Author: Loki Elfin
E-mail: loki@acrel.cn
Website: www.acrel-electric.fr

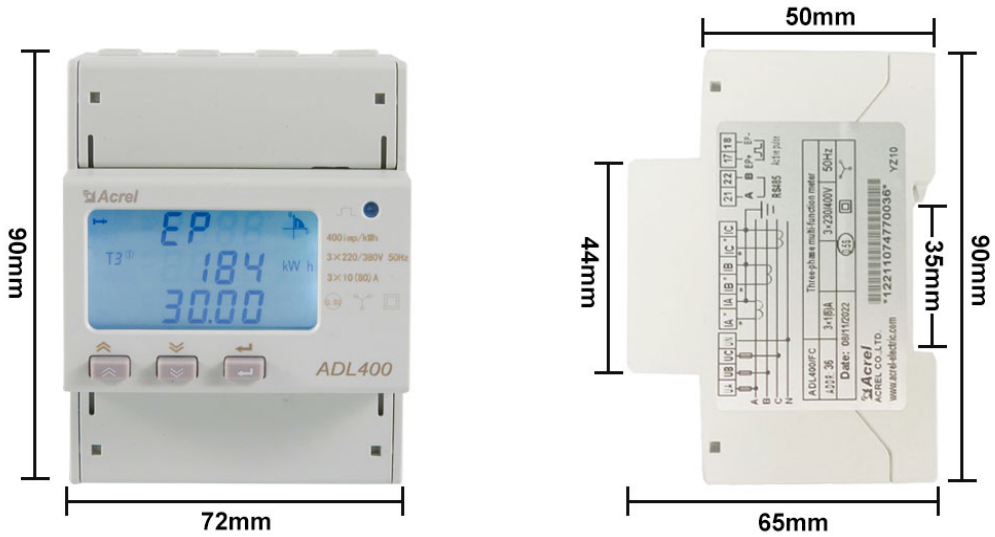
0. Installation Dimension

Dimension of necessary hardware including:

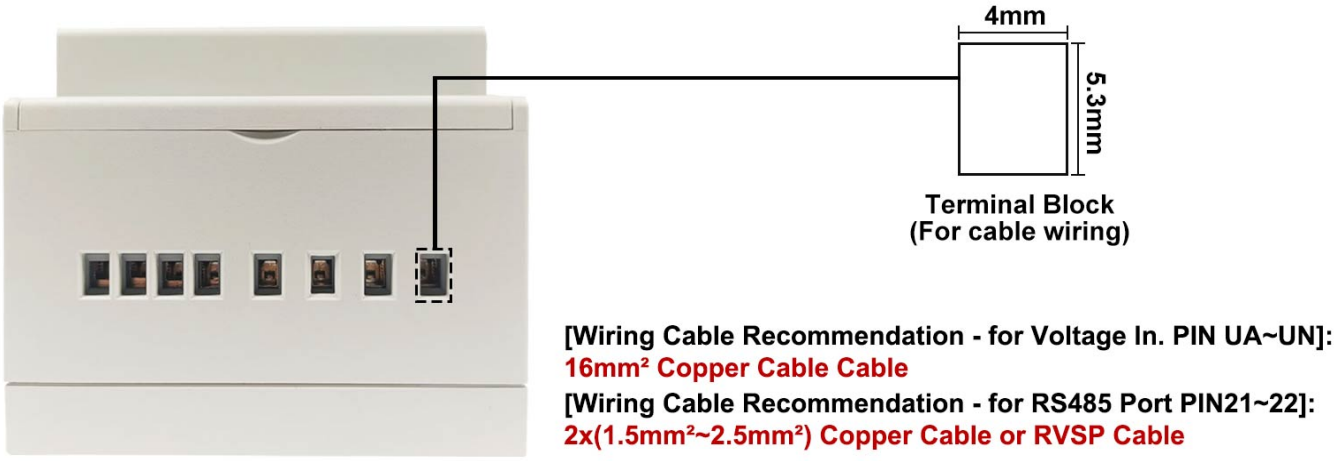
(1) ADL400 3-phase DIN-Rail Energy Meter (Main Body&Terminal Block/PIN)

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

(3) AKH-0.66/K K-φ Series Current Transformer (Main Body + Output Cable)



(1) Dimension of Main Body of ADL400



[Wiring Cable Recommendation - for Voltage In. PIN UA~UN]:
16mm² Copper Cable Cable
[Wiring Cable Recommendation - for RS485 Port PIN21~22]:
2x(1.5mm²~2.5mm²) Copper Cable or RVSP Cable

(1) Dimension of Upside Terminal Block of ADL400 [for Volatge In. & RS485 Wiring]



[Wiring Cable Recommendation - for Current In. PIN IA*~IC]:
16mm² Copper Cable Cable

(1) Dimension of Downside Terminal Block of ADL400 [for Current In. Wiring]

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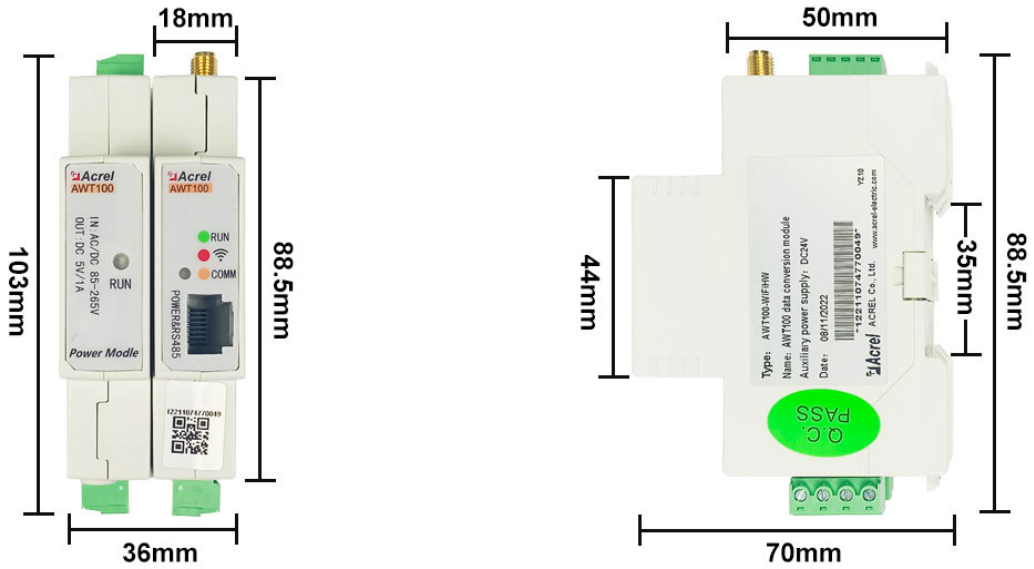
0. Installation Dimension

