



EHX2 (NO RSD) Gateway Quick Guide For CPS 3 Phase Inverter

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1 Safety Precautions



Before performing operations, read through this manual and follow all the precautions to prevent accidents. The safety precautions provided in this document do not cover all the safety precautions. CPS shall not be liable for any consequence caused by the violation of the safety operation regulations and design, production, and usage standards.

Declaration

CPS shall not be liable for any consequence caused by any of the following events.

- Transportation
- The storage conditions do not meet the requirements specified in this document.
- Violate the operation instructions and safety precautions in this document for installation, cable connecting, and maintenance.
- Operation in extreme environments which are not covered in this document.
- Unauthorized modifications to the product or software code.
- Installation or use in environments which are not specified in related international standards.
- Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Personal Requirements

- Only qualified electrical technicians are allowed to install and operate the FlexOM Gateway.
- Operation personnel should receive professional training.
- Operation personnel should read through this document and follow all the precautions.
- Operation personnel should be familiar with the safety specifications about the electrical system.
- Operation personnel should understand the composition and working principles of the grid-tied PV power system and local regulations.

Installation

- Ensure that the FlexOM Gateway is not connected to a power supply and is not powered on before starting installation.
- Ensure that the FlexOM Gateway is installed in a well ventilated environment.
- Do not perform any operation on other components inside the chassis except connecting AC power cables and communications cables.
- Ensure that all electrical connections comply with local electrical standards.



High voltages may cause electric shocks and serious injuries during FlexOM Gateway operating.

Do not touch components such as AC cables, circuit breakers and connectors during FlexOM Gateway is energized.

- Maintain the FlexOM Gateway with sufficient knowledge of this document and proper tools and testing equipment.
- Before performing maintenance tasks, power off the FlexOM Gateway and perform lockout/tagout (LOTO) of the source circuit.
- For personal safety, wear personal protective equipment (PPE), including insulaed gloves and protective shoes.

2 Warranty Policy

- The warranty policy of this product is specified in the contract; otherwise, the standard warranty is 2 years.
- For warranty terms, please refer to the CPS accessories warranty policy in place at time of purchase.

3 Gateway specifications

3.1 Datasheet

Daisy Chain Interface	
No. of Ports	1 (5-pole Terminal Block or 6 Pin Connector)
Protocol	Modbus RTU
Modbus RTU Mode	Master
Terminator for RS485	120 ohms
Isolation	5 kV
CAN Interface	
No. of Ports	1 (3-pole Terminal Block)
Signals	CAN_L, CAN_H, CAN Signal GND
Terminator	120 ohms (configurable)
Isolation	3 kV (built-in)
AUX Interface	
No. of Ports	1 (3-pole Terminal Block)
Protocol	Modbus RTU
Modbus RTU Mode	Slave (RS485 pass-thru)
Terminator for RS485	120 ohms
Isolation	5 kV
Bluetooth Interface	
Standard	BLE 4.2
Antenna	Built-in

Ethernet Interface	
10/100BaseTX Ports	1 (RJ45 connector)
Protocol for Cloud Applications	MQTT
SCADA controllers on the same LAN subnet	Modbus TCP
Modbus TCP	
Mode	Server (Slave)
Max. No. of Client Connections	2
WLAN Interface	
WLAN Standards	802.11 b/g/n
Frequency Band	2.4 GHz
Wireless Security	WEP, WPA/WPA2
Antenna	Built-in
Cellular Interface	
Cellular Standards	LTE-FDD/LTE-TDD
No. of SIM Slot	1
Cellular Antenna Connectors	1 SMA female
Power Parameters	
Input Voltage	8 to 24 Vdc
Power Consumption	2.5 W, Max. 5 W
Power Connector	Terminal Block

Environment limits		
Operating Temperature	-30 $^\circ\!\!\!\!\!^{\rm C}$ to 85 $^\circ\!\!\!\!^{\rm C}$, Natural convection	
Storage Temperature	-40 to 85°C	
Ambient Relative Humidity	5 to 85% (non-condensing)	
Physical Characteristics		
Housing	Plastic, DIN rail mounting	
IP Rating	IP20	
Dimensions	101 mm / 69 mm / 21 mm	
Dimensions (with housing)	103 mm / 77 mm / 32 mm	
Weight	150g / 200g (with housing and clip)	
Compliance		
RoHS	IEC 62321, (EU) 2015/863	
CE - EMC	EN 55032 / 55035, EN 61000-3-2/-3-3	
CE - RED	EN 301 908 / 300 328, EN 301 489-1/-17/-52, EN 62368-1	
CE - LVD	EN 62368-1	
FCC	SDoC Part 15B, ID Part 15C	
Production Metering	ANSI C12.20 accuracy class 0.5, working with EPM kit	
Consumption Metering	Accuracy class 2.5, working with EPM kit	

3 Gateway specifications

3.2 Dimensions





3 Gateway specifications

3.3 Interfaces and indicatiors



Caution:

If the length of the cable connecting to RS485 port or AUX port of the gateway is over 1000 meters, the Switch button must be set to ON.



Caution:

FlexOM SIM can only be used in FlexOM Gateway.

By default, FlexOM Gateway support customers' unrestricted use of the existing and future remote O&M functions of CPS Portal.

DATA PLAN CONSUMPTION STATISTICS ARE NOT PROVIDED.

At the same time, FlexOM Gateway does not guarantee the 3rd party SIM card. FlexOM Gateway hardware warranty is valid by default within the validity period of our data plan.







1) Push in the direction shown to unlock the flap

2) Open the flap

Then, insert the SIM card into the flap along the slot in the flap. Fold the flap and SIM card into place on the SIM card holder



3) Push in the direction shown to lock the flap

Internet interface : 4G (Optional)

The FlexOM SIM card can operate in multiple carrier environments in all regions of the world, for example, North America supports AT&T + T-mobile + Verizon at the same time.

After the gateway is powered on and works normally, it will select and connect to the provider network with the strongest or most stable signal.

If you need to purchase FlexOM SIM, please contact CPS sales staff for detailed information.

Internet interface : WIFI / Ethernet

Firewall Issue : WIFI / Ethernet

If the gateway is connected to the Internet using WiFi/ Ethernet instead of 4G. **Open the LAN firewall ports before commissiong !**

The following ports must be opened both ways (incoming and outgoing communications):

TCP 1883 with destination IP 18.134.238.207





- 3 Gateway specifications
- 3.4 Housing and mounting

Option A: Gateway installed in inverter wire-box







Plastic housing included in the gateway accessory, able to be mounted on the DIN rail of the DAS Box.

Gateway installed in DAS box DIN Rail Mounting



2 Side Mounting

Install the FlexOM Gateway onto the base of the housing and tighten it at the positions shown in the figure with the standoffs provided in the accessories kit.

Torque to 7 in-lbs using 3/16" socket hex driver.







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1 Flat Mounting

Put the parts in position in the order of a, b, c, and tighten the corresponding screws and standoffs.

Torque to 7 in-lbs using 3/16" socket hex driver.

DIN-rail Clip

M4 Flat Head Screw

12mm Standoffs



To ground the FlexOM Gateway once installed in the DIN rail enclosure, clamp the ground wire into the screw at the position shown in the figure.







Mount the housing within the DAS box using the DIN rail clip.



On a daisy chain cable, users can connect different kinds of hardware or different versions of the same model. The gateway can be configured with different data communication protocols depending on the Modbus ID.

The gateway can be connected to up to 32 inverters (or different hardware).

4 System design for FlexOM gateway 4.2 Super Mode (NO RSD)



Auto-commissioning :

After the entire Inverter daisy chain has been replaced with FCB, the FlexOM Gateway automatically discovers all the hardware, eliminating the need for the user to configure Modbus IDs for the inverters one by one.

In scenarios without MLPE connection, the gateway can be connected to up to 32 inverters (or different hardware).

