

**SUNGROW**

Clean power for all

# SUNGROW POWER SUPPLY CO., LTD.

Sungrow EyeM4 and Logger1000 install and commissioning  
(C&I Inverter commissioning)

Presenter: Graham Smith

## Disclaimer

---

*The material in this document has been prepared by Sungrow Australia Group Pty. Ltd. ABN 76 168 258 679 and is intended as a guideline to assist solar installers for troubleshooting. It is not a statement or advice on any of the Electrical or Solar Industry standards or guidelines. Please observe all OH&S regulations when working on Sungrow equipment.*

## EyeM4 and Logger1000 - Overview

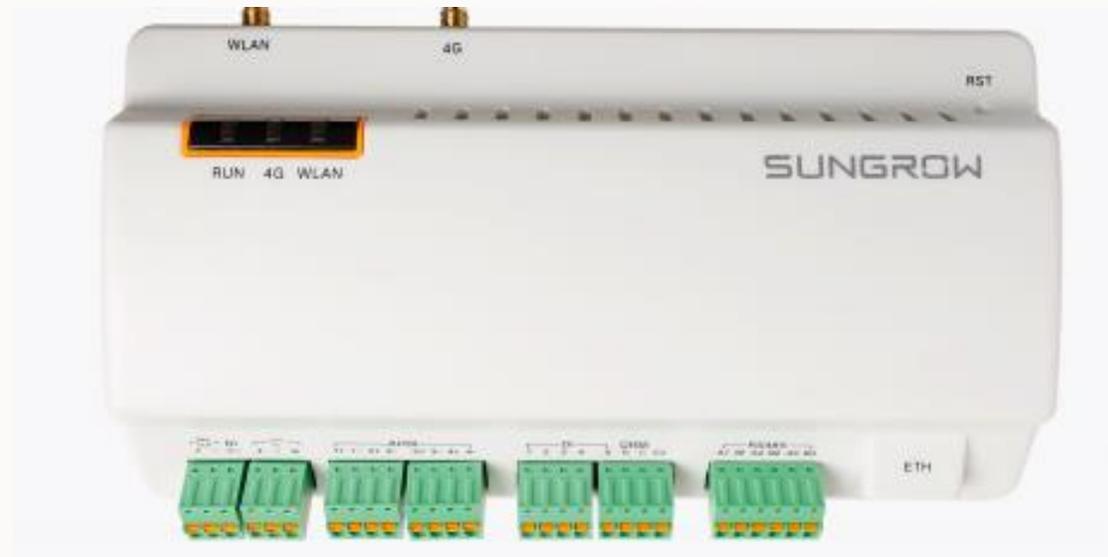
---

The Sungrow EyeM4 WiFi dongle is supplied with all Premium range CX inverters and can communicate with up to 10 devices (9 inverters + 1 meter)

The Sungrow Logger1000 is an optional extra and can communicate with up to 30 devices.

They can connect all devices to the iSolarCloud from one source.

They are used for Export Control.



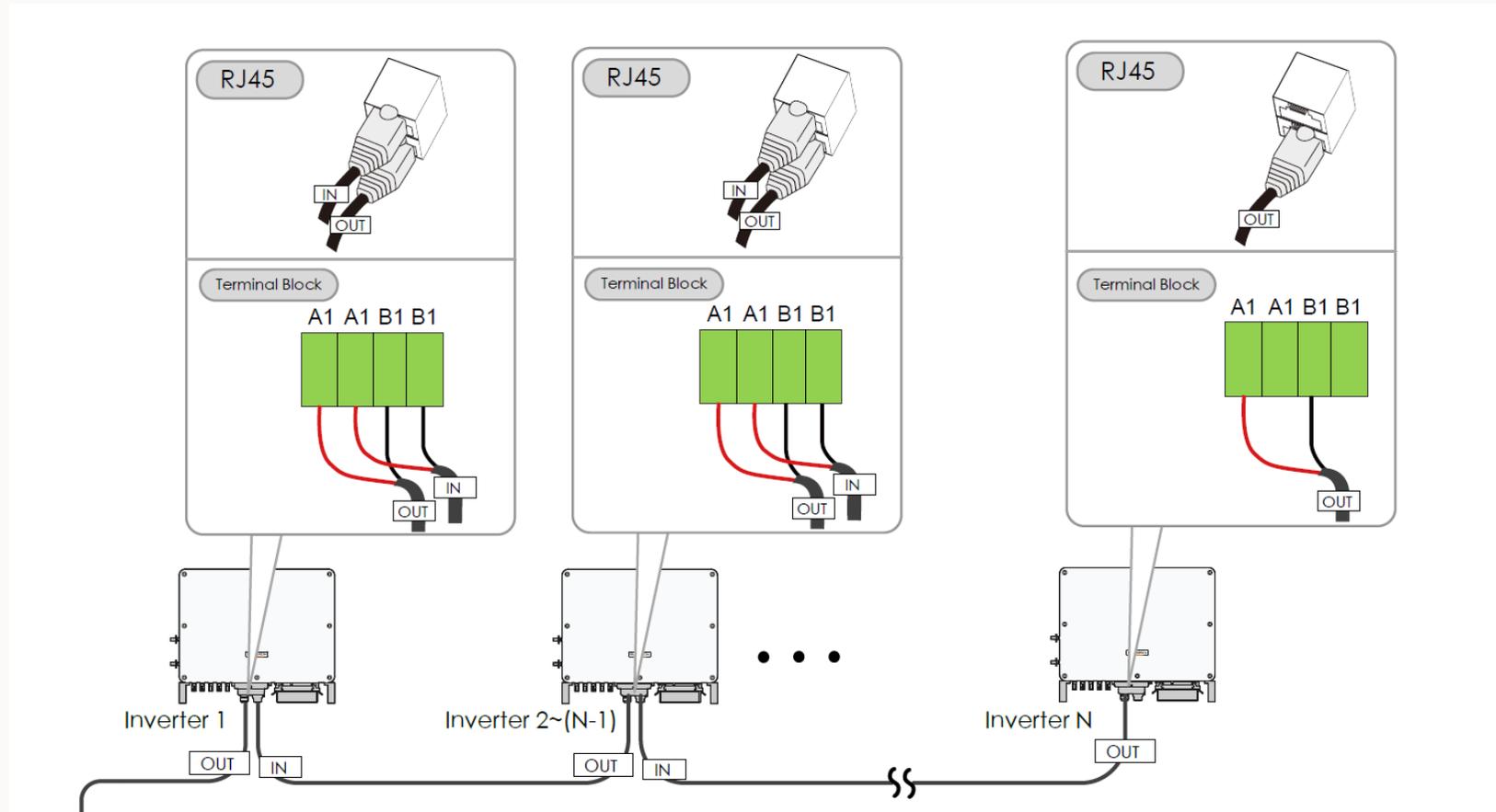
---

## Topics covered

1. Connection and wiring (RS485)
  1. EyeM4
  2. Logger1000
2. Commissioning
3. CT Ratio and Export Control
4. Remote Maintenance (iSolarCloud)

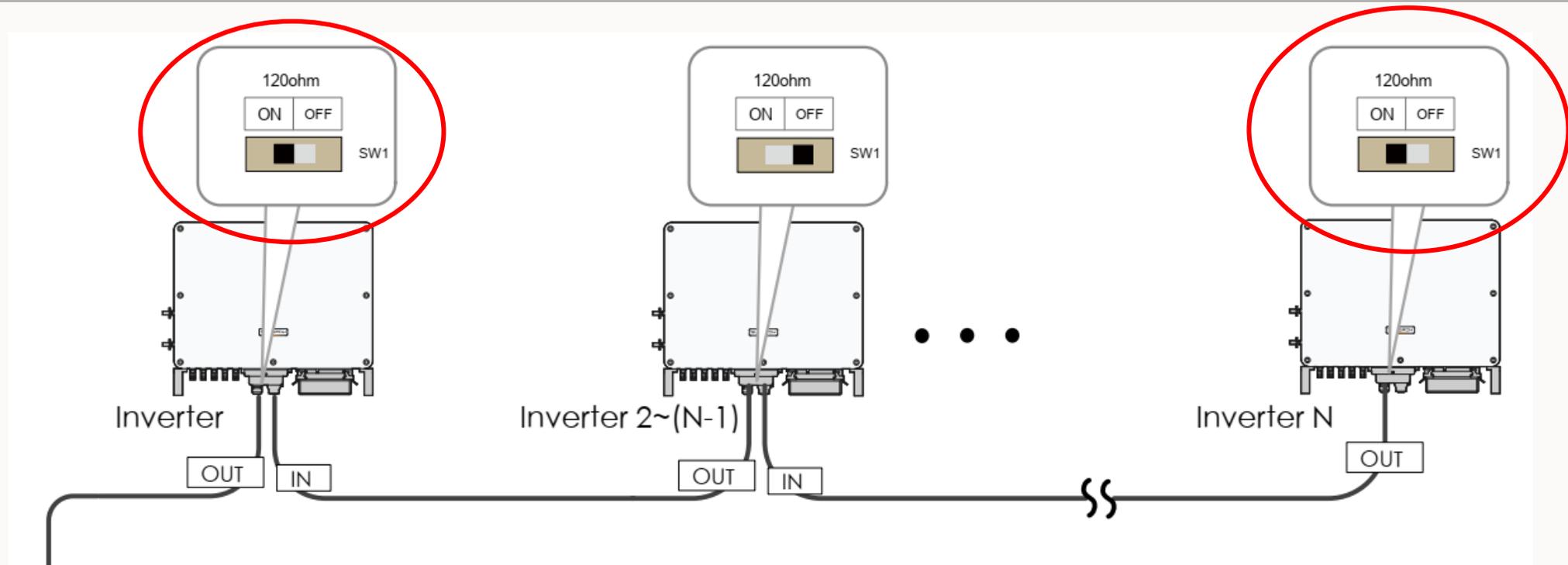
# Connection and wiring (RS485)

