VAMCC-D48384T
VRF Central Controller
Service Manual

CONTENTS

Part 1

Introduction

Introduction

VAMCC-D48384T

1 General

1.1 Safety Precautions

Read these safety precautions carefully before installing the VAMCC-D48384T .

After completing the installation, make sure that the power supply and VAMCC-D48384T operate properly during the

startup operation.

General

❗	**NOTICE** Improper installation or attachment of equipment or accessories could result in electric shock, short-circuit, leaks, fire or other damage to the equipment. Only use accessories, optional equipment and spare parts made or approved by OMEGA.
⚠	**WARNING** Make sure installation, testing and applied materials comply with the applicable legislation.
⚠	**CAUTION** Wear adequate personal protective equipment (protective gloves, safety glasses etc.) while installing, maintaining or servicing the system.
⚠	**WARNING** Tear apart and throw away plastic packaging bags so that nobody, especially children, can play with them. Possible risk: suffocation.

Installation Site

Do not install the equipment in potentially explosive environment.

Electrical

⚡	**DANGER: RISK OF ELECTROCUTION** ■ Turn OFF all power supply before connecting electric wiring or touching electric parts. ■ Disconnect the power supply for more than 1 minute and measure the voltage at the terminals of main circuit capacitors or electrical components before servicing. The voltage must be less than 50 V DC before you can touch electrical components. For the location of the terminals refer the wiring diagram. ■ Do NOT touch electrical components with wet hands. ■ Do NOT leave the equipment unattended when the service cover is removed.
⚠	**WARNING** A main switch or other means for disconnection, having a contact separation in all poles providing full disconnection under overvoltage category III condition, shall be installed in the fixed wiring.
⚠	**WARNING** ■ Only use copper wires. ■ Make sure the field wiring complies with the applicable legislation. Do NOT touch electrical components with wet hands. ■ All field wiring must be performed in accordance with the wiring diagram supplied with the product. ■ Make sure to install earth wiring. Do NOT earth the unit to a utility pipe, surge absorber, or telephone earth. Incomplete earth may cause electrical shock. ■ Make sure to use a dedicated power circuit. NEVER use a power supply shared by another appliance. ■ Make sure to install the required fuses or circuit breakers. ■ Make sure to install an earth leakage protector. Failure to do so may cause electric shock or fire.

*Note: Install the wires at least 1 meter away from televisions or radios to prevent interference. Depending on the radio waves, a distance of 1 meter may not be sufficient.

⚠	**WARNING** ■ After finishing the electrical work, confirm that each electrical component and terminal inside the electrical cabinet is securely connected. ■ Make sure all covers are closed before starting up the units.

Installation Safety

⚠	**WARNING** ■ Do not install the VAMCC-D48384T near areas of electromagnetic interference or next to base station. ■ Locate the VAMCC-D48384T away from sources of steams, possible flammable gas leaks, heat or sulfurous gases. ■ Reserve sufficient space for the installation, and leave adequate spacing between the device and surrounding community service network devices for heat dissipation. ■ Make sure that the installation site is indoors and the VAMCC-D48384T is installed at a height that is 50 cm above the ground. ■ Make sure that the installation site is not exposed to sun and heating devices. ■ Make sure that the device is not installed in humid places or where it is easy for device to come in contact with water. ■ Make sure that the device is not installed in locations where it can be easily corroded or where there are flammable gases. ■ Please install the gateway device in strict accordance with the above instructions and do check the installation site carefully before installation.

Introduction

1.2 Attachments with the Box

The following below listed attachments are provided with the VAMCC-D48384T package.
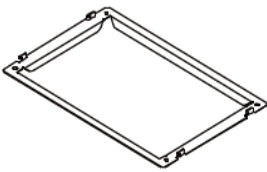
VAMCC-D48384T*1

User Manual *1

Mounting Board*1

3 port terminal with gap 5.08 mm*1

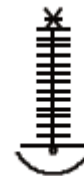**9 port terminal with gap 3.81 mm*2**
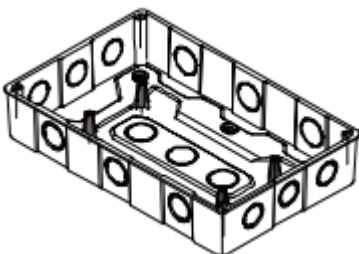
4 port terminal with gap 3.81 mm*3

Plastic washers (Hole Diameter 4 mm)

GB/T950 M4*20 screws (Short)*6

Embedded Junction Box*1

GB/T823 M5*25 Screws (Long)*4

Plastic Expansion Nails*6

2 VAMCC-D48384T Overview

VAMCC-D48384T is the latest central controller or network gateway for OMEGA VMEF, VMEP air conditioning units as well as an important component of OMEGA's smart management system (VABAC-D) for VRF units. It may also be used independently as a centralized controller only using its touch screen. The controller can connect to OMEGA VRF unit through its M-net ports. In the Auto Topology mode, it supports up to 48 refrigerant systems (up to 384 indoor units). It can be used alone with the help of its website or from the touch screen to control as many as 384 units. Also it can be used as a gateway for the latest OMEGA's network Control System (VABAC-D). The VAMCC-D48384T gateway uses a LAN port to connect to the local area network or internet. The network structure for VAMCC-D48384T is shown in the picture below:
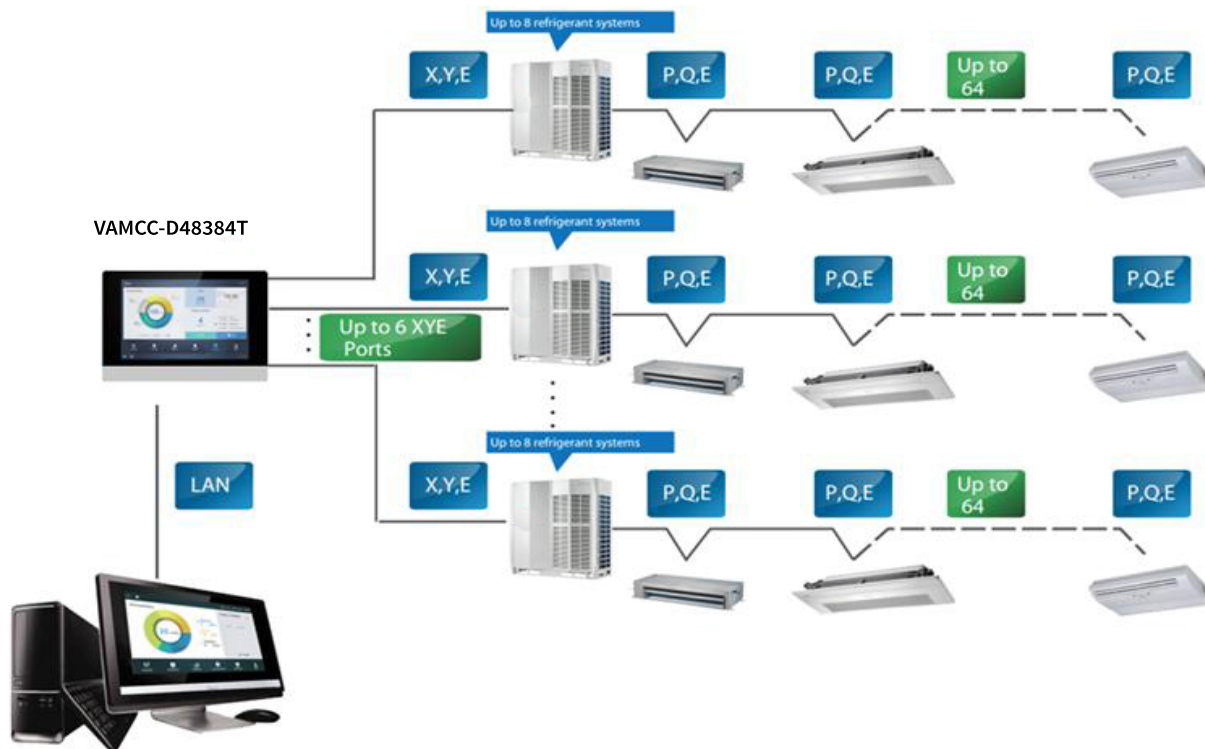
Please note that there are three ways to use the VAMCC-D48384T:

Option 1: It can be used as a centralized controller and we can use its touch screen interface to control the indoor and outdoor units. Using this way, the centralized controller can be used to control up to 384 indoor units.

Option 2: We can use its website to control the units, by connecting this gateway device to the computer using a LAN cable. The website of the gateway is 192.168.100.40:8000. Using this way, we can control up to 384 indoor units.

Option 3: We can use this gateway to connect with the VABAC-D software. VABAC-D is the latest network control software by OMEGA and it can connect up to 10 VAMCC-D48384T devices, with a capacity to control up to 3840 indoor units.

3 VAMCC-D48384T Hardware Description

3.1 Dimensions

3.1.1 VAMCC-D48384T Front and Side Views

(Unit: mm)
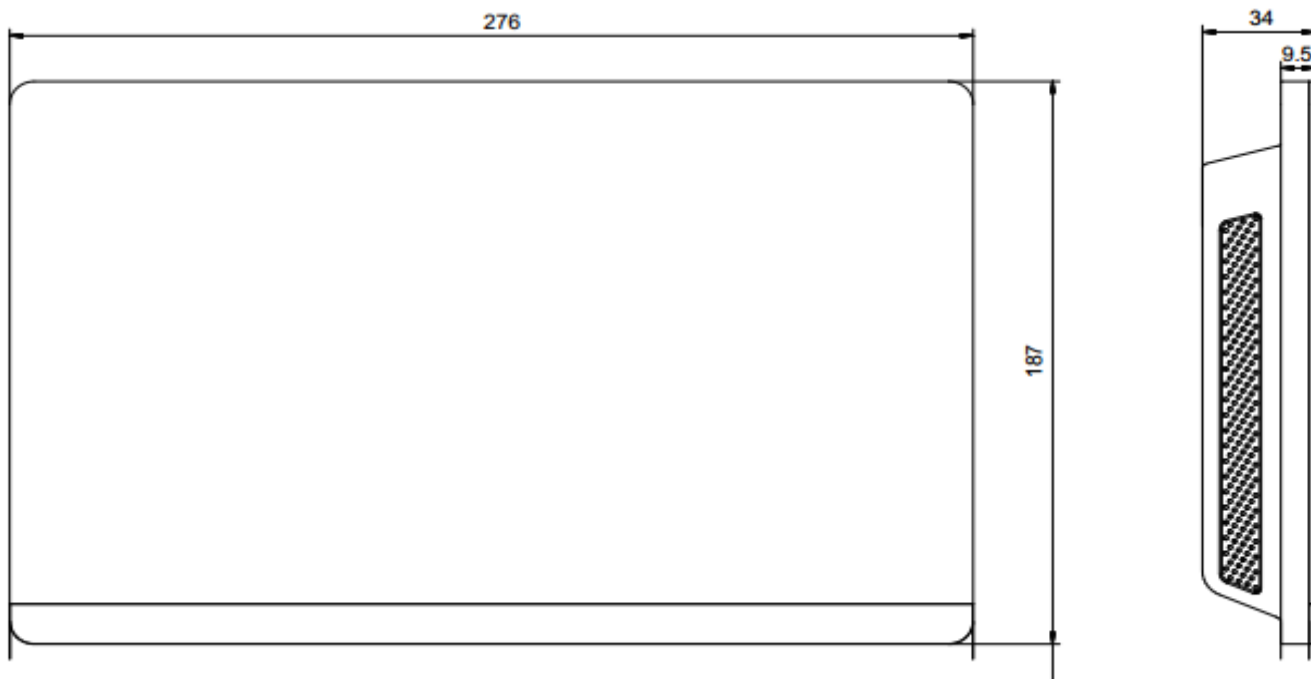
3.1.2 Structural Dimensions of the embedded Junction Box

(Unit: mm)

Before digging an opening in the wall, it should be made sure that the opening is big enough to fit the embedded junction box.
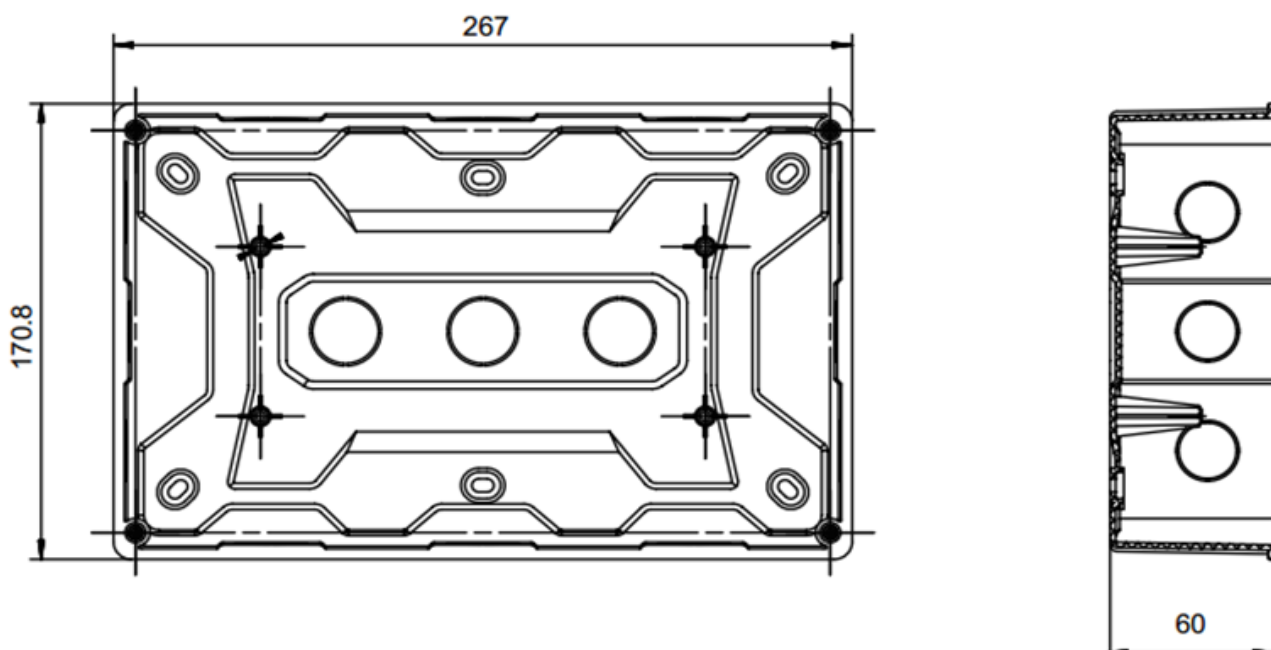
3.2 Back Wiring
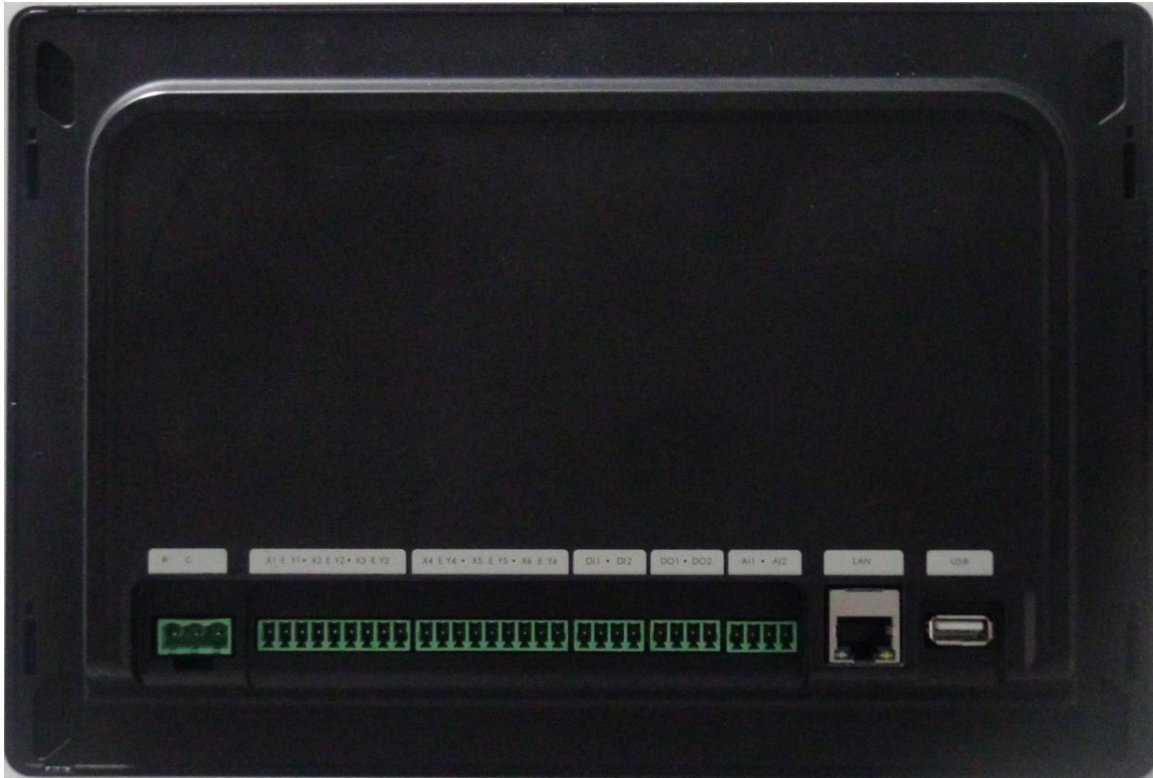
The VAMCC-D48384T has six M-net ports, one LAN port, one USB extension port and six reserved I/O ports. It can connect to OMEGA CAC system through the M-net ports and connect to the local area network or internet through the LAN port. You may also use a browser on a computer or other similar devices to access the VAMCC-D48384T website to monitor the VRF units or you can simply use the 10.1 inch touch screen interface of the VAMCC-D48384T.

Important Points

1. VAMCC-D48384T must be installed at one end of the M-net communication bus. Do not install it in the middle of the bus.
2. It needs a three-core shielded cable of AWG 20-22 for the communication wires.

Introduction

3.3 Port Diagram
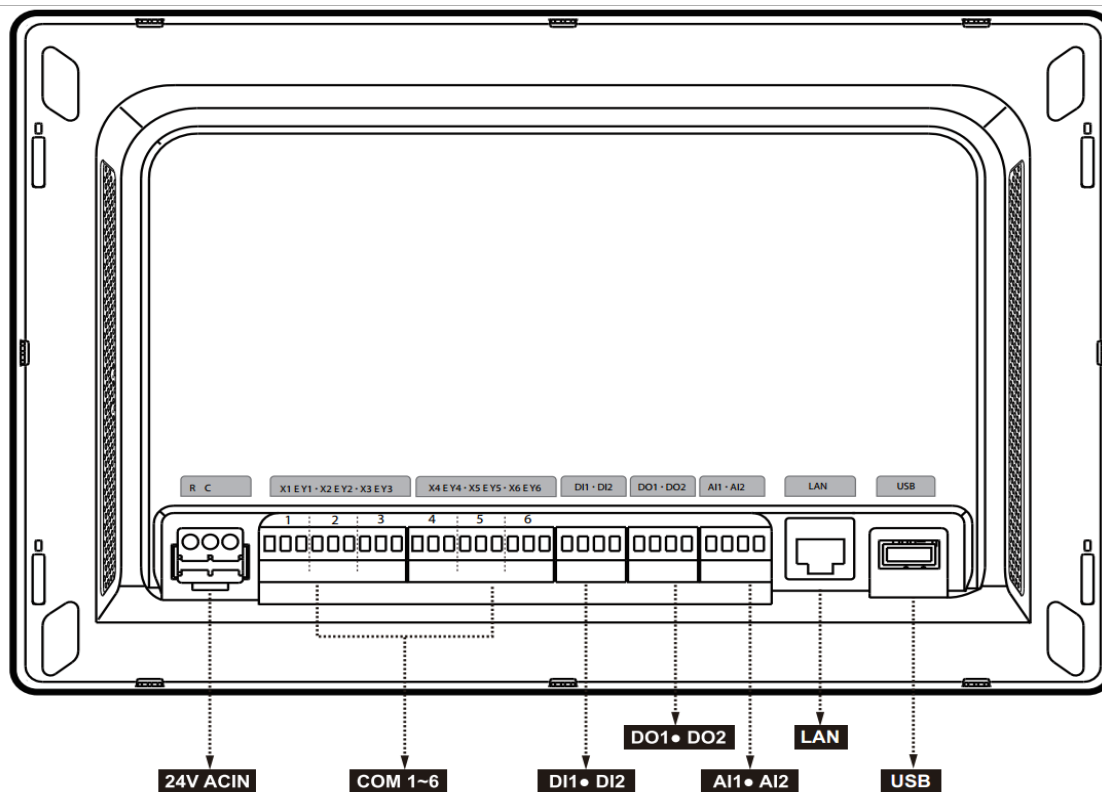
Port	Description
R	24VAC
C	24VAC
X	Interface X , XYE bus (COM1-6)
Y	Interface Y , XYE bus (COM1-6)
E	Interface E , XYE bus (COM1-6)
DI1	Reserved
DI2	Emergency stop dry contact
DO1	Reserved
DO2	Reserved
AI1	Reserved
AI2	Reserved
LAN	The Ethernet Interface connected to the network is used to access the device
USB	The USB 2.0 interface is used to export reports, import floor plans and topology files and so on.

The touch-screen centralized controller detects the status of DI2 every 5 seconds. When DI2 is closed, emergency stop is triggered, and the controller records the operating modes and set temperatures of IDUs that are active at that moment, and sends a shutdown command to these IDUs. Then, the controller detects the statuses of DI2 and IDUs every 60 seconds. If DI2 is still closed, the controller continues to send shutdown commands to IDUs. If DI2 is open, the controller releases the emergency stop. If "Recovery after emergency stop" is enabled, the controller sends a startup command to these IDUs and restores the IDUs to the recorded operation statuses before the emergency stop. After emergency stop is released, the controller will enable "Recover devices after emergency stop" according to configurations in "Advanced Settings".

Note: Emergency stop can be triggered only on devices that have been started up for more than 3 minutes.

3.4 Energy Meter Introduction

To use the "ECS" function of VAMCC-D48384T, an energy meter should be connected to the outdoor units to monitor the energy consumed which thereby can be sent to the VAMCC-D48384T and hence it can be used to bill the tenants of indoor units according to the usage of indoor units done by them.

Two models of energy meter are available from OMEGA, which are listed as follows:

Model	Current
DTS 634/636	Up to 60 A
DTS634-F	Up to 100 A

The wiring diagrams of the energy meter with the outdoor unit have been discussed in detail in the Part 3 "Functions" of this manual.

Introduction

4 VAMCC-D48384T Specifications

Power Supply Specifications	Voltage Range	Single Phase , 24VAC , 50/60Hz
Operating Conditions	Power Consumption	24 W Maximum
	Voltage Fluctuations	±10% of Rated value
	Ambient temperature	0~40°C
	Storage Temperature	-10~60°C
	Dimensions (mm) (W*H*D)	270×183×26.7
Dimensions	Ambient Humidity	10~90%
Weight	0.85 Kg	
Device Color	Black	

4.1 VAMCC-D48384T Numeric Analysis

Here in this section, we have described the number of units that can be controlled by one VAMCC-D48384T device. The numbers show up as follows:

| Parameter	Number
Number of ports	6
Communication Wire Interface	XYE
Maximum No of Indoor Units	6*64
Max No of Systems	6*8
Internet Access Mode	Ethernet/WLAN
Screen Resolution	1280*800
USB	USB2.0
Power Supply	24VAC

4.2 Comparison with VABAC-D

Parameter	VAMCC-D48384T	VABAC-D
Touch Screen	10.1 Inches	No Screen
Centralized Controller	Can be used as centralized controller without any computer	Cannot be used as a centralized controller
Maximum No. of Systems	8*6	8*4
Map View	Available	Not Available
IDU Grouping Function	Available	Available
Maximum No. of IDUs	384	256
Independent Control without Computer	Available	Not Available
Email Support	Available	Not Available
Eco Control of IDU & ODU	Available	Available
Wi-Fi Support	Available	Not Available
Schedule	Available	Available
USB Support	Available	Not Available
Brightness Adjustment	Available	Not Available
Electricity Distribution Function	Available	Available
Energy Statistics Record Time	12 months	2 months
BACnet BMS Support	Not Available	Available

Introduction

5 VAMCC-D48384T Network

The VAMCC-D48384T gateway uses the M-net ports to connect to the OMEGA VRF units and the LAN port to connect to the local area network or internet. A power cable of 24VAC needs to be purchased by the user himself to connect with the centralized controller (VAMCC-D48384T) and give power to the controller. The network topology for VAMCC-D48384T is shown in the picture below:
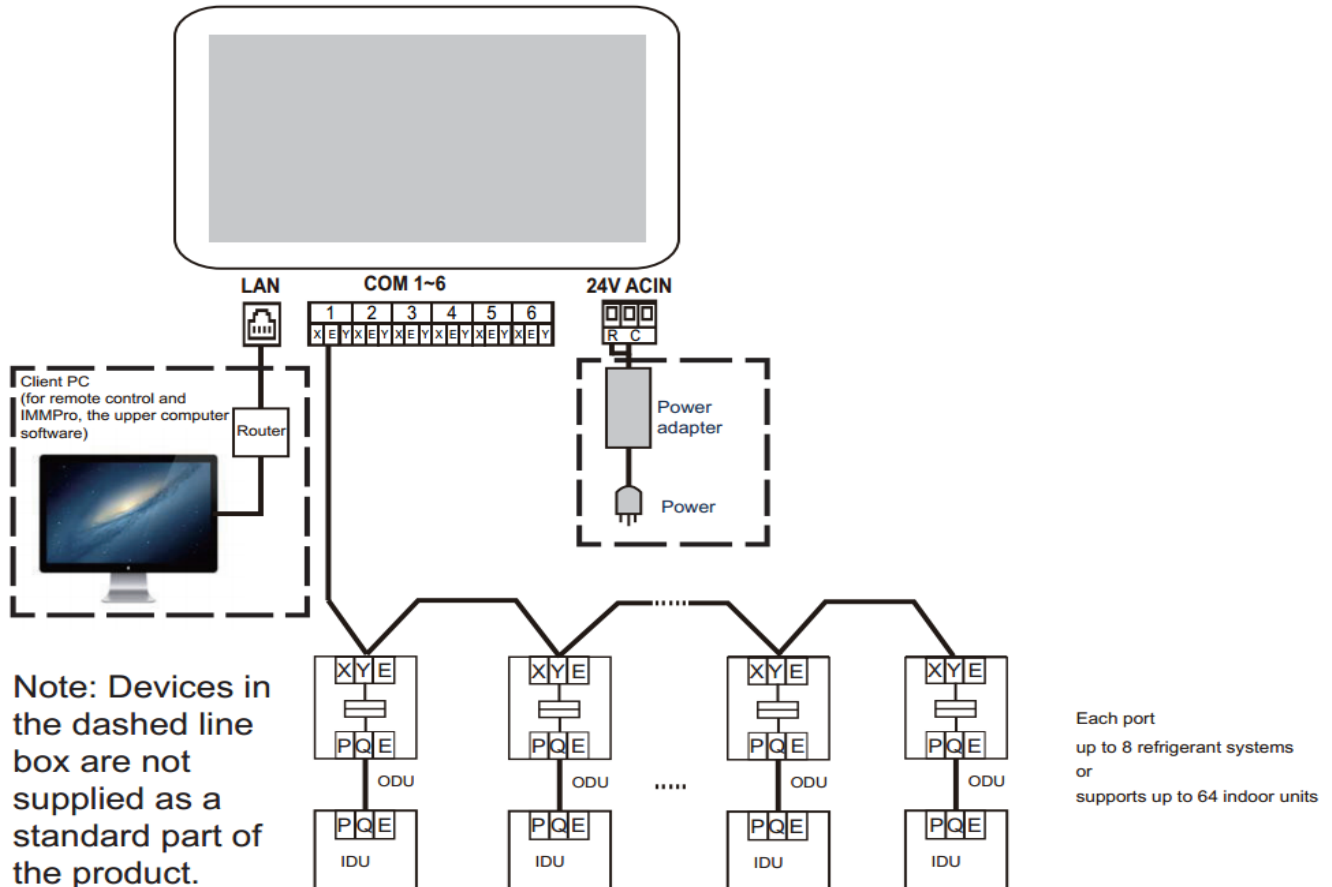
The VAMCC-D48384T has six M-net ports (XYE), one LAN port, one USB extension port, and six reserved I/O ports (named as D|1, D|2, DO1, DO2, A|1, A|2). It connects the OMEGA Central Air Conditioning system through the M-Net ports and connects to the local area network or internet through the LAN port. The power cable for VAMCC-D48384T is not supplied with the box. The user needs to purchase it himself from the outside market. It is a 24 VAC supply power cable required for the centralized controller. The XYE from the master ODU connects with the M-net port of the VAMCC-D48384T. The connection with the LAN can be made by the LAN cable or router depending up on the specific project configurations. Each XYE port of the VAMCC-D48384T can connect up to 64 indoor units or up to 8 refrigerant systems. There is a support for USB 2.0 also available in the VAMCC-D48384T device which can be used to upload and download certain documents outputted under the "Report" function of the centralized controller.

Important Points:
1. The VAMCC-D48384T must be installed at one end of M-Net communication bus. Do not install it in the middle of the communication bus.
2. It needs a three-core shielded cable of AWG 20-22 for communication wires.

6 Supported Models

1. Supports VMEF, VMEP series of outdoor units.
2. Communication line to the M-Net port must be connected to the master outdoor unit.
3. The VAMCC-D48384T is a gateway device based on web technologies which has nothing to do with the operating systems of computer or other similar devices. Once you are connected to the network, you can use the browser on the system platform to view the website of the centralized controller gateway anytime, anywhere. Chrome browser (version 52.0 or above) is recommended.

    Note: When multiple accounts log in at the same time and related parameters (such as setting function parameters, schedule, group edit and map edit) are edited simultaneously, a modification conflict may occur. When an account is used to modify information other logged-in accounts must log in again to obtain the most recent information.

7 Languages Supported

For the current version, English and Chinese are the two languages which are supported by VAMCC-D48384T gateway centralized controller both for the touch screen as well as computer website.

Introduction

Part 2
# Installation &
Commissioning

Installation & Commissioning

1 Installation and Commissioning

For Touch Screen: In this section, it is explained about how to install the hardware of VAMCC-D48384T in the wall and also what are the various connections that are required to be done between the centralized controller and the VRF units to use the centralized controller to control the units. Also, it is discussed that there are two ways to install the units into the centralized controller depending up on the type of indoor units and outdoor units combination that is by Auto Topology mode and Manual Topology mode. This has been discussed in detail below.

For Computer Website: In this section, we will take a look at the various connections and configurations that need to be done between the VAMCC-D48384T & computer to make the VAMCC-D48384T and higher devices (in case connected with VABAC-D) run successfully. Similar to touch screen, there are two ways in which we can install the units in the VAMCC-D48384T website i.e. the Auto Topology and Manual Topology. Here, we will have a look at both these also in "Topology Modes" section1.2.

1.1 VAMCC-D48384T Hardware Installation Nomenclature:
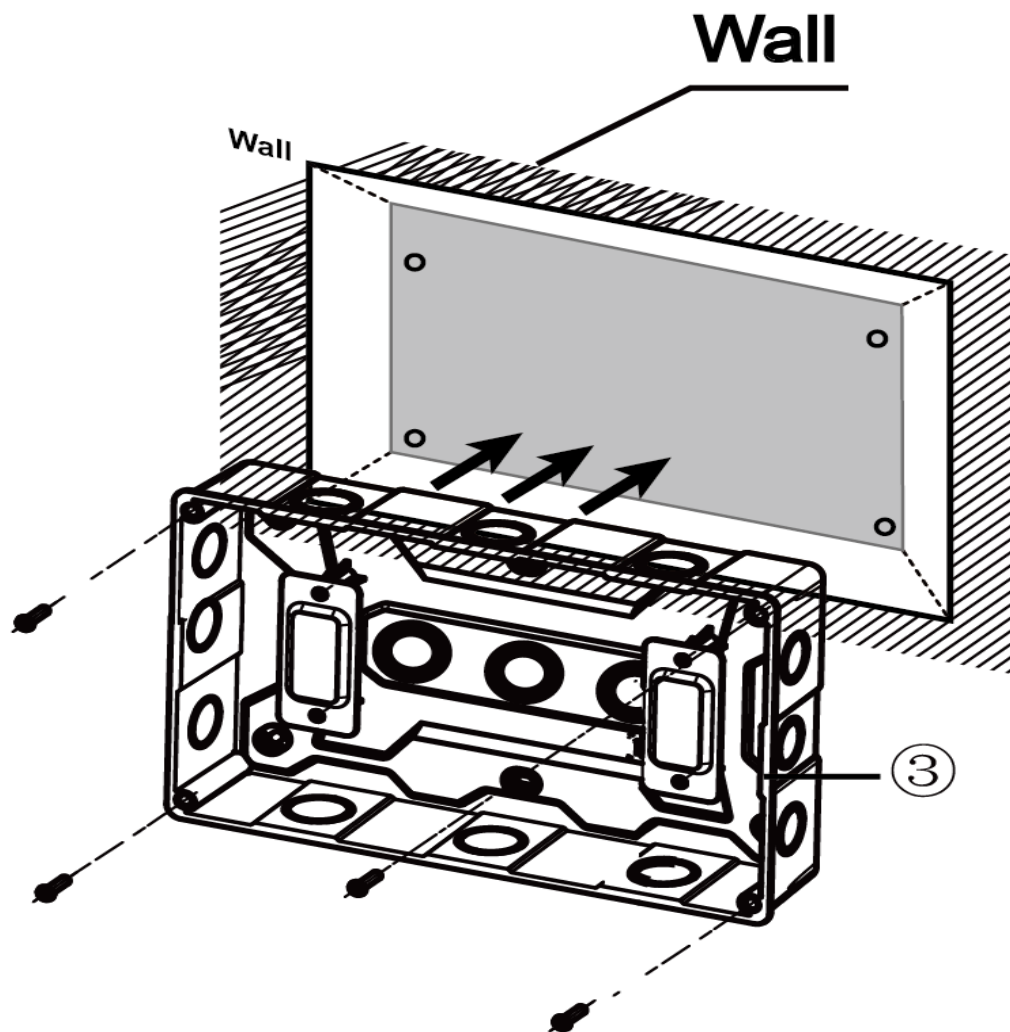
### 1.1.1 Mounting the Embedded Junction Box

Mount the embedded junction box within the wall. Ensure that the outer surface ③ of the embedded junction box is level with the wall surface.
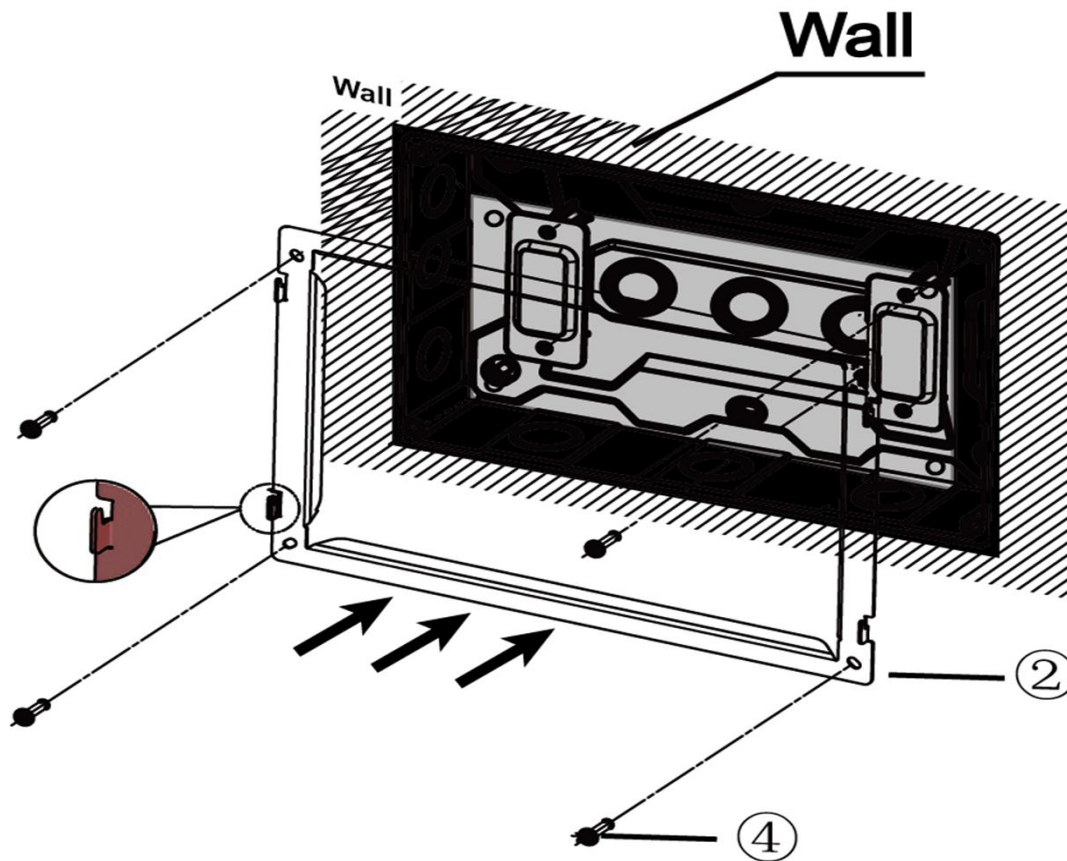
1.1.2   Install the Metal Parts

Make sure that the hooks of the metal parts face upwards. Use 4 screws ④ provided as accessories to secure on the installation base.

