

QUICK SETUP GUIDE

Data Collector

Data Collector connects your PV Micro Inverter System to the internet in a simple quick way. It uses ZigBee wireless radio frequency communication technology to monitor each micro inverter without additional wiring. Through Web Portal, you can check data on the daily and historical photovoltaic energy harvest.

Safety and Accident Prevention

The equipment has been manufactured in accordance with the strictest accident-prevention regulations and supplied with safety devices suitable for the protection of components and operators.



Deleco accepts no liability for failure to comply with the instructions for correct installation and cannot be held responsible for the systems upstream or downstream of the equipment it has supplied.

It is essential to provide the operators with correct information. They must read and comply with the technical information required in the manual and in the attached documentation.

The instructions given in this SETUP GUIDE does not replace the safety devices and technical data for installation and operation stuck on the product, and they certainly do not replace the safety regulations in force in the country of installation and common sense rules.

The manufacturer is willing to train staff, at its premises or on site, in accordance with conditions to be set out in the contract.

Avoid temporary fixes. All repairs should be carried out using only genuine spare parts, which must be installed in accordance with their intended use.

Liabilities arising from commercial components are delegated to the respective manufacturers.

The equipment must be installed indoors in rooms with suitable environmental conditions.

The equipment is not equipped to operate in environments that have particular flammable or explosive conditions.



In order to prevent signal collision in Micro Inverter Monitoring System, only **ONE** Data Collector installed is permitted. (More than TWO Data Collectors installed in Micro Inverter System could cause signal collision problem!), and **up to 32 micro inverters can be directly monitored by a single Data Collector.**



There is a hazard voltage inside this equipment and no maintainable parts inside this equipment.



Do not use the equipment if you find any anomalies while it is operating.

Federal Communication Commission Interference Statement

This device complies Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

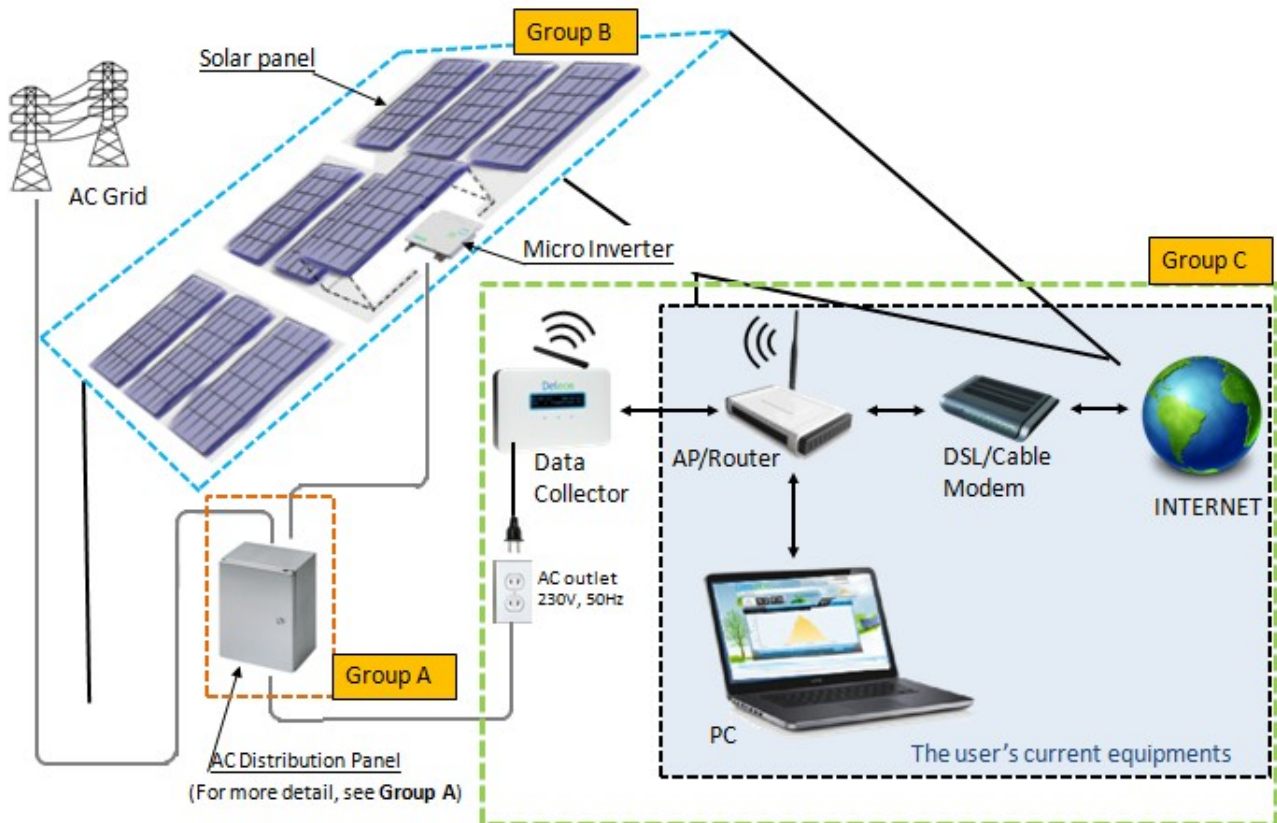
Note: The country code selection is for non-US model only and is not available to all US model. Per FCC regulation, all WiFi product marketed in US must fixed to US operation channels only.

Pursuant to IEC60950, the Data Collector involves technologies and materials or methods provide a level of safety.

Any modifications or changes made to this equipment may void the user warranty.

Overview

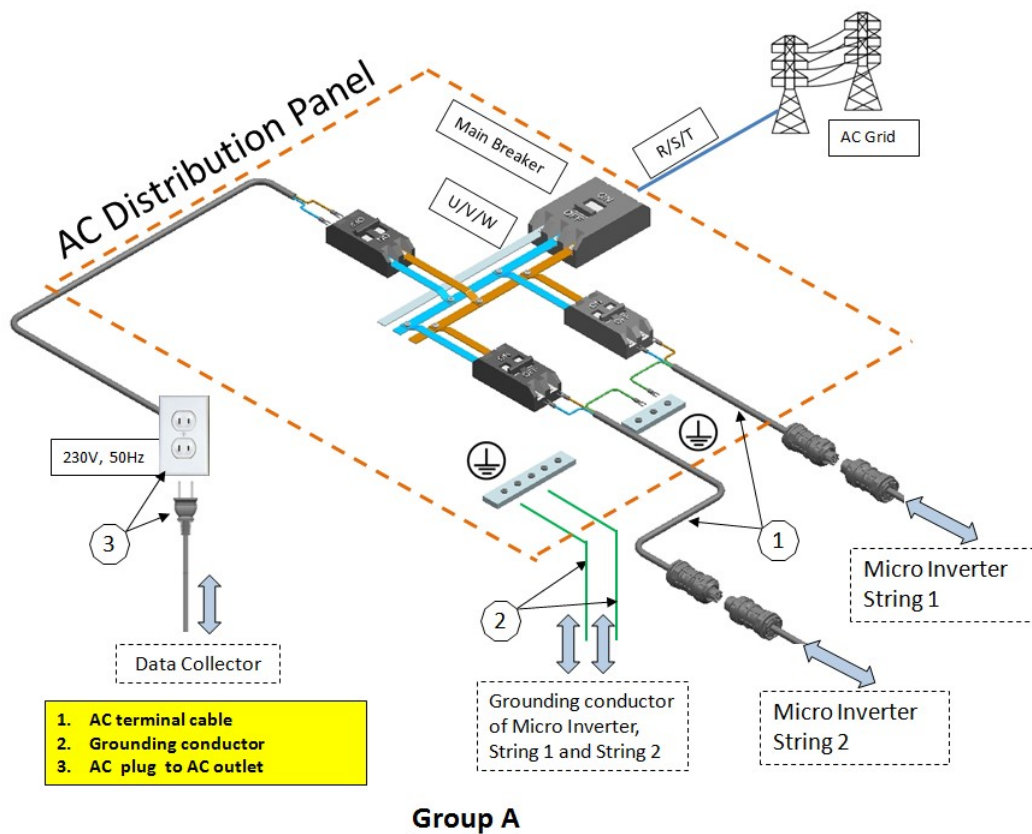
This diagram shows the relationship between **Data Collector** and other devices.



In-house components diagram

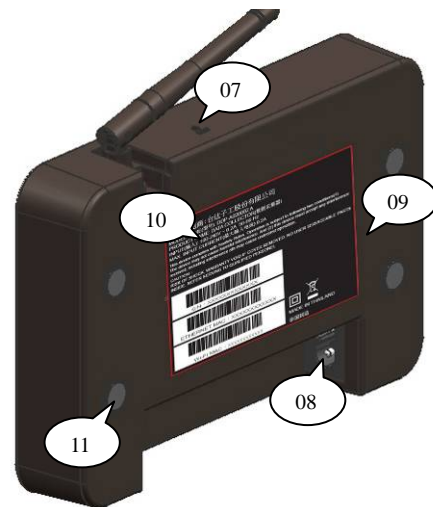
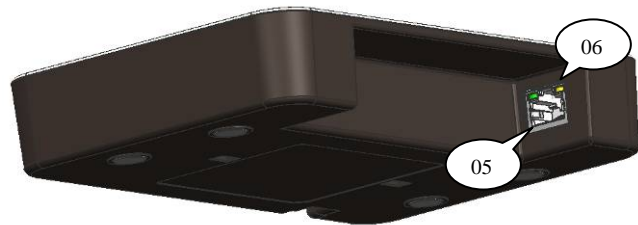
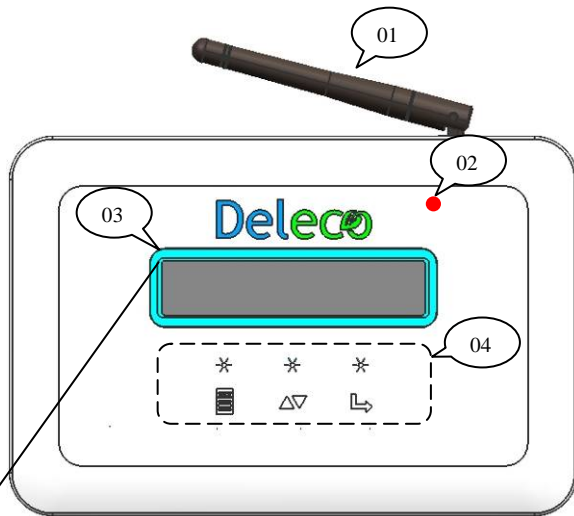


For Micro Inverter **Monitoring System**, the **Data Collector** communicates with your Micro Inverter System via wireless, the communication quality is depended on your actual installation environment. **(The shortest distance between Data Collector and Micro Inverters is preferred!)**






Data Collector Key Parts Description

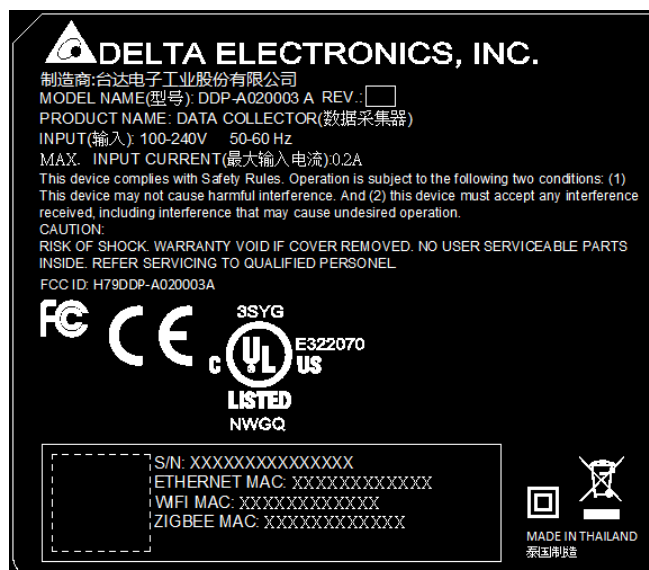
01: ZigBee antenna	02: Status LED (under the plastic cover)	03: OLED Display
04: Keypad (touch pad)	05: Ethernet port	06: Ethernet status LED
07: RESET button	08: AC inlet	09: Wall mount holes
10, Spec. Label	11: Rubber feet	



Keypad Description

There are 3 touch pads (**Keypad**) provide the various functionalities.

- ◆ The **MENU** button  : shows menu and returns to previous sub-menu when navigating.
- ◆ The **DOWN** button  : moves cursor down.
- ◆ The **SELECT** button  : similar to enter.



- **Data Collector** Serial Number
- **ETHERNET** communication MAC address
- **Wi-Fi** communication MAC address
- **ZigBee** MAC address

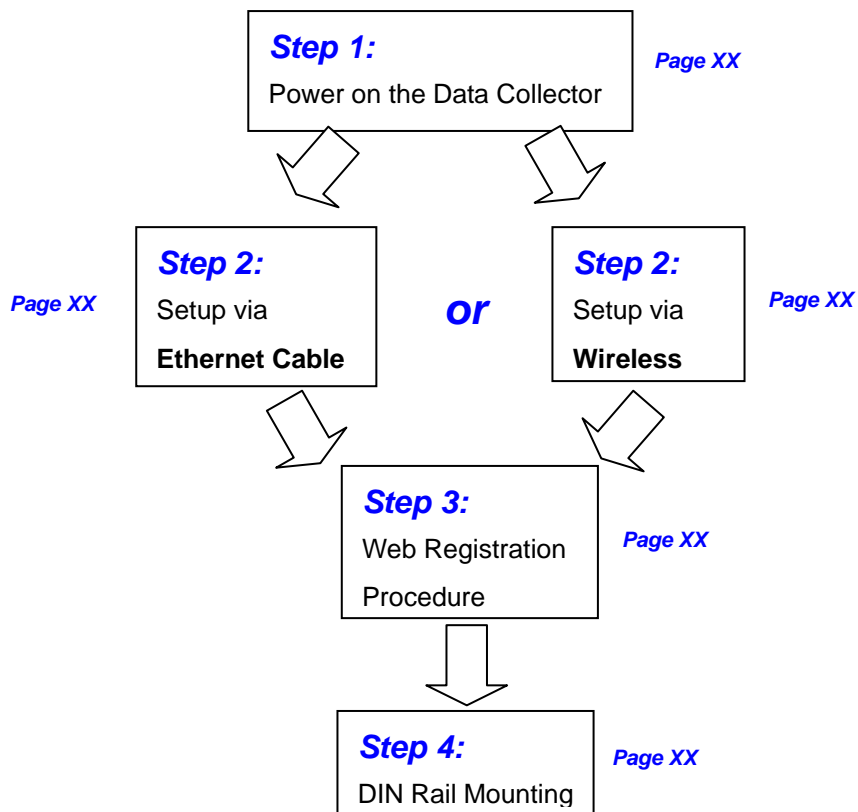


The **Spec. Label** attached to the **Data Collector** must not be removed, damaged or dirtied, etc.

The technical data shown in this manual does not in any case replace those shown on the **Spec. Label** attached to the **Data Collector**.

Data Collector Setup (No Internet Environment Available)

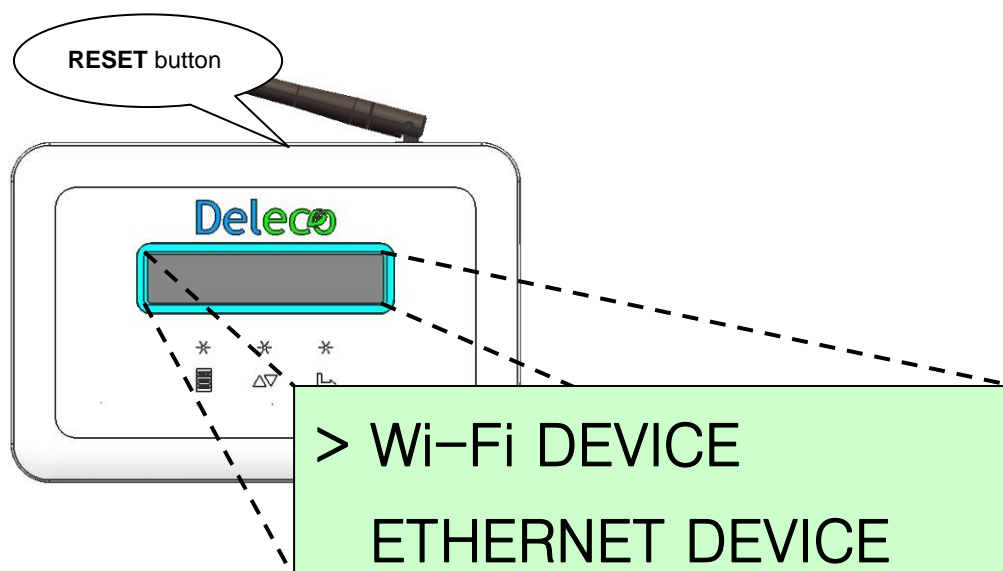
Setup Process Flow Chart



Step 1:

Power on the Data Collector

Once you plug in the AC power cord you will see the “**Wi-Fi DEVICE**” and “**ETHERNET DEVICE**” message shown on the **Data Collector OLED Display**. (Press **RESET** button can get the same result.)



There are two approaches to set up a Data Collector device.

The type of connection can be setup via:

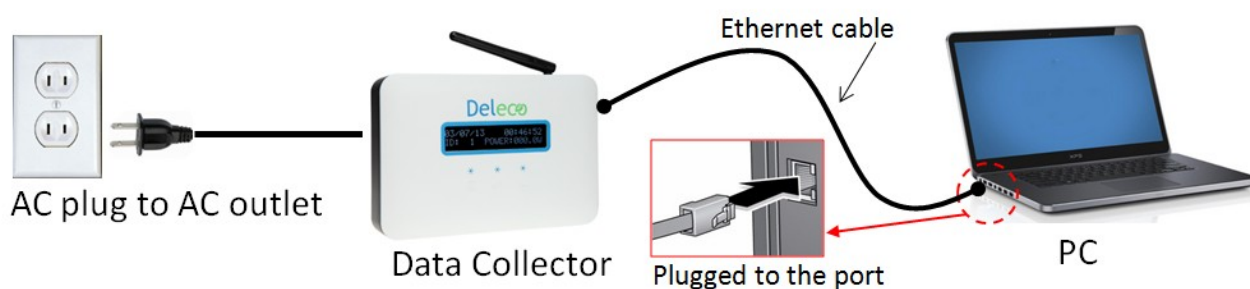
<1> **Ethernet Cable** - Set Data Collector as an Ethernet device.

<2> **or Wirelessly** - Set Data Collector as a Wi-Fi device.

Step 2:

Setup via Ethernet Cable

System configuration shown as below



On Data Collector OLED Display

Choose **ETHERNET DEVICE** ($\Delta \nabla$ DOWN -> \hookrightarrow SELECT)

Wi-Fi DEVICE
> ETHERNET DEVICE

Please connect Data Collector and your computer via an Ethernet Cable.

Please skip to the **Web Registration Procedure**.



You can press the **RESET** button if you want to redo the setup.

Step 2:

Setup via Wireless (Using Wi-Fi Signal)

System configuration shown as below



On Data Collector OLED Display

Choose **Wi-Fi DEVICE** (\hookrightarrow SELECT)

> Wi-Fi DEVICE
ETHERNET DEVICE

Please connect your computer's Wi-Fi to the SSID "DELTA_XXXXXXXXXXXX"

Please skip to the **Web Registration Procedure**.



