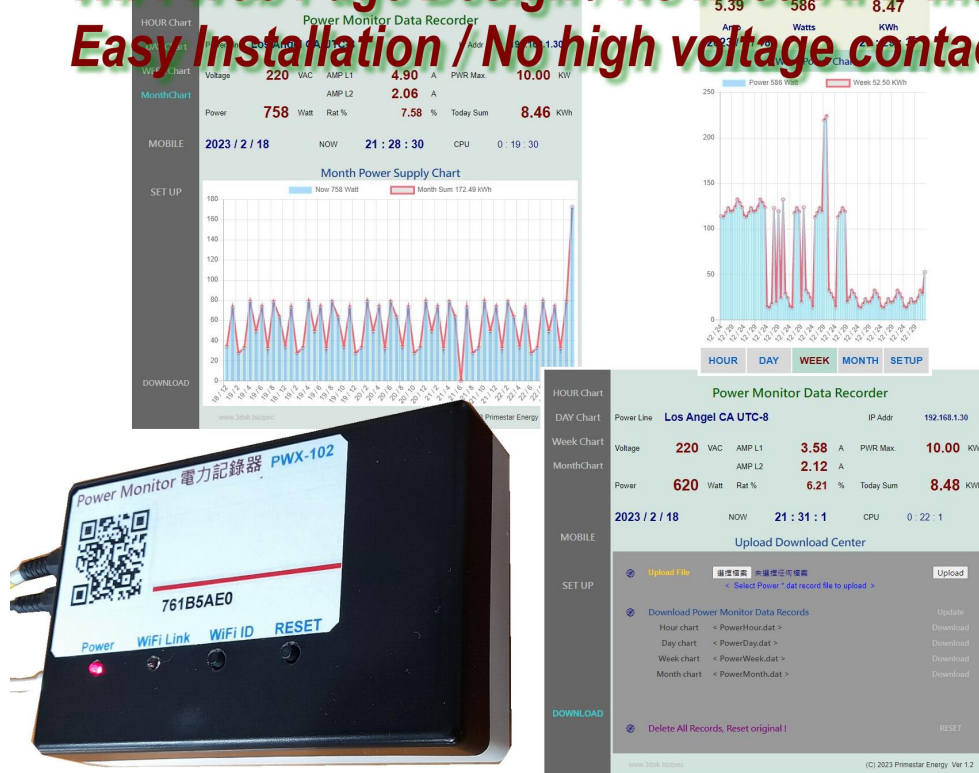


Power Monitor Recorder User Manual

Model: PWX-102 2-Channel / Dual CT

Dual CT Clip / Dual Line Measurement
WiFi Web Page Design / No need APP install
Easy Installation / No high voltage contact



Hour / Day / Week / Month power monitor
Data Recorded for maximum 5 years

Updated: 2023 / 11 / 5 Version: 1.382

1. Introduction

Dual C.T.
2 - Channel
L1 / L2 Socket

USB Power
DC 5V
(AC100-250V)



Power LED : Red Power Indicator

WiFi Link : Blue / Green WiFi Indicator

RESET : System Reset Button

WiFi ID : WiFi ID Clear / Reset Button

- > **Turn Off the Main Power Line Breaker :** Please make sure the main power line already discounted for electrical operation safety issues.
- > **Put the C.T. Current Sensor Clips onto power line :** Open the C.T. clamps, and clip on the main power line L1 & L2 then close clamps. And put the CT jack into PWX-102 L1 / L2 sockets.
- > **Dual CT Current Sensor :** The Dual C.T. Sensor are work for AC 220V Dual main power line L1 / L2 current sensing, Natural / GND no need to connect.
- > **Put on USB Power :** When USB power on the Red LED-on for power on working, and WiFi LED on / flash, means the system already working well.
- > **Use Pad / Cell phone to setup PWX-102 with home WiFi SSID / Passwords :** First time use need to input the home WiFi SSID / Password for PWX-102 then could acceptable for the WiFi data communications.

> **Any time may scan QR Code on top of PWX-102 quickly link web pages :** When Home WiFi SSID setup completed, any time user may scan the on-top QR Code or make a web short-cut path to visit the PWX-102 web pages.

The WiFi IP address example like_ 192.168.1.25 was provided from home WiFi router when completed WiFi SSID setup, to accept the PWX-102 WiFi communications.