## Daisy-Chain wiring - Inverters



The A1 / B1 channel is used for inverter communication

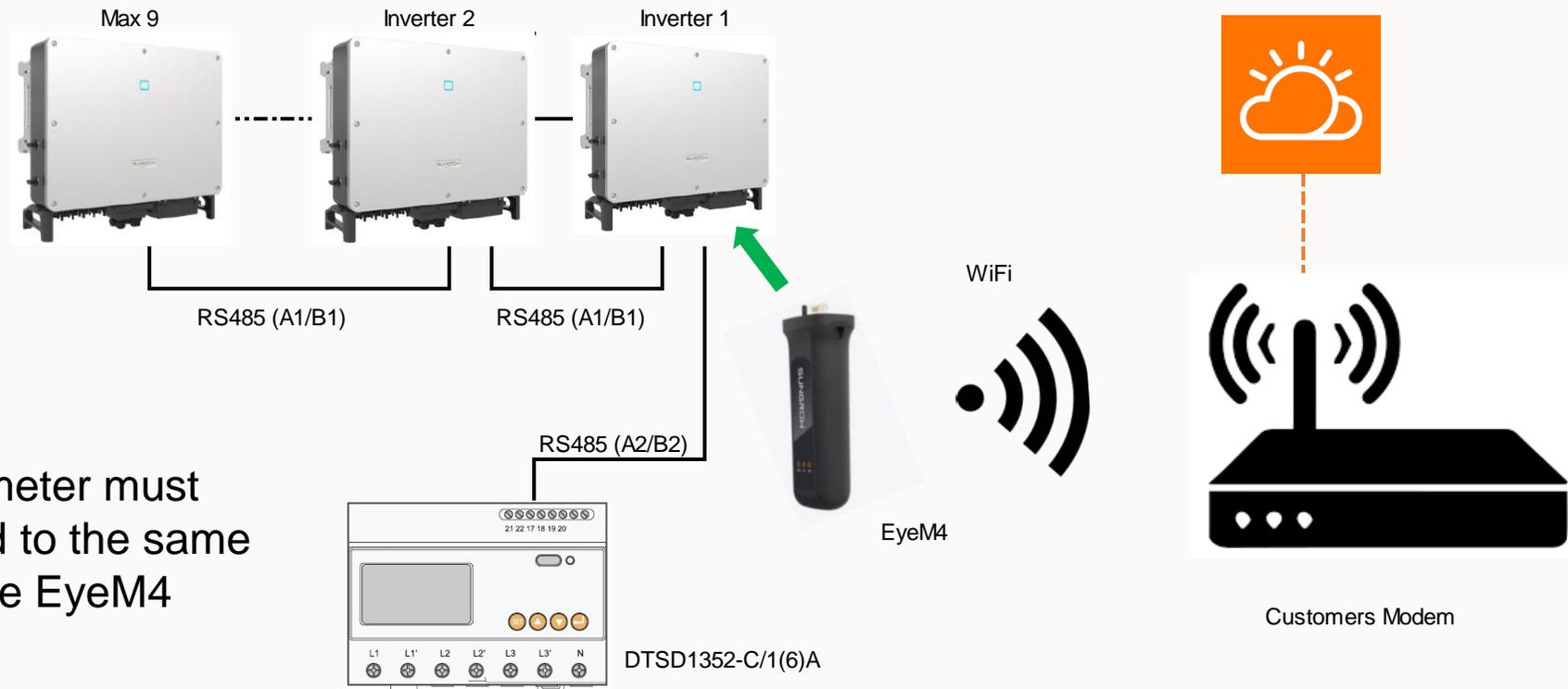
Sungrow recommend shielded twisted pair with a minimum cross section area of 0.75mm



If there are more than 15 inverters on the same RS485 channel (Logger1000 only), enable the 120 Ohm termination DIP switches on the first and last inverter in the daisy-chain.

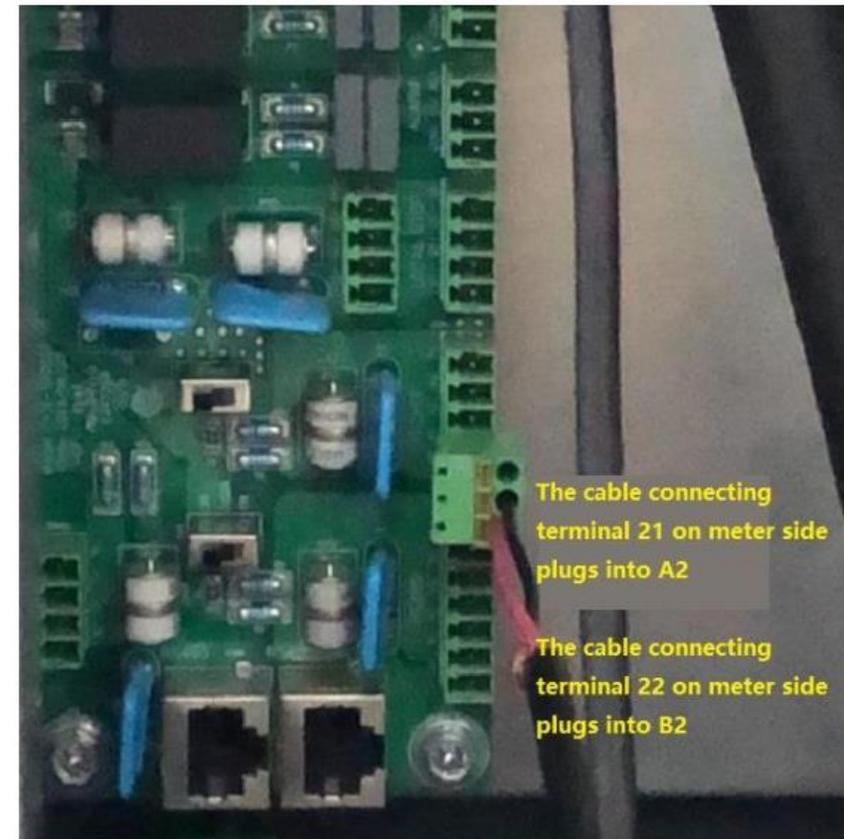
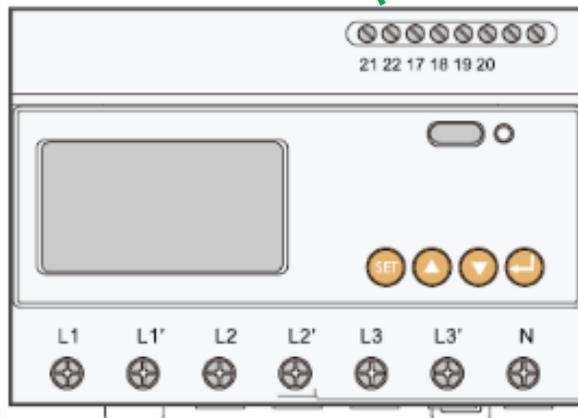
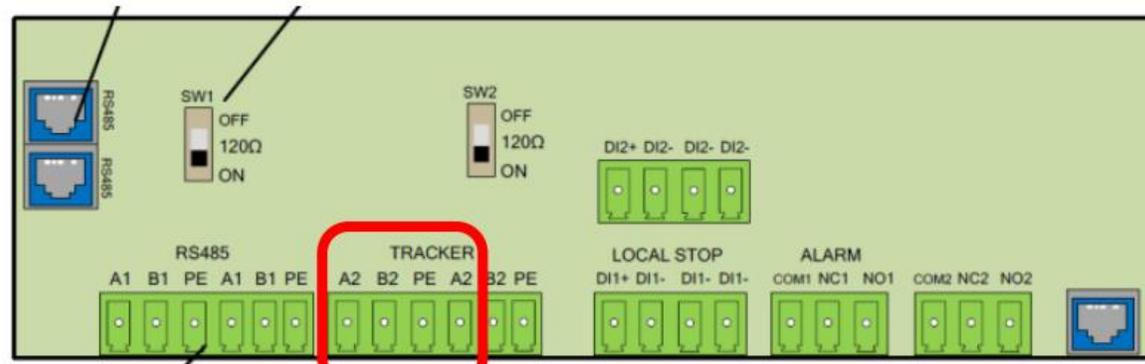
## Connection and wiring (RS485) – EyeM4

When connecting the EyeM4, it is plugged into the Dongle port on either of the end inverters.