Note: Make sure that appropriate force is exerted to secure the metal parts with the screws. Excessive force may lead to deformation of the four screw holes for the metal parts, which would make it hard to mount the metal mounting board.

Installation & Commissioning
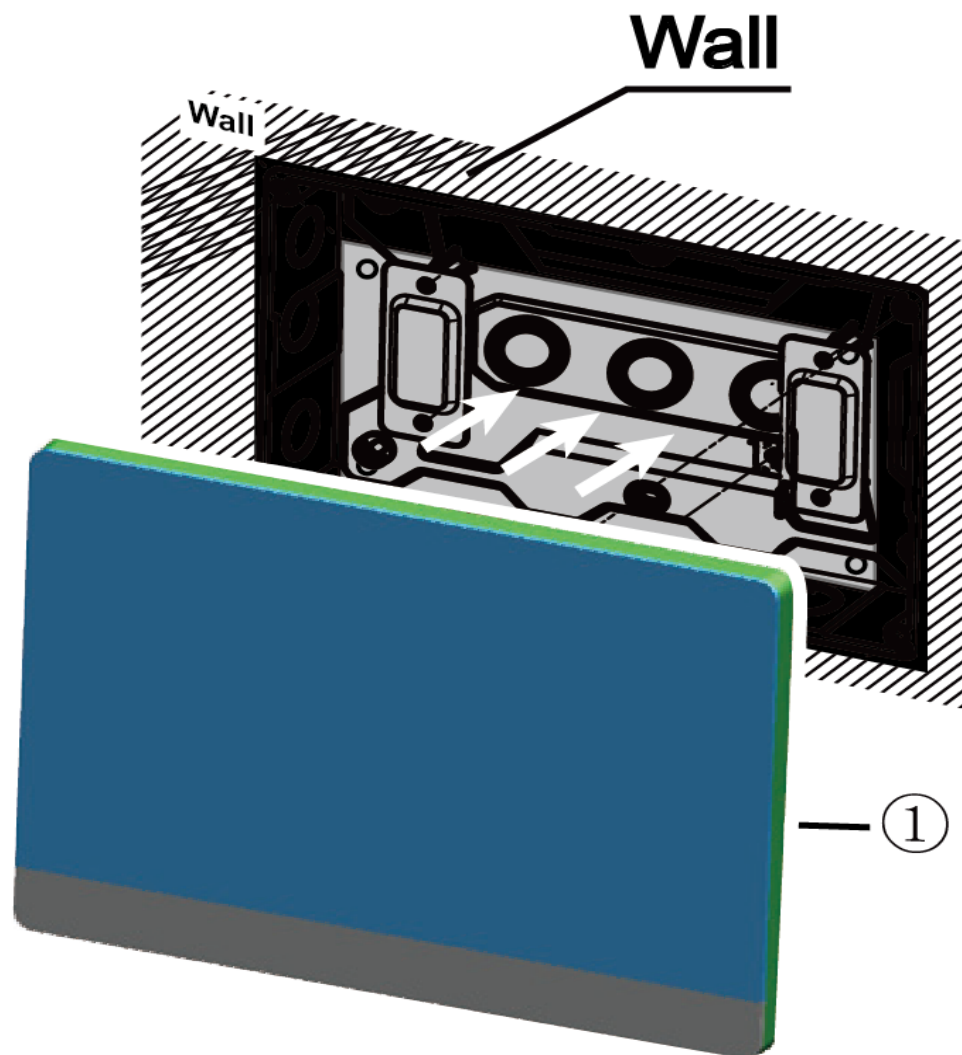
1.1.3 Install VAMCC-D48384T

Once the connections are done, place the main unit vertically into the installation base. A magnetic force would attract the controller. Exert downward force to mount the controller on the metal part. There are hooks which are attached on the installation base and the controller can be mounted on these hooks. This will facilitate easy removal in case of maintenance.

1.2 Topology Modes

Before we go to further sections and discuss in details about the installation and commissioning part, it's important for us to understand the concept of topology and what differences the two kinds of topologies can have on the working of our VAMCC-D48384T centralized controller gateway device. In this part we have explained the two topology methods in detail.

1.2.1 Auto Topology Mode

This is the basic mode of connection while using the VAMCC-D48384T centralized controller. This type of topology does not require the user to upload any topology file. The user simply needs to connect the units with the controller and on searching the information about the air conditioning units through the "Install" tab, would be available to the computer website/touchscreen. But this kind of topology can only be used when we use the latest **2nd Generation DC IDUs** with **VMEF, VMEP ODUs only**. For any other combinations, this topology cannot be used.

For Touch screen & computer website: The conditions to use the auto topology are same both in the case of computer website as well as touch screen.

Function	Number
Number of XYE Ports	6
Maximum IDUs for 1 XYE Port	64
Maximum Number of Systems for 1 XYE Port	8
Maximum Number of Indoor Units	384
Maximum Number of Refrigerant Systems	6*8=48

VAMCC-D48384T

1.2.2 Manual Topology Mode

This topology mode is used when we try to do misconnection (i.e. connect 1stGeneration DC/AC IDUs with VMEF, VMEP ODUs) or (connect 2nd Generation DC IDUs with non-VMEF, VMEP ODUs). In this case, it needs to be communicated to the VAMCC-D48384T what are the actual connections between ODU and IDU, hence this type of topology file needs to be uploaded in the website. The details about the Manual Topology document have been discussed in the lower part of this section in detail.

Note: The centralized controller will not work under the following combinations: Non-

VMEF, VMEP ODUs connected with 1st Generation DC/AC IDUs.

Function	Number
Number of XYE Ports	6
Maximum IDUs for 1 XYE Port	64
Maximum Systems for 1 XYE Port	8
Maximum Number of Indoor Units	384
Maximum Number of Refrigerant Systems	6*8 = 48

Installation & Commissioning

Manual Topology Document

In case of using the manual topology mode, we need to supply the complete information about the connections between the ODU and IDU to the VAMCC-D48384T in the form of a topology document. This document can be uploaded into the controller with the help of the USB disk.

The topology file is made in Microsoft Excel and it needs to be saved with the extension ".csv" from where it can be used as a "Manual Topology Document" for VAMCC-D48384T. The various columns that need to be filled in this document are explained as under:

Sample Manual Topology Document

The following columns in the file are explained as under:

Column	Description
bus	0-5 depending up on the port in which the units are connected
system	Refrigerant system address (0-7)
address	Equipment address (ODU 0-31), IDU (0-63)
unitName	Name of the equipment (equipment names cannot overlap)
unitModel	Model (IDU 0-12, ODU 0-2); For details, refer to IDU and ODU type in the "Control" tab description.
fan	Fan power is 0 by default (For relations between fan power and the corresponding models, refer to the IDU manual)
eHeat	Electric auxiliary heating power is 0 by default (For relations between electric auxiliary heating power and the corresponding models, refer to the IDU manual)
deviceType	Equipment type (IDU 0; ODU 1)

After finishing this document, the user needs to save this document with the extension of ".csv" and thereafter, it can be used as a Manual Topology document.

There may be some prompt error message which pops up while trying to upload the Manual Topology document. These prompt messages and the measures required to remove them are explained as under:

Prompt Message	Description
Failed to import files	**Reason 1:** If the columns, such as "bus", "system", "address", "unitModel", "fan", "eHeat" and "deviceType" are filled correctly, the system will report this error for non-digital input. **Reason 2:** Negative numbers exist in Manual Topology document. **Reason 3:** In case files are damaged or USB drive was pulled out when the system was reading files, an error will be reported when reading file streams.
The imported system bus exceeds limit. Please confirm it before search	VAMCC-D48384T port is not within 0-5.
The imported refrigerant system exceeds limit. Please confirm it before search	Refrigerant system address is not within 0-7.
An invalid device type is imported. Please confirm it before search.	The unit model is not within IDU 0-12 and ODU 0-2.
The imported IDU address exceeds limit. Please confirm it before search.	IDU address is not within 0-63.
The imported ODU address exceeds limit. Please confirm it before search.	ODU address is not within 0-31.
The imported data contains duplicated data. Please confirm it before search.	**Reason 1:** Equipment names overlap. **Reason 2:** More than two equipment overlap in the data. Standard for data overlap is (the same bus, the same address and the same equipment type).
No files meet format requirements.	Only parse ".csv" files. If the file is not this, the system will report error.
Folder does not exist.	In case the USB drive is not inserted or USB drive does not have enough space, the system will report this error.
If column names unable to parse exist in the imported columns, please correct the names before import.	**Reason 1:** If other files are changed to ".csv" format, errors occur when parsing. **Reason 2:** Unable to parse if importing column names are beyond the notes on Manual topology document. This error will be reported in this case.
The length of imported equipment name exceeds limit	Equipment name exceeds 12 characters.
The length of imported fan power exceeds limit.	Fan power exceeds 65535.
The length of imported auxiliary heating power exceeds limit.	Motor power exceeds 65535.
Contents of imported files are empty.	This error would occur when the contents of imported files are empty.

Manual Topology Document for Auto Topo

Yes, the manual topology document can also be used in case of auto topology that is when we connect the DC indoor units with VMEF, VMEP outdoor units. Of course, we can simply use the auto topology mode for this combination and we don't need to use the manual topology here and the controller can automatically detect the indoor units by itself. But, there are a few advantages in case we use the manual topology document here.

We can write the name for the devices in the topology file according to our convenience as it is slightly easier to write the names in the Excel file rather than the software. But in case, you want to use this option, you should make sure that along with the name, all the other columns in the manual topology document are also filled properly.
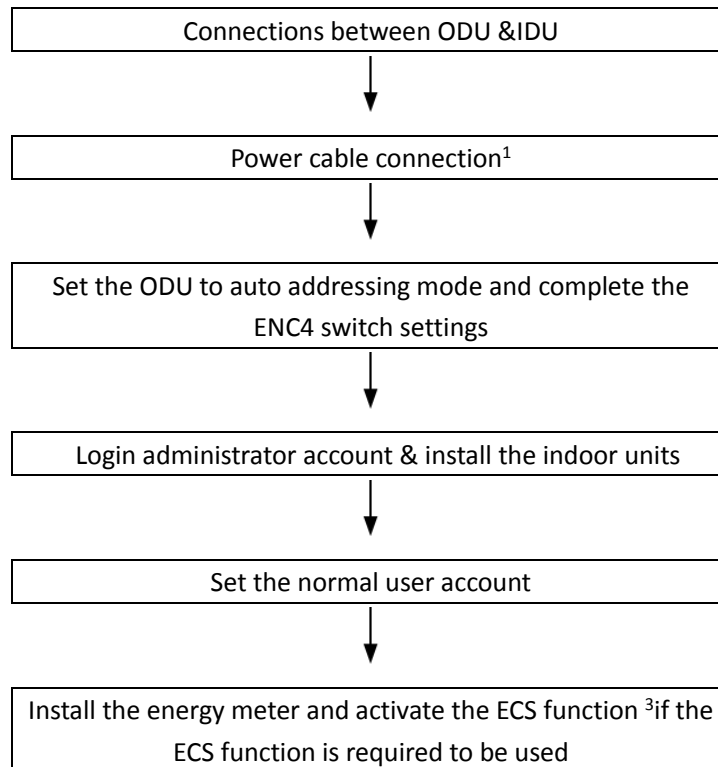
Installation & Commissioning

1.3 Flow Chart

Before we discuss in detail about the various steps that need to be followed for successful installation and commissioning of VAMCC-D48384T device, below is listed a flow chart of all the events that need to be followed. In this flow chart, is given a sequence of actions that need to be followed to successfully finish the installation and commissioning of the VAMCC-D48384T gateway device both for touch screen and computer website.

1.3.1 For Touch Screen only

The following flow chart describes the installation steps while only the VAMCC-D48384T is required to be used as a centralized controller.

```
+---------------------------------------------+
|        Connections between ODU &IDU         |
+---------------------------------------------+
                      |
                      v
+---------------------------------------------+
|        Power cable connection[1]            |
+---------------------------------------------+
                      |
                      v
+---------------------------------------------+
|  Set the ODU to auto addressing mode and    |
|  complete the ENC4 switch settings          |
+---------------------------------------------+
                      |
                      v
+---------------------------------------------+
| Login administrator account & install the   |
| indoor units                                |
+---------------------------------------------+
                      |
                      v
+---------------------------------------------+
|          Set the normal user account        |
+---------------------------------------------+
                      |
                      v
+---------------------------------------------+
| Install the energy meter and activate the   |
| ECS function [3]if the ECS function is       |
| required to be used                         |
+---------------------------------------------+
```

Note: 1 The power cable is not provided as a standard accessory within the box. The user needs to buy the power cable from the market himself.

2 The LAN cable is also not an accessory in the box. The user needs to purchase it himself.

3. Refer to 1.15.Activating the ECS function for complete details on activation of ECS function.

1.3.2 For Computer Website

The following flow chart describes the installation steps required while we need to use only the computer website of VAMCC-D48384T.

```
┌─────────────────────────────────────────────────┐
│           Connections between ODU &IDU           │
└─────────────────────────────────────────────────┘
                         │
                         ▼
┌─────────────────────────────────────────────────┐
│           Power cable connection[1]              │
└─────────────────────────────────────────────────┘
                         │
                         ▼
┌─────────────────────────────────────────────────┐
│           LAN/Network connections[2]             │
└─────────────────────────────────────────────────┘
                         │
                         ▼
┌─────────────────────────────────────────────────┐
│           Pre Installation(IP) Settings          │
└─────────────────────────────────────────────────┘
                         │
                         ▼
┌─────────────────────────────────────────────────┐
│    Set the ODU to auto addressing mode & adjust  │
│                  ENC4 switch*                    │
└─────────────────────────────────────────────────┘
                         │
                         ▼
┌─────────────────────────────────────────────────┐
│      Open the website; Login & Install the Units │
└─────────────────────────────────────────────────┘
                         │
                         ▼
┌─────────────────────────────────────────────────┐
│            Set the normal user account           │
└─────────────────────────────────────────────────┘
                         │
                         ▼
┌─────────────────────────────────────────────────┐
│  Install the energy meter and activate the ECS   │
│  function if the ECS function is required to be   │
│                      used                        │
└─────────────────────────────────────────────────┘
```
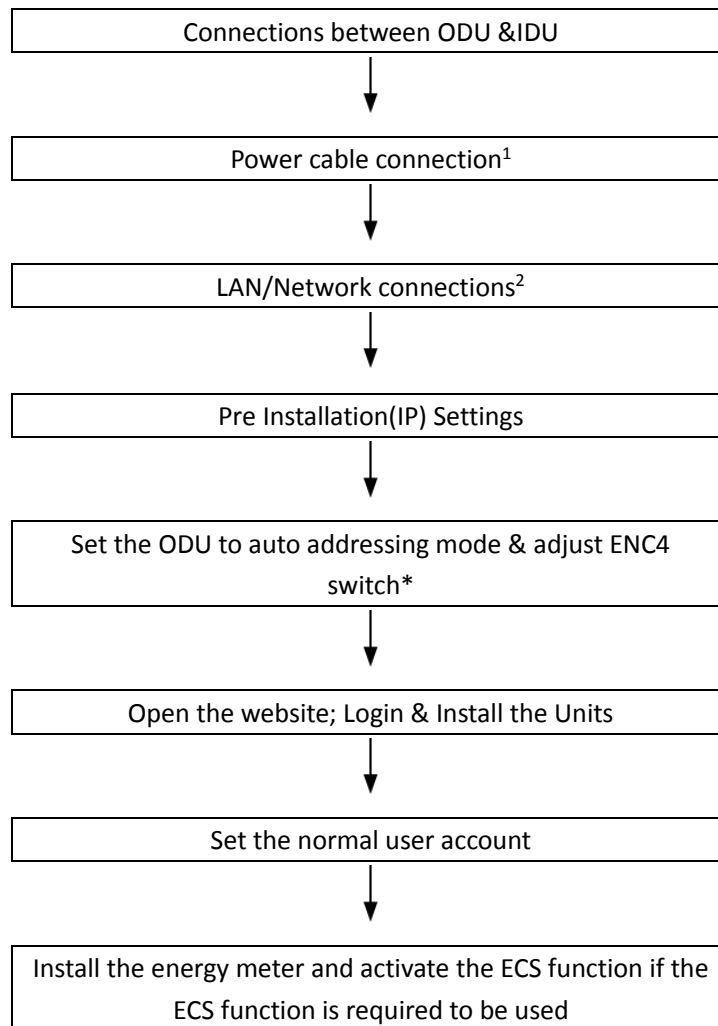
Note: * The ENC4 setting is not required in caser only one system is being used in each port.

Note: 1. The power cable is not provided as a standard accessory within the box. The user needs to buy the power cable from the market himself.

2 The LAN cable is also not an accessory in the box. The user needs to purchase it himself.

3.Refer to 1.15 Activating the ECS function for details about activating the ECS function of VAMCC-D48384T.

Installation & Commissioning

1.4 Connections between ODU and IDU

Connect the IDU and ODU following the respective installation manuals. Connect XYE from the master ODU to XYE port of VAMCC-D48384T.

Important Points:

1. In case where one port is connected to multiple systems, make sure that the system address, IDU address and ODU network address on the same bus do not overlap.

2. The linear order of the ports is XEY from left to right. Each port supports 64 IDUs and 8 refrigerant systems at most.

1.5 Power Cable Connections

We need to make sure that the power supply has been provided to the VAMCC-D48384T. If the power supply is not there we cannot perform the further operations such as searching the units. The power cable is not provided as a standard accessory with the box. The user needs to purchase the power cable from the market himself. The specifications are as follows:

Specification	Description
Power Supply	24V AC
Input Current	1000 mA

(Power Port for VAMCC-D48384T)

The power cable of the adaptor needs to be connected by a 3 port terminal into the terminal labelled RC on the back side of the VAMCC-D48384T touch screen centralized controller. The power terminal pin sequence is R, C and null from left to right.

After making the connections for power cable, switch ON the power. If the connections are correct, you will land to the boot screen for the device.
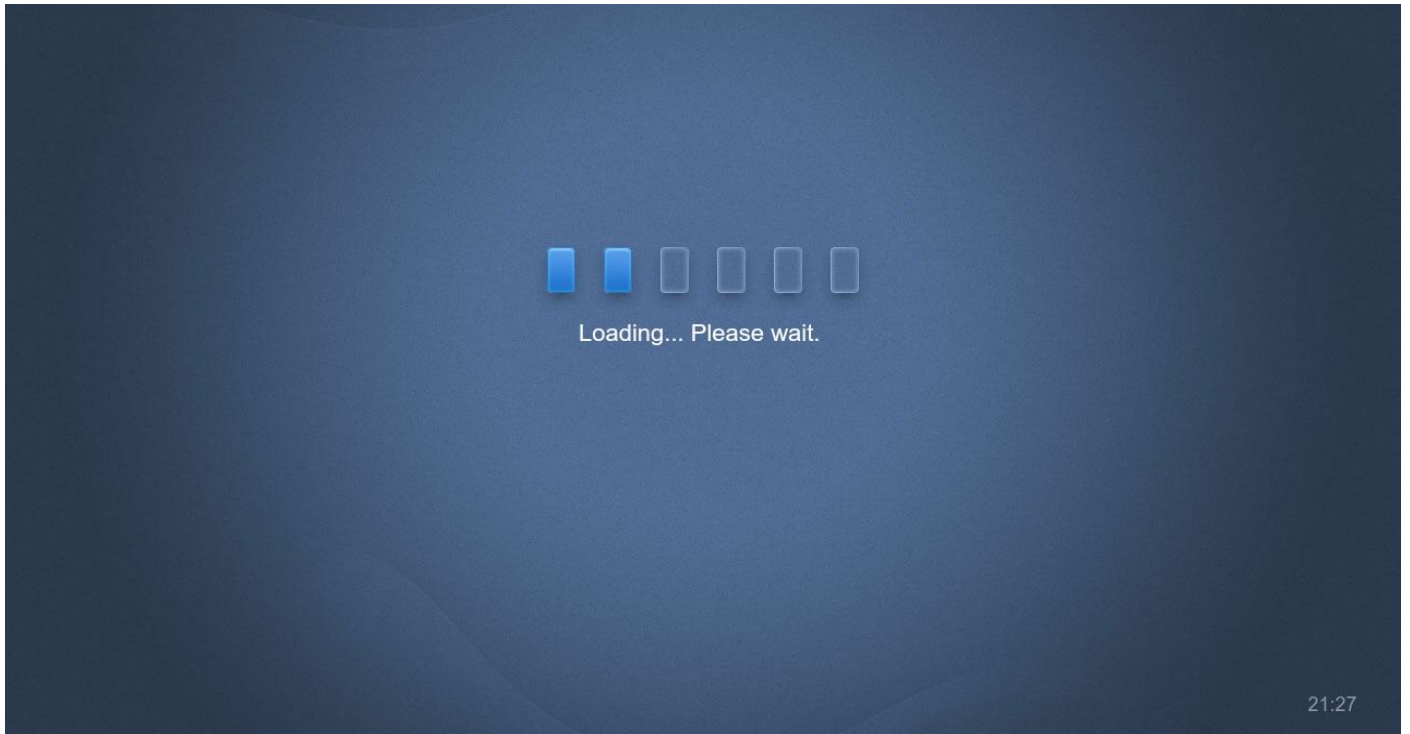
After some time, the touch screen will land to the user interface.
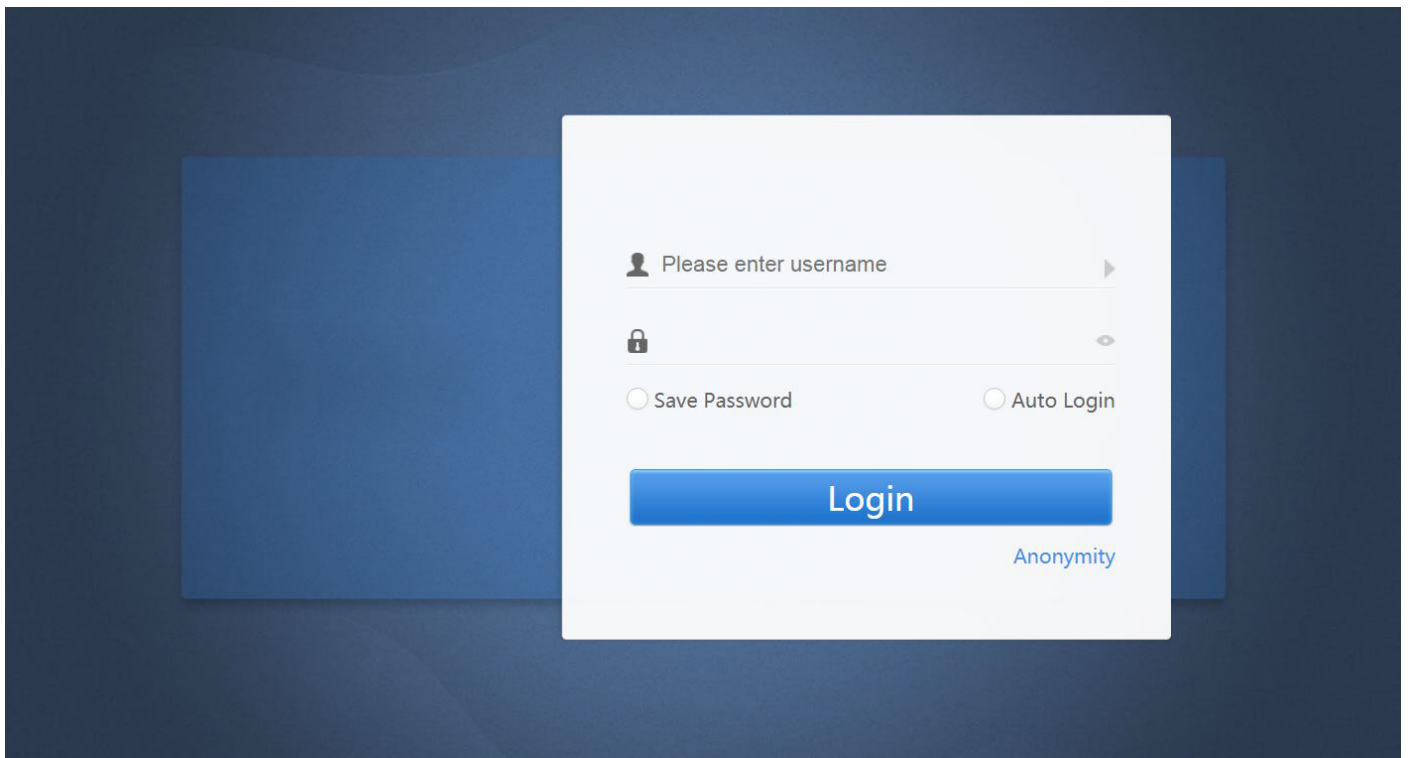
VAMCC-D48384T

For Power Indication: Look at the back side of the VAMCC-D48384T gateway device and check whether the red colored system lightings are blinking inside the back panel of the device. If the LEDs are blinking, it means power is being received by the VAMCC-D48384T gateway device.

1.6 Network Connections

Insert the network cable to the LAN port. There can be different ways of connecting with the network that is by a LAN cable or by router (in case more than one VAMCC-D48384T are being used for the VABAC-D system.) The details about this part have been discussed in the pre installation settings in detail.

(Highlighted is the LAN port of VAMCC-D48384T)

Important Points:

1. The default Ethernet IP of the VAMCC-D48384T is 192.168.100.40:8000

2. When more than one gateway devices are connected to LAN in a project, configure different IPs for the gateways

3. The centralized controller obtains static IP.

4. Ethernet and Wi-Fi are not available simultaneously. Ethernet has priority over Wi-Fi. When Ethernet is connected and Ethernet card starts to work, Wi-Fi will be turned off forcibly.

5. If there is successful communication between the LAN port of computer and the gateway device, the LEDs of both the LAN ports would be blinking. The user can use it as an indication.

For Touch Screen: Proceed further to the part 1.8 about Auto Addressing Mode

For Computer Website: Proceed further to part 1.7 about Pre Installation Settings

Installation & Commissioning

1.7 Pre Installation Settings

(IP Settings): The IP settings are required to be done in order that the computer that is being used to access the website of VAMCC-D48384T is able to find the VAMCC-D48384T device. To make this happen, we are required to make sure that the computer has its IP configured. In this section, we have discussed about this setting.

Local Network Connections

The VAMCC-D48384T uses an Ethernet port/Wi-Fi to connect to the local area network. The IP addresses of the computer or other similar equipment and that of VAMCC-D48384T must be located in the same subnet segment. The IP of the computer need to be changed into one that is in the same subnet as that of the VAMCC-D48384T gateway. For doing the concerned settings, the procedure is given as below.

IP Settings

The default IP of the VAMCC-D48384T is 192.168.100.40:8000 with subnet mask of 255.255.255.0. For the IP of a computer or other similar equipment, we need to manually configure the static IP that must be within 192.168.100 segment with 255.255.255.0 as the subnet mask. If the computer only connects to the VAMCC-D48384T, then we would need multiple IP addresses. The following figure shows the implementation method (Windows 7 system as an example).

1. Configure Single IP Address:

For the VAMCC-D48384T gateway, to connect with the computer it needs to be verified that it is in the same IP segment as the computer. To make this happen, we need to make sure that proper IP Configuration settings have been done. Following are the steps that need to be followed to complete the IP settings:

Default IP of VAMCC-D48384T is 192.168.100.40:8000; subnet mask is 255.255.255.0. The gateway's IP address and server must be in the same subnet area. If you want to modify the gateway's IP address through the web page, you need to manually configure static IP address of the PC and static IP must meet the following requirements: within 192.168.100 segment, subnet mask is 255.255.255.0. The user just needs to follow the following simple steps shown below in a step by step dialog box manner for Windows7. The user just needs to follow these simple steps to configure the IP.

Dialog box1: Open the "Network and Sharing Center" of the computer for which the IP configuration are required to be done.

Dialog Box 2: Select the LAN cable network through which the VAMCC-D48384T is connected to the computer.
Make sure not to connect the computer with any other wireless network while using VAMCC-D48384T

Dialog Box3: Open the "Properties" dialog box from the "Network and Sharing Center" tab.

Dialog Box4: Select the IPV4 settings.

Dialog Box5: Make sure that the configured IP of the computer is in the subnet 192.168.100. xx (where xx can be between 00 to 255 except for the value of the IP of VAMCC-D48384T.

After you finish this IP configuration, try to visit the website of the VAMCC-D48384T by typing the IP address (192.168.100.40:8000) in any of the web browser (preferably Google Chrome version 52.0 or above) if the website of VAMCC-D48384T is getting opened, it means that the IP configuration setting is successful.
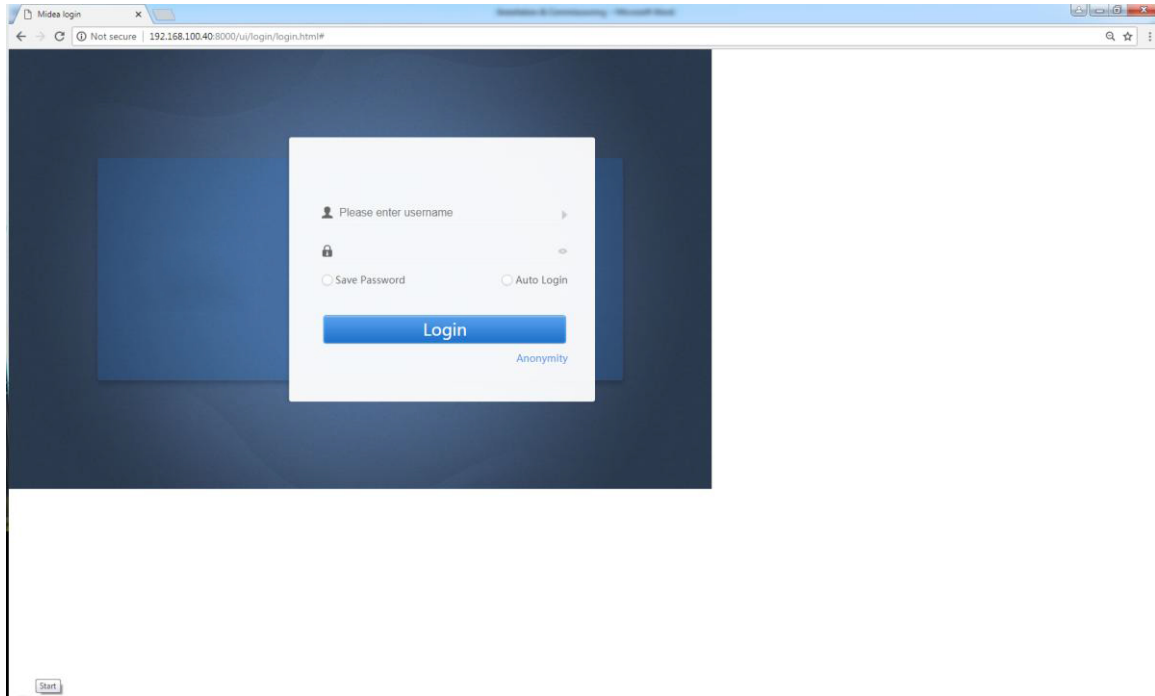
(OMEGA Login page would open up in the web browser after successful IP settings)

2. **Add Multiple IP Address:**

You need to first configure a static IP address before you can add multiple IPs. The steps to configure the static IP are as follows:

1) Check local IP address

Open TCP/IP properties . If the option "Use the following IP address:" is selected, and there is an IP address listed here which means that the local IP is a static IP address. Otherwise, it is a dynamic IP address and you need to configure a static IP address.

2) Configure static IP address

Open the Run command box from the Start Menu, as shown in the following figure:
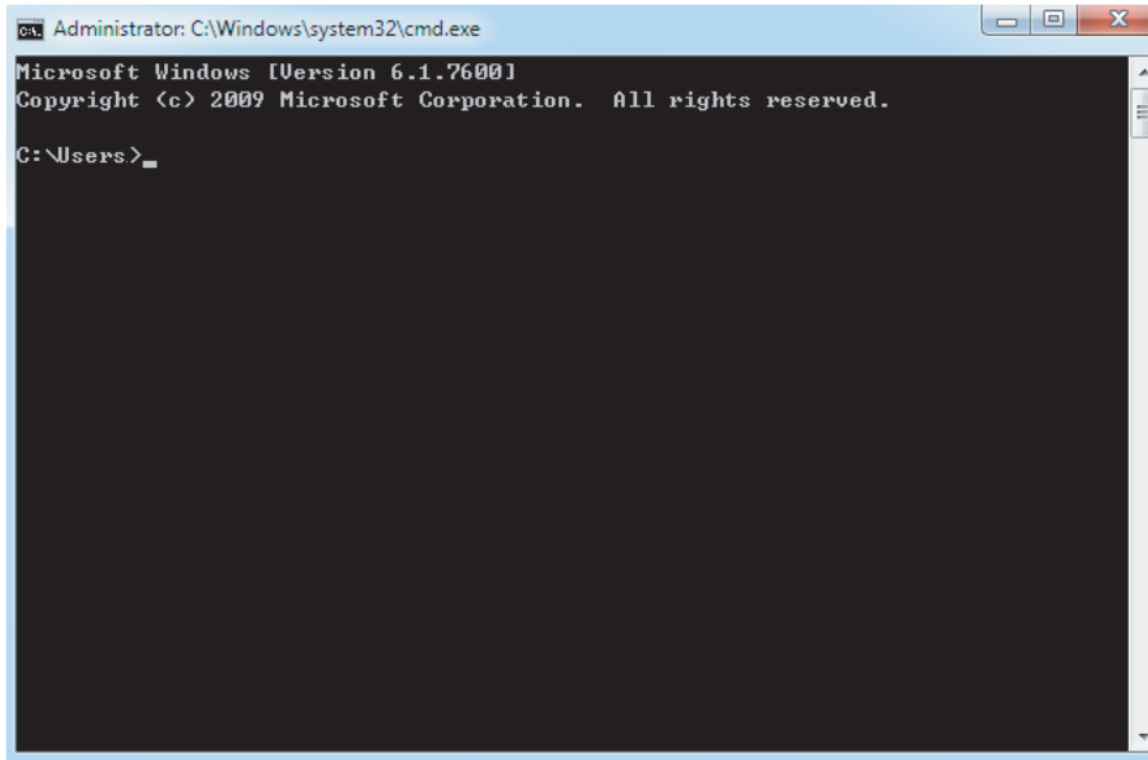
Enter "ipconfig" above to display the local dynamic IP address. Use this address as the IP address in TCP/IP properties to complete the static IP address configuration. Consult the local network administrator for details. Once the static IP address has been configured, open the Internet Protocol TCP/IP Settings page again. Select "Advanced..." to go to the TCP/IP advanced settings page, as shown in the figure below.
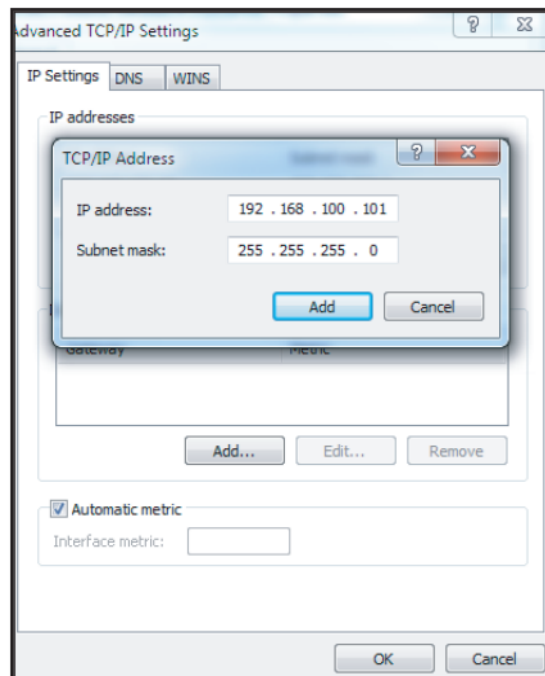
Click "Add" under the IP addresses bar to add an IP address in the same segment as "192.168.100.40". For example, IP address is 192.168.100.101 with 255.255.255.0 as the subnet mask. Then, click "OK".

