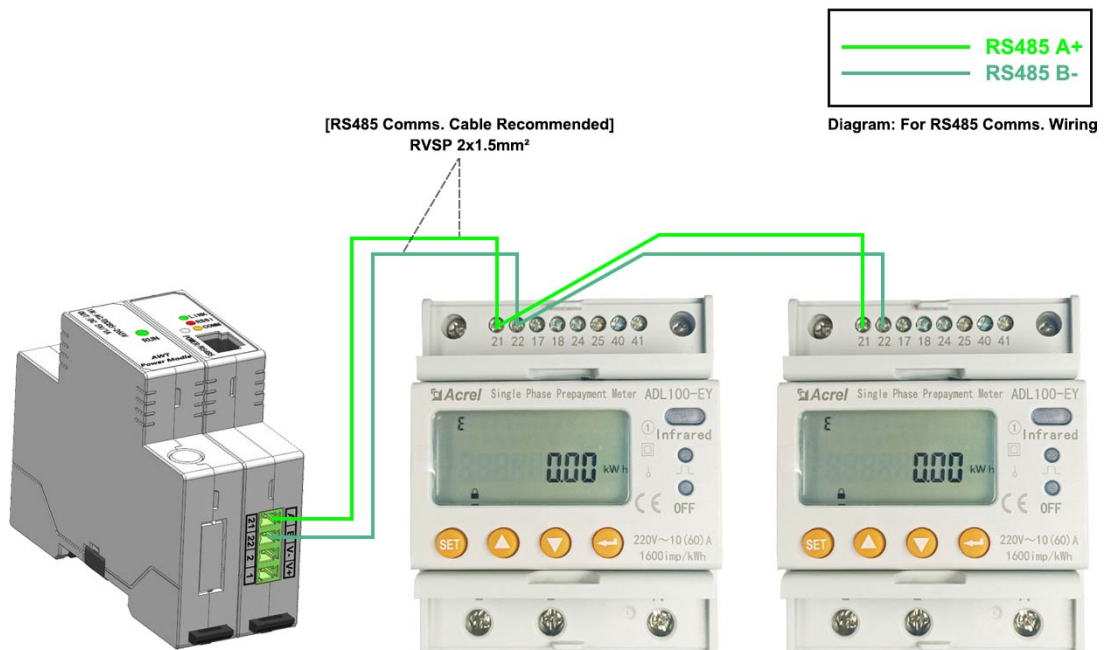
Terminal/PIN for Power Wiring
① PIN #L: Live Line Power Input
② PIN #L': Live Line Power Output
③ PIN #N: Neutral Live Connection

| L | L' | N |

Terminal/PIN for RS485 Interface
① PIN #21: RS485 Port A+
② PIN #22: RS485 Port B-

21	22
+	-
A	B

Terminal/PIN for Pulse Output
① PIN #17: Positive Pulse Output
② PIN #18: Negative Pulse Output

17	18
+	-
Ep	Ep

Terminal/PIN for back-up RS485 Interface
① PIN #24: RS485 Port A+
② PIN #25: RS485 Port B-

24	25
+	-
A	B

AWT100-WiFiHW
(Necessary)

Author: Aaron
E-mail: aaron@acrel.cn
Wb: www.acrel-electric.ke

RJ45 Interface

1	2	3	4	5	6	7	8
POWER (DC12V)		GND		TX	RX	485A	485B

1	2	3	4	5	6	7	8	9	10
NC	+5V	GND	485A	NC		485B	GND	+5V	NC

| A | B | V− | V+ |
| 21 | 22 | 2 | 1 |

| 1 | 2 | 24Vdc Power Supply (Default) | 21 | 22 | RS485 Interface |
| V+ | V− | | A | B | |

| N | | L |
| 2 | | 1 |

| 1 | 2 | 85~265Vac Power Supply |
| L | N | |

AWT100-POW
(Optional)

PIN Overview of ADL100-EYNK

PIN Overview of AWT100-WiFiHW
&AWT100-POW

![Acrel logo] **Acrel**®   **ADL100-EYNK plus AWT100-WiFiHW Series (Wiring&Operation Instruction**

Author: Aaron
E-mail: aaron@acrel.cn
Wb: www.acrel-electric.ke

1. Wiring Illustration

(1) Power Wiring of ADL100-EYNK: Use PIN L, L', N on ADL100-EYNK for current and voltage input
(Noted,the wiring must be according to the actual live line forward current/energy direction)

L   L'   N

L
N   load

220~264Vac L-N Voltage Input
10(60)A AC Current Input

Diagram: AC Current&Voltage input via direct Connection (1-phase 2-wire methods)

(1) Power Wiring of ADL100-EYNK

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ADL100-EYNK plus AWT100-WiFiHW Series (Wiring&Operation Instruction