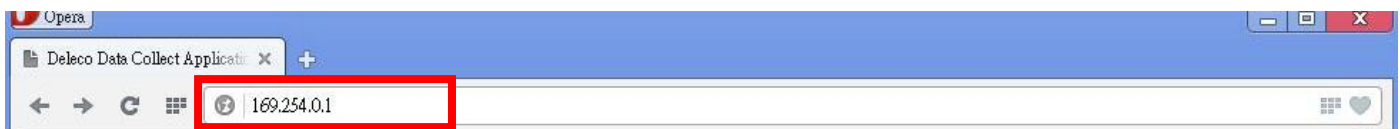
You can press the **RESET** button if you want to redo the setup.

Step 3:

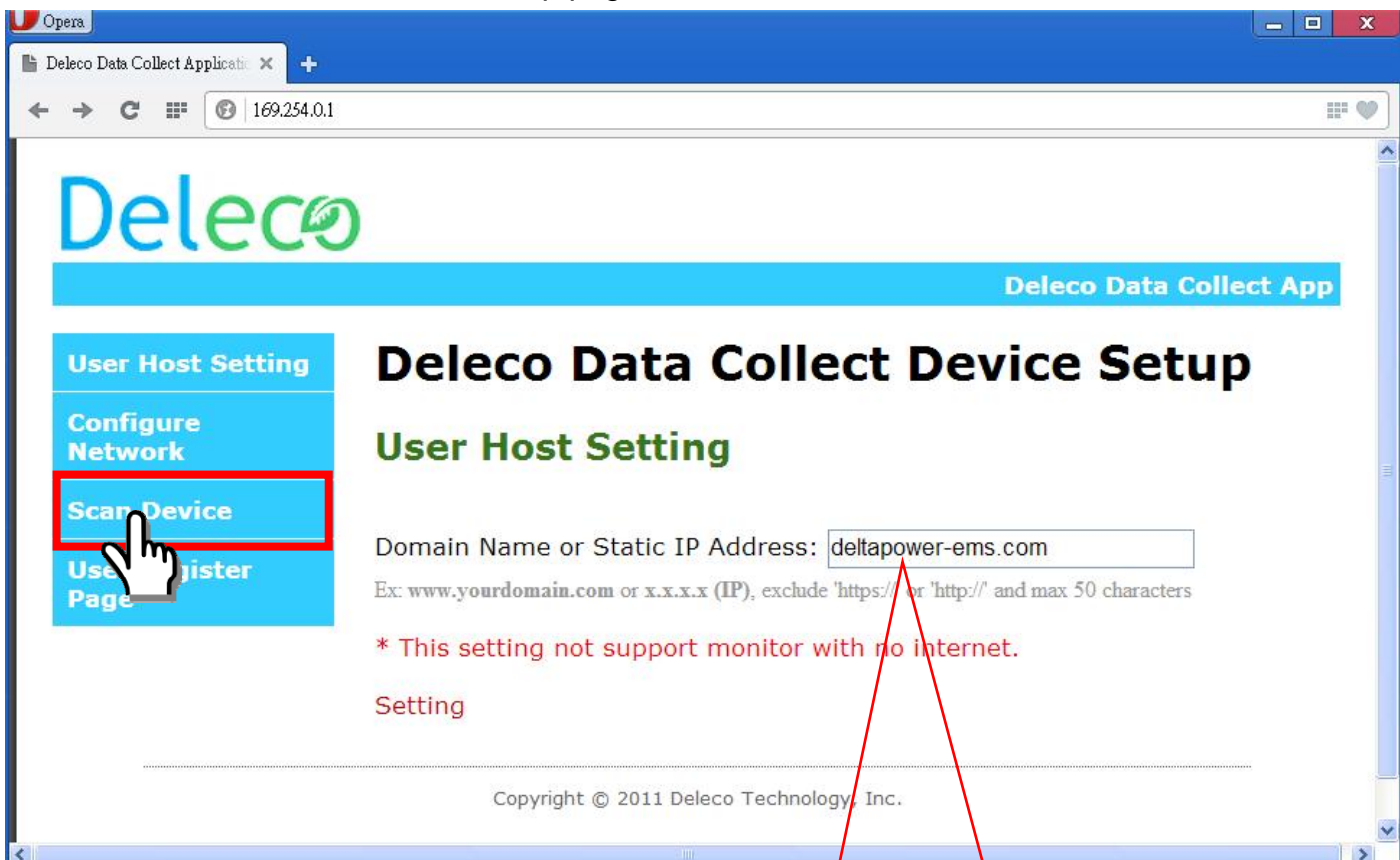
Web Registration Procedure

In Your PC Side

Open the web browser, key-in IP address "169.254.0.1" as shown on the **Data Collector OLED Display** to enter Data Collector embedded web page.



The screen should now show the setup page, click on "Scan Device".



This is system default and may be different from what is shown on your screen.

Opera

Deleco Data Collect Application x +

169.254.0.1/web_scan2.htm

Deleco

Deleco Data Collect App

User Host Setting

Configure Network

Scan Device

User Register Page

Start

Device: 0

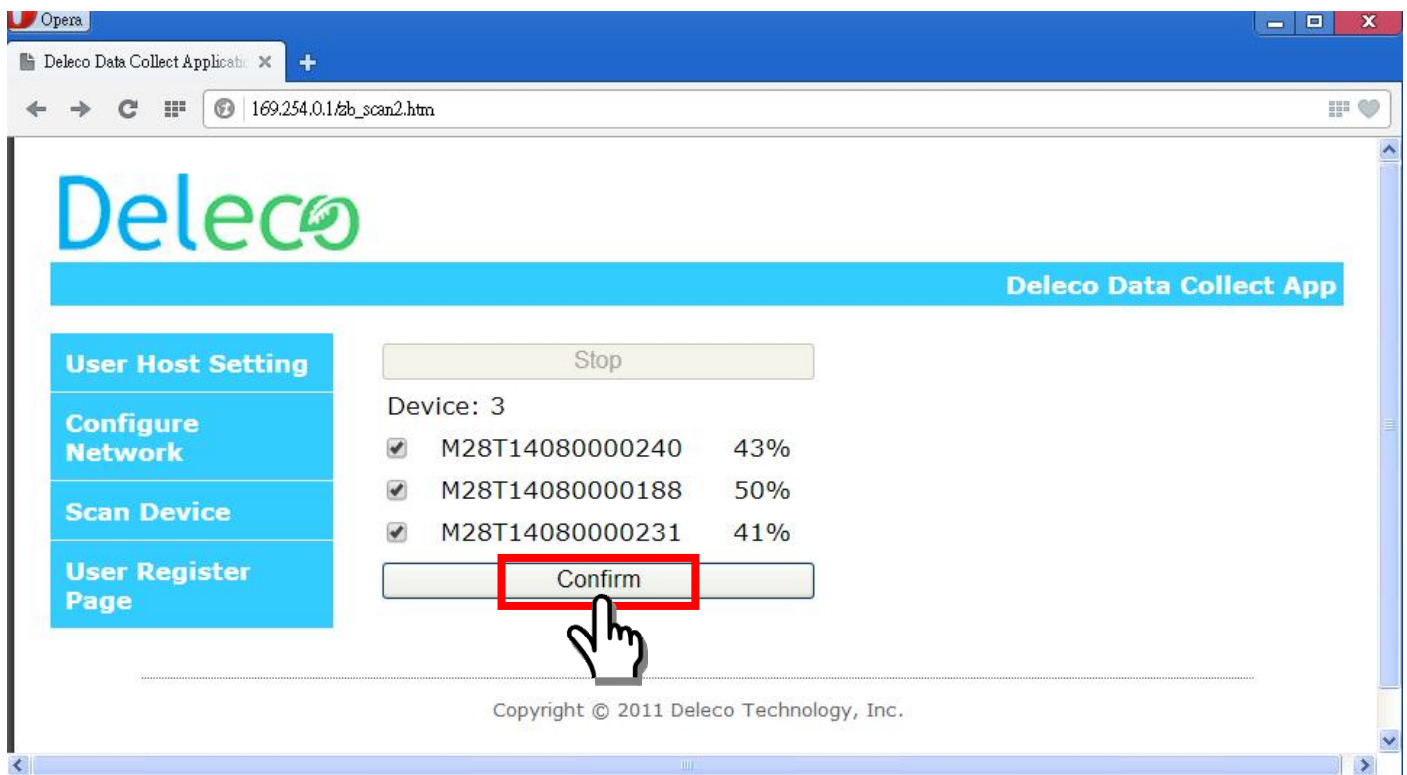
Copyright © 2011 Deleco Technology, Inc.

The screenshot shows the Deleco Data Collect App web interface. The browser's address bar displays the URL `169.254.0.1/zb_scan2.htm`. The page features a blue header with the Deleco logo and the title "Deleco Data Collect App". A sidebar on the left contains navigation links: "User Host Setting", "Configure Network", "Scan Device", and "User Register Page". The main content area shows the "Scanning.." status with a progress bar and a "Stop" button, which is highlighted by a red rectangle and a hand cursor. Below the progress bar, the text "Device: 3" is displayed. A table lists the scanned devices with their IDs and percentages:

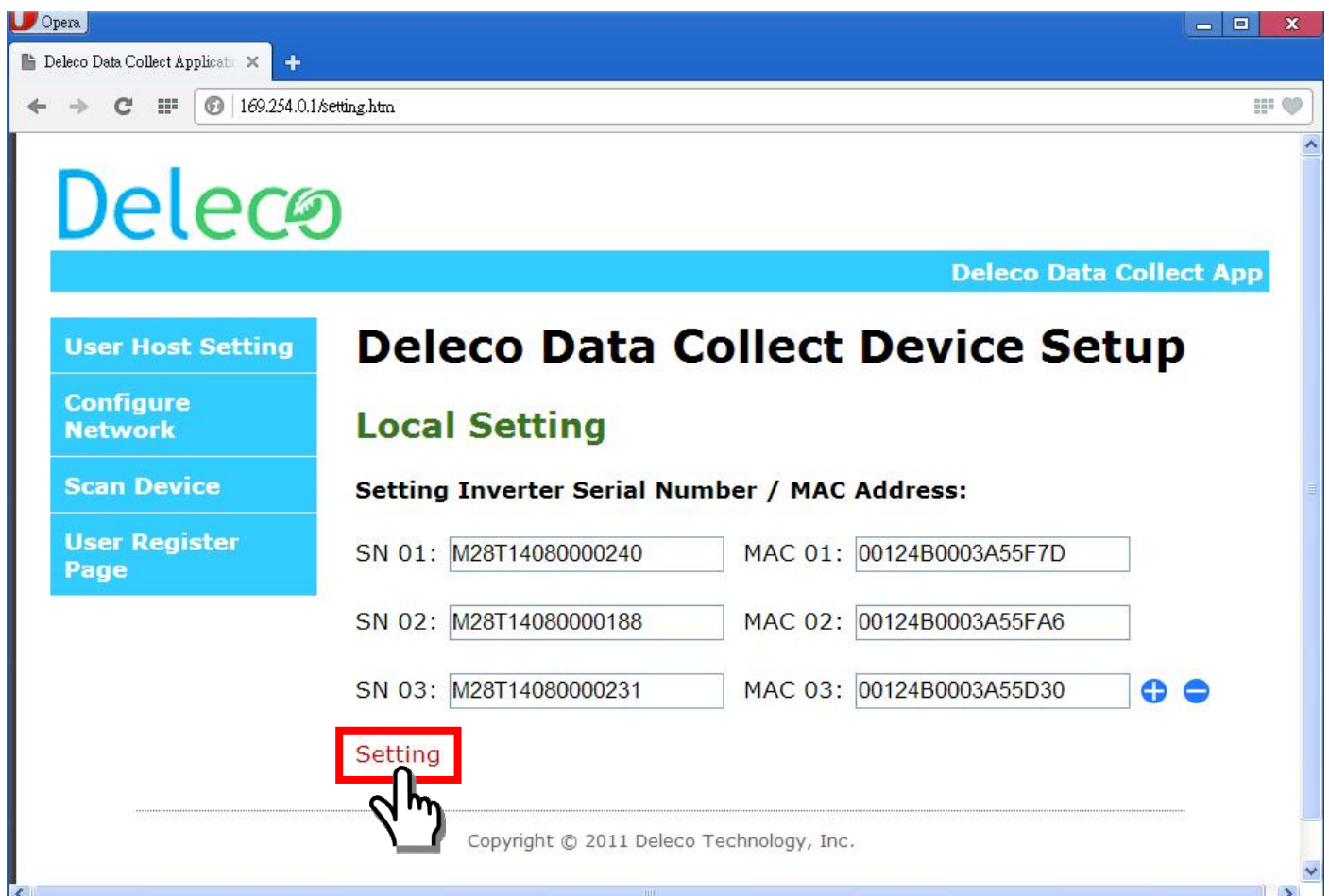
Device ID	Percentage
M28T14080000140	45%
M28T14080000188	50%
M28T14080000231	41%

At the bottom of the page, the copyright notice "Copyright © 2011 Deleco Technology, Inc." is visible.

After stopping, please disable the devices to kick out those micro inverters that do not belong to you. Then, press the “**Confirm**” button to finish scan device procedure.

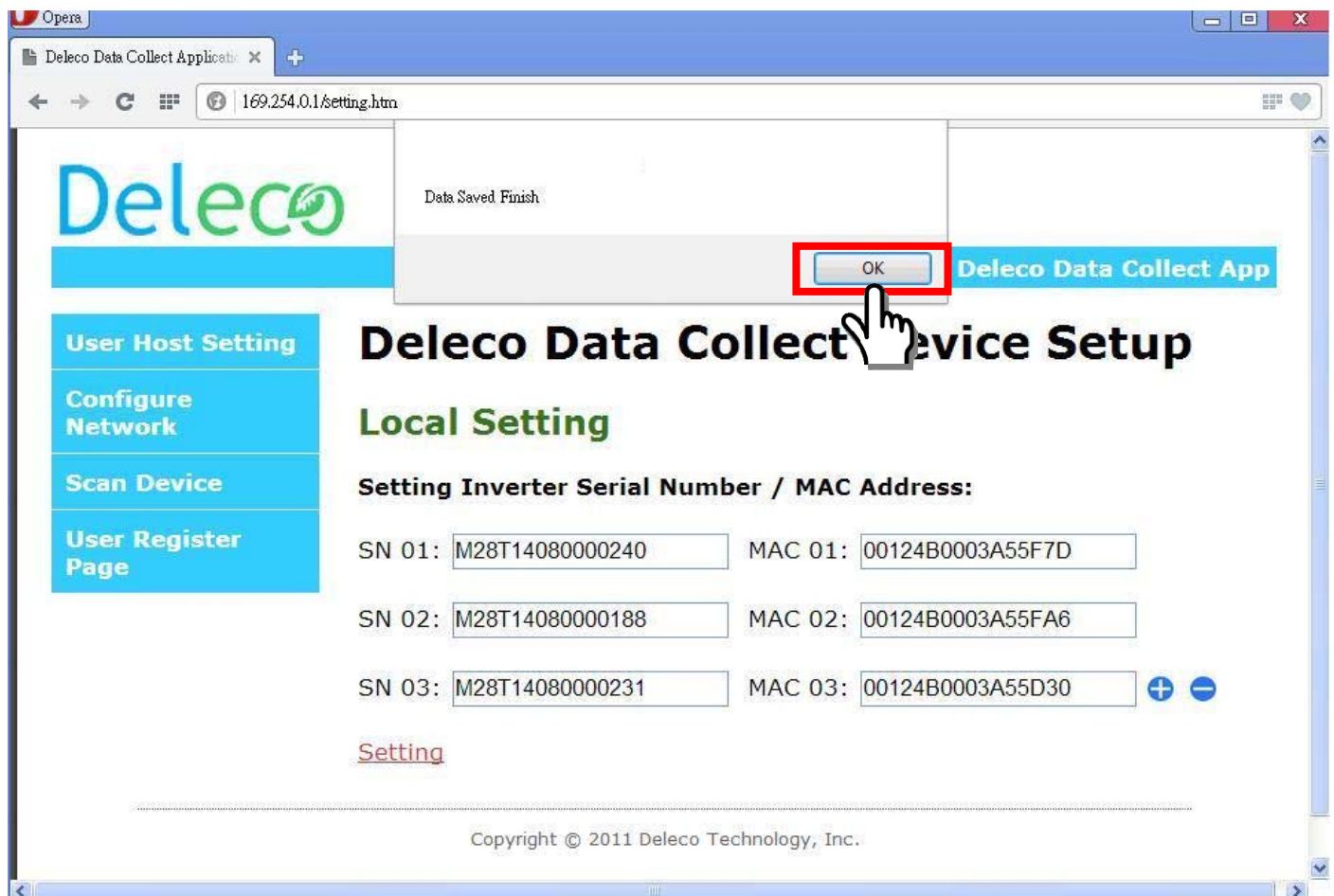


After confirming, you can see the list of series number and MAC address from your micro inverters.



Then click the "Setting"

The popup window show “Data Saved Finish” and click “**OK**”.



The message “**PLEASE AWAIT CONFIG**” will be displayed on the **Data Collector OLED Display**. The **xx:xx** time count is depending on how many micro inverters that you registered on your **Data Collector**.

PLEASE AWAIT CONFIG
XX:XX

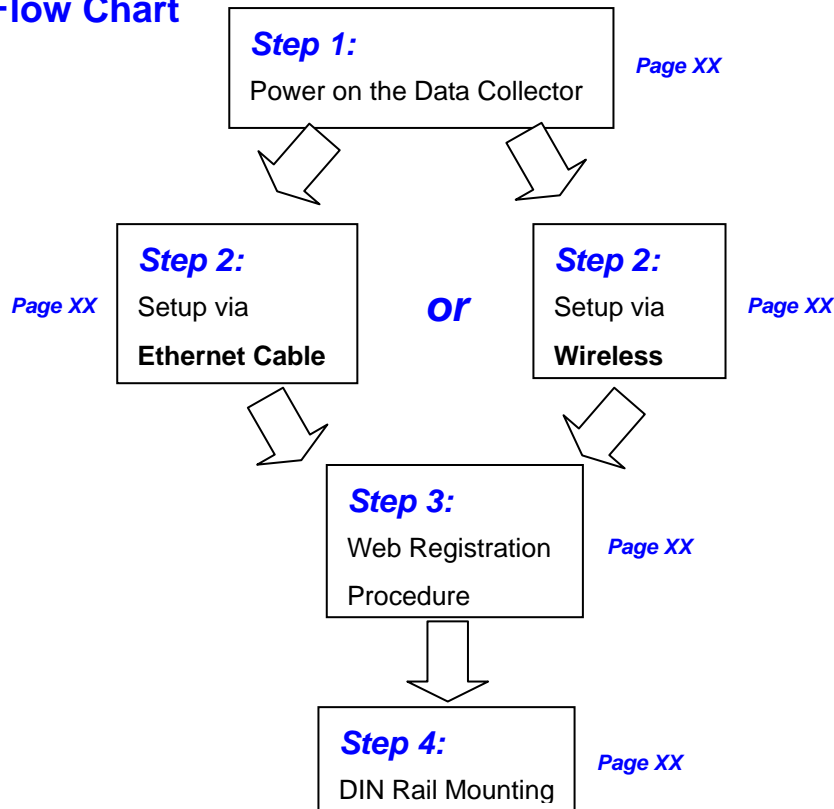
Step 4:

DIN Rail Mounting

Skip to the **DIN Rail Mounting Procedure**.

