

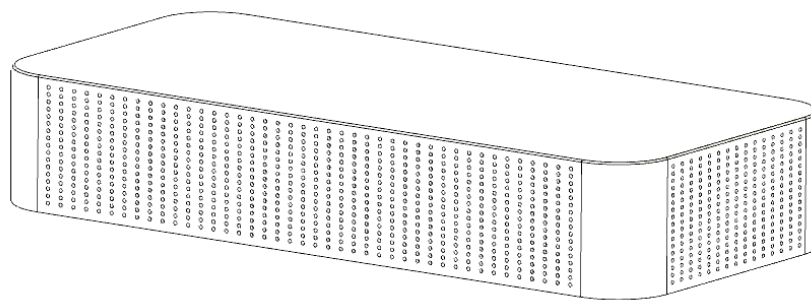


ReiriHome

Installation Manual

Model

DCPH01



ReiriHome is high performance smart controller that provides versatile smart ReiriHome solution to residential application. It offers full control of Daikin air-conditioning system & other connected smart ReiriHome devices in one screen through ReiriHome mobile App.

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Part 1 – Hardware Setup

1. Hardware Installation

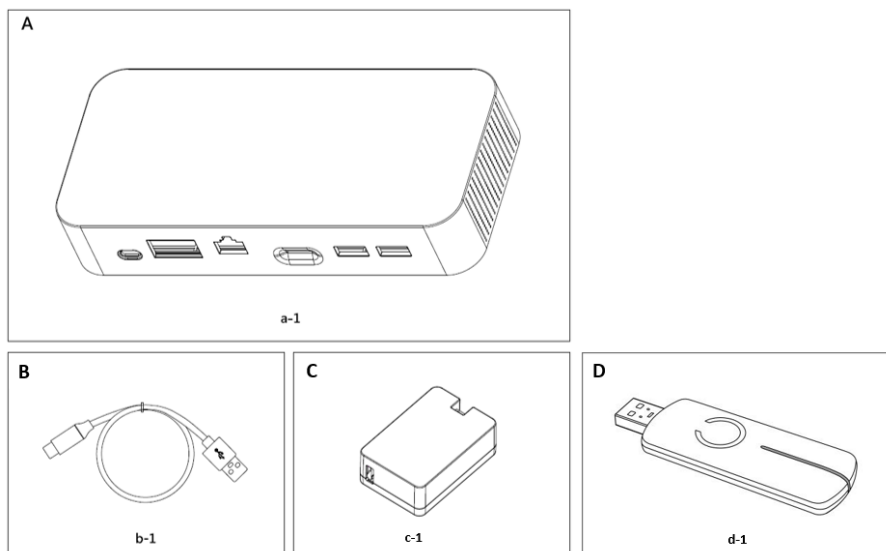
Before you start installing the ReiriHome, complete the following preparation.

- Check that the ReiriHome comes with all accessories.
- Confirm where the terminals and switches of the ReiriHome are located.
- Check that an appropriate space for installing the ReiriHome is available.

1.1 Checking that all accessories are included

Based on the following accessory list, check that all accessories for the ReiriHome are included. Should there be any missing or defective parts, contact your dealer where you have purchased the product.

<Accessories included with ReiriHome>

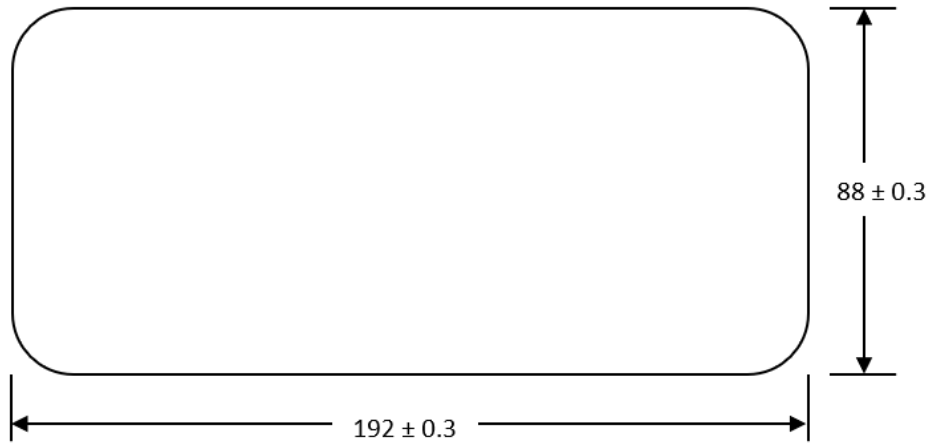


- A (a-1)** ReiriHome body (1 pc.)
- B (b-1)** USB A-USB C cable
- C (c-1)** AC-DC Power adapter
- D (d-1)** Aetotec Z-stick Gen 5+ (ZW090 A/B/C)

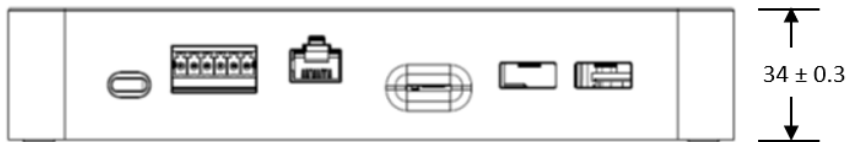
**NOTE: Aetotec Z-stick Gen 5+ (ZW090 A/B/C) shall be packed separately.*

1.2 Understanding external dimensions

- Home Top face



- Rear face of ReiriHome

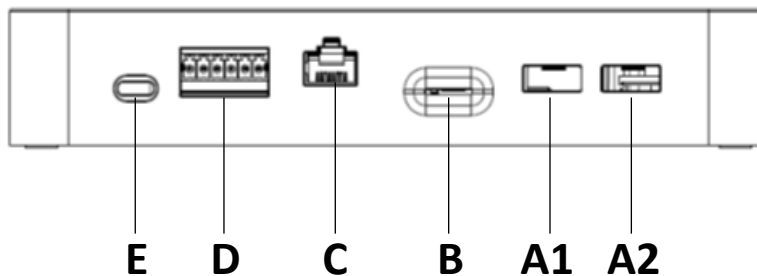


1.3 Understanding where terminal and switches are located

Understand the arrangement of terminals and the location of openings on the unit and plan how to route the cable and in which order to connect its wires to facilitate the installation procedure. For connection details including the cable type and terminal size, refer to “Chapter 2. Connection”.

1.3.1 Rear face

<Rear face of ReiriHome>



A1 [USB 2.0] 1st priority USB 2.0 Type A port.

A2 [USB 2.0] 2nd priority USB 2.0 Type A port.

B [SD Card] 1 Micro SD card port.

C [LAN] 1 GbE speed LAN

D [RS485] 2 x RS485, 6 pin terminal block connectors.

E [Type C] USB Type C power connector, 5V DC power input.

NOTE: Please connect all the necessary devices into the USB port **before powering on ReiriHome controller*

1.4 Determining installation place

Be sure to install the ReiriHome in a place that meets the condition described in 1.4.1 through 1.4.2 below.

1.4.1 Installation place and mounting direction

Below are the description of the installation place and mounting direction. Be sure to confirm.

- Installation place: Indoor, free from dust and water splashes
- Mounting direction: Horizontal

1.4.2 Environmental conditions

Make sure that the installation environment meets the following conditions:

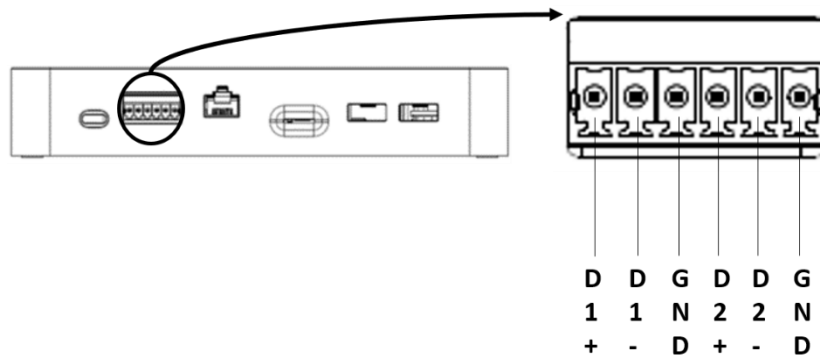
- The ambient temperature must be 0 to 40°C.
- The ambient humidity must be 85% RH or less (without condensation).
- There must be no electromagnetic disturbance.

2. Connection

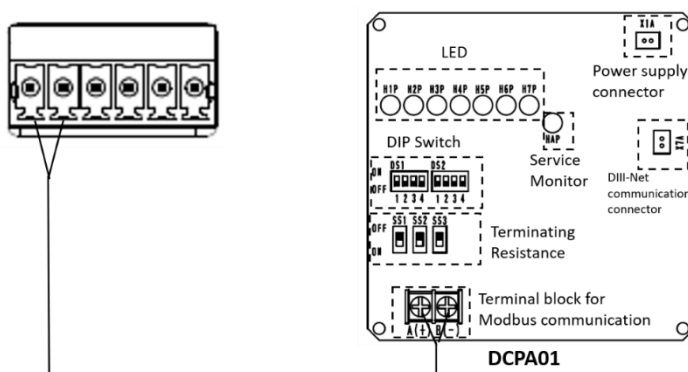
2.1 Connecting to DCPA01 through RS485

2.1.1 Terminals Location and Conceptual Diagram

To connect to DCPA01 through RS485, the D1+ & D1- (1st priority) and/or D2+ & D2- (2nd priority) ports are used.



Connect a pair of RS485 cable from the port to DCPA01 (Reiri Adaptor).



For more detailed description on DCPA01, please refer to “Chapter 4. DCPA01 Installation (to ODU/IDU).”

2.1.2 Requirements that must be met

Cable type: Twisted pair cables

- Core thickness: AWG 24 (0.25 mm²) to AWG 18 (0.75mm²)
- When using a shielded cable, connect only one end of each shield wire to the ground
- The maximum wire distance must be kept to 200m

2.2 Connecting a LAN cable

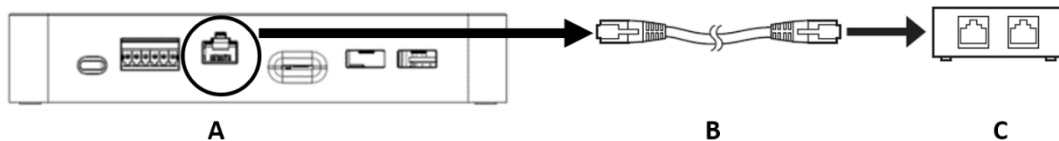
Connecting ReiriHome controller to router with LAN cable enables the user to:

1. Use the controller via ReiriHome app
2. Set up the controller via Reiri Setup Tool
3. Control WAGO devices

2.2.1 Terminal Location and Conceptual Connection Diagram

Using a LAN cable, connect the LAN socket to the router.

(*NOTE: WiFi connection is also possible)



A LAN socket

B LAN cable

C Router

2.2.2 Requirements that must be met

- Applicable cable standard: CAT 5/5e/6
- Connector standard: RJ-45

2.3 Connecting to Modbus devices

2.3.1 Direct RS485 Port

ReiriHome comes with 2 sets of direct RS485 ports for connecting to Modbus devices. The 2 direct RS485 ports have polarity (+ and -) and needs to be connected in the correct order. Please refer to section 2.1.1 for the polarity of the RS485 ports.

2.3.2 USB Ports

ReiriHome comes with 2 USB ports for connection of 1 USB Z-Wave dongle (port A1) and up to 1 RS485/USB convertor (port A2) should the direct RS485 ports be fully utilized.

<How to use RS485/USB ports>

Step 1: Connect RS485 cable from Modbus device to a RS485/USB converter

Step 2: Insert RS485/USB converter (CH341-S*) to USB port A2 (2nd priority) of ReiriHome (Refer to section 1.3.1 to understand the USB ports' priorities)

**NOTE: DHOS will offer USB/RS485 converter CH341-S as an optional accessory. Affiliates may purchase this converter from DHOS or source locally.*

2.4 Connecting to Z-Wave devices

1. Connect USB Z-Wave dongle into the USB port A1 (1st priority).
2. Carry out pairing of Z-Wave devices in Reiri Setup Tool (Refer to section 3.8 for details to pair Z-Wave devices on Reiri Setup Tool)

Part 2 – Reiri Controller Setup

3. Reiri Controller Setup

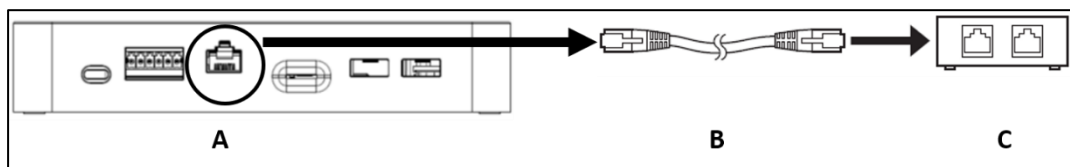
Reiri controller will need to be activated and configured before user can utilize the application. The controller setup will be performed in the following steps.

- 1) Hardware preparation for the controller – Chapter 3.1
- 2) Set up and activate controller using Reiri Setup Tool app – Chapter 3.2
- 3) Connection settings for compatible devices. – Chapter 3.3
Perform hardware settings on devices and settings to connect the devices to Reiri controller.
- 4) Customise the point attributes for the projects. – Chapter 3.4

3.1 Hardware Preparation

Reiri controller will require connection to router with internet access for activation.

Connect Reiri controller to router as shown below:



Connect the one end of LAN cable to LAN port, the other end to the router.

- A** - RJ45 LAN Port
- B** - CAT 5/5e/6 LAN cable
- C** – Router (connecting to the internet)

Connect the provided USB A to the USB-C power cable to the power adaptor and switch on the power.

3.2 Controller Setup

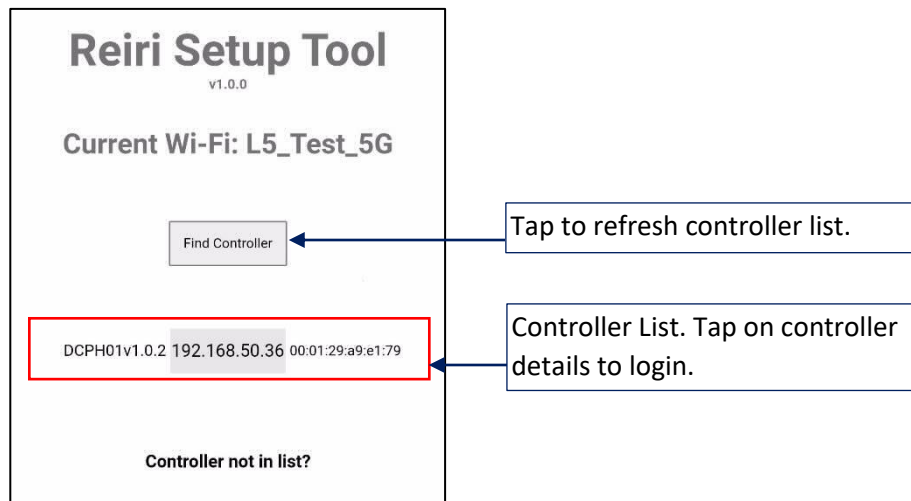
Setting up of controller requires the Reiri Setup Tool app. Download Reiri Setup Tool from Google Play Store or Apple Store. Use the app to activate and setup the controller (user accounts, name of controller, network access, date, and time).

QR code link to download app:

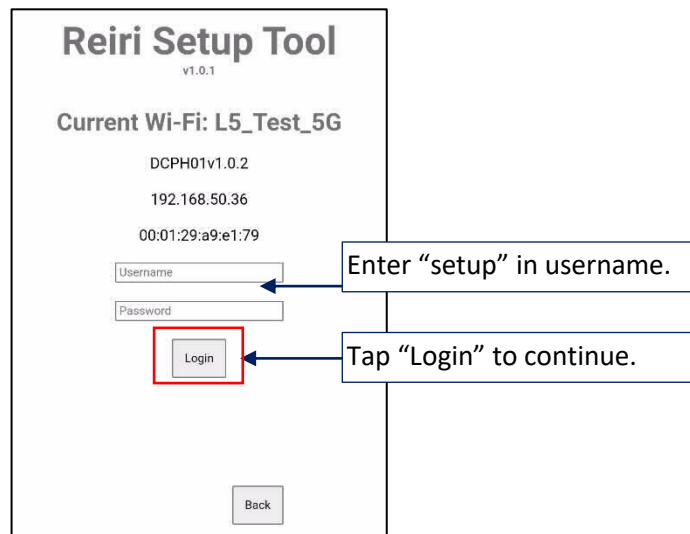


- a) Connect the smartphone by WiFi to the router with internet access.
- b) Launch the app.
- c) Reiri Setup Tool start up page will show up. Tap on target controller to login. If the controller is not shown, check the following:
 - Wait for controller to fully boot up (approximately 2 minutes)
 - Ensure router and network are working
 - Ensure Smartphone is connected to the correct WiFi network

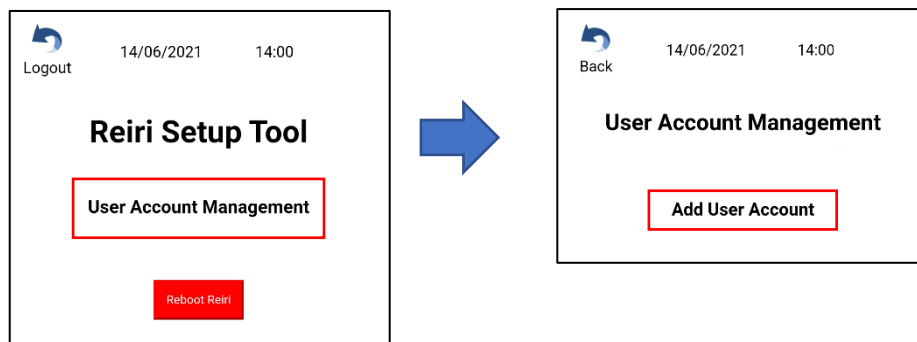
Tap “Find Controller” after checks are done to refresh the controller list.



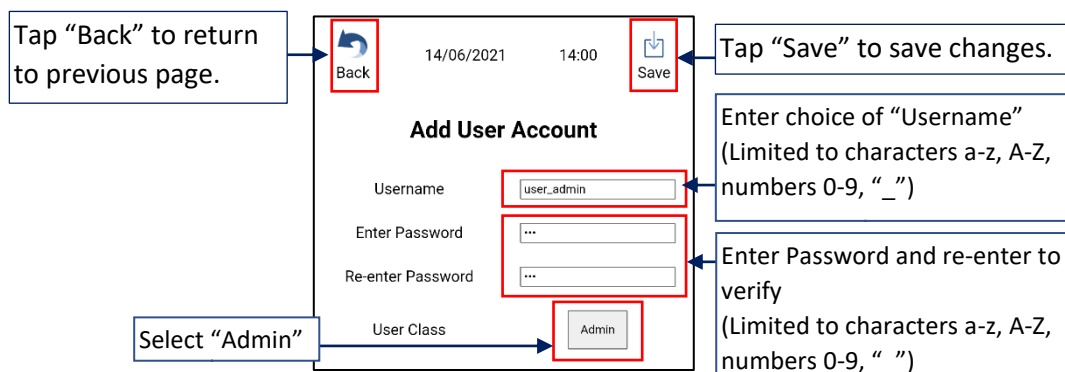
- d) Login to the Reiri controller with username and password. For first time login, use “setup” as username and no password. This special account will disappear once a user account is created.