PWX-102 iPex Dual Clamp Power Monitor Recorder

Dual CT Clamp / Dual Antenna

4G Magnetic Antenna I-PEX

4G全频段磁吸天线, 满足您的不同应用需求

4G DTU, NB-IOT 模块, GPRS DTU, GPRS 模块, NB-IOT DTU, 4G路由器

智能抄表, 充电桩, 自动售货机, 广告机, 公室站牌, 排号机

| Project 名稱 | Taiwan 台灣 UTC+8 | IP 連線位址 | 192.168.1.28 |
|------------|-----------------|------------|--------------|
| Voltage 電壓 | 220 VAC | L1 電流 | 2.16 A |
| | | L2 電流 | 11.74 A |
| Power 功率 | 1513 W 瓦 | 供電比 | 15.13 % |
| | | Today 本日累計 | 11.60 kWh |

2023 年 7 月 25 日 現在時態 20 : 47 : 40 系統資訊

市電供電 Taiwan 台灣 220 VAC 1372 W 瓦 7 月 25 日 小時用

MOBILE

Power Monitor 電力記錄器 PWX-102
iPex Dual Antenna
C84AF1EF49C0
Power WiFi Link WiFi ID RESET

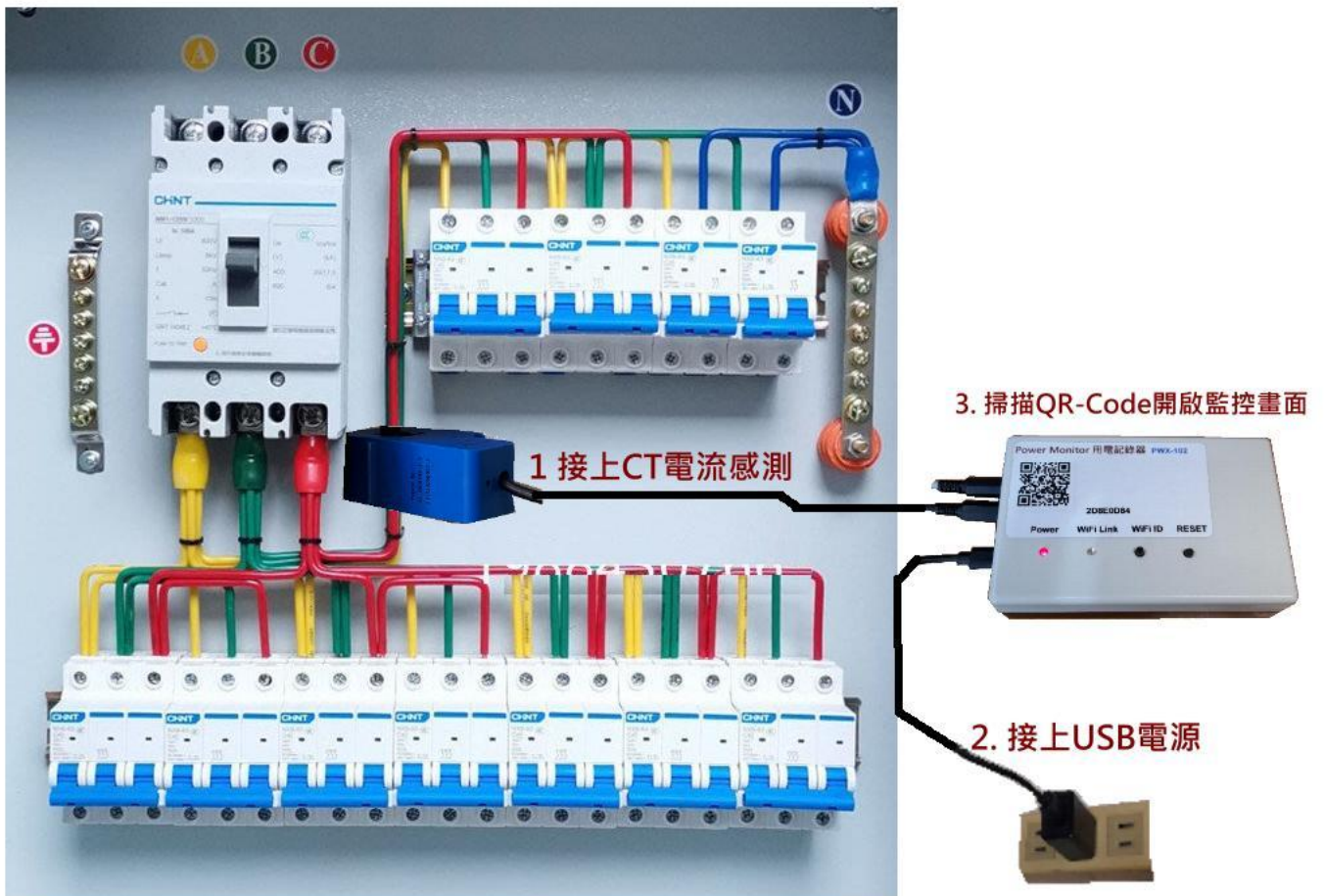
PWX-102 iPex Dual Antenna

SMA External Antenna

Primestar Energy

PWX-102 iPex WiFi Enhanced / External Antenna

2. Installation



> 1. Put the C.T. clips onto the AC main power line of electrical box :

The model PWX-102 is work for electrical box by external CT sensor model, User need to put the CT clips onto the AC L1 / L2 power line for current sensing. (Make sure the AC power already break off for safety issues.)

> 2. Put on USB AC power and put USB cable on of PWX-102 :

The USB adaptor accepts for AC100V – 240V, after USB power on, the Red LED-On and WiFi LED-on for system working indicate.