In Super Mode, the installer can automatically commission the entire daisy chain of inverters. As a result, the Modbus ID of all inverters is kept at the default #1.

At the same time, the gateway automatically assigns a Comm-ID to each CommBoard based on the number of inverters connected to the gateway (which can be changed manually).

The format of Comm-ID is the same as Modbus ID 1~254, also use 1~254 integer.

When the third party controller needs to read/write the inverter daisy chain, just send read/write commands to the target Comm-ID (inverter) according to the Comm-ID and follow the standard Modbus RTU commands.

The Comm-IDs are read/written sequentially and then the entire inverter daisy chain is polled. This will complete the polling of the entire Daisy Chain.

The relationship between the Comm-ID and the inverter SN is created automatically by the gateway and can be viewed via the APP/WEB. You can also manually reassign Comm-IDs one by one according to the physical installation order via APP.





Dynamic (Auto)

Static (Manual)

4 System design for FlexOM gateway

4.3 Zero-export and load-monitoring (Requires EPM kit)



- Convenient and safety hardware that accommodates C&I sites of all sizes.
- Set everything up with one click and diagnose incorrect wiring.
- More than "zero exports" and adjusting generation with intelligence.

The FlexOM gateway works in conjunction with the EPM kit to provide real-time "Zero Export" dynamic control of multiple inverters in C&I sites in response to load variations.

"Zero Export" is completely dependent on the reliability and timeliness of communication between the gateway and the devices in the daisy chain, and EPM performance is based on the premise of reliable communication.

4 System design for X2 gateway 4.4 AUX Mode (Multi-party management) Option A : RS485 Pass-thru

The RS485 interface of the third-party controller is connected to the AUX interface of the gateway, which is equivalent to a direct transmission connection with a daisy chain.



4 System design for X2 gateway4.4 AUX Mode (Multi-party management)Option B : Modbus TCP Pass-thru



The gateway connects to the Daisy Chain and is created as a Modbus TCP server object for each device with a different Modbus ID.

A third party SCADA acts as a Modbus TCP client and connects to the target Modbus ID device via a TCP channel.

The gateway can be connected to up to 8 Modbus TCP clients.

4 System design for X2 gateway

4.5 Hyper Star-link (Expansion wiring via AUX)



No setup is required to connect the different inverters to the daisy chain as shown in the diagram.

It is possible to connect groups of different inverters that are physically far away from each other, and at the same time, the read/write cycle of the SCADA controller for all the inverters will not be out of control due to the large number of inverters, but can be controlled close to one polling cycle.

Note that you need to set non-repeating Modbus IDs for all inverters connected under different gateways.

For more details on the solution, please contact the FAE or after-sales personnel .

4 System design for X2 gateway

4.5 Hyper Star-link (Expansion wiring via Ethernet)



For AUX connection scenario, each gateway can connect up to 32 inverters, it is recommended to evaluate the maximum acceptable polling time for a full polling from the 3rd party controller point of view.

For Ethernet connection scenarios, each gateway supports a maximum of 8 Modbus TCP Clients, it is recommended that 8 inverters are connected to each gateway if a Modbus TCP Client connection is created for each inverter.

If the 3rd party controller is able to poll multiple inverters with a single Modbus TCP Client, the gateway can connect more inverters.

5 Hardware installation 5.1 Flex Mode (NO RSD)





Remove the screws that attach the inverter communication board in the wire-box using a #1 Phillips bit.



Replace the screws with the standoffs included in the accessories kit.

Repeat this process for each of the (3) screws and standoffs while keeping the communication board in place.



Torque standoffs to 7 in-lbs using a 3/16" socket hex driver.





After all standoffs have been inserted, install the FlexOM Gateway by carefully aligning the 6-PIN Port A with the 6-PIN header in the upper right-hand corner of the communication board.

3

Install the (3) screws removed in step 1 into the standoffs to secure the FlexOM Gateway in place and torque to 7 in-lbs using a #1 Phillips bit.



Connect the RS485 inverter daisy chain to the inverter communication board using pins A+, B-, and G in the Connector provided in the inverter accessories kit when mounting inside the inverter wire-box.

Check the inverter User Manual for RS485 installation instructions.

RS485 Inverter Daisy Chain (connected to inverter communication board) FlexOM Gateway uses a two-wire Modbus RS485 multipoint serial line system. Shielded, twisted pair, 22 AWG, stranded cable such as Belden 3106A is recommended for the daisy chain.

Once pins A+, B-, and G in the Connector are connected, then insert the Connector into the terminal block in the port on the bottom of the inverter communication board (behind the FlexOM Gateway as shown below).



If applicable, connect the 3rd Party Datalogger to the AUX port in the bottom eft-hand corner of the FlexOM Gateway V2 using the 3-PIN Connector provided in the accessories kit.

RS485 3rd Party Data Logger (connected to FlexOM Gateway V2 card)

depending on the inverter model.





NOTE: If connecting to the Internet via Ethernet, follow step 5 below. If connecting via 4G, skip to steps about antenna installation.

To connect to the Internet via Ethernet, insert the RJ45 LAN cable into the Ethernet port of the FlexOM Gateway.

The LAN connection must be able to access the Internet without port filtering behind the firewall .

The following ports must be opened both ways (for incoming and outgoing communications):

TCP 1884 with destination IP 18.134.238.207

4G Cellular Antenna Installation (FlexOM-4G only)

Pass the SMA end of the coaxial antenna cable through the disassembled cable gland parts in sequence, then tighten the cable glands again.

Screw one end of the antenna cable into the cable connector of the gateway (applicable to FlexOM-4G model only).

Mount the 4G antenna as high as possible on a metallic structure.



Check that the "Modbus Mode" of the gateway is correctly set to Flex via the APP.

Any gateway that is factory default, or has worked in Super mode, can be set to Flex Mode at any time.

The gateway can be connected to different types of other hardware such as revenue meters and weather stations via RS485 cable.



5 Hardware installation5.2 Zero-export with Flex Mode (Requires EPM kit)

The FlexOM gateway works in conjunction with the EPM kit to provide real-time "Zero Export" dynamic control of multiple inverters in C&I sites in response to load variations.

"Zero Export" is completely dependent on the reliability and timeliness of communication between the gateway and the devices in the daisy chain, and EPM performance is based on the premise of reliable communication.

Minimum time interval for the entire daisy chain to	Maximum time for the inverter to execute a write command	
perform a single derating	< 100 ms	~ 200 ms
2 Seconds	5	2
5 Seconds	16	8
Maximum number of inverters that can be connected		

FA1-C does not support EPM, other FlexOM gateway models support EPM scenarios. Please contact sales for more information.

AC Busbar Switchgear To Load AC/DC **SE Box** Power Switchgear To PV EPM Sensor EPM Gateway Meter RS485 Bridge Inverter #1 L1 L2 L3 Ν RS485 From Grid **EPM Kit : Sensor Pre-installed cables** FD2-NRC100-5 inside SE-B Box Up to 5000A and 0.5% Accuracy Power Input Α В AC Busbar С Ν Ν L 3 4 5 EPM Kit : Meter Breaker FD2-M1 $\varphi | \varphi | \varphi | \varphi$ ₽I G B- A+ GND VCC L Ν 4 5 6 1 2 3 L1 L2 L3 N A+ B-G 00000 i þ 000 Ο 0 (\circ) VCC GND A* B- 0 VCC GND A* B- 0 VCC GND A* B- 0 EWX2 0 FD2-Bridge2 \odot
 G
 B A+
 GND
 VCC
 G
 B A+
 GND
 VCC
q.


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5 Hardware installation5.3 AUX Mode (Multi-party management)



6 Non-registered User (Installer)6.1 APP connect to gateway

Scan the QR-code to complete APP download and installation by using the mobile phones that can access the Internet. Or search for "Chint Connect " in Apple Store and Google Play.