- e) Tap “User Account Management” then “Add User Account” to create first admin account.

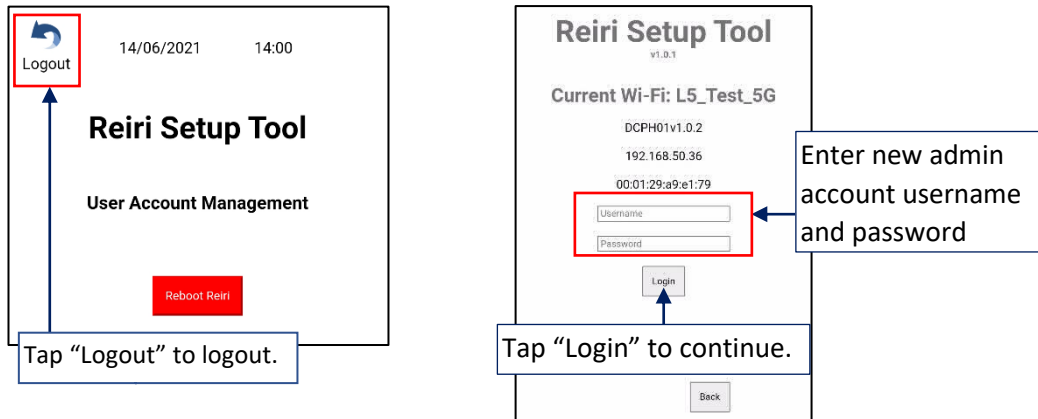


- f) Enter new admin username and password. Save and return to previous page.

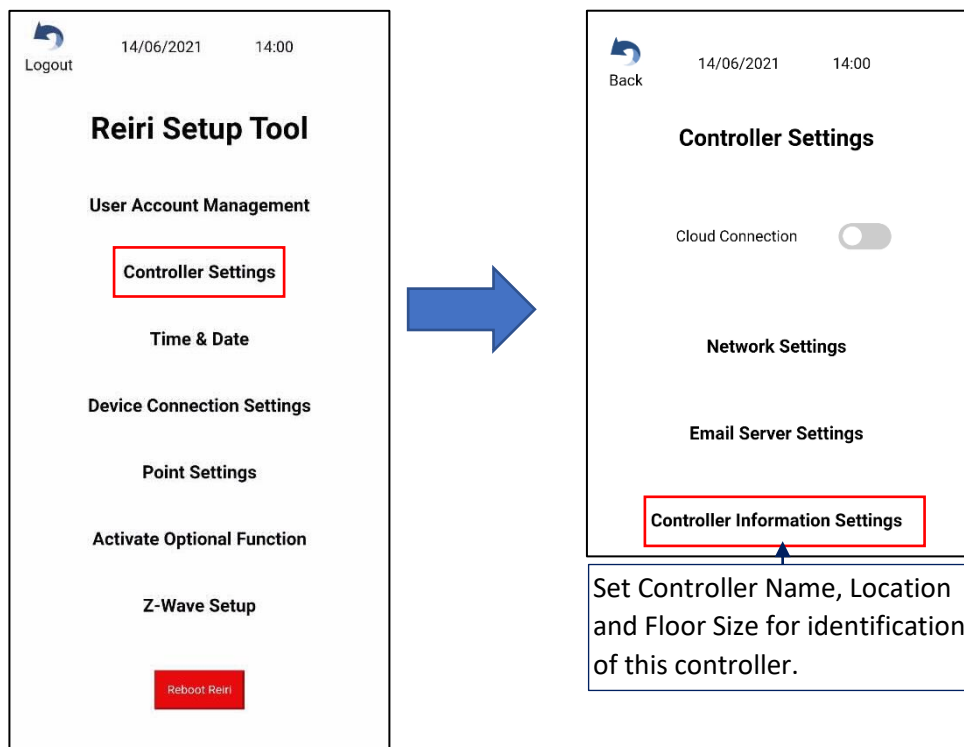


**NOTE: Create at least 2 admin accounts. One for engineer to setup and maintain the controller. The other is for customer use. The engineer’s admin account can be used to save the customer’s account should the customer forget the password.*

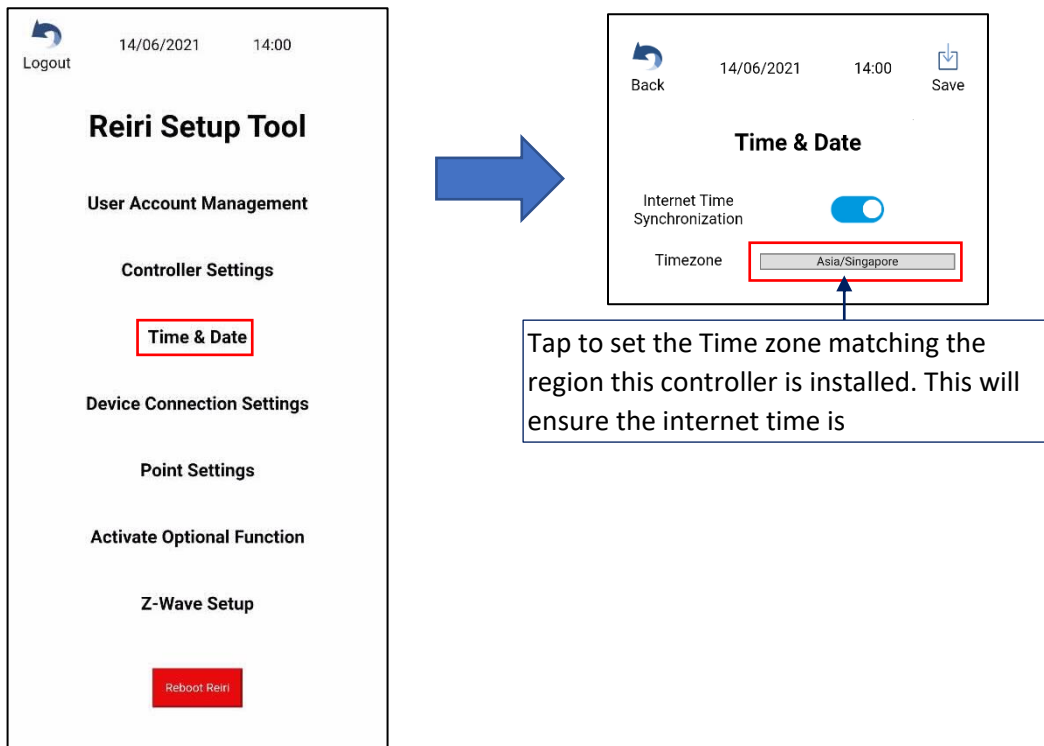
g) Logout of Reiri Setup tool and login again using newly created admin account.



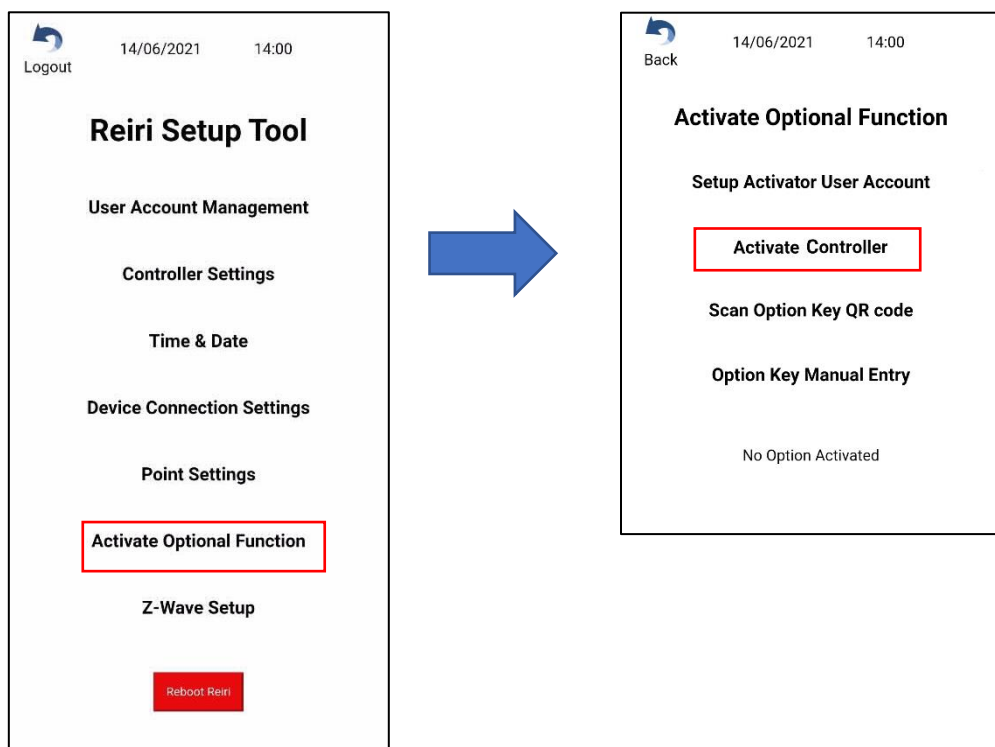
h) Controller settings is important for the setting the identification of this controller in Reiri user app. Tap "Controller Settings" in the main menu after login. Refer to "Chapter 3.5.2 Controller Settings" for details.



- i) Time and Date settings are important to ensure that the time zone, time and date are correctly set for time-based information such as history, scheduling, etc. Tap on “Time & Date” to enter. Refer to “Chapter 3.5.3 Time and Date” for details.

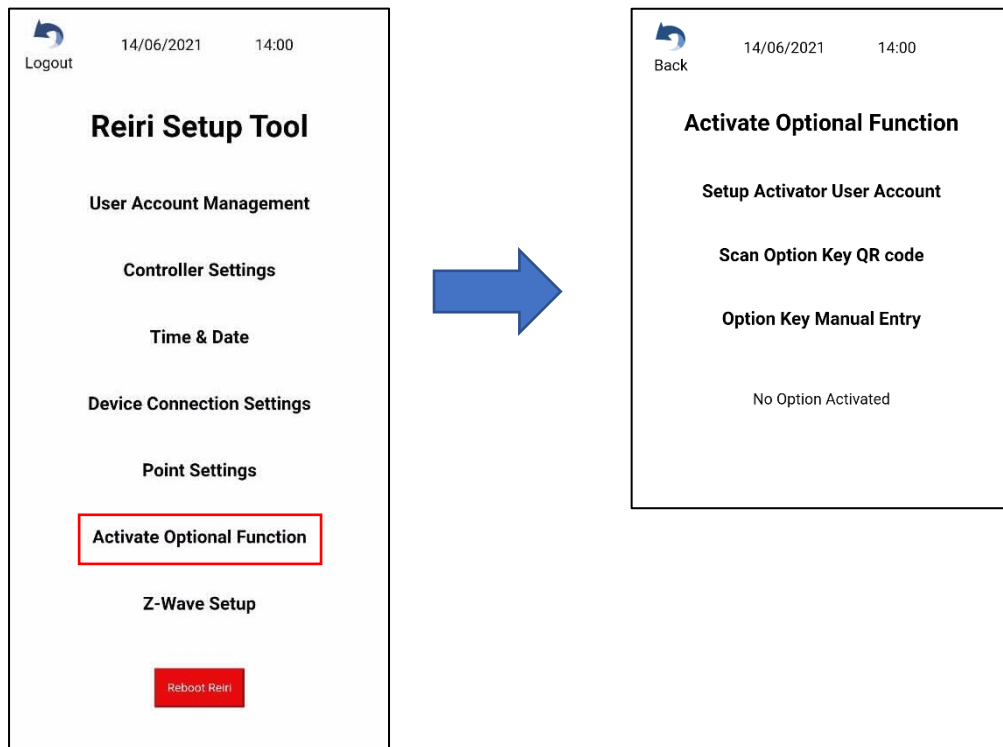


- j) Activate controller to release the controller for use by user app. Tap on “Activate Controller” to enter. Refer to “Chapter 3.5.4 Activate Optional Function” for details.



- k) In case optional function is used, this step is necessary. Tap on “Activate Optional Function” to enter. Refer to “Chapter **Error! Reference source not found.**” for details.

**NOTE: If internet connection cannot be prepared at customer’s site, “Chapter 3.5.4 Activate Optional Function” can be done at other locations where access to internet is available. Bring controller back to customer site after completion of “Chapter 3.5.4 Activate Optional Function” setup.*

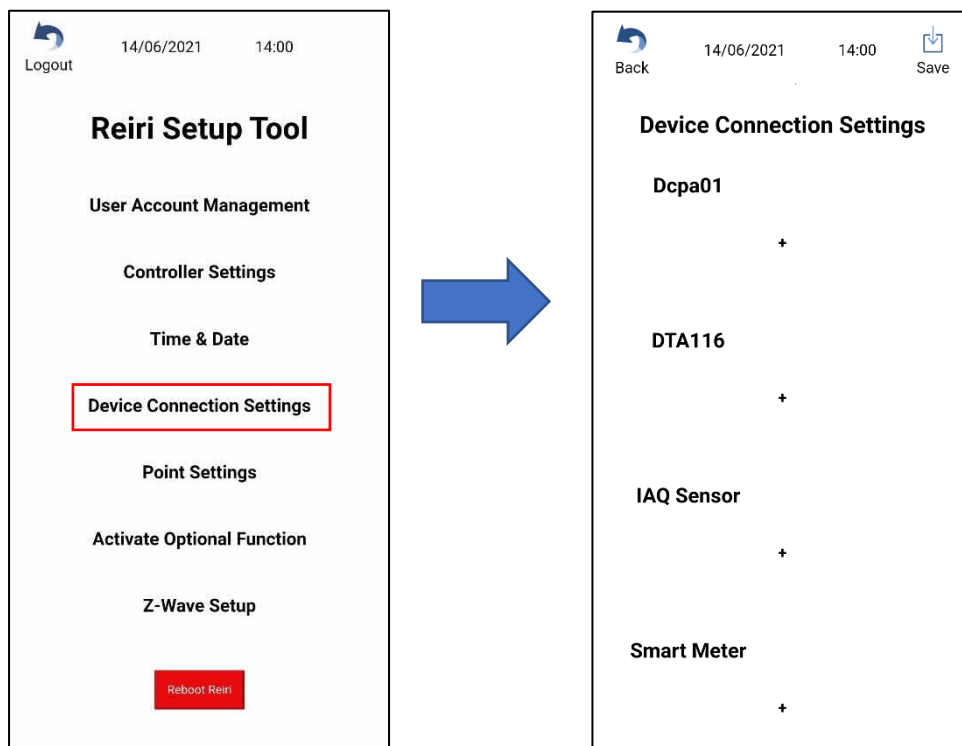


- l) Controller basic setup is about to complete. Proceed to “Chapter 3.3 Connection Settings for Compatible Devices” for compatible devices to learn about the Reiri connection with external devices.

3.3 Connection Settings for Compatible Devices

Reiri controller can connect to various devices and each device will need to be paired with Reiri to work. Device Connection Settings will enable devices to pair to Reiri (based on the device type). “Chapter 3.6 Reiri Setup Tool - Device Connection Settings” will show in detail the pairing of the devices with the Reiri Setup Tool.

**NOTE: Connect any USB adaptors in order of priority listed. If USB adaptor is unplugged in any instance, save any processes and power off the Reiri controller. Plug the USB adaptor back and power back the controller.*



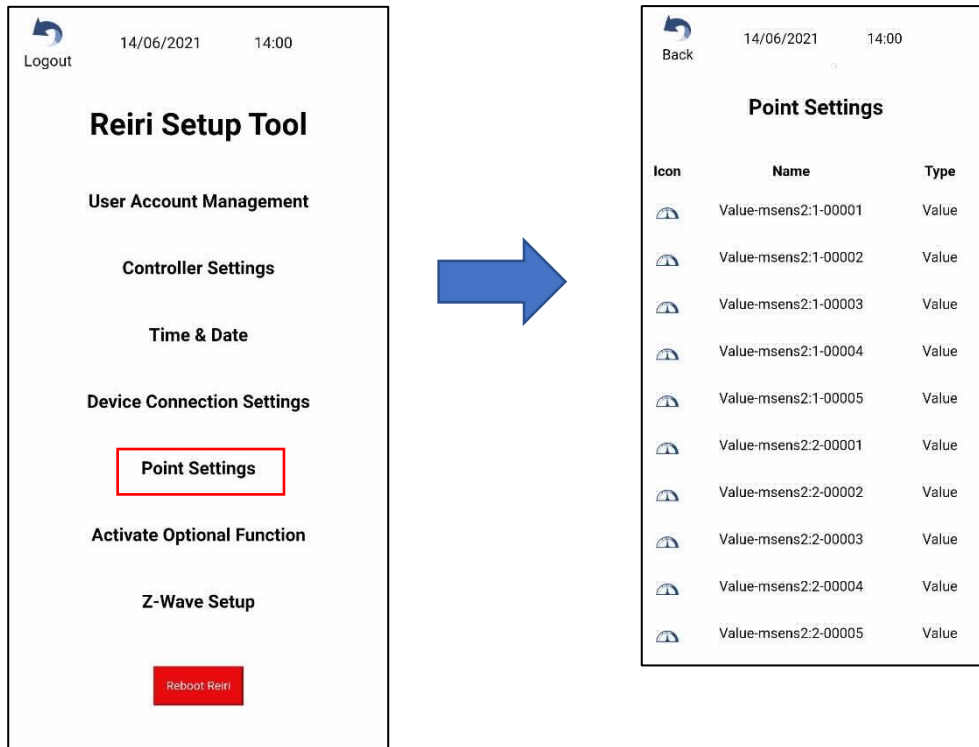
For ReiriHome, these are the connectable devices:

1. DCPA01 / DTA116A51 for DIII-Net enabled air-conditioning Systems.
2. IAQ Sensors (Reiri IAQ Multi-Sensors) for indoor air quality monitoring.
3. Smart Power Meters for energy management.
4. WAGO I/O modules for third party simple DIO/AIO or DALI lighting control.
5. D-Mobile for WiFi control of Daikin residential / SkyAir series air-conditioner.
6. Z-Wave for Smart ReiriHome monitoring and control.
7. DAMA Module for alternate WiFi control of Daikin residential / SkyAir series air-conditioner.

After device connection settings have been completed, reboot the controller and proceed to customise point attributes.

3.4 Customise Point Attributes

Management points are information that can be used by Reiri for display and/or operational uses. Different devices provide various types of information forming the points. Points will need to be customised to identify the use easily. “Chapter 3.7 Point Settings” will explain the point attributes for customisation.



After the points settings have been completed, the setup of the controller has completed. All changes will be reflected after a reboot of the controller.

3.5 Reiri Setup Tool Functions

3.5.1 User Account Management

Add User Account

This function creates new accounts for users to access Reiri. There are 2 account classes that can be created in Reiri Setup Tool – Admin and Service.