> 3. Scan Top QR code for quick link web pages of PWX-102 :

After WiFi SSID setup ready, User may sacn top QR-Code for quick open browser and auto link to PWX-102 web control pages, The QR-Code contains the PWX-102 machine number and web link address for auto link information.

3. First time WiFi Setting

- > **Clear the old WiFi setup :** User may clear the previous WiFi setting data by press the WiFi ID button for 10 seconds until the WiFi LED On then return to original status.
- > **Log-in the PWX-102 WiFi hot spot :** Turn on the WiFi hot spot search function, search the PWX-102 hot spot entrance like this ...



> “ESP32_XXXXX” The head ESP32 WiFi hot spot is the device chip ID and add with your machine code, please select it for enter WiFi configuration.

> System will show there is no internet service but it is ok, we just only use it to enter your home WiFi SSID & Password only needed.

> Scan the top QR-Code machine ID for WiFi configuration_



> Scan the top QR Code of machine ID, use browser to open web page for WiFi Manager and select WiFi configuration.

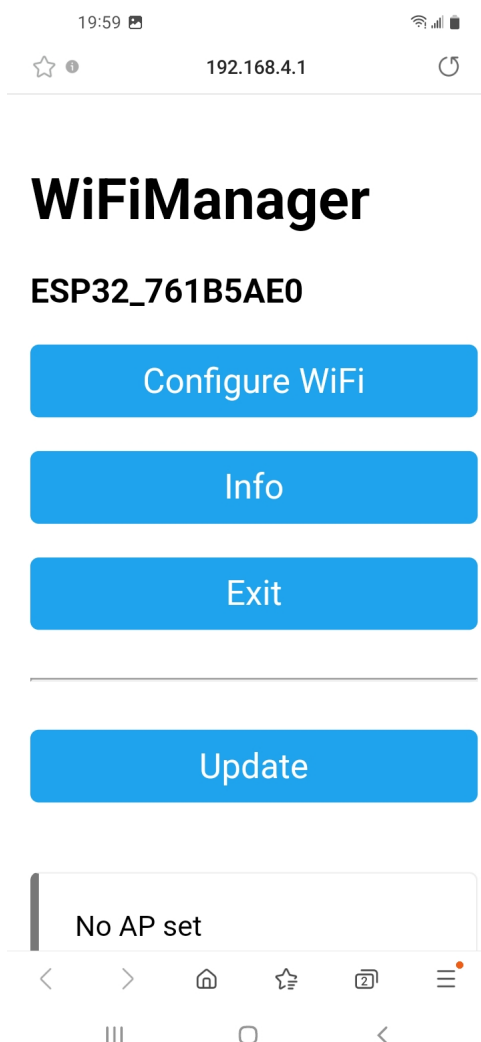
> Or user may use browser and type_ 192.168.4.1 for into WiFi Manager page by manual operate.

> **NOTICES:**

Now procedures only available when user connected the ESP32 hot-spot complete.

If it 's not showed, please back previously step to choice the ESP32_xxx of WiFi service again to complete web setting.

> Enter the ESP32 WiFi Manager and select <Configure WiFi > for PWX-102 to home WiFi router connect setting.



19:59



Mi_FH-2F



goforwildnetis2.4G



ASUS



CHT 20



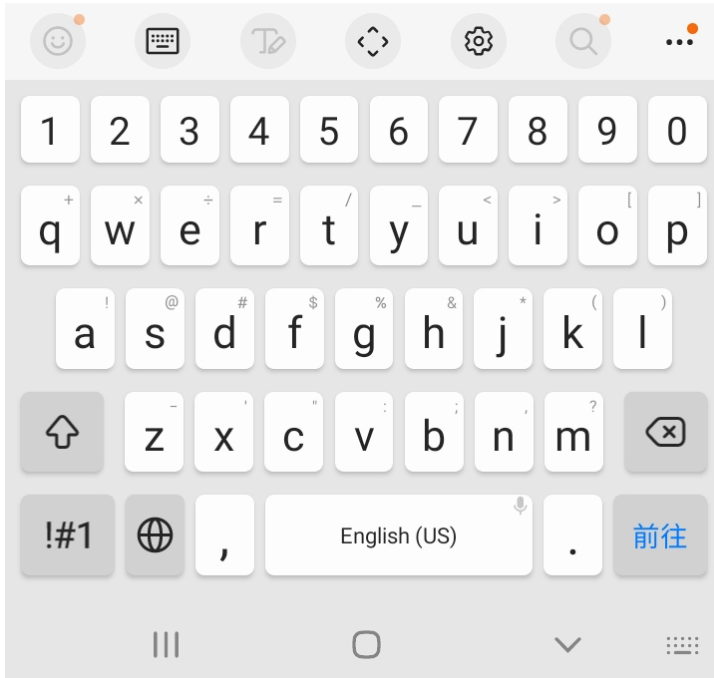
SSID

TP-LINK_60EE50

Password

.....