The energy meter must be connected to the same inverter as the EyeM4 dongle

**Important: Connect the energy meter RS485 to A2/B2 (TRACKER) terminals in the inverter that has the EyeM4 dongle.**



**Important: Enable RS485 Port for Inverter via iSolarCloud App**

Access the iSolarCloud App via Bluetooth, once clicking Bluetooth, you will be prompted to select the Bluetooth device (Inverter SN). Click on the SN you wish to connect to and then login to the inverter. Please put in "admin" as the account and the password (pw8888).

Click "More" > "Settings" > "Operation Parameters" > "Other Parameters" > Enable "transparent transmission via standby RS485 port".

The A2/B2 RS485 needs to be enabled by using your iSolarCloud App and logging into the inverter using Bluetooth\*

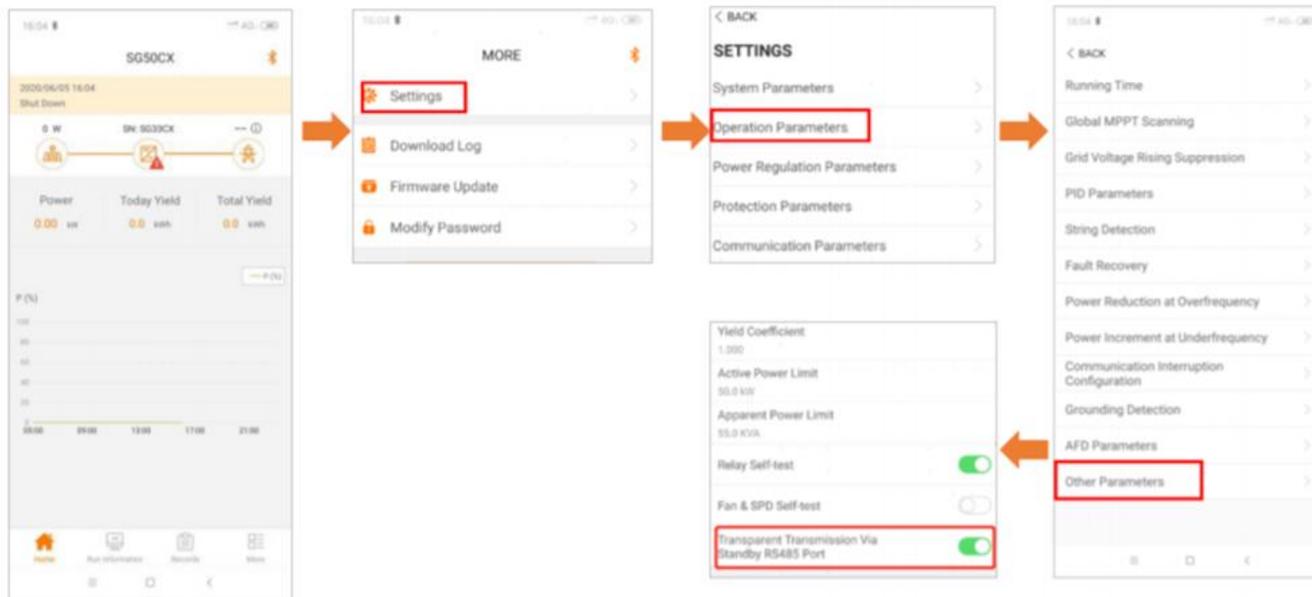
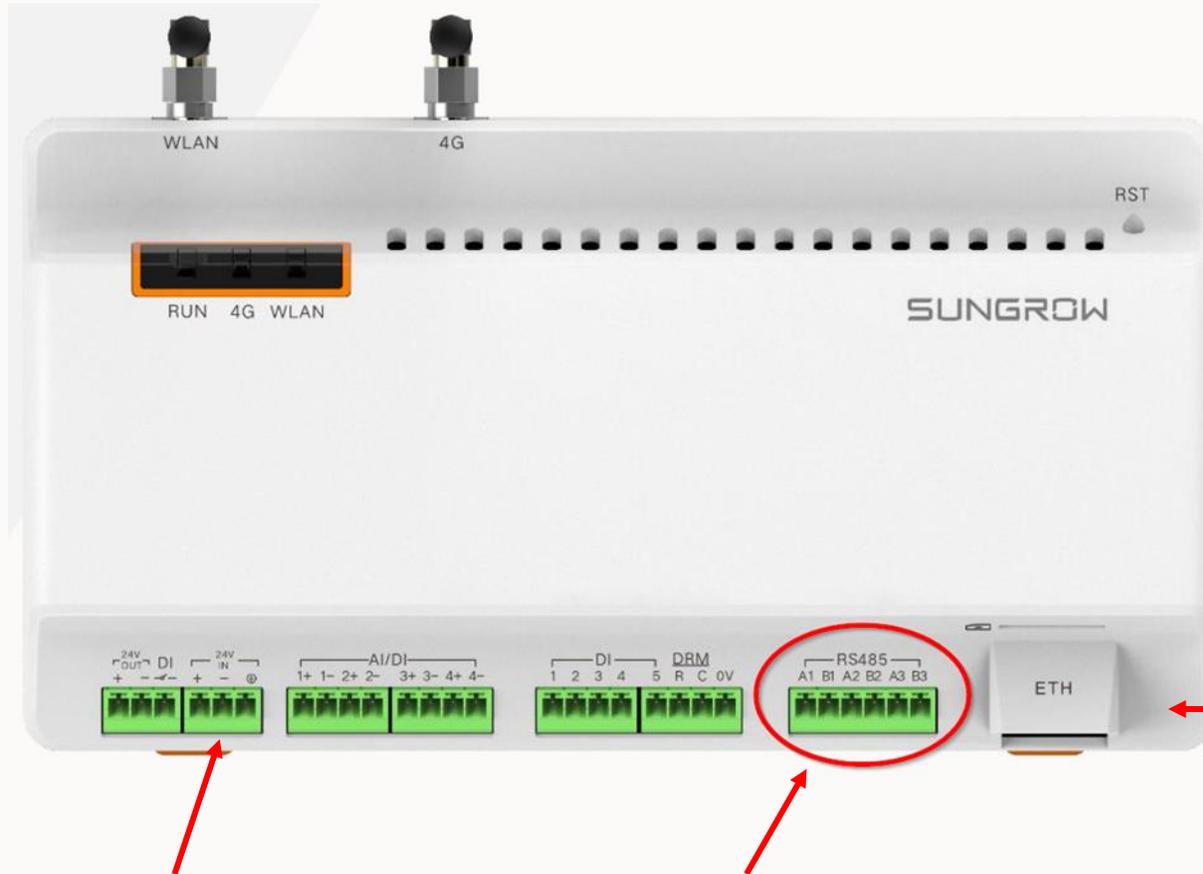


Figure 6 Enable RS485 Port

## Connection and wiring (RS485) – Logger1000



Ethernet to connect to iSolarCloud

24VDC Power supply

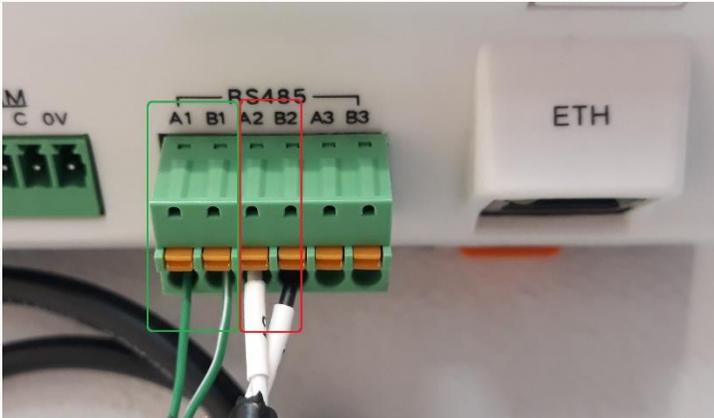
RS485 Inputs COM 1 – COM 3 (A1/B1, A2/B2, A3/B3)