Data Collector Setup (Internet Environment Available)

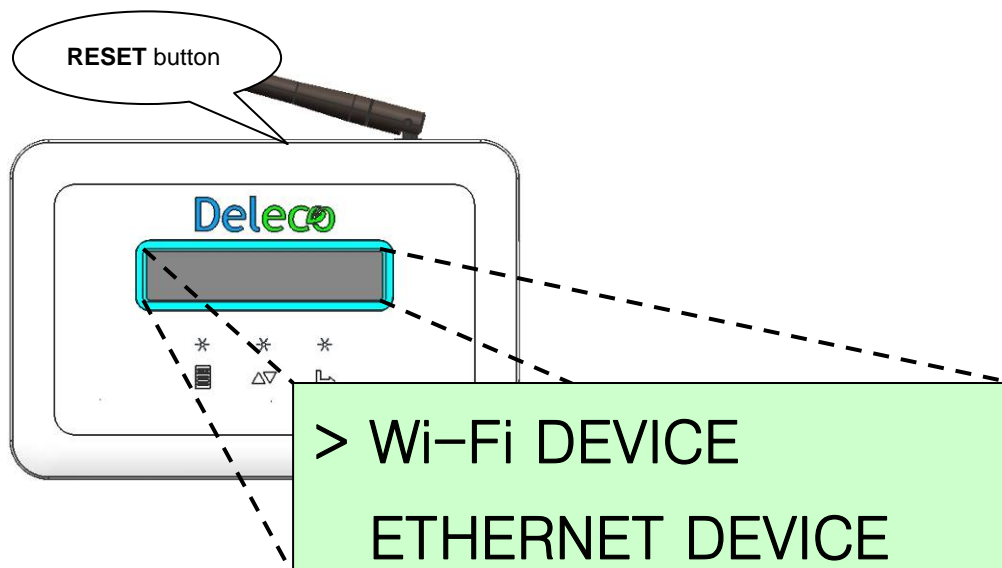
Setup Process Flow Chart



Step 1:

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Once you plug in the AC power cord you will see the “**Wi-Fi DEVICE**” and “**ETHERNET DEVICE**” message shown on the **Data Collector OLED Display**. (Press **RESET** button can get the same result.)



There are two approaches to setting up a Data Collector device.

The type of connection can be setup via:

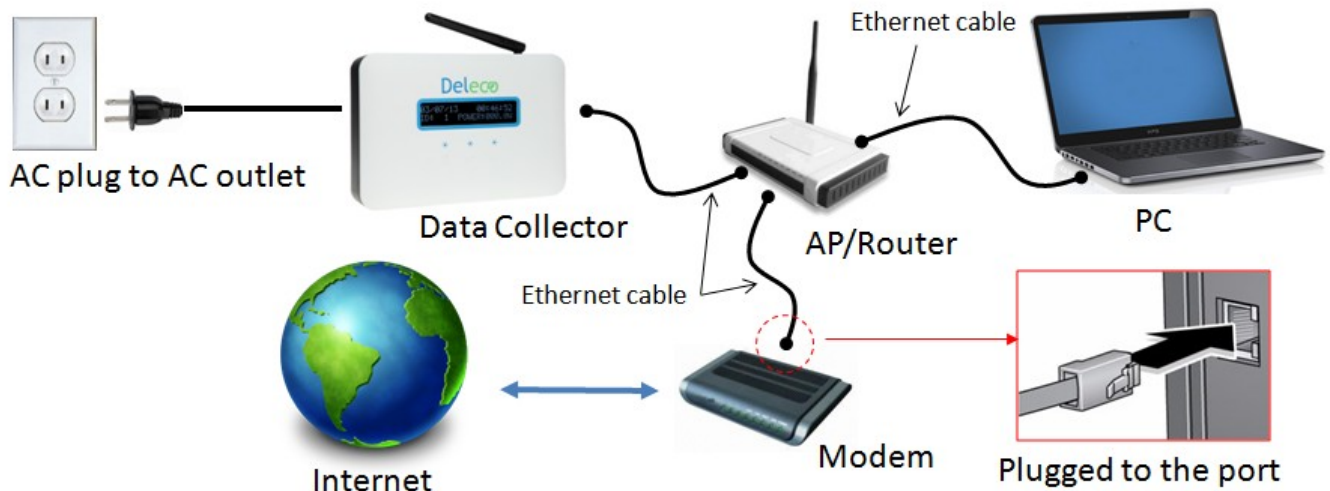
<1> **Ethernet Cable** - Set Data Collector as an Ethernet device.

<2> **or Wirelessly** - Set Data Collector as a Wi-Fi device.

Step 2:

Setup via Ethernet Cable

System configuration shown as below



Please make sure your PC can access the internet.



Please make sure AP/Router has enable the DHCP service.

On Data Collector OLED Display

Choose **ETHERNET DEVICE** (DOWN -> SELECT)

Wi-Fi DEVICE
> ETHERNET DEVICE

After a while, the IP address will be shown on **Data Collector OLED Display**.

(This IP address is assigned by the AP/Router.)

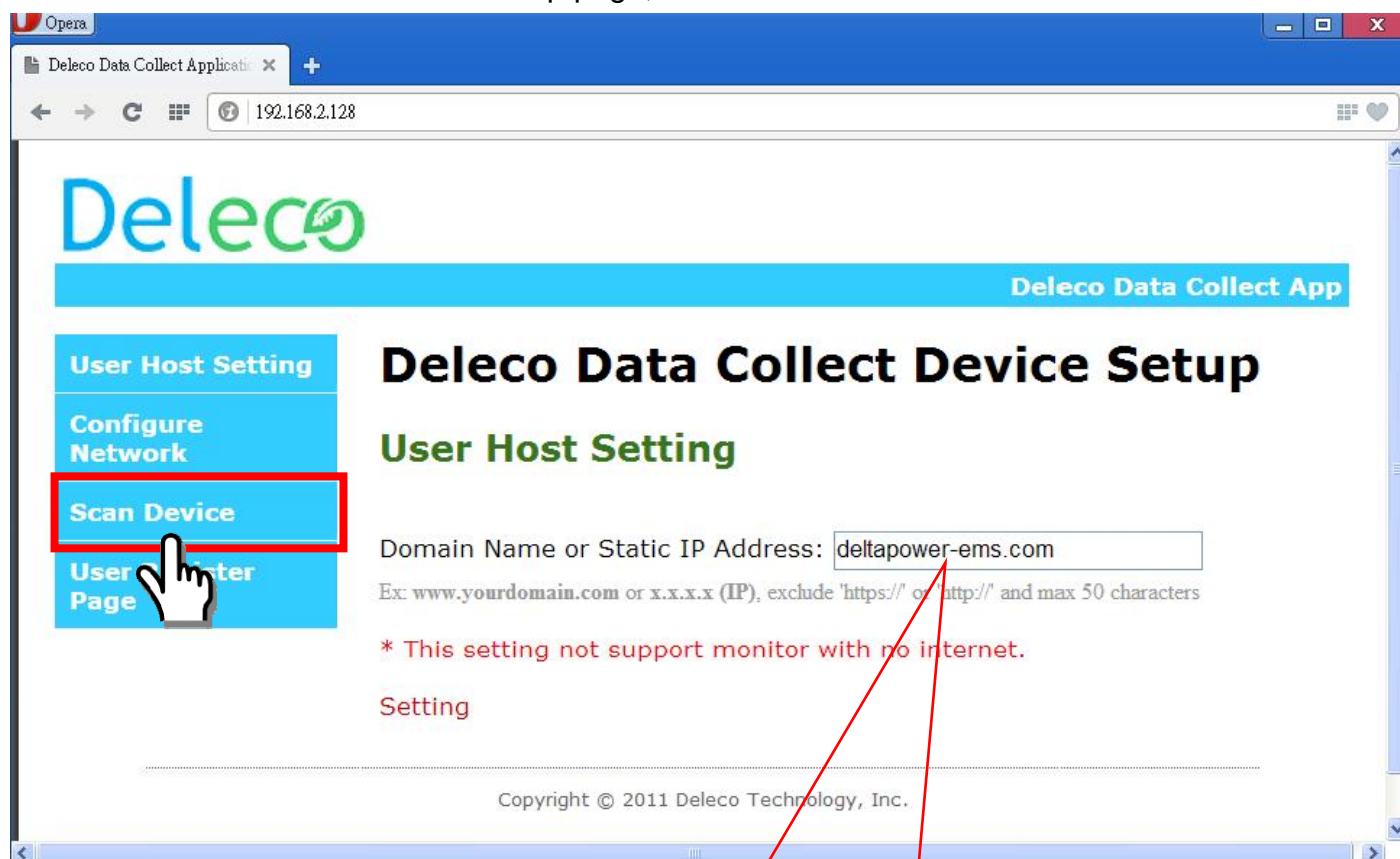
192.168.X.X
TTL ENERGY: XX.XkWh

In Your PC Side

Open the web browser, key-in IP address as shown on the **Data Collector OLED Display**.

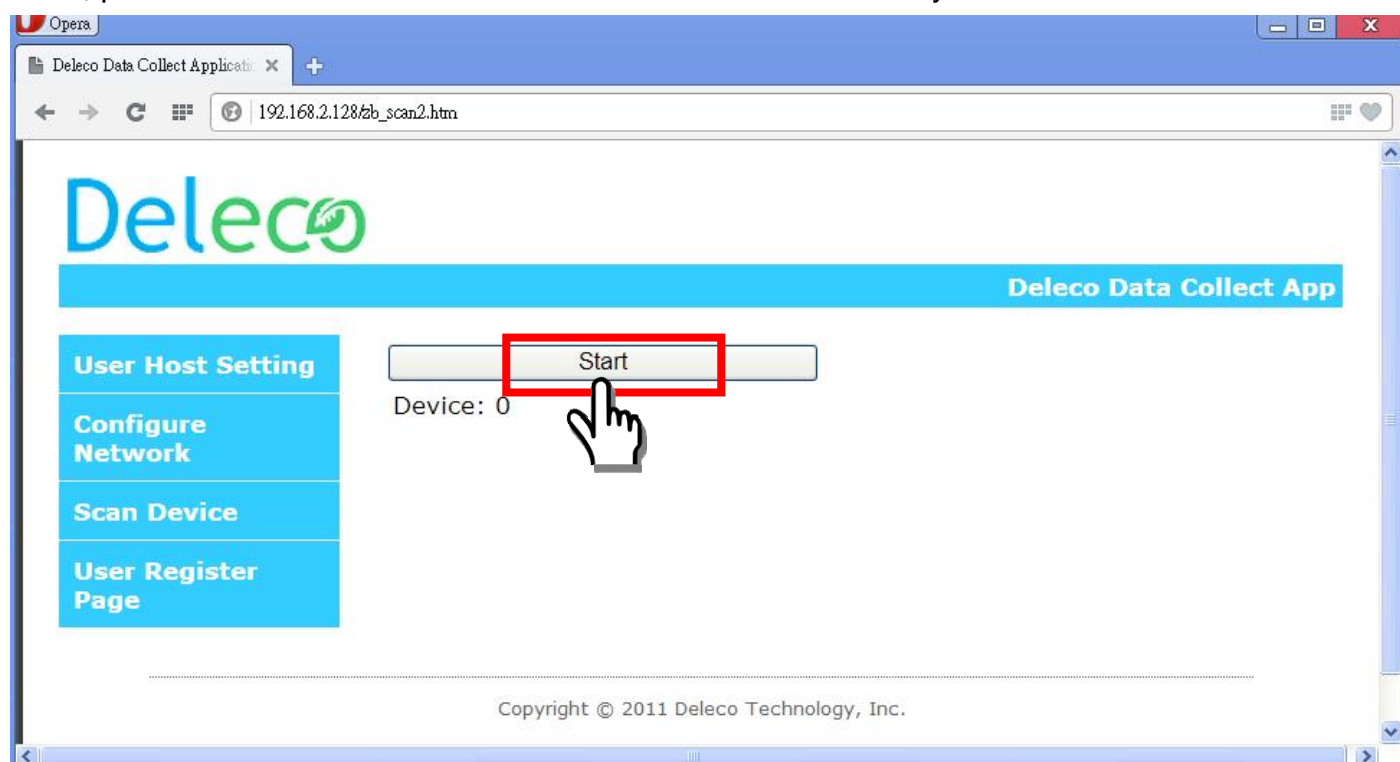


The screen should now show the setup page, click on “**Scan Device**”.

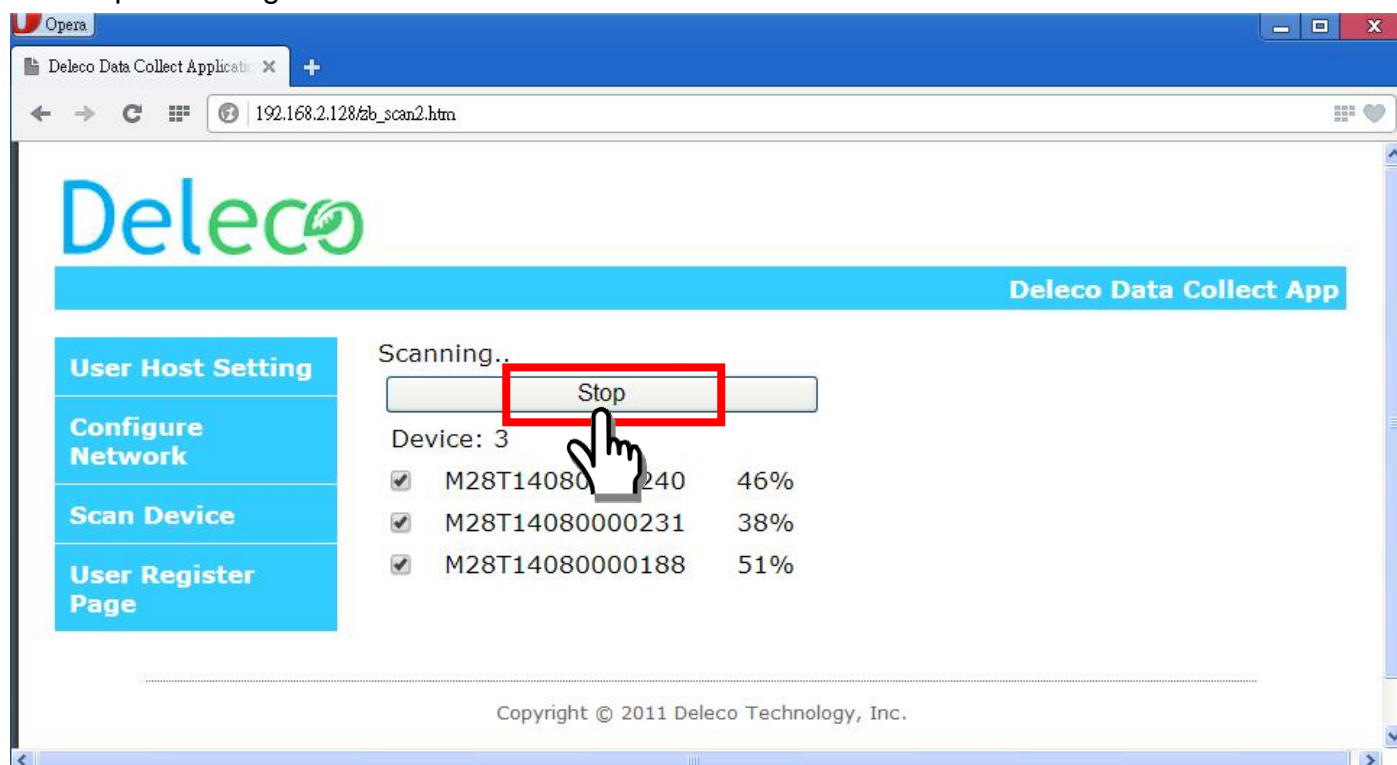


This is system default and may be different from what is shown on your screen.

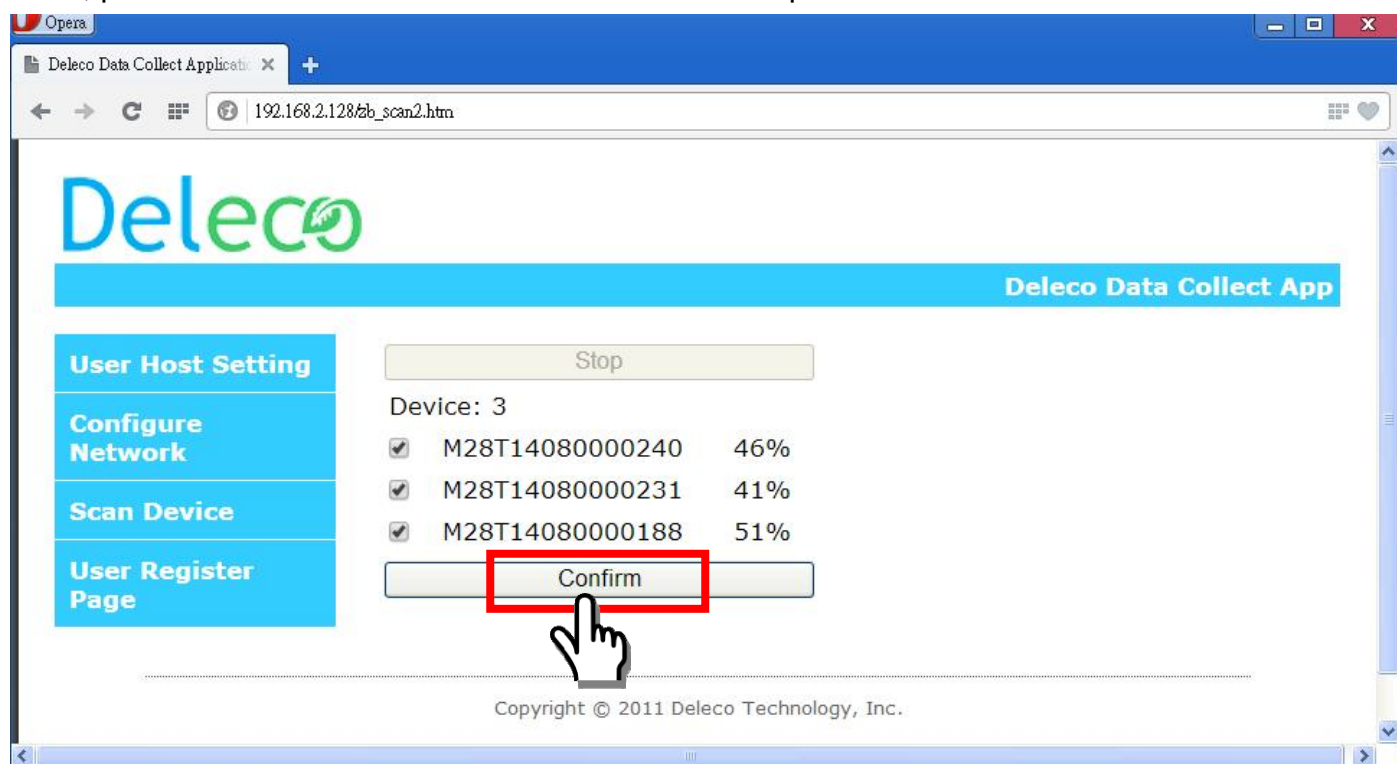
Then, press the “**Start**” button to search all micro inverters which you have installed.