Dimension of necessary hardware including:

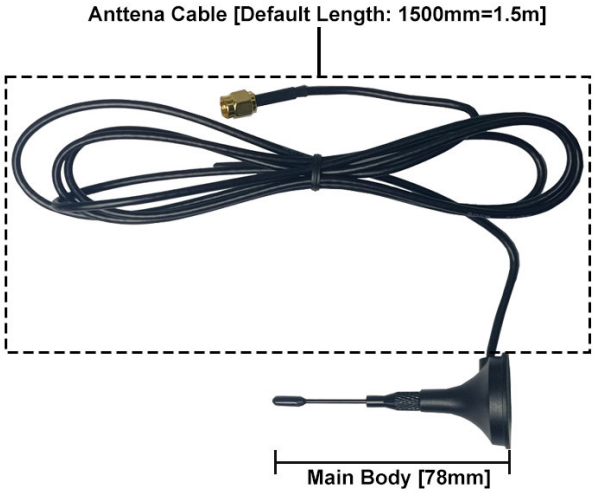
(1) ADL400 3-phase DIN-Rail Energy Meter (Main Body&Terminal Block/PIN)

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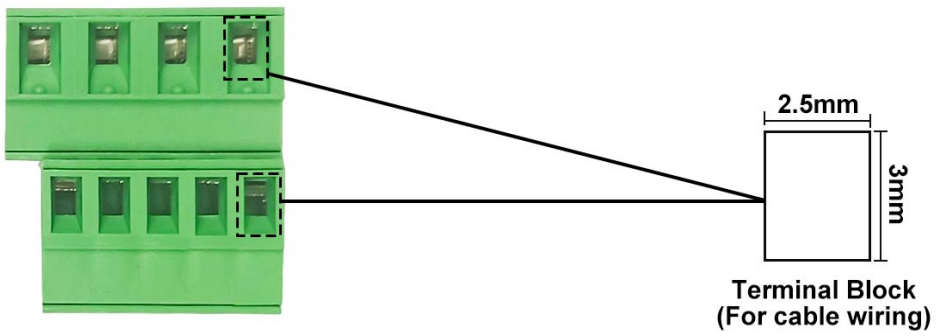
(3) AKH-0.66/K K-φ Series Current Transformer (Main Body + Output Cable)



(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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Website: www.acrel-electric.fr

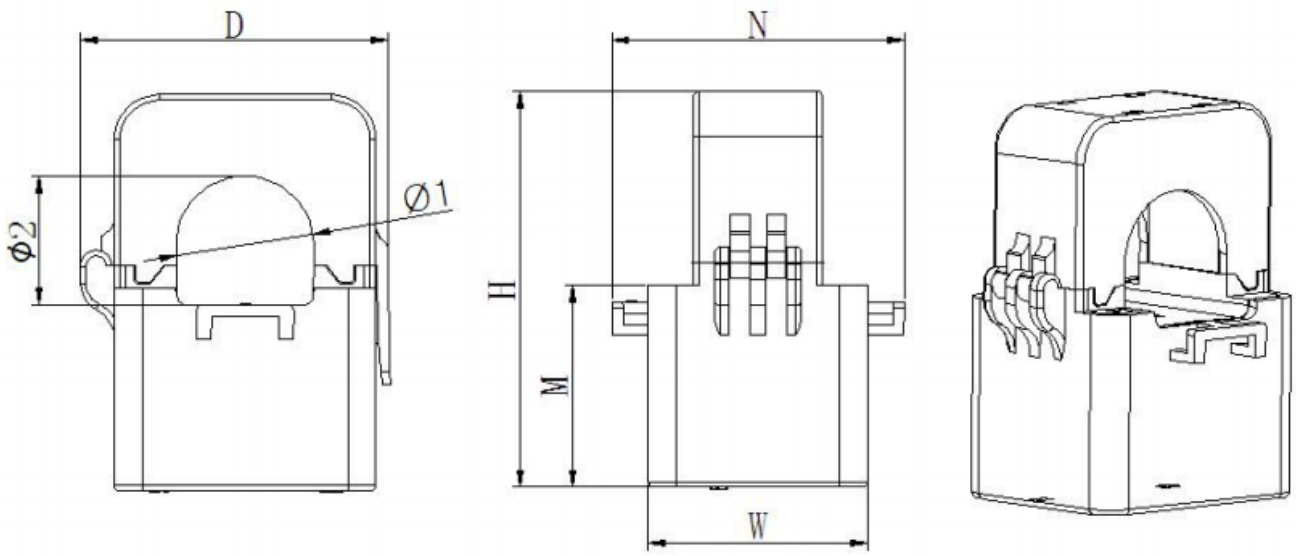
0. Installation Dimension

Dimension of necessary hardware including:

(1) ADL400 3-phase DIN-Rail Energy Meter (Main Body&Terminal Block/PIN)

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

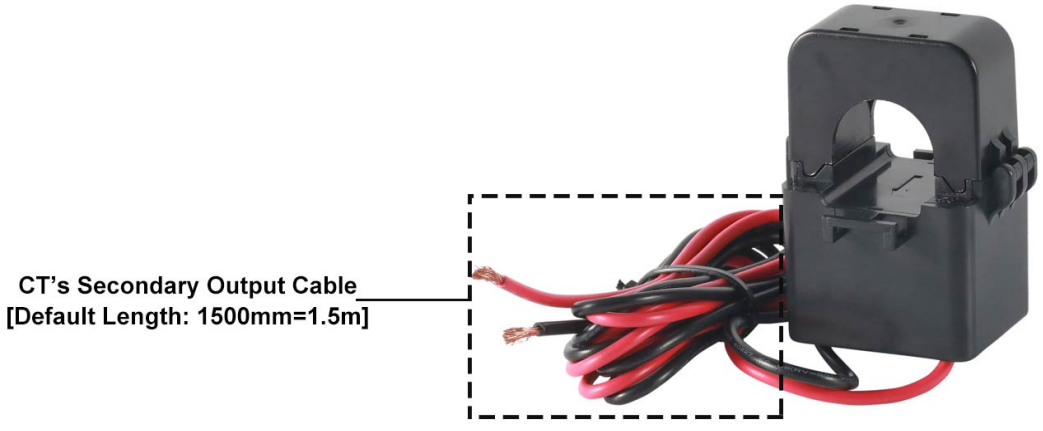
(3) AKH-0.66/K K-φ Series Current Transformer (Main Body + Output Cable)



Note: Primary current flow from P1 to P2. The black second wiring is S2,the red is S1.The outlet length is 1m ± 10cm.