## Connecting Inverters to the Logger1000

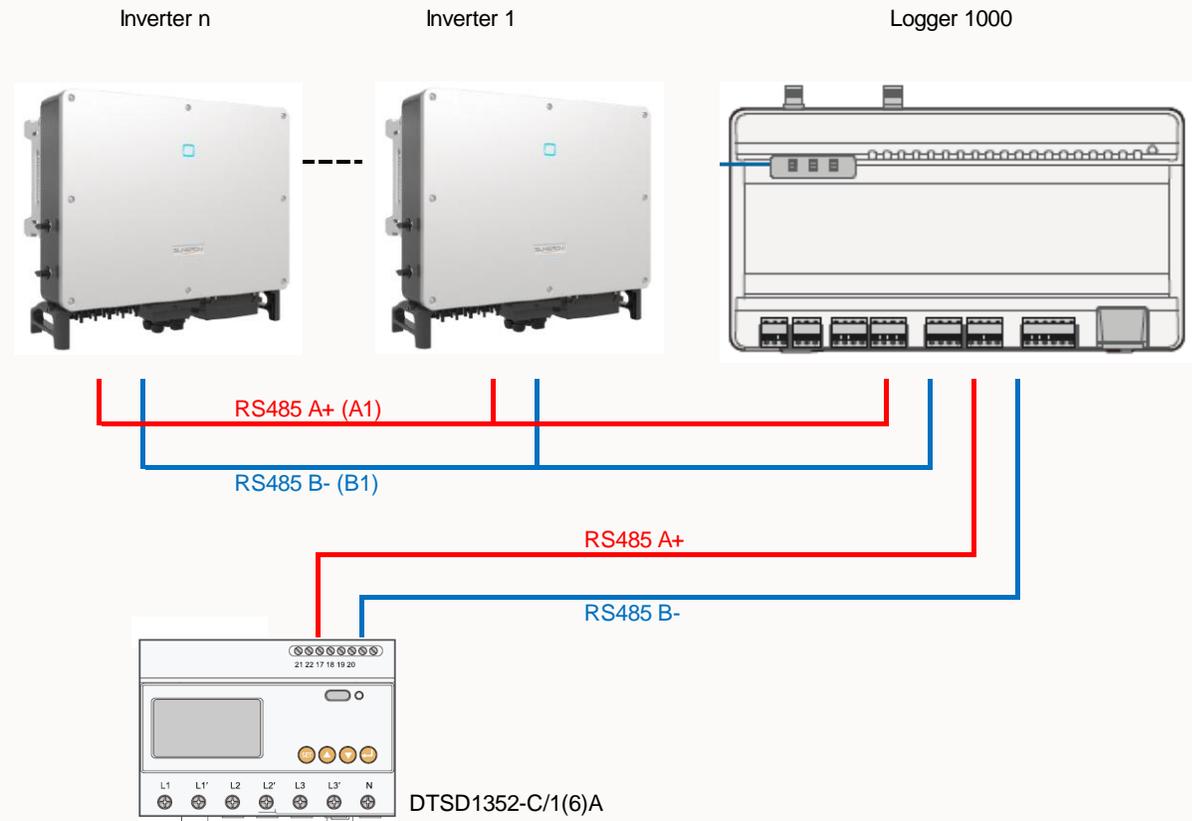
### Option 1: Daisy-chain

In this configuration, all inverters are connected in parallel into one of the RS485 inputs.

Meter always connected to a different RS485 channel



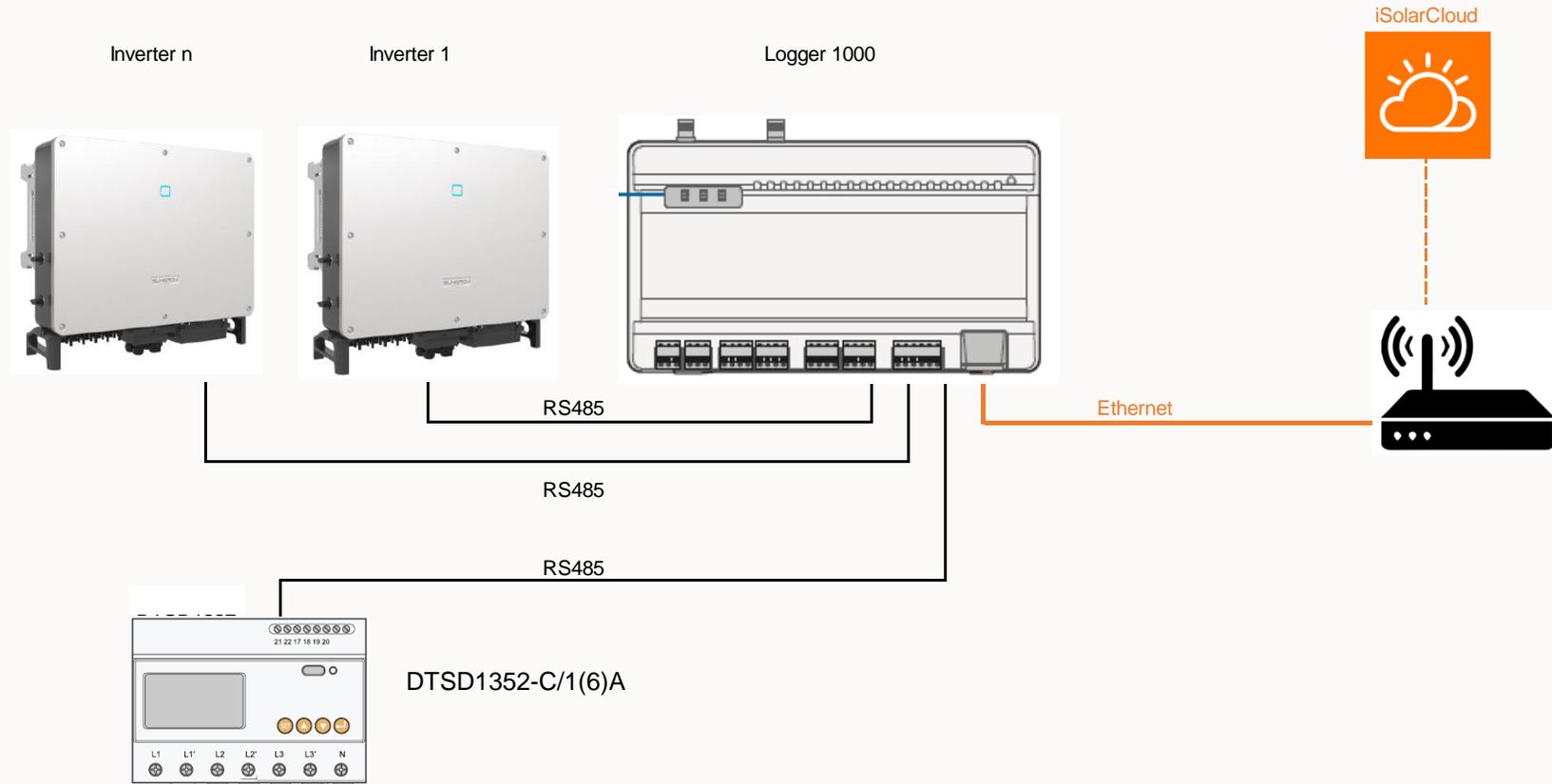
### Multiple inverters connected to COM1



## Alternative option

### Option 2:

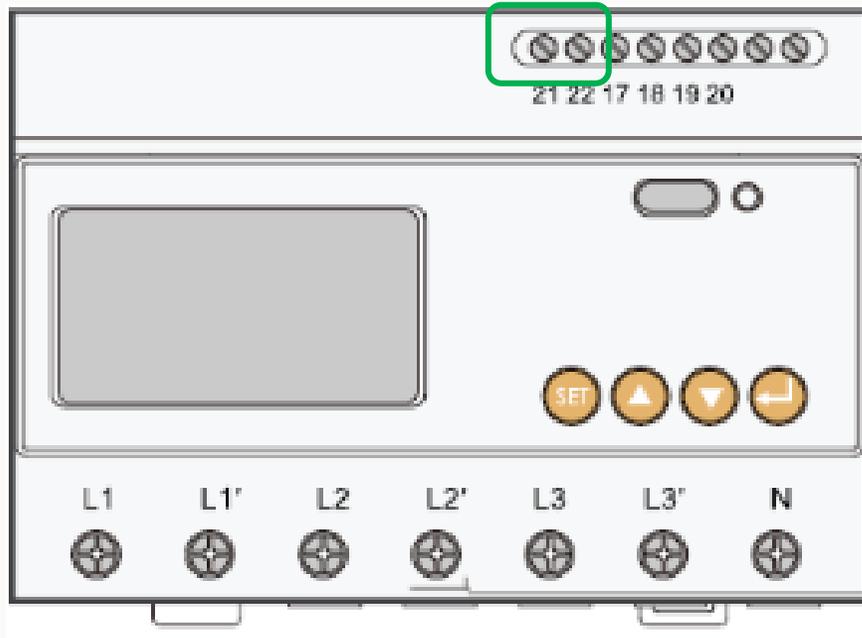
As there are three RS485 channels in the Logger1000, the Inverters can be connected into different RS485 inputs. This gives flexibility for the installer i.e. different buildings.