Show Password



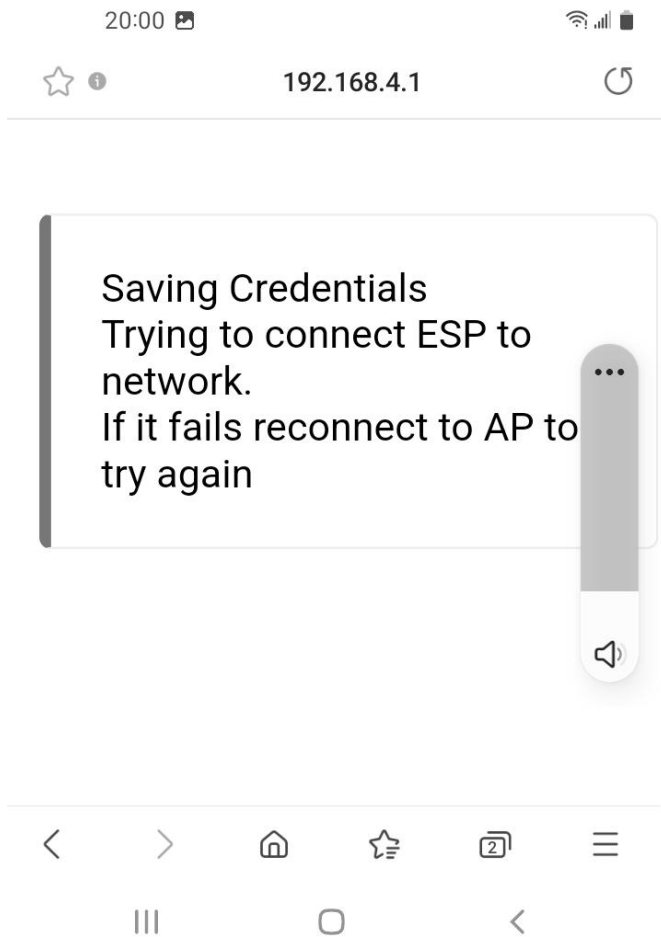
> Select your home WiFi SSID for PWX-102 to connect and enter the password then SAVED.

> **NOTICES:**

Now we selected WiFi hot spot that must be the same as later which user want to enter the PWX-102 web control functions.

If not the same WiFi SSID router that may cause fire wall blocked and unable to connect.

> The WiFi setup complete OK !



> Shown as this means WiFi Configure completed, when next time scan QR code it will go to the web page directly.

> When the WiFi configuration not success, or user and PWX-101 not in the same WiFi hot spot, it may cause miss-connection and unable to reach the web pages service.

> When too many WiFi hot-spot at home, be sure that user operation computer with PWX-101 in the same WiFi SSID router to make sure the web connection available all time.

> Please repeat the upper procedure for complete the WiFi SSID & Password setting.

> Again scan top QR Code for enter PWX-102's web function pages.

> When WiFi setting complete, after scan QR code it will show the connected IP address which get from home WiFi router, and into web page automatically when user opened browser.

> OK! Next for web function pages!





> WiFi Setup completed !

Congratulations, when you success enter the web control page of PWX-102, that means system had already work normally now.