The Android/iPhone user interface may look slightly different but the setup procedure will be the same as shown.

global-2.chintpowersystems.com

"Portfolio Owner" manages the site remotely through a web console and can log in from the URL global-2.chintpowersystems.com





3:02 ৵			::!! 4G 📢
<	Smart Lir	۱k	Next
	"Chint Connect" V to Use Bluet Chint Connect wants the Bluetooth for connecting ateway	ES Vould Like ooth o access your ng to Dongle	
	Don't Allow	ОК	
	Screwed down & P	owered on	
🔊 в	uetooth on the phone is	enabled.	

Launch the APP,

note that you must allow the APP to obtain the two mobile phone permissions of location and Bluetooth, otherwise the APP will not work properly.



By clicking "Smart link",

the APP will automatically detect the connected hardware scene and provide different interactive interfaces after connecting to the gateway.



When launching an app, it is recommended to allow the app to send notifications.

Otherwise users cannot receive subscribed real-time hardware alertsconnecting to the gateway.

In the APP settings interface, users can change the language, synchronise scene data and switch servers at any time.

Make sure your phone can connect to the Internet when you run the app for the first time.

The APP needs to sync some important data from the cloud.



3:03 🗸	::!! 4G 📢
<	APP Settings
Language setting	g English >
Sync Cloud Data	2024-03-15 15:02:23 >
Platform	Global 1 >
App version	V 24.3.1
Privacy statemen	it >



3:40 🖻 🖨 🎮	0	🔌 🗟 Ø 57% 🛢	
< (< Connect to the adapter		
If connecti	on of BLE fails, plea	ase try WIFI mode	
CPLK-3FF	CPLK-3FFFFF6-link		
CUGW-50	>		
CUGW-55423440 <mark>02612 ></mark>			
CN-22332065-9			
CN-12332	20C5-31	>	
	Quick connect Scan the barcod adapter	e or QR code of the	
Caution: The BLE with the changed name cannot be automatically recognized by scanning !			
	\bigcirc	<	

The gateway SN is included in the BLE signal name, and the APP will list the scanned signals.

Select the SN consistent with the target gateway label and click to enter.

Click on the gateway SN, when the APP connects to the gateway, if there is a problem, it will indicate a specific error.

14:22 6		al Ş	71
	N-5542344002	612	Next
-> Refresh :	2024-03-25 14	:22:26 G	MT +8
Model :	EHX2-C		
SN :	5542344002612	2	
MAC :	48:27:E2:02:97:	78	
Firmware version :	4.0016T5		
Cloud server :	edge.fomware.c	om 1883	
Status :			
Internet :	Wi-Fi + LTE + E		
Ethernet Status :			
Modbus port	UART		
Baud Bate :	9600 NONE 1		
Device ID range :	1~5		
Device online			
status :	0/5		
Modbus TCP	Enabled		
Server :			
MLPE Current			
Not Enabled Status :			
Device se	Device settings Refresh		
Internet Settings		Mo	re



" Connection failure "

- Phone is too far away from the gateway.
- Another phone has been connected to the gateway and is communicating normally.
- Android 14 (or other versions) may have issues communicating with the gateway and will need to upgrade the gateway to the latest version.

"The gateway must be upgraded with firmware to work properly, please wait for about 5 minutes"

• Unknown communication error, try to solve it by updating the firmware.

6 Non-registered User (Installer)6.2 Setting up the gateway to connect to the WiFi router

14:33 6	ad 🗟 🔟
CUGW-554234400	02612 Next
-> Refresh : 2024-03-25 Model : EHX2-C SN : 55423440026 MAC : 48:27:E2:02:9 ware version : 4.0016T5 Cloud server : edge.fomware Status : Offline Internet : Wi-Fi + LTE + Wi-Fi Status : Disconnected Modbus port type : UART	14:33:39 GMT +8 512 77:78 e.com 1883 + Ethernet
Baud Rate : 9600 NONE 1 ice ID range : 1~5 Device online status : Marker TOP	
Server : Not Enabled	
Device settings	Refresh
Internet Octions	More

Click on "Internet Settings", the WiFi version of the gateway only has WiFi settings, other versions of the gateway will list both Ethernet or 4G settings.



Caution : The gateway does not support 5Ghz WIFI gateways, as well as WIFI users who need to open a browser and redirect to an account-verified router.

14	1:30 €	.ul 🕈 🔟
<	Internet S	ettings
	① O Save Succes	S
	② Gateway has	s restarted
	3 O Successfully	reconnected!
_		
	OK(1	s)

14:22 6		ul S	71)
	N-5542344002	2612	Next
-> Refresh : Model : SN : MAC : Firmware version : Cloud server : Status : Internet : Ethernet Status : Modbus port type : Baud Rate : Device ID range : Device online status : Modbus TCP Server : MLPE Current Status :	2024-03-25 14 EHX2-C 5542344002612 48:27:E2:02:97: 4.0016T5 edge.fomware.c Online Wi-Fi + LTE + H Connected UART 9600 NONE 1 1~5 0/5 Enabled Not Enabled	:22:26 Gf 2 78 com 1883 Ethernet	MT +8
Device se	ettings	Refr	esh
Internet Settings More		e	

After entering the SSID and password of the WiFi, save the settings and the gateway will automatically connect to the WiFi router.

If the gateway reports an error, there is a high probability that the character input is wrong.

Caution :



If the user cannot judge the network status of the WLAN router, the user can configure the WiFi hotspot of the mobile phone to the gateway for reference.

14	4:30 C I	? 10
<	Internet Settings	Switch
Selec config	t the interface as the channel to the Inte gure the corresponding parameters afte	ernet,and r switching
	WiFi	
	4G Cellular	
	Ethernet	Current >
	Auto	
	More information(Ethernet)	
2:55	51	ıll ≎ 🖬
<	WiFi module information	

2:55 4	III 🕆 🛂				
K WiFi module ir	nformation				
Site profile					
Running time after power-on	4m5Seconds				
Other					
Current MAC address	1C:9D:C2:4B:B8:74				
Router connection status	Connected				
Waiting to reconnect to					
Router Channel 11					
Router signal strength -46 dB					
Router security WPA2_					
LAN IP acquisition status Acqu					
LAN IP 10.0.0.2					
LAN Mask 255.255.255					
LAN Gw	10.0.0.1				
DNS1 10.0.0					

The gateway may not be able to access the Internet even if it is connected to a WiFi router, in this case, the gateway is also not working properly.

Usually there is a firewall in the LAN to which the WiFi router is connected, and you need to add a TCP access policy for the gateway.

Click "More Information" to check whether the gateway is connected to the WiFi router properly.

It can help to diagnose if the firewall must be found and to increase the policy.

Open the LAN firewall ports before commissiong !

The following ports must be opened both ways (incoming and outgoing communications): TCP 1883 with destination IP 18.134.238.207



6 Non-registered User (Installer)6.3 Gateway connects to the Internet via 4G

14	4:44 🕇	ul 🗢 😡
<	Internet Settings	Switch
Selec confi	t the interface as the channel to th gure the corresponding parameters	e Internet,and after switching
	WiFi	Current >
	4G Cellular	
	Ethernet	
	Auto	
M	ore information (WiFi module i	nformation)

Different versions of the gateway have different options for connecting to the Internet. Users can select 4G and click "Switch" to change the connection options.

Changing the connection will cause the gateway to reboot and it will take about 1~5 minutes for the 4G to connect to the Internet properly.

The gateway connects to the Internet via 4G and can still connect to the Modbus TCP client via WIFI at the same time.