## Energy Meter connection – Logger1000

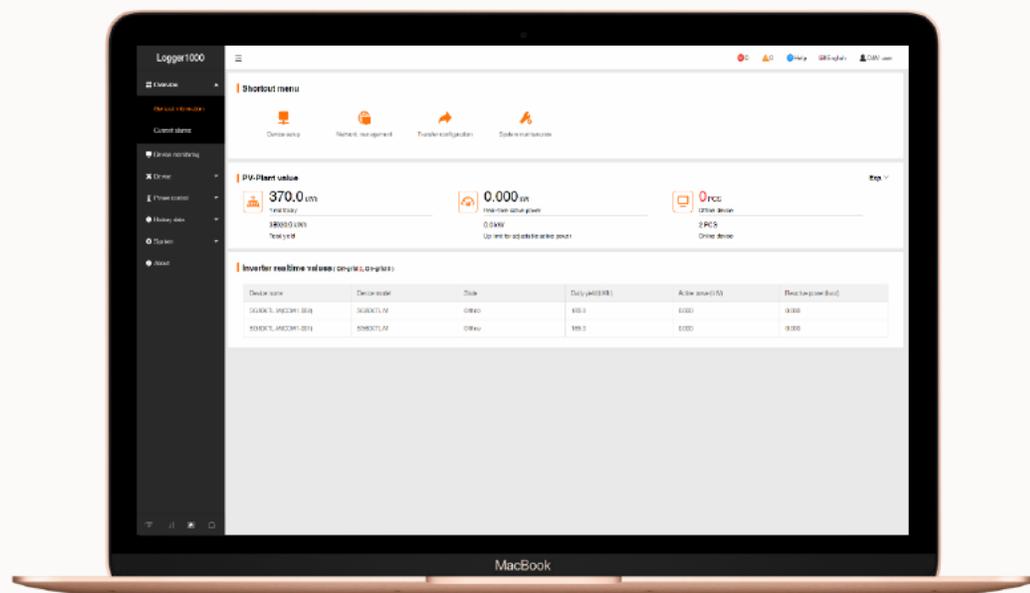
Energy meter is simply RS485A+ (connection 21) and RS485B- (connection 22) to any available RS485 channel

DTSD1352-C/1(6)A

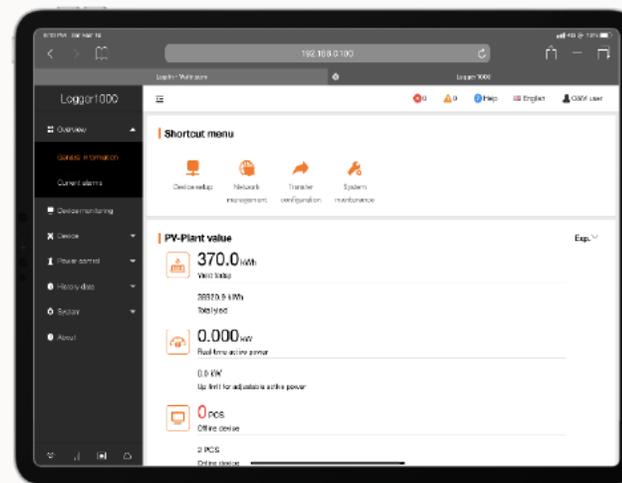


## Step 2: Commissioning

Sungrow recommend you use a Laptop to commission the EyeM4 / Logger1000, but a tablet or smart phone can also be used. Connection is achieved via WiFi



PC



iPad

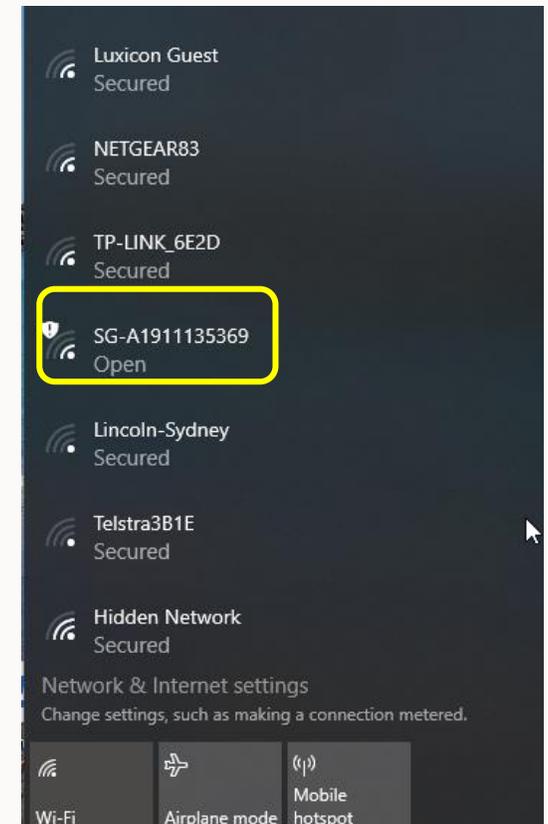
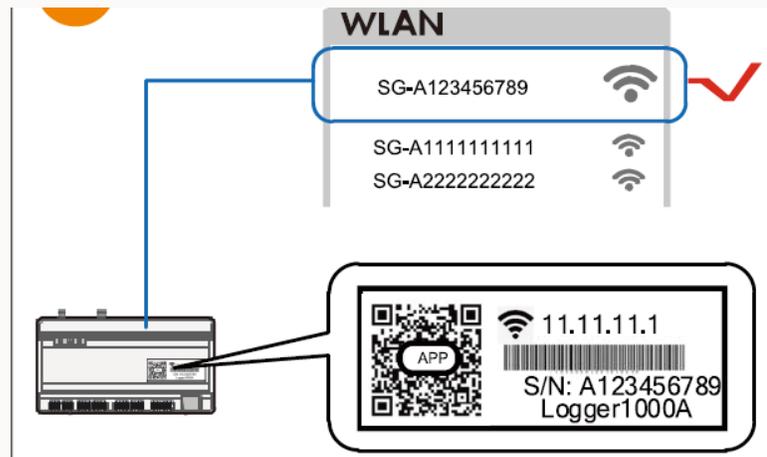
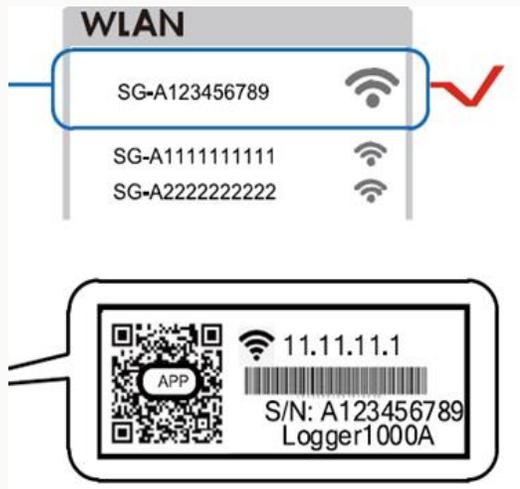


Smart Phone

## Commissioning – Logging in

Connect to the device's WiFi and search for the devices SG\*\*\*\*\* network and connect

Open a browser and type in 11.11.11.1 in the address bar



## Log in to EyeM4 interface

The screenshot displays the EyeM4 interface with a dark sidebar on the left containing navigation options: Overview, General Information, Current Alarms, Device Monitoring, System, and About. The main content area is divided into several sections:

- PV-Plant Value**: Shows three key metrics: Daily Yield (58.1 kWh), Total Yield (401.2 kWh), Real-time Active Power (29.695 kW), and Max. adjustable active Power (100.0 kW). It also displays device status: 0 Offline Device, 2 Piece Online Device.
- Inverter Realtime Values ( Off-grid 0, On-grid 1 )**: A table with columns for Device Name, Device Model, Yield(kWh), Active Power(kW), and Reactive Power(kvar). The table contains one row of data for device SG110CX(COM1-001).
- User Login Modal**: A white dialog box with a dark header "User Login" and a close button. It features a "Password" input field with a password strength indicator, a prominent orange "Login" button, and a "Forgot Password" link.

At the top right of the interface, there are status indicators (0 errors, 0 warnings), a "Help" icon, language selection ("English"), and a "Login" button.

## Initialisation screen

The screenshot displays the 'Logger1000' web interface. On the left is a dark sidebar with navigation options: Overview, General Information, Current Alarms, Device Monitoring, Device, Power Control, History Data, System, and About. The main content area is partially obscured by a 'Help' dialog box. The dialog box has a title bar 'Help' and contains the following text:

Note: Support automatic discovery of Sungrow inverters, and also support manual management, including addition, deletion and modification of devices

**3 Transfer Configuration**

**Operating path:** System -> Forwarding configuration

**Note:** Collected device data are forwarded to the remote or local monitoring system

- iSolarCloud  
Server address and port are configured to transmit the collected data to iSolarCloud
- IEC60870-5-104  
Through IEC60870-5-104 the protocol stack transmits the collected device data to the monitoring system
- MODBUS  
Through MODBUS (TCP or RTU) the protocol connects the collected data to the monitoring system
- Third party cloud  
Third party server address and port are configured to transmit the collected data to Third party cloud monitoring system

END

Not Prompt Any More

Confirm

The background interface shows a top navigation bar with 'English' and 'O&M user' options. A table at the bottom right shows 'Reactive Power(kvar)' with a value of '-0.551'.