Size (mm) / Type	Outline size					Through size		Tolerance
	W	H	D	M	N	Φ1	Φ2	
K-Φ24	39	70.5	55	36	52	24.5	23	±1
K-Φ36	42.5	81.5	67	40	56	33.5	35	
K-Φ50	46.5	110	90	54	66.5	47	52	

(3) Dimension of Main Body of AKH-0.66/K K-φ Series



(3) Dimension of Secondary Output Cable of AKH-0.66/K K-φ Series

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Author: Loki Elfin
E-mail: loki@acrel.cn
Website: www.acrel-electric.fr

1. Wiring Illustration

Only 4 parts of wiring was necessary for wiring of ADL400 (CT ver.) and AWT100-WiFiHW

(1) Voltage Signal Input Wiring of ADL400: Use PIN UA, UB, UC, UN on ADL400 for 3-phase voltage input respectively. [3-phase 4-wire wiring methods.]

(2) Current Signal Input Wiring of ADL400: Use PIN IA*, IA, IB*, IB, IC*, IC for 3-phase current input respectively [3-phase 4-wire wiring methods]

(3) 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 L-N)

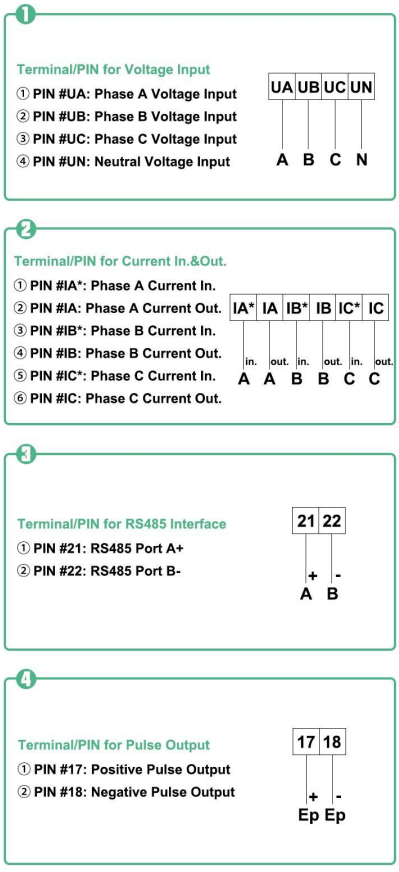
(4) RS485 Communnication Wiring between AWT100-WiFiHW and ADL400: PIN 21 of AWT100-WiFiHW connected to PIN 21 of first ADL400 to PIN 21 of second ADL400 and to PIN 21 of last ADL400. (RS485 Port A to Port A to Port A)

PIN 22 of AWT100-WiFiHW connected to PIN 22 of first ADL400 to PIN 22 of second ADL400 and to PIN 22 of last ADL400. (RS485 Port B to Port B to Port B)

Note #1: The installed direction (P1→P2) of CTs must be according to the actual forward current/ energy direction.

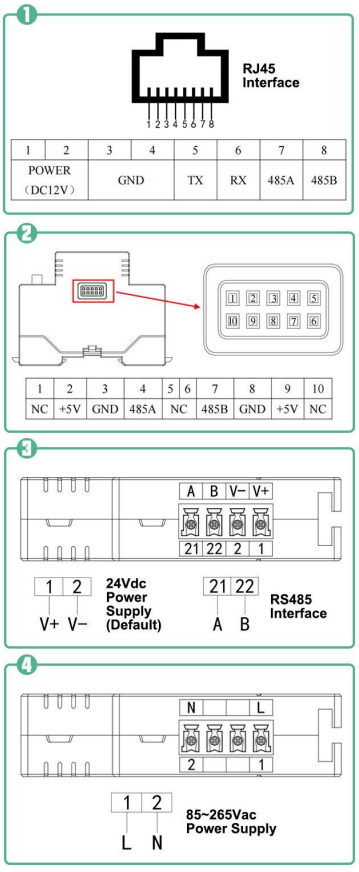
Note #2: Before powering ADL400 and AWT100-WiFiHW, make sure all the wiring was done and 4G SIM card installed in AWT100-WiFiHW 4G SIM card tray.





PIN Overview of ADL400
[CT Operated Ver.]





PIN Overview of AWT100-WiFiHW

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1. Wiring Illustration

(1) Voltage Signal Input Wiring of ADL400: Use PIN UA, UB, UC, UN on ADL400 for 3-phase voltage input respectively. [3-phase 4-wire wiring methods.]

(2) Current Signal Input Wiring of ADL400: Use PIN IA*, IA, IB*, IB, IC*, IC for 3-phase current input respectively [3-phase 4-wire wiring methods]. (PIN IA*, IB*, IC* on ADL400 connected to red wire (also S1 side) of 3 CTs respectively, PIN IA, IB, IC on ADL400 connected to black wire (also S2 Side) of 3 CTs respectively.

Note #1: The installed direction (P1→P2) of CTs must be according to the actual forward current/ energy direction.