14:53 🌜	गां रू 🗗		67
< cugw	V-5542344002	2612	Next
-> Refresh : Model : SN : MAC : Firmware version : Cloud server : Status : Internet : LTE Status : Modbus port type : Baud Rate : Device ID range : Device online status : Modbus TCP Server : MLPE Current Status :	2024-03-25 14 EHX2-C 5542344002612 48:27:E2:02:97: 4.0016T5 edge.fomware.c Online Wi-Fi + LTE + B Ready UART 9600 NONE 1 1~5 0/5 Enabled Not Enabled	:53:22 GH 2 78 com 1883 Ethernet	ИТ +8
Device se	ettings	Refr	esh
Internet Se	ettings	Mor	e

14:44 🕇		.ul ବ୍ 💷	
<	Internet Settings	Switch	
Select the inter configure the c	face as the channel to th orresponding parameters	e Internet,and after switching	
WiFi		Current >	
4G Cel	lular		
Etherne	ət		
Auto			
More information (WiFi module information)			



Cellular troubleshooting

" Not Ready "

• The 4G modem is searching/registering for a cellular network, if it fails it will reboot and try again.

Check "More Information" for networking details.

" Ready "

• Everything went well.

4:25 🕇	iii ≎ ■
< .	4G Cellular
Site profile	
Cellular status	Ready
Duration of current working status	37Seconds
Cellular version	EC200SCNABR03A 04M16
Cellular IMEI	868089051295495
SIM ICCID	8986049010208019 6282
SIM IMSI	460081076506282
SIM type	External SIM
Network access typ	De TDD LTE
Cellular band	LTE BAND 40
Operator	CHINA MOBILE
IP	10.114.119.38
RSSI	-61 dBm
Ber	99
_	

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6 Non-registered User (Installer)6.4 Gateway connects to the LAN router via Ethernet

4:55 🗩	\$?:""		14:56 🕇		.ul 🗢 🔂		
< CUGW-554	42344002612 Next		< I	nternet Setting	s Switch		
-> Refresh : Model : E SN : MAC : Firmware : Server : Status : Internet : WiFi SSID : WiFi Status :	2024-03-18 16:54:16 GMT+08:00 EHX2-C 5542344002612 48:27:E2:02:97:78 4.0016T5 edge.fomware.com 1883 Online WiFi + LTE + Ethernet NETGEAR40 Connected		WiFi	e as the channel to asponding paramet	erface will continue?		
Baud Rate : 9	7600 NONE 1		Canc	el	ок		
Device in Frange : Device online status : 1 Modbus TCP Server : E	1 ~ 32 1 / 32 Enabled				15:44 🗲		.ul ? 6)
MLPE Current Status :	Not Enabled				<	Ethernet	
					Static		
					IP		192.168.1.100 >
					Mask		255.255.255.0 >
Device settings	s Refresh				Gateway		192.168.1.1 >
Internet Setting	js More		More i	nformation(4G	Auto DNS		
By clicking on " to connect to th	Internet settings ne Internet.	", you can cl	hoose ho	W			
Different gatew Ethernet + WiFi	ays have differei + 4G.	nt channels	such as				
The gateway au connect to the	utomatically sele Internet in "Auto"	cts the char mode.	nnel to		_	Save	-
As shown in the Ethernet param	e figure, click "Sa neter setting.	ve" after fin	ishing th	e			
Then aliak "Qui	toh" to make the		action				

Then click "Switch" to make the channel selection effective.



Typical Modbus TCP applications, it is recommended to go through Ethernet and a static IP address and related parameters must be configured.

It must be ensured that the gateway is on a LAN subnet with the third party SCADA.

Open the LAN firewall ports before commissiong !

The following ports must be opened both ways (incoming and outgoing communications): TCP 1883 with destination IP 18.134.238.207



6 Non-registered User (Installer)6.5 Setting the Modbus ID from the inverter panel

Please consult the inverter manual to set the Modbus ID of the inverter correctly via the inverter LCB panel.

If the inverter does not have LCD panel, it is likely to use Dongle Gateway to provide Bluetooth connection, and the Modbus ID setting can be completed after APP connects to the inverter.





The App will show the initialisation interface of the inverter.

Inverters without Grid code are considered as uninitialised inverters.

The initialisation screen varies slightly from inverter to inverter, but all will ask for settings:

- Grid Code
- PV Line Type
- Neutral Line
- Inverter Clock
- RS485 Port

6 Non-registered User (Installer) 6.6 Scanning the daisy chain









Set the gateway to scan the daisy chain:

Modbus ID Range 1~30 == Inverter Model A Modbus ID Range 31 == Meter Modbus ID Range 32~35 == Weather Sensor



The gateway is able to automatically discover connected hardware based on protocols or models with different Modbus ID segments.

The gateway is in "Flex Mode" and each hardware on the Daisy chain must be correctly set with a unique Modbus ID.

The gateway is in "Super Mode", where the inverters on the Daisy Chain do not need to be set up in any way, and the gateway is able to auto-discover and remotely modify the registers.