## Step 1: Setting the Time (Logger1000 only)

Logger1000

- Overview
- Device Monitoring
- Device
- Power Control
- History Data
- System

Run Information

System Maintenance

Remote Maintenance

Message Export

**System Time**

Transfer Configuration

Port Parameter

Inverter Timing

Current Time 2020-02-18 10:55

Clock Source  
NTP

Time Zone  
(UTC+10:00) Brisbane, Gu

Domain  
ntp.api.bz

Time Interval (Min)  
5

Last Synchronize Time 2020-02-18 10:54

Save

Select “System Time”  
Clock source – NTP  
Select time zone  
SAVE

## Step 2: Scan for devices

Simply select “Auto search” and it will scan for inverters

Confirm all inverters are connected

Next, scan for meter by selecting “Add Device”

The screenshot displays the Logger1000 web interface. The left sidebar contains navigation options: Overview, Device Monitoring, Device, Device List, Firmware Update, Inverter Log, Power Control, History Data, System, and About. The main content area shows a table of devices with columns for NO., SN, Device Name, Device Model, Port, Device Address, Forwarding IP, Com Status, and Operation. The 'Auto Search' button is highlighted with a green box, and a green arrow points to the 'Add Device' button. The 'Com Status' for the first device is highlighted with a red circle.

NO.	SN	Device Name	Device Model	Port	Device Address	Forwarding IP	Com Status	Operation
1	A1810071474	SG10KTL-M(COM1-001)	SG10KTL-M	COM1	1	1		

The 'Auto Search' dialog box is open, showing a search for inverters. The interface displays 'Searching inverters' and a progress bar. The search results table shows the following data:

NO.	SN	Device model	Interface	Modbus address
1	T20190119005	SG-Inverter	COM1	2
2	T20190119003	SG-Inverter	COM1	1

## Step 3: Add Device (Meter)

As energy meters are 3<sup>rd</sup> party equipment, they need to be added manually. Tap 'Add Device' then enter parameters.

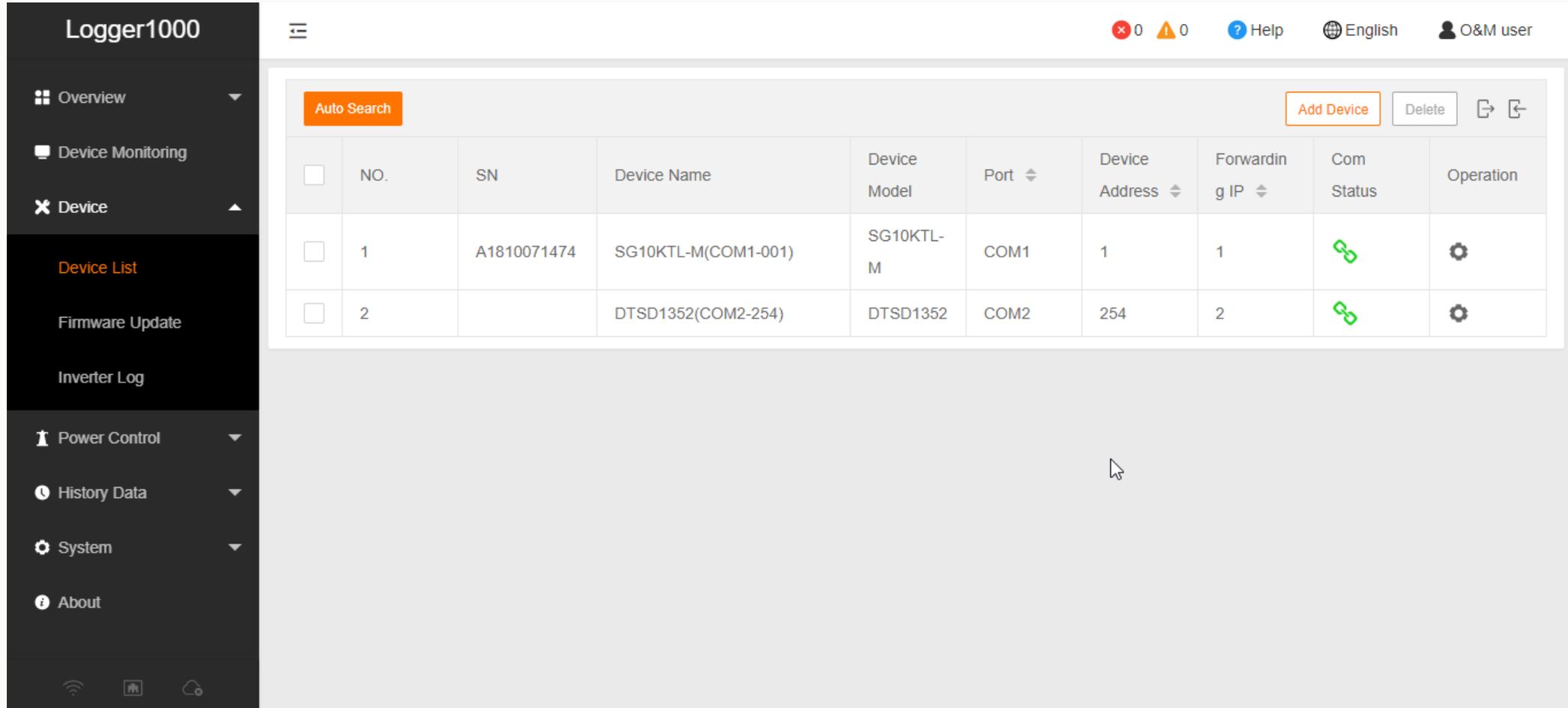
The screenshot shows the 'Add Device' dialog box in the Logger1000 interface. The dialog is open over a table of devices. The 'Add Device' dialog has the following fields:

- Device Type: Meter
- Port: COM2
- Device Model: DTSD1352
- Beginning Address (1-255): 1-255
- Device Quantity (1-30):

Annotations:

- Ensure correct COM port is selected (**Com 1 for EyeM4**)
- Address for Sungrow meter is 254

## Meter detected



The screenshot displays the Logger1000 web interface. On the left is a dark sidebar with navigation options: Overview, Device Monitoring, Device, Device List (highlighted), Firmware Update, Inverter Log, Power Control, History Data, System, and About. The main content area features a header with 'Auto Search', 'Add Device', and 'Delete' buttons. Below is a table with columns: NO., SN, Device Name, Device Model, Port, Device Address, Forwarding IP, Com Status, and Operation. Two devices are listed in the table.

<input type="checkbox"/>	NO.	SN	Device Name	Device Model	Port	Device Address	Forwarding IP	Com Status	Operation
<input type="checkbox"/>	1	A1810071474	SG10KTL-M(COM1-001)	SG10KTL-M	COM1	1	1		
<input type="checkbox"/>	2		DTSD1352(COM2-254)	DTSD1352	COM2	254	2		

---

## Step 3: Setting the Export Control and CT ratio

## CT Ratio setting

If you have a CT meter and you need to set the ratio, go into 'Device Monitoring'

Select the device and set the ratio

The screenshot displays the Logger1000 web interface. On the left sidebar, the 'Device Monitoring' option is highlighted with a yellow box. The main content area shows a list of devices, with 'DTSD1352(COM2-254)' selected and highlighted with a green box. The 'Initial Parameter' tab is active, showing a table of parameters. The 'CT Transformation Ratio' is set to 'Eg 20', which is also highlighted with a green box. A 'Save' button is located in the top right corner of the parameter table, also highlighted with a green box.

Name	Value
PT Transformation Ratio	1
CT Transformation Ratio	Eg 20
Access Type	Gateway Electricity Meter

## Setting Export Limit

Select **POWER CONTROL** then **ACTIVE POWER** then set as per the following two diagrams

The screenshot displays the SUNGROW Logger1000 web interface. On the left, a dark sidebar menu contains the following items: Overview, Device Monitoring, Device, Power Control, Active Power (highlighted with a yellow box), Reactive Power, Emergency Button, History Data, System, and About. The main content area is titled 'Active Control Mode' and contains the following settings:

- Active Control Mode: Local Power Control
- Communication abnormality output (%): 0.0
- Control Method: Closed-loop Control
- Select Meter: DTSD1352(COM3-254)
- Wiring mode: Direct connection
- Start after communication recovery: Enable
- 60

The top right of the interface shows a status bar with 0 error and 0 warning icons, a Help button, language selection (English), and the user name O&M user.

Logger1000

Direct connection

Start after communication recovery

Enable

60

Feed-in stop

Disable

Control Cycle (5-60)S

10

Instruction Type

kW

Clear Data

<input type="checkbox"/>	Start Time	Fixed Value of Active Power(kW)
<input type="checkbox"/>	00:00	15.0
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		

Save

Disable 'Feed-In Stop

Enter the Export limit

Scroll down and save

# Remote Maintenance / iSolarCloud – EyeM4

## Create Plant on iSolarCloud

### SELECT PLANT TYPE

Select plant type to choose the right communication device.

RESIDENTIAL

COMMERCIAL

## Using the Smart Phone App

### SELECT INVERTER TYPE

Select inverter type to choose the right communication device.

Tap "PV" when all inverters of the plant are PV inverters.

Tap "HYBRID" when the plant has at least one hybrid inverter.

PV

HYBRID

## SELECT YOUR SETUP

Select communication device to connect your inverter.