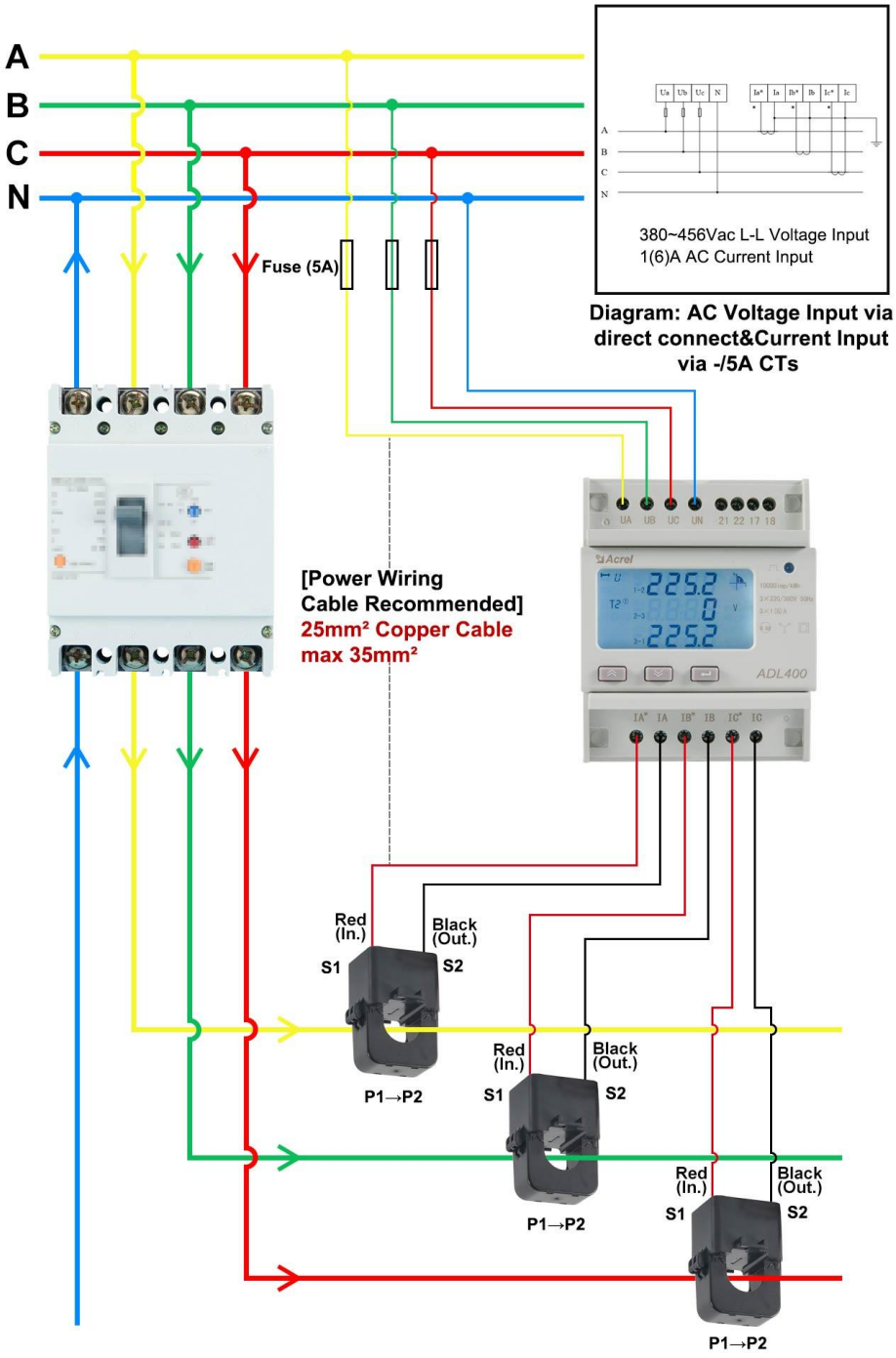


Diagram: AC Voltage Input via direct connect&Current Input via -/5A CTs

(1) Power Wiring of ADL400

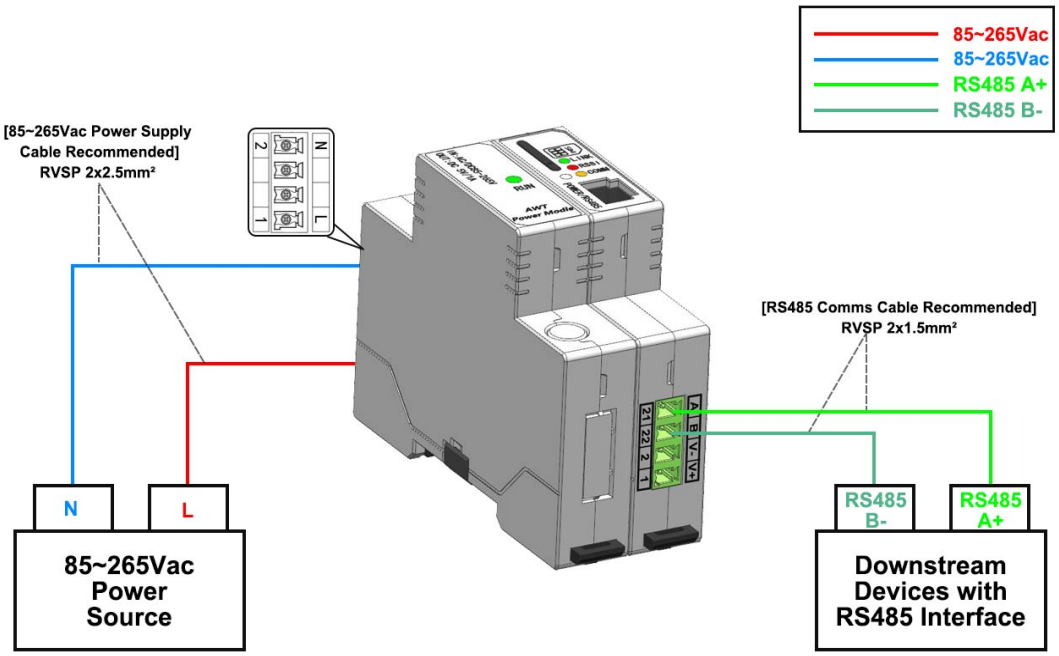
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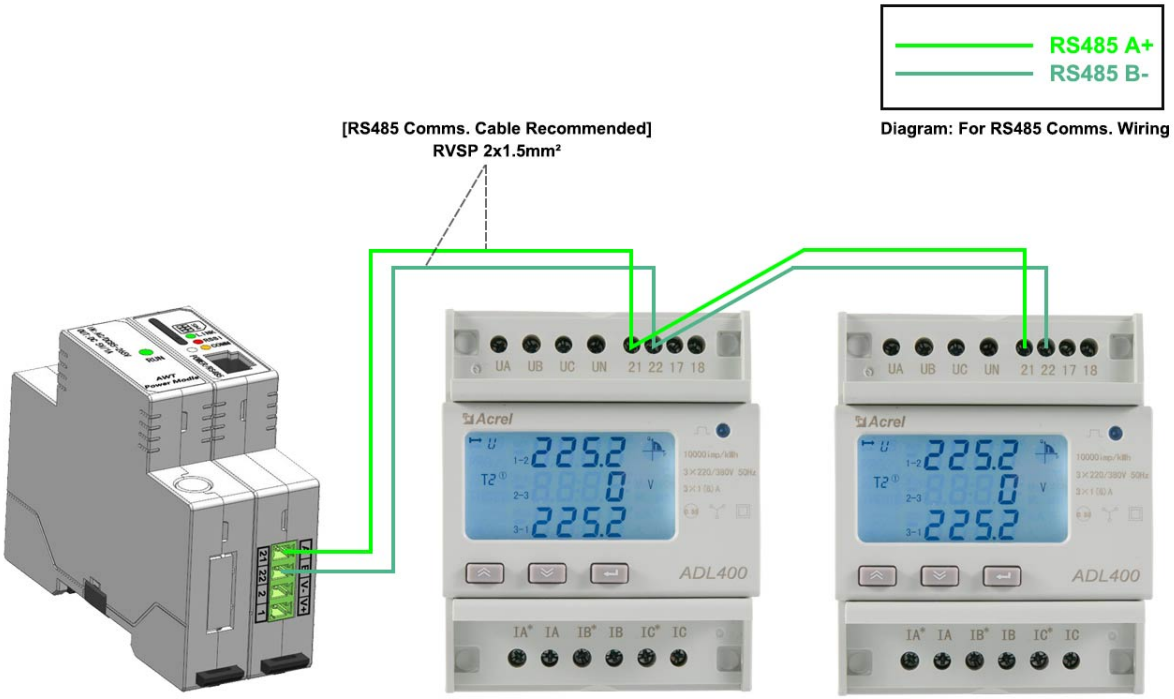
1. Wiring Illustration