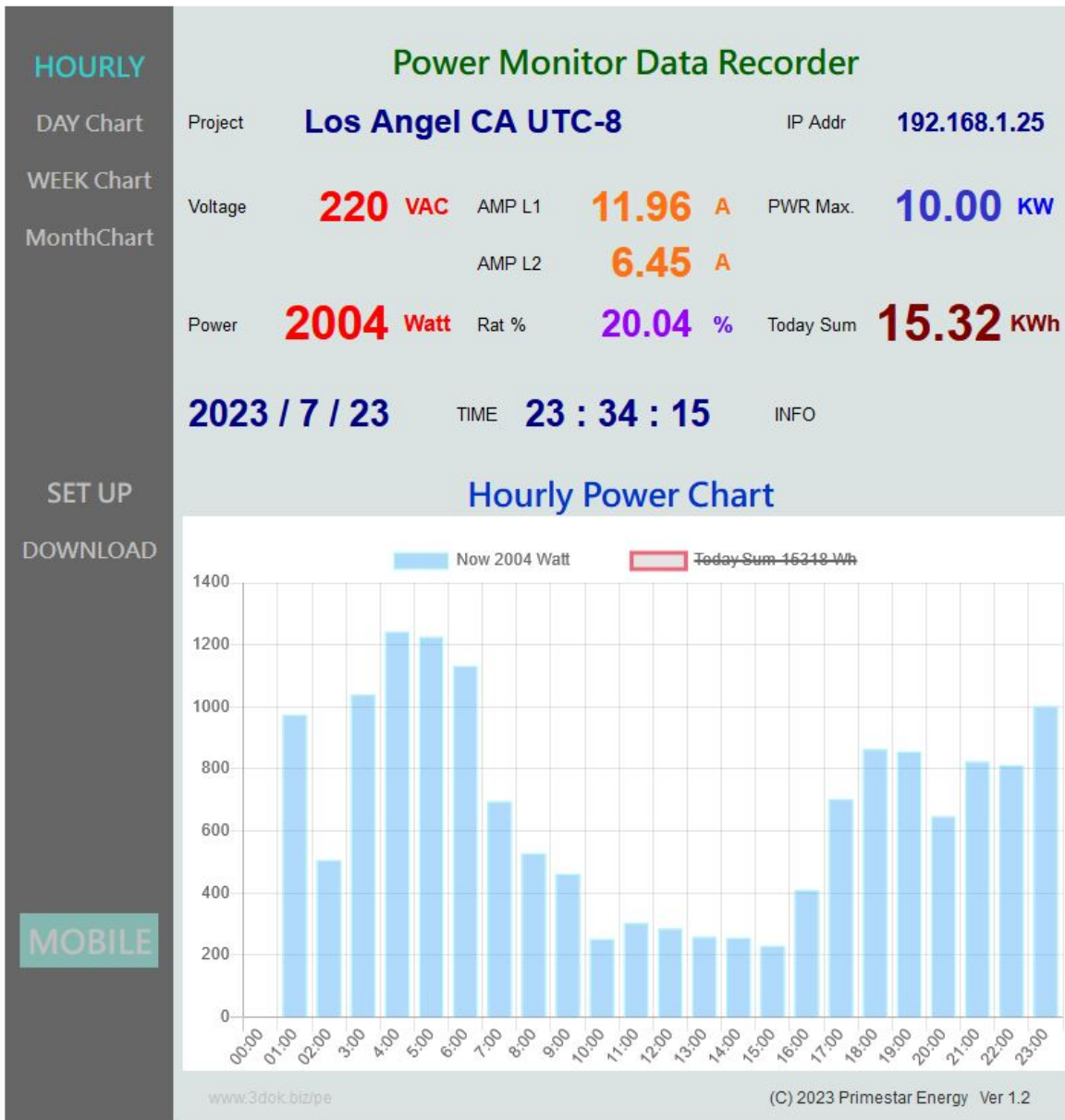
> Any time user just scan the QR code then into the web page directly like this.

Or user may save the web IP address which shows on the page_ 192.168.x.x as short-cut, then next time can into web page quickly.

> The IP address like_ 192.168.1.30 is the web address which get from users home WiFi router, so you may save the address as short-cut for directly open this address into the PWX-101.

> WiFi Configuration completed OK !

4. Web Page Functions



> HOME: **Hourly Power Chart** Displays today's hourly power consumption lists chart, Blue is Power Watt, Red is Power Sum in Watts / Hourh.

Left function: **HOURLY Chart** Today / Hourly Chart

DAY Chart Daily Chart

WEEK Chart Weekly Chart

Month Chart Monthly Chart

| | |
|-----------------|--------------------------|
| SETUP | User information setup |
| DOWNLOAD | Charts Upload / Download |
| MOBILE | Cell phone mobile pages |

Real-time data: **Power Line Location:** User application names.

IP Address **192.168.1.14** is the web connecting address.

Voltage User's home AC power line voltage, Default is 220V.

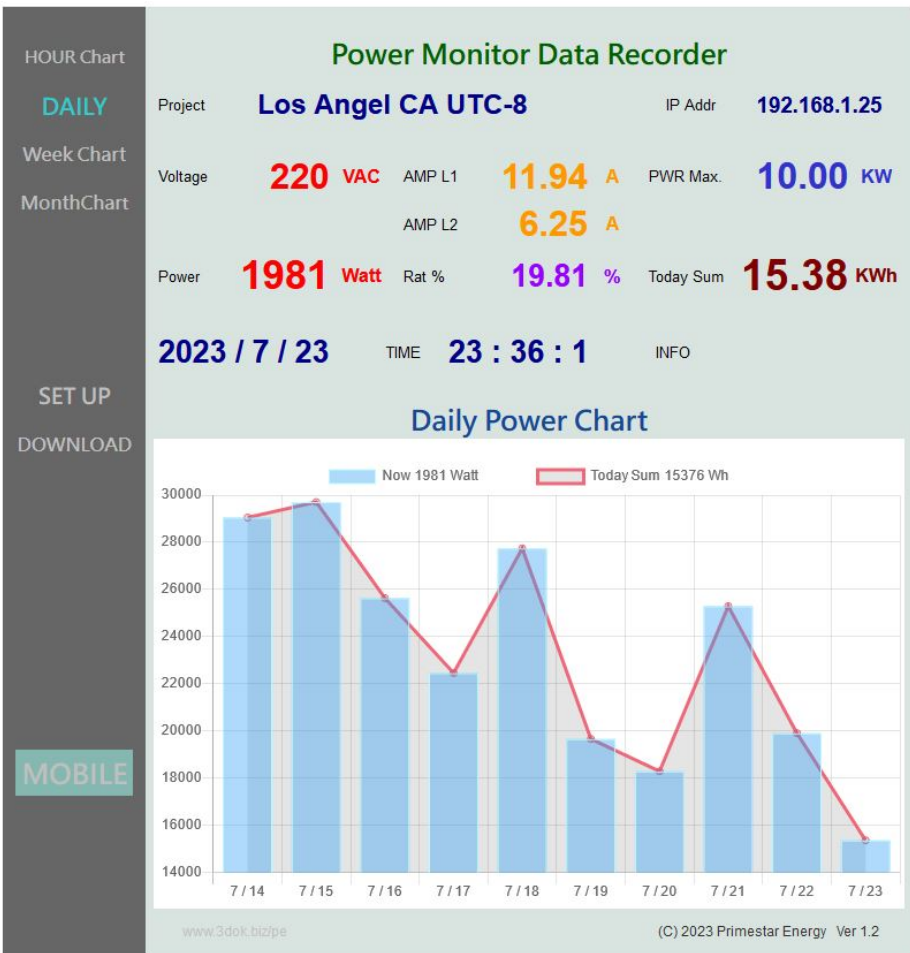
AMP L1 / L2 Current power of AC L1 / L2 line ampere values.