COM100/Logger1000

EyeM4

WLAN

ETHERNET

Select Logger1000 or EyeM4, scan QR code, then follow the prompts

## SCAN QR CODE

Scan the QR code on the communication device to connect the inverter to iSolarCloud.

Tap "Manually" if no QR code available.

Are you sure to add the device with S/N of A1911135369?

CANCEL

CONFIRM

## Remote Maintenance – EyeM4

Setting the 'Remote Maintenance' on the EyeM4 is done via the WiFi connection to the customer's modem.

EyeM4

- Overview
- Device Monitoring
- Device
- Power Control
- History Data
- System
- Run Information
- System Maintenance
- Remote Maintenance
- Message Export
- Transfer Configuration
- Port Parameter
- RS485
- WiFi
- About

Client Hotspot

WiFi On-off

Available WLAN Networks:

- TelstraF554DF
- TelstraF554DF-5G
- WAVLINK-N
- Telstra2FA5
- Others

Choose a network... Refresh

WiFi only supports numbers, English letters and English characters (except "-")

Select the appropriate network and log in (Password may be required)

Confirm WiFi link and iSolarCloud connection

---

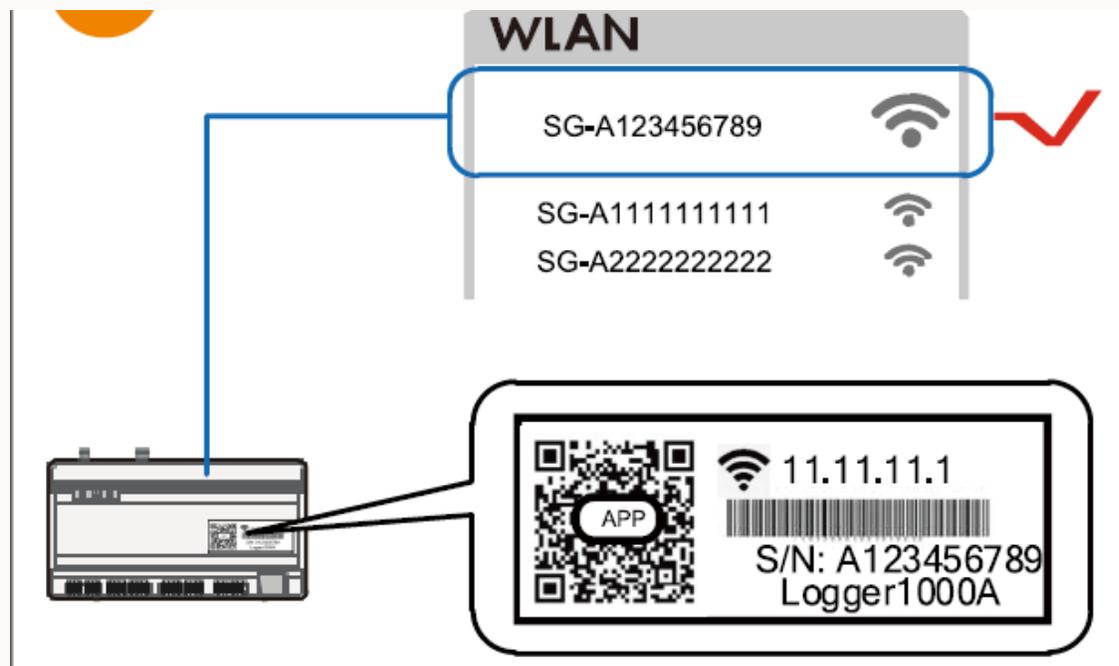
# Remote Maintenance / iSolarCloud - Logger1000 (Ethernet)

## Remote Maintenance (Connecting to the internet and iSolarCloud) – Logger1000

The Logger 1000 connects to the internet via Ethernet to the end user's modem or Cisco switch.

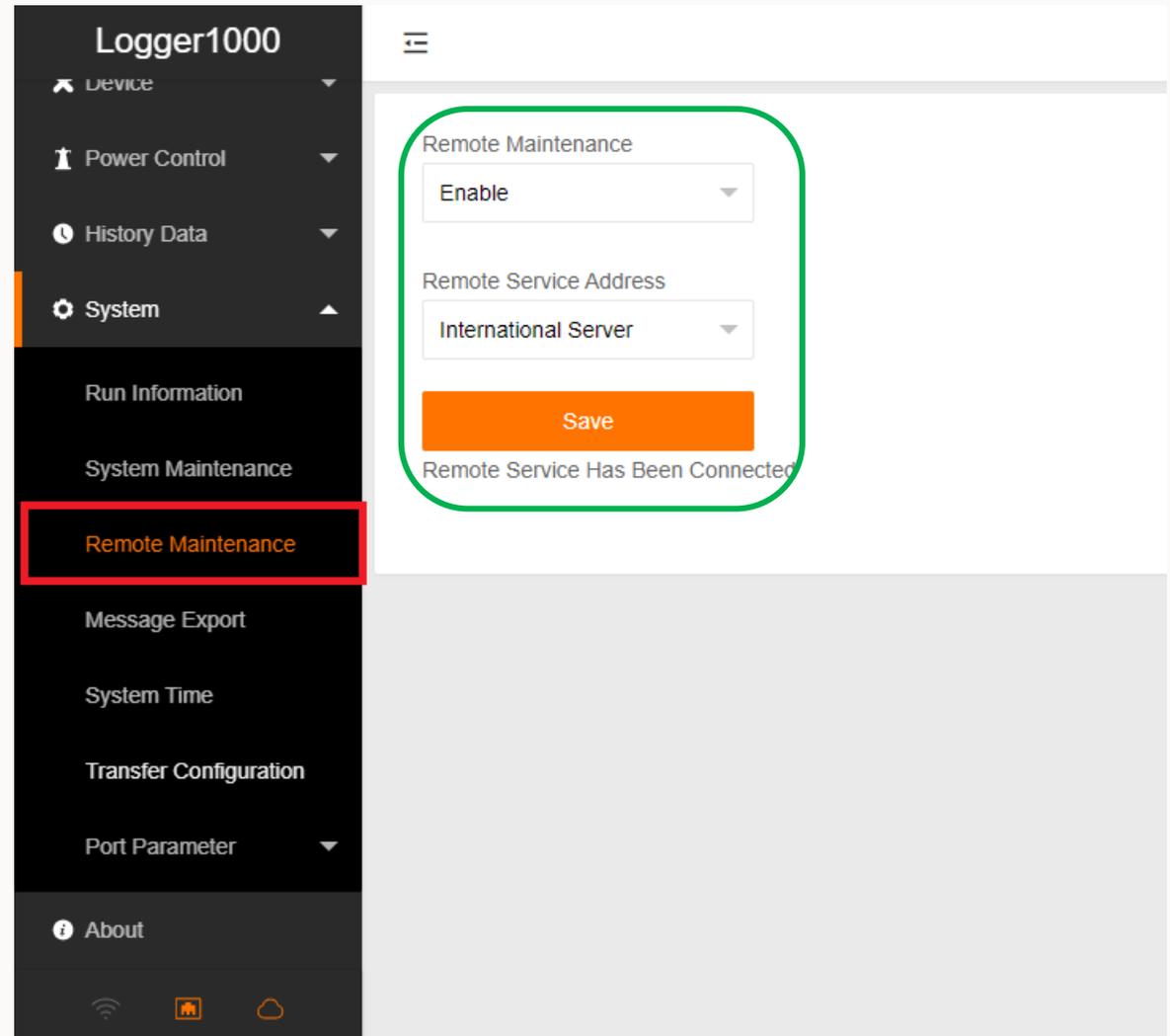
Log into the Logger 1000 from your device using WiFi as before

Open a browser and type 11.11.11 into the address bar



Select **System Maintenance** >  
**Remote Maintenance**  
Select **Enable**

**Save**



## iSolarCloud connection – Logger1000

Select **System > Transfer Configuration** and click the settings gearwheel

Logger1000

- Device
- Power Control
- History Data
- System
- Run Information
- System Maintenance
- Remote Maintenance
- Message Export
- System Time
- Transfer Configuration**
- Port Parameter
- About