Author: Aaron
E-mail: aaron@acrel.cn
Wb: www.acrel-electric.ke

1. Wiring Illustration

(2) Power Supply of AWT100-WiFiHW: Use PIN L, N on AWT100-POW for power supply

(Noted: voltage level of power source must be with the range of 85~265Vac)

(3) RS485 Communnication Wiring between AWT100-WiFiHW and ADL100-EYNK:

PIN 21 of AWT100-WiFiHW connected to PIN 21 of first ADL100-EYNK to PIN 21 of second

ADL100-EYNK and to PIN 21 of last ADL100-EYNK. (RS485 Port A to Port A to Port A)

PIN 22 of AWT100-WiFi HW connected to PIN 22 of first ADL100-EYNK to PIN 22 of second

ADL100-EYNK and to PIN 22 of last ADL100-EYNK. (RS485 Port B to Port B to Port B)

(2) Left Side - Power Supply Wiring of AWT100-WiFiHW (via AWT100-POW)

(3) RS485 Communication Wiring between ADL100-EYNK&AWT100-WiFiHW

Acrel®

ADL100-EYNK plus
AWT100-WiFiHW Series
(Wiring&Operation Instruction

Author: Aaron
E-mail: aaron@acrel.cn
Wb: www.acrel-electric.ke

2. System Operation

After correctly installing, wiring and powering up the Acrel devices, there are 4 steps to bind these devices with Acrel System before formally using the system:

(1) Step 1 - Download IoT EMS APP on your Mobile Phone;

(2) Step 2 - Register and login your own account.

(3) Step 3 - Create a new Project

(4) Step 4 - Add devices to your new Project (Recommend to add by using APP)

Extra Noted: Acrel IoT EMS APP (for Mobile) and IoT EMS WEB (for PC) Share the same data and account, once add the devices using APP, we can check the data on IoT EMS WEB on PC.
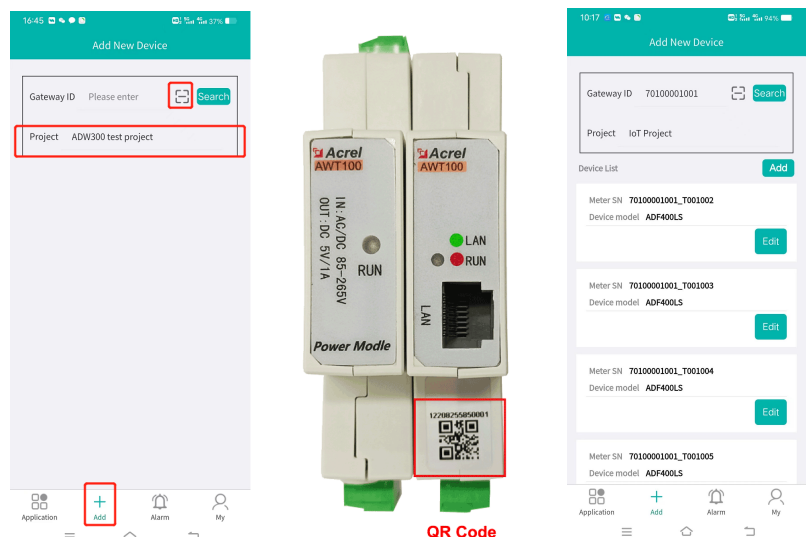
(1) Download IoT EMS APP:

- Download Link (Android): https://play.google.com/store/apps/details?id=com.acrel.iotems

- Download (IOS): Search IoT EMS
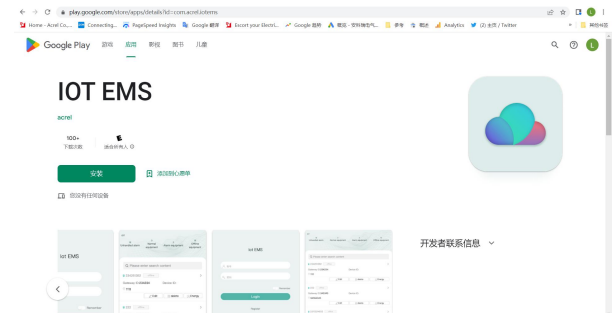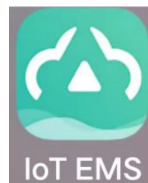
(2) Register your own Account:

- Click on register

- Enter related information for registering account

- Login with your new account by entering "Account" and "Password" you just set
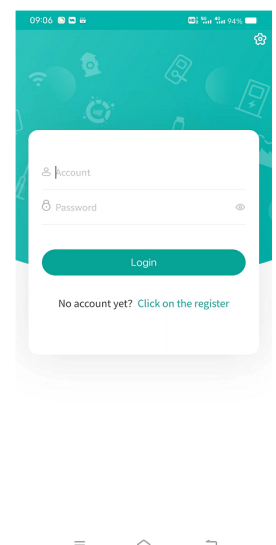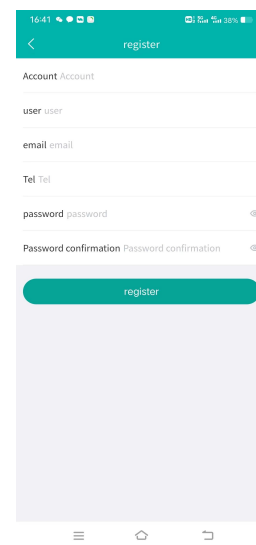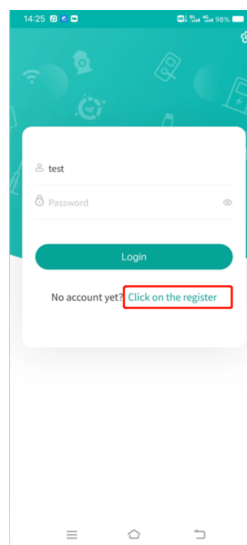
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After correctly installing, wiring and powering up the Acrel devices, there are 4 steps to bind these devices with Acrel System before formally using the system:

(1) Step 1 - Download IoT EMS APP on your Mobile Phone;

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(3) Step 3 - Create a new Project

(4) Step 4 - Add devices to your new Project (Recommend to add by using APP)

Extra Noted: Acrel IoT EMS APP (for Mobile) and IoT EMS WEB (for PC) Share the same data and account, once add the devices using APP, we can check the data on IoT EMS WEB on PC.

(3) Creat a new Project:

- "My"   "Project management"

- Click "+" icon on the right top

- Choose "Platform prepaid" and fill in other information marked by *
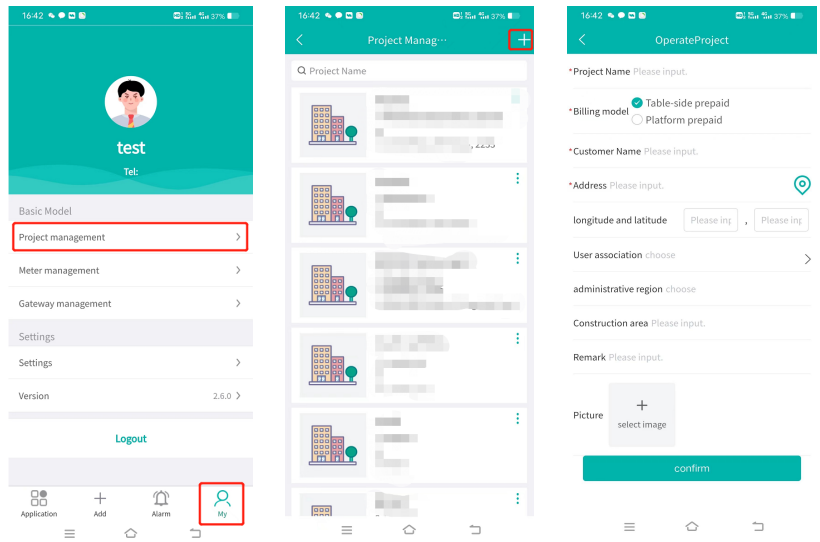
(2) Add Devices to Project:

- Enter "Add" interface

- Select "Project"

- Click "QR Code" scanning icon

- Scan the QR Code on AWT100-WiFiHW

- Downstream devices will be automatically recognized if connection success between AWT100-WiFiHW and ADL100-EYNK

QR Code

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**ADL100-EYNK plus
AWT100-WiFiHW Series
(Wiring&Operation Instruction)**

Author: Aaron
E-mail: aaron@acrel.cn
Wb: www.acrel-electric.ke

3. Acrel IoT Cloud Prepaid System (Partail Introduction)

Acrel IoT Energy Monitoring System could be access in 2 different ways:

(1) Access through WEB on your computer.

Access port: https://iot.acrel-eem.com/

(2) Access through APP on your mobile phone

Download Link: https://play.google.com/store/apps/details?id=com.acrel.iotems

(1) WEB Accesss (Computer):

Access Port: https://iot.acrel-eem.com/

Test Account Name: acrel

Test Account Password: 123456
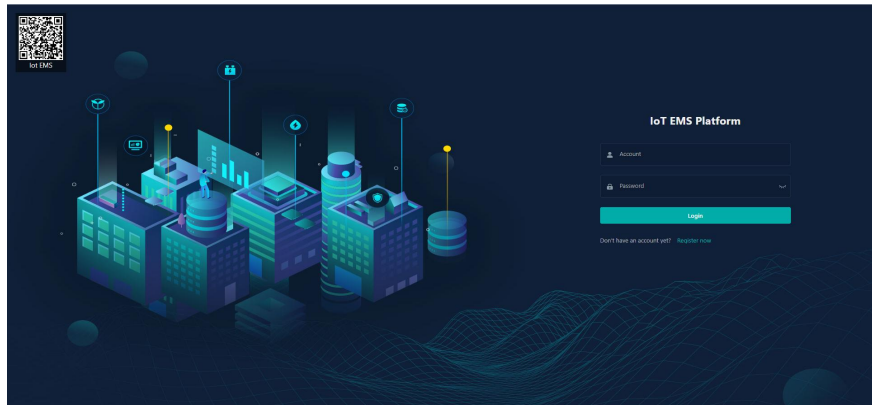
(2) APP Accesss (Mobile):