(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 L-N)

(3) RS485 Communnication Wiring between AWT100-WiFiHW and ADL400: PIN 21 of AWT100-WiFiHW connected to PIN 21 of first ADL400 to PIN 21 of second ADL400 and to PIN 21 of last ADL400. (So does the connection of PIN 22)



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



(3) RS485 Communication Wiring between ADL400&AWT100-WiFiHW

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Author: Loki Elfin
E-mail: loki@acrel.cn
Website: www.acrel-electric.fr

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

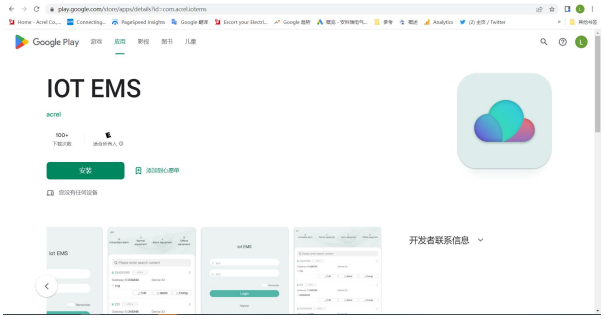
(4) Step 4 - Add devices to your new Project (Recommend to add by using APP)

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:

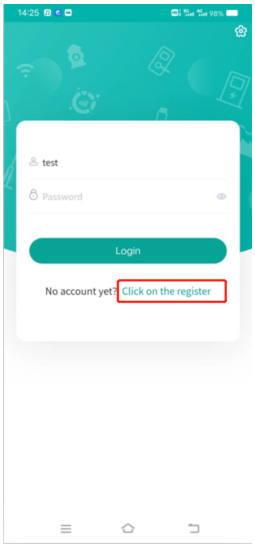
- Download Link (Android): https://play.google.com/store/apps/details?id=com.acrel.iotems
- Download (IOS): Search IoT EMS

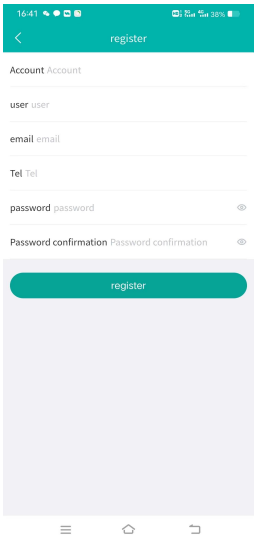


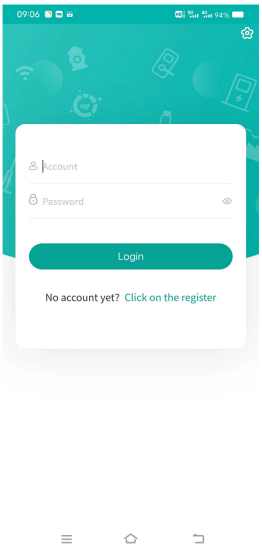


(2) Register your own Account:

- 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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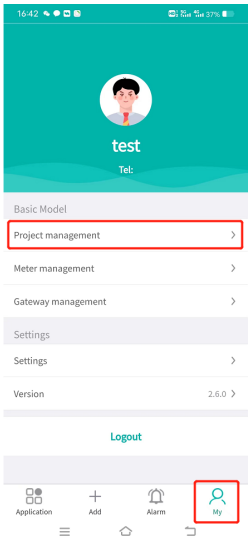
(3) Step 3 - Create a new Project

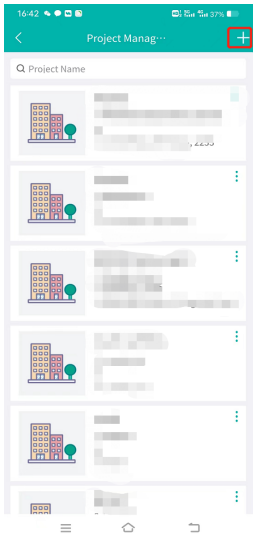
(4) Step 4 - Add devices to your new Project (Recommend to add by using APP)

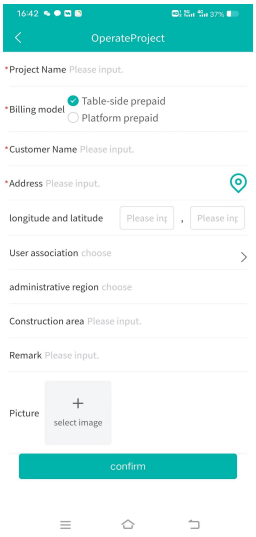
Extra Noted: Acrel IoT EMS APP (for Mobile) and IoT EMS WEB (for PC) Share the same data and account, once add the devices using APP, we can check the data on IoT EMS WEB on PC.