PWR Maximum power supply value, default is 10KWh.

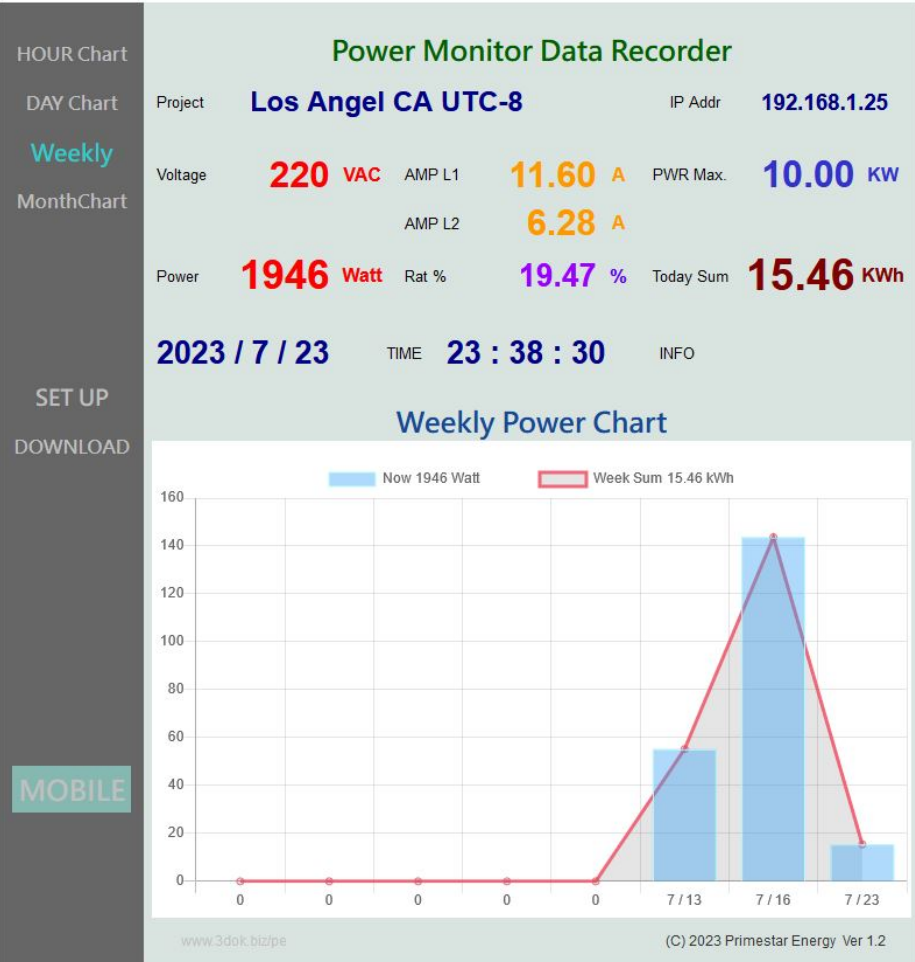
Power Current measured power consumption of AC Watts.

Rat The Consumption / Maximum ration%.

Today Today's power consumption summary in KWh.



> Daily / Weekly power recorded charts,



HOURLY Chart

DAY Chart

WEEK Chart

MonthChart

SET UP

DOWNLOAD

MOBILE

Power Monitor Data Recorder


| | | | |
|---------|---------------------------|-----------|---------------------|
| Project | Los Angel CA UTC-8 | IP Addr | 192.168.1.25 |
| Voltage | 220 VAC | AMP L1 | 11.81 A |
| | | AMP L2 | 6.21 A |
| Power | 1962 Watt | Rat % | 19.63 % |
| | | Today Sum | 15.65 kWh |

2023 / 7 / 23

TIME **23 : 44 : 23** INFO

Function Setup

| | | |
|-----------|---|--|
| Plant | <input type="text" value="Los Angel CA UTC-8"/> | |
| Voltage | <input type="text" value="220"/> VAC | |
| Capacity | <input type="text" value="10000"/> Watts | |
| Time Zone | <input type="text" value="UTC-8 US West"/> v | <input type="button" value="SET"/> |
| Version | EnergyMonitor_ver_1.3 PWX-102 23 / 06 | <input type="button" value="RESTART"/> |



> **User Setup :** For Modify / Save user's information.