Download Link: https://play.google.
com/store/apps/details?id=com.acrel.
iotems
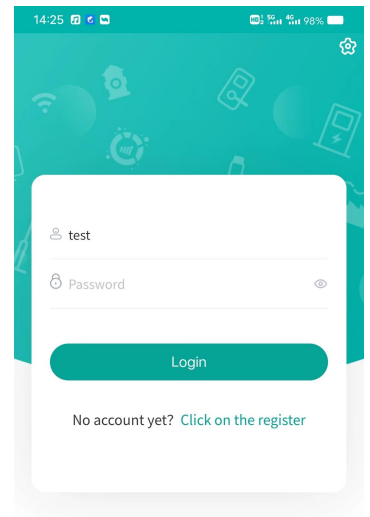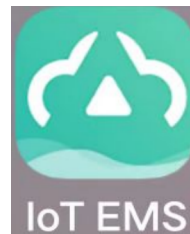
Test Account Name: acrel

Test Account Password: 123456

3. Acrel IoT Cloud Prepaid System (Partail Introduction)

Main Function of WEB side System:

(0) Prepaid Interface (1) Devices List (2) History Curve (3) Electricity Parameters Report (4) Energy Consumption Report (Daily, Monthly, Yearly) (5) User Report
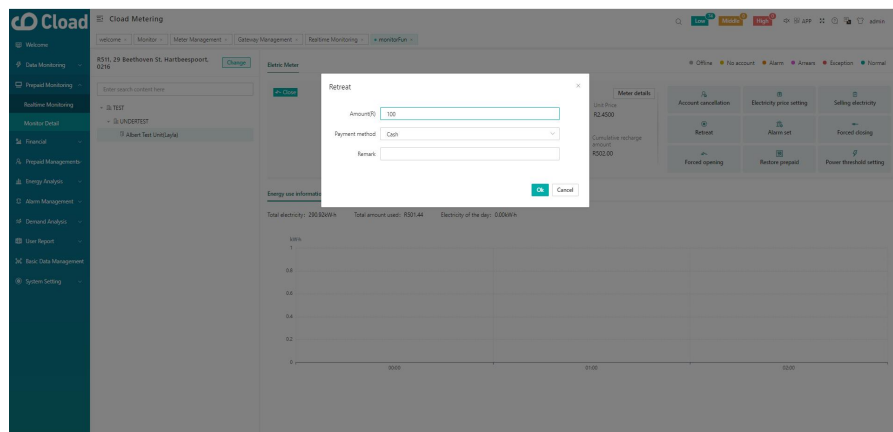
(0) Prepaid Interface-Overview: All basic function of prepaid operation could be seen here.Also, a overview of room balance credit and power consumption was available
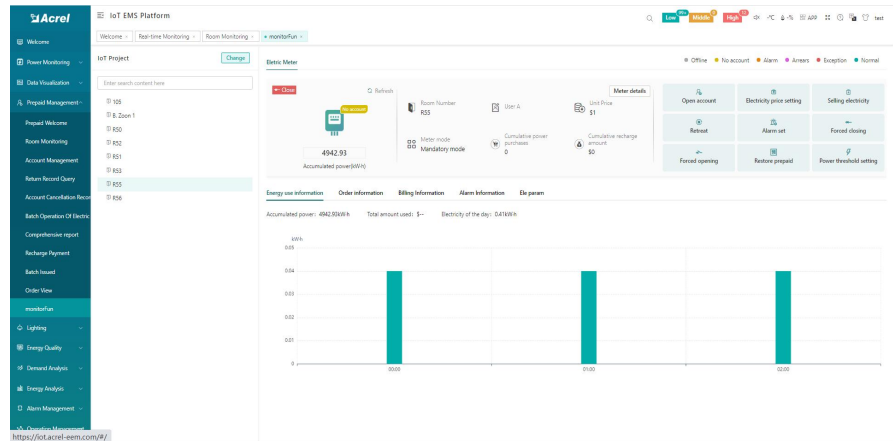
(0) Prepaid Interface-Open Account:
A prepaid energy meter will formally serve its prepaid billing and control function only after binding a "room" and "user" with it and open account for this certain "room".
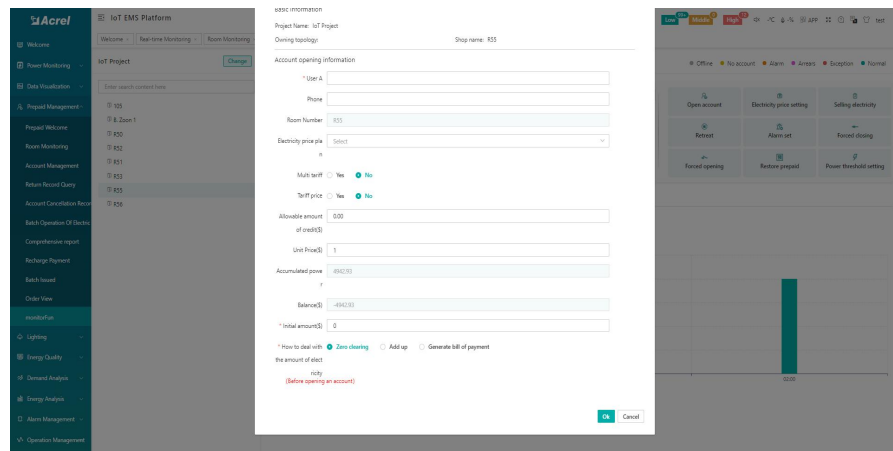
(0) Prepaid Interface-Topping Up: Enter amount to issue topping up command to certain "prepaid energy meter" bound with certain "room/user".