(3) Creat a new Project:

- "My" → "Project management"
- Click "+" icon on the right top
- Choose "Platform prepaid" and fill in other information marked by *

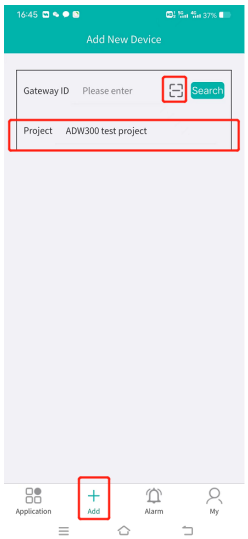






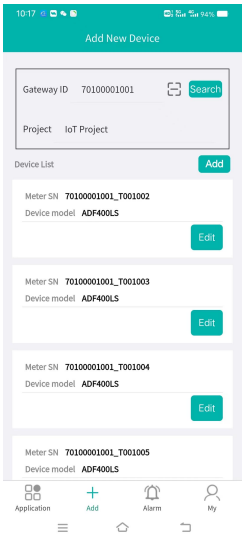
(2) Add Devices to Project:

- 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 ADL400





QR Code



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Author: Loki Elfin
E-mail: loki@acrel.cn
Website: www.acrel-electric.fr

3. Acrel IoT Energy Monitoring 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

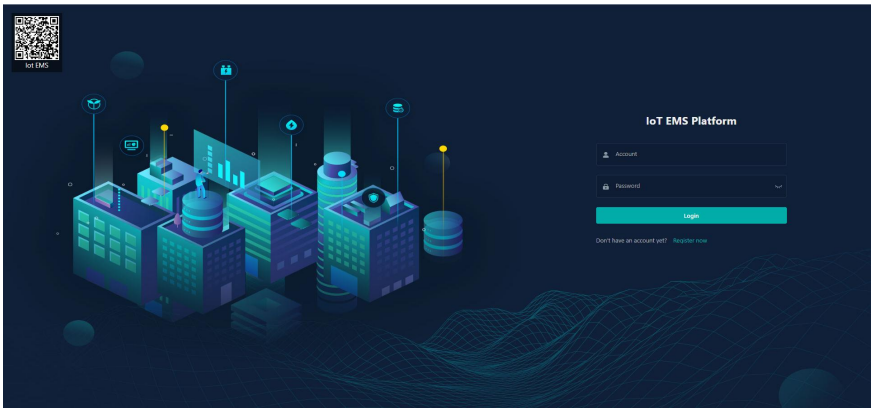
Download Link: https://play.google.com/store/apps/details?id=com.acrel.iotems

(1) WEB Accesss (Computer):

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

Account Name: (Enter yours)

Account Password: (Enter yours)



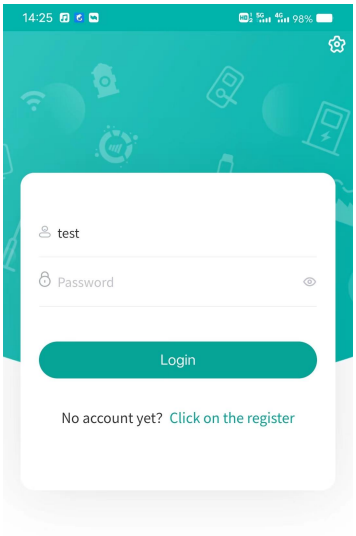
(2) APP Accesss (Mobile):

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

Account Name: (Enter yours)

Account Password: (Enter yours)





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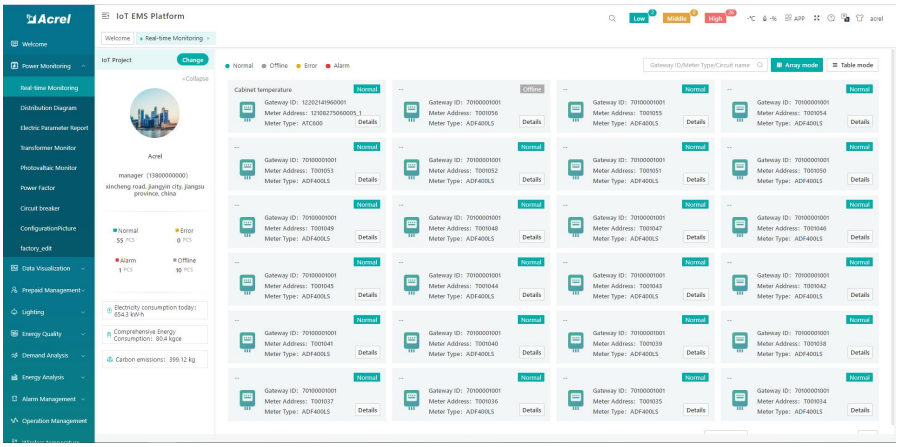
Author: Loki Elfin
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3. Acrel IoT Energy Monitoring System (Partail Introduction)

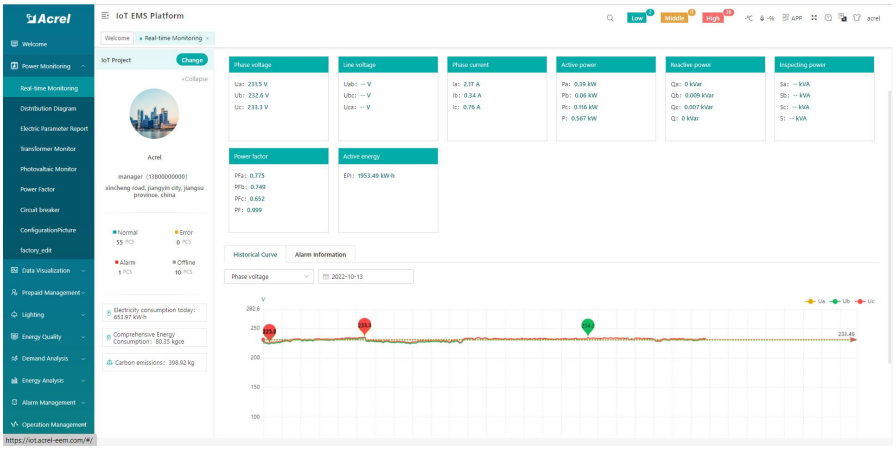
Main Function of WEB side System:

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

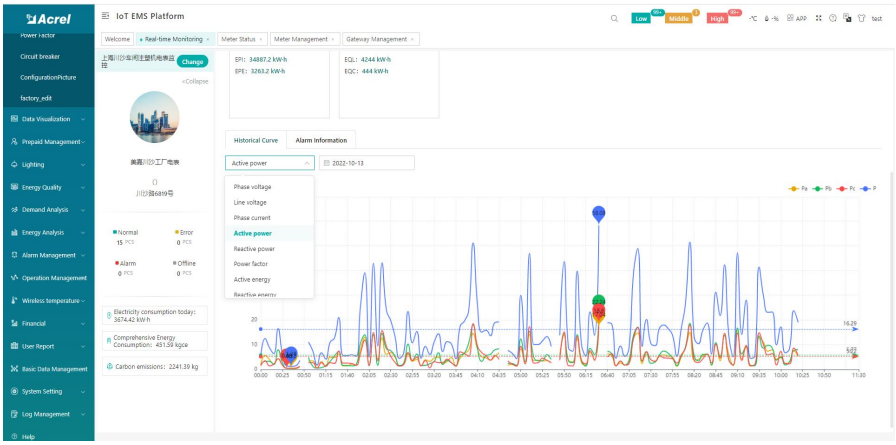
(1) Devices List: Showing the overall devices connected to Acrel System and were bond to certain project. SN code, Online-Offline status, devices model and other necessary information will be shown here.



(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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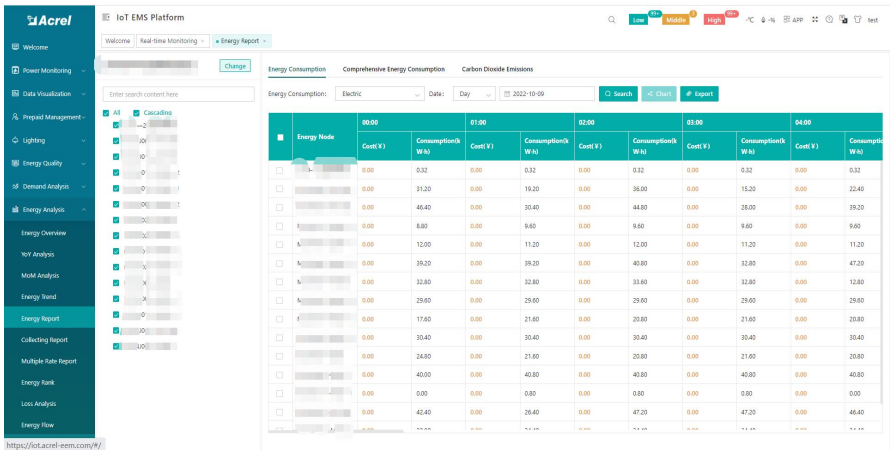
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E-mail: loki@acrel.cn
Website: www.acrel-electric.fr

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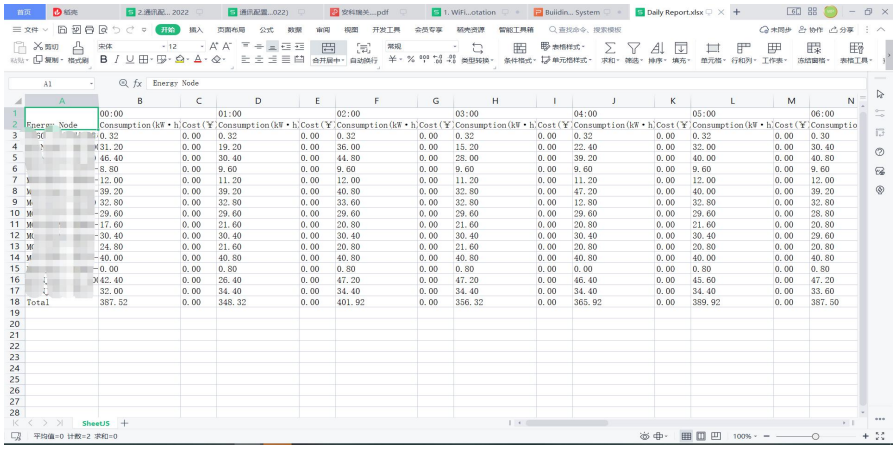
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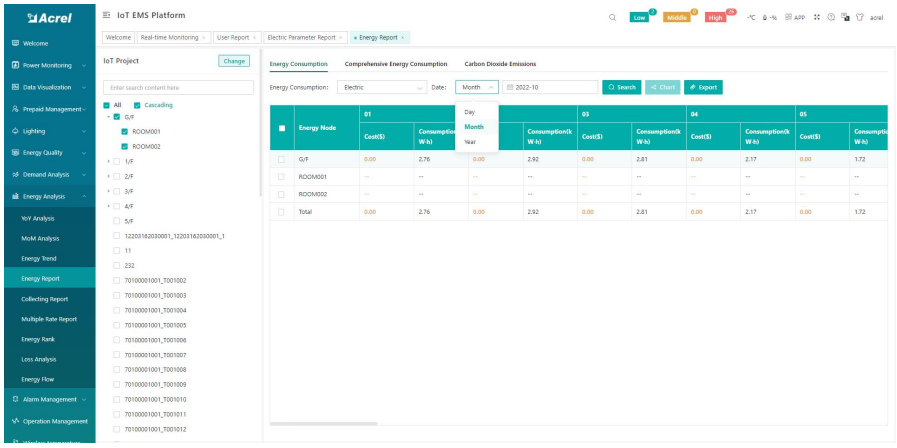
(4) Energy Report (Daily): This Interface show the daily energy consumtion report (calculated by forward active energy)



(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.