Admin class is administrator for the controller. Account holder can login to app to use all functions and points.

Service class is used when other ReiriHome controller access ReiriHome using “Reiri Controller” function.

**NOTE: Admin account can also be created in the user app.*

The image shows two screenshots of the 'Add User Account' process. The first screenshot shows the 'User Account Management' menu with 'Add User Account' highlighted. The second screenshot shows the 'Add User Account' form with fields for Username, Enter Password, Re-enter Password, and User Class (Admin/Service), and a Save button.

1. Tap “Add User Account.”
2. Enter Username (Limited to characters a-z, A-Z, numbers 0-9, “ _”)
3. Enter Password and re-enter to verify (Limited to characters a-z, A-Z, numbers 0-9, “ _”)
4. Select “Admin” or “Service”.
5. Tap “Save” to save changes

Service Class Settings

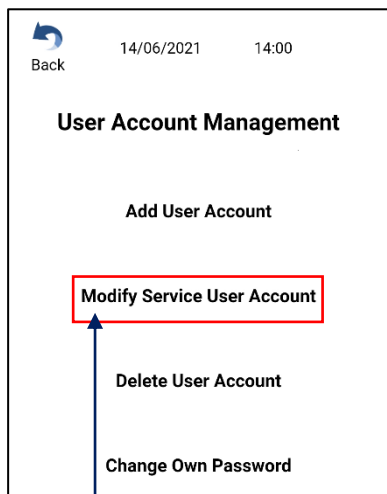
The image shows two screenshots of the 'Add User Account' form with the 'Service' class selected. The first screenshot shows a list of point names and types. The second screenshot shows the same list with some points highlighted in blue, indicating they are selected for the service account.

4.1 Tap on point name(s) to select them to be assigned to the service account. Tap on point name(s) to unselect.

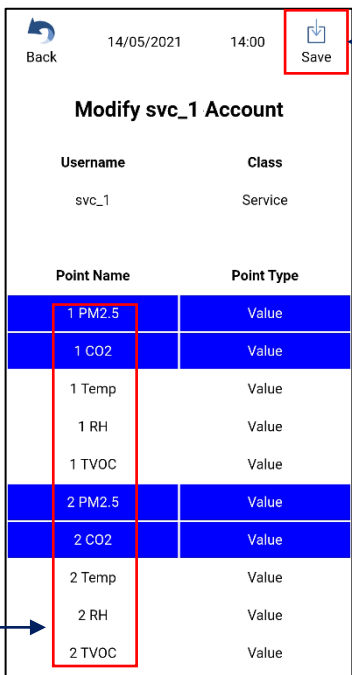
Point Name	Point Type
1 PM2.5	Value
1 CO2	Value
1 Temp	Value
1 RH	Value
1 TVOC	Value
2 PM2.5	Value
2 CO2	Value
2 Temp	Value
2 RH	Value

Modify Service User Account

This function edits the paired management points to a service account.



1. Tap "Modify Service User Account".



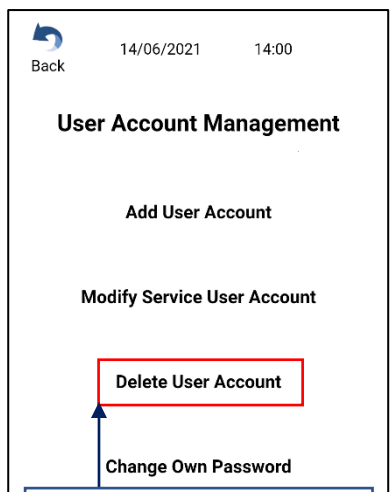
3. Tap "Save" to save changes

Point Name	Point Type
1 PM2.5	Value
1 CO2	Value
1 Temp	Value
1 RH	Value
1 TVOC	Value
2 PM2.5	Value
2 CO2	Value
2 Temp	Value
2 RH	Value
2 TVOC	Value

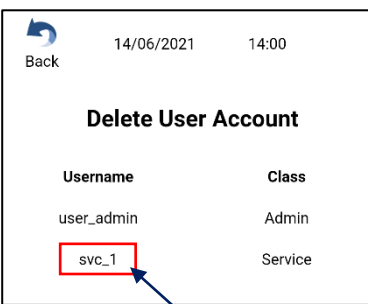
2. Tap on point name(s) to select them to be assigned to the service account. Tap on selected point name(s) to unselect.

Delete User Account

Remove users that are no longer need access to the Reiri controller.



1. Tap "Delete User Account".



2. Tap on username to delete.
3. Confirm when prompt pops up.

Change Own Password

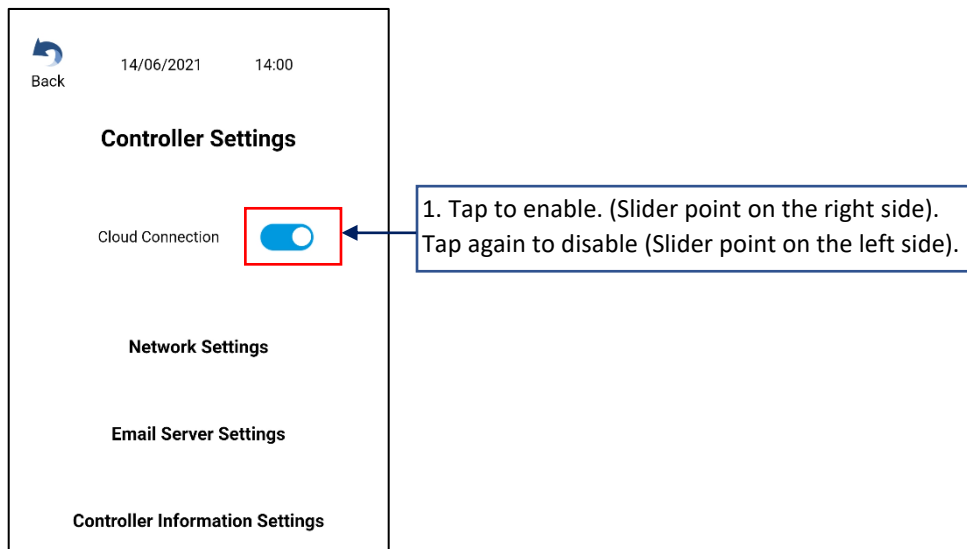
Only logged in user can change the account password.

The image contains two screenshots of a mobile application interface, illustrating the steps to change a password. The first screenshot shows the 'User Account Management' screen with a 'Back' button, date '14/06/2021', and time '14:00'. The screen lists options: 'Add User Account', 'Modify Service User Account', 'Delete User Account', and 'Change Own Password'. The 'Change Own Password' option is highlighted with a red box. A blue box with an arrow points to it, containing the text: '1. Tap "Change Own Password".'. The second screenshot shows the 'Change Own Password' screen with the same header. It features two input fields: 'Enter Password' and 'Re-enter Password'. A 'Save' button is located in the top right corner, highlighted with a red box. A blue box with an arrow points to it, containing the text: '3. Tap "Save" to save changes.'. A second blue box with an arrow points to the input fields, containing the text: '2. Type in the new password twice to verify the entry. (Limited to characters a-z, A-Z, numbers 0-9, "_")'.

3.5.2 Controller Settings

Cloud connection

When enabled, ReiriHome app can connect this controller from anywhere through the internet. If Cloud connection is disabled – app connects to this controller by Local Area Network (LAN). Recommend to enable.



This setting will only take effect after a reboot.

**NOTE: Internet access MUST always be available on the connected network for Cloud Connection to be activated and for continual use.*

Network setting

By default, network setting is automatically determined. No changes required.
Set to WiFi mode when this controller is required to connect LAN by WiFi.
Set to Static mode when required by customer due to network limitations.

WiFi Mode

The first screenshot shows the 'Network Settings' screen with 'Wired' selected under 'Connection Type' and 'Auto' under 'Connection Mode'. A red box highlights 'Wired' and an arrow points to a callout box: '1. Tap "Wired" to change to "Wifi".' The second screenshot shows 'Wi-Fi' selected under 'Connection Type' and 'Auto' under 'Connection Mode'. The 'SSID (Wi-Fi)' and 'Password (Wi-Fi)' fields are highlighted with red boxes, with a callout box: '2. Fill in WiFi SSID and password.' The 'Save' button in the top right is also highlighted with a red box and a callout box: '3. Tap "Save" to save changes.'

This setting will only take effect after a reboot.

Static IP Settings – Wired

For static IP settings, get the static address, subnet mask, gateway, DNS of the LAN from a person who manage this LAN.

Otherwise, refer "Chapter 7. Finding Network Information (Gateway, DNS, Subnet)"

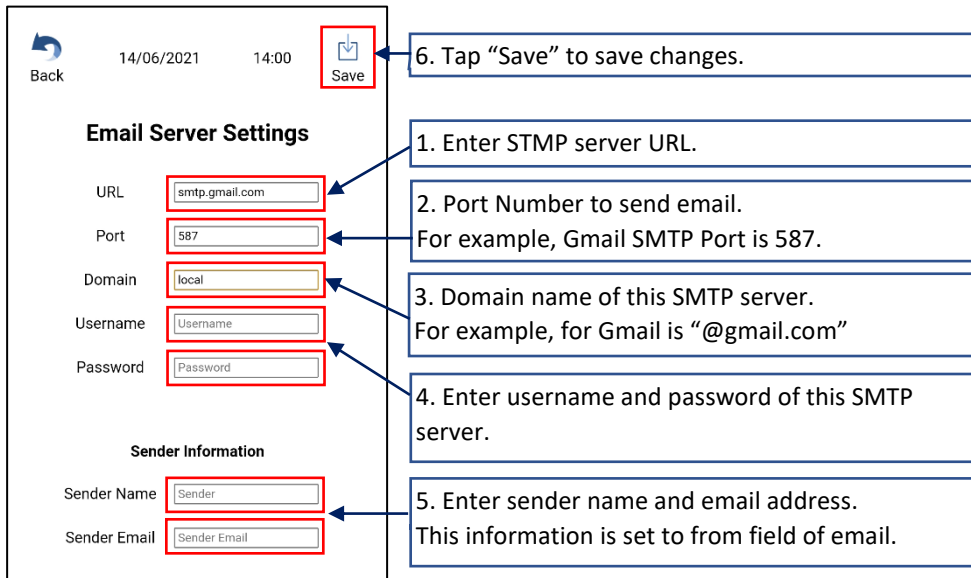
The first screenshot shows 'Wired' selected under 'Connection Type' and 'Auto' under 'Connection Mode'. A red box highlights 'Auto' and an arrow points to a callout box: '1. Tap "Auto" to change to "Static".' The second screenshot shows 'Wired' selected under 'Connection Type' and 'Static' under 'Connection Mode'. The 'IP Address', 'Subnet Mask', 'Gateway', and 'DNS' fields are highlighted with red boxes, with callout boxes: '2. Enter given static IP Address and subnet mask.', '3. Enter Gateway address. (Usually is router address)', and '4. Enter DNS.' The 'Save' button in the top right is also highlighted with a red box and a callout box: '5. Tap "Save" to save changes.'

This setting will only take effect after a reboot.

Email server setting

This is the setting of email server details to allow the Reiri controller to send the error notifications out by Email.

Obtain the email server URL, port, domain, username and password of the person managing the network.

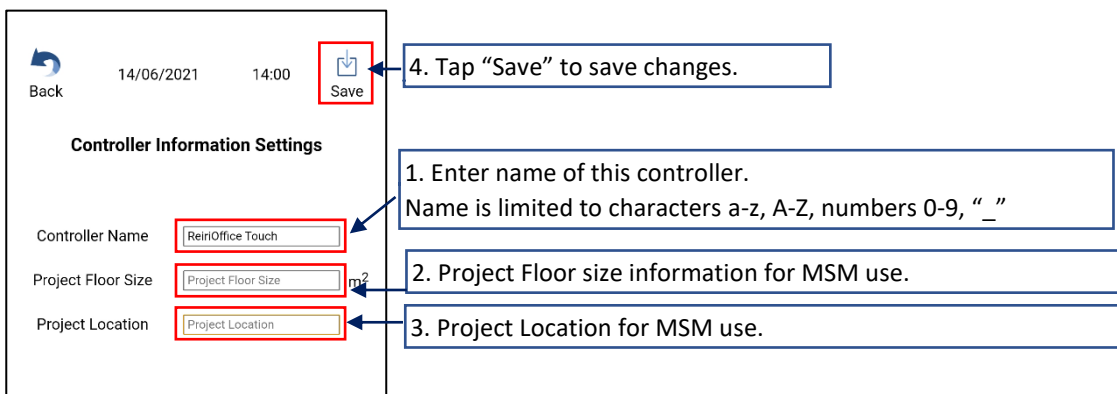


The screenshot shows the 'Email Server Settings' screen. At the top, there is a 'Back' button, the date '14/06/2021', the time '14:00', and a 'Save' button. Below this, the settings are organized into two sections: 'Email Server Settings' and 'Sender Information'. The 'Email Server Settings' section includes fields for URL (smtp.gmail.com), Port (587), Domain (local), Username (Username), and Password (Password). The 'Sender Information' section includes fields for Sender Name (Sender) and Sender Email (Sender Email). Red boxes highlight each of these input fields. Blue callout boxes with arrows point to each field, providing instructions: 1. Enter SMTP server URL. 2. Port Number to send email. For example, Gmail SMTP Port is 587. 3. Domain name of this SMTP server. For example, for Gmail is "@gmail.com". 4. Enter username and password of this SMTP server. 5. Enter sender name and email address. This information is set to from field of email. 6. Tap "Save" to save changes.

This setting will only take effect after a reboot.

Controller Information Setting

This function adds information to identify the controller easily at login screen and in Multi-Site Management (MSM).



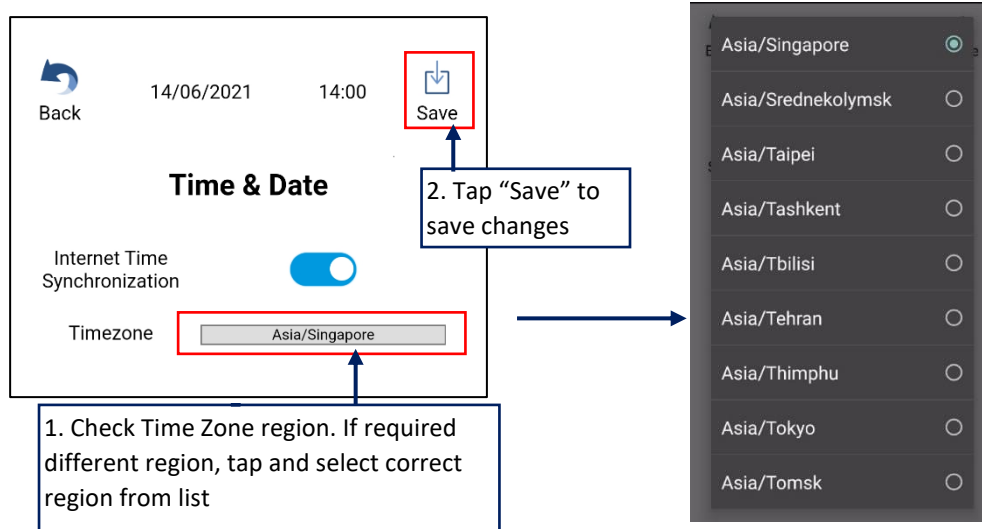
The screenshot shows the 'Controller Information Settings' screen. At the top, there is a 'Back' button, the date '14/06/2021', the time '14:00', and a 'Save' button. Below this, the settings are organized into a single section: 'Controller Information Settings'. This section includes fields for Controller Name (ReiriOffice Touch), Project Floor Size (Project Floor Size) m², and Project Location (Project Location). Red boxes highlight each of these input fields. Blue callout boxes with arrows point to each field, providing instructions: 1. Enter name of this controller. Name is limited to characters a-z, A-Z, numbers 0-9, "_". 2. Project Floor size information for MSM use. 3. Project Location for MSM use. 4. Tap "Save" to save changes.

This setting will only take effect after a reboot.

3.5.3 Time and Date

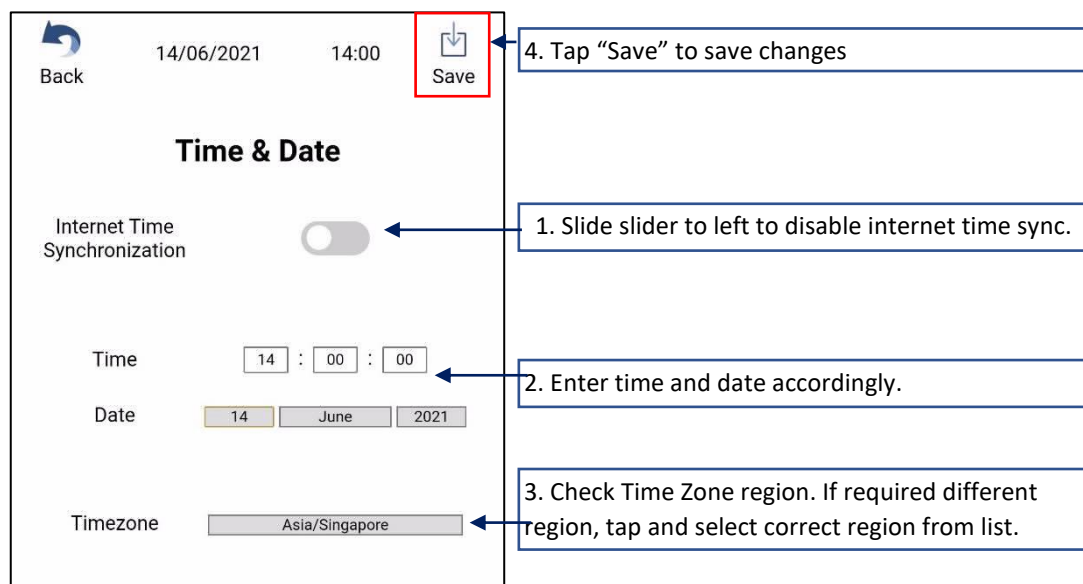
Time and Date settings to allow controller's time to be accurate and hence able to run schedules on time. Check the time zone for an accurate representation of the region the controller is installed.

Internet Time Synchronization allows time sync with Internet Time Servers for accuracy (Default: Enabled)



**NOTE: Internet access MUST always be available on the connected network for Internet Time Synchronization with Internet Time Server.*

If controller have no internet access / cannot access internet time servers, user can manually set the date and time.



This setting will only take effect after a reboot.

3.5.4 Activate Optional Function

**NOTE: If internet connection cannot be prepared at customer's site, "Chapter 3.5.4 Activate Optional Function" can be done at other locations where access to internet is available. Bring controller back to customer site after completion of "Chapter 3.5.4 Activate Optional Function".*

1) Set Activator Account

An activator account has to be set to activate the controller and other optional software.