Then, press the “**Stop**” button to stop searching when all micro inverters have found. Otherwise, it will keep searching until **20 minutes time out**.

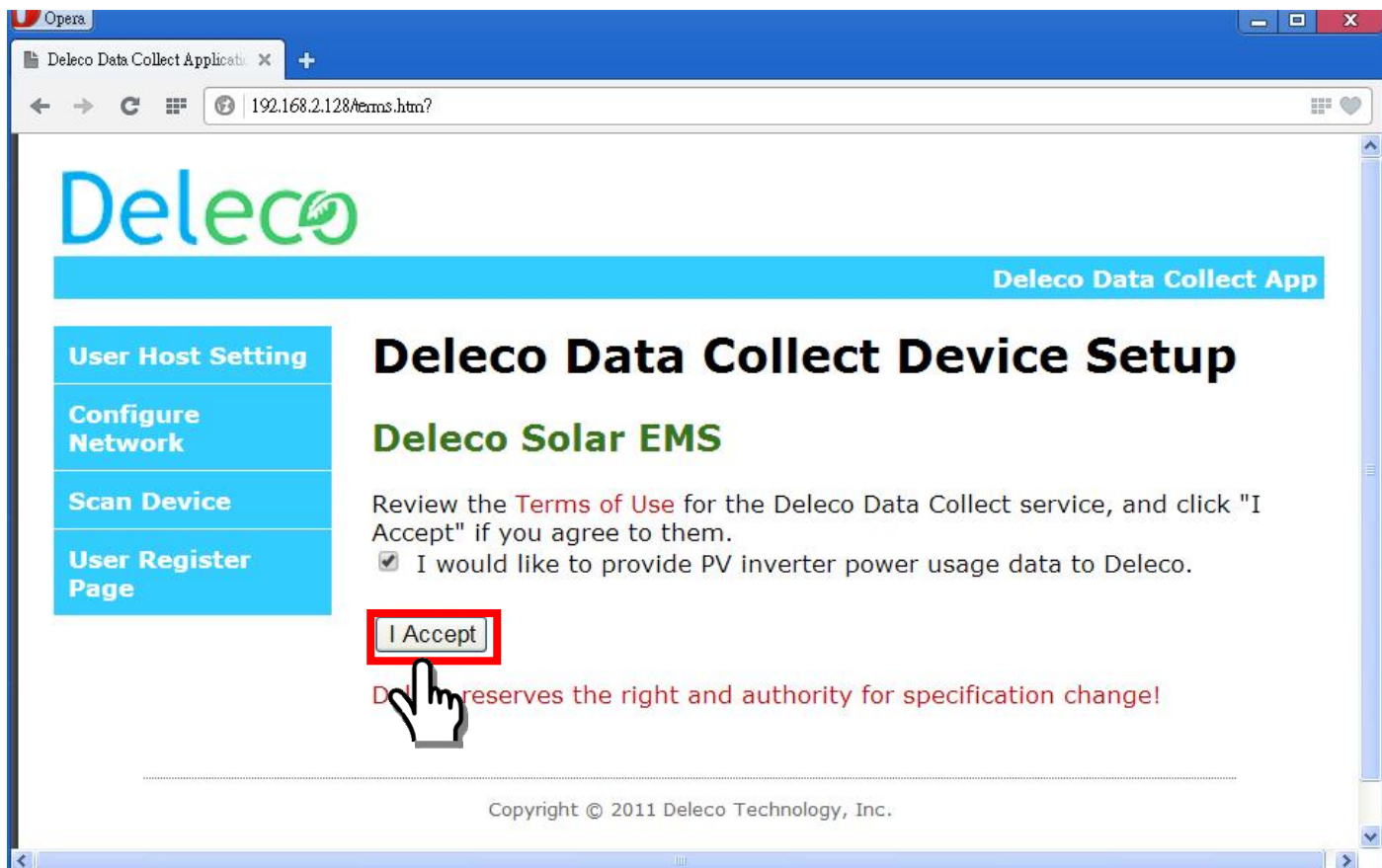


After stopping, please disable the devices to kick out those micro inverters that do not belong to you. Then, press the “**Confirm**” button to finish scan device procedure.



After confirming, then, click “**I Accept**” button.

(Now, the Data Collector device should be set as an **Ethernet device**.)



Please skip to the **Web Registration Procedure**.

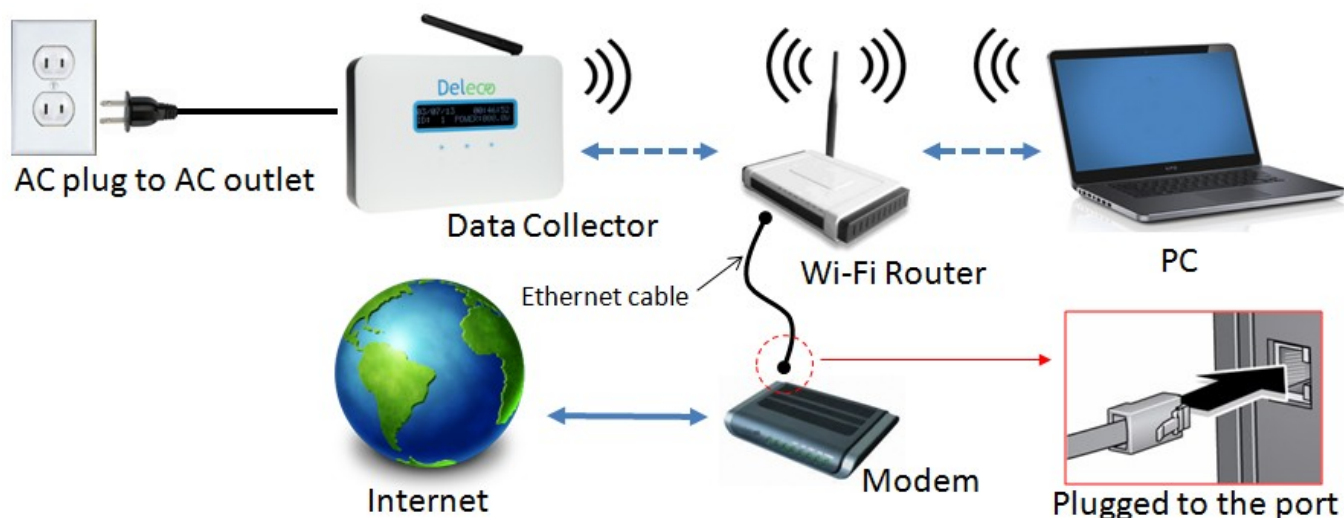


You can press the **RESET** button if you want to redo the setup.

Step 2:

Setup via Wireless (Using Wi-Fi Signal)

System configuration shown as below



Please make sure your PC has access to internet.



Please make sure AP/Router has enable the DHCP enabled.

On Data Collector OLED Display

Choose Wi-Fi DEVICE ( SELECT)

> Wi-Fi DEVICE
ETHERNET DEVICE

The **OLED Display** will alternatively show the IP address, date and time.

169.254.0.1

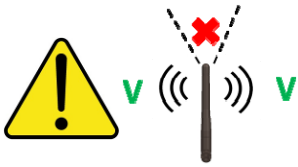
TTL ENERGY: XX.XkWh

00/00/0000 00:00:00

TTL POWER: X.XW



Once you finished the setup, the **Time** and **Date** will be updated automatically via the internet.



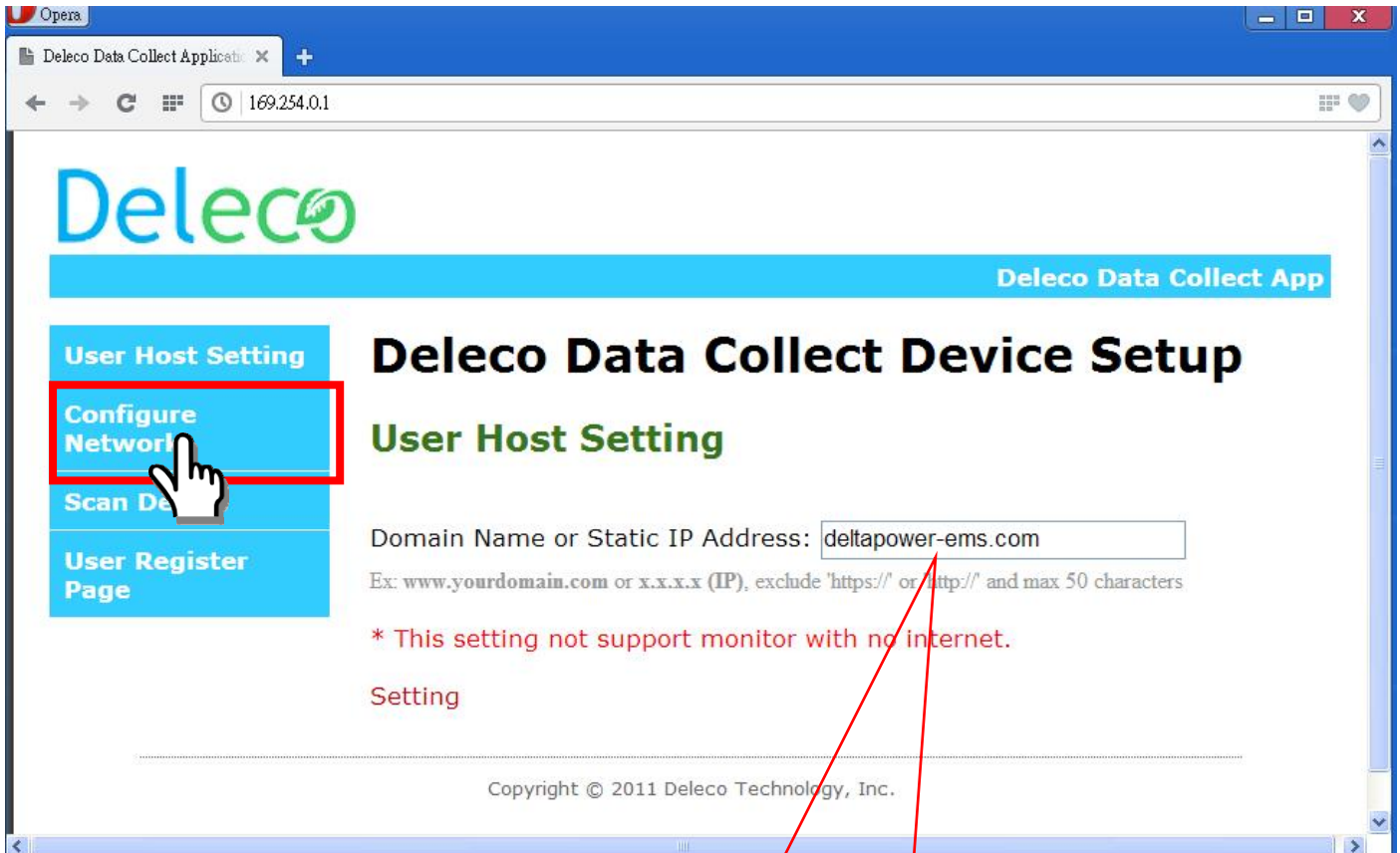
Antenna has directivity it should facing to **Wi-Fi** Router and PC.

Please connect your computer's **Wi-Fi** to the SSID "DELTA_XXXXXXXXXXXX"

Open the web browser and key-in the IP address as shown on **Data Collector OLED Display**.

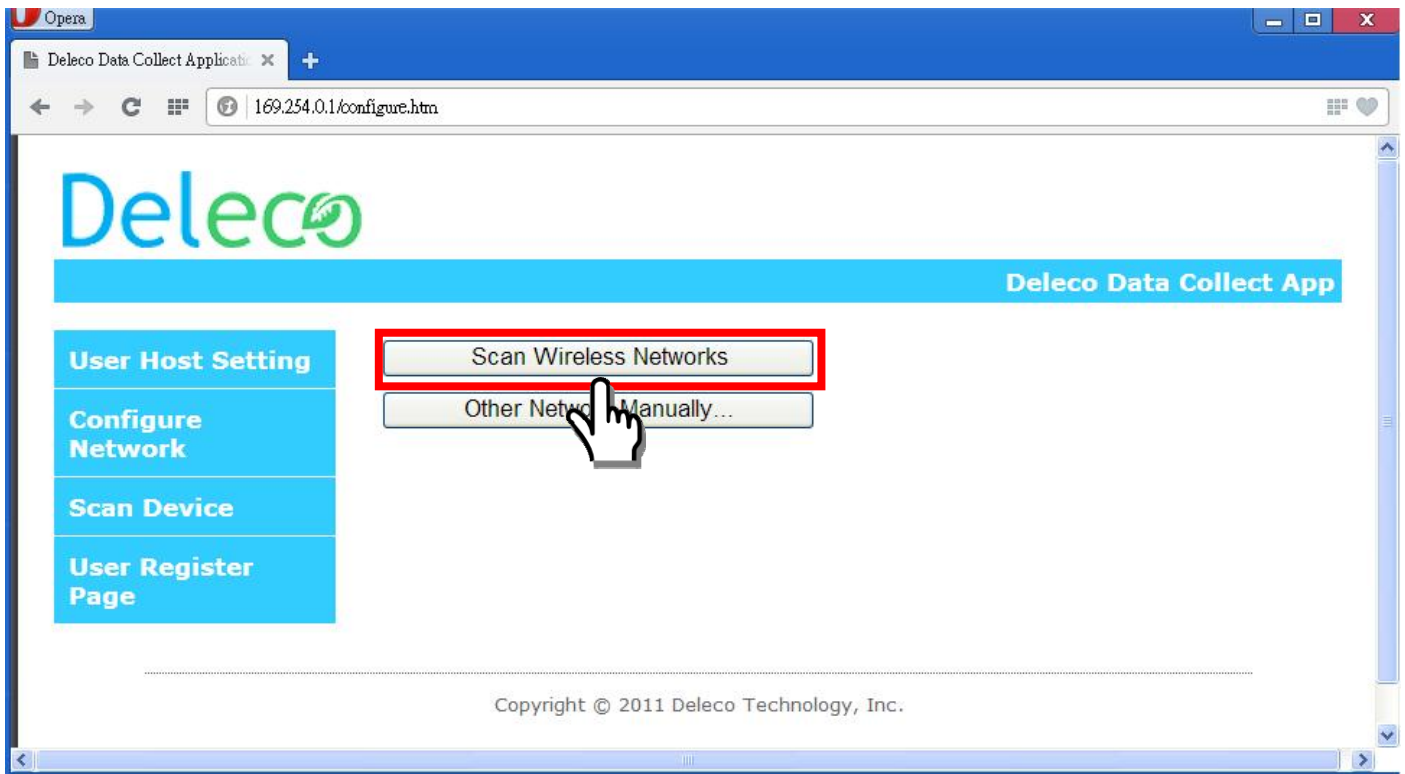


Click on "**Configure Network**".



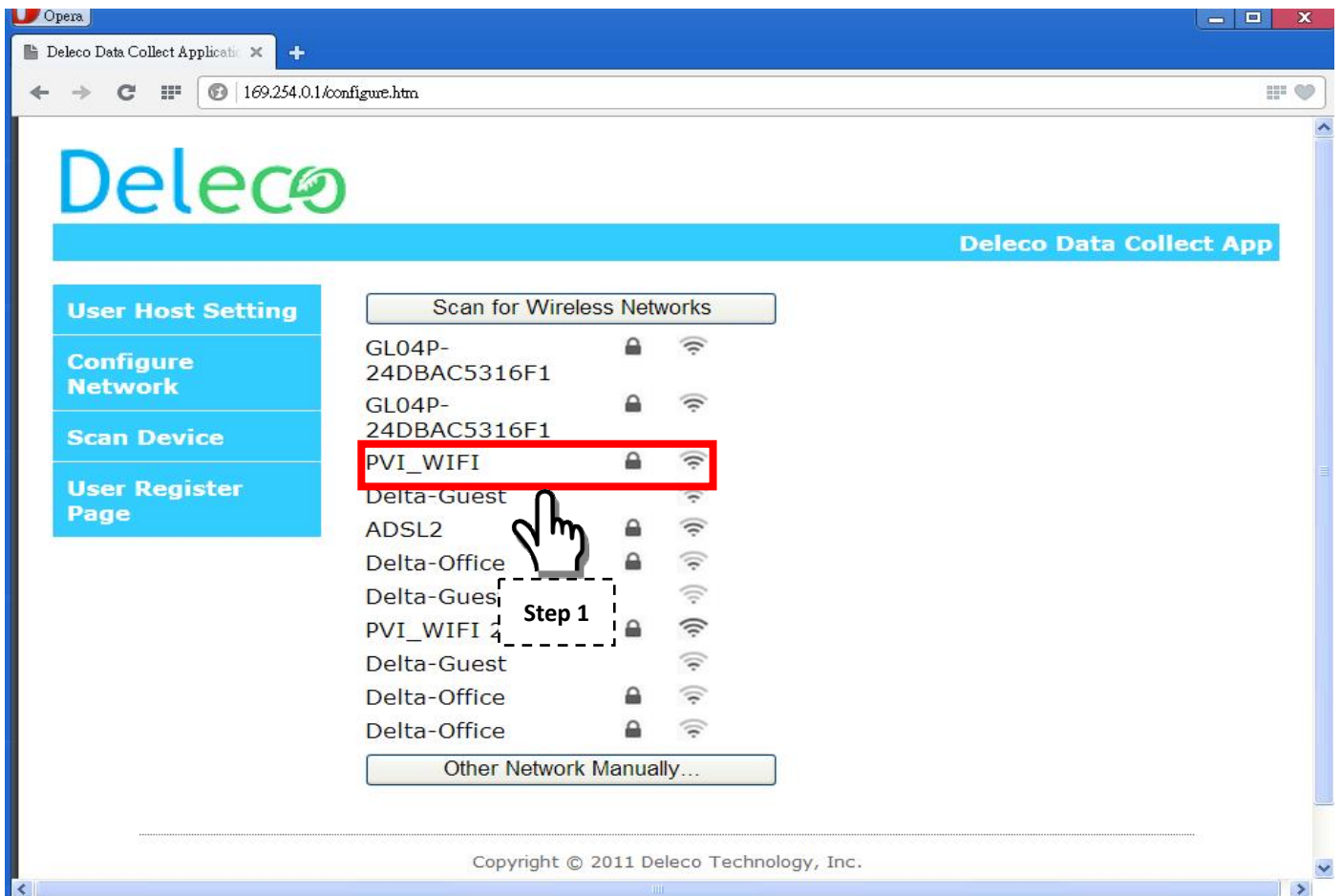
This is system default and may be different from what is shown on your screen.