CUGW-5542335000650 Next -> Ristrain 2024-02-07 10-20-43 Model: EHX-2C Status: 0.0016 Model: EHX-2C Status: 0.0016 Status: 0.0016 Status: 0.0016 WiFi Status: 0.0016 WiFi Status: 0.0016 WiFi Status: 0.0000 NONE 1 Device ID:9 Status: 0.0116 WiFi Status: 0.00010091114008 WiFi Status: 0.00010 0.0001 Device ID:9 Status: 0.0116 WiFi Status: 0.00010 0.0011 Device ID:9 Status: 0.0116 Device ID:10 Status: 0.0116 Device ID:11 Status: 0.0116 Model:	CUGW-5542335000650 Next • > Refresh 2024-02-07 10-20-43 GMT-08:00 (Flex Mode) Upgrade Firmware Model: EH/22/C Status: • Online • Device ID-8 Status: • Online • Device ID-8 Status: • Online • Device ID-8 Status: • Online • Device ID-8 Status: • Online • Device ID-8 Status: • Online • Device ID-8 Status: • Online • Device ID-8 Status: • Online • Device ID-8 Status: • Online • Device ID-8 Status: • Online • Device ID-8 Status: • Online • Device ID-9 Status: • Online • Device ID-11 • Status: • Online • Device ID-11 • Device ID-11 • Status: • Online • Device ID-11 • Status: • Online • Device ID-11 • Device ID-11 • Device ID-1	10:20 🖪 🛦 🚭 🔹	🗙 🗟 111 (56%						
	• Refresh: CMX+0800050 Model: EHX2-Q SN: 554723500050 Model: EHX2-Q SN: 48277E204:59:58 Firmware: 4.0014 Serve: edge formware: com 1883 Status: • Online Internet: WiFi/Status: • Connected Convoice ID:10 Status: • Online Internet: Settings Model: SCH125KTL-DO SN:1252010091114008 Weice ID:10 Status: • Online Status: • Online SN:2520000NNE1 Device ID:10 Status: • Online SN:1252010091114008 Wodel: SCH125KTL-DO SN:1252010091114009 Internet: Settings Model: SCH125KTL-DO SN:1252010091114009 SN:1252010091114008 Model: Running SN:1252010091114008 Model: Running Solution: • Offline Solution: • Offline SN:1252010091114008 Model: • Offline SN:1252010091114008 Model: • Offline Solution: •	< CUGW-55	542335000650	Next		÷	RS485 ((Flex M	Cable Upg ode)	grade Firmware	5
SN : 554/238000550 Model: 44272cd+55:58 Firmware: 4.0014 Server: edge.formware.com 1883 Status: 0 unine Internet: WiFi/Shubs: Connected WiFi Status: Normal Model:sCH125KTL-D0/US-600 WiFi Status: Normal Model:sCH125KTL-D0/US-600 SN:6002010091114008 Device ID:9 Status: • Online Model:SCH125KTL-D0 SN:1252010091114009 Device ID:9 Status: • Online Model:SCH125KTL-D0 SN:1252010091114009 Device ID:10 Status: • Offline Device ID:10 Status: • Offline SN: 6002010091114008 Model: SN: E Model: SN: Click on "Device Settings" and the APP displays the scanning status of the daisy chain. The listed hardware objects can be accessed by click- ing on them to perform read/write register settings.	SN : 554233500050 Mode: 4807420459:58 Firmware: 4.0014 Server: edge.formware.com 1883 Status: 0.0nine Internet: WFISIALUS: Connected WFI Status: Normal ModelsSCH125KTL-DO/US-600 @ WFI Status: Normal ModelsCh125KTL-DO/US-600 @ SN:6022010091114008 Device ID:9 Status: • Online @ ModelSCH125KTL-DO SN:1252010091114009 Device ID:9 Status: • Online @ Model:Ch11 S N:1252010091114009 Device ID:10 Status: • Offline @ Model: SN: Click on "Device Settings" and the APP displays the scanning status of the daisy chain. The listed hardware objects can be accessed by click- ing on them to perform read/write register settings.	-> Refresh: Model:	2024-02-07 10:20:43 GMT+08:00 EHX2-C				0	Pause Scanning		
Firmware : 440014 Server : edge forware.com 1883 Status : Online Internet : WiF(Atto) + LTE + Ethernet WiF(Status : Connected CAN bus status : Normal Models port type : CANbus Baud Rate : @Ool NONE 1 Device online status : 1 / 32 Device online status : 1 / 32 Device settings Refresh Internet Settings Model SN : SN : Device ID:10 Status : • Offline @ Model SN : SN : SN : SN : Device ID:11 Model SN : Summary Pac Run T Status of the daisy chain. The listed hardware objects can b	Firmware: 4.0014 Status: Online Internet: WiFISED: NETGEAR40 WIFISED: WIFISED: NETGEAR40 WIFISED: NETGEAR40 WIFISED: Connocced ON box status: Normal Modelscotts: Normal Modelscotts: Normal Modelscotts: 1 ~ 32 Device ID:10 Status: Device ID:10 Status: Model: Status: Device ID:10 Status: Nodel: Status: Model: Status: Ovice online status: 1 / 32 Device ID:10 Status: Internet Settings More III Click on "Device Settings" and the APP displays the scanning status of the daisy chain. The listed hardware objects can be accessed by click-ing on them to perform read/write register settings.	SN: MAC:	5542335000650 48:27:E2:04:59:58			0	Device ID:8	Status: • Online	(c)	
Internet : WIF(Auto) + LTE + Ethernet WFI SSID : NETCEAR40 WFI SSID : Nemeted CAN bus status : Normal Modbus port type : CANbus Baud Rate : 9600 NONE 1 Device ID:0 range : 1 ~ 32 Device ID:10 range : 1 / 32 Device ID:10 status : Offline @ Model:SCH125KTL-DO @ SN-1252010091114009 @ Device ID:10 status : Offline @ Model: SI:1252010091114008 Model: SN: SN: SCA138KTL-DO III Click on "Device Settings" and the APP displays the scanning status of the daisy chain. The listed hardware objects can be accessed by click-ing on them to perform read/write register settings.	Click on "Device Settings" and the APP displays the scanning status of the daisy chain. Click on "Device Settings" and the APP displays the scanning status of the daisy chain. The listed hardware objects can be accessed by click-ing on them to perform read/write register settings.	Firmware : Server : Status :	4.0014 edge.fomware.com 1	883			Model:SCH12	5KTL-DO/US-6	00 🛞	
WFI Status: Connected CAN bus status: Normal Models: 9600 NONE 1 Device ID:ange: 1 ~ 32 Device ID:ange: 1 ~ 32 Device ID:10 Status: Obvice ID:10 Status: Obvice ID:10 Status: Obvice ID:10 Status: Obvice ID:11 Status: Status: Status: Obvice ID:11 Status: Obvice ID:11 Status: Model:	WiFi Status : Normal Modbus portype : CANbus Baud Rate : 9600 NONE 1 Device Online status : 1 / 32 Oevice online status : 1 / 32 Device BD:10 Status: • Offline Models SCH125KTL-D0 SN:1252010091114009 Device BD:10 Status: • Offline SN:1252010091114009 Model: SN: SN: Device ID:10 Status: • Offline SN: Summary Click on "Device Settings" and the APP displays the scanning status of the daisy chain. The listed hardware objects can be accessed by click-ing on them to perform read/write register settings.	Internet : WiFi SSID :	WiFi(Auto) + LTE + Et NETGEAR40	thernet			SN:60020100	91114008		
Baud Rate : 9600 NONE 1 Device ID range : 1 ~ 32 Device online status :: 1 / 32 Device online status :: 1 / 32 Device online status :: 1 / 32 Device online status :: 0 Offline Device ID:10 Status:: 0 Offline Model: Sk:: Device settings Refresh Internet Settings More III Click on "Device Settings" and the APP displays the scanning status of the daisy chain. The listed hardware objects can be accessed by click-ing on them to perform read/write register settings.	Baud Rate: 9600 NONE1 Device ID range: 1 ~ 32 Device online status: 1 / 32 Device settings Refresh Internet Settings More III Click on "Device Settings" and the APP displays the scanning status of the daisy chain. Summary The listed hardware objects can be accessed by click-ing on them to perform read/write register settings. 910 (kk/h)	WiFi Status: CAN bus status: Modbus port type:	Connected Normal CANbus			0	Device ID:9	Status: • Online	Ø	
Device billing status = 17/32 Device billing status = 17/32 Device ID:10 Status: • Offline Model: SN:-252010091114009 Internet Settings Model: SN: III Click on "Device Settings" and the APP displays the scanning status of the daisy chain. The listed hardware objects can be accessed by click-ing on them to perform read/write register settings.	Click on "Device Settings" and the APP displays the scanning status of the daisy chain. Click on the daisy chain. The listed hardware objects can be accessed by click-ing on them to perform read/write register settings.	Baud Rate : Device ID range :	9600 NONE 1 1 ~ 32				Model:SCH12	5KTL-DO	Ð	
Device ID:10 Status: • Offline Device settings Internet Settings Internet Settings More III Click on "Device Settings" and the APP displays the scanning status of the daisy chain. Summary Pac RunT 27.7 (kW) 311.6 (Dyield Tyield The listed hardware objects can be accessed by click-ing on them to perform read/write register settings. Discourse	Device ID:10 Status: • Offline Device settings Model: SN: SCA136KTL-DO Device ID:11 SN: Device ID:11 SN: SN: SCA136KTL-DO Origonal Device ID:11 SN: SN: SCA136KTL-DO Origonal Device ID:11 SN: SN: SCA136KTL-DO Origonal Device ID:11 SN: SN: SN: S	Device online status :					SN:12520100	91114009		
Internet Settings Refresh Internet Settings More III Click on "Device Settings" and the APP displays the scanning status of the daisy chain. Summary Pac RunT 27.7 (kW) 311.6 (Dried hardware objects can be accessed by click-ing on them to perform read/write register settings. Displays the settings.	Model: SN: SCA136KTL-DO Device settings More SCA136KTL-DO Internet Settings More Model: III SN: Click on "Device Settings" and the APP displays the scanning status of the daisy chain. Summary The listed hardware objects can be accessed by click-ing on them to perform read/write register settings. Pac					0	Device ID:10	Status: • Offlin	e 💮	
Device settings Refresh Internet Settings More III Click on "Device Settings" and the APP displays the scanning status of the daisy chain. Summary The listed hardware objects can be accessed by click-ing on them to perform read/write register settings. Disclerent accessed by click-ing on them to perform read/write register settings.	Device settings Refresh Internet Settings More III Click on "Device Settings" and the APP displays the scanning status of the daisy chain. Summary Pac Run T 27.7 (kW) 311.6 (t) DYield Tyrield 112.5 (kWh) 610 (kV)						Model:	16:38	<u> </u>	
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Internet Settings More III Click on "Device Settings" and the APP displays the scanning status of the daisy chain. Summary The listed hardware objects can be accessed by click-ing on them to perform read/write register settings. Displays the settings	Internet Settings More III Click on "Device Settings" and the APP displays the scanning status of the daisy chain. Summary The listed hardware objects can be accessed by click-ing on them to perform read/write register settings. Pac	Device setting	gs Refre	sh			Madalı	(i) SN :	6002010091114	800
III III INFO Click on "Device Settings" and the APP displays the scanning status of the daisy chain. Summary The listed hardware objects can be accessed by click-ing on them to perform read/write register settings. Pac RunT	III III INFO Click on "Device Settings" and the APP displays the scanning status of the daisy chain. Summary Pac Run T 27.7 (kW) 311.6 (C) DYield TYield 112.5 (kWh) 610 (k) The listed hardware objects can be accessed by click-ing on them to perform read/write register settings. III 2.5 (kWh) 610 (k)	Internet Settin	gs More	÷			SN:	Mod	e : Running	
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Click on "Device Settings" and the APP displays the scanning status of the daisy chain. The listed hardware objects can be accessed by click- ing on them to perform read/write register settings.	Click on "Device Settings" and the APP displays the scanning status of the daisy chain.PacRunT27.7 (kW)311.6 (DrieldTryieldDrieldTryield112.5 (kWh)610 (kr)					L		Summary		
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The listed hardware objects can be accessed by click- ing on them to perform read/write register settings.	Scanning status of the daisy chain. DYield The listed hardware objects can be accessed by click- ing on them to perform read/write register settings.	Click on "Devi	ce Settings" a	and the	؛ APP displa س	ays th	ne	27.7 (kW)		311.6 (
The listed hardware objects can be accessed by click- ing on them to perform read/write register settings.	The listed hardware objects can be accessed by click- ing on them to perform read/write register settings.	scanning stat	us of the dals	sy chai	n.			DYield		TYield
ing on them to perform read/write register settings.	ing on them to perform read/write register settings.	The listed har	dware object	s can h	be accessed	bv ر	click-	112.5 (kW	h)	610 (k)
		ing on them to	o perform rea	d/write	e register se	etting	ls.			