ADL100-EYNK plus AWT100-WiFiHW Series (Wiring&Operation Instruction)

Author: Aaron
E-mail: aaron@acrel.cn
Wb: www.acrel-electric.ke

3. Acrel IoT Cloud Prepaid System (Partail Introduction)

Main Function of WEB side System:

(0) Prepaid Interface (1) Devices List (2) History Curve (3) Electricity Parameters Report (4) Energy Consumption Report (Daily, Monthly, Yearly) (5) User Report

(0) Prepaid Interface-Retreat:
Retreat certain amount from credit balance. Designed for revising the possible false operation
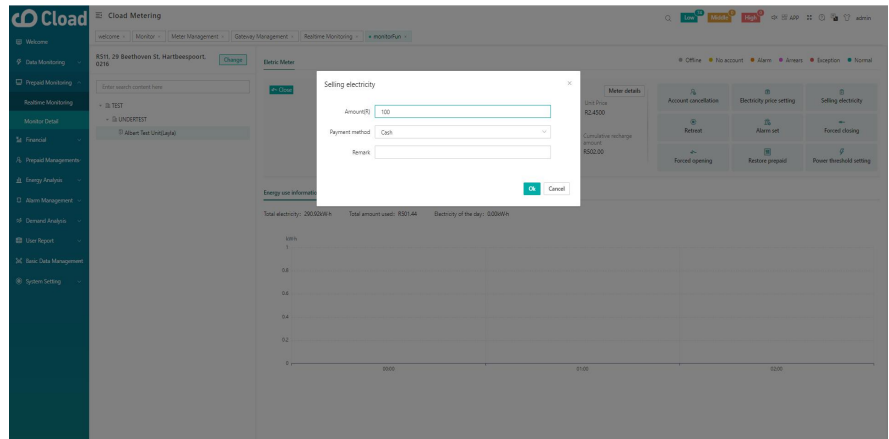
(0) Prepaid Interface - Control - Prepaid Mode: In Prepaid Mode, when the credit balance below 0, prepaid energy meter will automatically shut down loads power. and when balance above 0, will immediate resume loads power