- Plant Name Enter the user's application name.
- Voltage Enter the power line AC voltage, Default is "220".
- Capacity Enter the maximum output capacity. Default is "10000".
- Time Zone Setting the user's home time zone, for auto time correction.

> **SET OK :** Setup completed, Save user's data !

> [Upload / Download page](#) : Hour / Day / Week / Month charts file server.

Select for Upload Upload files from user's computer.

Download Power Data Records Update all files to newest before download.

Hourly data < PowerHour.dat > Hour / Today's hourly chart File Download

Dialy data < PowerDay.dat > Day Daily File Download

Weekly data < PowerWeek.dat > Week Weekly's File Download

Monthly data < PowerMonth.dat > Month Monthly's File Download

Delete All Records, Reset ! Delete all data, reset to original status.

HOUR

DAY

WEEK

Month

SETUP

Download

Calculate

MOBILE

Power Monitor Recorder

| | | | |
|---------|--------------------|-----------|---------------|
| Project | Los Angel CA UTC-8 | IP Addr | 192.168.1.106 |
| Voltage | 220 VAC | L1 AMP | 0.56 A |
| | | L2 AMP | 3.45 A |
| Device | | Ratio % | 4.36 % |
| | | Today Sum | 0.04 kWh |
| Power | 435 Watt | | |

2023 / 11 / 13 NOW 21 : 3 : 30 INFO

Energy Calculate

Duration Power Calculate

From

To

Days = 83 Days

Total = 1450.60 kWh

Average / Day 17.48 kWh / Day

x @Unit

Account \$ = \$ 5802.41 Dollars - OK Enter -

> Date format Ex: 2020/1/5 Input "200105" Six digits,
Date Ex: 2023/10/15 Input "231015".

> Today always the last Ex: Input "999999".

> Unit price Ex: \$ 5.2 input "5.20" for 2-digits float decimal.

www.3dok.biz/pec (C) 2023 PrimeStar Energy PWX-102 Ver 1.382

> **Energy Calculate** : Statistics of power and bill calculation for a period.

From / To : Set duration date from – to for calculation.

230105 **Date Format** : Date ex. "2023/5/9" Enter "230509" for 6-Digits.

\$ 3.45 **Unit price Format** : Unit price Ex. "\$ 4.1" Enter "4.10" for 2-small digits.

OK SET **Start calculate** : Input complete, press **OK SET** , start calculation.