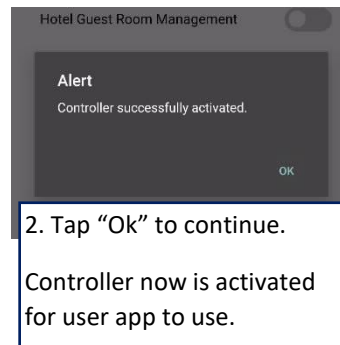
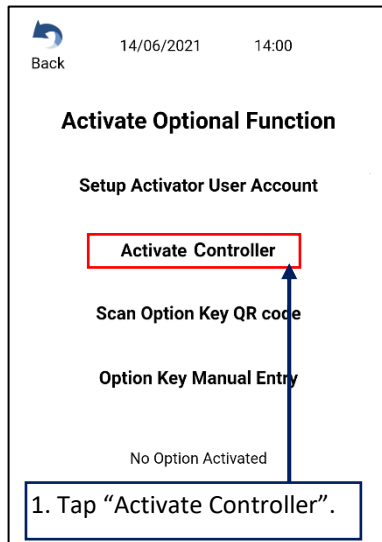
Get the activator account information from your local Daikin sales office.

The image displays two sequential screenshots of a mobile application interface for setting an activator account. Both screenshots show a status bar at the top with a 'Back' button, the date '14/06/2021', and the time '14:00'.
The first screenshot, titled 'Activate Optional Function', lists several options: 'Setup Activator User Account', 'Activate Controller', 'Scan Option Key QR code', 'Option Key Manual Entry', and 'No Option Activated'. A red box highlights the 'Setup Activator User Account' option, and a blue arrow points to it from a callout box below. The callout box contains the instruction: '1. Tap "Setup Activator User Account" to open the input field.'
The second screenshot shows the 'Setup Activator User Account' screen. It features a 'Back' button, a 'Hide Activator user Account' button, and two input fields labeled 'Username' and 'Password'. Below these are the same menu options as the first screenshot: 'Activate Controller', 'Scan Option Key QR code', 'Option Key Manual Entry', and 'No Option Activated'. A red box highlights the 'Hide Activator user Account' button, and a blue arrow points to it from a callout box to the right. Another red box highlights the 'Username' and 'Password' input fields, with a blue arrow pointing to them from a callout box below. The callout box below the input fields contains the instruction: '2. Enter given activator account username and password.'
A third callout box to the right of the 'Hide Activator user Account' button contains the instruction: '3. Tap "Hide Activator user Account" to close the input field.'

2) Activate Controller

This function is to activate the controller to use with the user app.

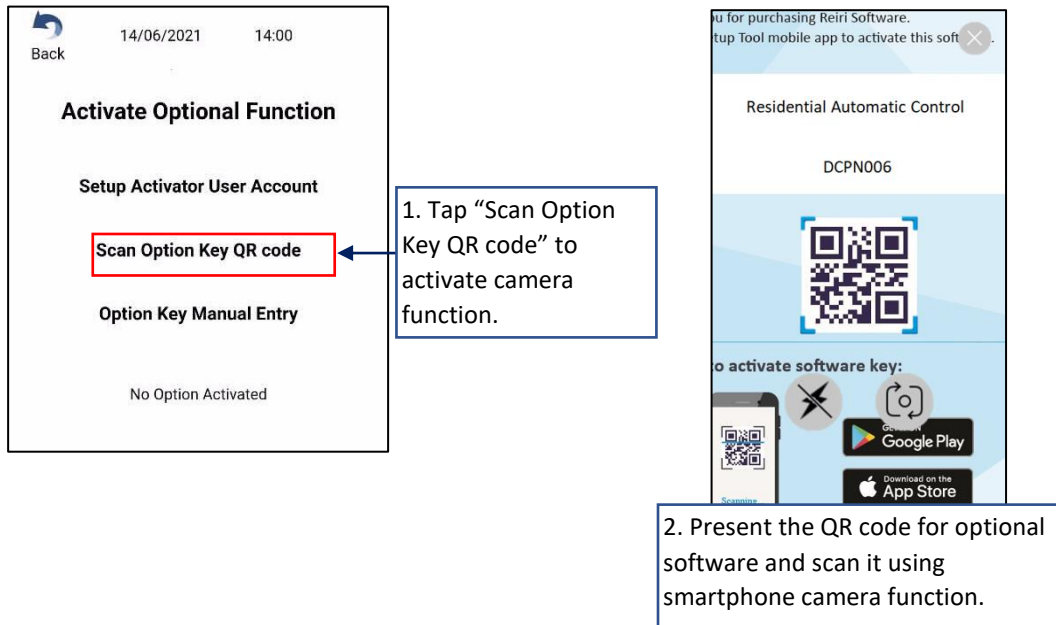
**NOTE: Internet access MUST be available on the connected network for activation.*



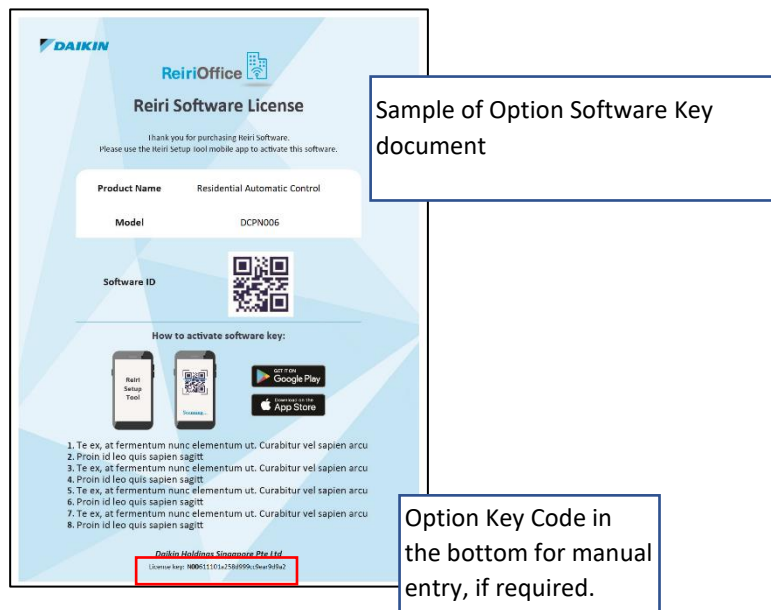
3) Activate Optional Function

This function is to activate add-on option features. Certain options are natively available for the Reiri controller. A QR code will be provided for each option package. To activate option feature, this QR code has to be scanned first. Then tap scanned software ID to activate the option.

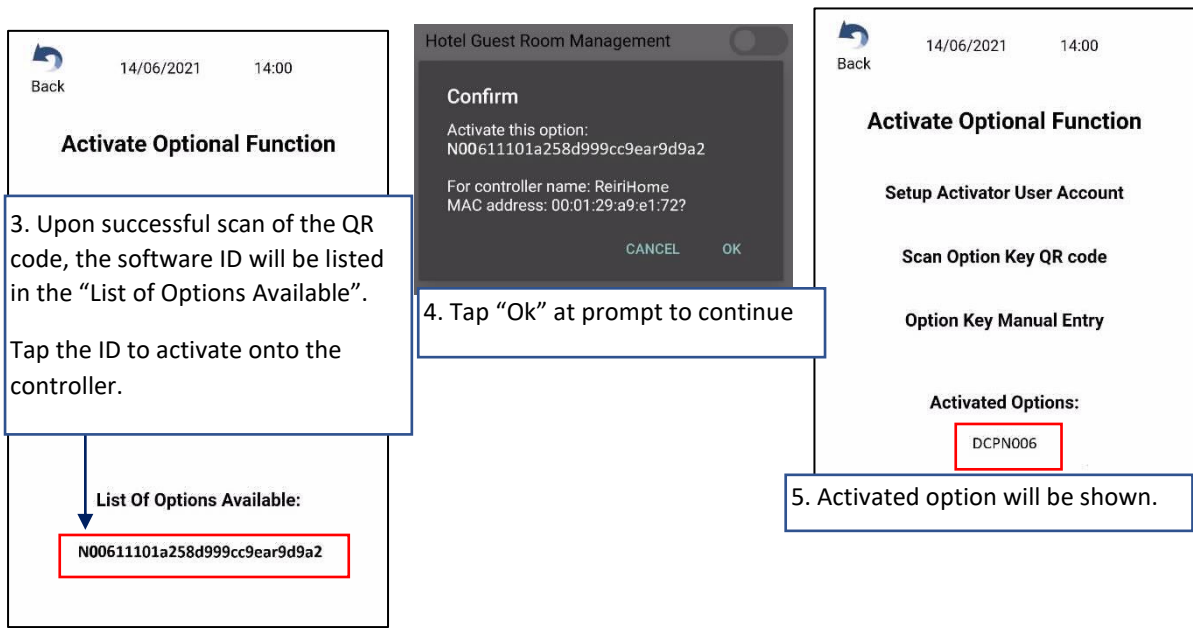
**NOTE: Internet access MUST be available when activating options.*



The image shows two screenshots from a mobile application. The left screenshot is titled "Activate Optional Function" and has a date of 14/06/2021 at 14:00. It features a "Back" button, a "Setup Activator User Account" section, and three options: "Scan Option Key QR code" (highlighted with a red box), "Option Key Manual Entry", and "No Option Activated". A blue callout box with an arrow points to the "Scan Option Key QR code" option, containing the text: "1. Tap 'Scan Option Key QR code' to activate camera function." The right screenshot shows a QR code for software activation. Above the QR code, it says "Residential Automatic Control" and "DCPN006". Below the QR code, it says "to activate software key:" and shows icons for "Reiri Setup Tool" and "Scan QR code". At the bottom, there are buttons for "Google Play" and "Download on the App Store". A blue callout box below this screenshot contains the text: "2. Present the QR code for optional software and scan it using smartphone camera function."

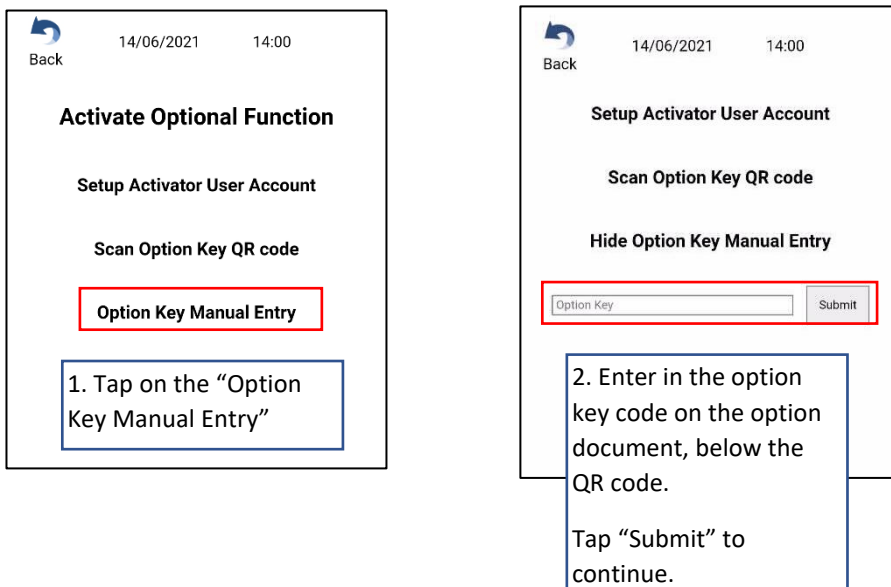


The image shows a "Reiri Software License" document from DAIKIN. It includes the DAIKIN logo and "ReiriOffice" branding. The document states: "Thank you for purchasing Reiri Software. Please use the Reiri Setup tool mobile app to activate this software." It lists the following details: Product Name: Residential Automatic Control; Model: DCPN006; Software ID: [QR code]. Below this, it says "How to activate software key:" and shows icons for "Reiri Setup Tool", "Scan QR code", "Google Play", and "App Store". A list of 8 steps follows, which are mostly placeholder text. At the bottom, it says "Daikin Holdings Singapore Pte Ltd" and "License key: MD061101a25b090a0ba99fa2", with the license key highlighted by a red box. A blue callout box to the right of the document says: "Sample of Option Software Key document". Another blue callout box at the bottom right says: "Option Key Code in the bottom for manual entry, if required."

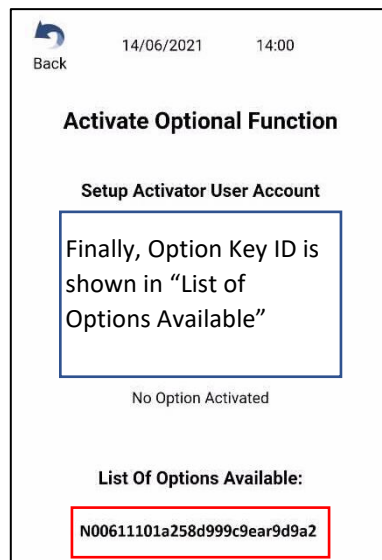
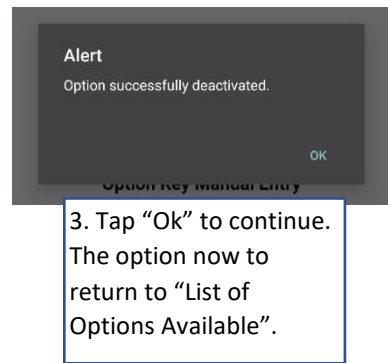
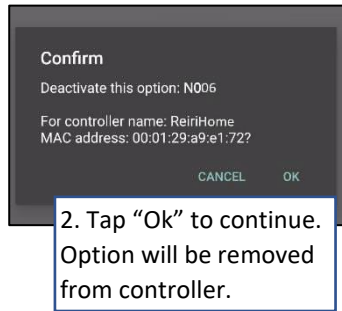
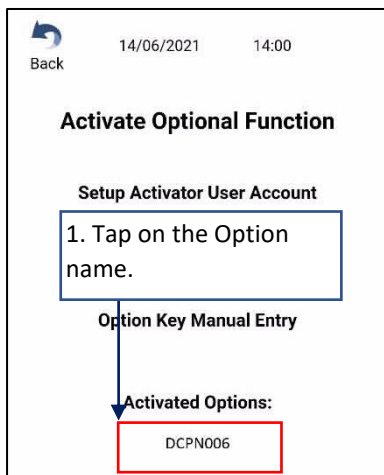


**NOTE: If same option is already activated or the option is cannot use for the controller, the key will not be able to tap.*

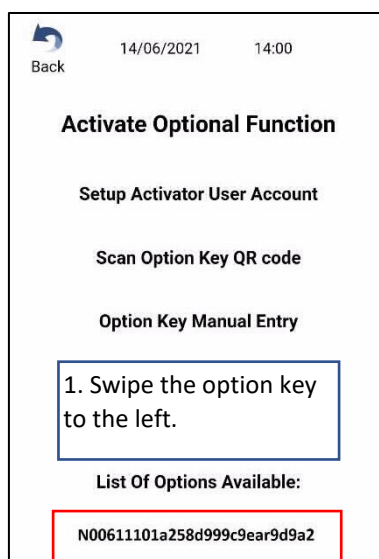
If QR code is unable to be scanned, manual entry of code is available.



**NOTE: When a wrong option ID is activated, the activated option can be deactivated from controller and the deactivated ID can be reused.*

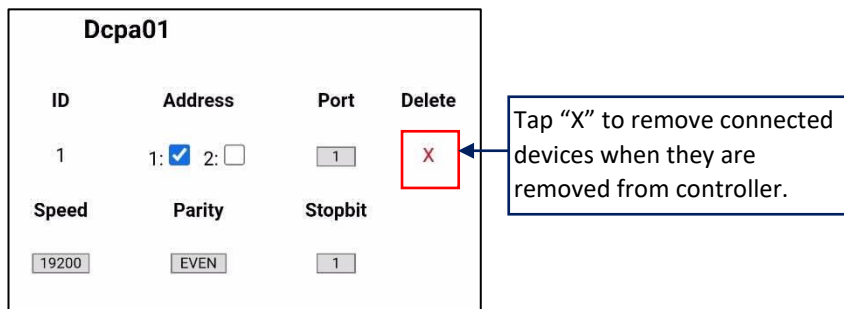
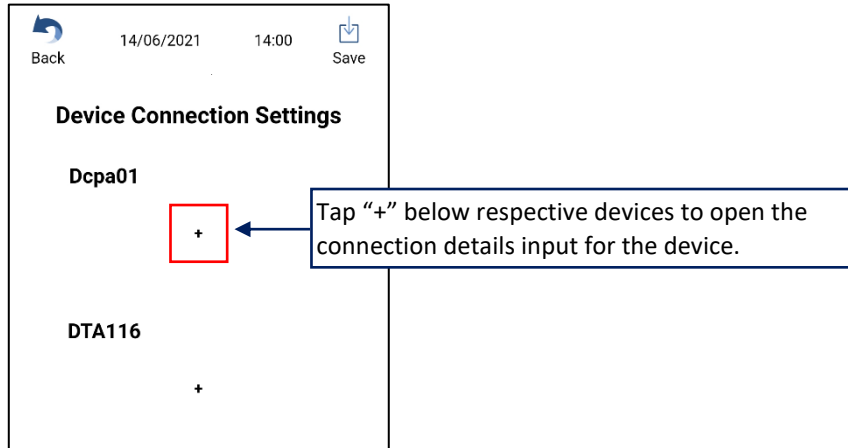


In the case when the deactivate option key is required to be used by other activators, the option key will need to be removed from the app.



3.6 Reiri Setup Tool - Device Connection Settings

Device connection settings will take effect after reboot. Enter configuration for all required devices first before rebooting. Management points will show up in Point Settings only after reboot.



3.6.1 Configuring for DIII-Net - Modbus Interface DCPA01 / DTA116

DCPA01/DTA116 are DIII-Net to Modbus communication adaptors for air-conditioner. This function is to set the communication parameters for the DIII-Net adaptors.

Set the Address, Baud Rate, Parity and Stop Bit values on the DCPA01/DTA116A51 first using the DIP switches (DS1, DS2) as shown below.

DS1 – Communication Parameters

Fixed Default Values:

Baud Rate: 19200

Parity: Even

Stop Bit: 1

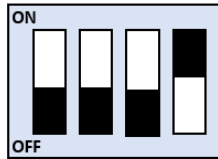


DS2 – Address Setting

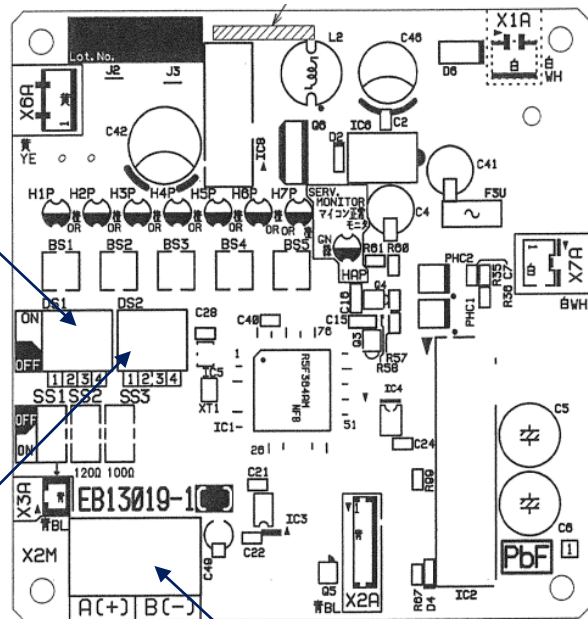
Address either 1 or 2.