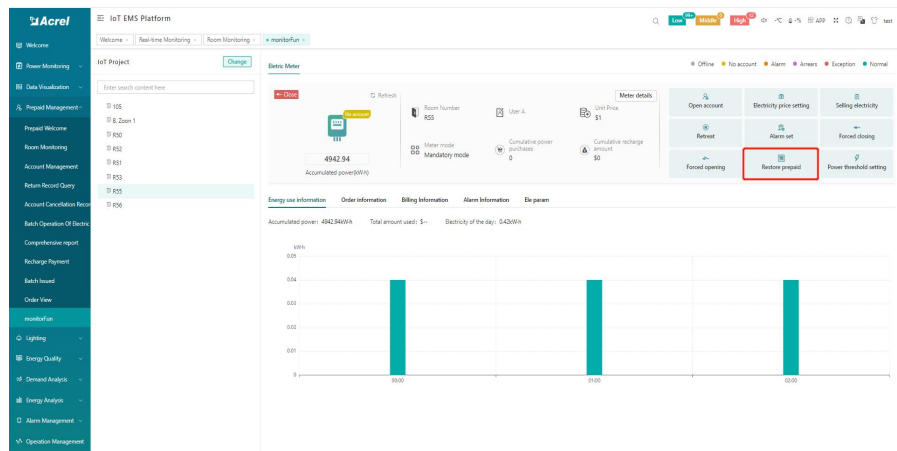
(0) Prepaid Interface - Control - Postpaid Mode: In postpaid mode, load's off-on switch control will be fully manually control by platform. Balance credite whether below or above 0 won't influence the load's switch on/off status automatically
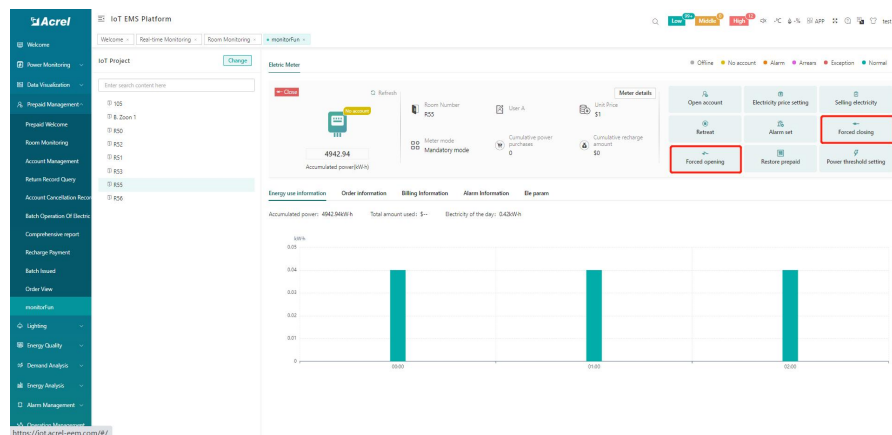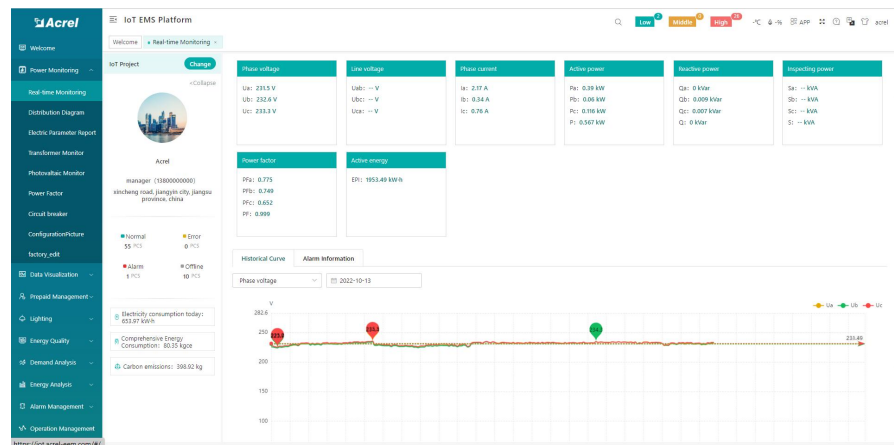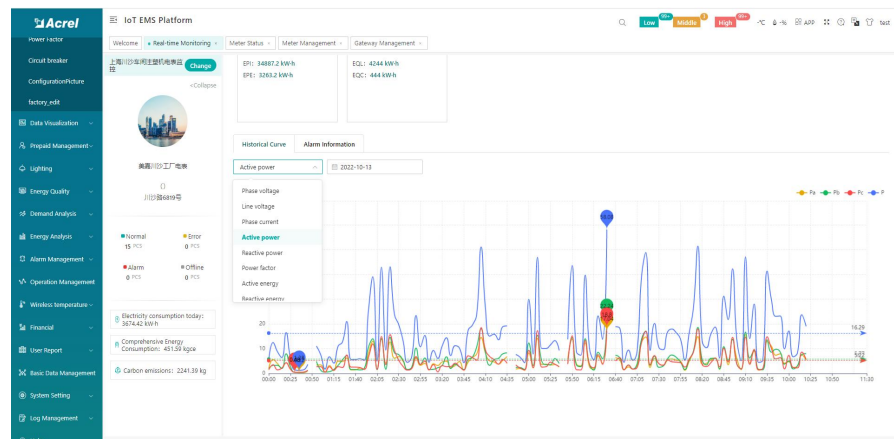
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(Wiring&Operation Instruction)

Author: Aaron
E-mail: aaron@acrel.cn
Wb: www.acrel-electric.ke

3. Acrel IoT Cloud Prepaid System (Partail Introduction)

Main Function of WEB side System:

(0) Prepaid Interface (1) Devices List (2) History Curve (3) Electricity Parameters Report (4) Energy Consumption Report (Daily, Monthly, Yearly) (5) User Report