太陽能發電站 Solar Power Station

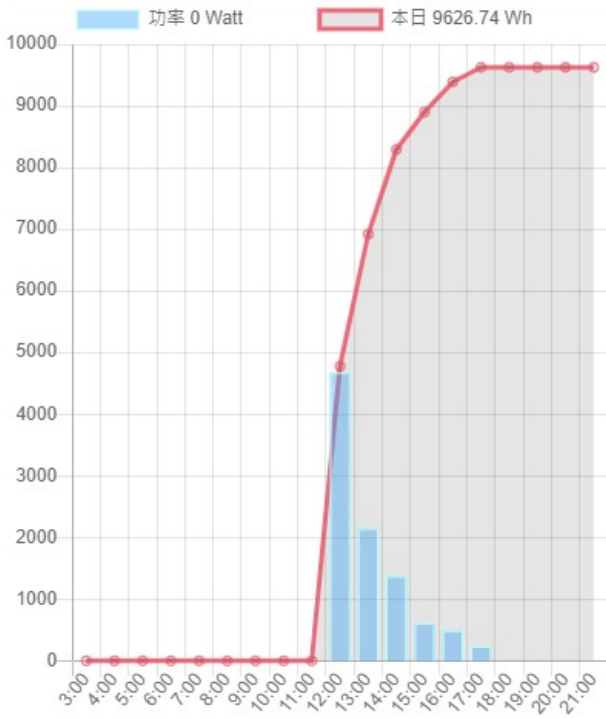
Project: Taiwan 台灣 UTC+8

0.00 **0** **9.63**

Amp Watts KWh

2023 年 2 月 22 日 21 : 56 : 33

每小時發電記錄 Hour Power Chart



HOUR DAY WEEK MONTH SETUP

Solar Power Station

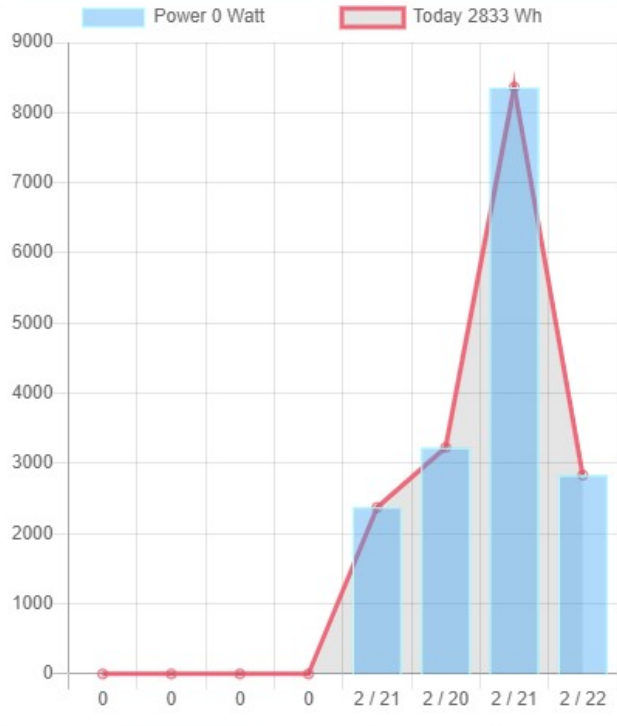
Project: Los Angel, CA UTC-8

0.00 **0** **2.83**

Amp Watts KWh

2023 / 2 / 22 21 : 56 : 52

Day Power Chart



HOUR **DAY** WEEK MONTH SETUP

> **MOBILE pages** : Hourly / Daily / Week / Month data graphs, real-time information.

> **Web Page Lagged** : When the WiFi signal weak or blocked, the web page will display delay or slowly, user may try F5 or reload to refresh page again for re-connection.

Power Monitor Recorder

Project: **Taiwan UTC+8**

5.90

642

1.51

Amp

Watts

KWh

2023 / 2 / 23

12 : 7 : 19

Function Setup

Project

Taiwan UTC+8

Time Zone

UTC+8 Taipei Beijing Singapore ▼

SET

Upload

Upload record charts to PWX

Hint

Download

Download record charts.

Hint

< PowerDay.dat >

< PowerWeek.dat >

< PowerMonth.dat >

RESET

Reset clear all datas !

Hint

Download

Goto DOWNLOAD Page

GO

HOUR

DAY

WEEK

MONTH

HOME

> [MOBILE Setup page](#) : Update / Save user inputs.

5. Specifications

| | |
|----------------------|---|
| Model : | Power Monitor / Data Recorder PWX-102 |
| Processor: | Xtensa 2-Core / 160MHz |
| Measurement : | External Open-loop C.T. Current Clamps x 2 |
| Range : | AC 100 – 250V / 1 -50 Amp / 100W – 10,000 Watts (10KW) |
| Voltage : | AC 100 – 250V / 3W |
| Dimension : | L= 130 x W=80 x H=30 cm L= 52 x W=31.5 x H=11.8 inch |
| Weight : | 500 gm / 1.1 pd |



Model : Power Monitor Recorder / PWX-102 iPex Dual Antenna
Processor: Xtensa 2-Core Upgraded 200MHz
Measurement : External Open-loop C.T. Current Clamps x 2

Range : AC 100 – 250V / 1 -50 Amp / 100W – 10,000 Watts (10KW)
Voltage : AC 100 – 250V / 3W

Dimension : L= 130 x W=80 x H=30 cm
L= 52 x W=31.5 x H=11.8 inch

Weight : 600 gm / 1.3 pd



On-Line Shop_ <https://3dok.biz/pe/shop/>

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Primestar Energy Corp.

HOME PRODUCTS NEWS TECHNICAL TAIWAN ON-LINE SHOP

Power Monitor System
Power Monitor Control Center
Remote Controls
IOT Data Communication

I.O.T. Internet Things

I.O.T. Internet Things / Web Communications

Solar Power Monitor SMX-101
Easy Install / WiFi Web Control

Power Monitor / Data Recorder

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HOME PRODUCTS NEWS TECHNICAL TAIWAN ON-LINE SHOP

Primestar Energy
2023 Future Energy Provider

Primestar Energy Seek for new generation power
Keep researching of clean energy
to provides a clean future world

CLICK & DROP FOR QR CODE CONTACT US

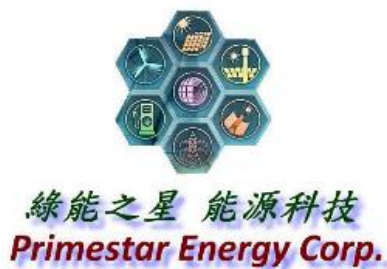
3dok.biz/pe

Recycle Energy
Sport Power Generator
Wind turbines / Hydroelectric
IOT Power Monitor / Controls

Solar Plate
Solar Plate Design
Clean Energy House
Solar Electrical Car Chargers

Mobile Powers
DC / AC Outdoor Mobile Powers
300W - 10KW AC / DC System
Home Solar Powers

Monitor System
Power Monitor Control Center
Remote Controls
IOT Data Communication



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