(Max 2 DCPA01 / DTA116A51 per RS485 port)

Address Setting 1

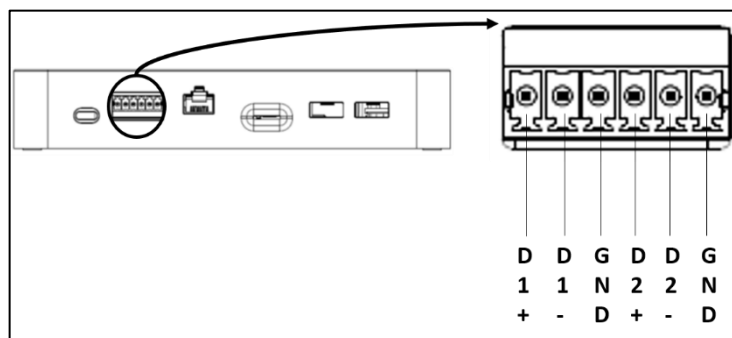


Address Setting 2



Connect Modbus RS485 connection to Reiri Controller

Connect the Modbus RS485 connection from DCPA01 / DTA116 to Port 1 (D1 +, D1-) first before using Port 2 (D2+, D2-).



After hardware connected, configure the communication parameters in Reiri Setup Tool – Device Connection Settings.

1. ID is to identify the port location of the device. Set the value to be the same as the port.

2. Select the Address that is set on the DIP Switch.
Only 2 DCPA01 allowed for 1 RS485 port.
(Address setting only 1 and 2)
Select "1" and "2" if 2 cards are connected to the same port

3. Select the connected RS-485 port, 1 or 2.
Refer to connected Port number in hardware explanation.

4. Values are kept as default. DO NOT CHANGE.

5. Add device to confirm.

6. Tap "Save" to save changes

Address

1: 2:

**NOTE: DCPA01/DTA116 Address and Port numbering should be in this order for multiple DCPA01/DTA116.*

ID	Address	Port
1	1,2	1
2	1,2	2

3.6.2 Configuring for Reiri Modbus IAQ sensor

The IAQ sensor allows monitoring of temperature (Temp), relative humidity (RH), carbon dioxide (CO₂), particulate matter of 2.5 microns (PM2.5) and higher and toxic volatile organic compounds (TVOC). IAQ sensor is connected to controller via Modbus RS-485.

Multiple IAQ sensors (up to 20) can be connected using RS485 daisy chain type. Each IAQ sensor must be assigned a unique Modbus address and same communication parameters using address setting tool. Refer to “Chapter 6.1 IAQ Sensor Address Setting”.

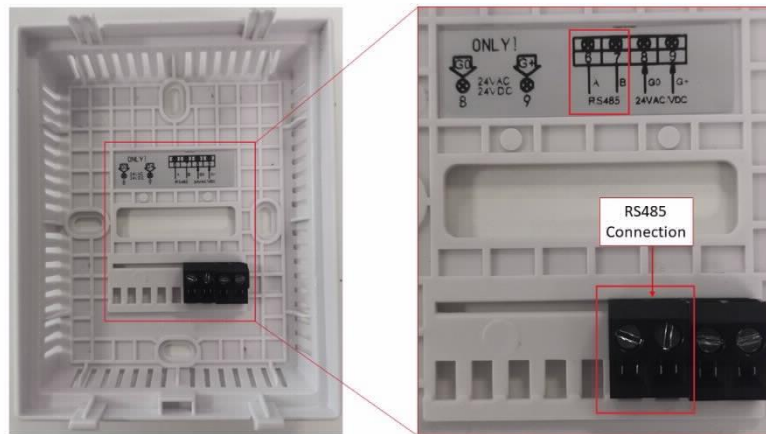
Fixed Default Values:

Baud Rate: 9600

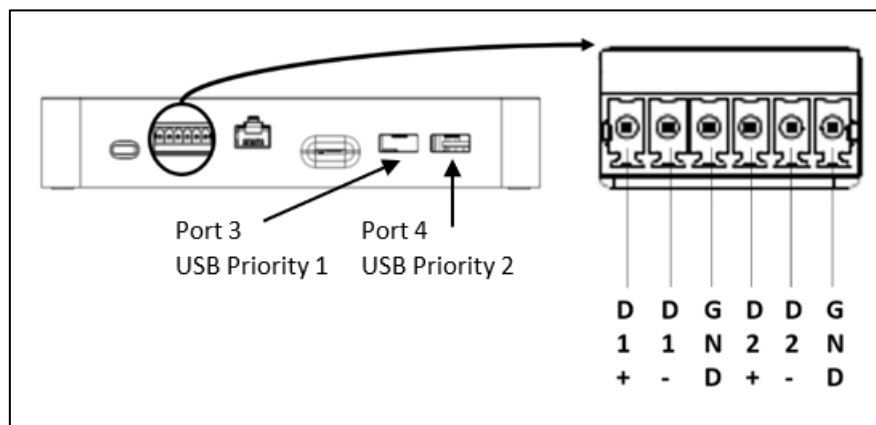
Parity: None

Stop Bit: 1

Connect the RS485 connection from IAQ Sensor connection terminal to Reiri Controller. Connect power to the connection terminal next to the RS485 terminals (highlighted in red).



Connect the Modbus RS485 connection from Reiri IAQ Sensor to RS485 Port. If RS485 ports are not available, use the USB ports with a USB to RS485 convertor. Connect to USB port priority 1 first.



After hardware connected, configure the communication parameters in Reiri Setup Tool – Device Connection Settings.

The screenshot shows the 'IAQ Sensor' configuration screen in the Reiri Setup Tool. The screen displays a table of sensor settings with the following fields: ID, Address, Port, Add, Speed, Model, Parity, and Stopbit. A 'Save' button is located in the top right corner. The current settings shown are: ID: 2, Address: 1, Port: 2, Add: Add, Speed: 9600, Model: Reiri IAQ Sensor, Parity: NONE, Stopbit: 1. A 'Back' button is in the top left, and the date and time (14/06/2021, 14:00) are at the top.

Numbered callouts provide instructions for each field and action:

- 1. ID is to identify the port location of the device. Set the value to be the same as the port.
- 2. Enter Modbus Address that is set at the device. Address must be unique between devices (1-30). Add a “,” to additional devices on the same daisy chain.
- 3. Select the connected RS-485 or USB port. RS485 port is 1 or 2. USB Port is 3 or 4.
- 4. Values are to be fixed. DO NOT CHANGE.
- 5. Add device to confirm.
- 6. Tap “Save” to save changes.

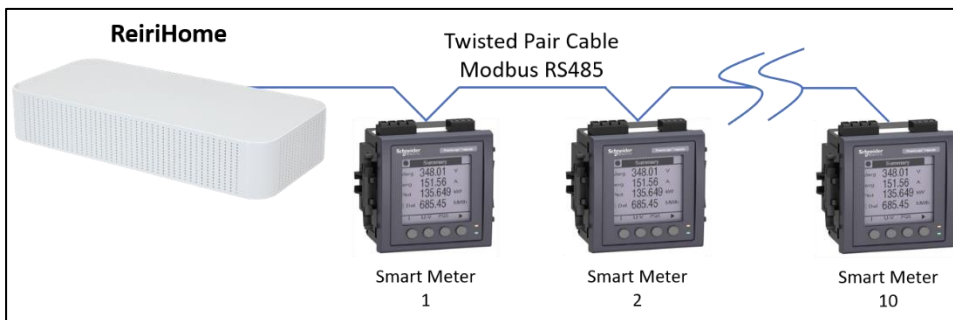
An inset box titled 'Address' shows a text input field containing '1,2,3'.

3.6.3 Configuring Modbus Smart Meter

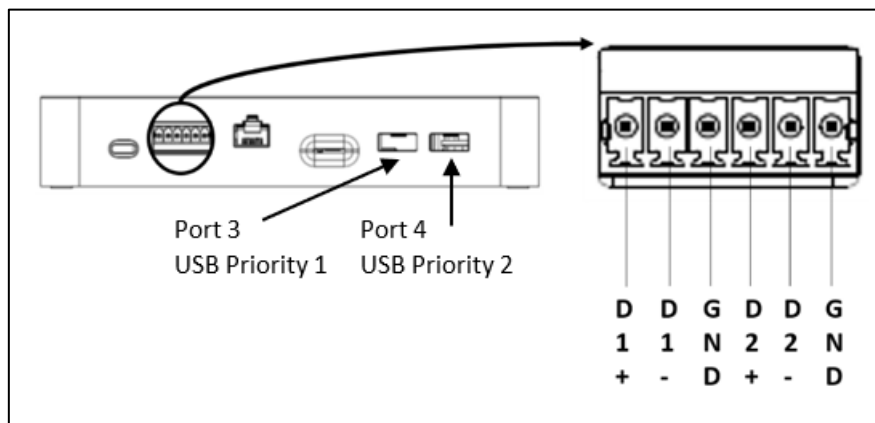
The Smart Meter measures the power consumption. It can also use for PPD calculation.

There is a fixed list of compatible smart meters with Reiri. Check the compatibility table for the model lists.

Multiple Smart Meters (up to 10) can be connected using RS485 daisy chain type. Each Smart Meter is required to be assigned a unique Modbus address and same communication parameters. Refer to each smart meter's manual for Modbus communication setup information.



Connect the Modbus RS485 connection from Smart Meter to RS485 port. If RS485 ports are not available, use the USB ports with a USB to RS485 converter. Connect to USB port priority 1 first.



After hardware connected, configure the communication parameters in Reiri Setup Tool – Device Connection Settings.

The screenshot shows the 'Smart Meter' configuration interface. At the top, there are 'Back', date '14/06/2021', time '14:00', and a 'Save' button. Below this is a table for configuring smart meters:

ID	Address	Port	Add
2	1	2	Add

Below the table are fixed parameters: Speed (9600), Model (Schneider), Parity (NONE), and Stopbit (1).

Callout 1 points to the ID field. Callout 2 points to the Address field. Callout 3 points to the Port field. Callout 4 points to the Speed, Model, Parity, and Stopbit fields. Callout 5 points to the 'Add' button. Callout 6 points to the 'Save' button.

1. ID is to identify the port location of the device. Set the value to be the same as the port.

2. Enter Modbus Address that is set at the device.
Address must be unique between devices (1-30)
Add a “,” to additional devices on the same daisy chain.

3. Select the connected RS-485 or USB port.
RS485 port is 1 or 2.
USB Port is 3 or 4.

4. Certain Parameters are fixed. Configure the Smart Meters accordingly.

5. Add device to confirm.

6. Tap “Save” to save changes

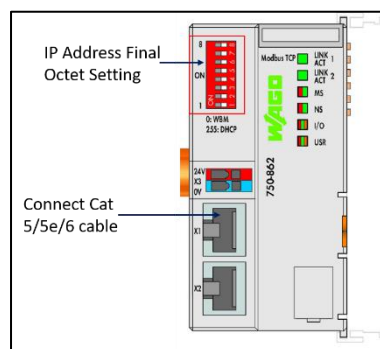
Address
1,2,3

3.6.4 Configuring for WAGO IO

WAGO is an IO module system that allows various third-party equipment to be connected via normal I/O. DALI light control can also be done through the DALI module.

WAGO has multiple modules available for use and refer to compatibility tables for the modules that can be used with Reiri.

For connection, connect Cat 5/5e/6 cable one end to the WAGO communication module and the other end to the router. Set the Address value on the WAGO module first using a computer connected to the same router network. Refer to “Chapter 5. WAGO Setup” to learn about the communication parameter setting and IP address final 8 bits (octet) setting using physical DIP switch.



After hardware connected, configure the communication parameters in Reiri Setup Tool – Device Connection Settings.

1. ID is to identify the WAGO Nodes.
Each node has 1 unique ID among WAGO ID.
Start from 1 for 1st node

Back 14/06/2021 14:00 Save

WagoIO

ID	IP Address	Port	Add
1	192.168.1.2	502	Add

4. Tap “Save” to save changes.

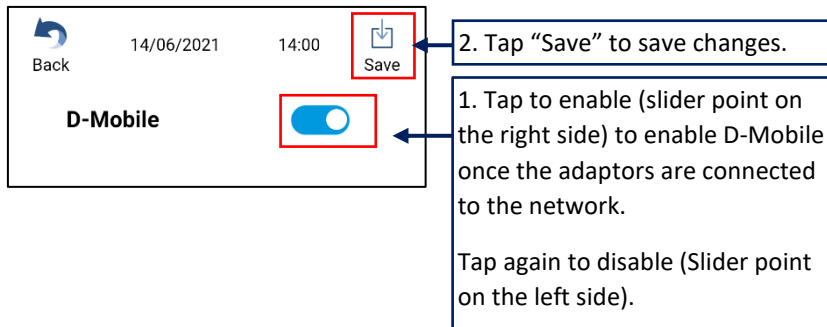
3. Add device to confirm.

2. Enter the IP Address of the WAGO communication Node.
Port default is 502. DO NOT CHANGE.

3.6.5 Configuring for D-Mobile Adaptor

D-Mobile Adaptor is the WiFi control for residential air-conditioning units.

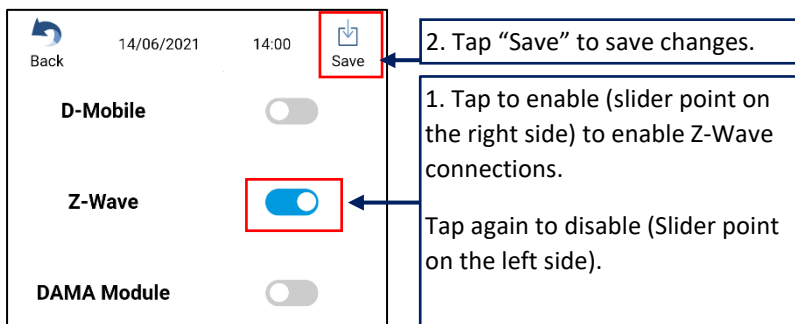
To connect D-Mobile adaptor to ReiriHome, the D-Mobile adaptor has to be connected to the same LAN with ReiriHome. If D-Mobile is set to enable, all D-Mobile adaptor connected to the same LAN will be connected to ReiriHome automatically.



3.6.6 Configuring for Z-Wave

Z-Wave devices allows remote control and monitoring of smart ReiriHome devices. If this is enabled, ReiriHome will be able to pair with Z-Wave devices for Smart ReiriHome use. Up to 80 Z-Wave devices can be connected to ReiriHome through a USB Z-Wave dongle.

Refer to "Chapter 3.8 Z-Wave Setup" for details on Z-Wave pairing and configuration.



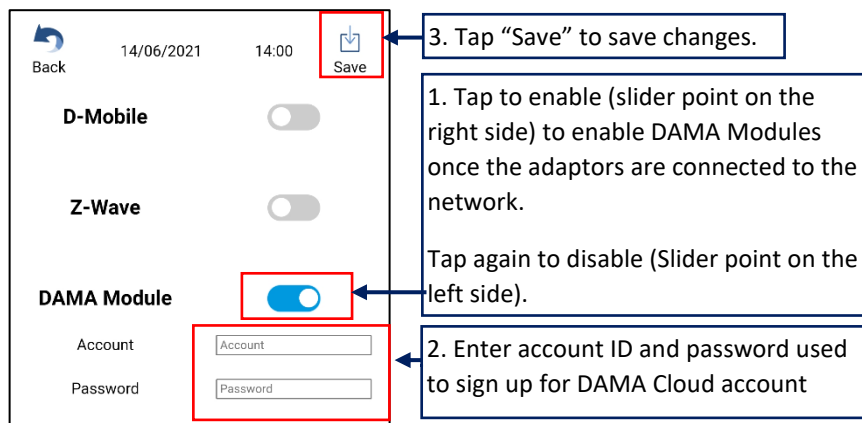
3.6.7 Configuring for DAMA WiFi Module

DAMA WiFi Module is the WiFi control module for residential air-conditioning units from DAMA factory.

Refer to DAMA WiFi module manual to setup the module.

Confirm the DAMA cloud login account and password after registration. ReiriHome will connect to the DAMA modules linked with the account.

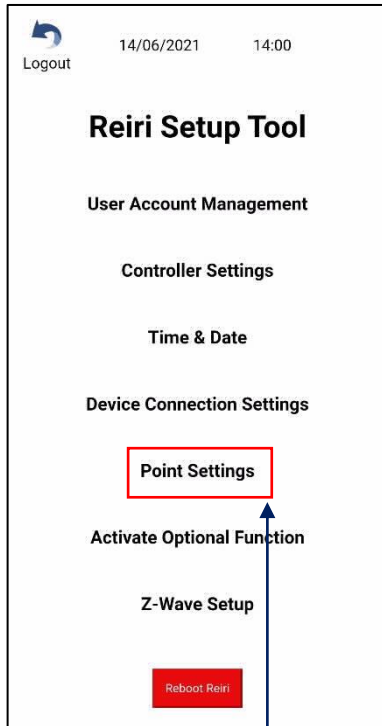
**NOTE: Internet access MUST be available when DAMA WiFi Module is used.*



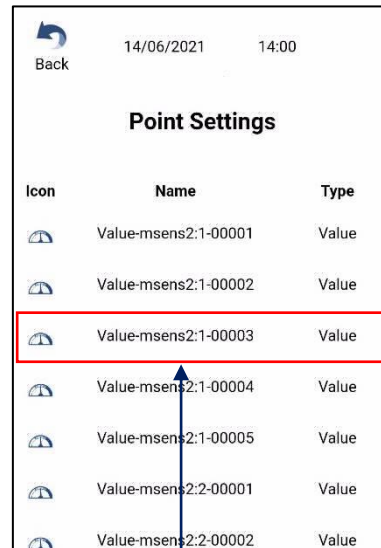
3.7 Point Settings

This function is to customize the point attributes to use the data correctly. Name, Display icon and other parameters can be customized to indicate the behavior of the point.

To go manage individual points,



1. Tap "Point Settings" to view the points list.



2. Tap on point name to view the point attributes.

All the management point attributes are explained subsequent tables. Edit or Enable the point attributes according to the required use of the device.

Two key attributes are Point Type and Point Usage. Point Type is a simplified description of the device.

Point Usage is the detailed breakout of attributes from Point Type. It is use for creating default groups in the user app.

Table below shows the point types and usage.

Device	Point Type	Point Usage
Air-conditioner (inclusive AHU)	Ac	ac
HRV	Hrv	hrv
Temperature Measurement	Value	temp
Relative Humidity measurement	Value	humi
CO2 measurement	Value	co2
PM2.5 measurement	Value	pm25
TVOC measurement	Value	tvoc
Power measurement	SMeter	emeter
Light	Switch	light
	LevelSW	light
On/Off device	Switch	switch
On/Off Status	Status	stat
Error/Alert	Alert	alert
	Error	error
Sensor	Value	value
Level Control	Level	value/ratio

**NOTE: Some point types can change to other point types.*

Status -> Error / Alert if status shows error or alert.