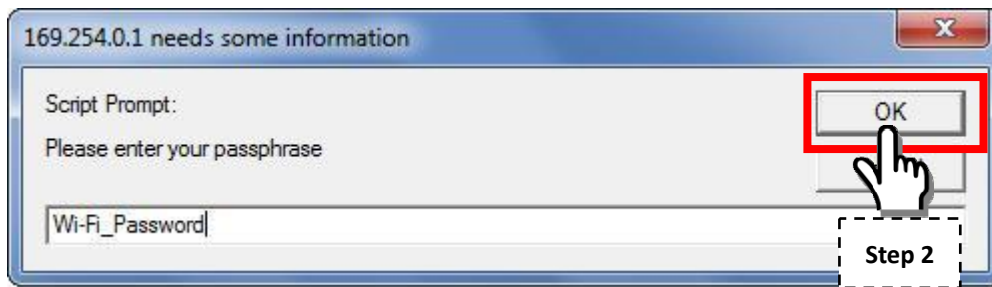
The screen will display two options; click "**Scan Wireless Networks**".



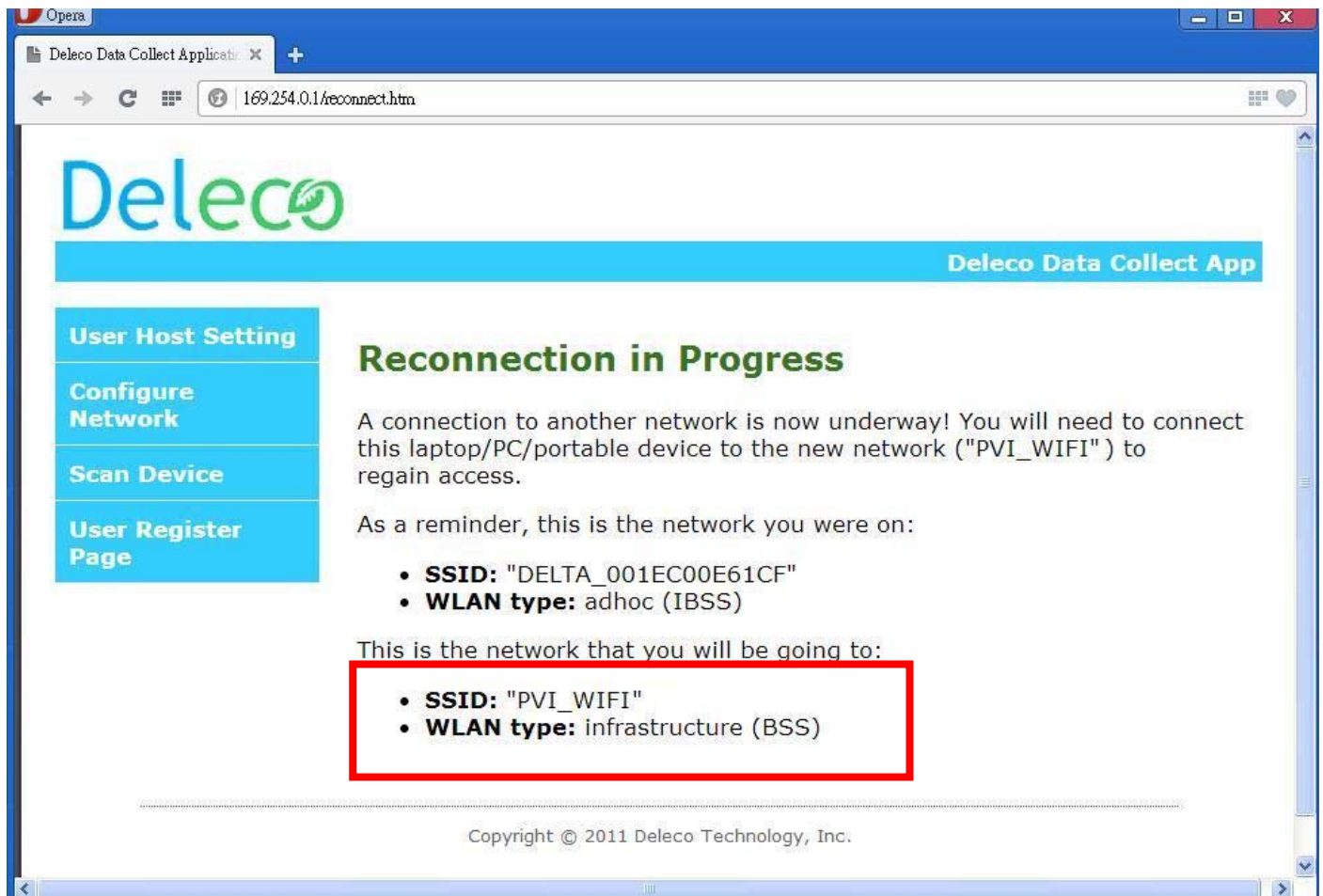
You should now see your **Wi-Fi router** will be listed.

Choose the SSID corresponding to your **Wi-Fi Router**. (Password maybe needed if your AP/Router has encryption)





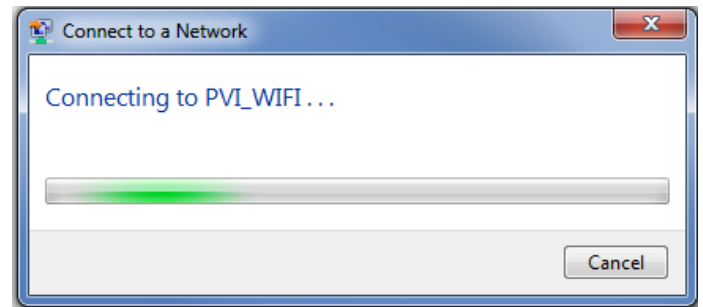
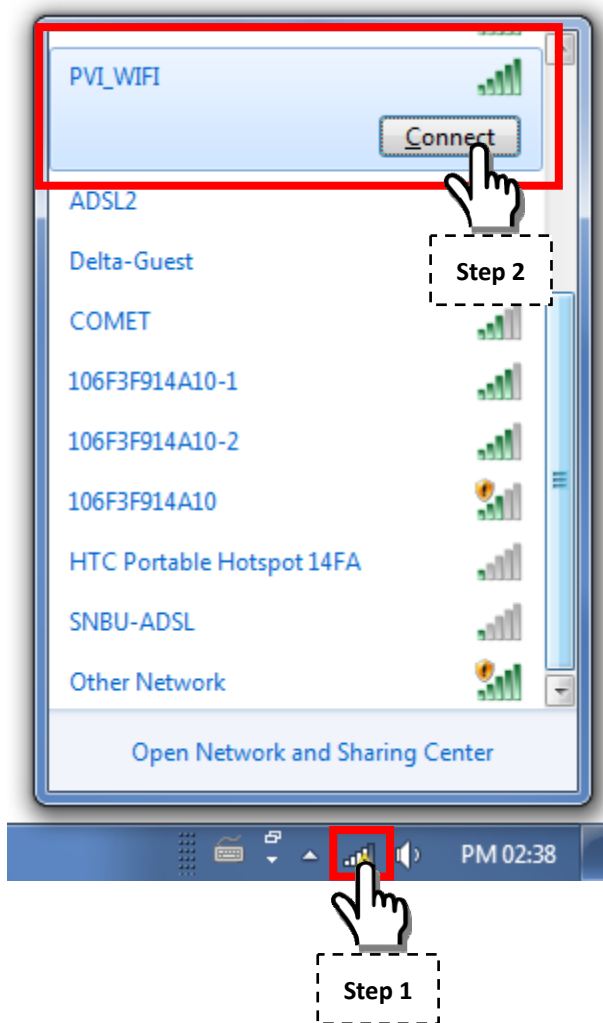
A confirmation message should be displayed as shown below.



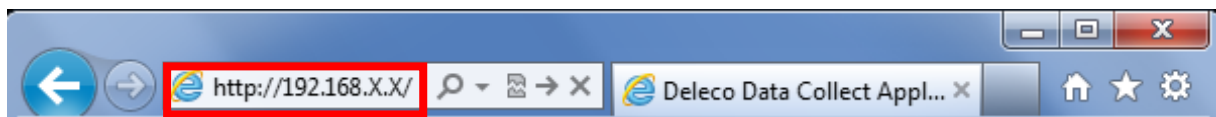
After a certain timeframe, the IP address will appear on the **Data Collector OLED Display**.
(This IP address is assigned by your **Wi-Fi Router**, it maybe different from this **SETUP GUIDE**)

192.168.X.X	Web
TTL ENERGY:	XX.XkWh

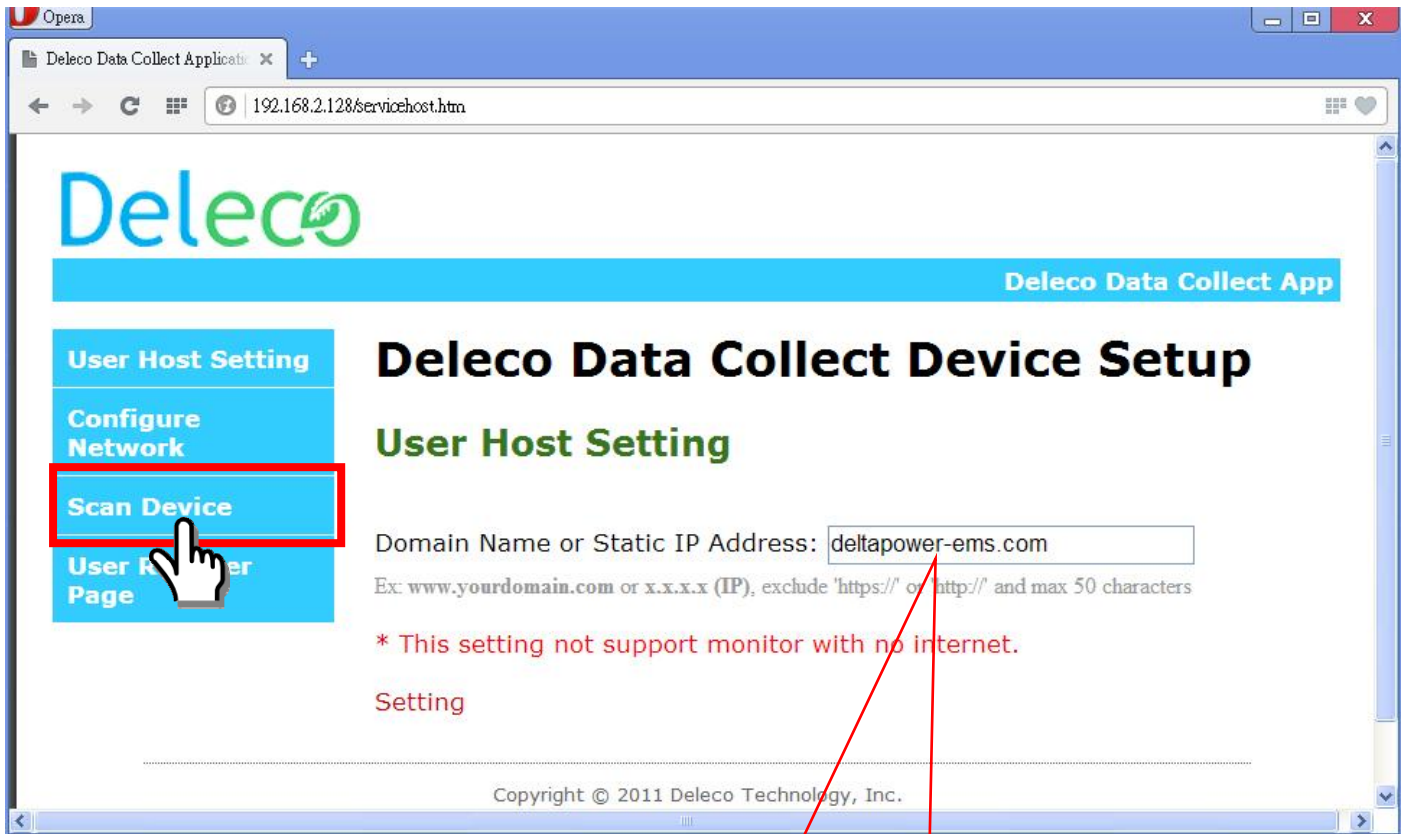
Please reconnect your computer's **Wi-Fi** to your original internet connection.



Open the web browser; key-in the IP address as shown on the **Data Collector OLED Display**.

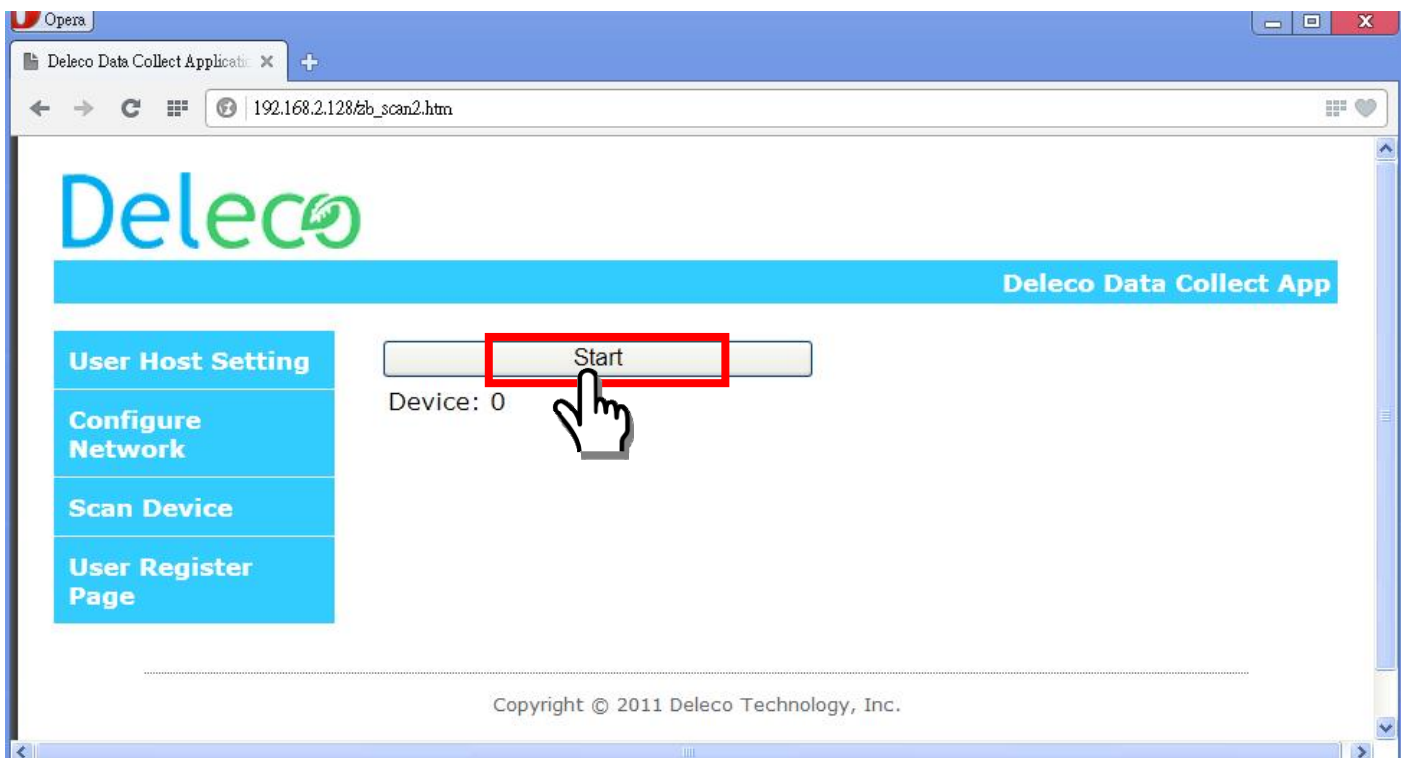


The screen should now show the setup page, click on **"Scan Device"**.

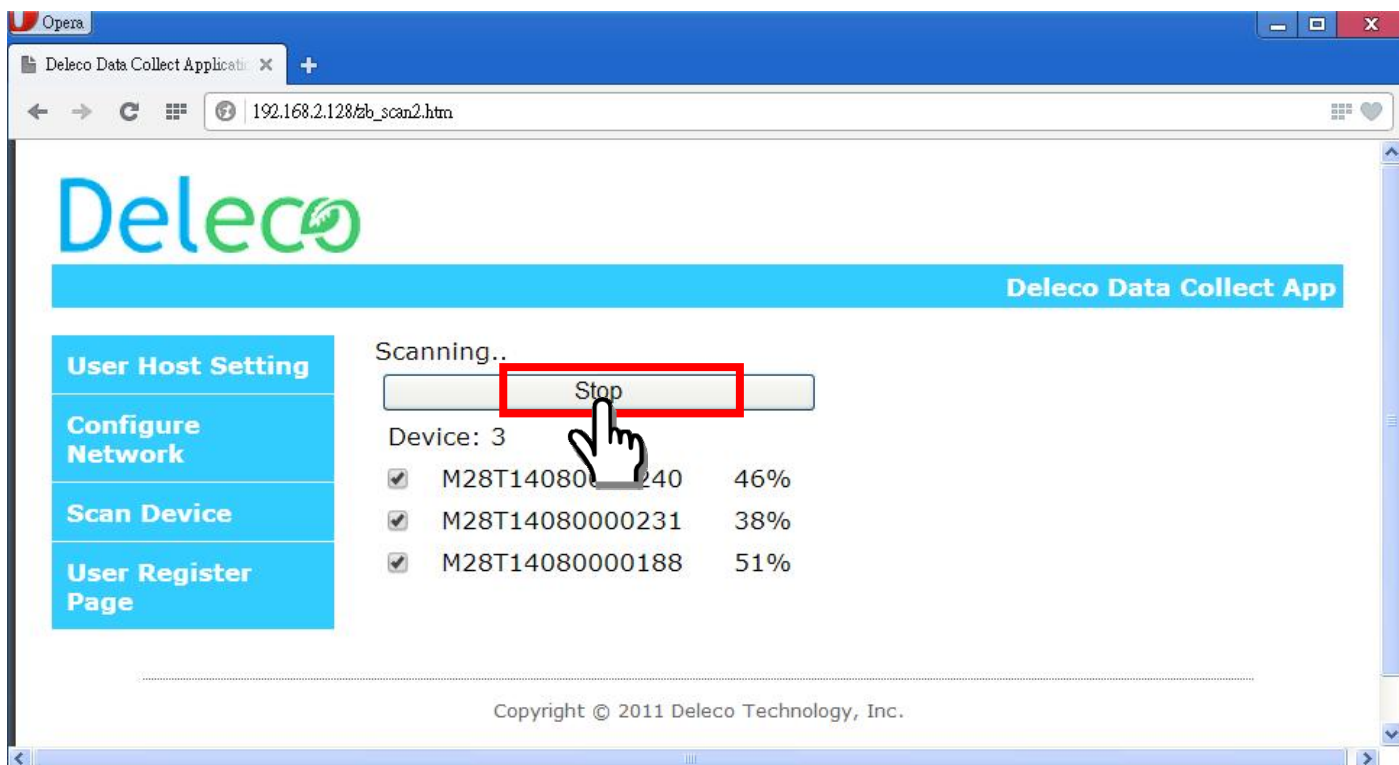


This is system default and may be different from what is shown on your screen.