Installation & Commissioning

3. **Local LAN Access:**

   As long as the computer or other similar equipment in the LAN is in the same segment as the VAMCC-D48384T, you can use the address bar in the browser on its operating system to enter the address to link to the webpage of the VAMCC-D48384T (for example: http://192.168.100.40:8000) to directly access, operate and control the air conditioners. The topology of local access is as shown below:

1.8 Auto Addressing Mode

While using the VAMCC-D48384T, one should always check that the S6 switch has been set to the auto addressing mode. The following settings need to be checked for this.

Switch	Setting	Switch positions[1]	Description
S6-3	Addressing mode	ON 1 2 3	Auto addressing (default)
		ON 1 2 3	Manual addressing

The S6-3 switch is available on the outdoor unit and this setting needs to be done on the master ODU. Irrespective of the topology mode, the master ODU should always be set to auto addressing while VAMCC-D48384T gateway device

1.9 ENC4 Switch Settings

The ENC4 switch is used to set the network address for the unit. This switch is present on the outdoor unit. The following setting needs to be done on the outdoor unit. This network address setting is basically done so that it is able to distinguish the various outdoor units. Let's discuss the settings for this switch.

ENC4	Network address		Only 0, 1, 2, 3, 4, 5, 6, 7 should be selected (default is 0)

In case, there is only one system in each port of VAMCC-D48384T, there is no need to set the ENC4 switch for this situation. We can keep the network address of the outdoor unit as 0 as the outdoor units would be distinguished from each other on the basis of settings of ENC1 switch. Also, in case of one VAMCC-D48384T, there is no need for any such setting.

In case, there is more than one system in each port of VAMCC-D48384T, we need to distinguish each of the outdoor unit from the other. But unlike the previous case, the units from different system connected in the same port will have the same value for ENC1 switch. So, we need to see that the network address for each of the outdoor unit is distinguished and combined with the ENC1 setting for the outdoor unit, each outdoor unit gets differentiated from the other outdoor unit available in the same port.

We need to change the ENC4 setting for each system outdoor unit. For Eg. If there are 8 systems connected in one port of the VAMCC-D48384T, then for the outdoor unit of each system the ENC4 value should be same. For Eg. Let us consider that we give the address 0 to the outdoor units of the first system, as we know that the outdoor Unit address for each ODU is set through the ENC1 switch. Now after combining the settings of ENC1 and ENC4 each outdoor unit will have a certain unique address in each port and hence is the purpose of this setting achieved.

1.10 Booting Up of VAMCC-D48384T
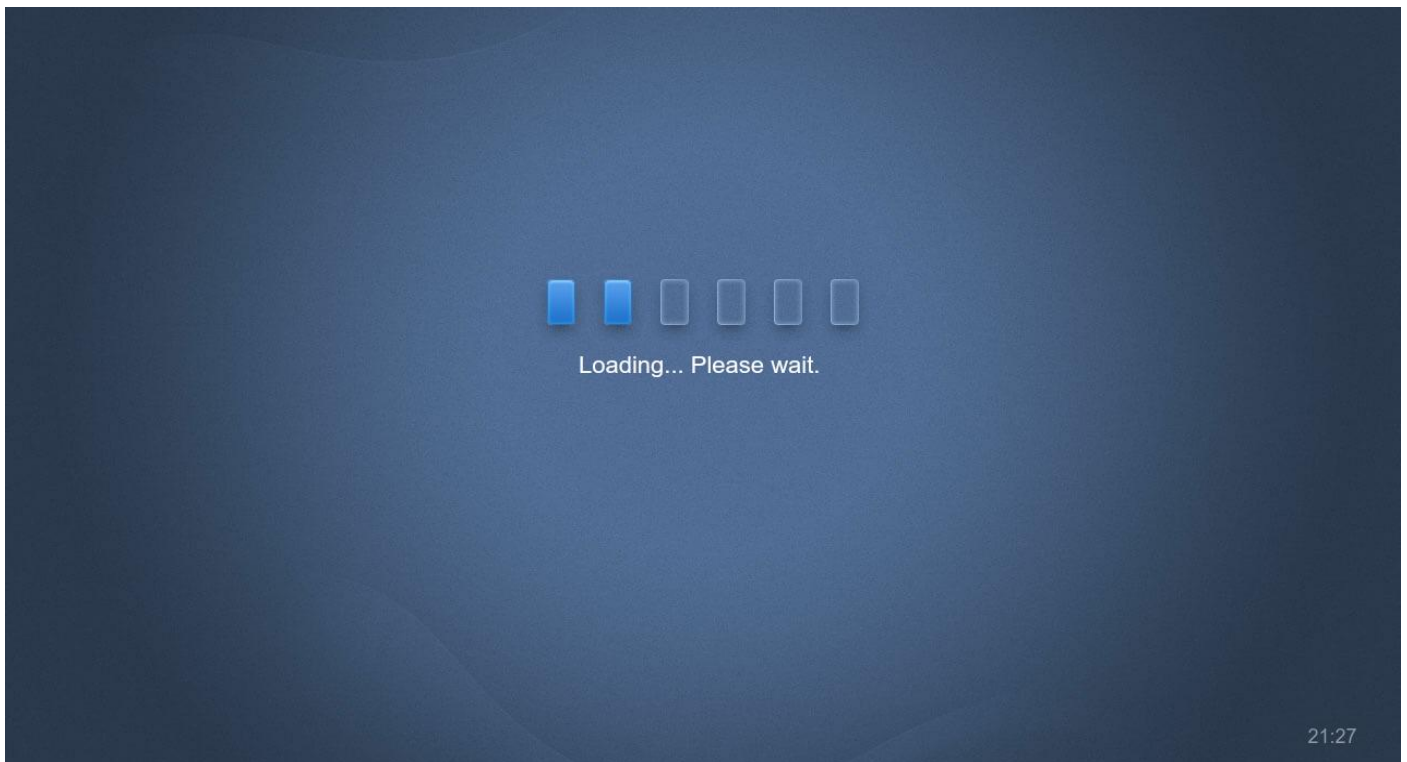
You would successfully land to the boot screen of VAMCC-D48384T device, if the power is being received properly by the centralized controller.

Important Points:

1. Without the power button, the equipment gets started, once it is fully energized.
2. It takes about 1 minute to start the VAMCC-D48384T. Before that, there is a black screen for 30 seconds.
3. If the equipment does not get started after some time, you need to check the red colored system lightings inside the back panel of the VAMCC-D48384T are blinking or not. If not, it means that the equipment is not energized. Check the power supply and wiring. If the system lightings are blinking and the screen stays black for a long time, disassemble the controller to check whether the screen wiring has got loose.

(System Lightings)

1.11 Login

https://www.youtube.com/watch?v=KVc9WDKpQSo

For Touch Screen: Once the boot up is finished, the controller would reach to the user interface. Here, we need to Login with the administrator account. The default username and password for administrator account are as follows:

Username: admin

Password: 123456
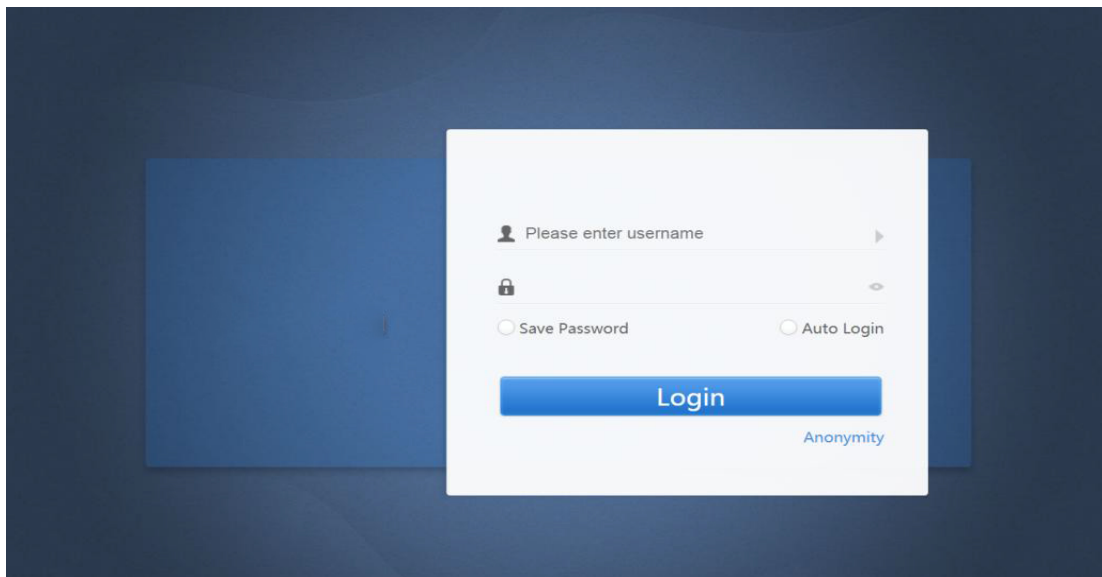
For Computer Website: Use Chrome 52 or latest versions only. Type 192.168.100.40:8000 in the address bar of the browser to enter the login page. Enter the username and password and Click Login.
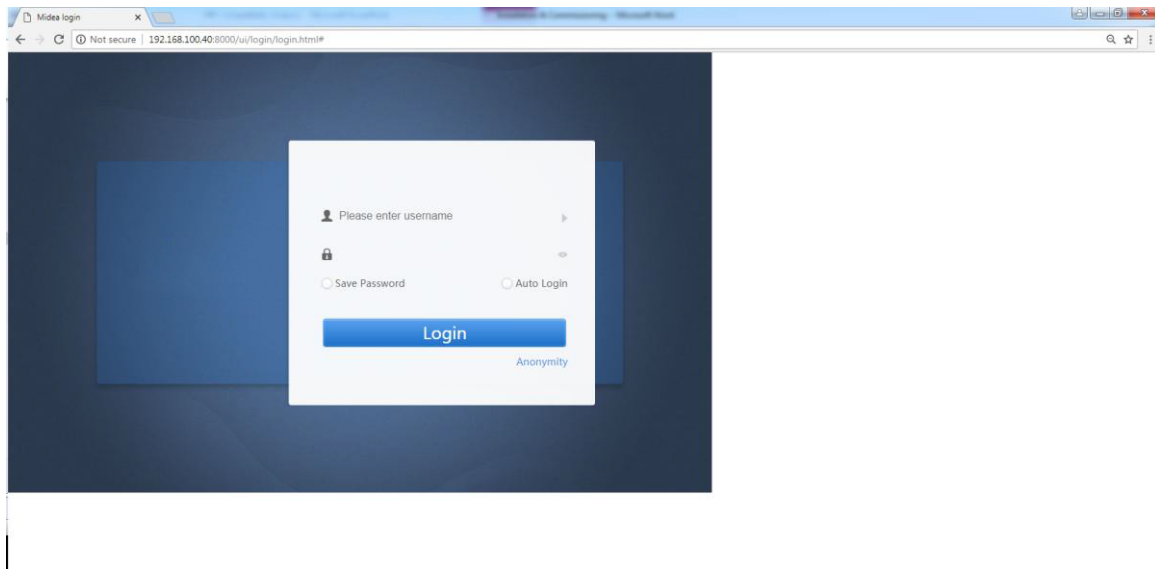
Important Points:

1. For administrator account, Username: admin; password: 123456.

2. An administrator account has authority to install an air conditioner, modify the equipment information and create or modify a general account for the users. Keep the username and password safe.

1.12 Install the IDUs

https://www.youtube.com/watch?v=36ubf0LPmhg

For Touch Screen: This step is same for both touch screen as well as computer website.

For Computer website: This step is same for both touch screen as well as computer website.

After successful login, we need to install the IDUs. We will reach the homepage of VAMCC-D48384T. Click on the Install Tab to enter the Installation page
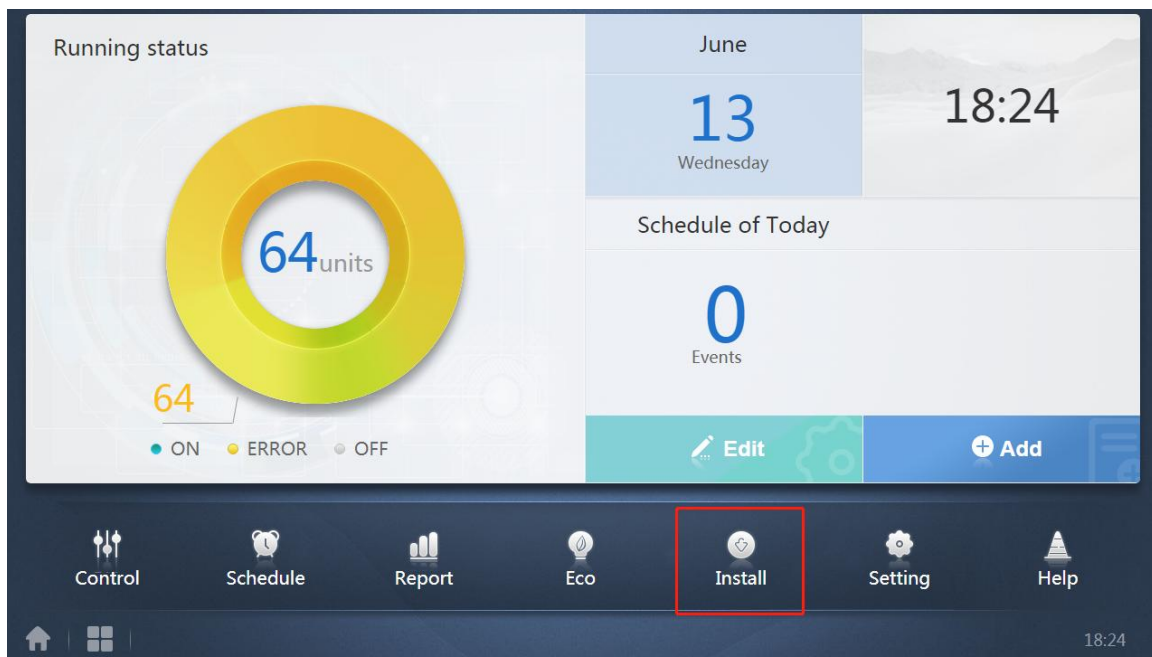
On the installation page, select the required installation mode that is Auto Topology or Manual Topology (written as Auto topo and Manual topo) respectively.

Auto Topology: When VMEF, VMEP ODU is connected with 2nd Generation DC IDUs.

Manual topology: When non-VMEF, VMEP ODU is connected with 2nd Generation DC IDUs or VMEF, VMEP ODU is connected with 1st Generation AC/DC IDUs.

How to use Auto Topology:

1. Click Auto topo.
2. Wait for 7 minutes and then check the results.

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Important Points:

1. Ensure that ODU has started and completed auto addressing before using this topo setting.

2. Do not operate the centralized controller during this time to prevent topo failure.

3. It takes about 7 minutes to complete the installation process. The user needs to wait patiently.

How to use Manual topology:

1. Write the Manual Topology document.

2. Store the Manual Topology document in the USB disk and connect the USB disk with the USB port of centralized controller.

3. Click Manual topo on the "Install" page.

4. Select the completed Manual Topology document in the pop-up dialog box and start topology.

5. After topology is completed, check the results.

Important Points:

1. Refer to the Manual Topology document format and example which is discussed above.

2. Do not operate the gateway during this time to prevent topo failure.

3. It takes about 7 minutes to complete the Install IDUs process. The user needs to wait patiently.

1.13 Checking the Installation Results

After the installation process is completed, it should be shown as the picture below, the table would contain IDU, ODU and related information after successfully finishing the search.

Bus	System	Addr.	Type	Name	Fan(W)	EH(W)
Bus0 (0)	0	0	1	idu-2-0-0	0	0
Bus1 (0)	0	1	2	idu-2-0-1	0	0
Bus2 (96)	0	2	2	idu-2-0-2	0	0
Bus3 (0)	0	3	2	idu-2-0-3	0	0
Bus4 (0)	0	4	2	idu-2-0-4	0	0
Bus5 (0)	0	5	2	idu-2-0-5	0	0
	0	6	2	idu-2-0-6	0	0
	0	7	2	idu-2-0-7	0	0
	0	8	2	idu-2-0-8	0	0

Install — Auto topo / Manual topo — Group Map Save — 20:53

Installation & Commissioning

Important Points:

1. If no information is available, please check if the bus is correct or not. The table on the right only displays the information of the selected bus.
2. If no information is available for all the buses. If No, check whether the ODU has started or not; whether the wires are normal and the wiring sequence at the port is correct or not; if not check whether the XYE line is closed or not.
3. If only part of the equipment information is available and IDU information is absent, check the PQE wires connecting ODU and IDU.
4. If ODU (slave) information is absent, check the H1H2E wires connecting ODUs; if the entire system is absent, check the H1H2E wires connecting systems.

1.14 Set the Normal User Account

https://www.youtube.com/watch?v=6i0S5RaSGLE
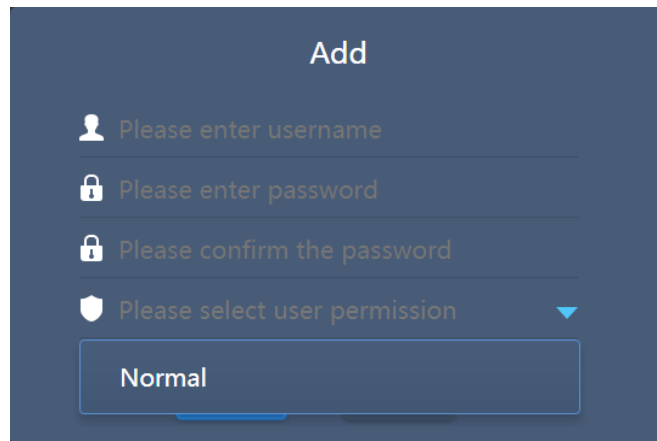
The administrator user account generally has much more privileges than the normal user account including the capacity to add or remove normal users and check the outdoor unit configurations. So, these kinds of settings should not be available to the end user because they may do some changes in configurations which are not optimum for the outdoor unit. These settings are basically for engineers only. To avoid any such condition from occurring, it is important to set a normal user account for the end user. The normal user account cannot change the ODU configurations. The various steps to set the normal user account have been enlisted as follows:
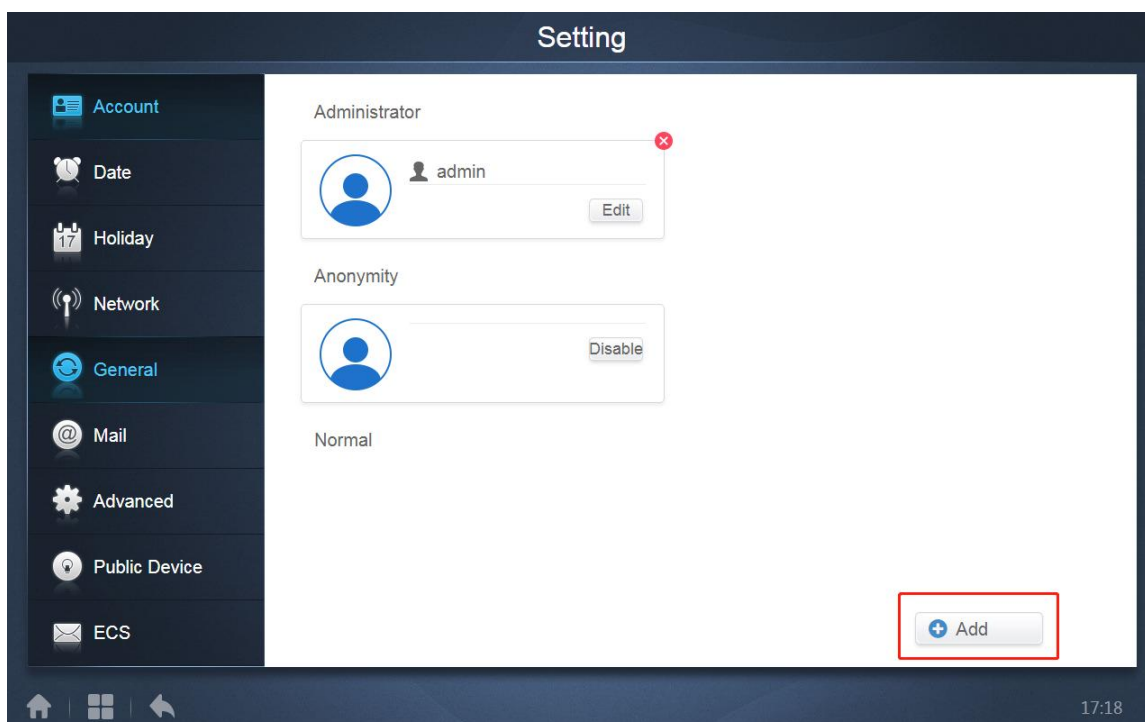
In the Setting tab of the VAMCC-D48384T, we need to select the "Account" menu and if you are logged in with administrator account, clicking on "Add" will add a normal user account.

The above dialog box will get opened when we would click on the "Add" button. In the permissions column, the Normal button needs to be selected to complete the setup for normal user account.

Installation & Commissioning

1.15 Activating the ECS function

If you want to use the Energy Statistics function of the VAMCC-D48384T, we first of all need to activate this function. In order to use the Energy Statistics function in the Report section of VAMCC-D48384T, we must make sure firstly that the ECS function has already been activated. The various steps to activate this function are as follows:

First of all go to the Setting section of the VAMCC-D48384T
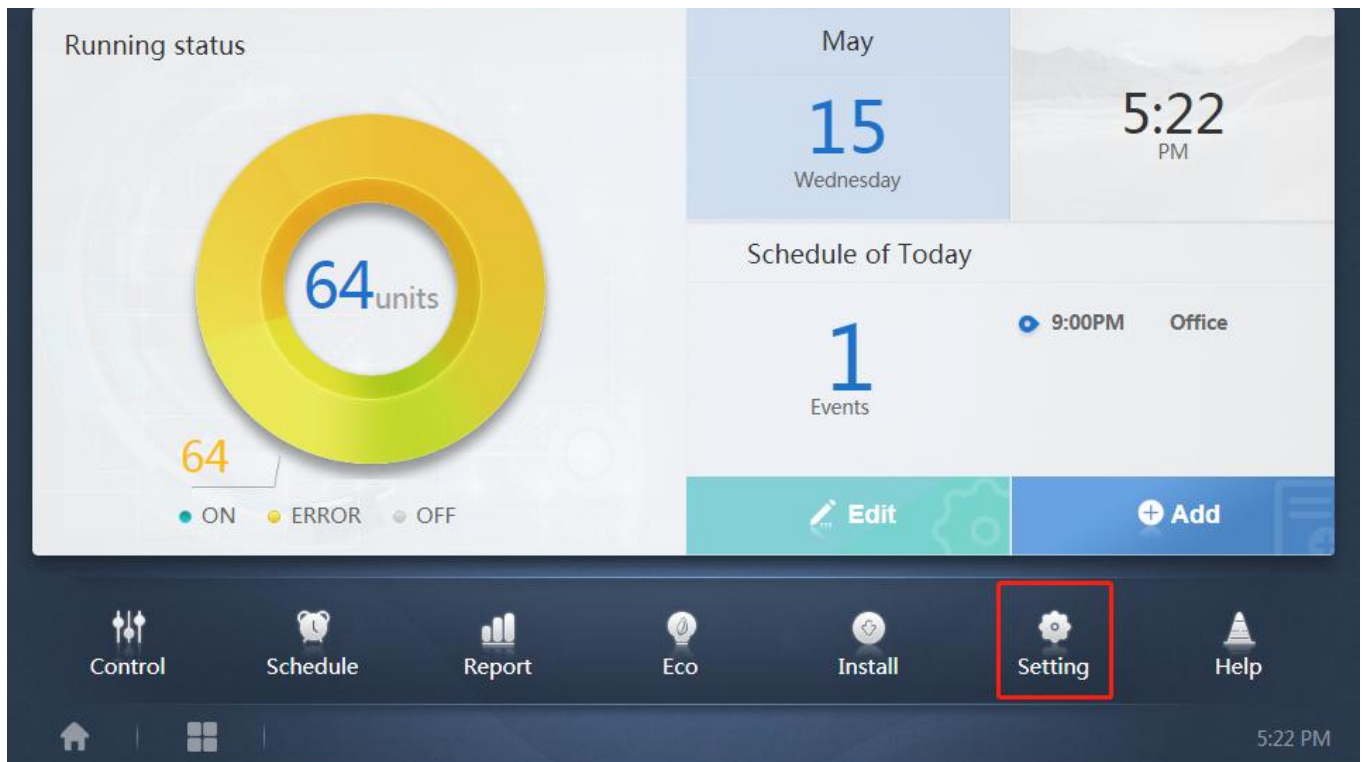
In the setting section, click on Advanced and then click on the slider in front of the machine code.
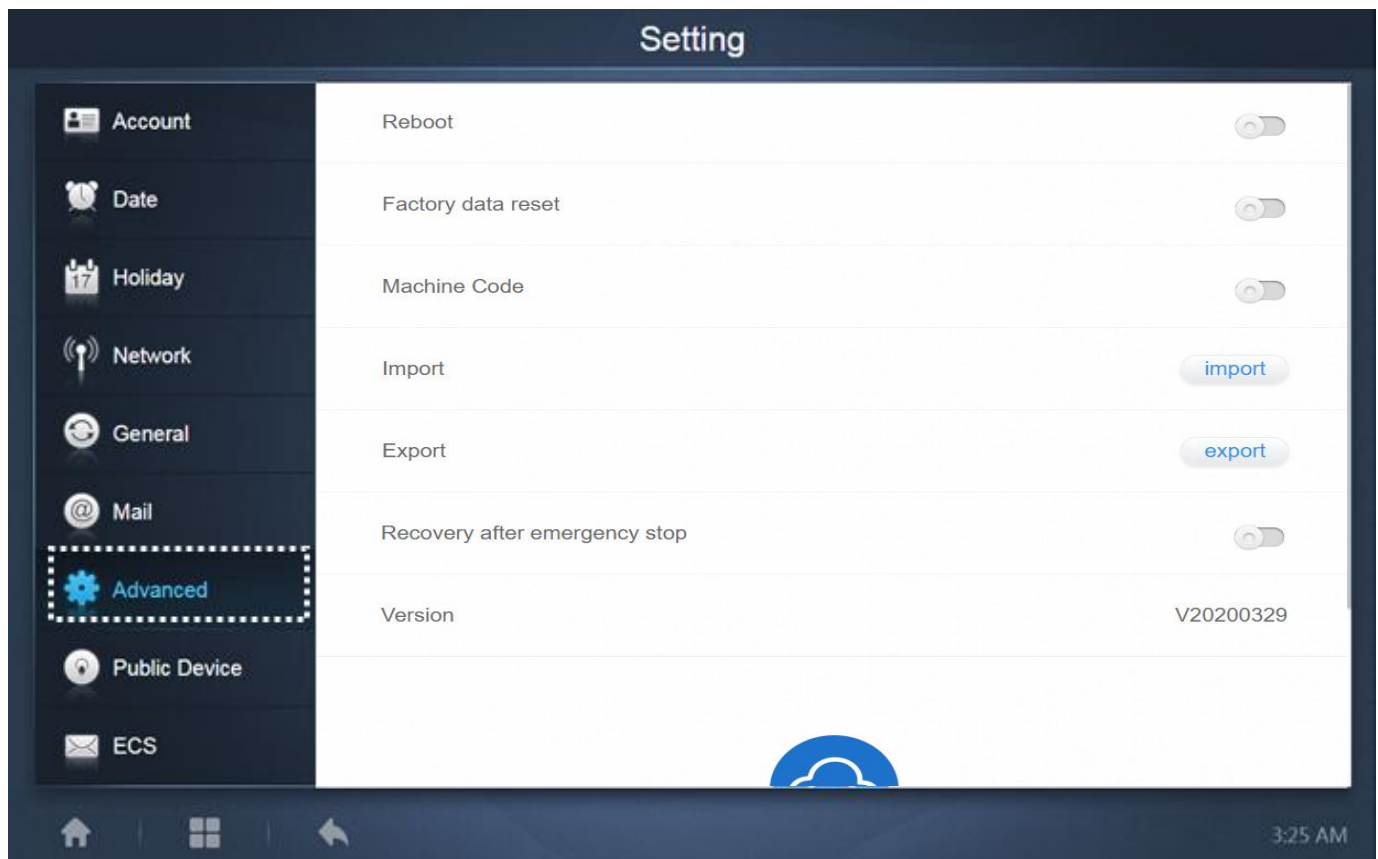
After you click on the slider in front of the machine code, there will be a QR code that would appear on the screen. You need to send this QR code to the OMEGA Technical Support Engineer. OMEGA Technical Support Engineer will provide an activation code in return to the machine code provided by you.

Once you put the Activation code in the above dialog box, the slider in front of the machine code would turn blue and the ECS function thus would be activated.

1.16 Energy Meter Installation

To use the "ECS" function of the VAMCC-D48384T, the energy meter should be connected to the outdoor units to monitor the energy consumed by the outdoor units which can be sent to the software and hence it can be used by the software to calculate the energy consumed by various tenants.

Two models of energy meter are available from OMEGA, which are listed as follows:

Model	Current
DTS 634/636	Up to 60 A
DTS634-F	Up to 100 A

1.16.1 Wiring Instructions

At present there are two kinds of energy meter wiring schemes in engineering:

1. A refrigerant system can be connected to three-phase digital power meter of low current only used by OMEGA (can connect to the external current transformer). The external current transformer power meter can be installed directly on the power of the air conditioner system bus, implement a refrigerant system with one meter.

Code	Name	Overload current
DTS634-M	three-phase digital power (380V,50Hz,6A)(CHINT)(RoHS)	180A
BH-0.66-30IB	current transformer (150A/5A)	

2.   An outdoor unit connects to three-phase digital power meter of large current, at present there are two kinds of meter in using, details are as follows:

Code	Name	Overload current
DTS634-F	three-phase digital power meter (380V,50Hz,100A)(RoHS)	180A
DTS634/DTS636	three-phase digital power (60A)(RoHS)	60A

3.   The wiring between current transformer and power meter

The power meter installed is DTS634-M. In the wiring diagram, the 1, 4 and 7 ports of the power meter need to connect to current transformer's S1 terminal; the 3, 6 and 9 ports of the power meter need to connect to current transformer's S2 terminal.   The 2, 5 and 8 ports of the power meter need to connect to three-phase power supply. The 10 and 11 ports of the power meter need to connect to ground. In sure to safety，it's   necessary to connect current transformer's S2 terminal before connecting the ground.

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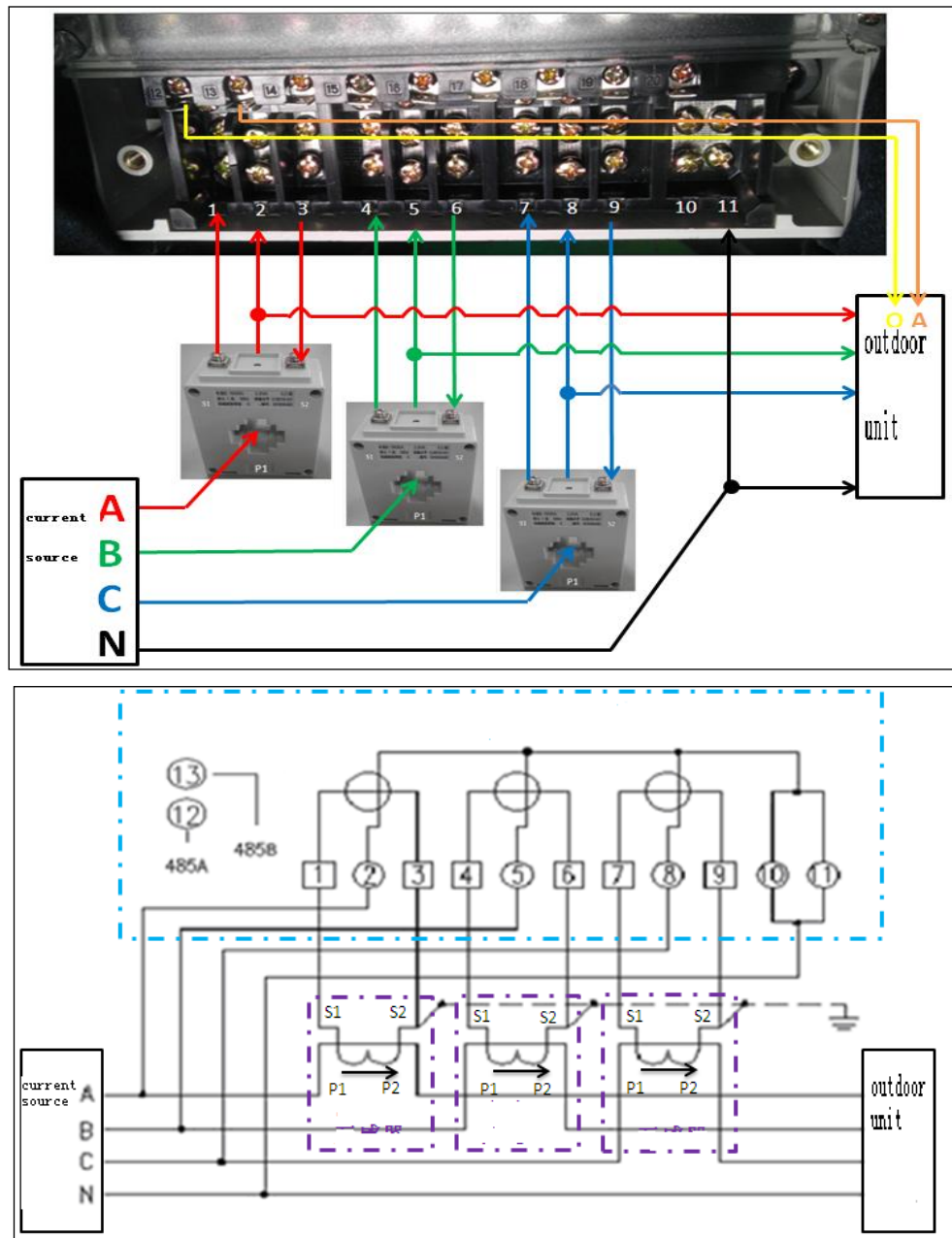
4.   The connection of meter and outdoor unit

In the above figure 485A connects to the O terminal of power meter. 485B connects to A terminal of power meter. The length of communication wire should less than 100m. Communication cable is isolated to high voltage.

Important points:

(1) The power meter is customized by OMEGA, it has been set to the percentage of 30:1, and if it is bought from the market, it cannot be used normally.

(2) DTS634-M meters' current specifications:

1.5 (6) A is used with BH-0.66-30IB current transformer, and the current specifications will change into: 45 (180) A, so the power meter's maximum current is 180 A.

(3) We only offer DTS634-M power meter and BH-0.66-30IB current transformer. The connection line from current transformer output to the electricity meter should be offered by installer. We suggest that the line diameter should ≥2.5mm².

Current transformer of BH-0.66 30IB：

VAMCC-D48384T

Face   Back

2 First Time Installation Checklist

2.1 Flow Chart for VAMCC-D48384T Touch Screen Centralized Controller

Below is a flow chart of the check points that need to be kept in mind while installing the VAMCC-D48384T centralized controller for first time.