(1) Devices List: Showing the overall devices connected to Acrel System and were bond to certain project. SN code, Online-Offline status, devices model and other necessary information will be shown here.
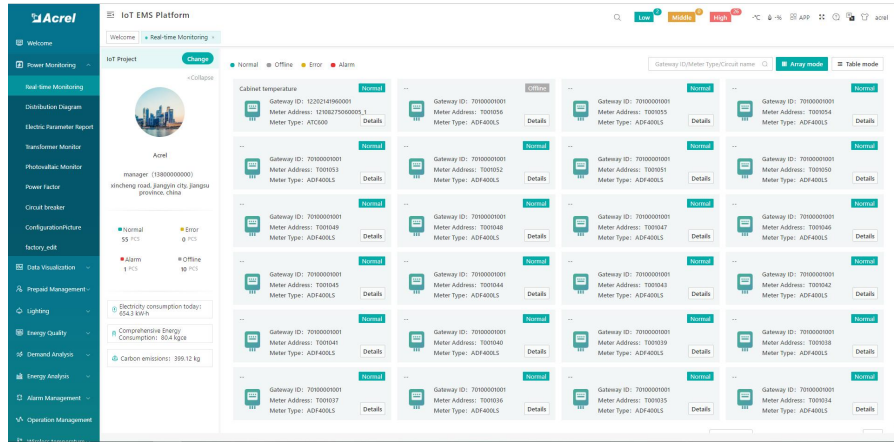
(2) History Curve: Showing the daily history data curve of all the data that could be collected and upload by energy meter or other basic metering devices.

(2) History Curve: By selecting the items of "data" and "electricity parameter", platform can show the history curve of different data and date.

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ADL100-EYNK plus
AWT100-WiFiHW Series
(Wiring&Operation Instruction)

Author: Aaron
E-mail: aaron@acrel.cn
Wb: www.acrel-electric.ke

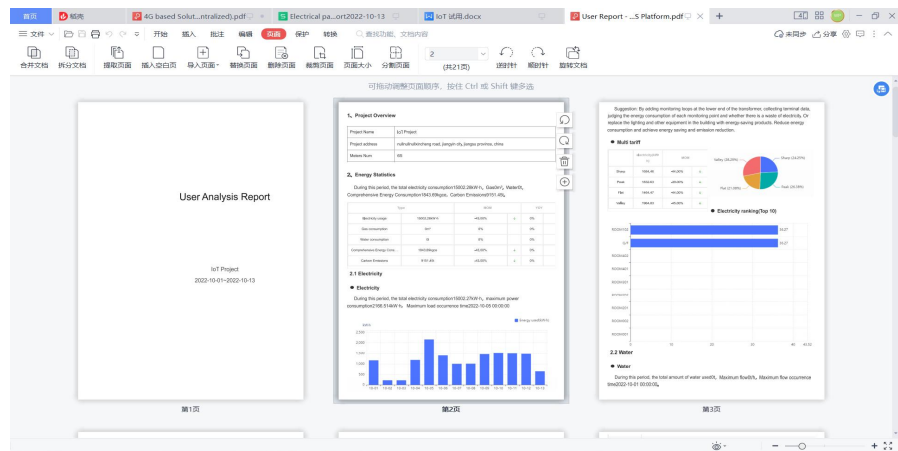## 3. Acrel IoT Cloud Prepaid System (Partail Introduction)

Main Function of WEB side System:

(0) Prepaid Interface (1) Devices List (2) History Curve (3) Electricity Parameters Report (4) Energy Consumption Report (Daily, Monthly, Yearly) (5) User Report
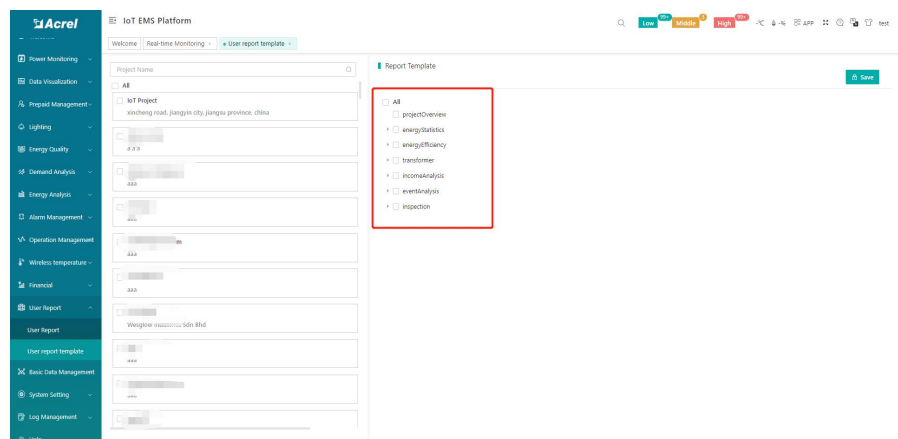
(4) Energy Report (Daily): This Interface show the daily energy consumtion report (calculated by forward active energy)

(4) Energy Report (Daily): This daily energy report could be also export to computer in "Excel" format

(4) Energy Report (Monthly& Yearly): Same as daily energy report, monthly and yearly energy report could be also checked on platform and exported in "Excel" format.