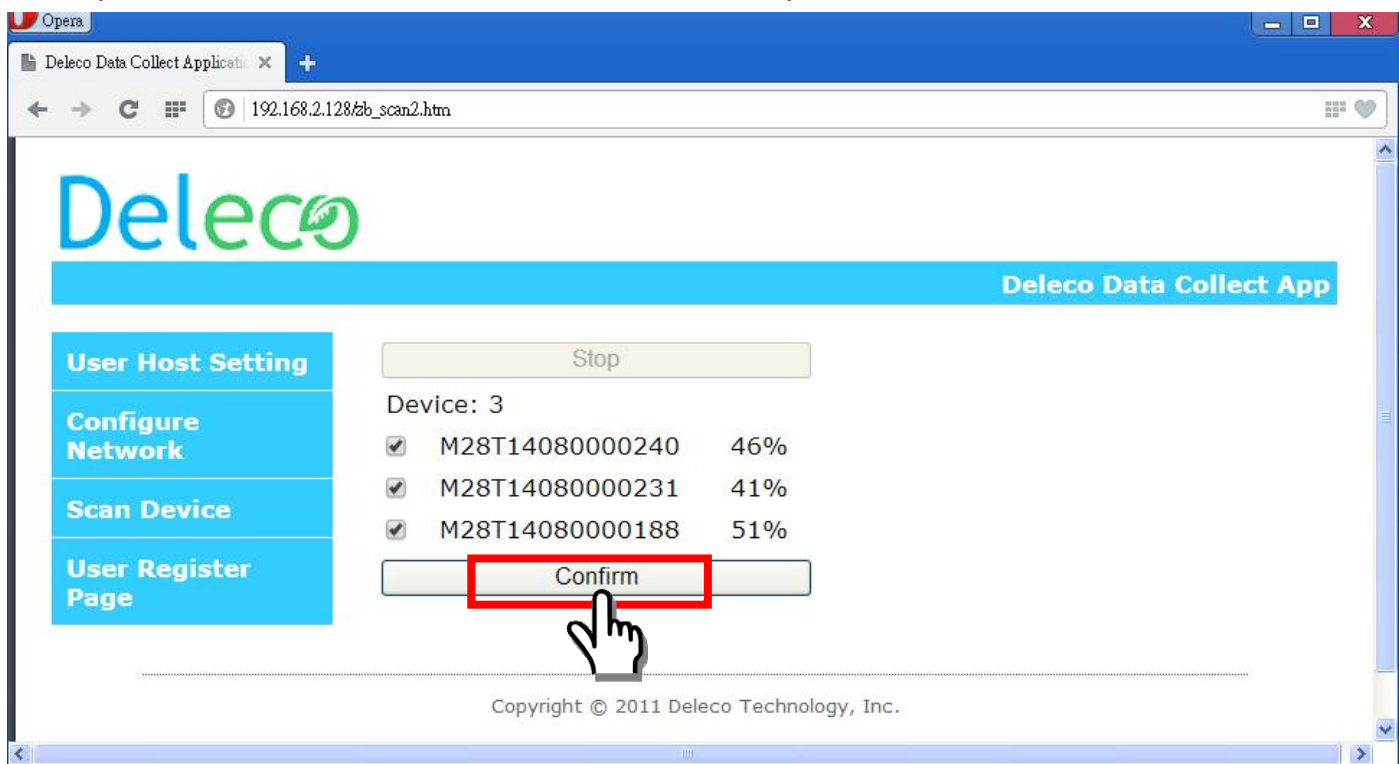
Then, press the **“Start”** button to search all micro inverters which you have installed.



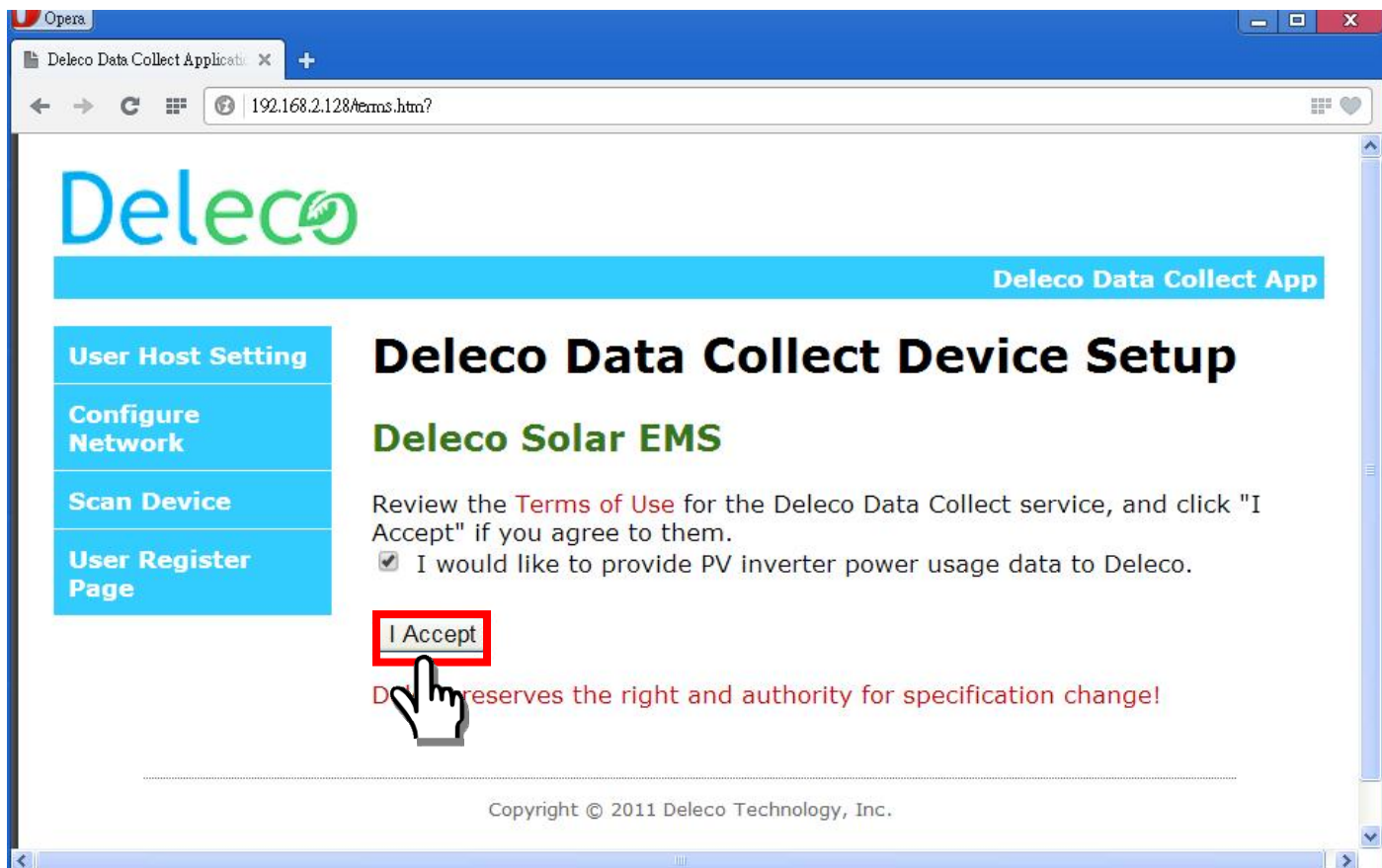
Then, press the **“Stop”** button to stop searching when all micro inverters have found. Otherwise, it will keep searching until **20 minutes time out**.



After stopping, please disable the devices to kick out those micro inverters that do not belong to you. Then, press the “**Confirm**” button to finish scan device procedure.



After confirming, then, click “**I Accept**” button.
(Now, the Data Collector device is settled as a **Wi-Fi device**.)



Skip to the **Web Registration Procedure**.



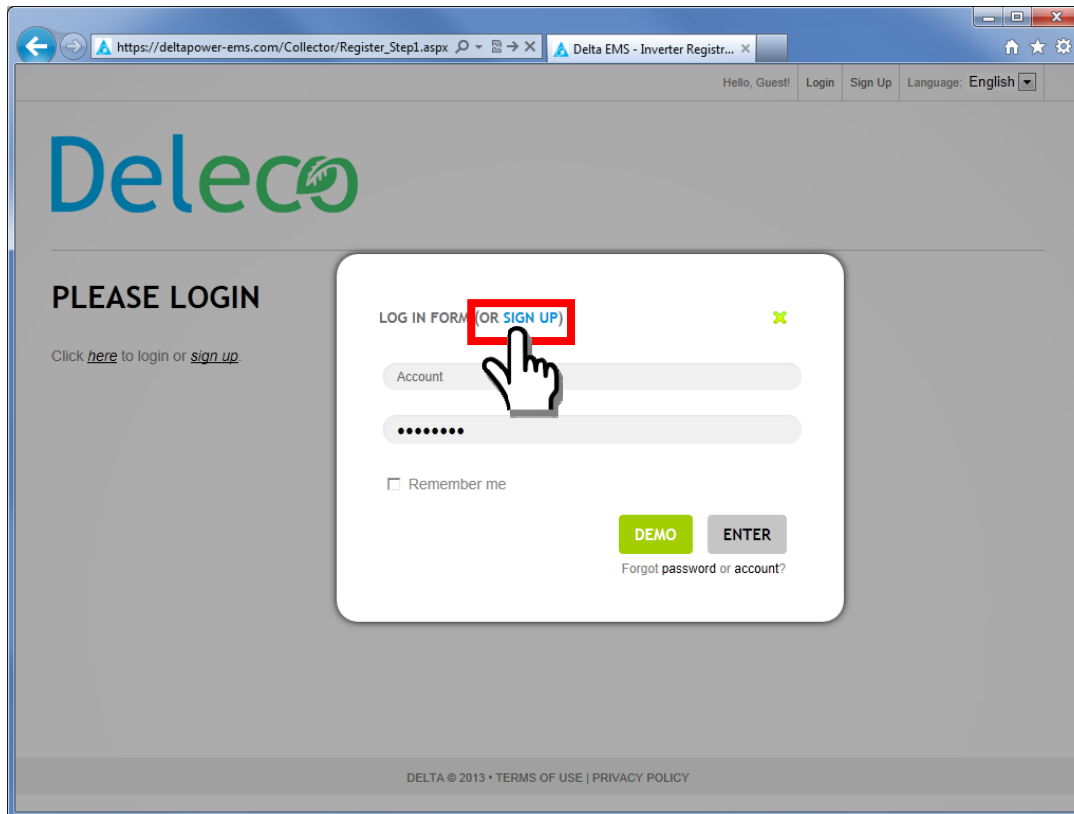
You can press the **RESET** button if you want to redo the setup again.

Step 3:

Web Registration Procedure

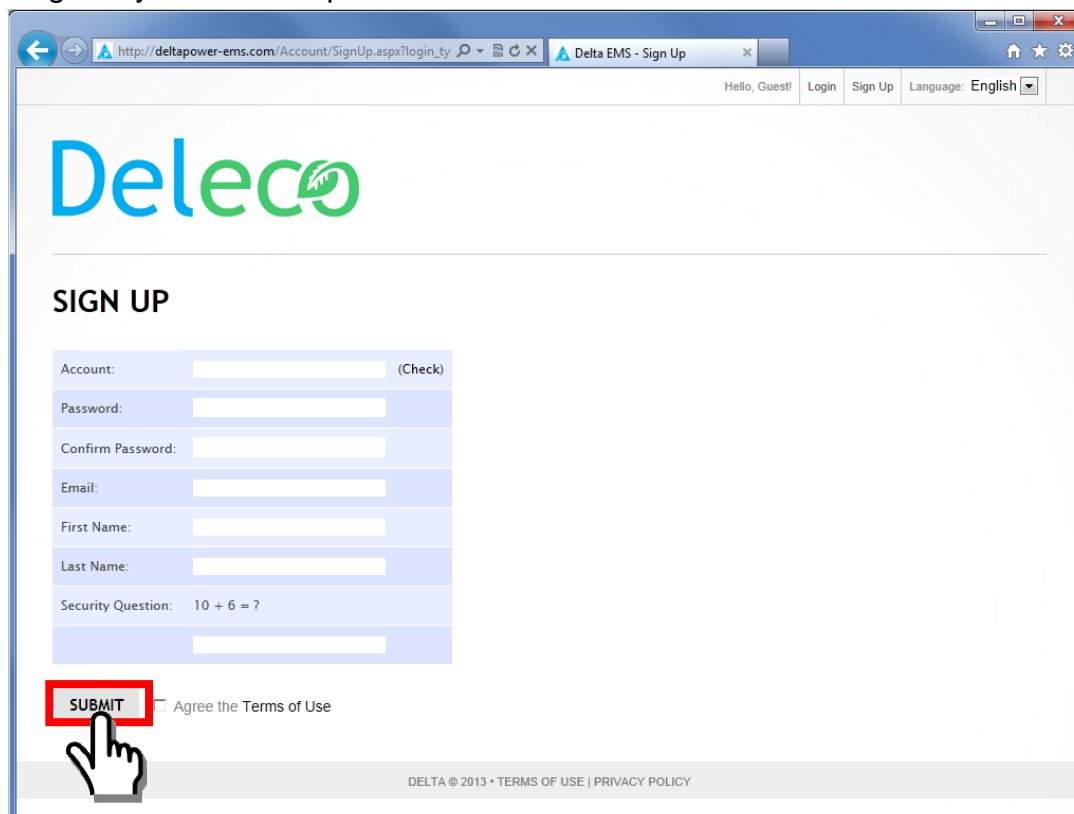
Once you click the “**I Accept**”, the web page will be redirect to our Deleco EMS sign up.

Sign up for new account.



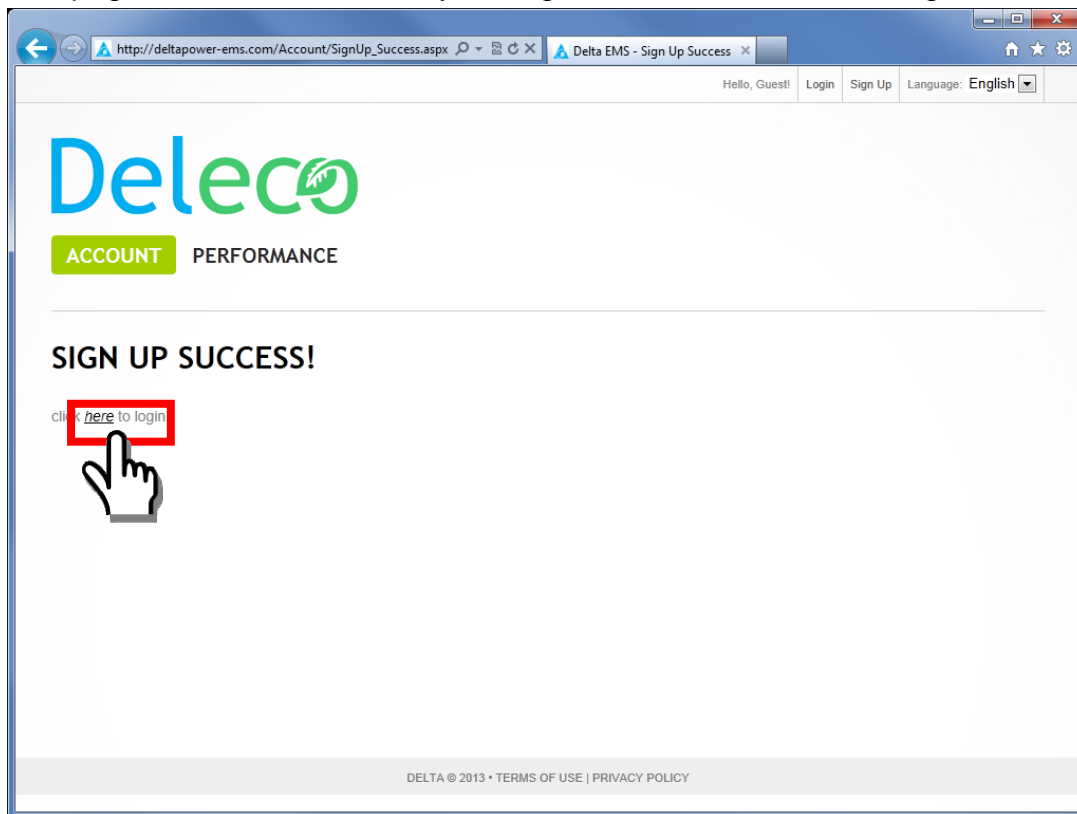
The screenshot shows a web browser window with the URL https://deltapower-ems.com/Collector/Register_Step1.aspx. The page features the Deleco logo and a "PLEASE LOGIN" heading. Below the heading, there is a link: "Click [here](#) to login or [sign up](#)." A modal window is displayed in the center, titled "LOG IN FORM (OR SIGN UP)". A hand cursor is pointing at the "(OR SIGN UP)" link, which is highlighted with a red box. The modal contains input fields for "Account" and "Password", a "Remember me" checkbox, and "DEMO" and "ENTER" buttons. At the bottom of the modal, it says "Forgot password or account?". The footer of the page reads "DELTA © 2013 • TERMS OF USE | PRIVACY POLICY".

Register your detailed personal data and click “**SUBMIT**”.

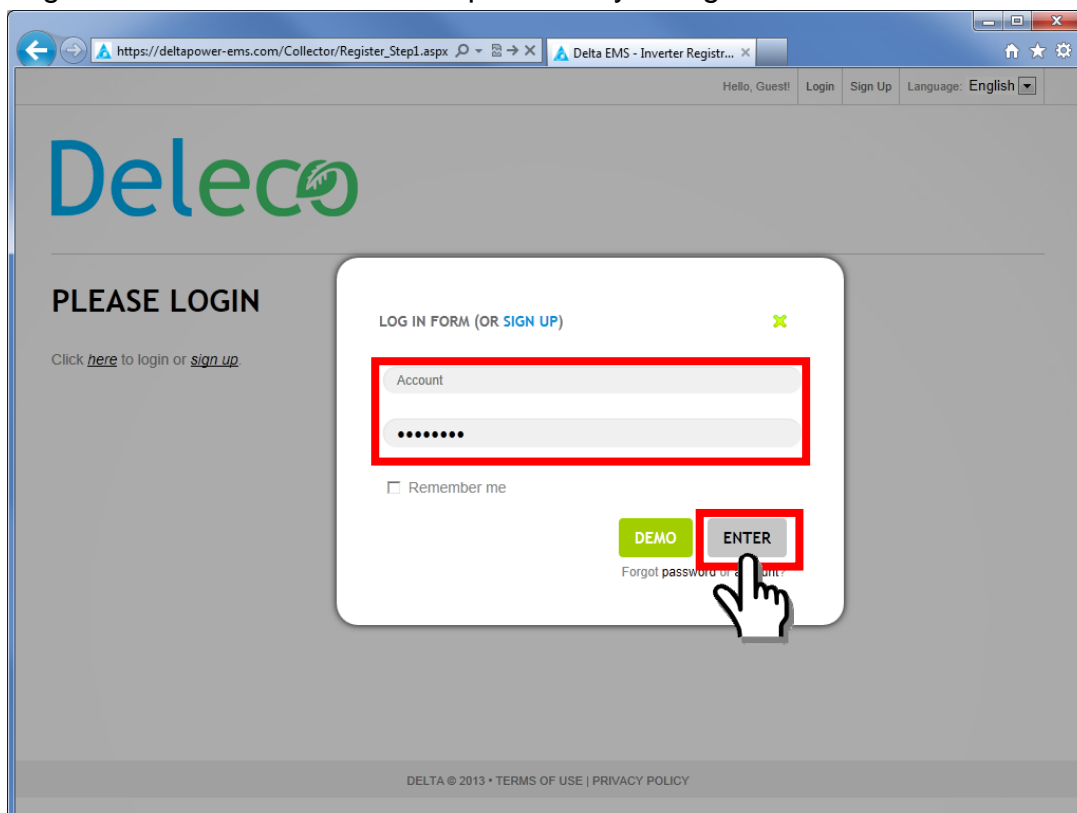


The screenshot shows a web browser window with the URL http://deltapower-ems.com/Account/SignUp.aspx?login_ty. The page features the Deleco logo and a "SIGN UP" heading. Below the heading, there is a form with the following fields: "Account:" (with a "(Check)" label), "Password:", "Confirm Password:", "Email:", "First Name:", "Last Name:", and "Security Question: 10 + 6 = ?". At the bottom of the form, there is a "SUBMIT" button, which is highlighted with a red box, and a checkbox labeled "Agree the Terms of Use". A hand cursor is pointing at the "SUBMIT" button. The footer of the page reads "DELTA © 2013 • TERMS OF USE | PRIVACY POLICY".