Process	Check Point
Connect the IDU and ODU with each other	Refer to the IDU and ODU respective installation manuals
Connect the power cable to CVAMCC-D48384T	The power cable is not supplied with the VAMCC-D48384T. The user needs to purchase a power adaptor of 24VAC, current 1000mA
Auto Addressing & ENC4 Settings	The ODU needs to be set to auto addressing[1]
Provide the power	It will take atleast one minute to reach the user login interface from the boot screen
Login the VAMCC-D48384T	The first login needs to be from administrator account, Username: admin Password: 123456
Install the IDUs	Details discussed in 1.11 Login
Check Results	Details discussed in 1.12 Install the IDUs
Set Normal user account	An account with lesser permissions for the End User Details discussed in 1.13 Checking the Installation Results
Connect the Power Meter	If the ECS function is required to be used, connect the power meter. Details discussed in 1.15 Activating the ECS function and 1.16 Energy Meter Installation

Installation & Commissioning

[1]The ENC4 settings are required to distinguish several ODUs from different system from each other, this setting is specially required when high end device are being used.

2.2 Flow Chart for VAMCC-D48384T Computer Website

Below is a flow chart of check points that need to be kept in mind while installing the VAMCC-D48384T for computer website.

Process	Check Point
Connect the IDU and ODU with each other	Refer to the IDU and ODU respective installation manuals.
Connect the Power cable to VAMCC-D48384T	The power cable is not supplied with the VAMCC-D48384T. The user needs to purchase a power adaptor of 24VAC, current 1000mA himself.
Connect the LAN cable	If it is connected directly to the computer, it is simply required to connect a LAN cable with computer.
IP Settings	Details discussed in 1.6 Network Connections.
Auto Addressing & ENC4 Settings	The ODU needs to be set to auto addressing.[1]
Provide the power	It will take atleast one minute to reach the user login interface from the boot screen.
Login the VAMCC-D48384T	The first login needs to be from administrator account, Username: admin Password: 123456
Install the IDUs & Check results	Details discussed in 1.11 Login and 1.12 Install the IDUs.
Set Normal user account	An account with lesser permissions for the end user. Details discussed in 1.13 Check the Installation Resuts
Connect the power meter	If the ECS function is required to be used, connect the power meter. Details discussed in 1.15 Activating the ECS function and 1.16 Energy Meter Installation

[1]The ENC4 settings are required to distinguish several ODUs from different system from each other.

3 Changing the IP of VAMCC-D48384T

The following section discusses about how to change the IP of VAMCC-D48384T

https://www.youtube.com/watch?v=XSkLhz-ko-o

In case you wish to connect your VAMCC-D48384T with the computer containing the software and there are more than one connected with the software then we need to change the IP of the gateway. The various steps in order to change the IP of VAMCC-D48384T are as follows:

Click on the "Setting" section of the VAMCC-D48384T
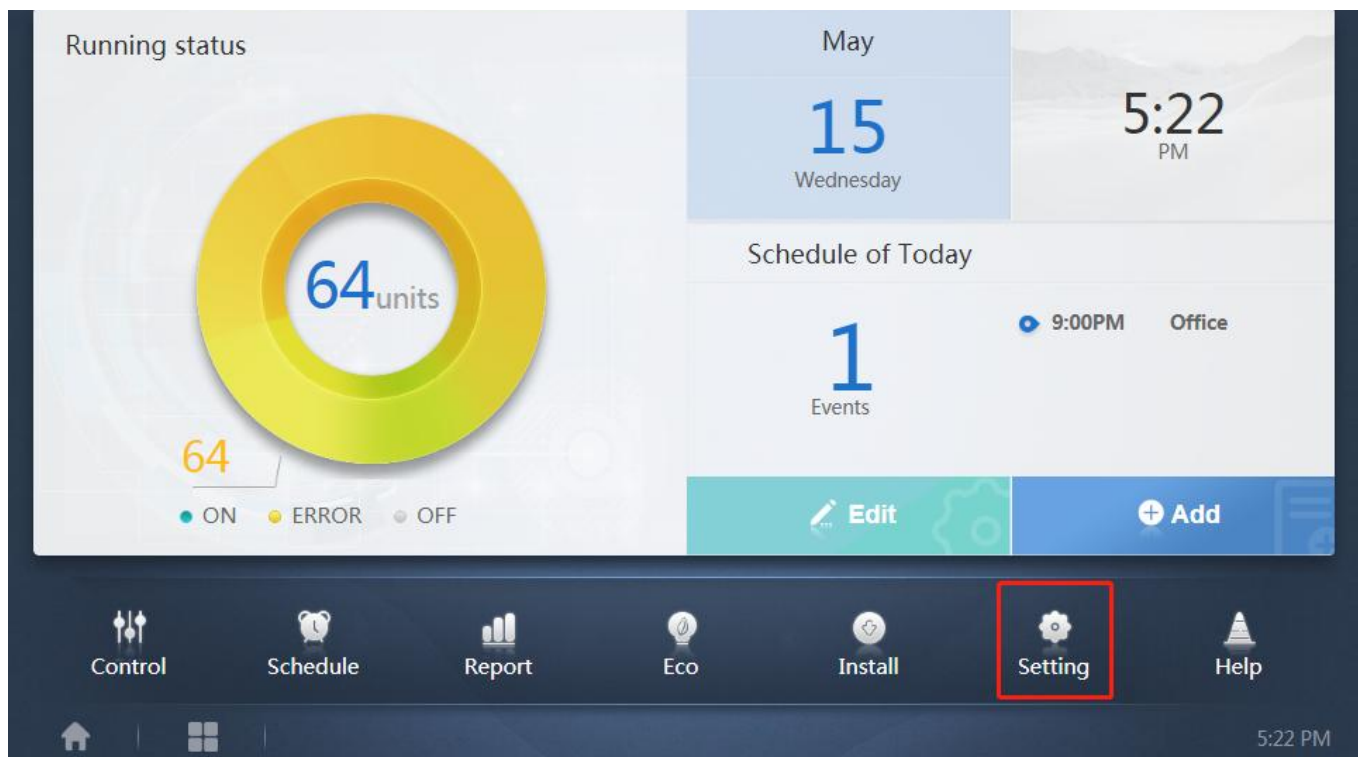
VAMCC-D48384T

In the setting section go to the advanced and go to IP section
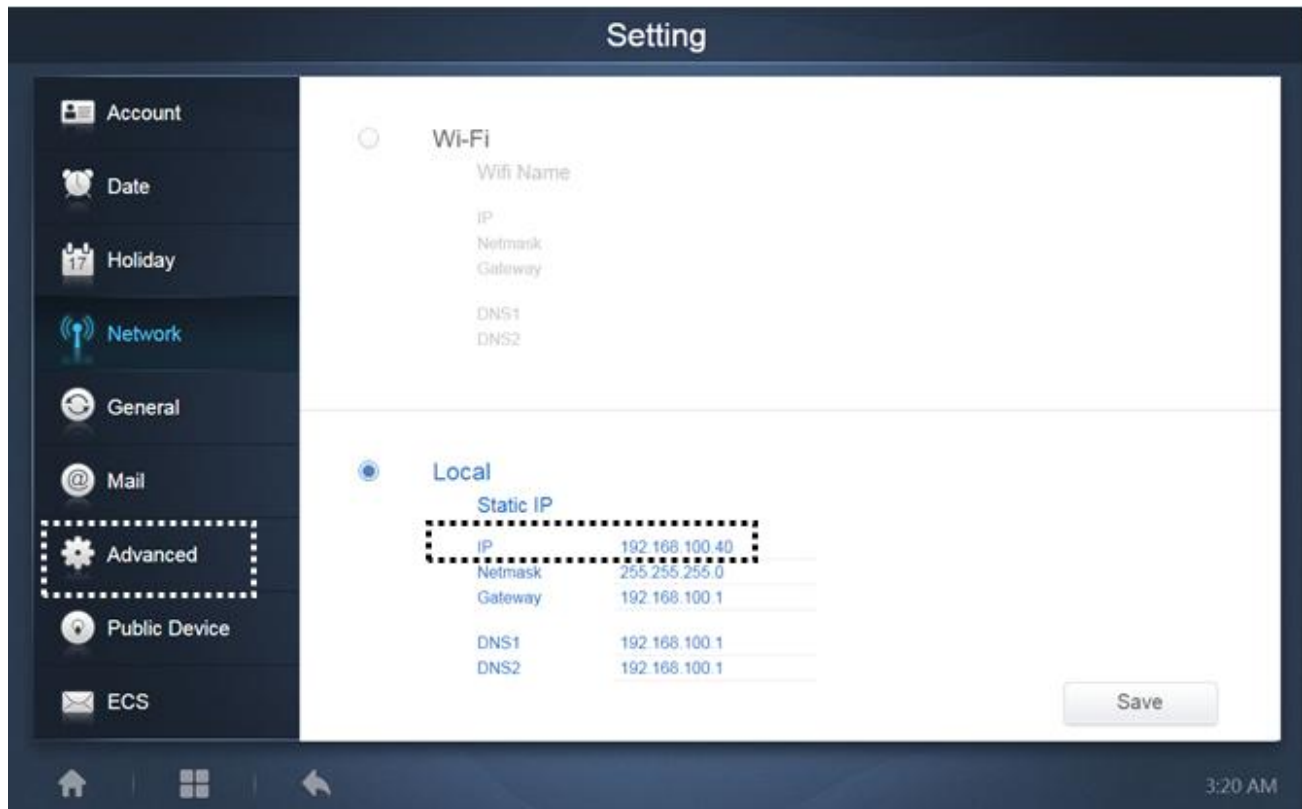
The IP written on this page can be edited and you can change the IP as per your requirement. Refer to the video in the QR codes above for better understanding. Once the IP is changed, the website address would also be changed in case the controller is connected with the computer. For example. If we change the IP to 192.168.100.44 instead of 192.168.100.40; the new website address would be 192.168.100.44:8000.

Part 3
Functions

Functions

1 Start Up

For Touch Screen: As soon as the power is provided to the touch screen through the power cable, you will be directed to the boot screen. It will take about one minute for the user to reach the user login interface.
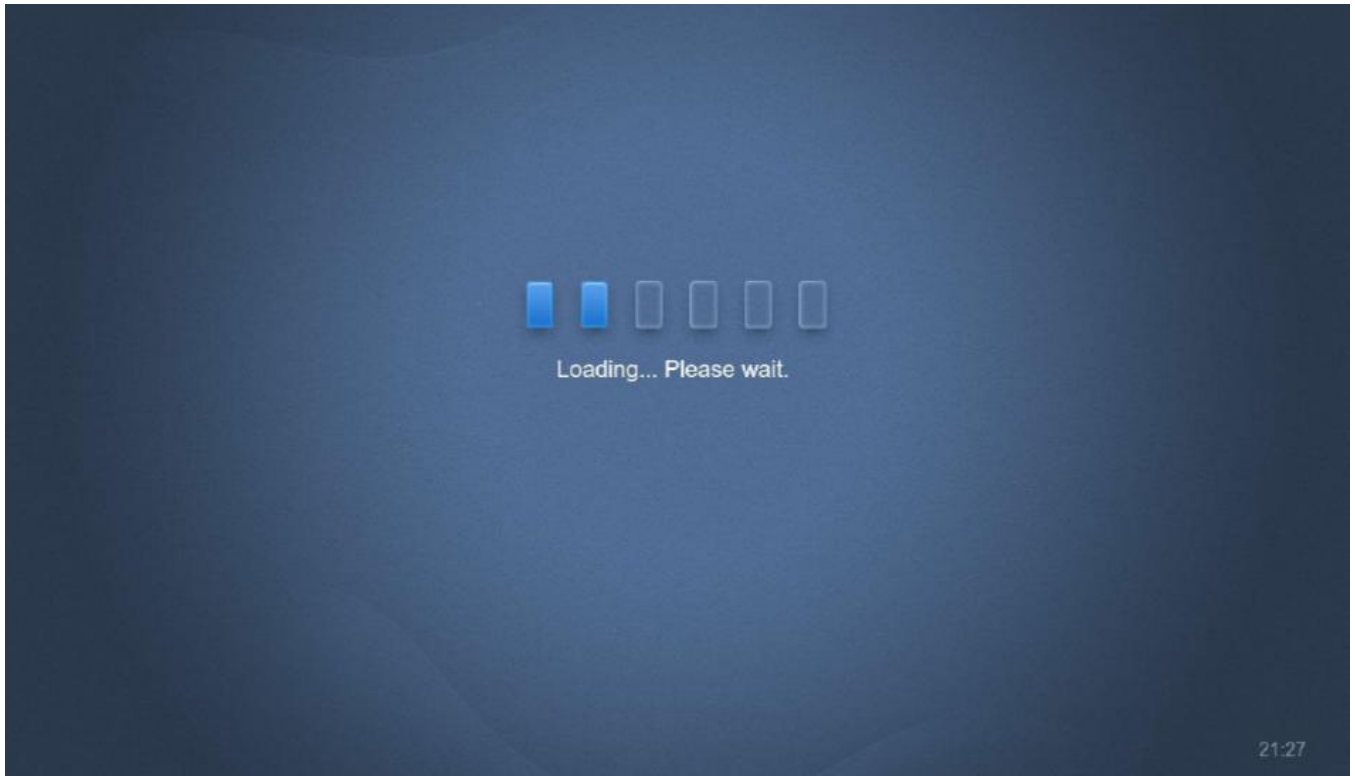
For Computer website: The default IP of VAMCC-D48384T is 192.168.100.40:8000. The user just needs to put this in the website column of the web browser (preferably Google Chrome version 52.0 or above) and the login page will open up:
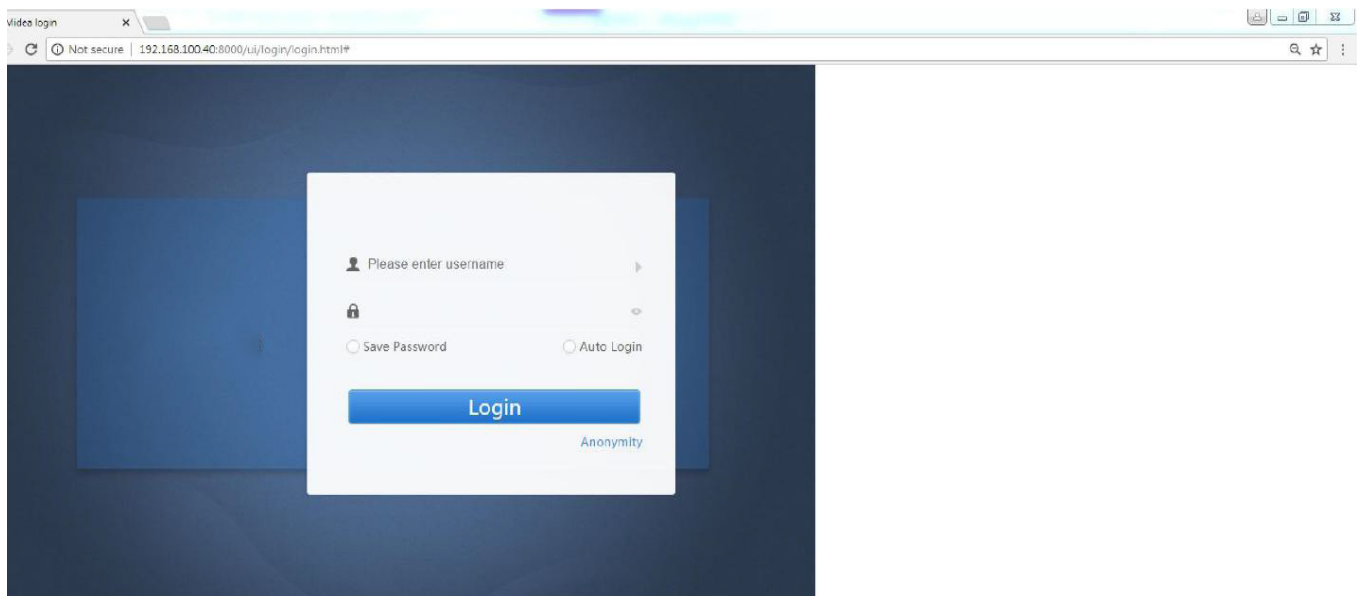
(Login Interface)

2 Login

For Touch Screen: As soon as the controller is powered ON, you will be directed to the login page. The login page is similar as the login page for computer website as is shown in the picture below:

For Computer Website: The default IP of the VAMCC-D48384T gateway is 192.168.100.40:8000. The user needs to open the website of the gateway through any of the browser and then needs to Login into the website as shown below. No special requirements are there regarding the operating system of the computer. If correct IP settings have been done (the details about the IP settings have been discussed in the Installation & Commissioning part of this manual), the website of the VAMCC-D48384T can be opened by any of the browsers available on the computer system.
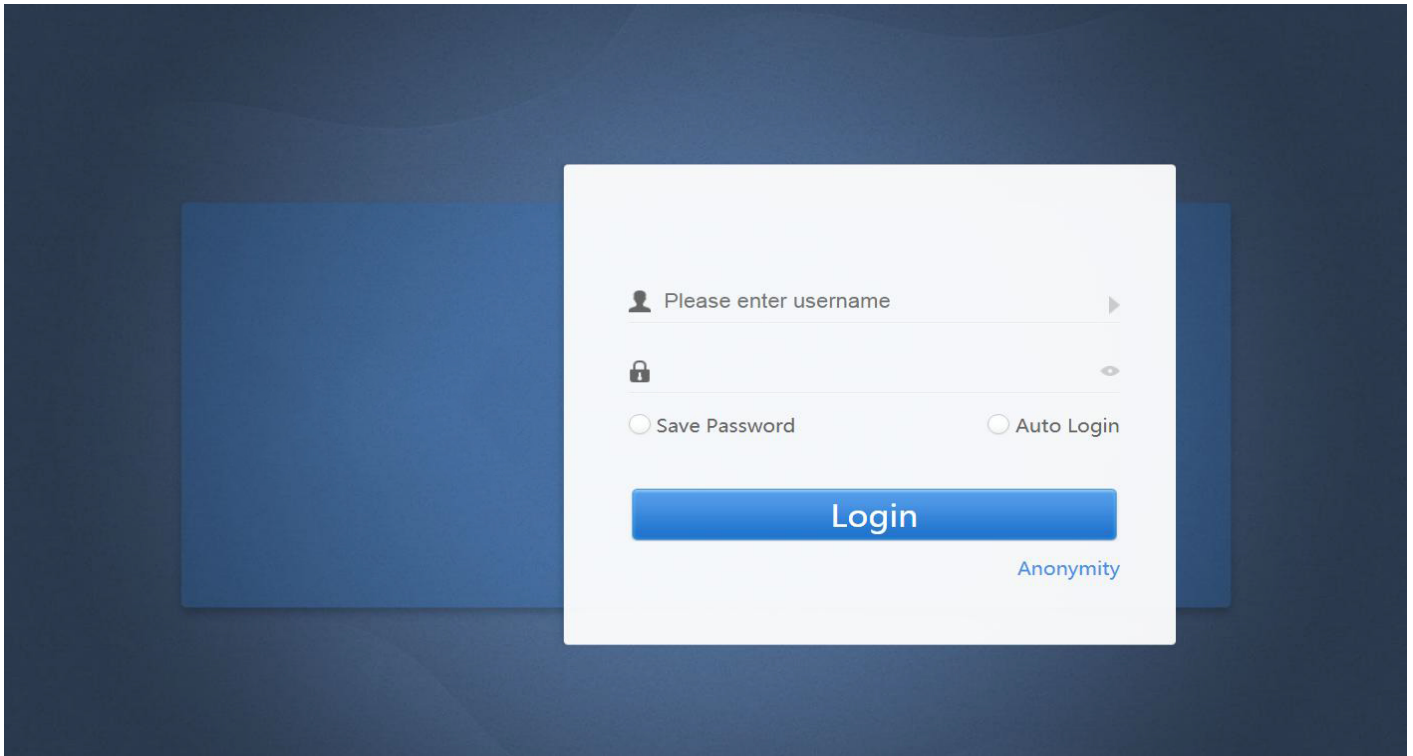
No	Item	Description
1	![Please enter username]	Place to enter the username
2	![password fields]	Place to enter the password
3	◯ Save Password ⦿ Save Password	Whether or not to save the password for current user account
4	◯ Auto Login ⦿ Auto Login	Whether or not to Auto Login the next time
5	Login	Click this button to login
6	Anonymity	Guest Login
7	admin	Default account name
8	123456	password

Functions

3 Home Page

For Touch Screen: Once the login is successful, the user reaches this page.
For Computer Website: Once the login is successful, the user reaches this page.
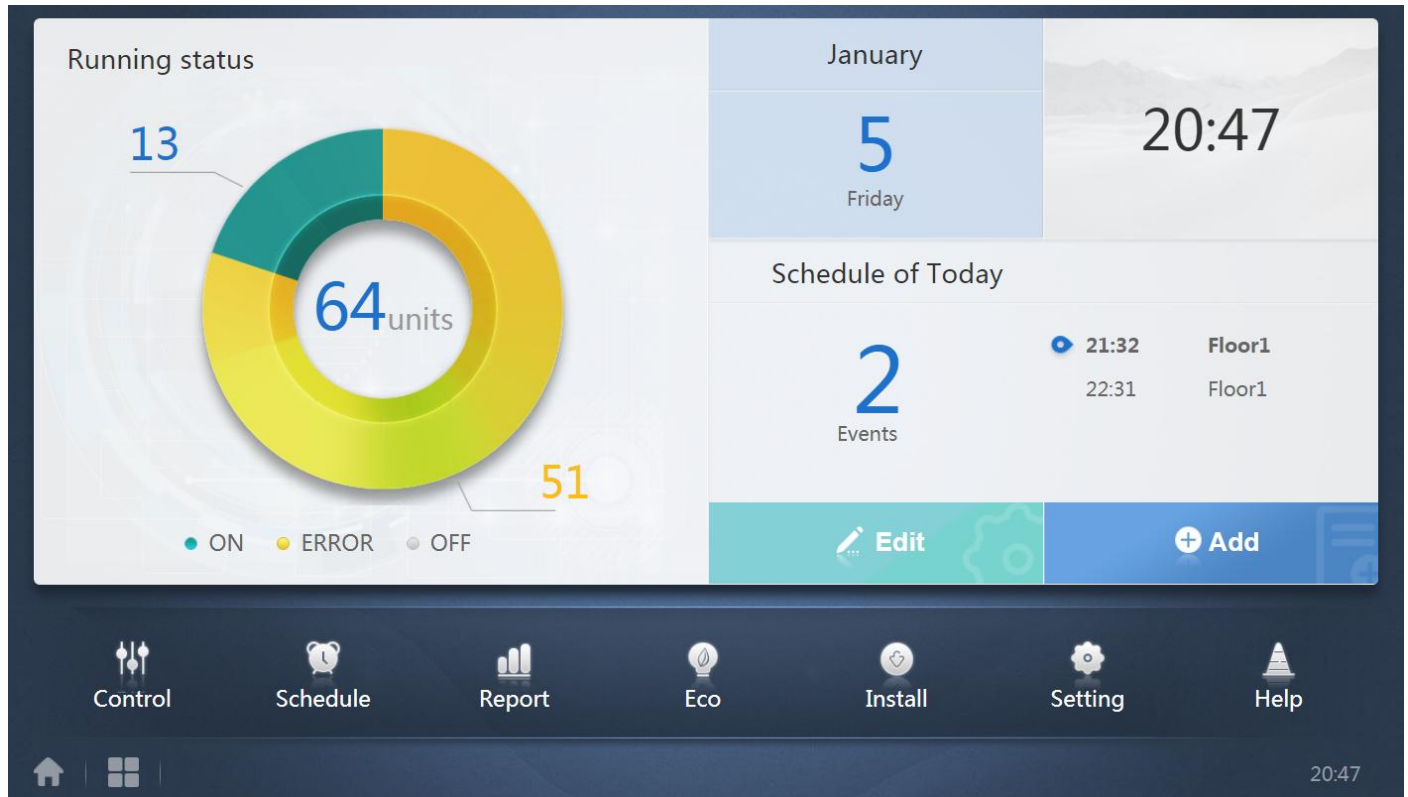
The various items on this page have been described as under:

3.1 Overview of Indoor Units Running Status

This section classifies the status of indoor units into the following three categories
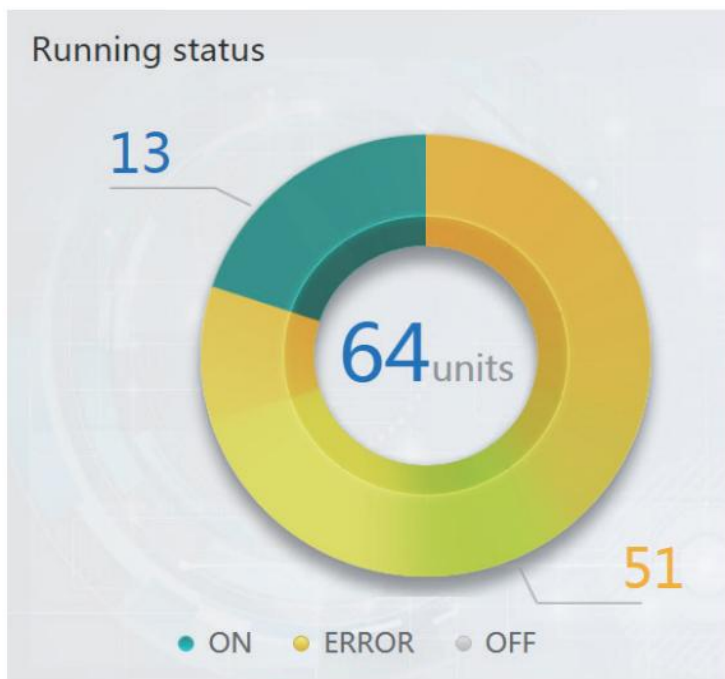
No	Item	Description
1	● ON	Running Units
2	● ERROR	Error includes the units with error and offline
3	○ OFF	Standby

3.2 Functions Menu

In this tab, navigation for all the functions is provided. It is present at the bottom of the homepage.

3.3 Special Menu

No	Item	Description
1		Back to home
2		Operating History

Functions

3.4 Date and Time

The date and time for the particular day is displayed on the right side of the interface. The date is also displayed on the bottom right side of the home page.

3.5 Schedule for Today
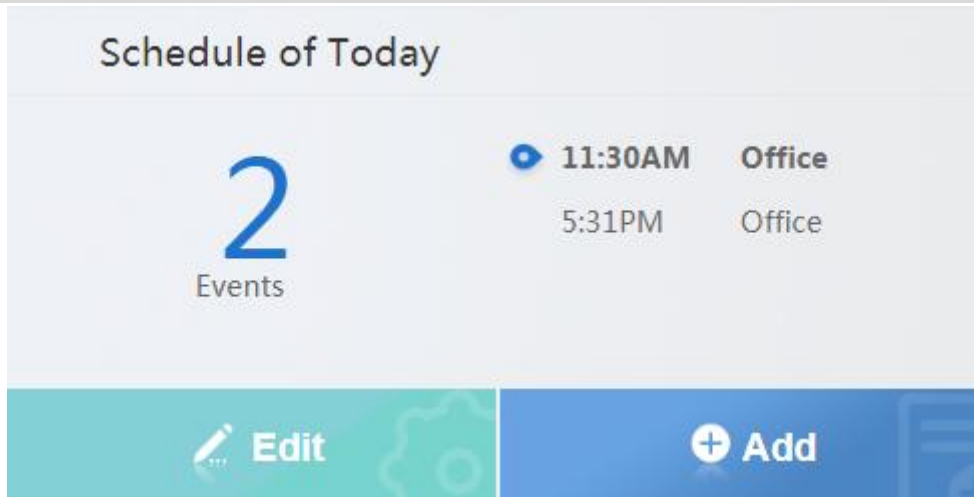
The schedule tab is just below the date and time tab. It shows the schedule which are waiting to be implemented today. Clicking on "Edit" or "Add" button will take the user to the Schedule Edit page.

3.6 Account
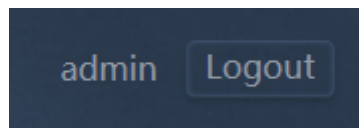
On the top right corner, is also shown the current account being used to login into the VAMCC-D48384T. You can logout from here to change the account

3.7 Indoor Units detailed   parameters
list
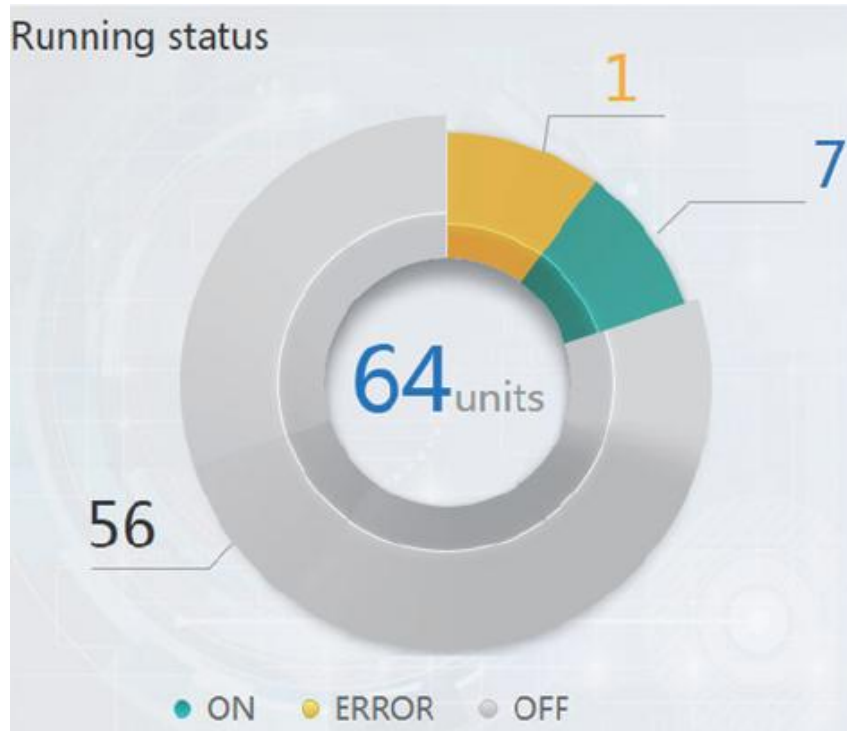
Click on the pie chart of the indoor unit's status statistics to get a complete list of detailed parameters of the indoor and outdoor units as reflected in the pictures below.

Functions

Name	ID	Type	Group NO.	Mode	Setpoint	C Setpoint	H Setpoint	Fan	Room temp.	Error code
idu-0-0-00	0-0	0	0	OFF	--	--	--	--	20	--
idu-0-0-01	0-1	0	0	Heat	19	--	--	M	20	--
idu-0-0-02	0-2	0	0	Dry	19	--	--	M	20	--
idu-0-0-03	0-3	0	0	Fan	--	--	--	M	20	--
idu-0-0-04	0-4	0	0	Cool	19	--	--	M	20	--
idu-0-0-05	0-5	0	0	Heat	19	--	--	M	20	--
idu-0-0-06	0-6	0	0	Heat	--	--	--	M	20	E4
idu-0-0-07	0-7	0	0	Heat	19	--	--	M	20	--
idu-0-1-08	0-8	1	0	OFF	--	--	--	--	-25	--
idu-0-1-09	0-9	1	0	OFF	--	--	--	--	-25	--

First   Prev   1 / 7   Next   Last

3:09 AM

IDU Parameters

	IDU	ODU						
Name	ID	Mode	Error code	Ambient temp.	FAN1	FAN2	kWH
odu-0-0-00	0-0	Heat	--	10	10	44	0
odu-0-0-01	0-1	Heat	--	80	10	10	0
odu-0-0-02	0-2	Heat	--	80	10	44	0
odu-0-0-03	0-3	Heat	--	80	10	10	0
odu-0-1-04	0-4	OFF	H2	20	--	--	0
odu-0-1-05	0-5	OFF	--	20	--	--	0
odu-0-1-06	0-6	OFF	--	20	--	--	0
odu-0-1-07	0-7	OFF	--	20	--	--	0
odu-0-2-08	0-8	OFF	--	20	--	--	0
odu-0-2-09	0-9	OFF	--	20	--	--	0

First   Prev   1 / 4   Next   Last

3:09 AM

ODU Parameters

4 Control

https://www.youtube.com/watch?v=-KJI5Y3hyUw&t=37s

Select an option on the left side interface to view the contained indoor units.
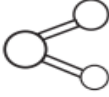
Functions

VAMCC-D48384T

4.1 Icons Description

4.1.1 General Icons

View Scheme

These 3 Icons on the extreme left of the Control Interface screen are responsible to change the viewing scheme that is to view as per group/system/map. The map function is not available for VAMCC-D48384T. It is not available for the computer website.

Function	Inactive	Active
Indoor Unit View - Group		
Indoor Unit View- System		
Indoor Unit View- Map[1]		

Note: 1.This function is only available for the touch screen and cannot be used at the computer website.

Sorting display

These keys are present on the top right side of the Interface

Function	Inactive	Active
Sort by mode Auto, Cool, Heat, Dry, fan, Off, Error, Offline		
Sort by name		

Navigation keys

These keys are present on the bottom left side of the Interface

No	Item	Description
1		Back to home
2		Operating History
3		Return to previous page

4.1.2 Indoor Units Icon Description
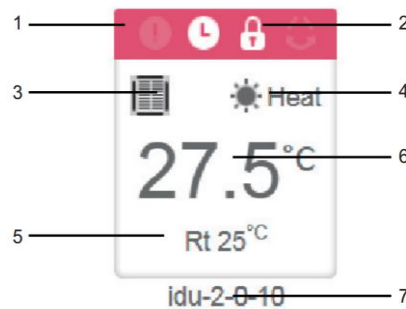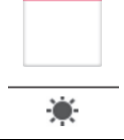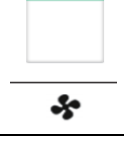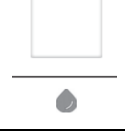
No	Description
1	The colors here represent the operating modes. The details about the colors is provided in the Table of Basic Mode Images
2	Indicators (in order from left to right): error, schedule, lock, swing. Icon is white when active, such as the lock indicator in the above figure
3	Displays the corresponding device model.
4	The icons here represent the operating mode. The details are provided in the table of basic mode images
5	Ambient Temperature
6	Set Temperature
7	Name can be changed at the "Install" page

*Note: The error code shown in the Indoor Unit on the old platform is different from the error code shown in the nixie tube display of the indoor unit.

Functions

Function	Active	Remarks
	White	Error
	White	Schedule
	White	Lock
	White	Swing

Mode Description

Mode	Color & Icon	Icon
Off, Error, Offline	Grey	
Auto	Dark Blue	
Cool	Light Blue	
Heat	Red	
Fan	Green	
Dry	Orange	

Indoor Unit Type Description

Code Of IDU Model	Description	Picture
0	Old IDU	
1	4-Way Cassette(4-WAY)	
2	Wall Mounted	
3	Medium Static Pressure Duct (M-Duct)	
4	Low Static Pressure Duct(L-Duct)	
5	Air Handling Unit(AHU)	
6	High Static Pressure Duct(H-Duct)	
7	Compact 4- Way Cassette(COMPACT)	
8	Ceiling & Floor	
9	Vertical Type Concealed	
10	Vertical type Exposed	
*	Wired Controller group *For details, refer to " Wired Controller Group" in APPENDIX	

Functions

4.2 Indoor Unit View- Group

For Touch Screen & Computer Website: This function is same both for the computer website and touch screen.

This function shows the various indoor units which are present in various groups created by the user. The group creation is available in the "Install" tab functions. Along with the created groups, also is present a default "Ungrouped" where all the Indoor units which have not been assigned any group are present. The user can transfer the units from "Ungrouped" section to various "Group" using the "Install" tab to edit the groups.