Level -> LevelSW if it can have on/off status.

Point Attribute List and Functions

Point Attribute	Point Types available with attribute	Function
Point ID	All	Auto generated ID
*Point Name	All	IMPORTANT: Edit name to identify point easily in user app.
*Icon	All	IMPORTANT: Edit icon to correctly represent the point in user app.
Point Type	All	Description of device.
Point Usage	All	Detailed attribute of device. Used for default grouping.
Status Keyword	Status, Switch	
Parent Point ID	Status	Parent ID. Default is None. If set, update information is sent to parent management point Switch and status can be a parent.
Hide Point	All	Enable to hide the point from being seen in user app. The point values will still be monitored in the background. Default is "Disabled".
Point Not In Use	All	This point is not used in this controller. The point values will not be monitored in the background. Default is "Disabled". E.g. WAGO IO points that are not connected with any device can be set to "Point Not In Use"
Record to History	All	Status change information is stored in History DB.
Store Data to DB	All	Operation information is stored in DB
Setpoint Storage	Ac	Enable to save setpoint values in database. Default is "Disabled"
Temperature Storage	Ac	Enable to save room temperature measurements in database for trending. Default is "Disabled"
Off delay	Status, SensorStat	Enable to delay point off status change from device off status. If 1 is set, point status will off in 1 min.
Signal Invert	Status, Switch	Enable to invert the on/off status. If this is set to enable, when device is OFF, status is ON.
C type switch	Switch	Enable to handle point as a C type switch (2-way switch). Use with status point combination.
Error type	Status	This is used to customize error indication.
Alert type	Status	This is used to customize alert indication.
Fan Speed Level	Ac	Change fan speed capability to adjust to actual AC fan speed capability.

*Table to be continued on following page

Point Attribute	Point Types available with attribute	Function
AV Range	Level, Value	This is used to convert device value to actual value. Min, Max does not allow empty. If min is 0 and max is 1 are set, device value will not convert. In case of WAGO Ai or Ao is used, min and max have to set actual min and max value. For example: CO2 sensor which min value is 400 and max value is 5000. Then min has to set to 400 and max set to 5000.
Decimal Points	Level, Value	Sets the decimal points for values displayed in user app.
Unit	Level, Value	Sets the unit of measurement for values displayed in user app.

**NOTE: Name and Icon are important attributes to edit for setup.*

AC Management Point

The screenshot shows the 'Edit Management Point' screen. At the top, there is a 'Back' button with a circular arrow icon, the date '14/06/2021', and the time '14:00'. A 'Save' button with a downward arrow icon is highlighted with a red box. A blue callout box points to this button with the text: **FINALLY, Tap "Save" to save changes.**

The main content area is titled 'Edit Management Point' and contains the following fields and controls:

- Point ID:** dcpa1:1-00001
- Point Name:** Ac-dcpa1:1-00001 (text input field)
- Icon:** Three icons are shown: a square air conditioning unit (highlighted with a blue box), a rectangular air conditioning unit, and a fan. The first icon is selected.
- Point Type:** Ac
- Point Usage:** ac
- Hide Point:** Toggle switch (off)
- Point Not in Use:** Toggle switch (off)
- Store Data to DB:** Toggle switch (on)
- Setpoint Storage:** Toggle switch (off)
- Temperature Storage:** Toggle switch (off)
- Fan Speed Level:** 3 (numeric input field)

At the bottom, there is a 'Delete Point' label and a red 'Delete' button, which is also highlighted with a red box. A blue callout box points to this button with the text: **Delete point only when point is no longer in use. (Irreversible action)**

3.8 Z-Wave Setup

This function is to setup and check the connection of Z-Wave devices with ReiriHome. The Z-Wave function also need to be enabled in Device Connection Settings before this setup is performed.

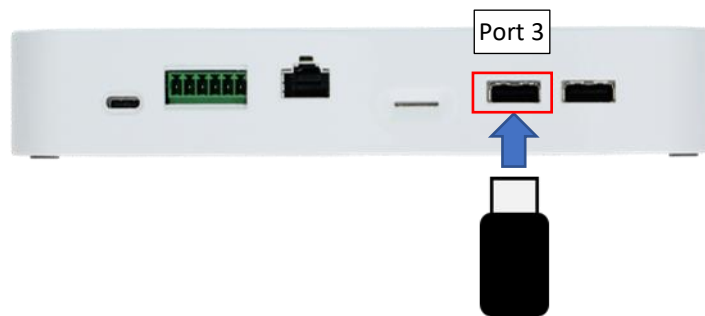
Z-Wave device connection require Z-Wave dongle which is included in ReiriHome package. Insert the Z-Wave dongle into the USB Port before ReiriHome is powered. All Z-Wave devices to be connected to ReiriHome have to be paired. Pairing procedure is described in 3.8.1.

2 types of Z-Wave Dongle that can be used with ReiriHome for different region requirements. Only 1 Z-Wave dongle is required for Z-Wave function to operate for ReiriHome.

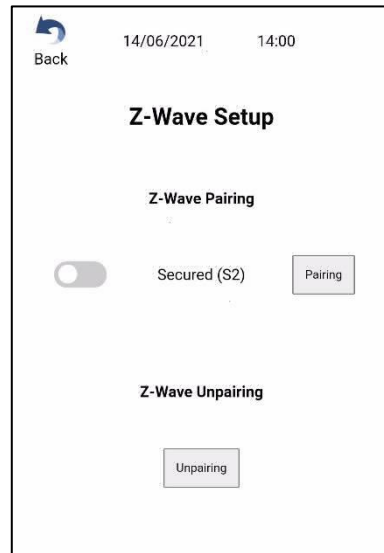
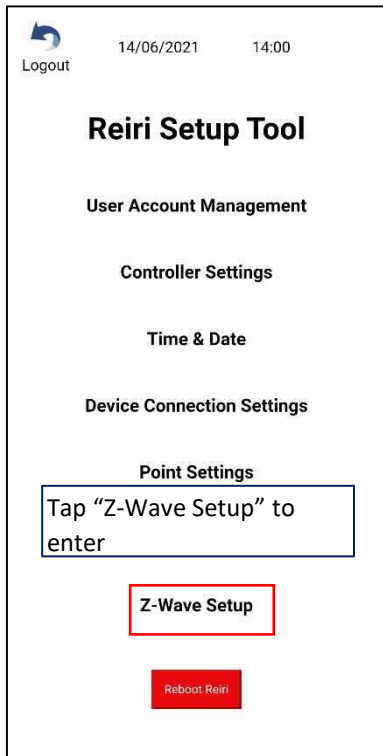
Aeotec Z-Stick Gen5+ Dongle



USB Dongle



Insert the Z-Wave dongle to Port 3 of ReiriHome.

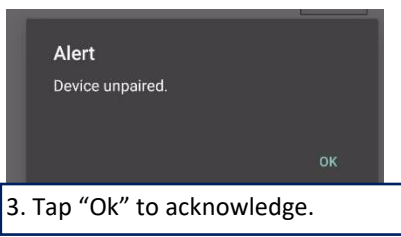
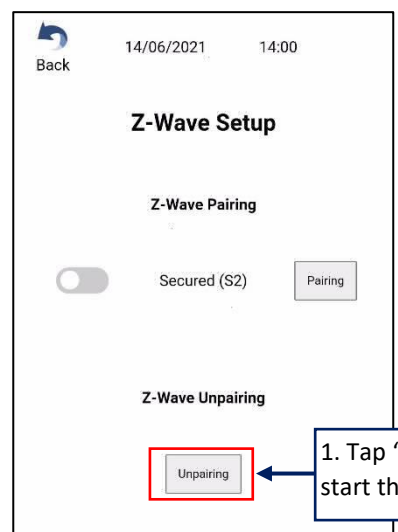


3.8.1 Z-Wave Pairing/Unpairing

Ensure the Z-Wave devices are powered. Read the user manual of the Z-Wave devices to know the process of pairing/unpairing activation to facilitate the process. (Fibaro usually uses 3 tap of the button for pairing/unpairing. Aeotec usually uses 1 tap of the button for pairing/unpairing)

1) Unpairing Devices

In usual case, Z-Wave devices should unpair before pairing. This is to ensure that the Z-wave device has cleared its last paired memory before trying to pair with ReiriHome.



1. Tap "Unpairing" to start the process.

2. Activate the Z-Wave unpairing on the Z-Wave device. Only one device to be unpaired at any time.
Wait for prompt to come up.

3. Tap "Ok" to acknowledge.

2) Pairing Devices

ReiriHome has 2 pairing methods, a) using Reiri Setup Tool or b) using button on Z-Stick Gen5+

Reiri Setup Tool is used for battery device pairing. The Z-Stick Gen 5+ button is used for powered device pairing.

a) Pairing by Reiri Setup Tool

1. Tap "Pairing / Unpairing" to enter.

2. Select Pairing method: S0 or S2. If enabled, S2 secured pairing is selected.

3. Tap "Pairing" to start pairing device.

4. Activate the Z-Wave pairing on the Z-Wave device. Only one device to be activated at any time.
Wait for next prompt to come up.

Alert
Starting Interview
OK

5. This meant the device is recognised for pairing. Tap "Ok" to continue. Wait for full pairing to be completed.

Alert
Device added.
Node ID: 2
Product: FGPB101 Button
OK

6. Success prompt for device added. Tap "Ok" to continue.

**NOTE: If Z-Wave dongle is UZB, Reiri Setup Tool pairing method shall always be used.*

**NOTE: S0 pairing is recommended for better response of Z-Wave devices.*

b) Pairing by Z-Stick Gen5+ Button

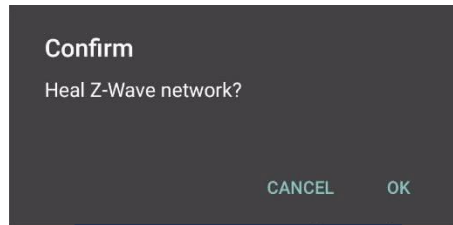
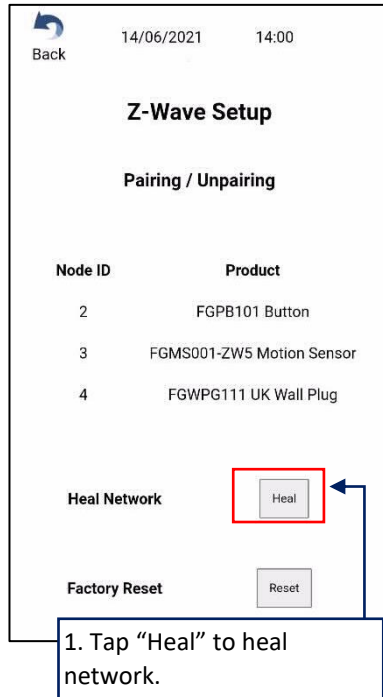
This button pairing method is used when pairing with AC powered Z-Wave devices. For battery powered Z-Wave device pairing, use the pairing method in Reiri Setup Tool.

Button Pairing Steps

1. Unplug the Z-Stick Gen5+ from USB connection.
2. Tap the button once on Z-Stick Gen5+. Its LED will blink blue slowly to indicate it is in pair mode.
3. Follow the instruction of the Z-Wave device that you want to pair. Typically, the button press on the mainly Fibaro Z-Wave devices is a triple tap, but some have special button presses (ie. hold for 2 seconds and release, single tap, double tap, etc).
 - Z-Stick Gen5+ LED will confirm if it paired something successfully by showing a solid blue LED for 2 seconds before returning to a slow blinking blue LED.
4. Repeat step 3 for any device you want to pair if you have multiple devices that you need to include.
5. When done, tap the button once on Z-Stick Gen5+ to bring it out of pair/include mode. The LED will de-activate.
6. Plug the Z-Stick Gen5+ back into ReiriHome controller and reboot the controller.

3.8.2 Heal Network

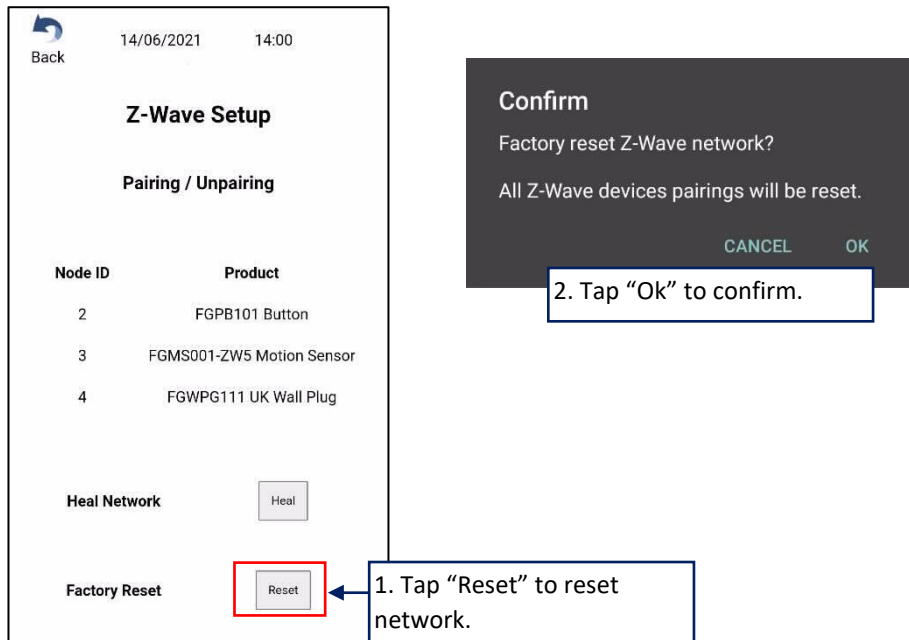
After pairing and installing all Z-Wave devices at their intended operation location, Heal Network should be done. Heal Network restructure the Z-Wave mesh network for better communication.



3.8.3 Reset Network

Use this function to reset the Z-Wave network information for ReiriHome. It will clear all memory of Z-Wave devices (connected and disconnected) back to factory state.

**NOTE: Paired devices that are paired to the ReiriHome before resetting the network will need to undergo a unpairing process before they can be paired again to any other controllers.*



3.8.4 Device Parameter Settings

Device parameters setting is required for some Z-Wave devices to operate alternative modes which are not enabled in default. These configurations allow Z-Wave devices to operate different usage settings.

Refer to each device's official reference for advanced parameters and their respective values.

**NOTE: Certain parameter settings may directly affect the communications and operations. Such settings when incorrect may lead to malfunction of the device. Refer to official reference for explanation for each device's parameter settings and values.*

The image contains two screenshots from a mobile application. The first screenshot, titled 'Z-Wave Setup', shows a list of devices under 'Pairing / Unpairing'. The device 'FGWPG111 UK Wall Plug' is highlighted with a red box. A blue arrow points from this box to a text box below it: '1. Tap on Product name to enter "Parameter Settings".'. The second screenshot, titled 'Parameter Settings', shows the configuration screen for the selected device. It displays 'Node ID: 4' and 'Product: FGWPG111 UK Wall Plug'. Below this, there is a 'Parameter Settings' section with a 'Parameter' field containing '41' and a 'Value' field containing 'Colour changes smoothly depen'. Both fields are highlighted with red boxes. A blue arrow points from the 'Parameter' field to a text box above it: '2. Enter the advanced parameter setting code and tap "Get" to show the current parameter value.'. Another blue arrow points from the 'Value' field to a text box below it: '2. If value shown is in grey background, it is a droplist selection, tap list the droplist. Tap to select the choice from droplist. If value shown is normal background, enter the preferred value in the entry field. After the value is changed, tap "Set" to save the changes.'

**NOTE: In case of battery device, parameter setting will be applied when the device is waking up. Manual wake up should be done after parameter setting.*

Refer to list in following page for some common parameters to check and edit.

List of common devices parameters that may need to be edited.

(List is not exhaustive. If a non-listed device have similar operation as listed device, look up the advance parameters for the non-listed device and verify the default value is suitable for the operation.)

1	Fibaro Dimmer 2 FGS-212	20 Switch Type	0 – Momentary switch (Default) 1 – Toggle Switch 2 – Roller Blind Switch: two switches operate the Dimmer 2 (S1 to brighten, S2 to dim)
2	Fibaro Switch 2 FGS-213, FGS-223	20 Switch Type	0 – Momentary switch 1 – Toggle Switch: Contact Closed – ON, Contact Opened – OFF 2 – Toggle Switch: Device changes status when switch changes status (Default)
3	Fibaro Smart Module FGS-214, FGS-224	20 (S1) and 21(S2) Switch Type	0 – Momentary switch 1 – Toggle Switch: Contact Closed – ON, Contact Opened – OFF 2 – Toggle Switch: Device changes status when switch changes status (Default)
4	Fibaro Motion Sensor FGMS001-ZW5	2 Blind Time	Formula to calculate time [s] = $0.5 \times (\text{value} + 1)$ When this is to 9, 5 seconds delay time before PIR sensor detects motion again.
		6 Alarm Cancellation Delay	When this is set to 30, 30 seconds after last motion detected will clear the alarm.
5	Aeotec Tri Sensor ZWA005	1 Motion Retrigger Time	When this is set to 5, 5 seconds delay time before PIR sensor can be triggered again to reset motion timeout counter.
		2 Motion Clear Time	When this is set to 30, 30 seconds after motion detected will send clear event to controller.

*Table to be continued on following page

S/N.	Brand and Model	Parameters	Available Values
6	Aeotec ReiriHome Energy Meter Gen5 ZW095	3 Enable selective reporting only when power change reaches a certain threshold or percentage set.	*Set "0" for Reiri
		101 Configure which report needs to be sent in Report Group	*Set "15" for Single Phase measurement *Set "4144911" for Three Phase measurement
		111 Set Interval time of sending Report group 1	*Set "30" for Reiri (Send report every 30 sec)
7	Aeotec Nano Dimmer ZW111 Aeotec Nano Switch ZW139	80 Notification send to associated devices (Group 1)	*Set "2 – Basic Report" for Reiri
8	Aeotec Nano Switch ZW139	80 Notification send to associated devices (Group 1)	*Set "2 – Basic Report" for Reiri
		120 (S1) and 121 (S2) Switch type	0 – Unidentified mode 1 – 2-state switch mode 2 – 3-way switch mode 3 – Momentary switch button mode 4 – Enter automatic identification mode

Part 3 – Additional Setup Information

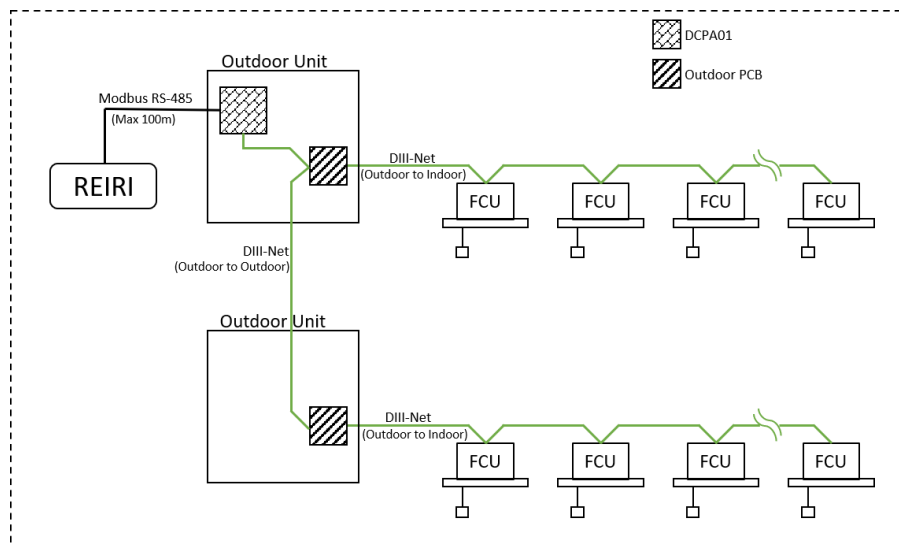
The purpose of this section is to provide additional information to facilitate the setup of Reiri that may not be able to explain in detail in previous sections of this Installation Manual.