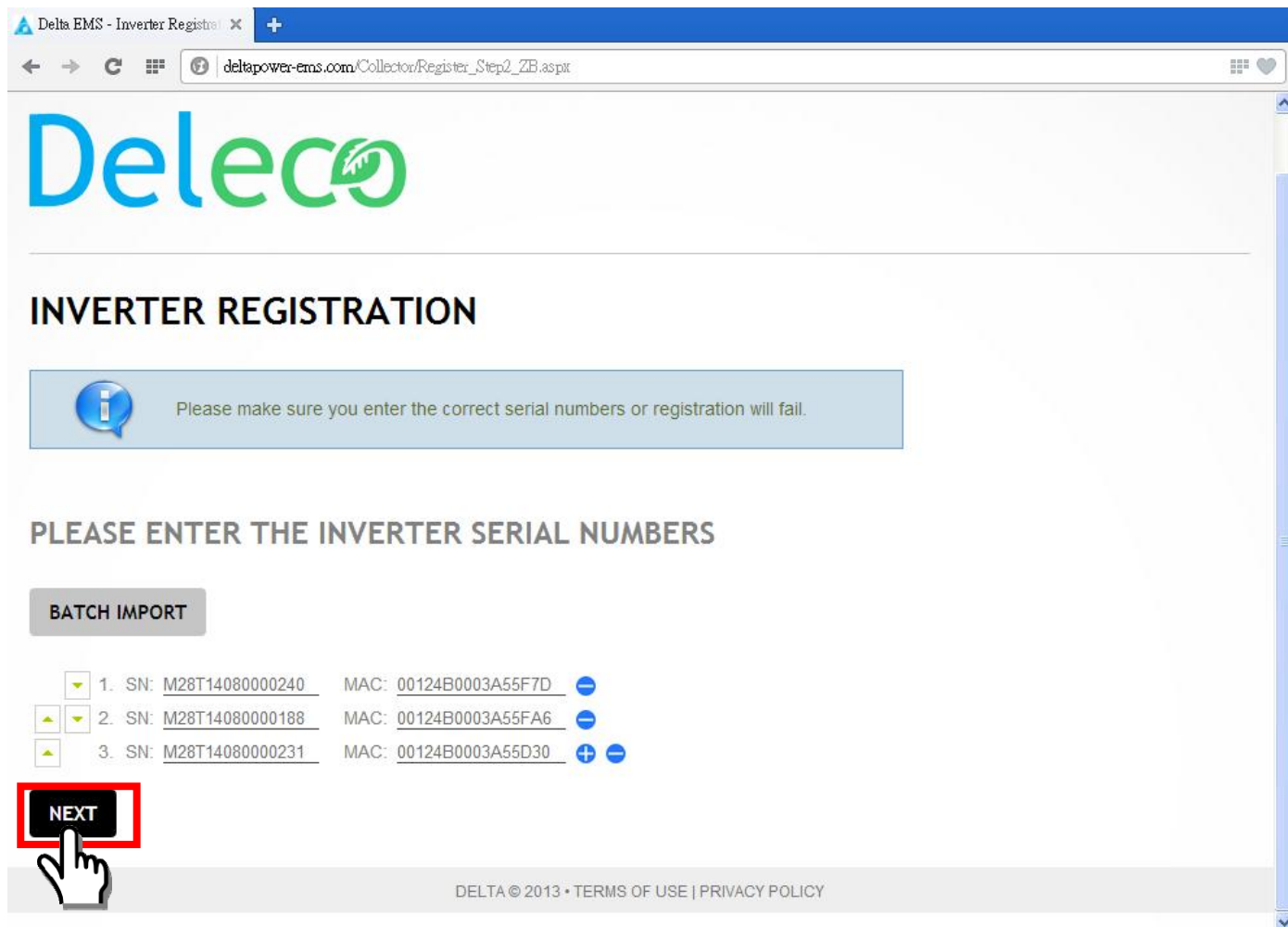
The page should then confirm your registration. Click “**here**” to login.



Login with the user account and password you registered.



You can see the list of series number and MAC address from your micro inverters.



Delta EMS - Inverter Register

deltapower-ems.com/Collector/Register_Step2_ZB.aspx

Deleco

INVERTER REGISTRATION

Please make sure you enter the correct serial numbers or registration will fail.

PLEASE ENTER THE INVERTER SERIAL NUMBERS

BATCH IMPORT

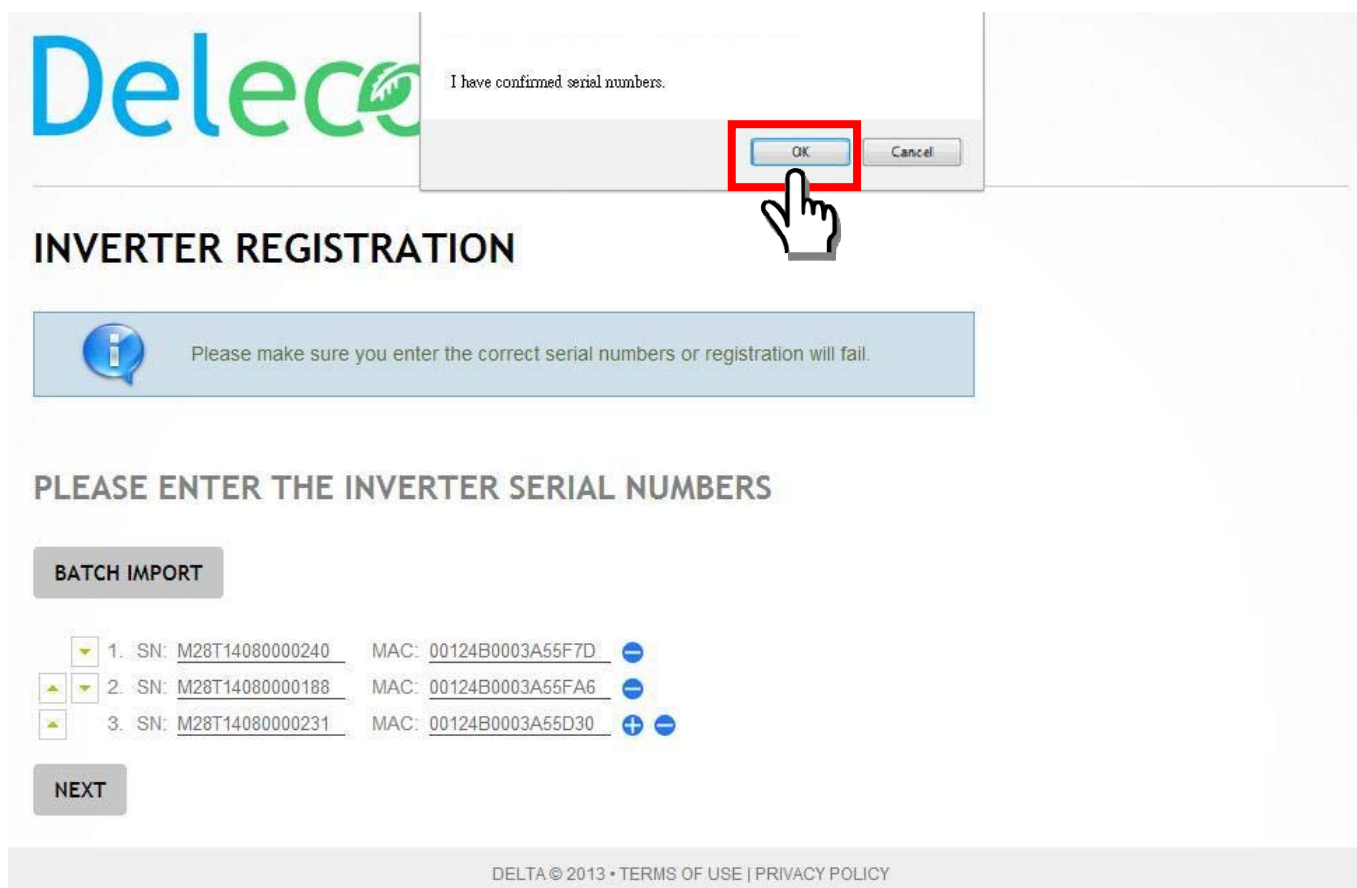
1.	SN: M28T14080000240	MAC: 00124B0003A55F7D	-
2.	SN: M28T14080000188	MAC: 00124B0003A55FA6	-
3.	SN: M28T14080000231	MAC: 00124B0003A55D30	+ -

NEXT

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Then click the “**NEXT**”

The popup window show “I have confirmed the series number” and click “**OK**”.



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INVERTER REGISTRATION

I have confirmed serial numbers.

OK Cancel

PLEASE ENTER THE INVERTER SERIAL NUMBERS

BATCH IMPORT

1.	SN: M28T14080000240	MAC: 00124B0003A55F7D	-
2.	SN: M28T14080000188	MAC: 00124B0003A55FA6	-
3.	SN: M28T14080000231	MAC: 00124B0003A55D30	+ -

NEXT

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Register the **Data Collector** name, time zone and location.

The screenshot shows the 'COLLECTOR REGISTRATION' page in a web browser. The browser's address bar shows 'http://deltapower-ems.com/Collector/Register_Step3.aspx'. The page header includes the Deleco logo and a user greeting 'Hello, qazxsw99' with 'Logout' and 'Language: English' options. The registration form contains the following fields:

- Collector Serial Number: A02T13250000780
- Collector Name: Registration Demo
- Timezone: (GMT+10:00) Canberra, Melbourne, Sydney
- Address: Sydney

Below the address field are two links: 'Update Map' and 'Detect My Current Address'. A map of Australia is displayed with a red pin on Sydney. At the bottom left, a 'NEXT' button is highlighted with a red box and a hand cursor. The footer contains 'DELTA © 2013 • TERMS OF USE | PRIVACY POLICY'.

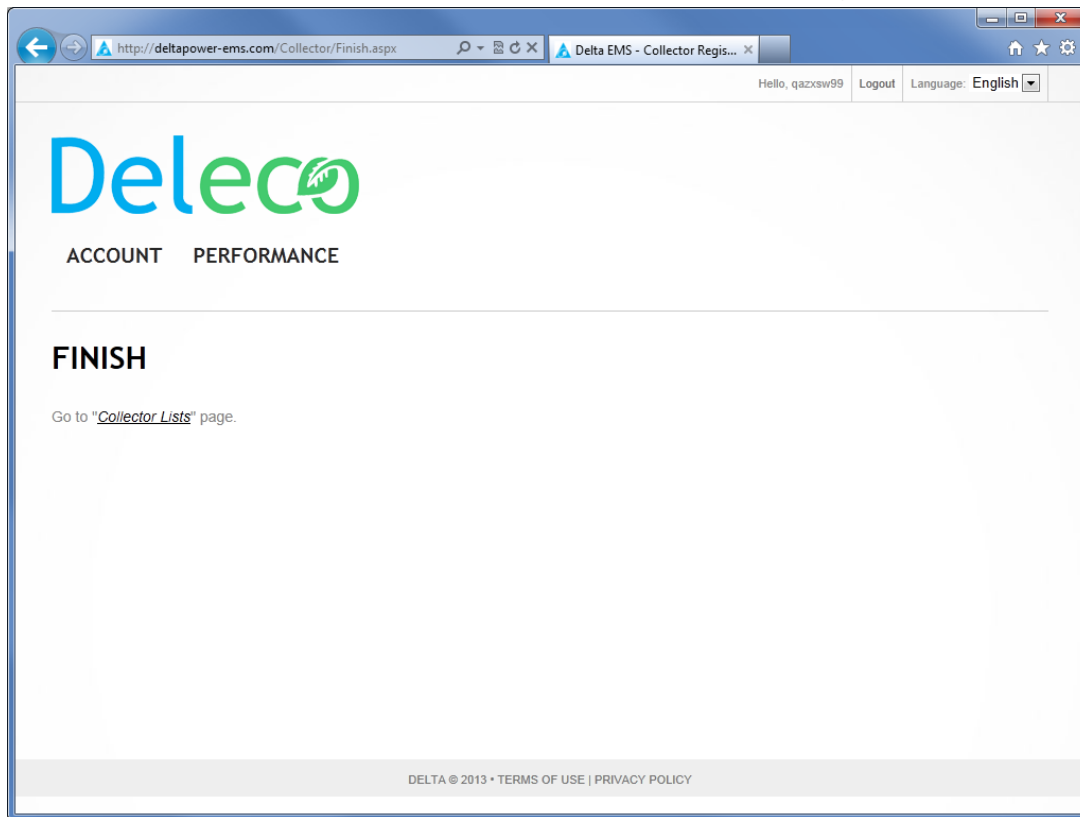
Confirm the **Data Collector** information, then click “**SUBMIT**” button.

The screenshot shows the 'CONFIRMATION COLLECTOR' page in a web browser. The browser's address bar shows 'http://deltapower-ems.com/Collector/Register_Step4.aspx'. The page header includes the Deleco logo and a user greeting 'Hello, qazxsw99' with 'Logout' and 'Language: English' options. The confirmation form displays the following information:

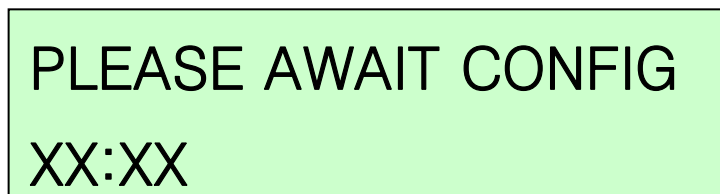
- Collector Serial Number: A02T13250000780
- Collector Name: Registration Demo
- Location: Sydney
- Collector Model: EBDD_DDC
- Collector Number Of Inverter: 3
- Timezone: (GMT+10:00) Canberra, Melbourne, Sydney

At the bottom left, there are two buttons: 'BACK' and 'SUBMIT'. The 'SUBMIT' button is highlighted with a red box and a hand cursor. To the right of the buttons, a message reads: 'Congratulations! Welcome to Delta EMS. Click "SUBMIT" to begin real time monitoring of your PV system!'. The footer contains 'DELTA © 2013 • TERMS OF USE | PRIVACY POLICY'.

You will receive a confirmation of the completion of your registration.

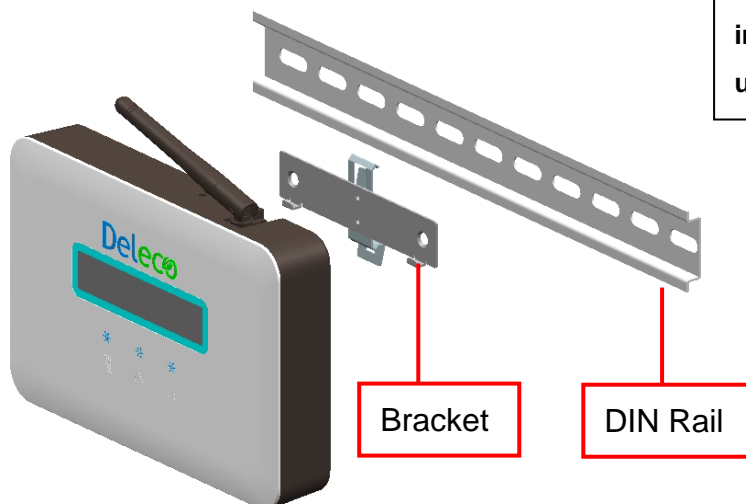


The message “**PLEASE AWAIT CONFIG**” will be displayed on the **Data Collector OLED Display**. The **xx:xx** time count is depending on how many micro inverters that you registered on your **Data Collector**.



Step 4:

DIN Rail Mounting

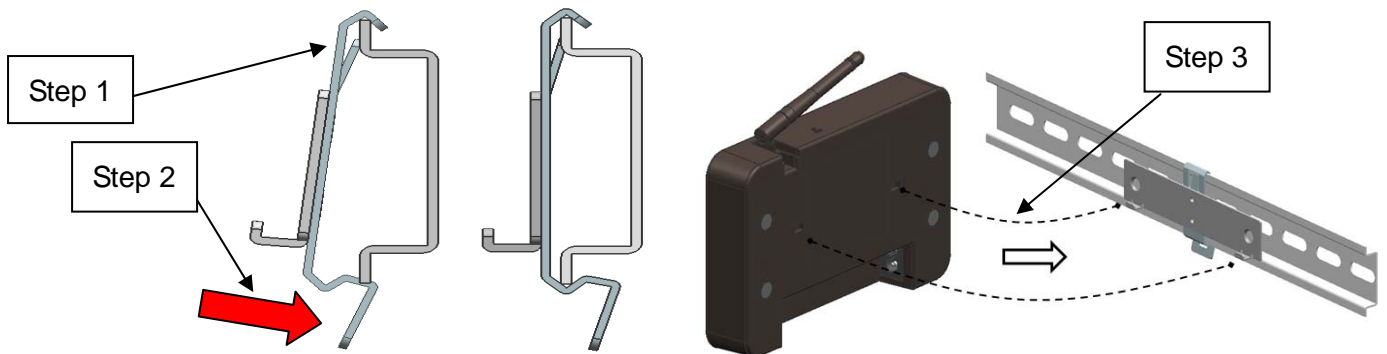


It is advisable to undertake all the configuration operations before fixing the Data Collector and installing it in the same location and position used during the configuration.

Also choose a place close to a socket (necessary for power, close to PV System) and where the lower part of the device, where all the connections are present, remains accessible.