ADL100-EYNK plus
AWT100-WiFiHW Series
(Wiring&Operation Instruction))

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E-mail: aaron@acrel.cn
Wb: www.acrel-electric.ke

3. Acrel IoT Cloud Prepaid System (Partail Introduction)

Main Function of WEB side System:

(0) Prepaid Interface (1) Devices List (2) History Curve (3) Electricity Parameters Report (4) Energy Consumption Report (Daily, Monthly, Yearly) (5) User Report

(5) User Report: A comprehensive user report including project overview, energy report, energy analysis and etc could be check on platform
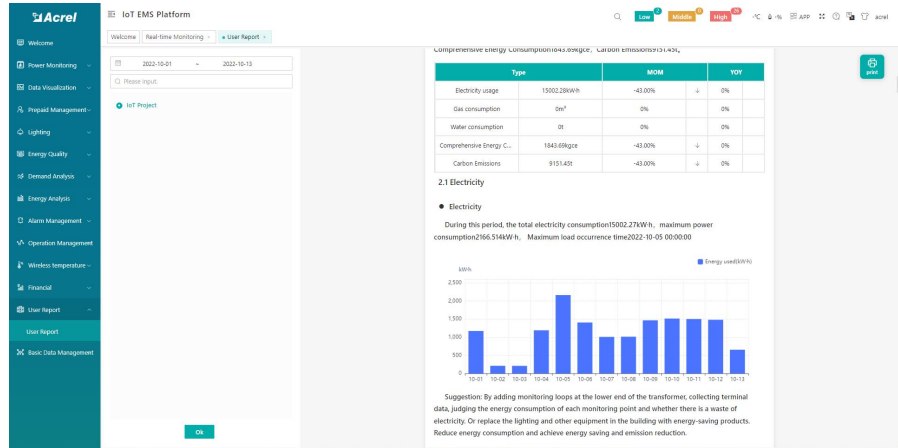
(5) User Report: User report could be exported in "PDF" format into your PC for convenient check and storage.

(5) User Report: User report support template customization in buy-out service of Acrel IoT Energy Monitoirng System.

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ADL100-EYNK plus AWT100-WiFiHW Series (Wiring&Operation Instruction)

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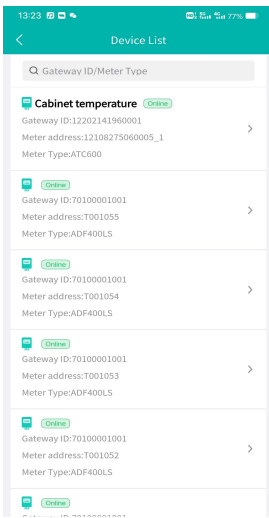E-mail: aaron@acrel.cn
Wb: www.acrel-electric.ke

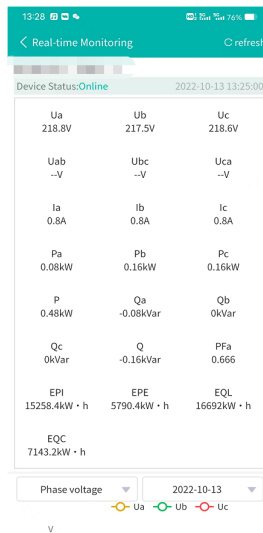## 3. Acrel IoT Cloud Prepaid System (Partail Introduction)

Main Function of APP side System:

(1) Devices List (2) History Curve (3) Electricity Parameters Report (4) Energy Trend (5) Energy Consumption Report (Daily, Monthly, Yearly)
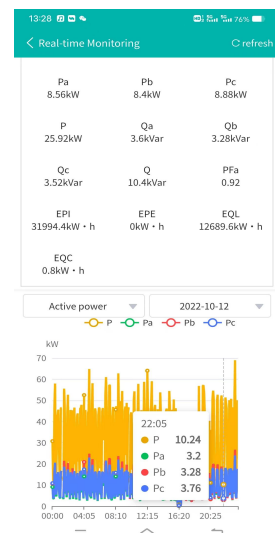
Noted: Since APP side and WEB side of Acrel IoT Energy Monitoring System share the same data, normally recommend our user to add the devices to their account using APP and check the data using WEB platform.
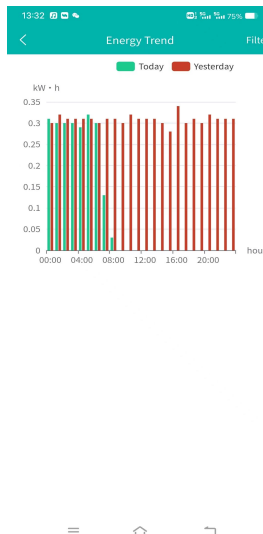

(1) Device List

(2) History Curve

(2) History Curve

(3) Parameter Report

(4) Energy Trend

(5) Energy Report