Setting

6 Event More...

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6 Non-registered User (Installer)6.7 Setting inverter parameters



Click "Device Settings" to view the devices in daisy chain.

Users can scan the daisy chain to discover normal/abnormal connected devices.

Perform read/write operations or firmware upgrades on devices

16:31 🧲	16:31 6						
<		C					
SCA13	SCA136KTL-DO						
-	Password						
AC							
U(V)							
I(A)	0.0	0.0	0.0				
E (11-)	0.0	0.0	完成				
1	A	2 BC	3 Def				
4 сні	4 5 GHI JKL		6				
7 pqrs	8	B,	9 wxyz				
	(C	\otimes				

6 Non-registered User (Installer) 6.8 Enable "SCADA Mode"



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When the system is deployed in AUX Mode, setting the gateway to SCADA Mode suspends almost all of the gateway's own functions, leaving the Daisy Chain entirely in the hands of SCADA read/write access.

Not all gateway models support this mode.

6 Non-registered User (Installer) 6.9 Enable "EPM Mode"

CUGW-5622325001015 Next -> Refresh 2024-03-18 19:20:10 GMT+08:00 Model Model EWX2-C SN 5622325001015 MAC 48:27:E2:02:88:70 Firmware 4.0014 Server solar.chintpower.com 1883 Status Online Internet WiFi(Auto) + Ethernet WiFi SSID wuqing WiFi SSID Wuqing WiFi Status Connected Modbus port type UART Baud Rate 9600 NONE 1 Device ID range 31 ~ 31,1 ~ 1 Device ID range 31 ~ 31,7 ~ 1 EPM Kit Running(abriormal total installed capacity) Modbus TCP Server Enabled EPM Auto Config Device settings Device settings Refresh Internet Settings More		
-> Refresh : 2024-03-18 19:20:10 GMT+08:00 Model : EWX2-C SN : 5622325001015 MAC : 48:27:E2:02:88:70 Firmware : 4.0014 Server : solar.chintpower.com 1883 Status : Online Internet : WiFi(Auto) + Ethernet WiFi SSID : wuqing WiFi SSID : wuqing WiFi SSID : UART Baud Rate : 9600 NONE 1 Device ID range : 31 ~ 31,1 ~ 1 Device online status : 1 / 2 EPM Kit : Running(abnormal total installed capacity) Modbus TCP Server : Enabled EPM Auto Config Device settings Refresh Internet Settings More	CUGW-56223250	001015 Next
Device settings Refresh Internet Settings More	-> Refresh : 2024-03 Model : EWX2-0 SN : 562232 MAC : 48:27:E3 Firmware : 4.0014 Server : solar.chi Status : Online Internet : WiFi(Au WiFi SSID : wuqing WiFi Status : Connect Modbus port type : UART Baud Rate : 9600 NG Device ID range : 31 ~ 31, Device online status : 1/2 EPM Kit : Running Modbus TCP Server : Enabled	3-18 19:20:10 C 5001015 2:02:88:70 ntpower.com 1883 to) + Ethernet ted DNE 1 1 ~ 1 (abnormal total) 1 capacity)
Internet Settings More	Device settings	Refresh
	Internet Settings	More



Once the gateway is properly connected to the EPM Kit, click "EPM Auto Config".

The gateway will automatically detect the system and give the operation status:

- 1) Abnormal, cannot start
- 2) Running
- 3) Running, meter not connected
- 4) Running, meter abnormal
- 5) Running, kWp detection abnormal
- 6) Running, Daisy Chain occupied



The policy adjustment required for Zero-export scenarios can be set via the APP.

When you find a problem with the Zero-export operation at your site, it is very likely that you have selected the wrong AC Busbar location for the Grid Edge, or there is a problem with the inverter version.

Please contact the after-sales service.

6 Non-registered User (Installer) 6.10 Upgrade inverter firmware

< CUGW-55423350006	50 Next	
-> Refresh : 2024-03-18 ' GMT+08:00 Model : EHX2-C SN : 55423350004 Firmware : 4.0016 Server : edge.fomware Status : Online Internet : WiFi + LTE + E WiFi Status : Connected Modbus port type : CANbus Baud Rate : 9600 NONE 1 Device ID range : 1 ~ 32 Device online status : 1 / 32	14:39:34 550 e.com 1883 Ethernet	
Device settings	Refresh	
Internet Settings	More	



Click "Device Settings", APP will display the scanning result of inverter daisy chain, for the correctly listed inverter model and operation status, user can directly execute the firmware upgrade.

÷	Batch upgrade		÷	Batch upgrade			
Model: S5-0	GC100K-HV[130B]	~	Model: S5-GC1	00K-HV[130B]	~		
Comm ID: 1 Model: S5- SN: FEFFF	1 Status: • Online GC100K-HV[130B] EFFFEFFFEF0		Comm ID: 1 S Model: S5-GC1 SN: FEFFFEFF DSP1 DSP2 HMI(LCD)	tatus: • Online OOK-HV[130B] *EFFFEF0 Select Module			
					9:41		ul Ş 🔳
					<	Select firmware	
	Next			Next	AppeFi 2024-i	:4.0007E10 G-iap-4.0007E10.bin 03-22 13:38:02	
					Histor AppeFo 2024-1	ical:4.0002A02 3-iap-4.0007E10.bin 03-21 13:38:02	æ
Select n upgrade	nultiple inverte e on multiple d	ers and the AP evices.	P will perfo	orm the			
Click "N same tir	ext" and selec me, and finally	t the MCU of t select the tar	the inverter get firmwa	rs at the Ire.			
The APF	P will list the p	ublic firmware	e for the Ins	staller.			
The APF lit after 1	P will keep the the upgrade is	screen of the started.	mobile ph	one always			
Please r tion rang Perform phone c process	make sure you ge, and do not the firmware alls during the	are within the move away fi upgrade from process will	e Bluetooth rom the ga your mobi interrupt th	connec- teway. le phone, le upgrade		Start upgrade	

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Firmware upgrade interruptions do not cause the inverter to fail, restarting the firmware upgrade is sufficient.