Once a group is selected, all the indoor units present in that group are displayed on the right. The top right menu, gives the option to sort the units according to name or mode.
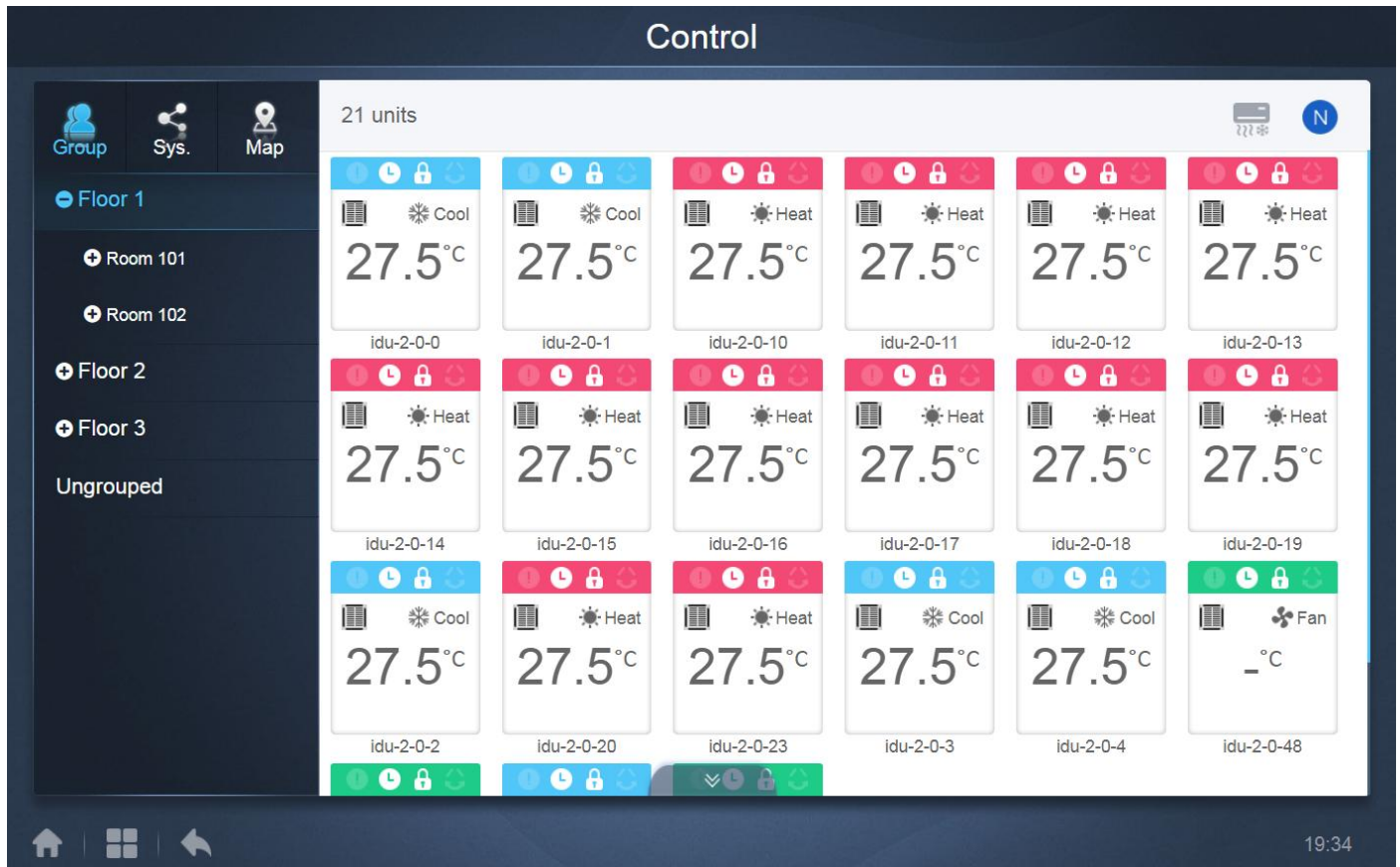
The top left corner [21 units] shows the number of indoor units in the group.

4.2.1 General Controls of Indoor Unit

You can click on an indoor unit icon and it will be selected. There will be a "tick" ✓ on the top right side of the indoor unit. The sign on the top right of the indoor unit icon means the corresponding unit is selected to be controlled. You can tap on multiple units with a single click of the mouse and all these units would be selected for controlling at the same time. At the top left corner, you would see "All", "Control" and "Cancel".
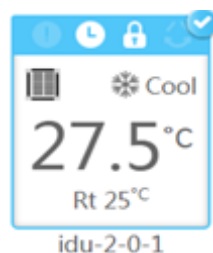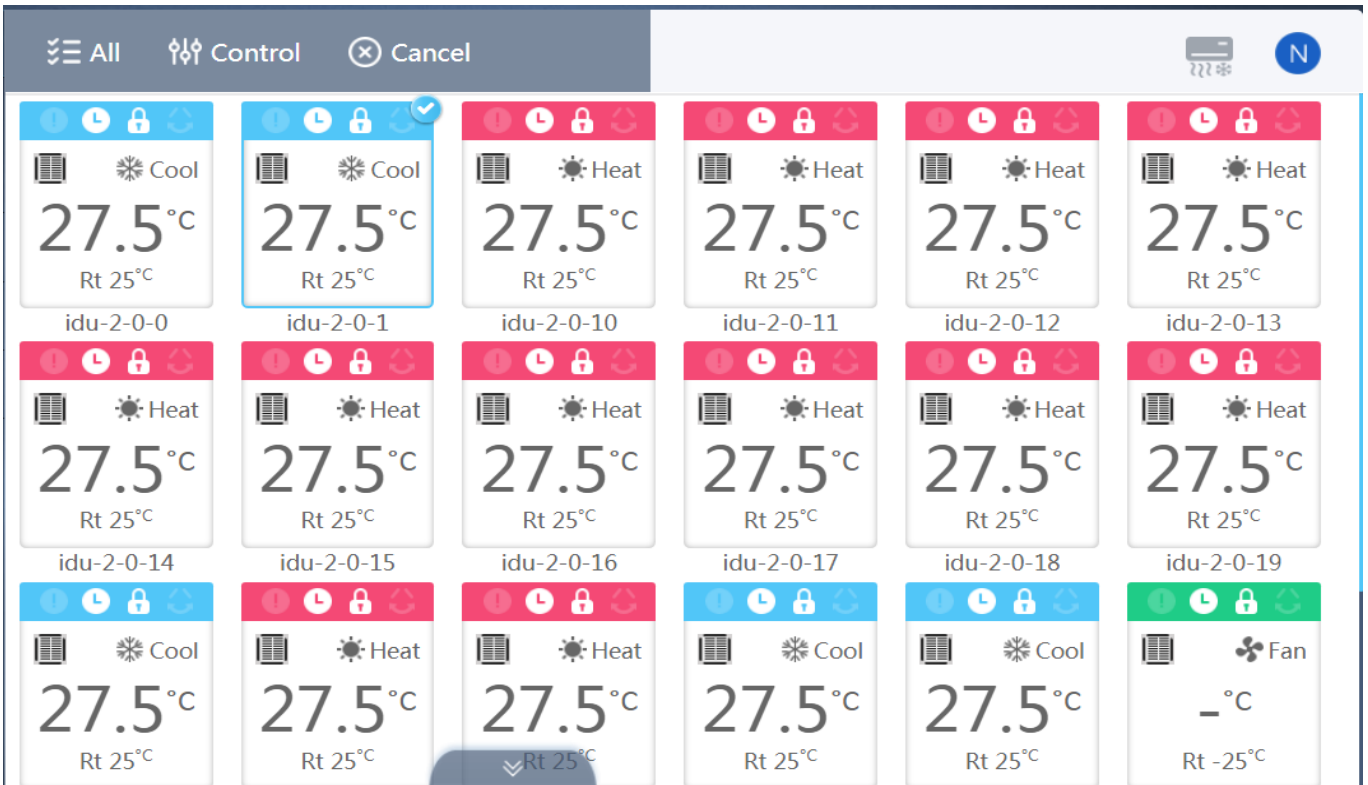
Top Menu Buttons

Tap "All" to select all the indoor units in this page.

Tap "Cancel" to cancel the selection for all indoor units;

Tap "Control", and you will get the following control window:

Tap the icon on the bottom of the screen to open the control command

Functions

Auto Mode Display
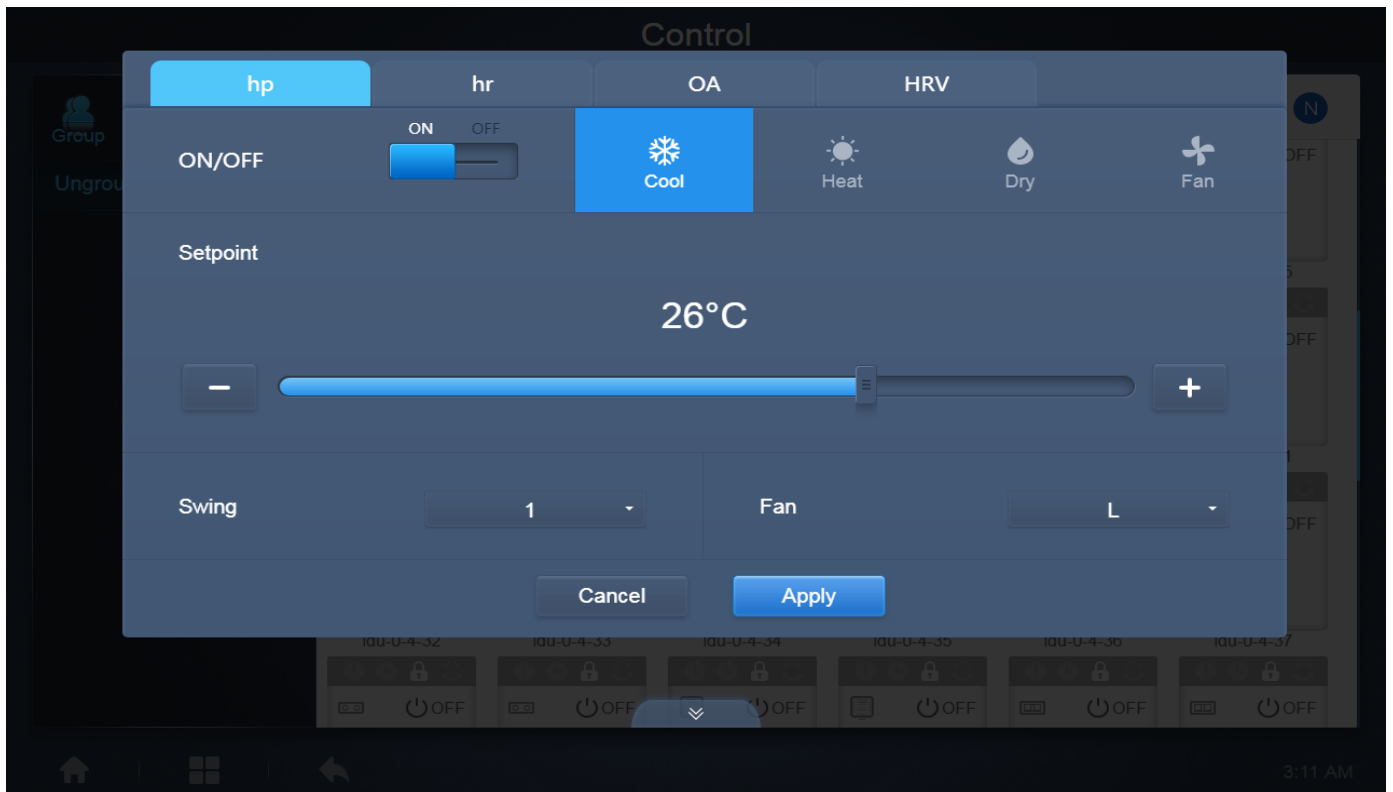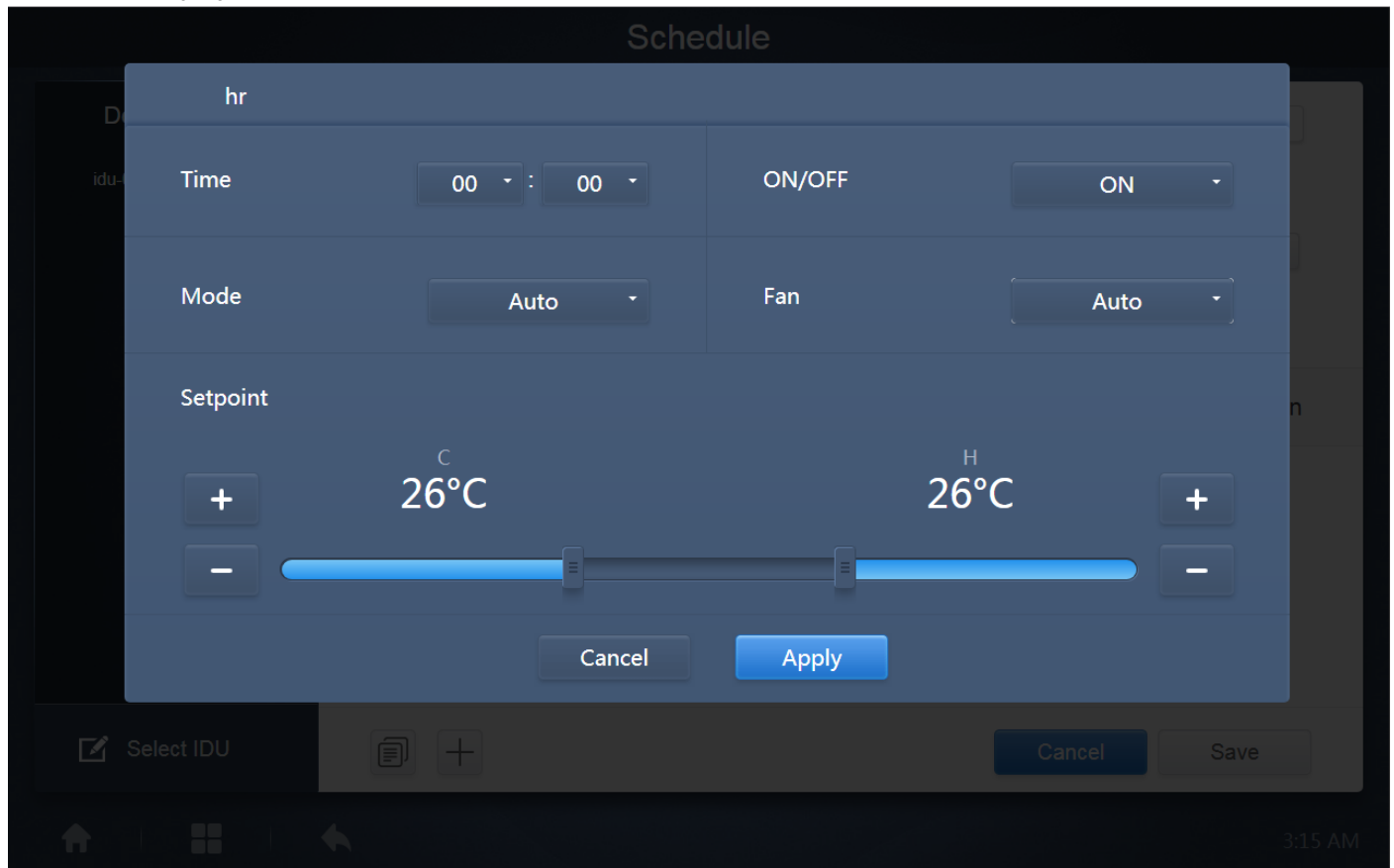
Icon	Description
ON/OFF ON	To switch ON or OFF the Indoor Unit
Mode Auto	To select the Operating Mode for the Indoor Unit
26°C 26°C	To set the Temperature for the indoor Unit, two set points are available in the Auto Mode and only one set point is available in Non- Auto Mode
Swing 1	It is to change the Swing of the Indoor Unit
Fan Auto	This setting is to change the fan speed for the Indoor unit
Cancel Apply	"Apply" It will save the adjusted settings "Cancel" All the adjusted settings would be lost and Indoor Unit would run according to previous settings

4.3 Indoor Unit View – System

For Touch Screen & Computer Website: This function is same both for the computer website and touch screen.

This is also similar to "Group Navigation", except that the system (instead of the groups) is on the left. System name is default and cannot be changed. In this type the, Indoor Units are displayed according to the systems from which they come.
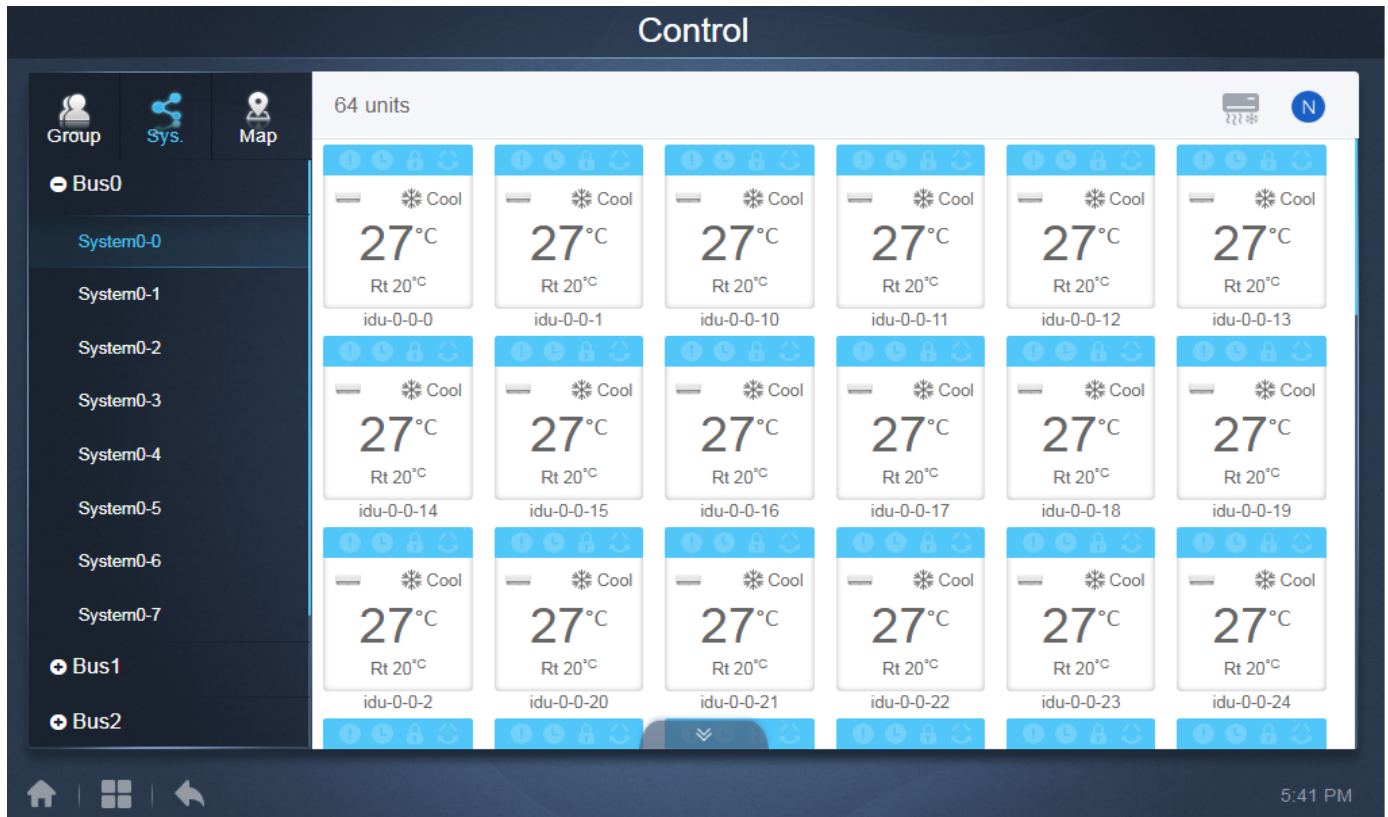
Functions

4.4 Indoor Unit View- Map

For touch screen: The map function needs to be configured from the "Install" tab of functions menu firstly. This map function of "Install" tab is only available on the touch screen.
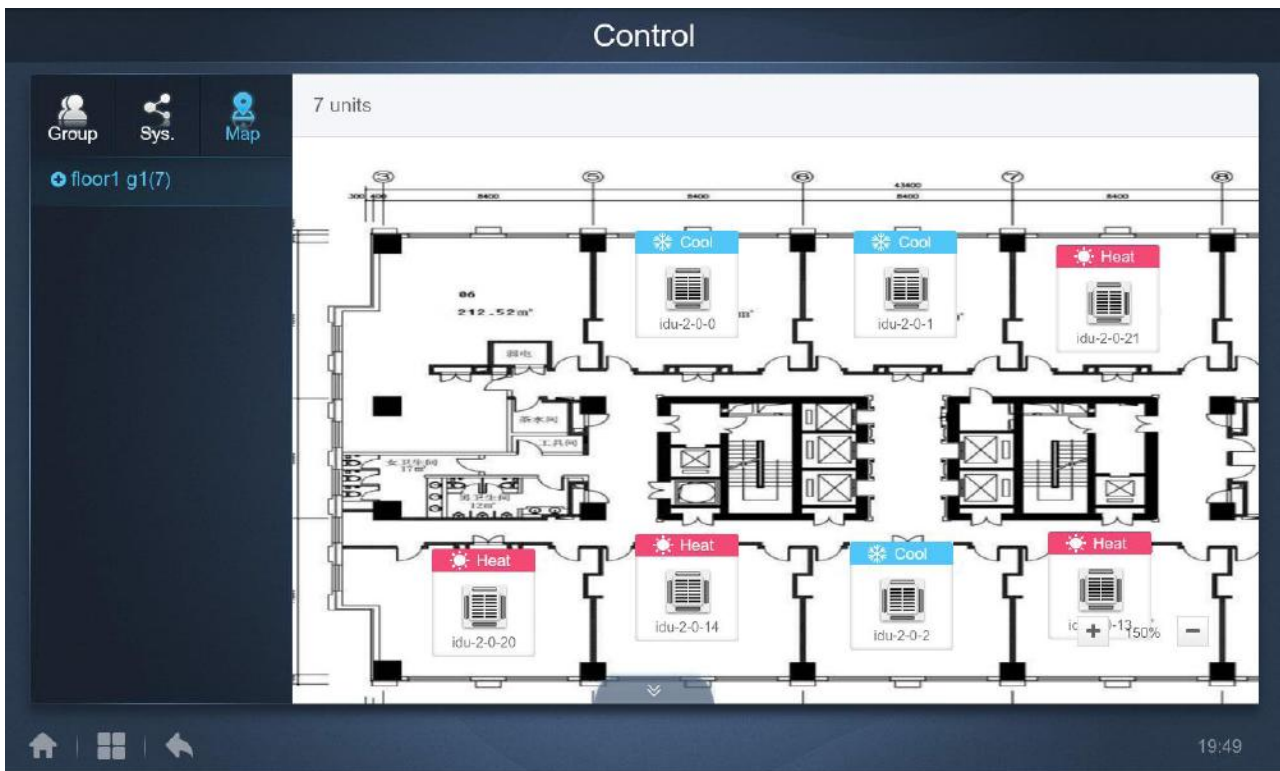
Tap in the group area on the left to select and view different maps. Tap the different IDU icon on the map to select the specific indoor unit. Once selected, the control method is similar to that in the "Group" view. Tap "+" or "-" at the lower left corner to zoom in and zoom out of the map. This interface is just to see the indoor units according to their locations on the map. It is just a better way to remember which indoor units are being controlled. Looking at the map and their relative position helps users to remember better which indoor units are being controlled. Other functions are similar as in Group View or System View. The user can change the name of the indoor units also for better understanding of the map. The method to change the name of the units has been discussed in **8.1 Edit** in this part (Functions) of the manual.

Important Point:

The groups present here in the "Map" menu are different than those created in the "Group" menu. The groups for "Map" view need to be made in the "Map" tab of the "Install" menu. The user needs to upload the map (picture) into the VAMCC-D48384T touch screen controller using a USB disk which can be connected to the USB port of the touch screen controller. The details have been discussed in **8.3 Edit Map** in this part (Functions) of this manual.

For computer website: This function Is not available for computer website.

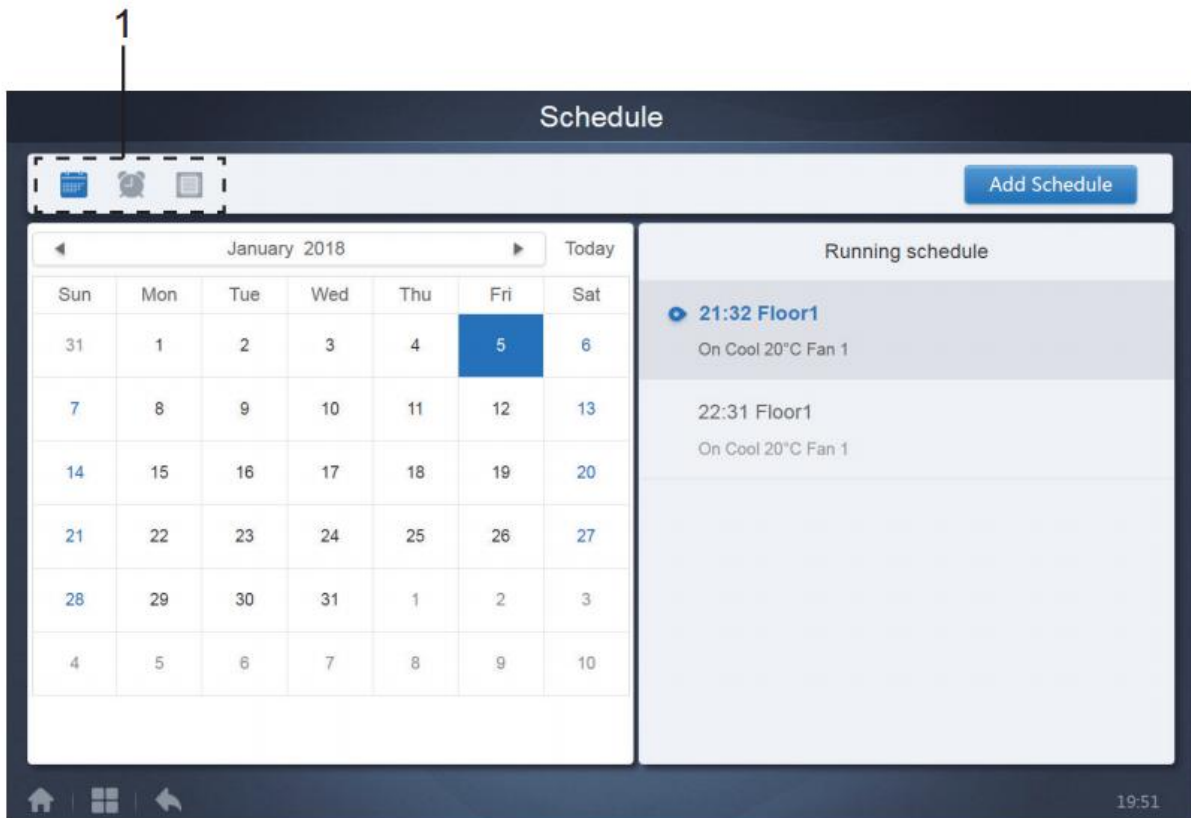If you will try to click on the map view from the computer website, the following dialog box will open up.
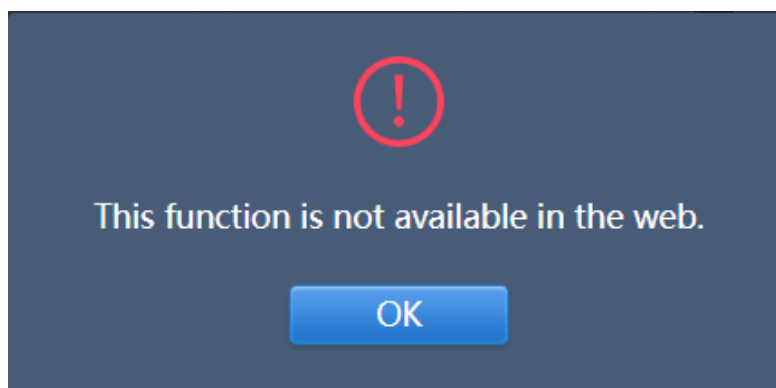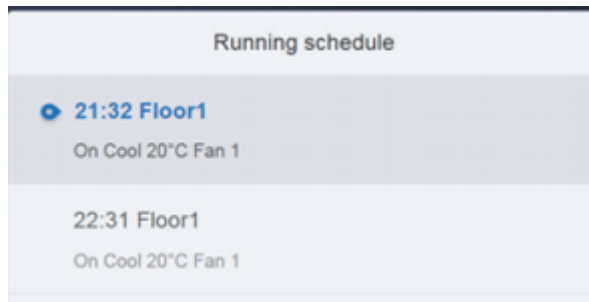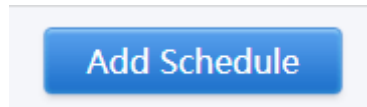
5 Schedule

For Touch Screen & Computer Website: This function is same both for computer website and the touch screen controller. Once we have tapped the "Schedule Icon" at the Home page to go to the function module, the following display would be there. This is the Homepage for the Schedule function.

No	Function
1	From left to right, the respective corresponding options to display the schedule plans are: 1. Calendar View (based on dates); 2. Plan View (based on plans); 3. Device View (based on devices); Tap the corresponding icon to go to the respective schedule view. Default is the calendar view.

It will show the Schedule, currently being implemented

This tab is used to add new schedules

5.1 Schedule View Types

5.1.1 Calendar View

The calendar view is used to display the schedules present according to the various dates. The user can click on any of the dates and the schedule related to that day would be displayed
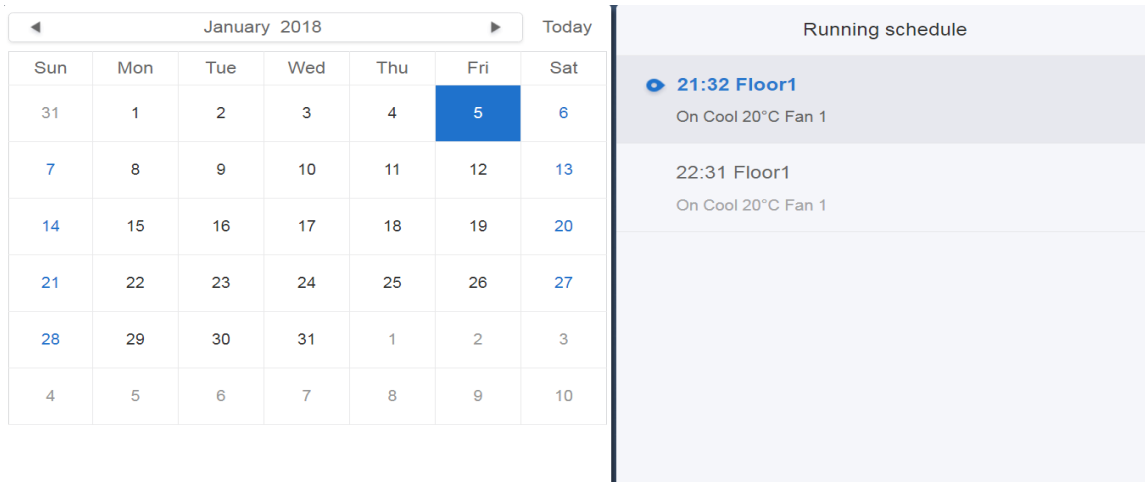
Description
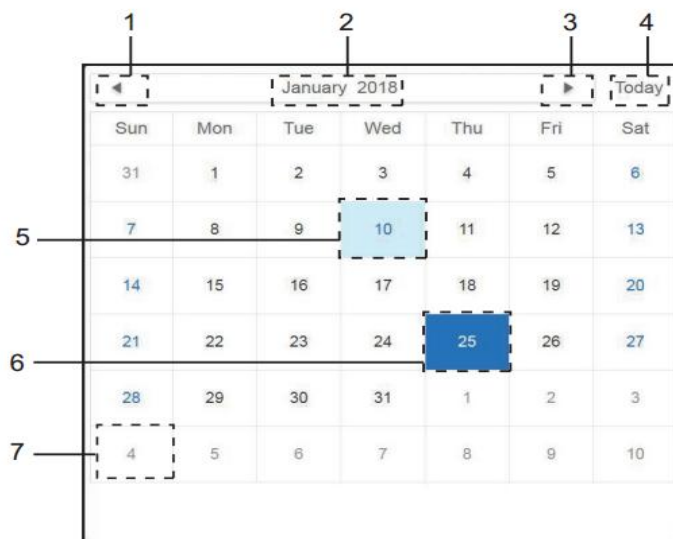
No	Function
1	Tap to shift the calendar to the display of previous month
2	Displays the year and month information of the current date
3	Tap to shift the calendar to the display of the next month.
4	Tap to quickly jump to the month that today's date belongs to and select today's date
5	Today's date that has not been selected (Light blue Background). Tap to select this date.
6	Date Selected(Dark Blue background)
7	The grey numbers are dates not in the month shown now. Tap to jump to the month to which that date belongs to

Functions
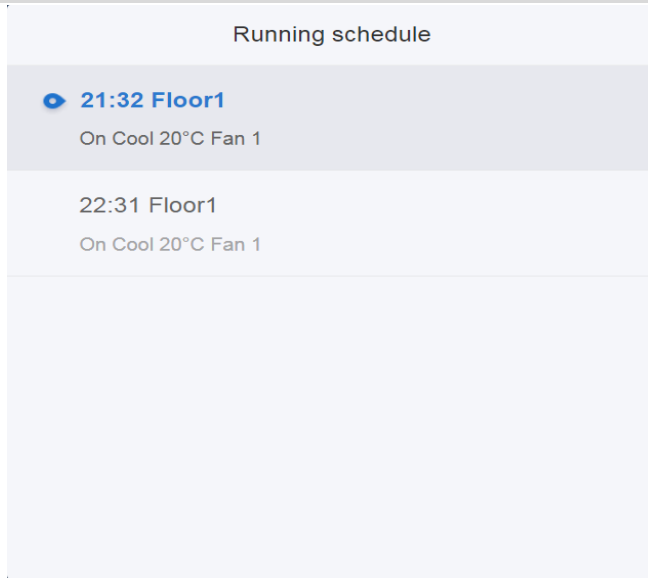
Schedule view (Right Side)

The schedule page only shows scheduled tasks that have not been performed for the selected date (arranged in the order of implementation time). The displayed information is as follows

1. Time

2. Schedule Name

3. Details of the executed command (On/off, mode, temperature set point, fan speed)

5.1.2 Plan View

Tap the second icon to view the schedule by plan as shown in figure below.

No	Function
1	Tap the left icon to go to the schedule editor. Using this the current schedule being used can be edited. Tap the right icon to delete the selected schedule.
2	The schedules are arranged in order of their time created. Tap to select the schedule you need. Selected schedule has a blue background color. The schedule name is on the left of the schedule bar, and the status (ON/OFF) of the schedule is on the right.
3	Shows all the timings for the selected schedule. Use the On/Off slider to perform on/off operations on the schedule. All the events on the dates of the schedule that has been turned off are not implemented, and the status "OFF" is displayed on the schedule bar. The schedule will not come into effect until it is turned on again.
4	Shows all the indoor units associated with the schedule.