4. DCPA01 Installation (to ODU/IDU)

The DCPA01 adaptor is an interface device to translate between DIII-Net and Modbus protocols for DIII-Net enabled indoor unit monitoring and control.

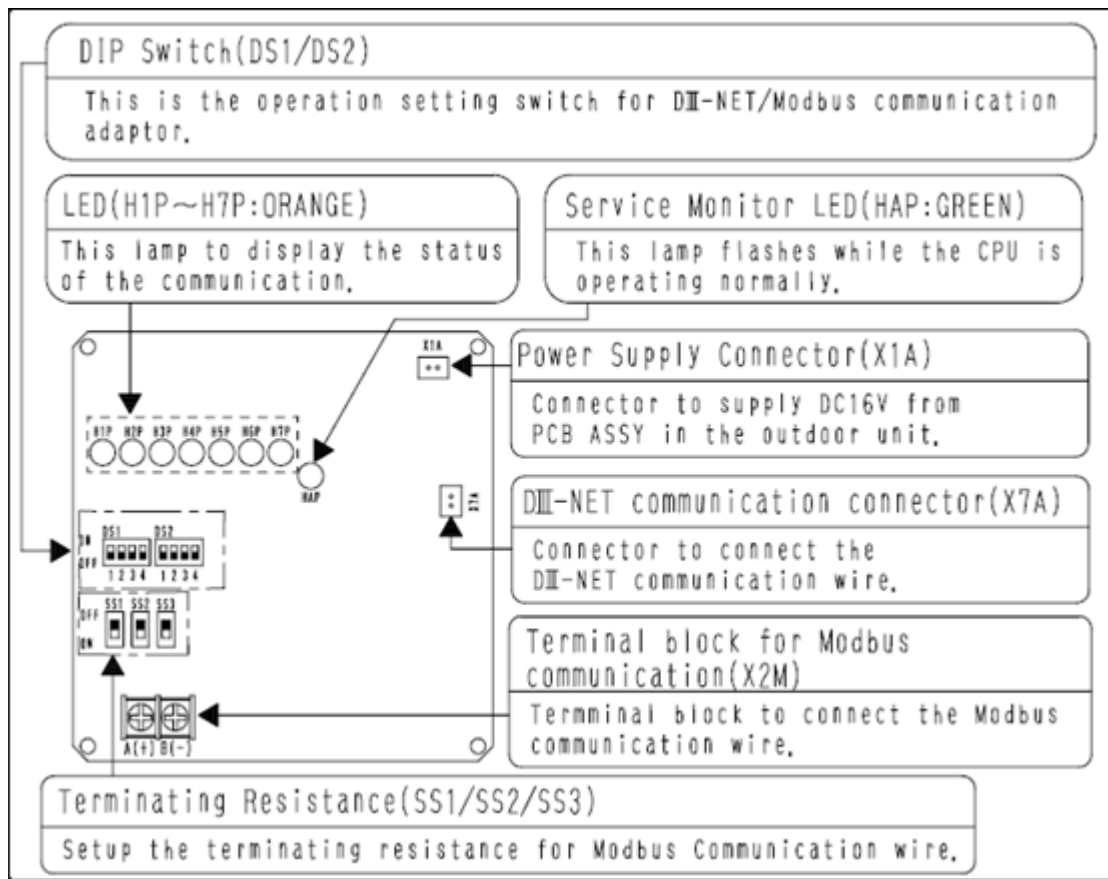
Through Modbus communication, Reiri can stop the indoor unit operation, monitor and control the operation mode, pre-set temperature, air flow rate and direction.

It can also carry out emergency supervisory, monitor and reset the filter sign.



***NOTE:** Total wiring length for RS-485 communication wire must be within 200m. Maximum 64 indoor units and 10 outdoor units able to connect to 1 DCPA01.

The parts name and function of DCPA01 is shown in the picture below.

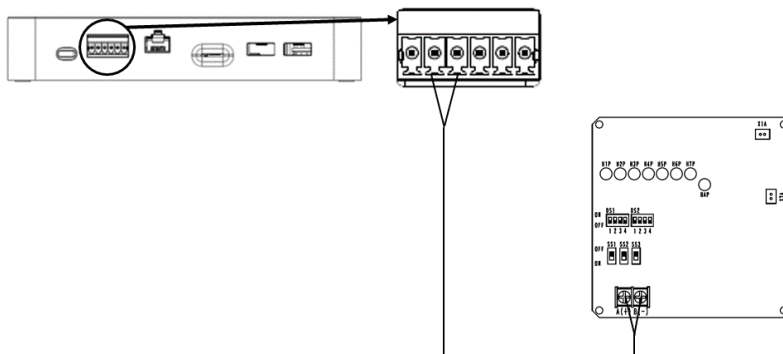


DS Switch Setting for Modbus communication (DS1 and DS2)

DS	Pin	Function	OFF	ON
DS1	1	Reserve	-	-
	2	Baud Rate	9600bps	19200bps
	3	Stop Bit	Stop Bit 1 (Parity)	Stop Bit 2 (Non Parity)
	4	Parity*	Even	Odd
*Parity setting will enable when DS1-3 is off.				
DS2	1-4	Slave Address	0: No Modbus communication 1-15: Slave Address 1-15 OFF: 0 ; ON: 1 *1: off, 2: off, 3: off, 4: on (0001) is 1 DIP switch input format is binary. Pin 1 as MSB – Most Significant Bit Pin 4 as LSB – Least Significant Bit Refer to Decimal to Binary Table for aid on conversion	

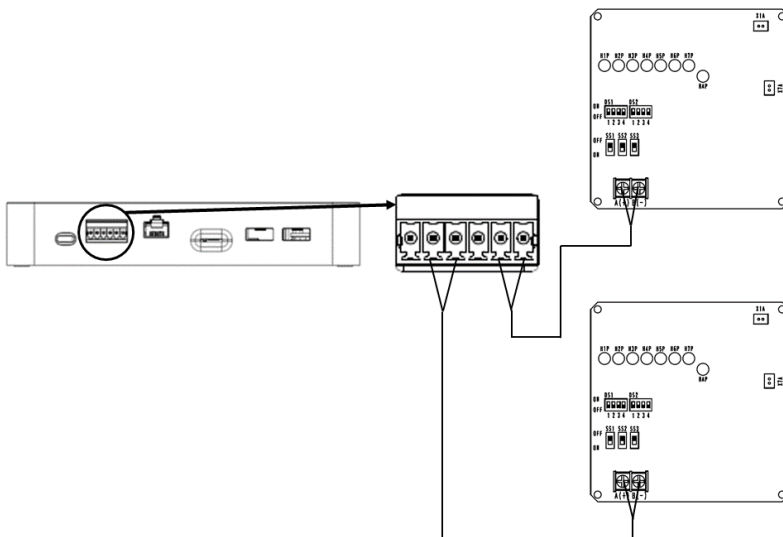
Up to 4 DCPA01 adaptor cards can be connected to 1 ReiriHome. There is a maximum limit of 2 DCPA01 adaptor cards per RS485 port. In the case of 2 DCPA01 adaptor cards, it is highly recommended to use 1 RS485 port for each adaptor card. Please take reference from the pictures below (based on the number of DCPA01 adaptor card(s) connected).

<1 DCPA01 adaptor connected>



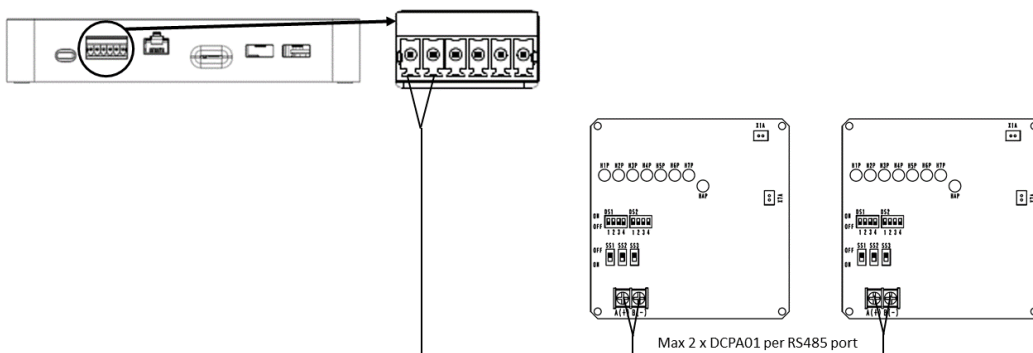
<2 DCPA01 adaptors connected>

Method 1

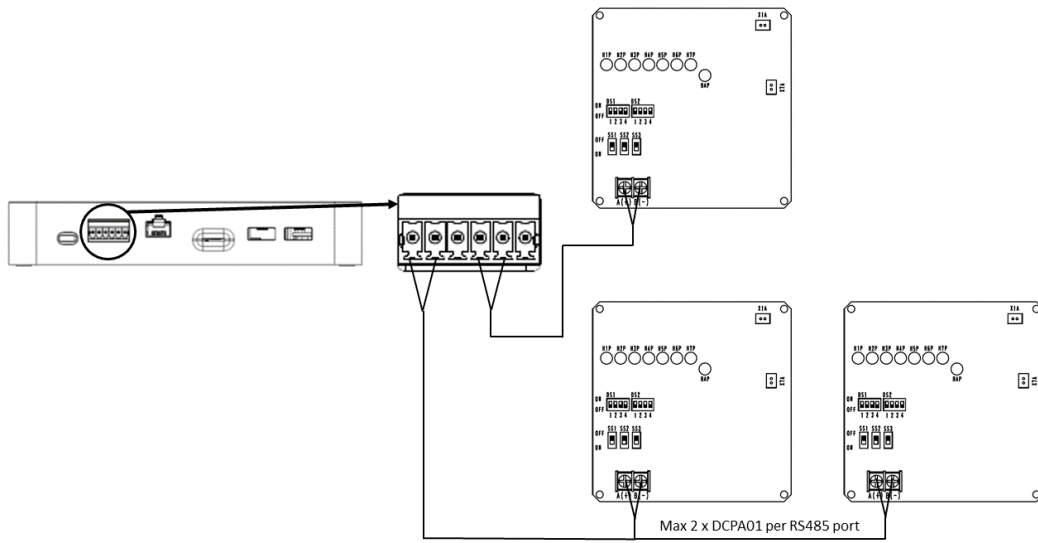


OR

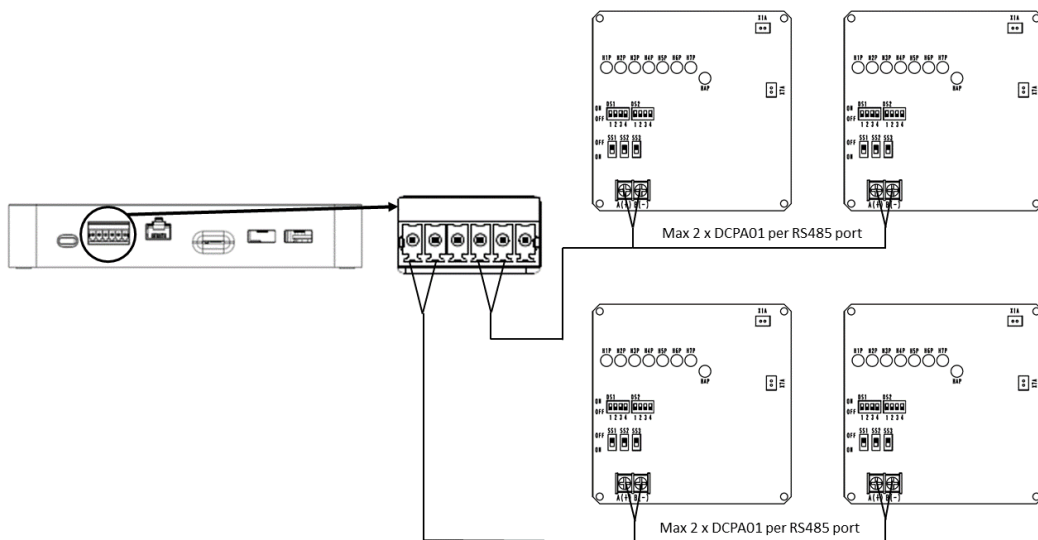
Method 2



<3 DCPA01 adaptors connected>



<4 DCPA01 adaptors connected>



5. WAGO Setup

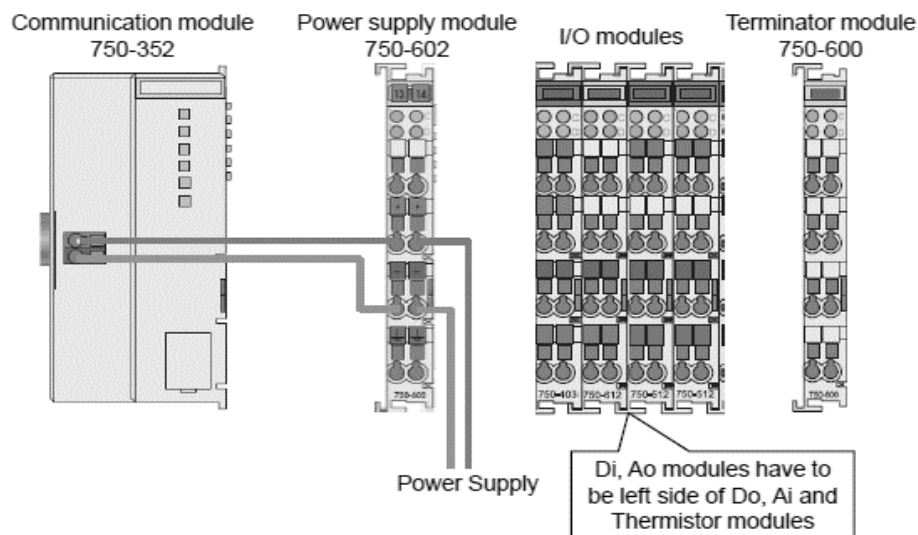
Reiri can control / monitor Daikin air conditioners and various types of building facilities like fan, light, and sensors by using WAGO I/O system. This section describes how to setup WAGO I/O system to control / monitor various types of building facilities by Reiri.

5.1 System structure

It is important to connect the I/O modules in the correct order to ensure the safe and accurate operations of WAGO.

Each module of WAGO I/O system must be connected to the following order:

1. Communication Module
2. Power Supply
3. Di
4. Ao
5. Do
6. Ai
7. Thermistor
8. Termination Module



5.2 Network Setting

For connection and detection in the LAN, the network setting for the communication module must be done.

Module 750-352 IP address setting is separated into 2 parts. The IP address, Subnet mask and default gateway are set on the software.

Default network address is "192.168.1.X"

If the network address first 3 octets (yyy.yyy.yyy.) is the same as default, then TCP/IP module address setting can be set DIP switch. The DIP switch is setting by binary value. For example, if you want to set 192.168.1.50, DIP switch must be set to 50. (Switch position: "On" is 1, "Off" is 0)

50 is "0011 0010" in binary. 4 is "0000 0100" in binary.

If 750-352 is connected to another network address domain, the network address will need to be changed. Firstly, set 750-352 DIP switches all to "On" for 750-352 to be in DHCP mode. Under DHCP mode, IP address will be assigned from router automatically.

Connect 750-352 to a router and power on. 750-352 will work then get the auto-assigned IP address from the router.

Next, find the IP address of 750-352. Access router maintenance screen and check DHCP client information for the IP address of 750-352.

Using the known IP address, open web browser on PC and type the IP address in URL bar. The WAGO web-based management screen will be appear. A prompt for username and password will pop-up. Username is "admin" and password is "wago".

First access status information page

The first webpage provides a simple summary of the information regarding the WAGO module.

The screenshot displays the WAGO Ethernet Web-Based Management interface. The browser address bar shows "192.168.1.2/webssrv/index.ssi". The page title is "Web-based Management". The interface includes a navigation menu on the left and a main content area with three sections: "Status information", "Coupler details", and "Module status".

Navigation

- Information
- Ethernet
- TCP/IP
- Port
- SNMP
- SNMP V3
- Watchdog
- Security
- Modbus
- EtherNet/IP
- Features
- IO config
- Disk Info

Status information

Coupler details

Order number	750-352
Mac address	0030DE0B6647
Firmware revision	01.06.31 (08)

Actual network settings

IP address	192.168.1.2
	Determined by Dip Switch
Subnet mask	255.255.255.0
Gateway	0.0.0.0
Host Name	0030DE0B6647
Domain Name	
DNS-Server 1	0.0.0.0
DNS-Server 2	0.0.0.0

Module status

State Modbus Watchdog:	Disabled
Error code:	0
Error argument:	0
Error description:	Coupler running, OK

TCP/IP configuration page

This page is only for configuration of the TCP/IP parameters manually into the EEPROM. DIP switch will need to be set to zero (all in “Off” position – DHCP mode) to use this manual IP configuration.

Information shall be provided by owner or IT department for the network settings

Enter the static IP address meant for the controller.

Enter the Subnet Mask – usually 255.255.255.0

Enter the Gateway address – usually is the router address (192.168.1.1 subjected to changes by local admin)

Enter Domain name – if required cloud access

Enter DNS address 1 and 2 – if available. (Required for cloud access)

The screenshot shows a web browser window with the URL 192.168.1.2/websew/index.ssi. The page title is "WAGO Ethernet Web-Based Management". The navigation menu on the left includes: Information, Ethernet, TCP/IP (selected), Port, SNMP, SNMP V3, Watchdog, Security, Modbus, EtherNet/IP, Features, IO config, and Disk Info. The main content area is titled "TCP/IP configuration" and contains the following text: "This page is for the configuration of the basic TCP/IP network parameters. The parameters are stored in an EEPROM and changes will take effect after the next software or hardware reset. Note that these settings are used only if the DIP switch is set to zero and you have selected 'use IP from EEPROM' at 'Port' configuration page! Otherwise the settings from DIP switch will be used!". Below this text is a table for "EEPROM Configuration Data" with the following entries:

EEPROM Configuration Data	
IP-Address	0.0.0.0
Subnet Mask	255.255.255.0
Gateway	0.0.0.0
Host Name	0030DE0B6647
Domain Name	
DNS Server 1	0.0.0.0
DNS Server 2	0.0.0.0
Switch IP-Address	192.168.1

At the bottom of the table are two buttons: "UNDO" and "SUBMIT".