6 Non-registered User (Installer) 6.11 Upgrade gateway firmware

< CUGW-55	42335000650 Next
-> Refresh : Model : SN : MAC : Firmware : Server : Status : NiFi Status : WiFi Status : CAN bus status : Modbus port type : Baud Rate : Device ID range : Device online status : Modbus TCP Server : MLPE Current Status :	2024-03-18 15:17:18 GMT+08:00 EHX2-C 5542335000650 48:27:E2:04:59:58 4.0016 edge.fomware.com 1883 Online WiFi + LTE + Ethernet NETGEAR40 Connected Normal CANbus 9600 NONE 1 1 ~ 32 1 / 32 Enabled Not Enabled
Device setting	s Refresh
Internet Settin	gs More

<	Setting						
AC-PLC		0 >					
Modbus TCP		>					
AUX function		>					
CAN function		>					
FCB List		>					
MLPE function		>					
Rename Gateway	,	`					
		3:49 -	1		::!! 4G 📢		
Reset Gateway N	ame	<	U	lpgrade Firmware			
Recovery the	ılt	EHX2-	C:	EHX2-C:			
5		App: 2.0	021				
Upgrade Firmwar	e			APP			
		Firmwa	are versio	on: 2.0021			
Reboot		DG-4G	G-CEB :	Арр	~		
		ESP4G	i-iap-2.0)021.bin			
		2023-12	2–29 19:5	5:11			
		Firmwa	are versio	on: 2.0019			
		DG-4G-CEB : App					
'mwaro"		ESP4G-lap-2.0019.bin					
IIIWale.		2023-0	5-07 10:2	3.21			
		1					

Click "More" and then click "Upgrade Firmware".

Select the gateway firmware to be upgraded, and the APP will list the public firmware for the Installer.

The APP will keep the screen of the mobile phone always lit after the upgrade is started.

Please make sure you are within the Bluetooth connection range, and do not move away from the gateway. Perform the firmware upgrade from your mobile phone, phone calls during the process will interrupt the upgrade process.

Firmware upgrade interruptions do not cause the gateway to fail, restarting the firmware upgrade is sufficient.





6 Non-registered User (Installer)6.12 Quickly check hardware running status

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نزل م يوسف لافي	۵		
4Qflow Real-time Updated at 2024-03-25 12:	17:31 +0200		
kW Chart kW	h Bar Chart		
Q1-PV	Q2-Grid Edge		
Generating E	3.77kW		
93.81% Rated Power 4.02kWp	Q3-Load		
Vhat's 4Q Flow?	18:18.4		
03-23 03-24			
Power	<	منزل م يوسف لافي	
4	Gateway:CPS-	WF-GL-NJ	
3	Status: • Online	9	
Analysis	SN: 401192800	0711	Ø
Analysis	Device List		
	Modbus ID:1 S	Status: • Running	0
k "Ouick	Model:CPS SCA	5KTL-SM	
v or enter	SN:101599202	2077	
y er enter			
ing data.			
able to and time,			
	Analysis		Oevice List

Without any account, the installer can click "Quick View" and scan the barcode of the gateway or enter the gateway SN.

The app will display the hardware's operating data.

This is a very simple way for anyone to be able to check the operation of a site, at any place and time, knowing the gateway SN.



The interface displayed will be different for different gateways and inverters.

Users can only view the underlying data and cannot make any changes to the hardware.

6 Non-registered User (Installer) 6.13 Setting the site time zone



After confirming that the gateway is properly connected to the Internet, click "Next" to set the correct time zone.

Time zone is an important factor in the accuracy of site data.



7 Portfolio Owner (End User)7.1 Self-registered "End User" account through the APP



Click "O&M Service", APP prompts you to log in, click "Register" to self-register a new "End User" account.

Users can register for an account via email or cell phone number.

The system will send a verification code to verify the authenticity of the email or cell phone number to ensure that the user can receive product alerts and other notifications.

If a user registers an account with a cell phone number, the system automatically generates an account in the form of an email address "phone@superkwh.site" (with an initialized password of 123456) for the user to log in to the Web console.



Once the new gateway is connected to the Internet, it will use the gateway SN as the default site name to create a site in the Portal system.

After binding the gateway by themselves, users can immediately view the site data via APP/Web.

End User Registered users remotely operate and maintain assets APP Settings @ Chint Connect CN

7 Portfolio Owner (End User) 7.2 Bind site to account



7 Portfolio Owner (End User)7.3 Remote checking of hardware running status





After logging in via the APP/Web, Portfolio Owner is able to view data for all sites in the account, as well as remotely modify hardware settings.

Different roles will be given different permissions, so the Portal system administrator will adjust the account permissions according to the contract.

Please check the product sales contract for details.

Site	Account		48.7kW
		\sim	
(—		
C	Q4-Storage		Q3-Load
V	Vhat's 4Q Flow	2	Full Size Chart
	03-16	03-17	03-18
Ρ	ower		
	40		
,	Analysis	(o) Config	E Tools

7 Portfolio Owner (End User) 7.4 Unbind site from account





Users can enter a site from the site list, click on "Tools" and then select "Unbind this site".

The site is unbound from the current account and the site and data are not deleted.

The Portal administrator is still able to manage the site, so in case of misuse, you can contact after-sales service.

7 Portfolio Owner (End User)7.5 Authorize an O&M partner to control the site



The Portal Admin can send an "Invite-to-register" self-registration URL to the target user.

O&M Partner will receive a 4-digit "Service Code" after completing the account registration.

Both the "Service Code" and the O&M Partner account name can be used as elements of the Portfolio Owner's authorisation. O&M Partner is a service or integrator account role with a cross-organizational perspective.

O&M Partner

"Portfolio Owner" can turn on or off O&M Partner's access to sites in his account.
7 Portfolio Owner (End User)7.6 Diagnose wiring communications at the site

view	Production	Revenue	Event	Notifications	Settings	Firmware	Commission	ing Modb	us Health	Kiosk View	System Se	tting Log Sys	tem		
ct device	& parameter	UTC(-0400)Ea	astern Time	(US and Canada)		Day	Three Days Week	Custom 20	24-03-22	世 2024-03	-24 🛗				
							20)24-03-24 04:4	4:08 -0400						
9	99.29				o										
	80				2	024-03-22 00010138 00010138 00010138	16:39:49 802246082: Succe 802246103: Succe 802246097: Succe	ess % (Percenta ess % (Percenta ess % (Percenta	ge) 100 ge) 100 ge) 100						
	60					00010138	302246108: Succe	ess % (Percenta)	ge) 100						
	40														
	20														
	4 02 22 00-00 21	2024.02	22.00.09.22	2024 02 22 12 22	2024 02 22 16-20		2024 02 22 22	.22.02 2024	02 22 07.50-50	2024.02.2	2 12.25.12	2024 02 22 17:05:1	1 20	124 02 22 21 10 49	3034.03.24.01
202/	+-05-22 00:00:51	2024-03-2	22 05:08:22	2024-03-22 13:33	2024-03-22 10:35	9,49 p.10,42	2024-03-22 22	.:32:02 2024	-03-23 07:39:30	2024-03-2	12:2012	2024-03-23 17:03:1	1 20	JZ4=03=23 21:19:49	2024-03-24 01

80% of the problems with the first completed installation are wiring problems. The gateway provides a detailed diagnosis of Daisy Chain's communications.

Each Modbus device should have a consistent communication success rate of 95% or more, otherwise there is a high probability of wiring problems or interference with the RS485 cable.

RS485 reversals and double masters are also very common.

For further support, please feel free to contact the after-sales service.

8 Appendix 8.1 Example of Modbus TCP application



The gateway connects to the Daisy Chain and is created as a Modbus TCP server object for each device with a different Modbus ID.