5.1.3 Device View

Tap the third icon to go to the device view
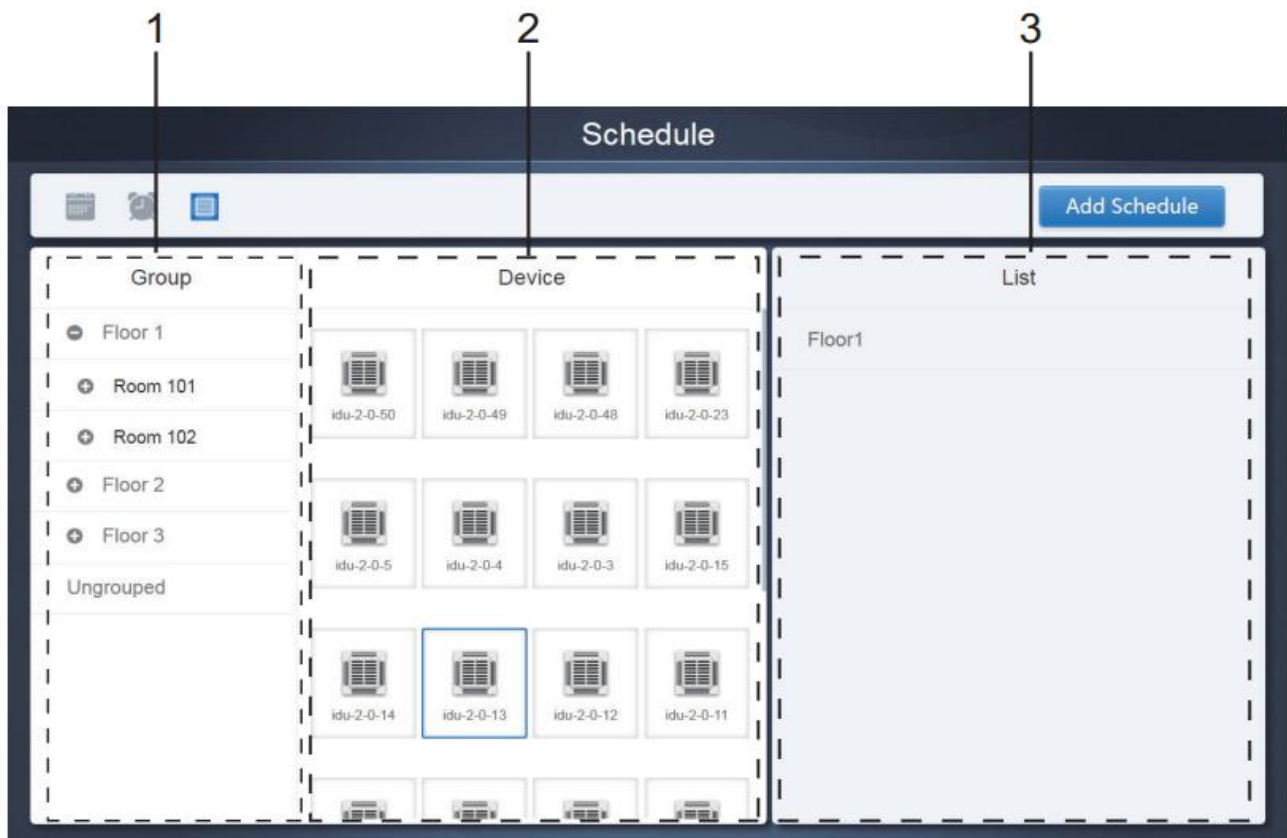
The page is divided into three sections.

1. Group List: This makes it easy to locate the device quickly. Tap "+" to expand the group, and "-" to minimize the group. All the IDUs in the selected group are displayed in the second column. Tap "Ungrouped" to view devices that have not been grouped.

2. The second column is a list of all the devices in the selected group;

3. The third column is the list of schedules, and displays all the names of all the schedules associated with the selected device.

Note: These groups are the ones created in the "Group" tab of "Install" menu.

5.2 Add Schedule

This interface is common for all kind of Schedule Views: Calendar, Device and Plan. It is used to add new schedules.
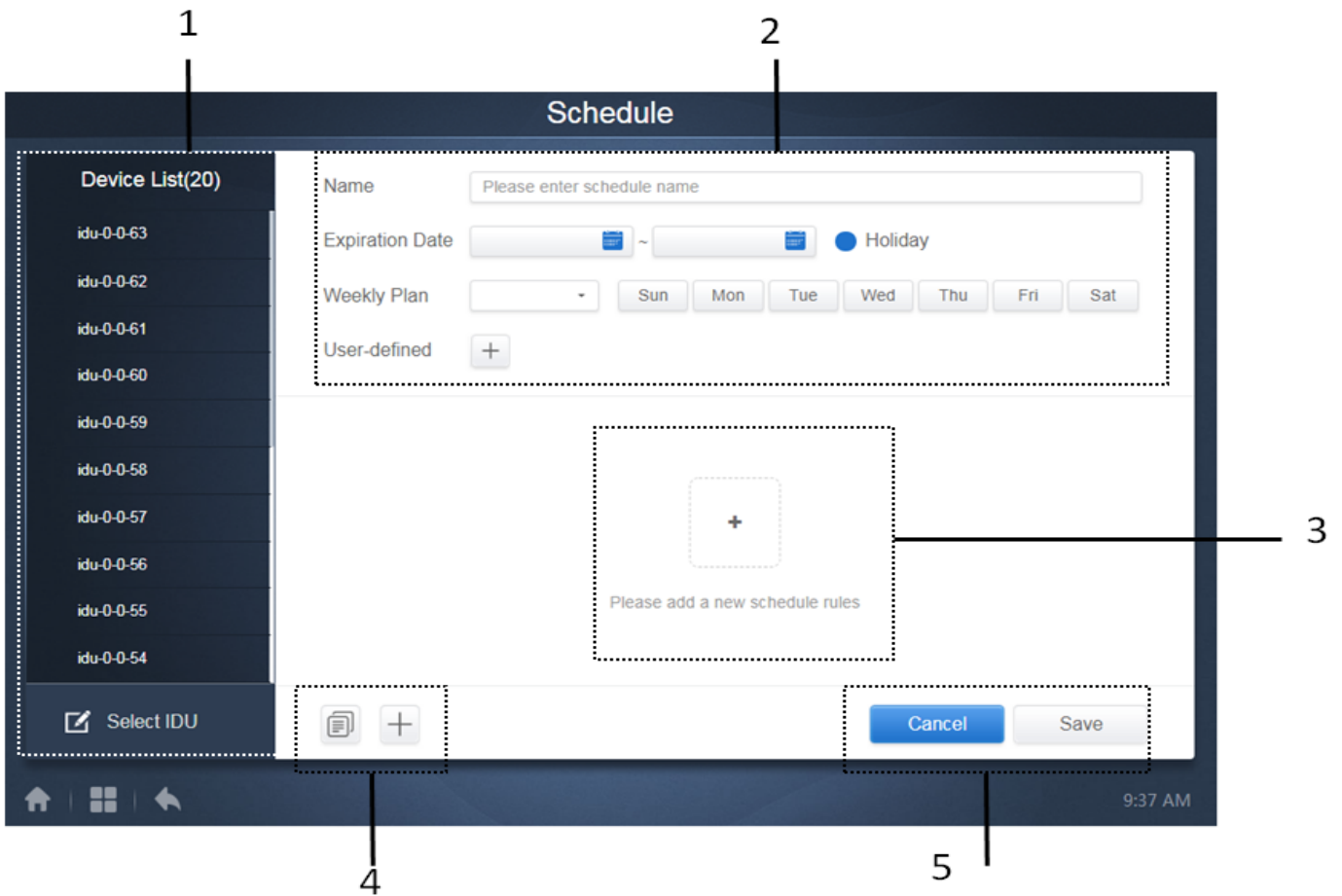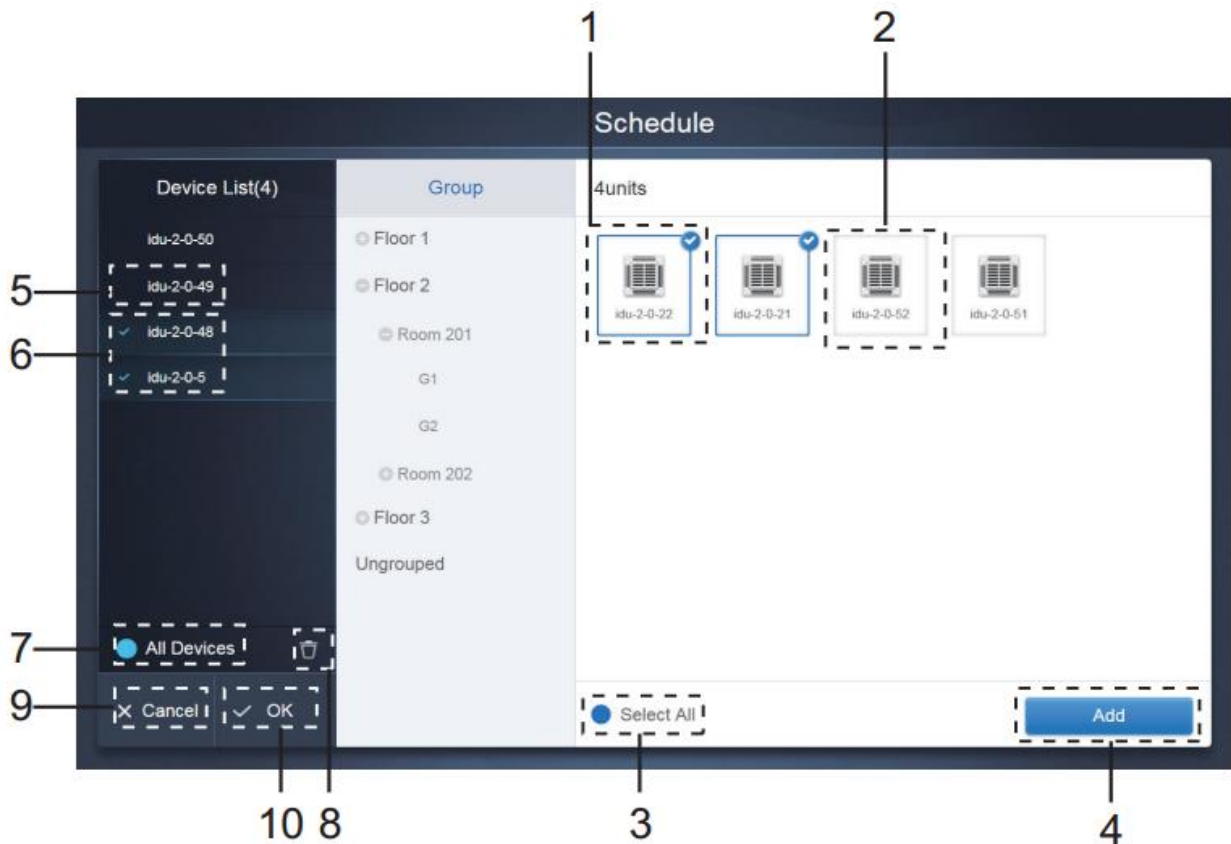

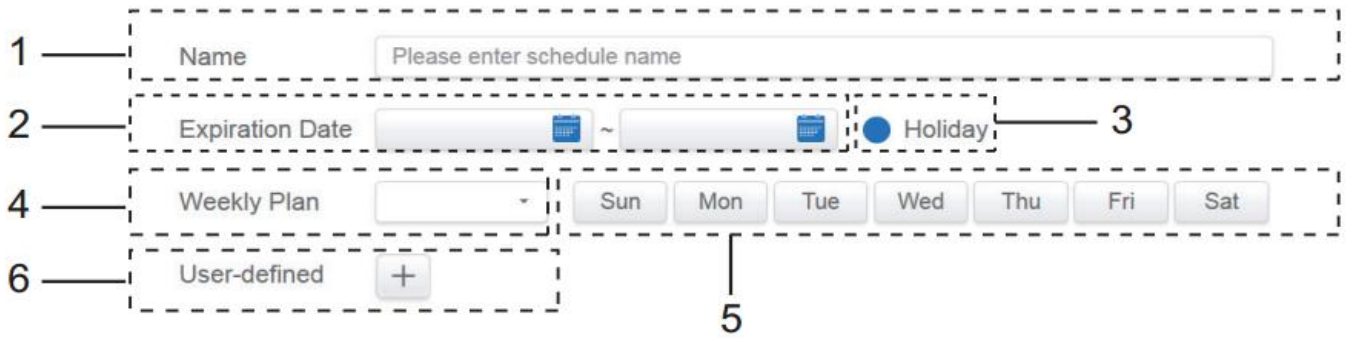| No	Function
1	The device list displays all the devices related to the schedule. Tap to select and add the IDU. Details shown below
2	Settings related to the schedule name and effective date, holidays, weekly plan and user defined dates can be edited here
3	This is used to add new schedule commands in the corresponding schedule, when empty. If already some schedule commands have been added in the schedule those commands would be displayed here as a list.
4	" ▤ " will copy the schedule command added before with an Increment of one minute. "+" Icon is used to add new schedule commands
5	Cancel and Save; it is used to cancel or save the corresponding schedule edits. If there are incomplete data for the Save command, you will receive an error message.

5.2.1 Add Device

This interface would be shown up on clicking on the Select IDU tab on the previous page. The user can simply click on the devices being shown in the right side of the display and after clicking on "Add", the following devices would be added to the corresponding schedule.

A detailed description of this function has been discussed in the table below:

No	Function
1	Devices waiting to be selected are displayed in the rightmost area, and these are the devices that have not been added to the selected subgroup. "1" is a selected device and its top right corner is marked with ✅.
2	"2" is a device that has not been selected. Tap the unselected device to select the device. Tap again to deselect the selected device.
3	Tap ⬤ to activate "Select All". ✅ is an active status for this selection. After activation, all the devices waiting to be selected in the group are selected. Tap again to deselect all. Manually cancel the selected status of a few devices after "Select All" has been activated. Will not cancel "Select All". Tap ✅ again to cancel the "Select All" option
4	Tap to add the selected device for the corresponding schedule
5	Displays the device that has been added for the corresponding schedule. You can tap to select this operation. "5" is a device that has not been selected, tap to select it
6	Displays the device that has been added. You can tap to select this operation. "6" is a selected device, tap to deselect it. Left of the selected device is marked with ✔.
7	Tap 🔵 to activate "Select All". ✅ is an active status. After activation, all the devices waiting to be selected in the group are selected. Tap again to deselect all. Manually cancel the selected status of a few devices after "Select All" has been activated. Will not cancel "Select All". Tap ✅ again to cancel the "Select All" option.
8	Clicking this will delete the device from the list of selected devices for the corresponding schedule and as a result the respective device would go back to right side of the display in the list of Non-Selected devices.
9	Clicking it will cancel all the changes made and the schedule would remain as it is as was before doing the edit.
10	Save and Exit would save the corresponding changes.

5.2.2 Date Settings

No	Function
1	Tap the input box to enter a name for the schedule. Maximum length is 80 English characters (40 Chinese characters). Note that system is unable to save the name if it contains the following symbols: （[`~!#$^&*()=|{}':;,\.<>/…?~！￥…（）——【】"："".、？；《》]）
2	Tap in the white space to select the corresponding starting and End dates for the schedule.
3	Check the blue icon on the left next to Holiday to activate the holiday exception function which is to carry out all the plans in the schedule during the holiday period. The icons that are checked are active.
4	Quick select for the weekly plan. Select the particular day to implement the plan for the day. If the day falls on a working day (Mon to Fri), the schedule for the day is implemented on the day itself.
5	Manual option for weekly plan. Tap the date to activate or deactivate it. Blue indicates active status, while white indicates inactive status.
6	You can add a custom date to the schedule as an individual date. Tap the "+" sign to add a date each time, and you may add up to 5 dates. Tap once to select and add the date. Tap "x" at the top left corner to delete this date. Tap the date in other areas to deselect it

*Note: The schedule will not be implemented during the holidays unless the holiday exception is selected; The schedule in the custom dates outside the holiday is implemented, even if the date falls outside the period of validity (expiration date) or is part of a weekly plan; The schedule for the remaining dates must be within the period of validity (before expiration date), and must satisfy the weekly plan.

5.2.3 Add Schedule Command

Tap on _____, to create a table and you will get the dialog box to add the timings. There are four different command types that you can add and these are FAPU, HRV, Auto and No Auto. Once the table is ready, you can

use _____ to create a schedule command.

1. For Fresh Air Processing Unit (FAPU), you can choose from 3 modes: cool, heat and fan. In the Fan mode, you cannot change the temperature set point. The range of the set point in cool and heat modes is 17-30 degrees Celsius. The fan speed for cool and heat with fan is Speed 7 + Auto.

Functions
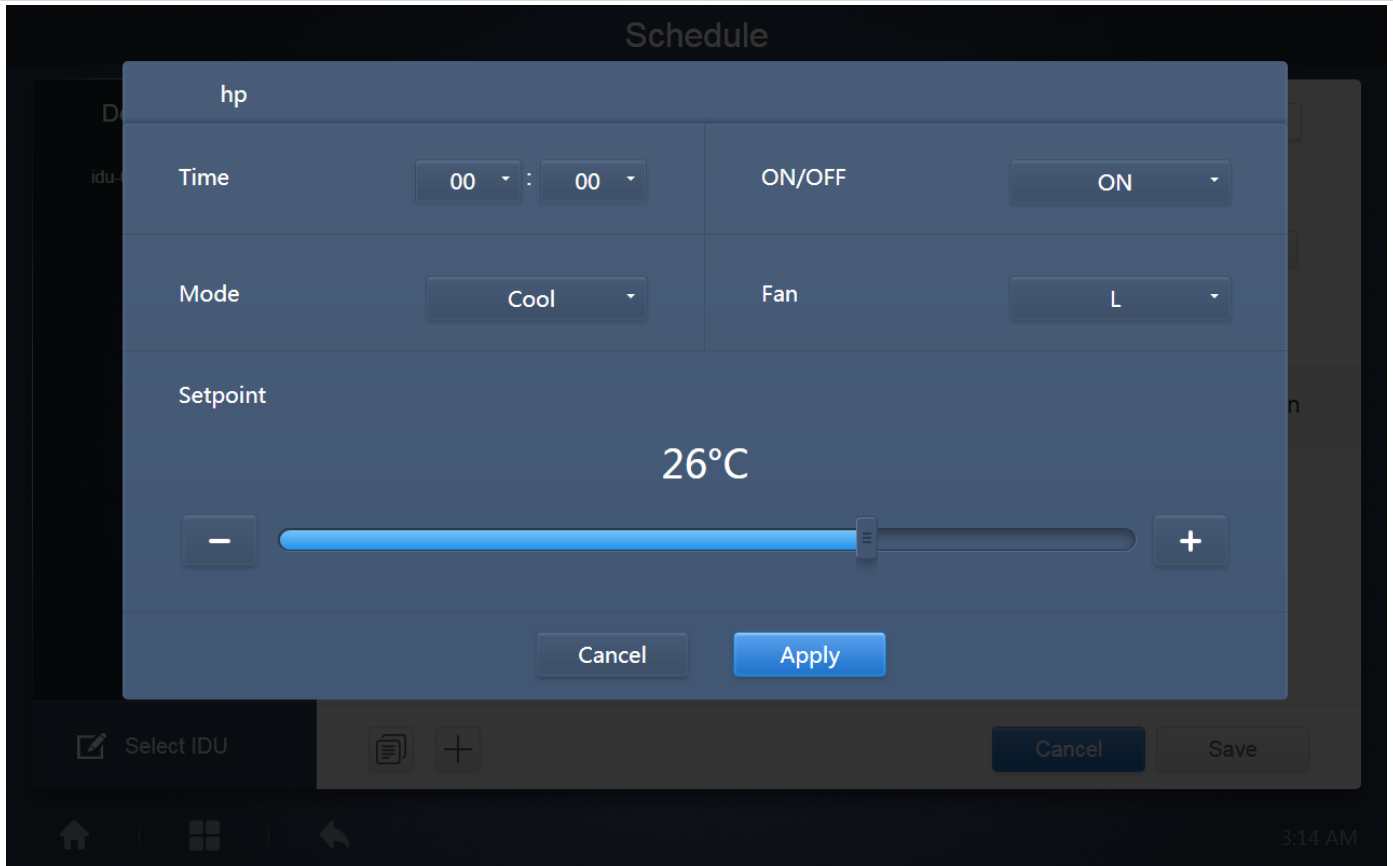
2. HRV (Heat Recovery Ventilator) has 4 operating modes: Heat Exchange, Bypass, Discharge and Fan. You cannot change the temperature set point in all four modes, and the fan speed is Speed 7 + Auto;
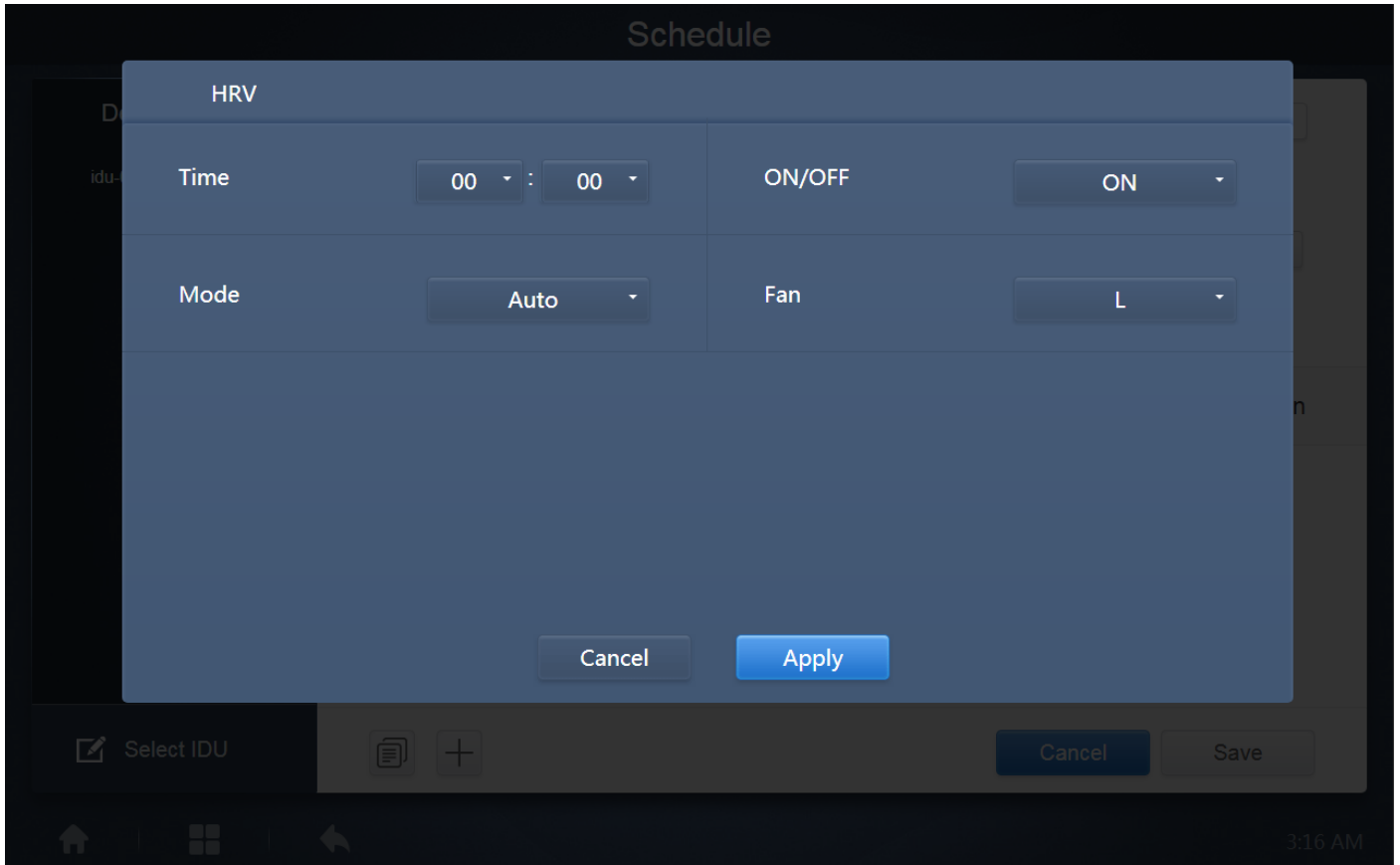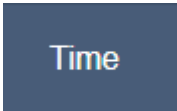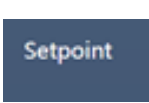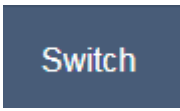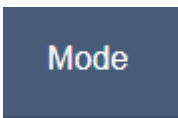
3. The Auto mode supporting units have five types of operating modes: Auto, Cool, Heat, Dry, and Fan. In the Auto mode, "C" is the cooling temperature, and "H" is the heating temperature. In the Cool, Heat and Dry modes, "C" is the temperature set point. "H" has no impact on set point. In Dry mode, the default fan speed is Speed 1 and cannot change. You cannot adjust the set temperature in Fan mode. The range of the set temperature is 17-30.
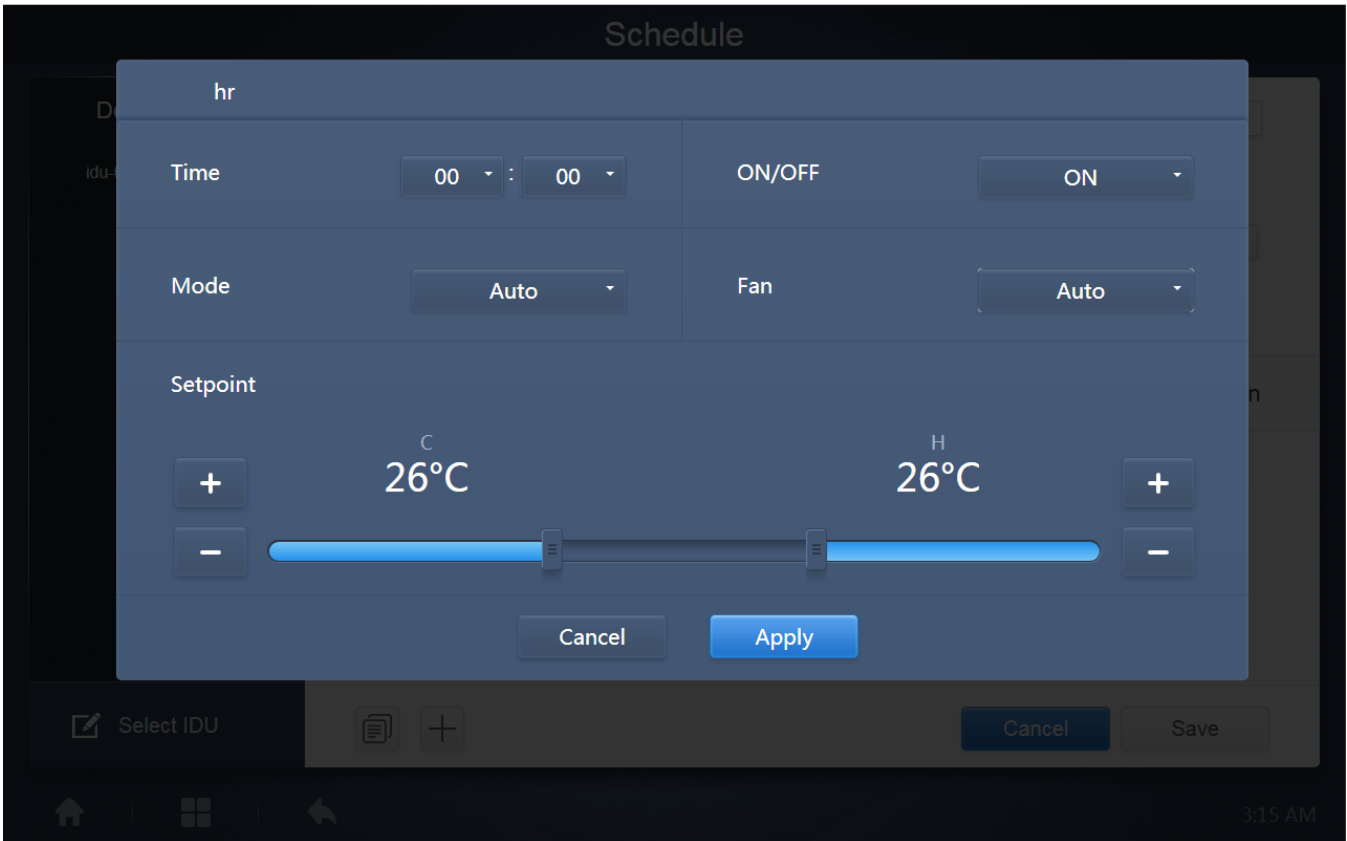
4. In the non- Auto mode, there is only one temperature set point (which does not have an Auto mode). The rest are similar to that in the Auto mode.
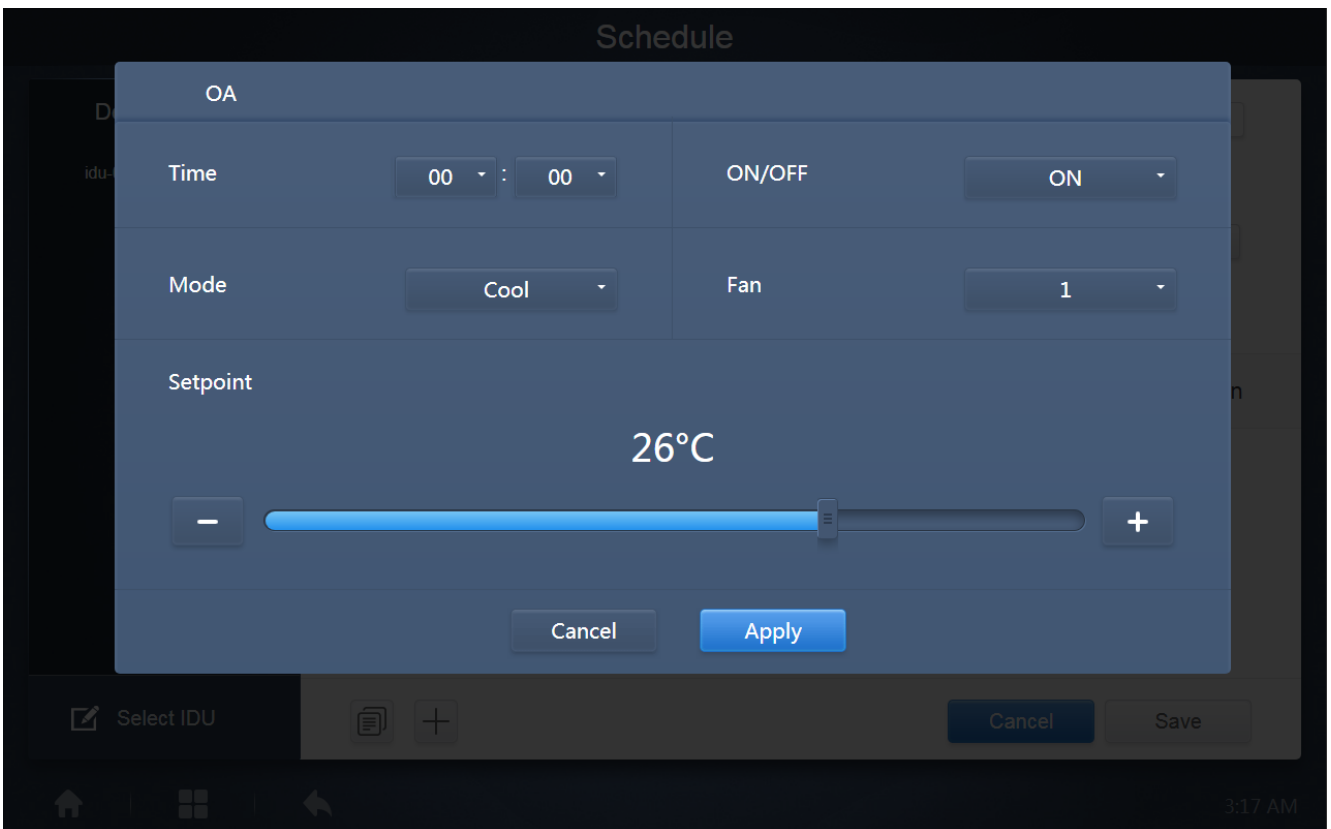
Icon	Description
Time	It is to set the time for implementation of the corresponding schedule command
Setpoint	It is to set the Set point Temperatures for the corresponding Indoor Unit, it can be dual set points in case of Auto mode whereas in other case it will be single set point temperature.
Switch	To select whether to Switch On or Off the unit at the respective time.
Mode	This setting is to select the corresponding operation Mode for the respective unit. The operation modes would be different according to the different types of indoor units as has been dexribed in the pictures above
Fan	This option is to select the fan speed
Cancel Apply	Clicking Save will save the corresponding edits as a schedule command, clicking Cancel will delete the command

Important points:

1. Tap "+" or "-" on Set point to increase or decrease the temperature by 0.5.

2. Tap the left and right arrows to turn on/off the switch. No impact on the mode settings when the Off command is sent.

Important Points:

1. Clicking will copy the latest added schedule command from the list shown in bottom right. Please note that the 23:59 timing command cannot be copied.

2. For the timings that have been saved, tap to edit again, and to delete.

3. Change Schedule

Tap on the home page or tap on the schedule in the calendar view to change the schedule. On the

home page, the schedule is marked by . On the schedule view page, the entry point is the selected schedule.

The operating method for the schedule editor is similar to that for adding a new page. The difference is that the screen will remain on the schedule editor page for "Save".
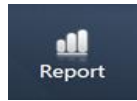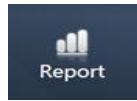
Functions

6 Report

For Touch Screen: The default output for the export reports can be USB disk or email.

For Computer website: The default download folder for computer website is the default download folder for the web browser.

On the "Home Page", tap ![Report] to use the Report function. To use this function the software must have been activated before. The details about the Activation of Energy Statistics function are discussed in the "Advance Settings" tab of the "Settings" Menu

There are 3 modules for users to choose from:

1. Operating Duration

2. Running Record

3. Energy Statistics

Tap the corresponding key to enter the module.

(Before Activation)

(After Activation)

6.1 Operating Duration

It can be used to view the total operation duration of the indoor units for a specified time period..

Note: You can query the time and energy statistics reports only after the operating electricity file has been generated. The electricity file is generated at every point.
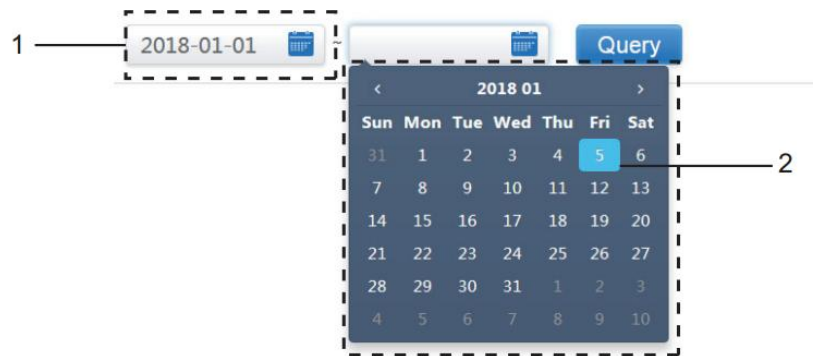
6.1.1 Query Duration

6.1.2 Procedure

1. Tap the selected device to go to the device selections page.
2. Details of the device page are as follows:

No	Function
1	Devices waiting to be selected are displayed in the rightmost area, and these are the devices that have not been added to the selected subgroup. "1" is a selected device and its top right corner is marked with ✅.
2	"2" is a device that has not been selected. Tap the unselected device to select the device. Tap again to deselect the selected device.
3	Tap ● to activate "Select All". ✅ is an active status. After activation, all the devices waiting to be selected in the group are selected. Tap again to deselect all. Manually cancel the selected status of a few devices after "Select All" has been activated. Will not cancel "Select All". Tap ✅ again to cancel the "Select All" option
4	Tap to add the selected device
5	Displays the device that has been added. You can tap to select this operation. "5" is a device that has not been selected, tap to select it
6	Displays the device that has been added. You can tap to select this operation. "6" is a selected device, tap to deselect it. Left of the selected device is marked with ☑.
7	Tap ● to activate "Select All". ✅ is an active status. After activation, all the devices waiting to be selected in the group are selected. Tap again to deselect all. Manually cancel the selected status of a few devices after "Select All" has been activated. Will not cancel "Select All". Tap ✅ again to cancel the "Select All" option.
8	Move the device that has been selected to be added to the group out of the "Add Device" queue
9	Exit without Saving
10	Save and Exit

3. Perform the time selection, once the device has been added.

No	Function
1	Tap in this area (except the blue calendar icon) to activate the calendar.
2	Tap any number to select the date. Selected date in the box has a light blue background, otherwise today's date is selected. The grey text is a date that is outside this month. Tap to select it. Tap the time at the top to quickly locate the date. Tap once to go to the quick selection function for the month. Tap twice to go to the quick selection function for the year. Use the arrows on both sides at the top to quickly toggle the year and month. Each toggle is a 12-year duration for quick selection of year, 1-year duration for quick selection of month, and 1-month duration for quick selection of date. Tap the left arrow to move to previous month or year, and the right arrow to move to the next month or year

*Refer to the Appendix part 3 of this manual to see the exported Excel files from the Software.

6.2 Running Record

The running record also needs to satisfy two conditions before the query is carried out. The operating procedures and query method are similar to Operating Duration. The query results are displayed in a table form. You can query the following data:

Operating duration, IDU name, model, IDU group number, IDU ID, operating mode, temperature set point, set temperature/cooling temperature in auto mode, heating temperature set in auto mode, fan speed, IDU ambient temperature, error code, lock cooling set temperature, lock heating set temperature, mode-lock, wired controller lock, remote controller lock, fan-lock, On/Off lock, swing lock, up/down swing.