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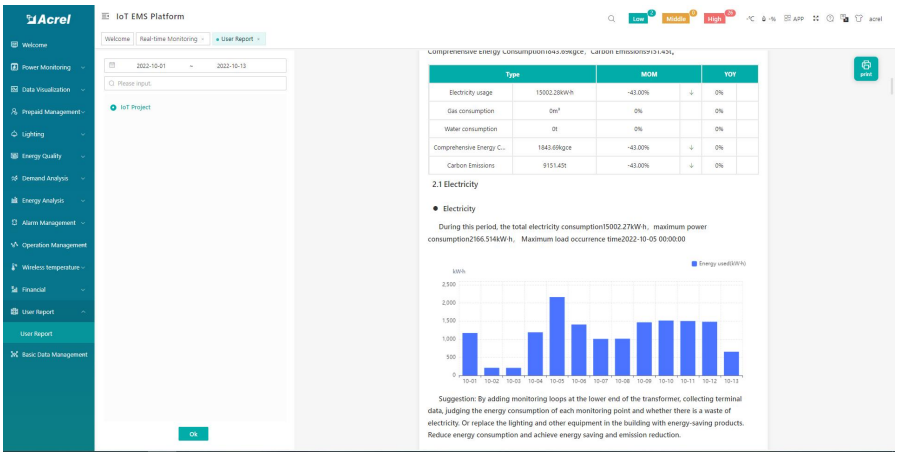
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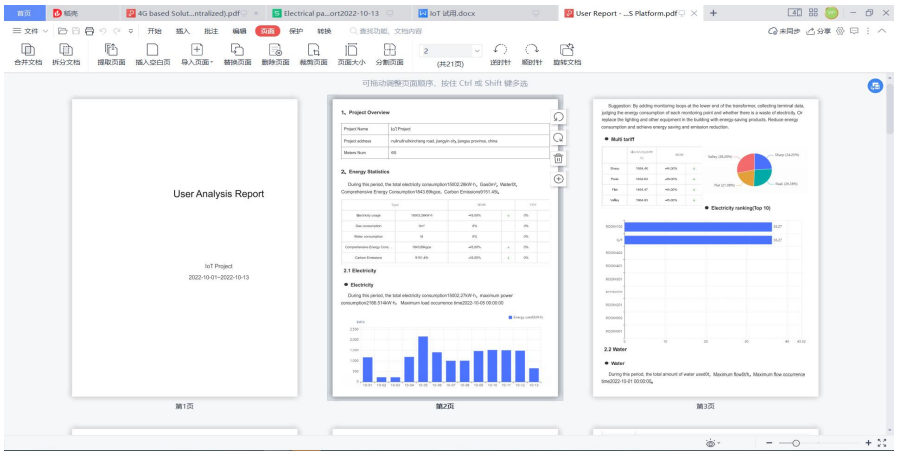
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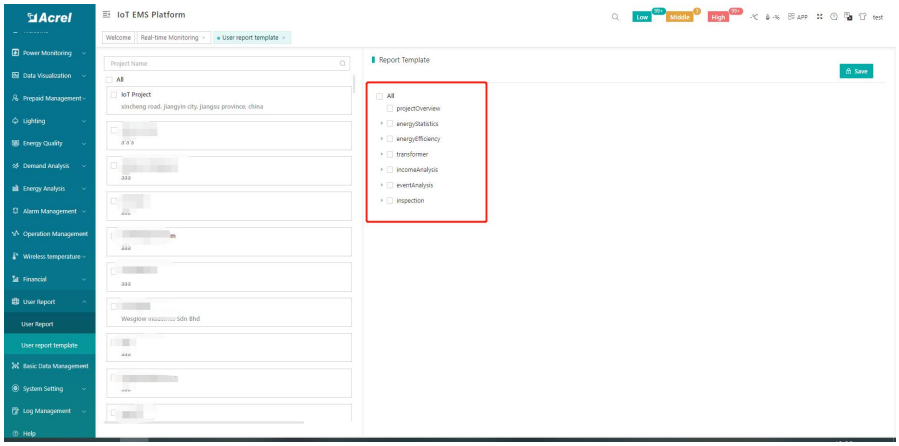
(5) User Report: A comprehensive user report including project overview, energy report, energy analysis and etc could be check on platform



(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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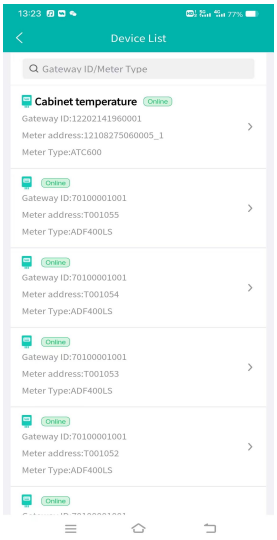
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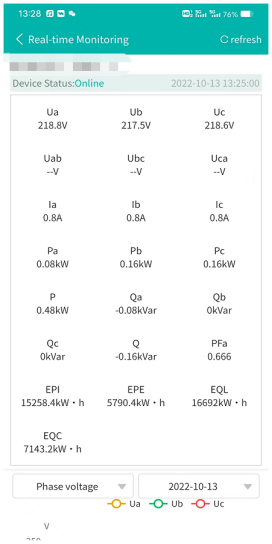
Main Function of APP side System:

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

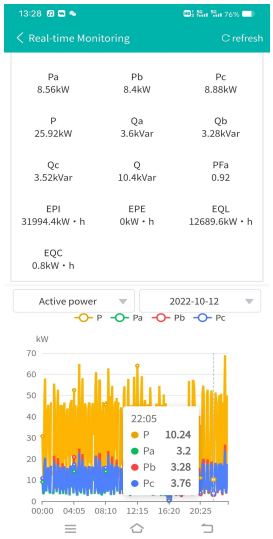
Noted: Since APP side and WEB side of Acrel IoT Energy Monitoring System share the same data, normally recommend our user to add the devices to their account using APP and check the data using WEB platform.



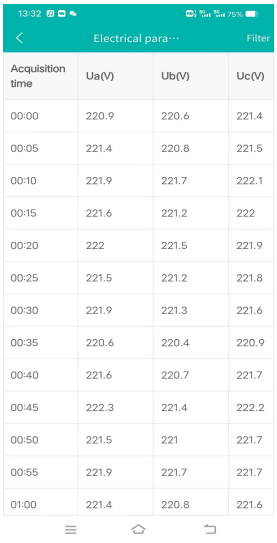
(1) Device List



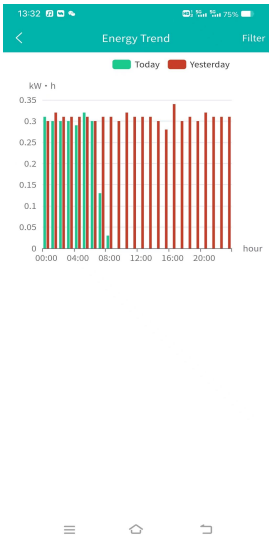
(2) History Curve



(2) History Curve



(3) Parameter Report



(4) Energy Trend



(5) Energy Report

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