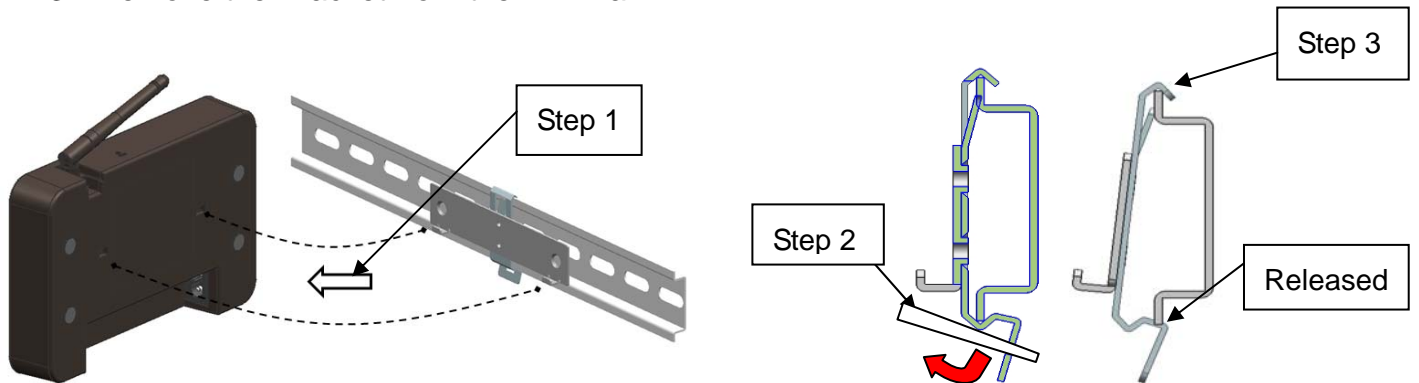
To install the **Bracket** on **DIN Rail**, please follow the steps below.

1. Clip the top side of the Bracket on the top side of the DIN Rail first.
2. Push the bottom of the Bracket to snap on the bottom side of the DIN Rail.
3. Hang the Data Collector on the Bracket on DIN Rail.



To release the **Bracket** from **DIN Rail**, please follow the steps below.

1. Take out the Data Collector from the Bracket on DIN Rail.
2. Insert a flathead screwdriver into the rectangular slot and turn it downward to release the clip from the DIN Rail.
3. Remove the Bracket from the DIN Rail.



The installation must be done by qualified installers and/or licensed electrician according to the applicable local regulations.



The connection of Micro Inverter System to the electricity distribution network must be approved by the appropriate electrical distributor.



The installation must be carried out while the equipment is disconnected from the grid.

Grid Code Setting

Once you finished the Micro Inverter registration process, then you **MUST** do the “Grid Code Setting”.



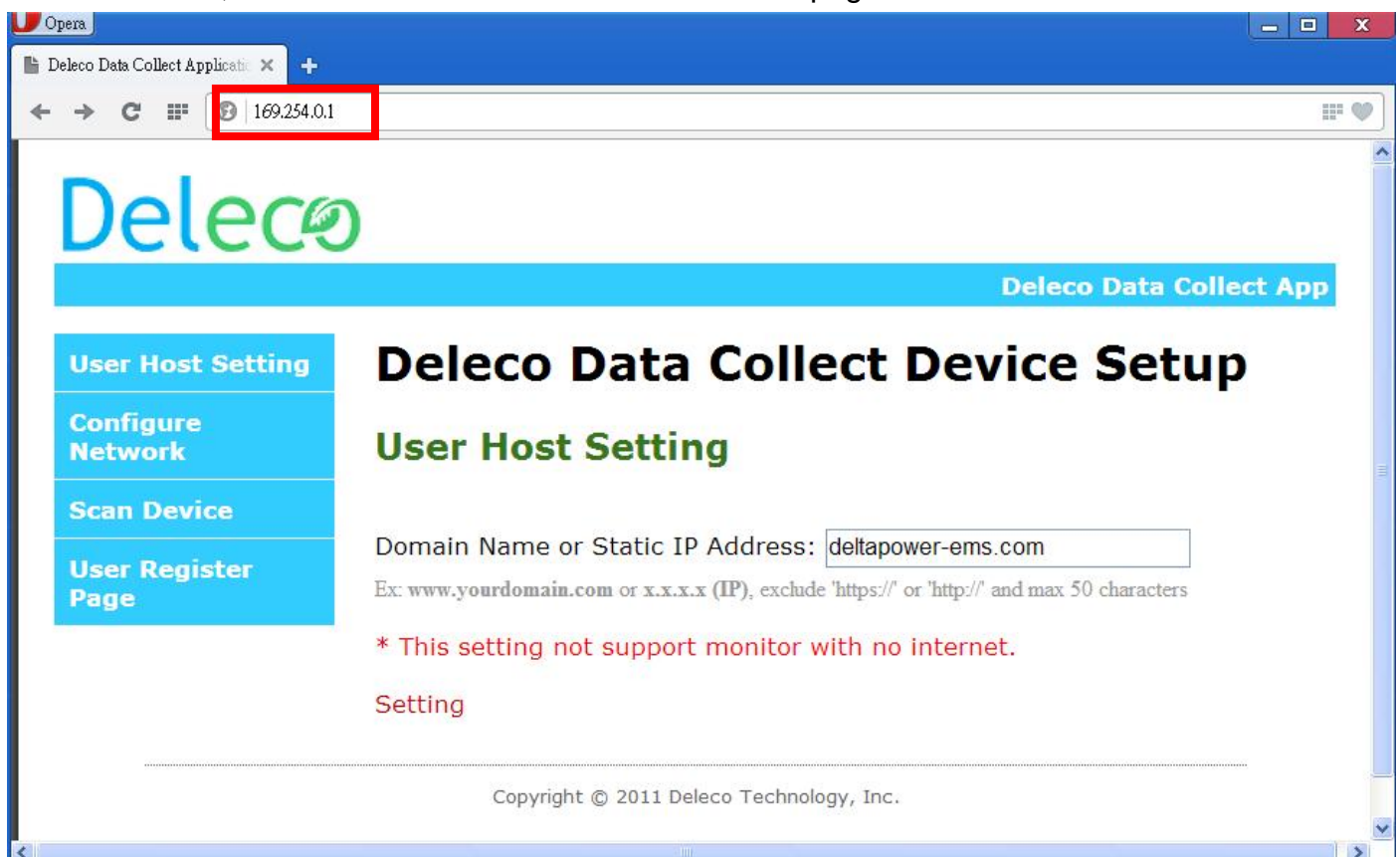
It is the responsibility of the installer to follow local installation regulations and guidelines in accordance with local electrical codes and Nation electrical codes for electrical installation as specified by the Clean Energy Council.

Step 1: Find the IP address shown on your Data Collector OLED display. (Note: The IP address depends on your network environment.)

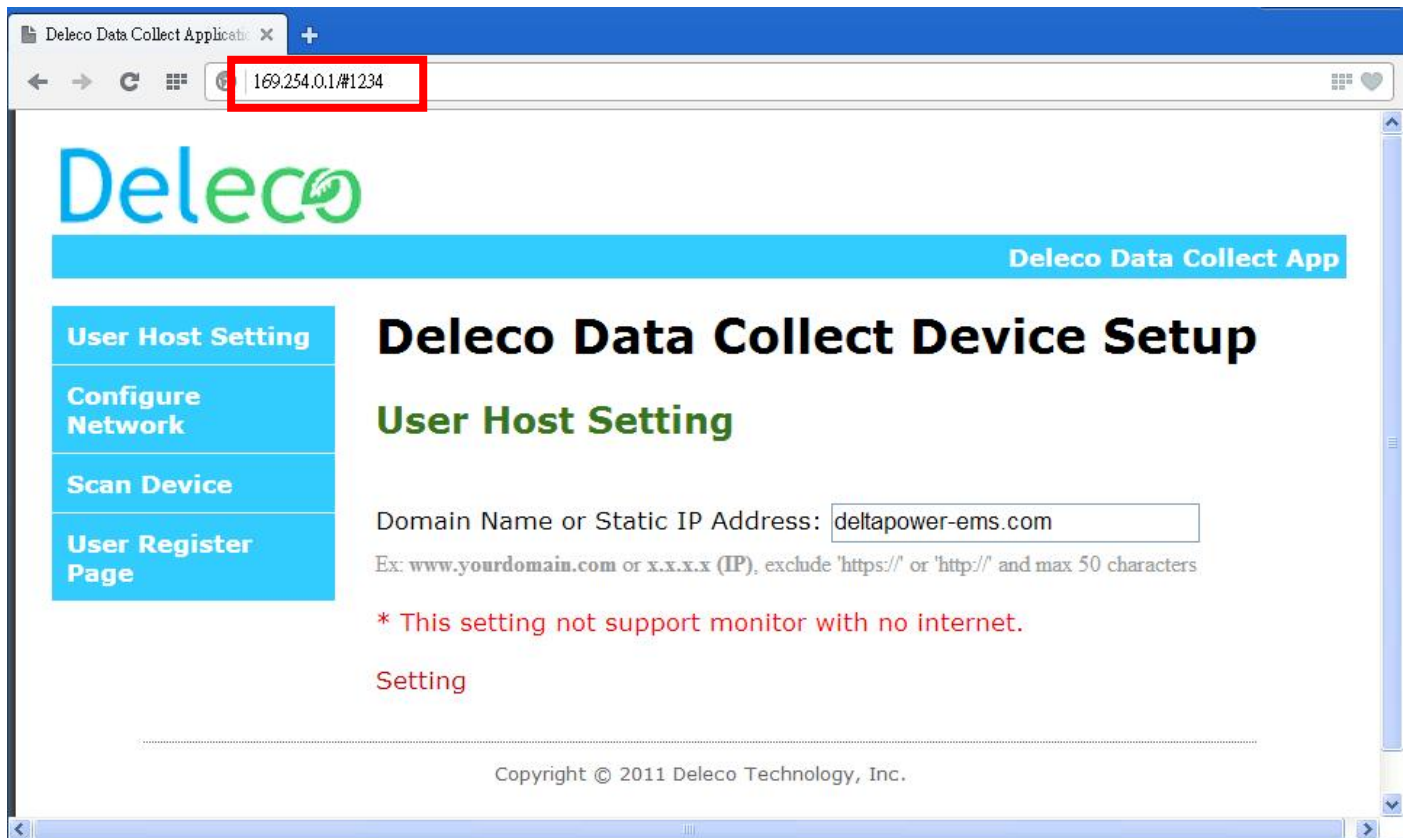
169.254.0.1

TTL ENERGY: 0.0kWh

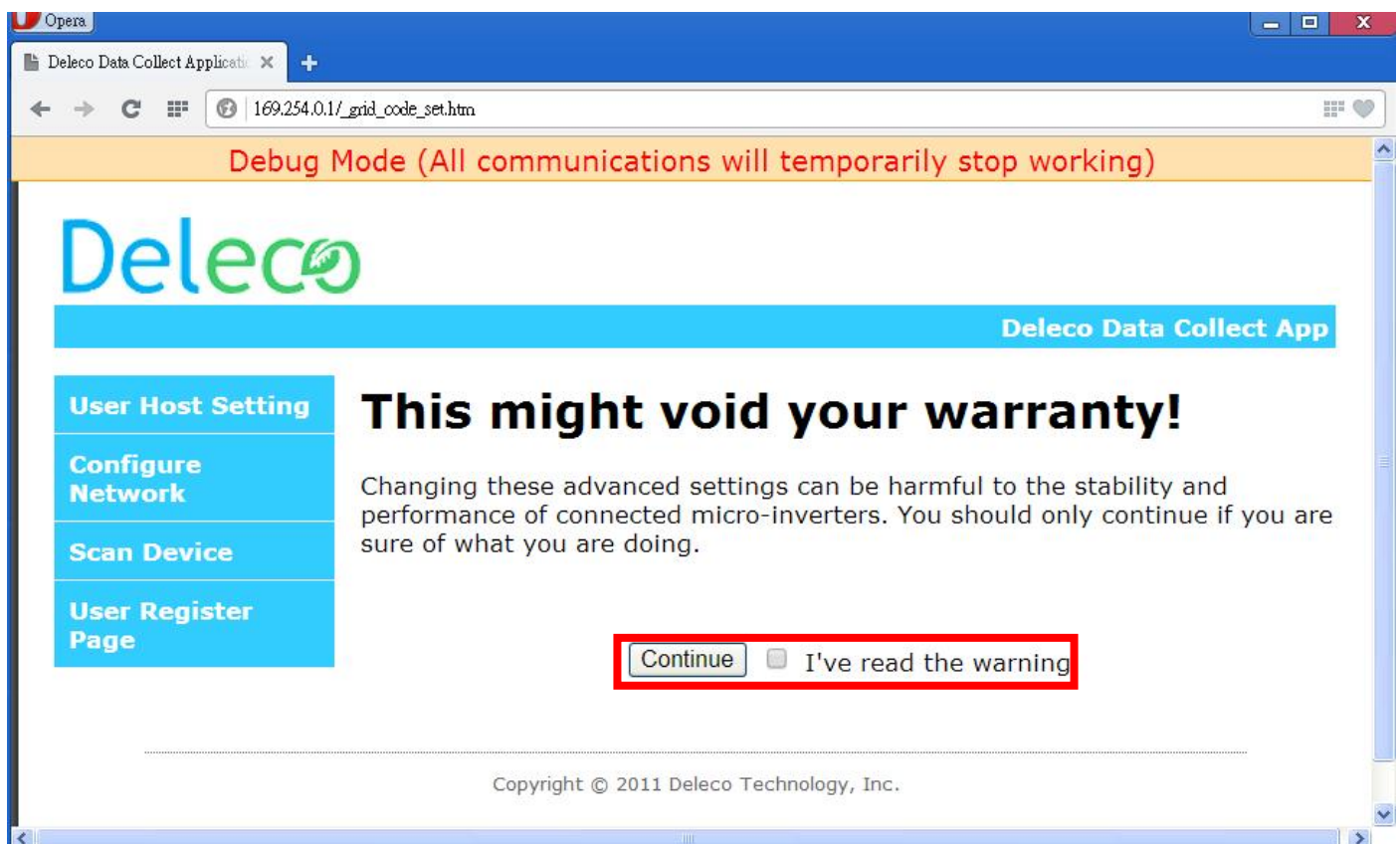
Step 2: In your PC side, open your web browser, and key-in the IP address as shown on Data Collector. Then, enter the Data Collector embedded web page.



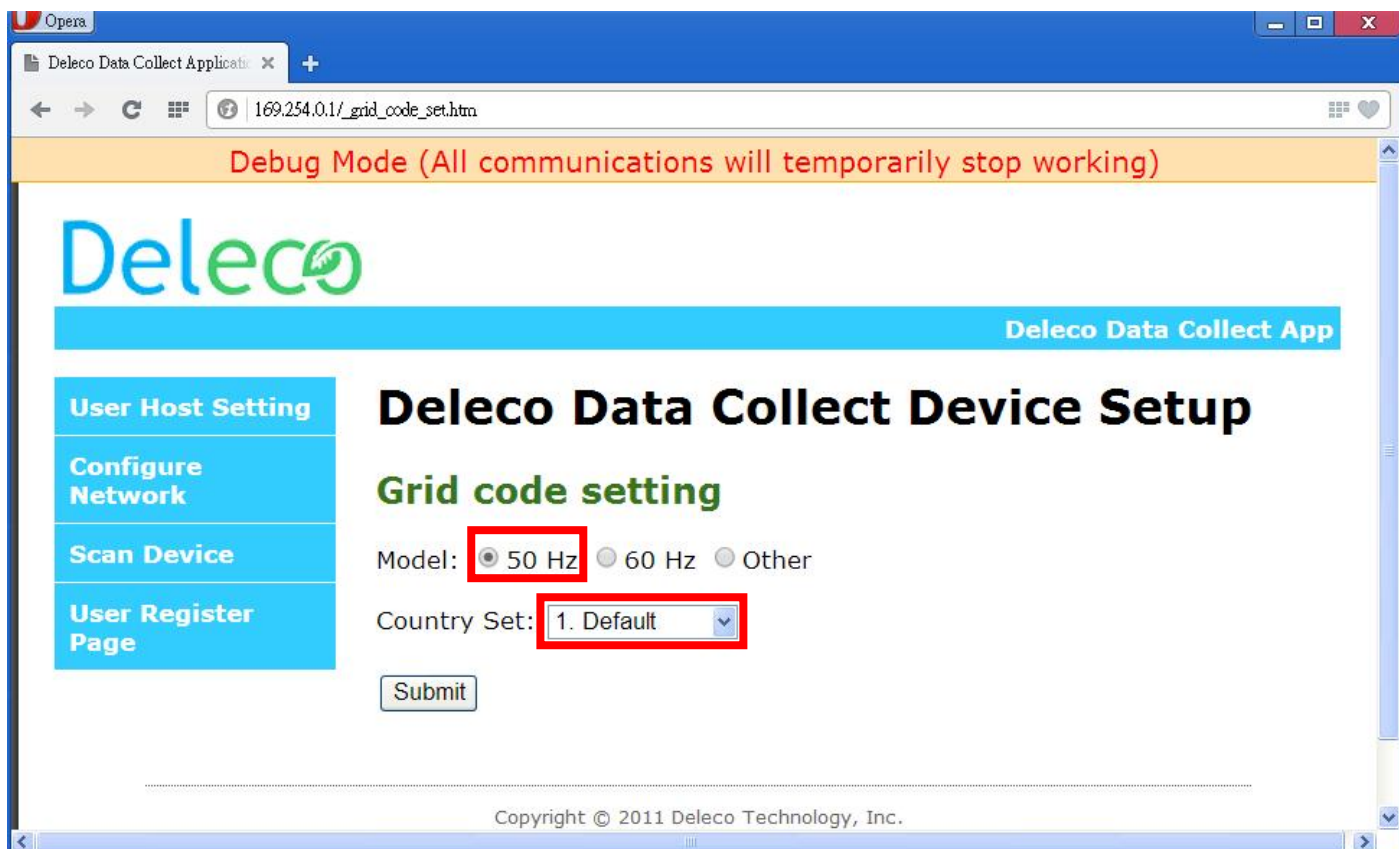
Step 3: Add the #1234 after the IP address.



Step 4: Read the warranty and click **“Continue”**.






Step 5: Enter the setting grid code page.

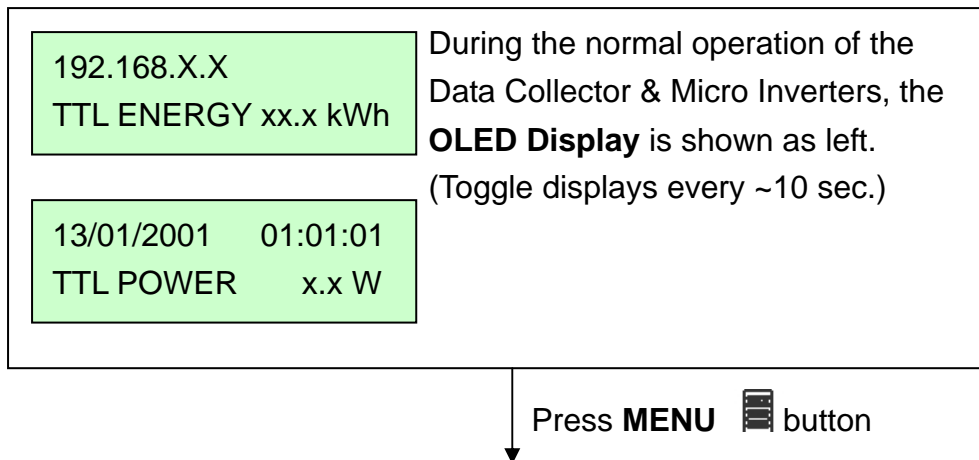



Step 6: Setting your grid code and Submit.



Structure of the OLED Display Menu

The buttons **MENU** , **DOWN**  and **SELECT**  are used to explore the menu on the **OLED** Display.



By pressing **MENU**  button during the normal operation, you can access the set up and informative screens about the **Data Collector**.