*Note: Historical records can only display and export the most recent 500 records within the specified period.

*Refer to the Appendix 3 of this manual to see the exported Excel files from the Software.

6.3 Energy Statistics

https://www.youtube.com/watch?v=PSuqL-CA8qA&t=32s

The method to query energy statistics is similar to that for the previous two functions. However, in the coordinate mode,

you can only add up to three devices to search. There are no restrictions in the table mode. Use

at the top right corner to select the different modes. The selected mode is blue. The 3 modes are histogram, line graph and
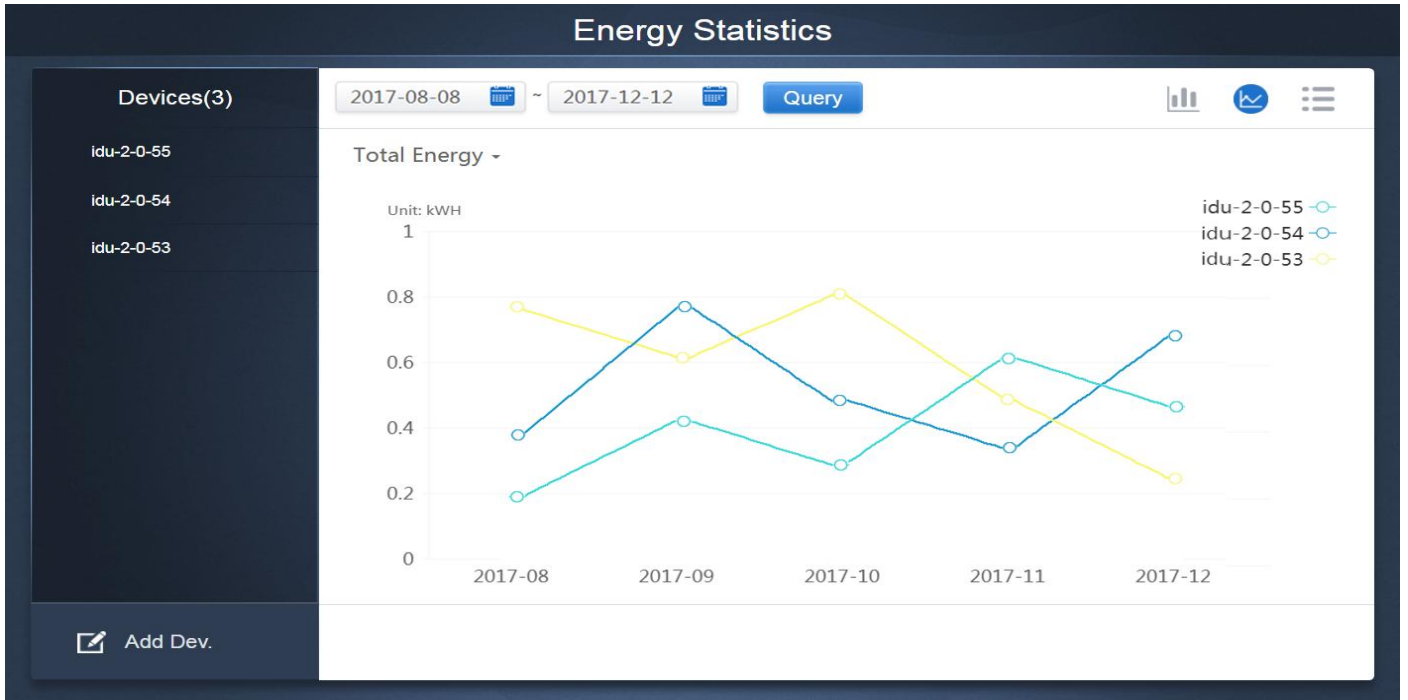
table respectively.

6.3.1 List View

6.3.2 Histogram and Graph

(Line Chart)
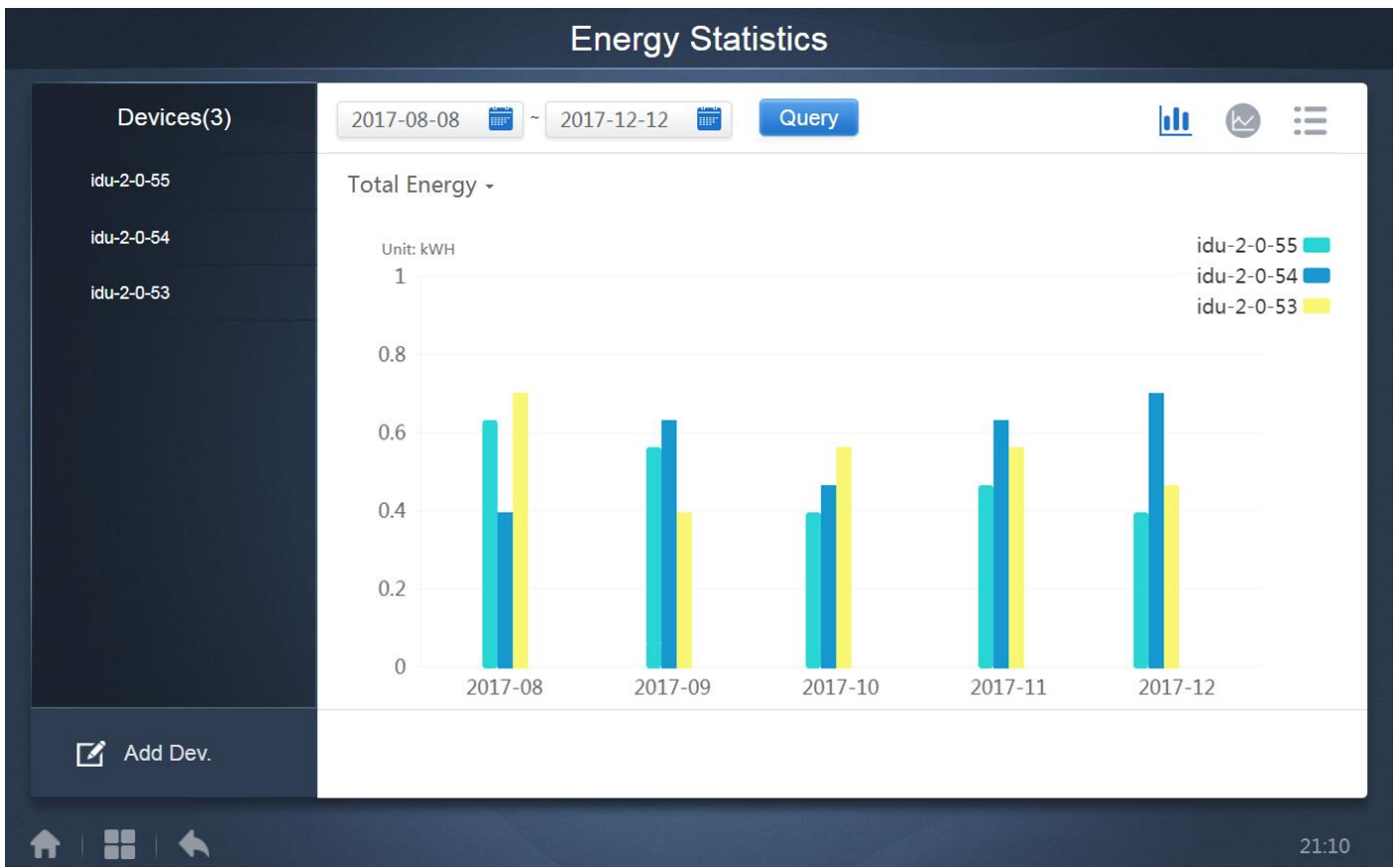
(Histogram)

Functions

VAMCC-D48384T

For histograms and graphs, you can only select 3 objects and select either IDU or refrigerant system. The selected time for graphs and lists is based on the month (effective graph is based on day). There are only two options in total energy: total energy, and operating energy. In the graphs, histograms and tables, the optional parameters are "Total Energy" and "Operating Energy".

Device	Operating energy	Total Energy
IDU	Operating Electricity	Operating Electricity + Standby Power
ODU	Operating Electricity	Operating Electricity + Standby Power + Exceptional Energy

*Refer to the Appendix part 3 of this manual to see the exported Excel files from the Software.

6.4 Log

Tap at the bottom left corner of the Home page to go to the log page

Time	Func.	Detail	Type	Device name	Username
2018/01/05 19:11:11	Login	Login	--	--	admin
2018/01/05 19:21:24	Login	Login	--	--	admin
2018/01/05 19:29:20	Login	Logout	--	--	admin
2018/01/05 19:29:54	Login	Login	--	--	admin
2018/01/05 19:30:05	Schedule	ON/OFF:On,Mode:Cool,Setpoint:20℃,Fan:1	IDU	64PCS(idu-2-0-0,idu-2-0-1,idu-2-0...	admin
2018/01/05 19:47:23	Login	Login	--	--	admin
2018/01/05 19:51:18	Login	Login	--	--	admin
2018/01/05 20:28:08	Login	Login	--	--	admin
2018/01/05 20:29:20	Login	Login	--	--	normal
2018/01/05 20:35:36	Control	ON/OFF:On,Mode:Cool,Setpoint:26℃,Fan:Auto,Swing:Auto	IDU	1PCS(idu-2-0-0)	normal
2018/01/05 20:35:39	Control	ON/OFF:On,Mode:Cool,Setpoint:26℃,Fan:Auto,Swing:Auto	IDU	1PCS(idu-2-0-16)	normal

2018-01-05   ~   2018-01-05   Query

🏠 | ▦ | ↩   20:35

Functions

Certain operations of the software are recorded in logs, and these are classified into the following categories:

General control command

ECO control command

Schedule control command

Login and logout

Select the start time and end time at the lower-left corner. Tap "Query" to display the log contents within this statistic compilation period.

Note: When you switch the language, the language used to record the data in the schedule is not refreshed, and the log record is based on the data language at the time of creation.

6.5 Export Function

For Operating Duration, Running Record, and Energy Statistics reports, there are functions to export the queries records to .csv files (except for histograms and graphs). The contents of the exported files are consistent with the current results of the queries. The format of the file is .csv, and it can be viewed and edited with Excel. Naming convention of the exported file is:

Operating Duration: running_timestamp.csv;

Running Record: record_timestamp.csv;

Energy Statistics: energy_timestamp.csv.

The export target is the default download path for the current browser.

Note- A sample each of the exported documents from Operating Duration, Running Record and Energy Statistics has been shown in The Appendix 3 of this Manual

For Touch Screen: The exported files would be sent to the USB disk. You will receive a prompt message once the export is successful.
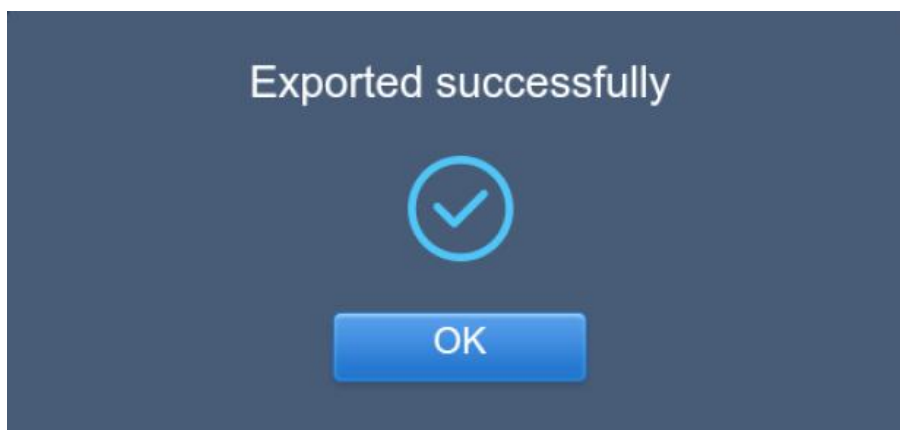
Also, the configured email address in the setting tab can also be used to export the report using email and send the ".csv" file to the specified mailbox.

On tapping the "Export" button, you would be asked to select the mail recipients. After completing the selection, the user needs to click on "Send" to send the email.
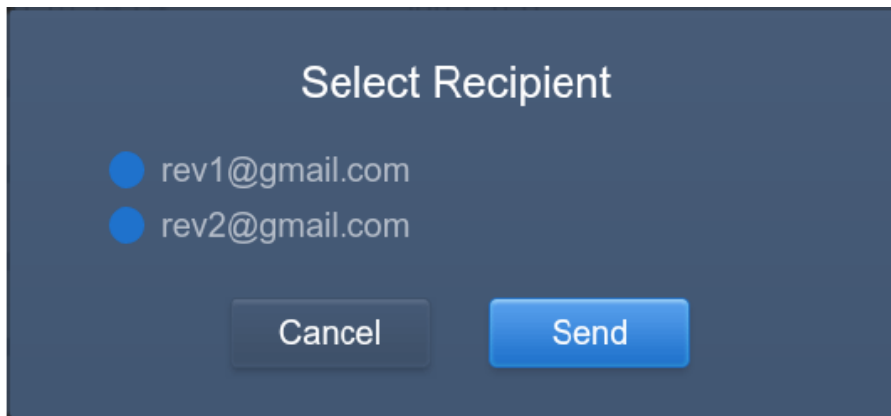
If the email is sent successfully, the following dialog box would open:

The recipients would receive the email with the exported file as an attachment. If the mailbox stings are incorrect, the email would not be sent*

Note:* The email settings in the "Setting" tab needs to be performed by professional people in order to use the email function of VAMCC-D48384T successfully. This function is not available while using the computer website.

For Computer Website: The exported file would be sent to the default download folder for the web browser being used to access the computer website of the touch screen controller.
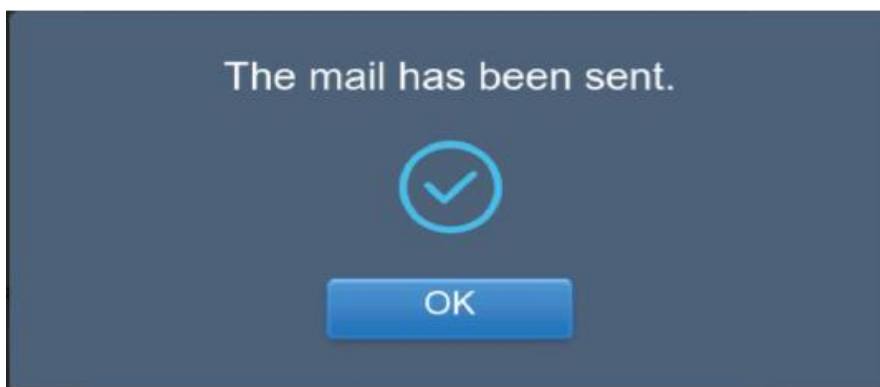
Note: *A sample of each of the exported documents from Operating Duration, Running Record and Energy Statistics has been shown in the Appendix 3 of this manual.

Functions

7 Eco

https://www.youtube.com/watch?v=RpZ8z67mdWY&t=39s

For Touch Screen and Computer Website: This function is similar for both.

This function is basically present to set some limitations on the use of Indoor Unit and Outdoor Units. Using this Tab some of the functions both of the IDU and ODU can be restricted or their range can be limited.
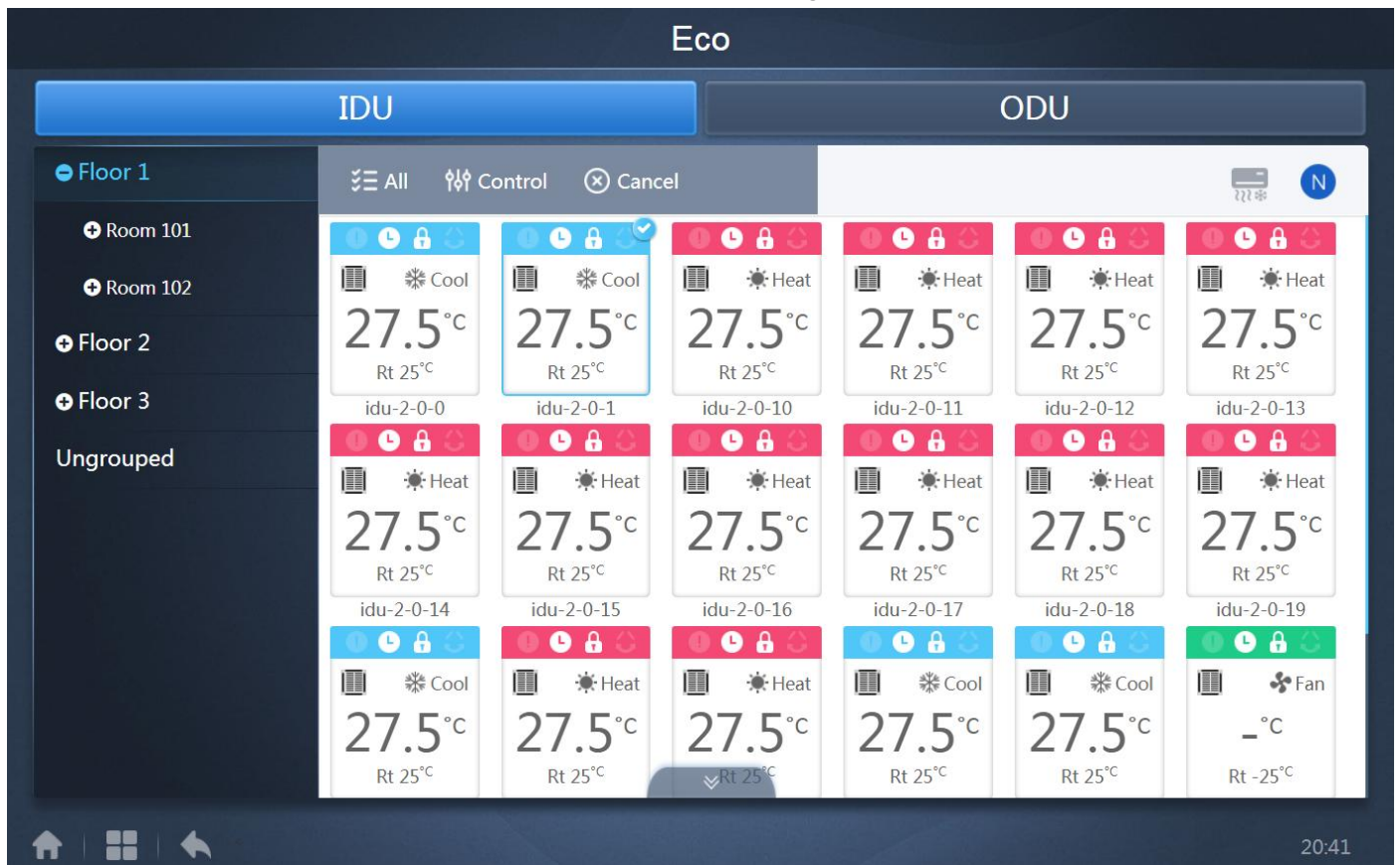
The ECO page is divided into two parts: IDU and ODU.

IDU: The use of all the buttons in "Eco" function is same as in "Control" function. The only difference is that the control commands present here for the Indoor Units are different from the commands present while using "Control" function.
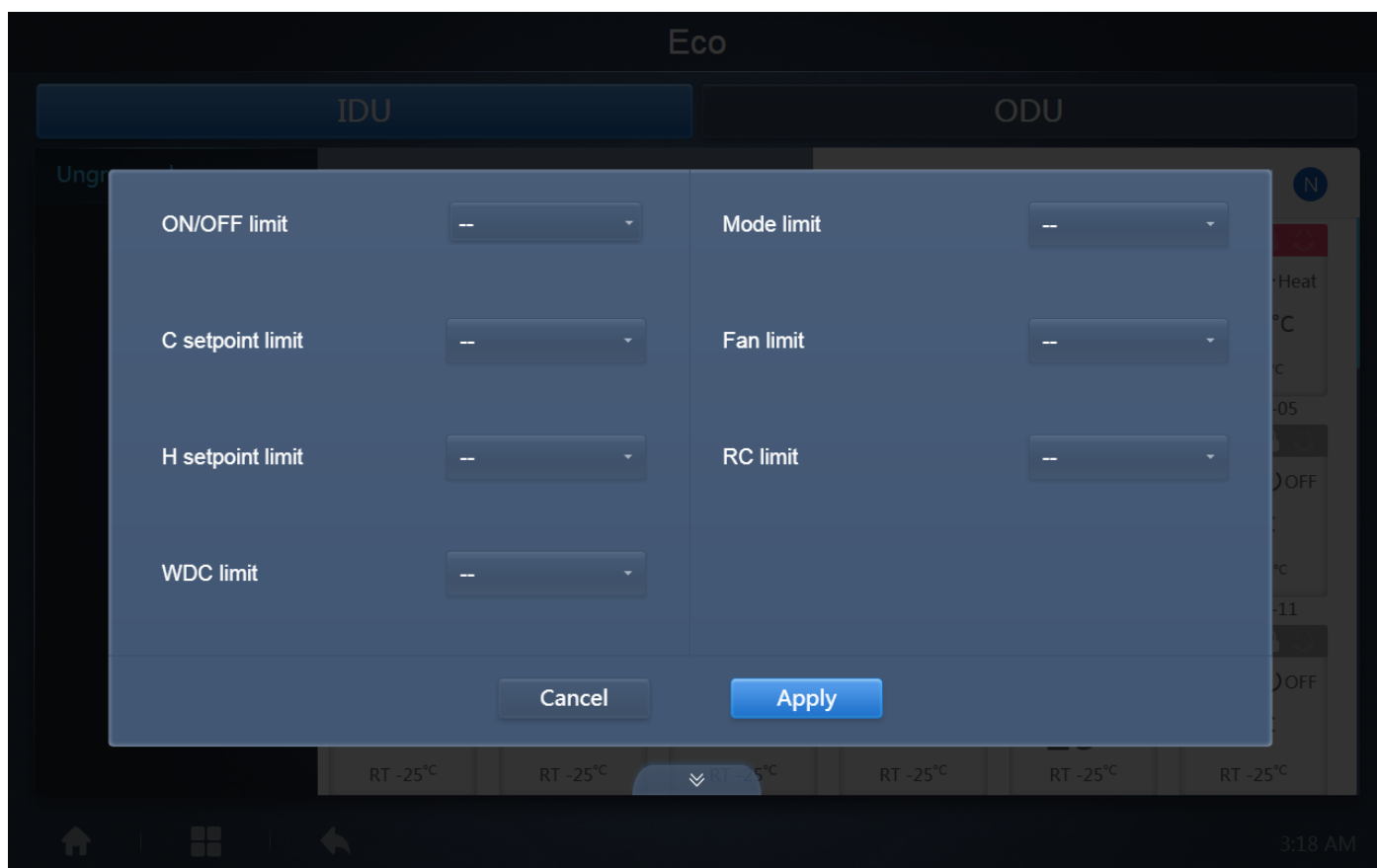
The description of the control commands is as follows:

Control command	Description
ON/OFF limit	The options available are "--"*, "Unlimited" which means no limitation, "ON" the unit will remain ON , "OFF" the unit will always remain OFF.
C setpoint limit	The options available are "--"*, "Unlimited" which means no limitation, the other options are to set the exact value of Cooling Set Point temperature. The user cannot change the cooling set point temperature below the limitation temperature
H setpoint limit	The options available are "--"*, "Unlimited" which means no limitation, the other options are to set the exact value of Heating Set Point temperature. The user cannot change the Heating set point temperature above the limitation temperature
Mode limit	The options available are "--"*, "Unlimited" which means no limitation and the Modes according to the type of Indoor Unit*
Fan limit	The options available are "--"*, "Unlimited" which means no limitation and the Fan speed from 1 to 7
RC limit	The options available are "--"*, "Unlimited" which means no limitation and "Limited" which means that the remote controller cannot be used.
WDC limit	The options available are "--"*, "Unlimited" which means no limitation and "Limited" which means that the wired controller cannot be used.
Apply Cancel	Clicking on "Apply" will save all the commands changed for the unit. Clicking on "Cancel" will keep the commands as before.

*Note-Certain indoor units may not support one or more locks described above.

All parameters are "--" by default which means that no command is set

For HRV- Bypass, Discharge, Fan, Auto, Heat Exchange

For Non-Auto Mode IDUs - Cool, Heat, Dry, Fan

For Auto Mode IDUs- Auto, Cool, Heat, Dry, Fan

For Fresh Air Unit – Cool, Heat, Fan

ODU: Outdoor Unit page directly displays ODU objects. The control for outdoor Unit is also similar for all the buttons, after selecting one or more ODUs, click on the "Control" button to set the limitations for that Outdoor Unit. The descriptions of all the available Limitations functions available for the Outdoor Unit have been described in detail in the below tables.

Note-Certain outdoor units may not support one or more lock commands described above. The VAMCC-D48384T can send any lock command to the outdoor unit. If the outdoor unit does not support the lock command, the outdoor unit will process the command based on its own logic. For details on the different lock functions supported by different outdoor units, refer to the function manual of the corresponding outdoor unit. All parameters are "-" by default which means that no command is sent.
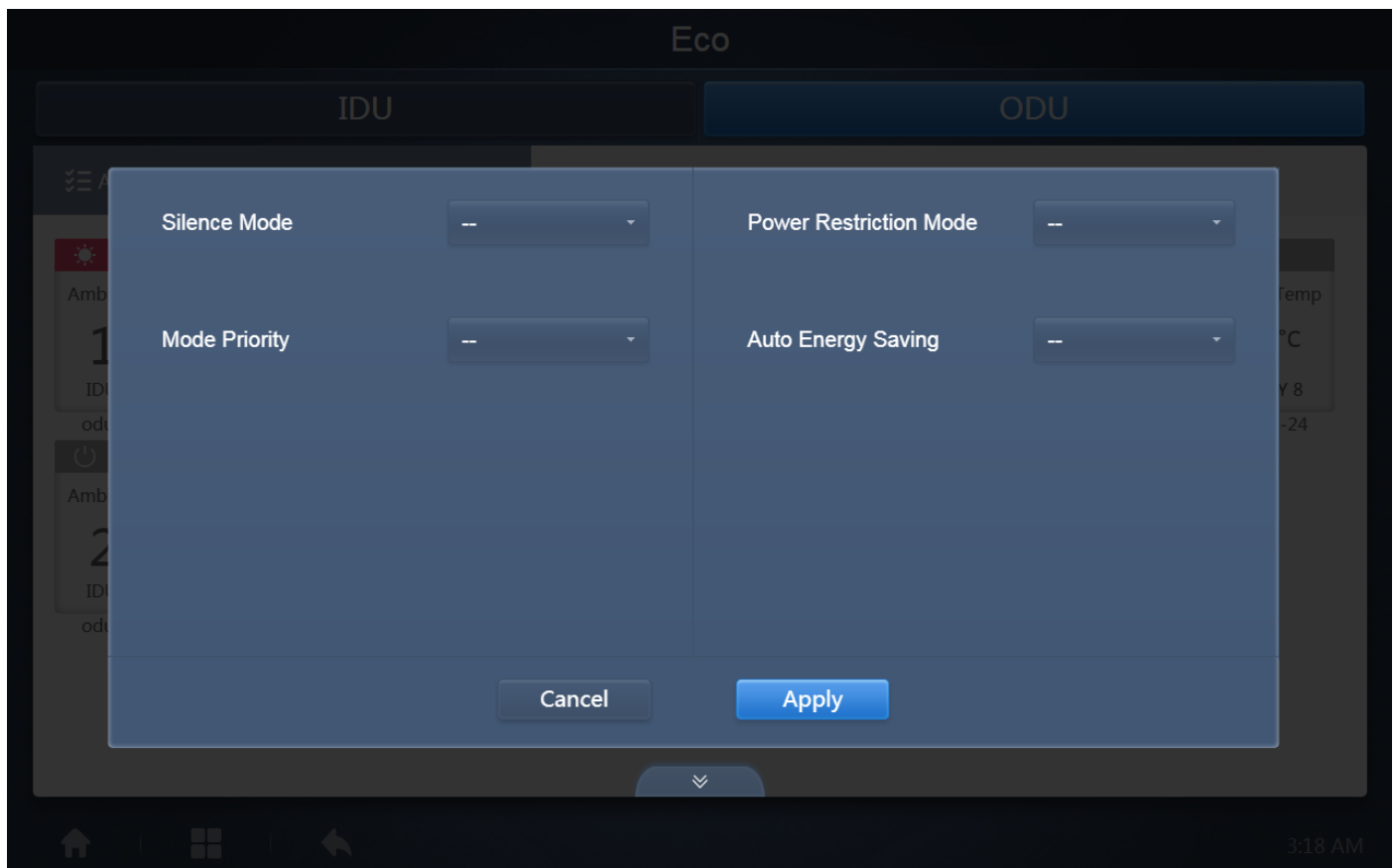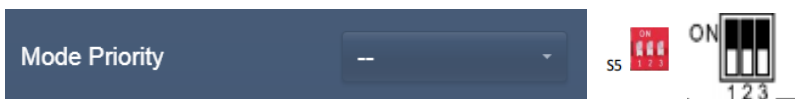
Silence Mode command
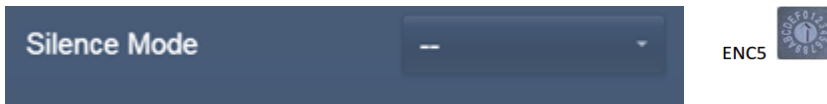
ENC5

The user needs to set the ENC5 switch to F value in order to use this setting from the VAMCC-D48384T device

Setting	Description	VAMCC-D48384T Option
Silence Mode	Night silent time is 6h/10h (default)	8
	Night silent time is 6h/12h	9
	Night silent time is 8h/10h	10
	Night silent time is 8h/12h	11
	No silent mode	0
	Silent mode 1 (only limit max. fan speed)	1
	Silent mode 2 (only limit max. fan speed)	2
	Silent mode 3 (only limit max. fan speed)	3
	Super silent mode 1 (limit max. fan speed and compressor frequency)	4
	Super silent mode 2 (limit max. fan speed and compressor frequency)	5
	Super silent mode 3 (limit max. fan speed and compressor frequency)	6
	Super silent mode 4 (limit max. fan speed and compressor frequency)	7

Mode Priority Command

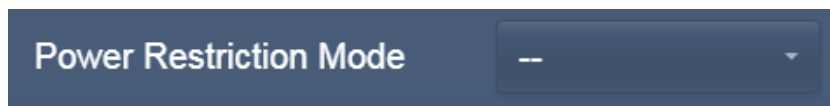The user needs to set the S5 switch, all three in ON position as shown below, in order to use this setting from the VAMCC-D48384T device

Setting	Description	VAMCC-D48384T Option
Mode Priority	Auto priority (default)	Auto Priority
	Cooling priority	Cool Priority
	VIP priority or voting priority	VIP
	Heating only	Heat Only
	Cooling only	Cool Only

Functions

Power Restriction Mode

Note- No Special settings are required to be done on the Outdoor Unit Side, in order to be able to use the Power restriction Mode from VAMCC-D48384T website.

Setting	Description	VAMCC-D48384T Option
Power Restriction Mode	Power Restriction mode 1(Only available for the master unit, 100% capacity output)	0
	Power Restriction mode 2(Only available for the master unit, 90% capacity output)	1
	Power Restriction mode 3(Only available for the master unit, 80% capacity output)	2
	Power Restriction mode 4(Only available for the master unit, 70% capacity output)	3
	Power Restriction mode 5(Only available for the master unit, 60% capacity output)	4
	Power Restriction mode 6(Only available for the master unit, 50% capacity output)	5
	Power Restriction mode 7(Only available for the master unit, 40% capacity output)	6

Auto Energy Saving

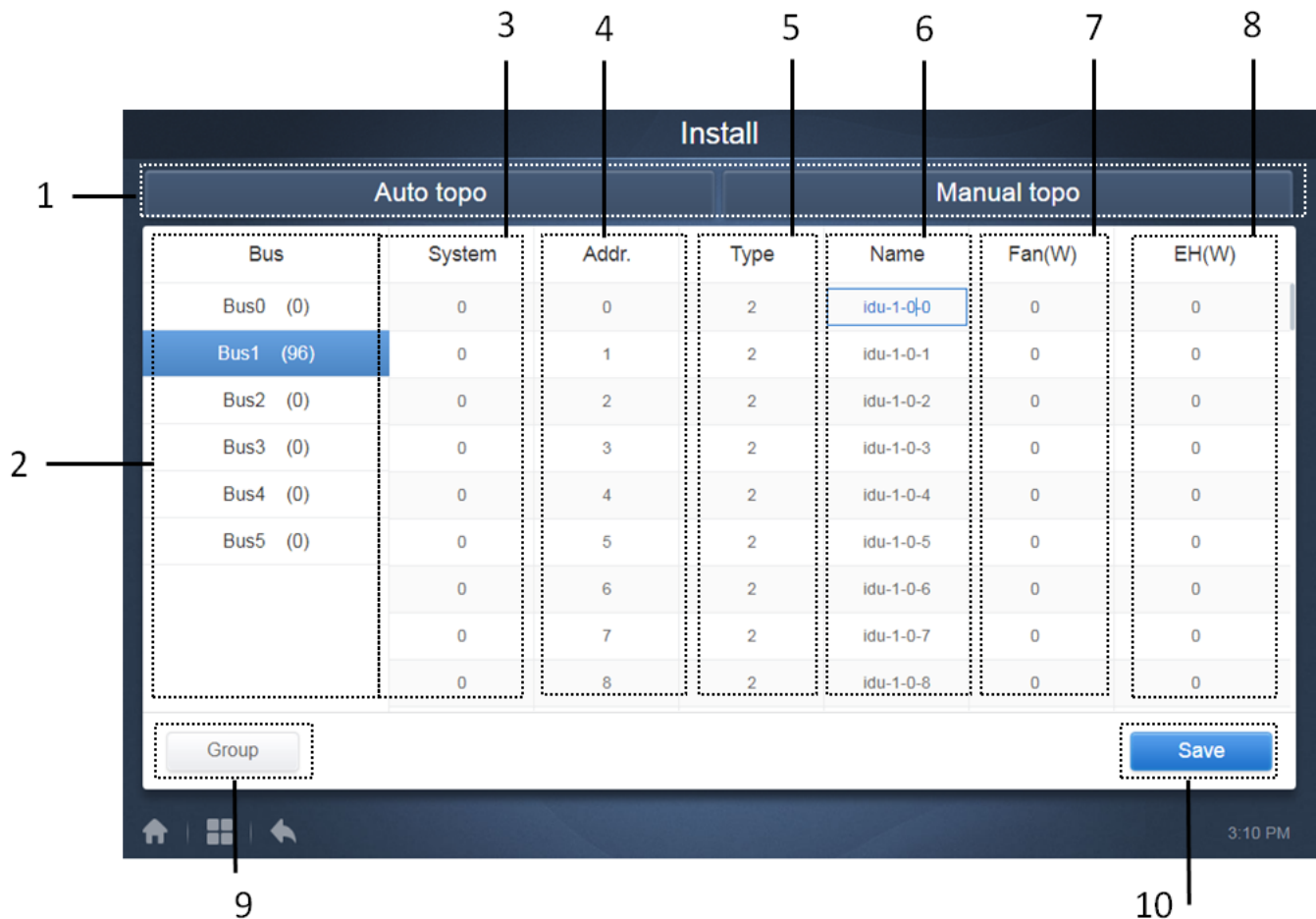Note- No Special settings are required to be done on the Outdoor Unit Side, in order to be able to use the Power restriction Mode from VAMCC-D48384T website

Setting	Description	VAMCC-D48384T Option
Auto Energy Saving	Exit Auto Power Saving Mode	Disable
	Enter Auto Power Saving Mode	Enable

This setting is to Activate or Deactivate the smart Energy Saving Mode for OMEGA VRF

8 Install

Under this function, we can install the units into the VAMCC-D48384T. There are two options available for installing the units that is the Auto Topo and Manual Topo. It has been discussed already in the Installation and Commissioning part of this manual.