0 0 ? Help English O&M user

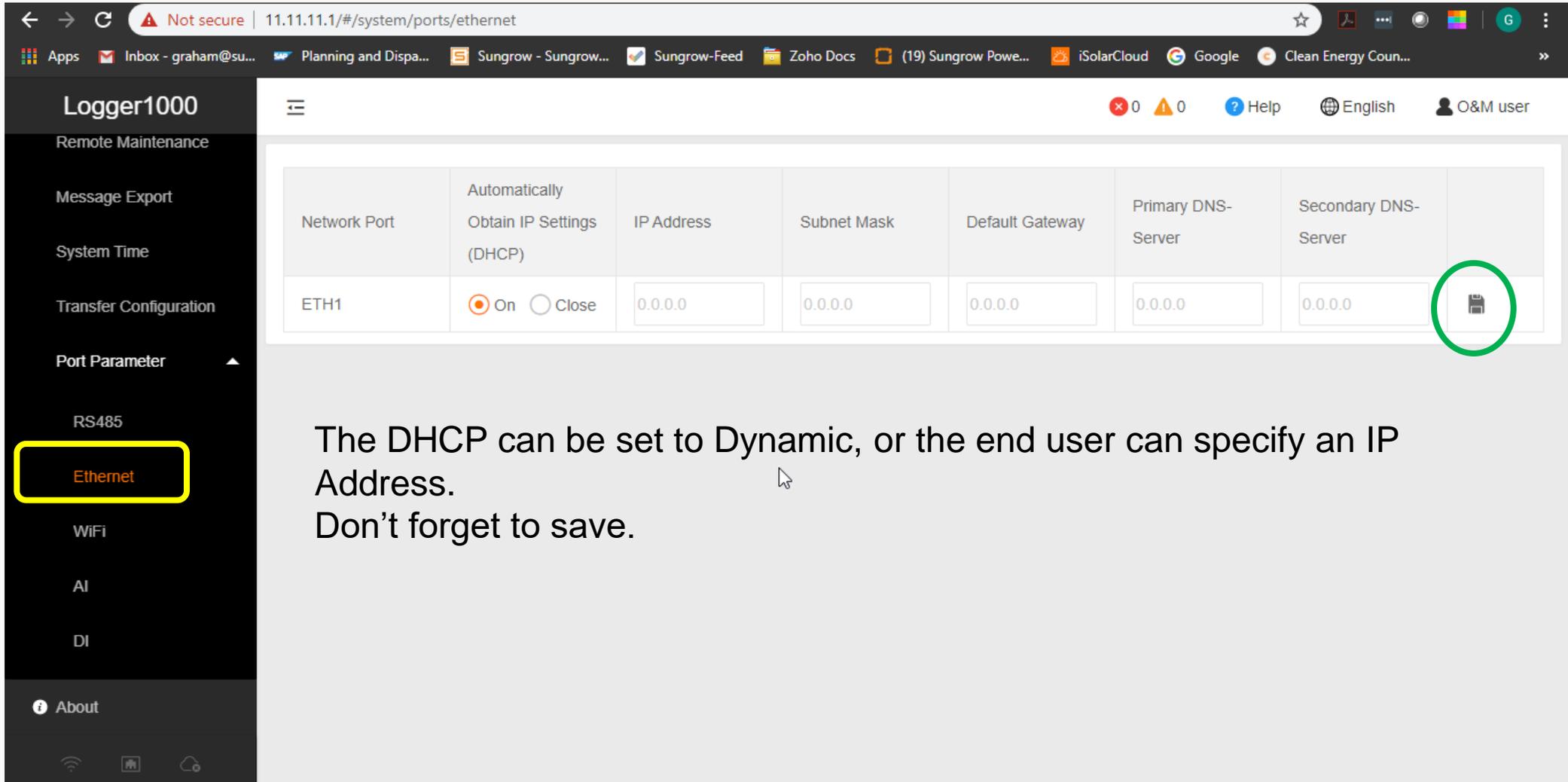
iSolarCloud IEC104 MODBUS Third-party Portal

Server Domain	Peer Port	Switch	
api.isolarcloud.com.hk	19999	<input checked="" type="checkbox"/>	

Set the correct server domain to **api.isolarcloud.com.hk**

Set Port Parameter > Ethernet

## Setting the IP address



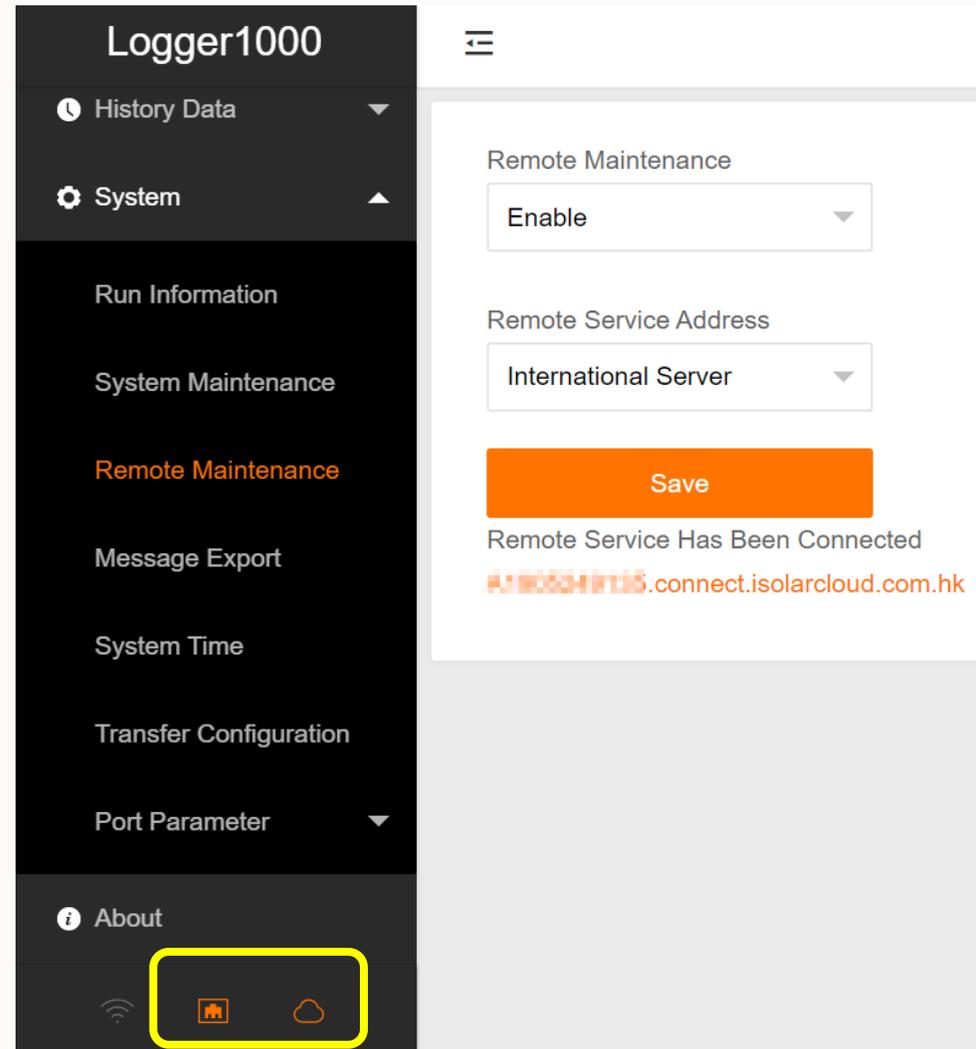
The screenshot shows the Logger1000 web interface for configuring network ports. The left sidebar has 'Ethernet' highlighted. The main area displays a table for configuring network ports, with the 'On' radio button selected for 'Automatically Obtain IP Settings (DHCP)'. A green circle highlights the save icon in the bottom right corner of the table.

Network Port	Automatically Obtain IP Settings (DHCP)	IP Address	Subnet Mask	Default Gateway	Primary DNS-Server	Secondary DNS-Server	
ETH1	<input checked="" type="radio"/> On <input type="radio"/> Close	<input type="text" value="0.0.0.0"/>					

The DHCP can be set to Dynamic, or the end user can specify an IP Address.  
Don't forget to save.

## Final check

As a final check, you can go back to **Remote Maintenance** and check the connection



## Remote access via iSolarCloud

The screenshot displays the iSolarCloud web interface. On the left is a navigation sidebar with the 'Remote Maintenance' option highlighted in a green box. The main content area is titled 'Enter plant name' and contains a search bar for 'Device S/N'. Below this is a table with the following data:

Device S/N	LAN address	HTTP remote connection address	TCP remote connection address
B19C [redacted]	127.0.0.1:80	http://[redacted].connect.isolarcloud.com.hk	

Two green arrows provide instructions: one points to the 'Remote Maintenance' menu item with the text 'Select 'Remote Maintenance'', and another points to the HTTP connection address in the table with the text 'Copy hyperlink address to browser'. The bottom of the page features a pagination bar showing 'Total 1', '10/page', and 'Go to 1', along with a 'BETA' badge.

## Remote connection to Logger

### Logger1000

- Overview
- General Information
- Current Alarms
- Device Monitoring
- Device
- Power Control
- History Data
- System
- About

0 0 ? Help English O&M user

#### Shortcut Menu

- Device Setup
- Network Management
- Transfer Configuration
- System Maintenance

#### PV-Plant Value

Exp. ▾

 <b>0.0</b> kWh Daily Yield	 <b>0.363</b> kW Real-time Active Power	 <b>0</b> Piece Offline Device
0.0 kWh Total Yield	10.0 kW Up Limit for Adjustable Active Power	1 Piece Online Device

#### Inverter Realtime Values ( Off-grid 0, On-grid 1 )

Device Name	Device Model	Status	Daily Yield(kWh)	Active Power(kW)	Reactive Power(kvar)
SG10KTL-M(COM1-001)	SG10KTL-M	Run	0.0	0.364	-0.547

THANK YOU!