A third party SCADA acts as a Modbus TCP client and connects to the target Modbus ID device via a TCP channel.

SCADA typically creates a long connection TCP channel for each Modbus ID; we recommend that SCADA reads and writes to the Modbus ID devices one at a time over a short connection TCP channel.

The advantage of this model is that only one TCP channel (Modbus TCP client) is needed to read and write multiple devices one by one.



Assuming that the user has connected two inverters using Modbus IDs 1 and 2, it is also possible to simulate the same inverters using the Modbus slave software.

Create the register objects correctly, for example:

Register Name: Pac (AC active power) Address: 0x001D (29) R/W: RO Type: uint16 Function Code: 0x04

월 Modbus Poll - Mbpoll1			
File Edit Connection Set	tup Functions Display View Window	Help	
D 🚅 🖬 🎒 🗙 🗋	Read/Write Definition F8	P. 🔤 😵 🐶	
Mbpoll1 Tx = 0; Err = 0; ID = 1	Read/Write Once F6 Read/Write Disabled Shift+F6		
No connection Alias	Excel Log Alt+X Excel Logging Off Alt+Q		
	Log Alt+L Logging Off Alt+O		
3 4	Reset Counters F12 Reset All Counters Shift+F12		
5	Use as Default		
6 7 8 9	0 0 0		

Create a read/write interface for Modbus ID 1 in the Modbus Poll software.

Take care to correctly define the register objects that need to be read and written to. The current illustration defines the Pac registers for the CPS inverter.

ଷ୍ଟି Modbus Poll - Mbpoll1	
File Edit Connection Setup Functions Display View Window Help	
🗅 😅 🖬 🎒 🗙 🛅 🖳 🚊 💷 05 06 15 16 17 22 23 TC 🖻 🖺 💈 😵	
🗒 Mbpoll1	Read/Write Definition X
Tx = 0: Err = 0: ID = 1: F = 04: SR = 1000ms No connection	Slave ID: OK
Alias 00029	Function: 04 Read Input Registers (3x) Cancel
	Address: 29 PLC address = 30030
	Quantity: 1
	Scan Rate: 1000 [ms] Apply
	Disable
	Read/Write Disabled Disable on error Read/Write Once
	View
	Rows
ļ	0 10 0 20 0 50 0 100 Fit to Quantity
	Hide Alias Columns PLC Addresses (Base 1)
	Request
	01 04 00 1D 00 01 A1 CC
	ASCII 3A 30 31 30 34 30 30 31 44 30 30 30 31 44 44 0D 0A
For Help, press F1	[10.0.0.83]: 502

역실 Modbus Poll - Mbpoll1					
File Edit Connection Setup Functions Display View Window Help					
D 🖻 🖶 🚭 🗙 🛅 📃 🌐 IL 05 06 15 16 17 22 23 TC 🗵 🗮 💡 ஜ					
Mbpoll1					
Tx = 0: Err = 0 ID = 1: F = 04: SR = 1000ms					
No connection					
Alias 3x0029					
29 0					

Follow the same procedure to create a read/write interface for Modbus ID 2.

As shown in the figure, the Modbus Poll is ready to perform read and write operations to both Modbus IDs.

Modbus Poll - Mbpoll2					
File Edit Connection Setup Functions Display View Window Help					
🗅 🗃 🖶 🎒 🗙 🛅 🗒 🏛 🗔 1. 05 06 15 16 17 22 23 TC 🖻 🔚 🤋 😵					
Mbpoll1					
Tx = 0: Err = 0 ID = 1: F = 04: SR = 1000ms No connection					
Alias <u>3x0029</u> 29 0					
Mbpoll2					
Tx = 0: Err = 0: ID = 2: F = 04: SR = 1000ms No connection					
Alias 3x0029					
290					

Modbus Poll - Mbpoll2	
File Edit Connection Setup Function	ns Display View Window Help
🗅 🗃 🖬 着 🛛 Connect F3	3 17 22 23 TC 🖻 🖺 🦹 🧏
Disconnect F4	
Tx = 0: EI Auto Connect >	DOms
No conne Quick Connect F5	
Alias 3x0029	
29 0	
🗒 Mbpoll2	
Tx = 0: Err = 0: ID = 2: F = 04: SR = 1	000ms
No connection	
Alias 3x0029	
29 0	

Initiate a Modbus Poll to connect to the Modbus TCP Server (gateway).

You need to know the Modbus TCP Server parameters of the target gateway, and view the operation of WiFi or Ethernet after it has been set to a static IP address via the APP.

14:48 🌢 🕕 🐘 😴 🗢 87% 🖿	14:48 🌢	14:49 🌢 🕀 🖓 🐨 87% 🗩
CUGW-5602344002680 Next	< Setting	< Modbus TCP
-> Refresh : 2024-03-25 14:48:25 GMT+08:00 Model : EWX2-C	Baud Rate 9600 NONE 1 >	
MAC : 48:27:E2:02:75:70 Firmware : 4.0012	Modbus ID Range	
Server : edge.fomware.com 1883 Status : Online Internet : WiFi + Ethernet	Modbus port type UART >	Service started
WiFi SSID : NETGEAR40 WiFi Status : Connected Modbus port type : UART	AC-PLC 0 >	Ethernet: Service IP address and port:
Baud Rate : 9600 NONE 1 Device ID range : 1 ~ 1 Device online 1 / 1	Modbus TCP >	WiFi: Service IP address and port:
Modbus TCP Server : Enabled	AUX function	10.0.0.21:502
	Rename Gateway	Device address Port
	Reset Gateway >	
	Recovery the sateway to default	
	Upgrade Firmware	
Device settings Refresh	Reboot >	
Internet Settings More…		Stop Service

	View Window Help		- 0 X
Mbpoll1 Tx = 0: Err = 0: ID = 1: F = 04: SR = 1000ms No connection Alias 3x0029 29 0 Image: State of the state of	Connection Modbus TCP/IP Serial Settings COM1 9600 Baud 8 Data bits Even Party 1 Stop Bit Advanced Remote Modbus Server IP Address or Node Name 10.0.83 Server Port Connect 502 3000 [ms]	OK OK Cancel Mode RTU ASCII Response Timeout 600 [ms Delay Between Pols 20 [ms	
For Help, press F1.		[10.0.	0.83]: 502

The third party SCADA or Modbus Poll successfully connects to the gateway and the Modbus TCP Client connection can also be viewed on the APP.

8 Appendix 8.2 EPM kit specifications

EPM Kit : FD2-M1 Meter

Specification	
Wiring Type	3P4W / 3CT, 3P3W / 3CT, 1P3W, 1P2W
Sensor Type	Rogowski Coil
Voltage Range	0~480 VAC
Max. Voltage	528 VAC
Accuracy	
Current	0.1% +Current Sensor Accuracy
Voltage	±0.2% (60V~600V AC)
Frequency	±0.01% (45~65Hz)
Power Factor	±0.005
Active and Apparent Power	IEC62053-22 Grade:0.5S
Reactive Power	IEC62053-21 Grade:1S
Active Energy	IEC62053-22 Grade:0.5S
Reactive Eergy	IEC62053-21 Grade:1S
Physical Characteristics	
Housing	Plastic, DIN rail mounting
Dimensions	93 mm / 80 mm / 36 mm
Weight	122g

EPM Kit : FD2-NRC100-5 Sensor

Specification	
Rated Current	5000A
Sensitivity @50Hz	Calibrated 100mV/kA, 85mV/kA
	Uncalibrated 108mV/kA, 90mV/kA
Temperature Drift	Calibrated <100ppm/°C
	Uncalibrated < 50ppm/ [°] C
Accuracy	0.5% (Vertical Centering)
Internal Resistance	50~250 Ω
Coil Cross-sectional Thickness	8mm
Signal Length	5 meters



Service Hotline: 855-584-7168

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