After setting, click “SUBMIT” and reset the power of 750-352 then these parameters will be enabled.

Please refer to the respective WAGO devices’ installation manual. For more help, please contact DHOS support email at dhos.support@daikin.com.sg

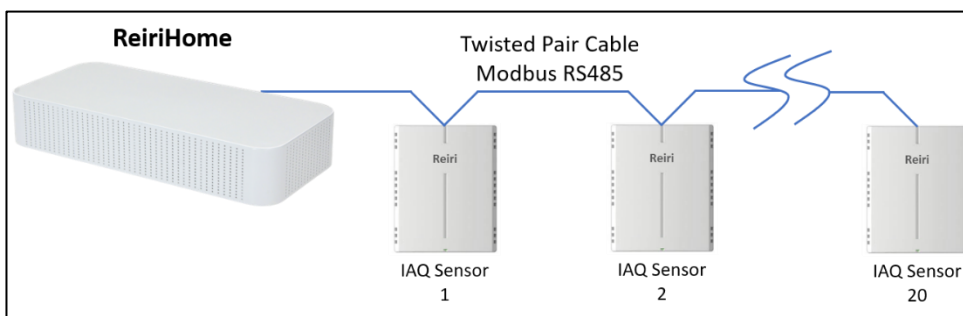
6. Modbus Smart Meter / IAQ Sensor

Up to 10 Modbus Smart Meter and 20 Modbus IAQ Sensor can be connected to ReiriHome via Modbus RS-485 connection.

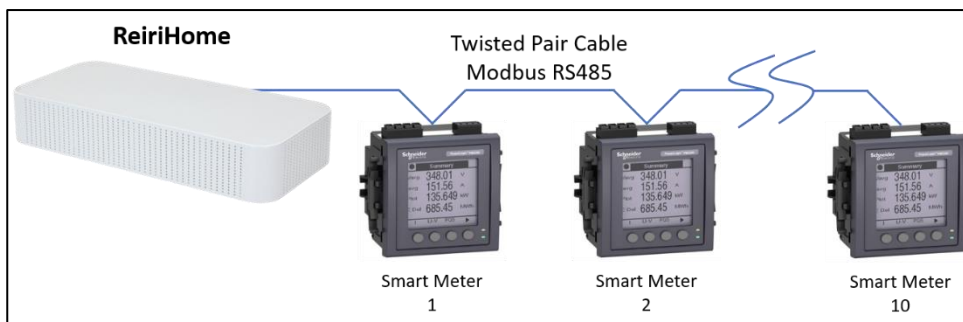
Be sure to connect the positive (+) core to the positive RS-485 terminal and the negative (-) core to the negative RS-485 terminal respectively. Device to device connection can be daisy-chained as per image below.

Each daisy chain can only be connected to one type of device. i.e. Smart Meter only chain with Smart meter, IAQ sensor only chain with IAQ sensor.

Modbus connection for IAQ sensors



Modbus connection for Smart Meters



6.1 IAQ Sensor Address Setting

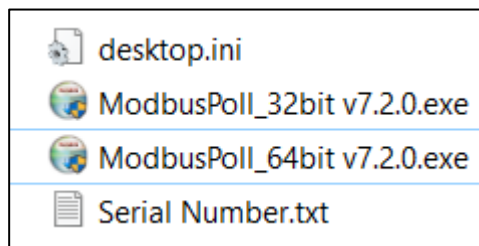
Multiple IAQ sensors can be connected to the Reiri controller via Modbus RS485. Modbus address needs to be set to pair the sensor with the controller. The IAQ sensor requires a Modbus addressing tool to issue the fixed address to the sensor. Default address is fixed to 1.

Additional equipment required:

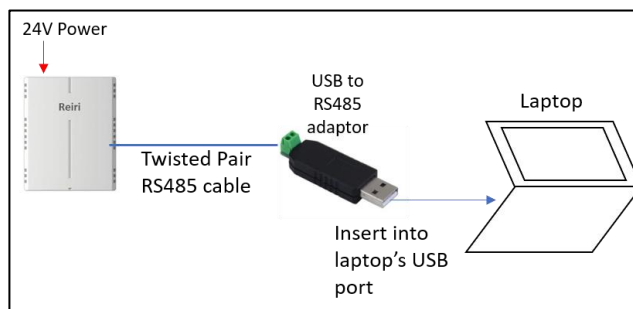
- Laptop or PC
- USB to RS485 adaptor
- RS485 compatible twist pair cable
- 24VDC Power Supply
- Modbus Poll software with configuration file

Steps to set Reiri IAQ Sensor

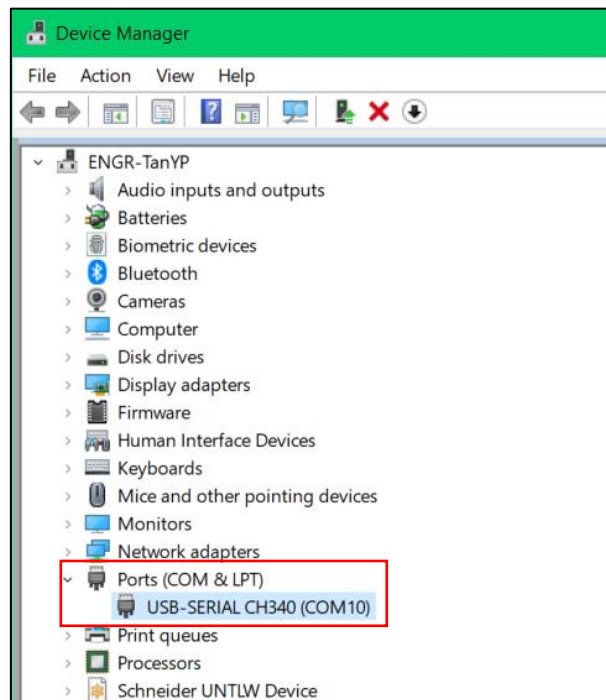
1. Install the addressing tool “Modbus Poll”.
(Select 32bit or 64bit base on operating system format)



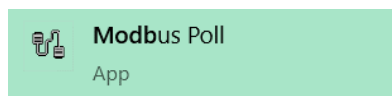
2. Connect Reiri IAQ sensor to power supply and USB to RS485 adaptor
3. Plug in USB to RS485 adaptor to laptop



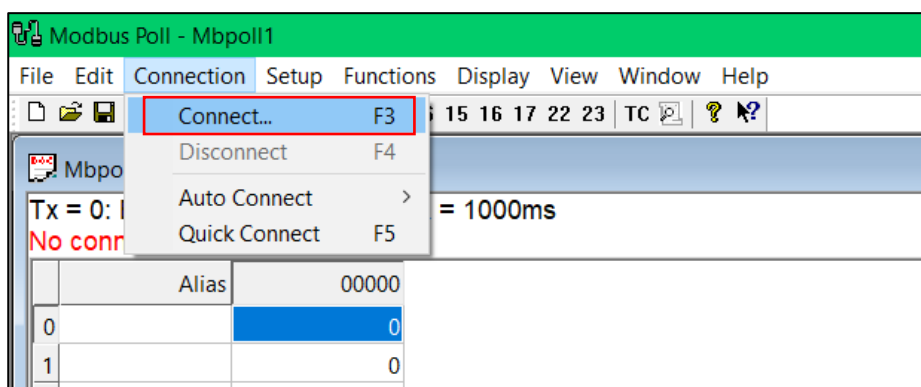
4. Run "Device Manager" in Windows.
5. Look for "COM PORTS" and find the COM port number for the USB to RS485 adaptor

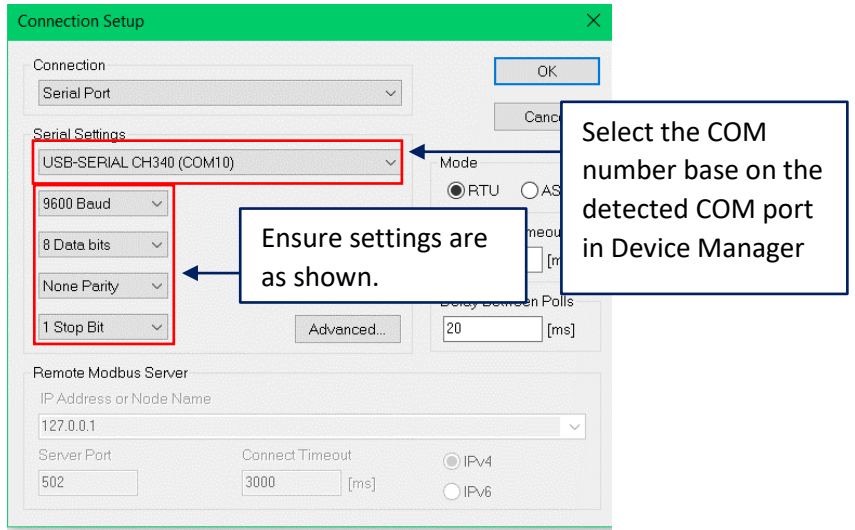


6. Start the Modbus Poll software.

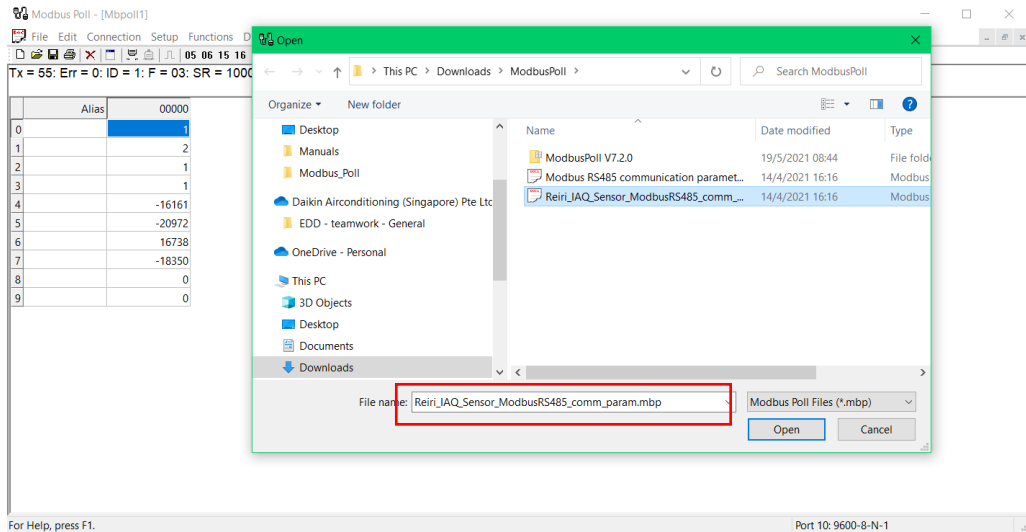


7. Go "Connection" -> "Connect" to set the communication parameters to read the Reiri IAQ sensor. Refer to screenshot for the parameters, except COM port number. Click "Ok" to connect to sensor

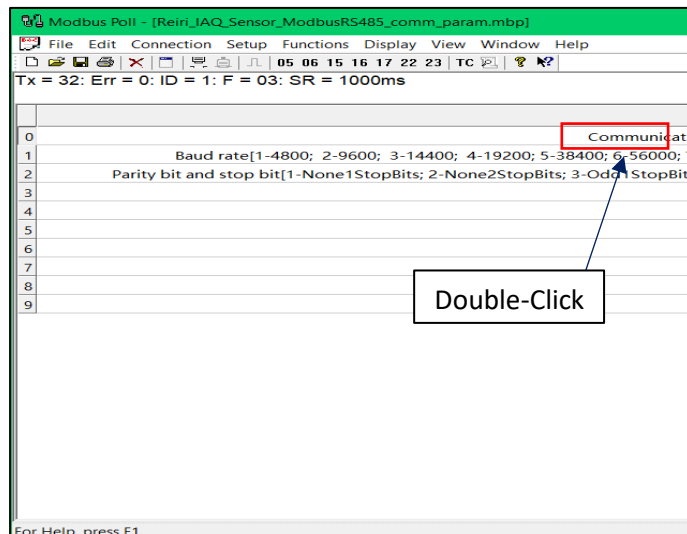




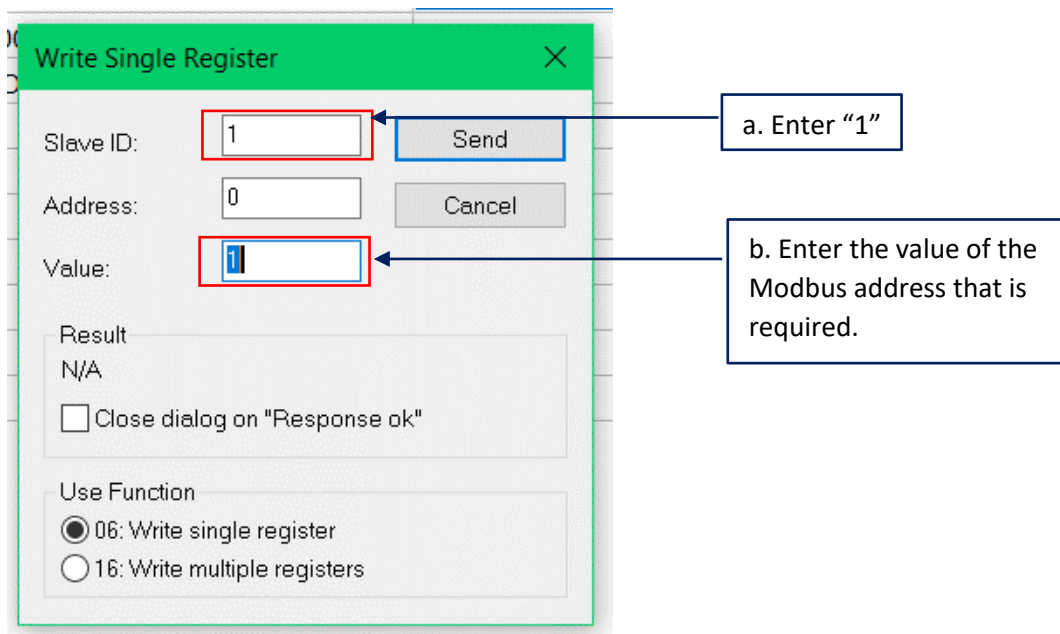
- Go "File" -> "Open". Locate the configuration file template "Reiri_IAQ_Sensor_ModbusRS485_comm_param.mbp"



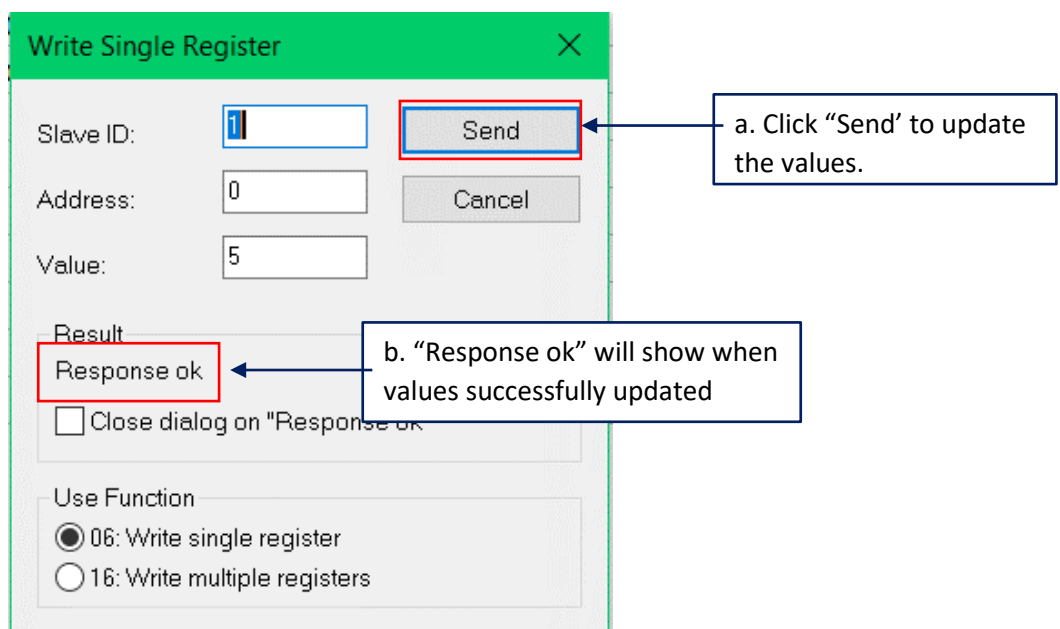
- Double click on the value beside "Communication Address [1-247]".



10. Input Slave ID as “1” in the new window and your desired new Modbus address in “Value” field.



11. Click “Send” and “operation send” will be shown. The address will automatically be the value entered earlier. Clicking “Send” again will have error as the slave ID (address) is no longer 1.



12. The new address for the IAQ sensor has been updated and can be use in pairing. Power off the IAQ sensor and disconnect the Modbus connection to the laptop.

6.2 Smart Meter Communication Setting

Multiple Smart Meters can be connected to the Reiri controller via Modbus RS485. Modbus address needs to be set to pair the meter with the controller. Most Smart meters that have display will have settings menu available on the device. Default address is fixed to 1 for most devices.

For example: Configure the RS-485 communications for Schneider PM5300 Smart Meter with display

1. Navigate using the buttons to Main > Setup.
2. Enter the setup password (default is "0"), then press OK.
3. Press Comm.
4. Move the cursor to point to the parameter you want to modify, then press Edit.
5. Modify the parameter as required, then press OK.
6. Move the cursor to point to the next parameter you want to modify, press Edit, make you changes, then press OK.



7. Finding Network Information (Gateway, DNS, Subnet)

To find the IP settings for gateway, DNS, subnet mask, connect to the same network as the controller by WiFi or Ethernet cable using a computer.

In Windows, run command prompt. At the command line, enter “ipconfig/all” and press enter.

Look for the connected device (WiFi adaptor card or Ethernet card) and record the details for controller network settings. Example shows connection via WiFi so network settings will come from the WiFi adaptor card.

```
Command Prompt
Microsoft Windows [Version 10.0.19042.928]
(c) Microsoft Corporation. All rights reserved.
C:\Users\>ipconfig /all
```

1. Enter “ipconfig/all” and press enter.

```
Command Prompt
Wireless LAN adapter Wi-Fi:
Connection-specific DNS Suffix . :
Description . . . . . : Intel(R) Dual Band Wireless-AC 8265
Physical Address. . . . . :
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . . : Yes
Link-local IPv6 Address . . . . . : (Preferred)
IPv4 Address. . . . . : 192.168. . . (Preferred)
Subnet Mask . . . . . : 255.255.255.0
Lease Obtained. . . . . : Thursday,
Lease Expires . . . . . : Thursday,
Default Gateway . . . . . : 192.168. . . 3
DHCP Server . . . . . : 192.168. . . 9
DHCPv6 IAID . . . . . : 200
DHCPv6 Client DUID. . . . . : -18-0B-
DNS Servers . . . . . : 192.168. . . 38
NetBIOS over Tcpi . . . . . : Enabled
C:\Users\>
```

2. Look for connected network card (WiFi / Ethernet)

Subnet Mask

Gateway

DNS Server