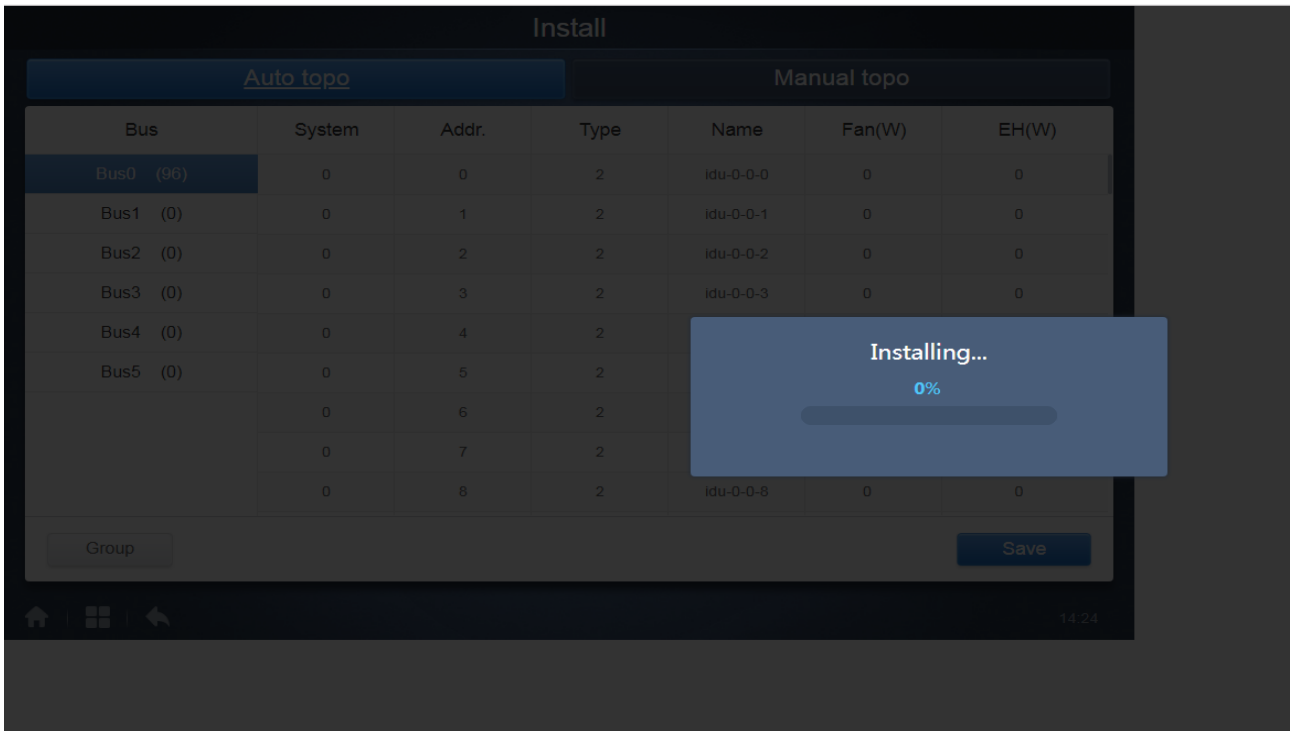| No	Description
1	To select whether to install the units with Auto Topology or Manual Topology
2	This refers to the port number of the VAMCC-D48384T. The corresponding unit's information is shown in the right side of the display. Also attached in the bracket is the number of Units (Indoor AND Outdoor Unit both) are present in that p[articular XYE port of the VAMCC-D48384T.
3	This displays the system number for respective unit
4	This displays the Address of the unit
5	This displays the code of the outdoor/indoor unit. The details about the code of the unit have been given in the " Control" part of this manual
6	It displays the name for the respective Indoor/outdoor Unit
7	This displays the Power rating of the unit. The user needs to put this value by himself for the respective unit by referring the Technical/Service manual of that unit
8	This displays the Power rating of the EH of the unit. The user needs to put this value by himself for the respective unit by referring the Technical/Service manual of that unit
9	This is to manage and create the groups
10	Clicking on this will save all the settings that have been edited

Auto Topology:

Under this topology mode, the user does not require doing any special settings for the units, just need to connect the units normally and do the IP settings as has been discussed in the Installation Part of this manual. After clicking on the Auto Topo tab, the gateway will begin to identify the units that are connected with the system.

Manual Topology:

In case of Manual Topology, the user needs to insert a Manual topology file giving details about the system to the central controller. The details on how to write the Topology file have been discussed in detail in the Installation Part of this Manual.

Functions
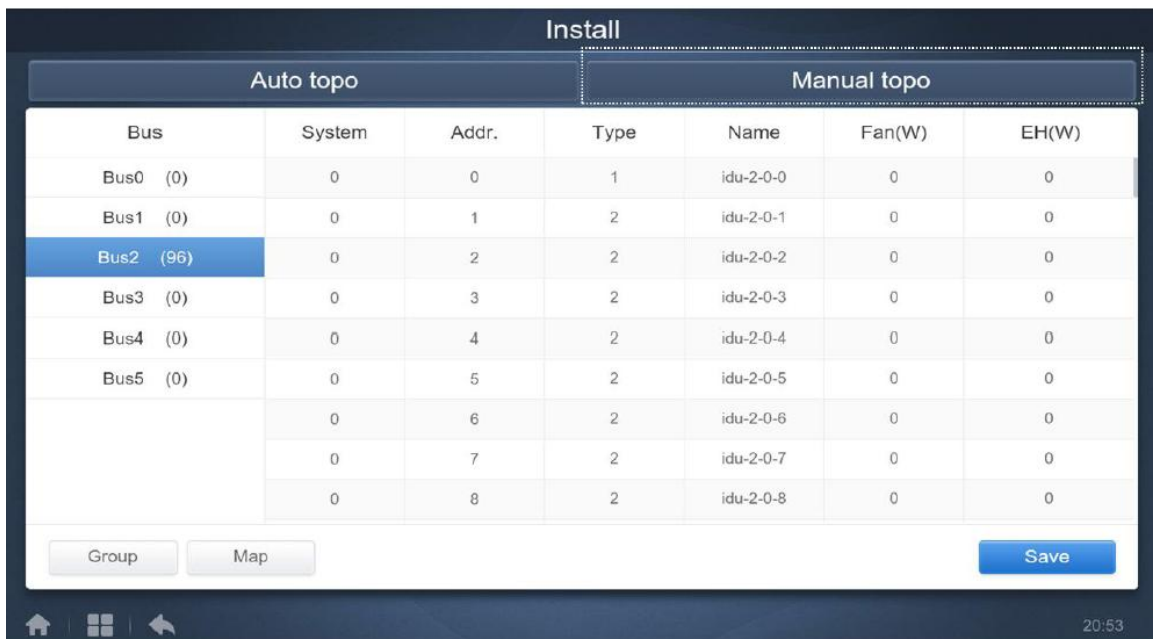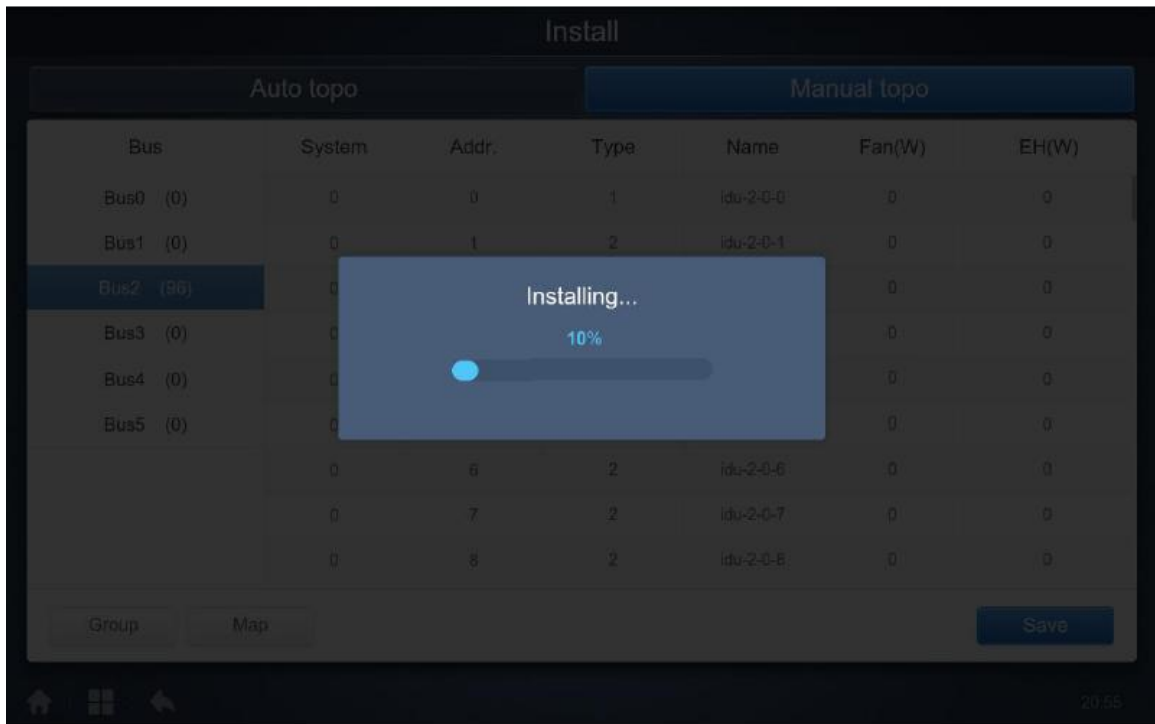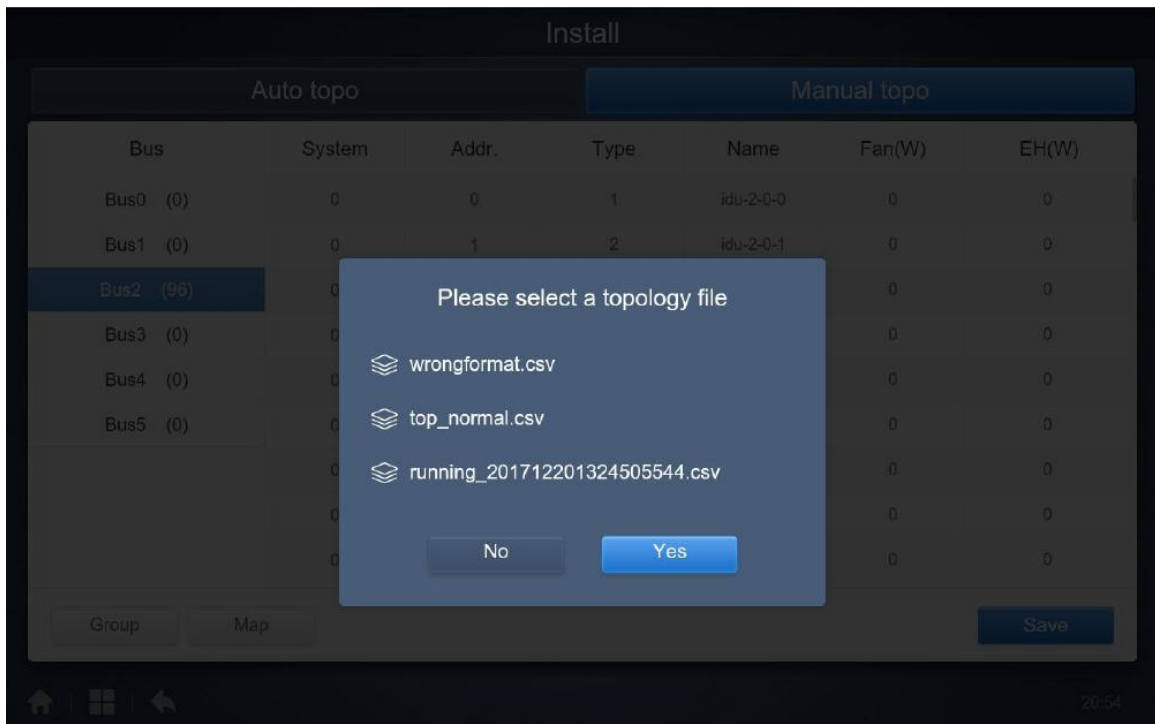
Once the installing has been finished both in the case of Auto Topo or Manual topo, the user needs to click on the "Save"

button on the bottom right to store the installation results

8.1 Edit

Clicking on the column for "Name", "Fan" and "EH" allows the user to edit their values. The name of the unit can be changed for easy identification by the user.

The option for Fan and EH are to set the rated value of power consumed by the Fan or Electric heater of that particular indoor unit. The exact values of these data are present in the respective Technical Manual or Service Manual of that particular unit, the user can refer to that to fill these values. These values would be useful for calculating the Energy consumption by the Air Conditioning System which is available in the "ECS" tab for "Advanced Setting" Menu

Note:

The acceptable range for the model is an integer from 0 to 12, and the model corresponds to the unit number in the Control. The maximum values of the fan power and the auxiliary heating power (EH) must not exceed 65535, and must not be negative values. The device name length cannot exceed 12 characters. Otherwise, you will receive a prompt that the name is ineligible. The device name cannot be duplicated.
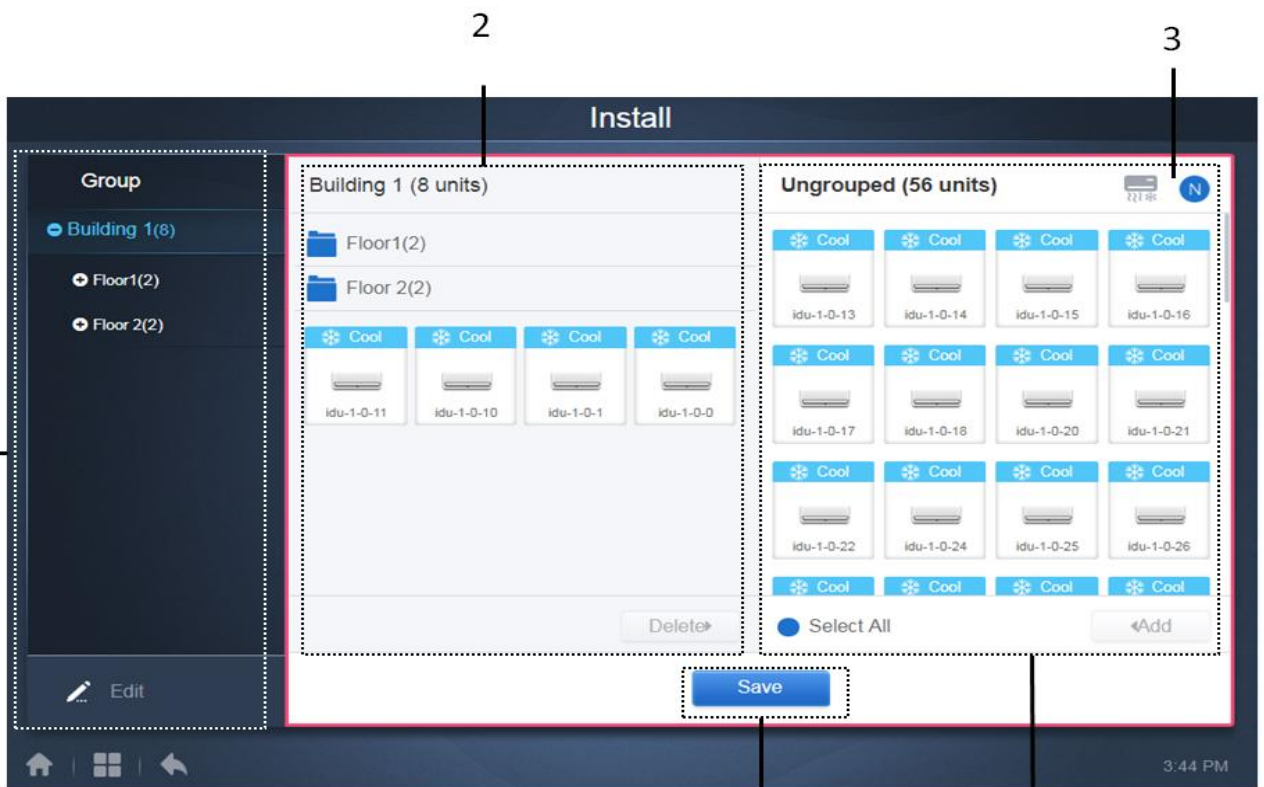
VAMCC-D48384T

8.2 Group

Tap **Group** at the lower-left corner to go to the group editor from the installation page.

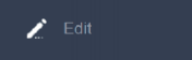| No	Description
1	It shows the groups already created by the user; clicking on "+" will show the subgroups present under that group , similarly clicking on "-" will hide the groups present in that particular group. Clicking on the name of the group will show the Indoor units present in that group in 2. the bracket besides the name of the group shows the number of units present in that particular group
2	This shows the subgroups present under a group and also the units that do not belong to any subgroup but belong to the group selected. The bracket along the name of each subgroup tells the name of units under that subgroup. Click on a unit to select it and click on Delete to delete that particular indoor unit from that group.
3	Provides the option to sort the Indoor Units by name or by mode
4	This complete part shows the indoor units that do not belong to any of the groups. .Click on the unit to select it and click on Add to add that unit to the current indoor unit group
5	This displays the code of the outdoor/indoor unit. The details about the code of the unit have been given in the " Control" part of this manual

Group Creation is on the Left.

When a group is selected, the group and the indoor units in that group are shown in the middle. Indoor units that have not been grouped are shown on the left

8.2.1 Create, Edit and Delete Group

Tap [✎ Edit] at the bottom left corner to go to the pages to create , edit and delete group. The VAMCC-D48384T supports three group levels. The three levels of the groups have been created with the notion that suppose there is a building, it will be a Level 1 group, each floor of building then becomes the level 2 group and each room on the floor then would be the Level 3 group. The user can also set the groups according to his own understanding and convenience.

Functions

Tap the back key at the lower-left corner to return to the group page.

Create Group

Tap [⊕ Add] , and you will get a textbox for you to edit the group at the corresponding level and the mouse is active.

Enter the name. Tap the CR ("Go") key on the keyboard, or tap in the blank space to exit the editor. Groups at the same level cannot have the same names. Maximum group name can be of 12 characters. You will receive a prompt during "Save" if the name exceeds 12 characters.

Edit, Delete Group

When a group is selected, you will see the edit and delete function keys for the selected group.

Floor 1 [edit icon] [trash icon]

Tap the edit icon to go to the group name editor

Tap "Delete" to delete the group.
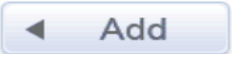
Note: Make sure you tap "Save" at the bottom of the page to save all create and edit operations. Otherwise, the changes will be discarded.

8.2.2 Add Indoor Unit to the Group
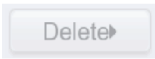
In the group page, you can add and delete indoor units in the group.
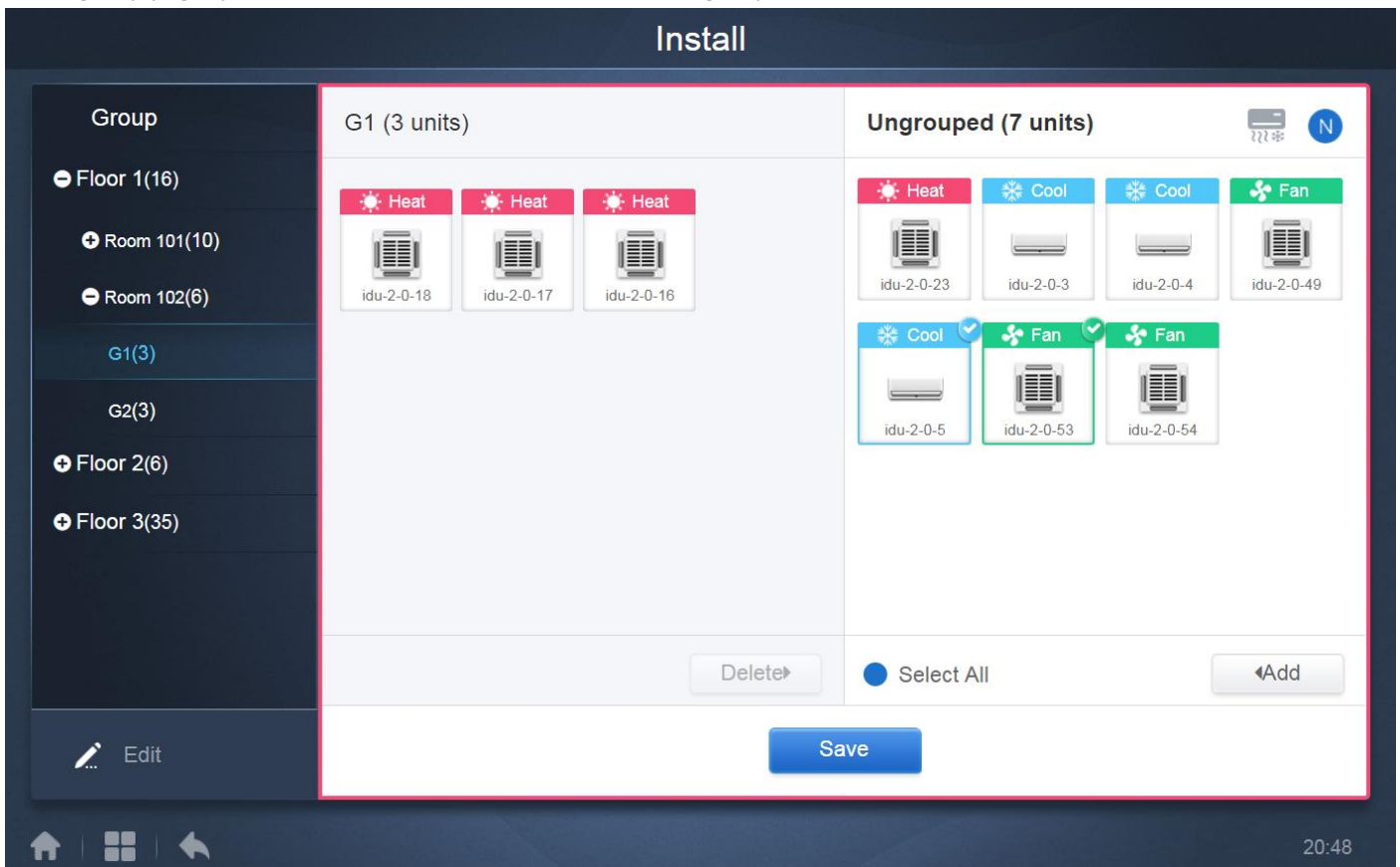
Select the indoor unit you need to operate from the group list on the left.

Tap [◀ Add] to add the indoor unit tyo the corresponding group. If the selected group has subgroups, they are displayed as follows:

Functions
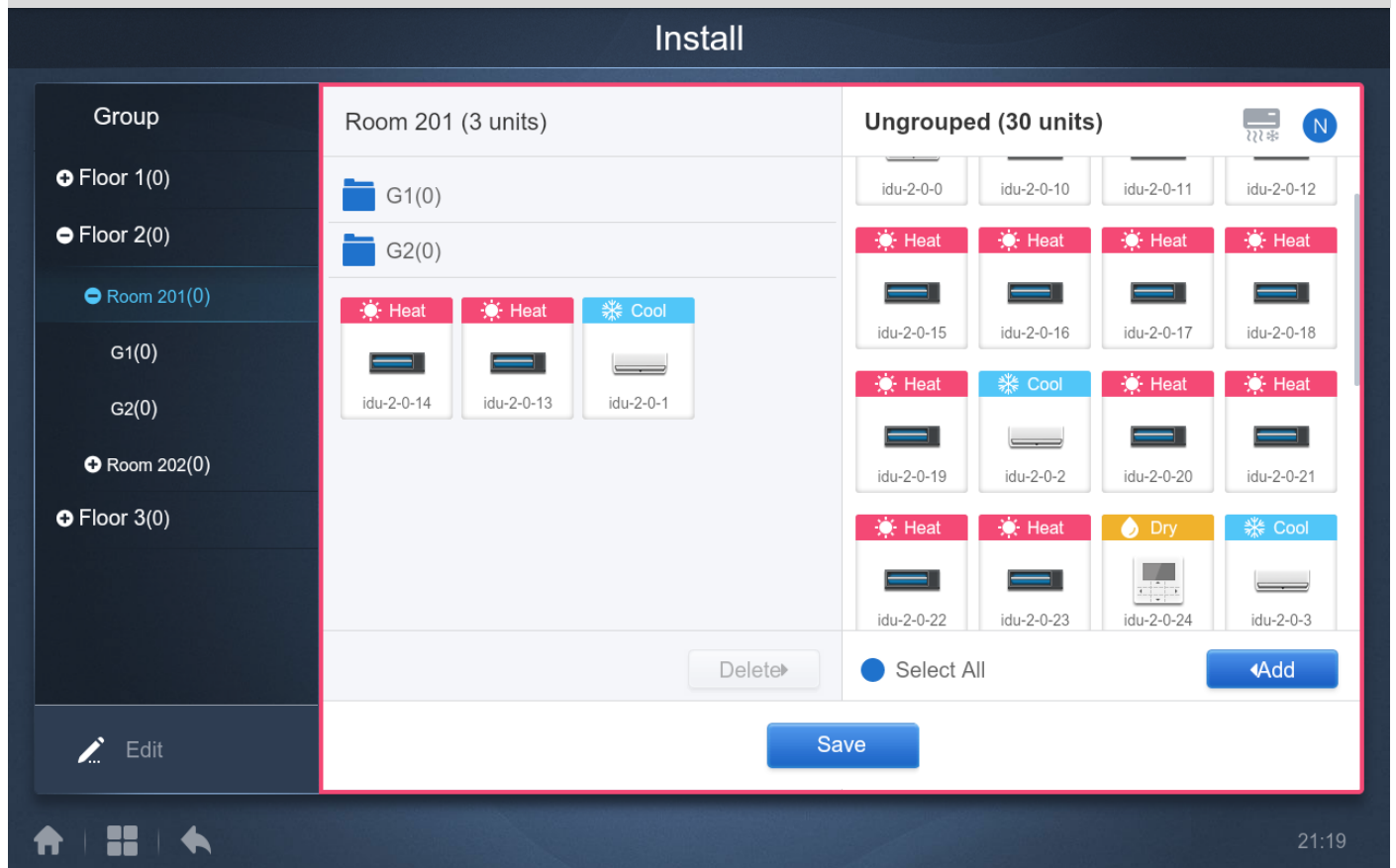
In the middle are, select the indoor unit to be deleted, tap **Delete▸** to remove the indoor unit from the corresponding group.

Once the edits to the indoor units in the group have been completed, tap **Save** (at the bottom of page) to save the changes. If the changes are not saved and you directly switch to other groups, you will receive the following prompt, "Changes have not been saved. Save the changes?"

8.3 Edit Map

For Touch Screen: This function is only available for the touch screen.

Once you are in the "Install" menu, tap on "Map" to enter the map editor to edit the map and the devices in it.
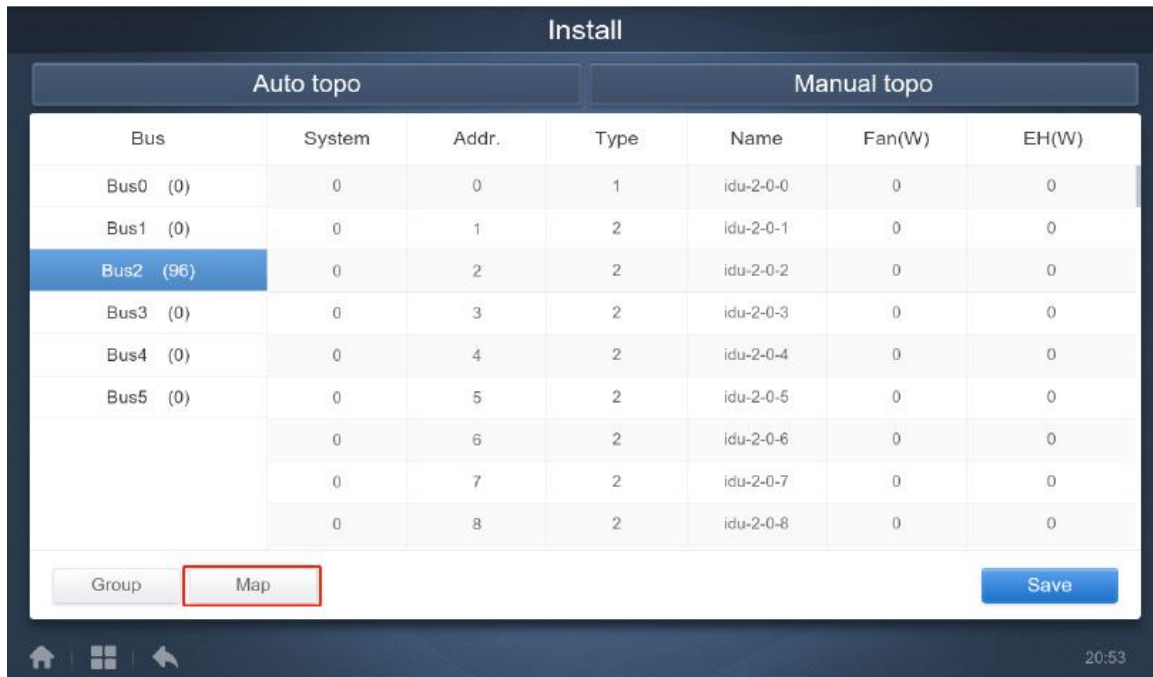
On clicking the "Map" tab at the bottom of the page, you will be directed to the group editor for the map. When you enter the map editor for the first time, there will be an option to add groups to the map navigation function. It should be understood that the groups created under the "Map" tab are completely independent of the groups created under the "Group" tab. The user should not confuse between the two group types
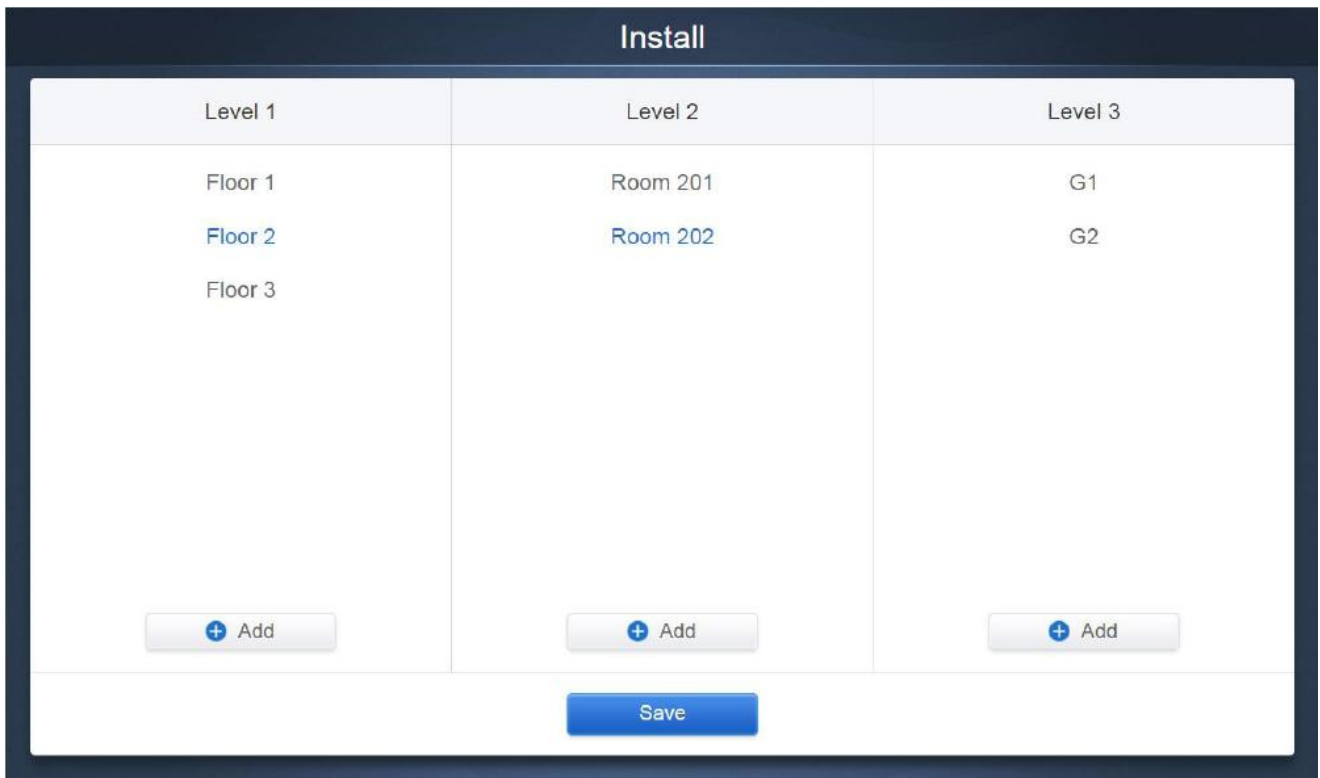
Functions

The method to add groups in the "Map" is also same as that of "Group" function. Once the edits have been completed, tap

Save

to go to the map editor to edit the map as well as add a position to the indoor units.
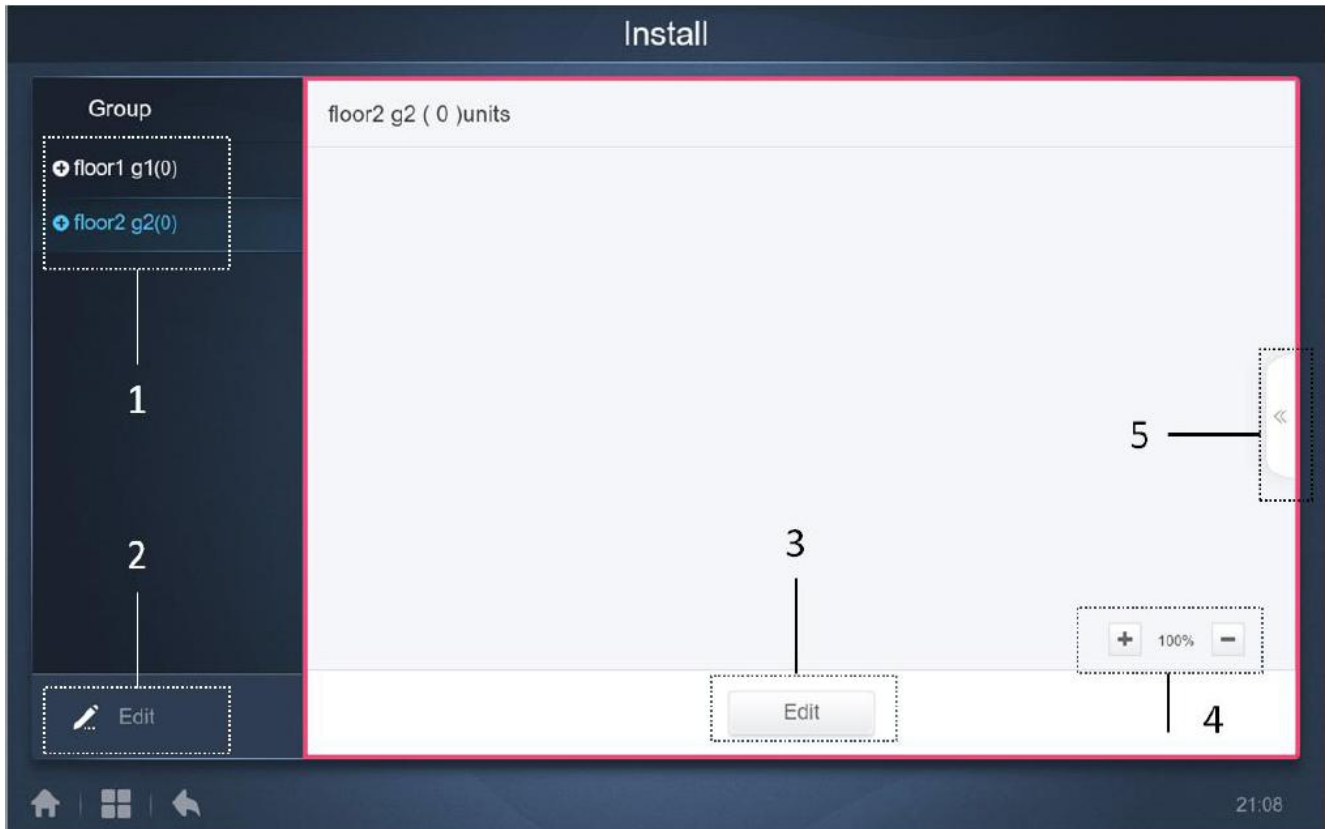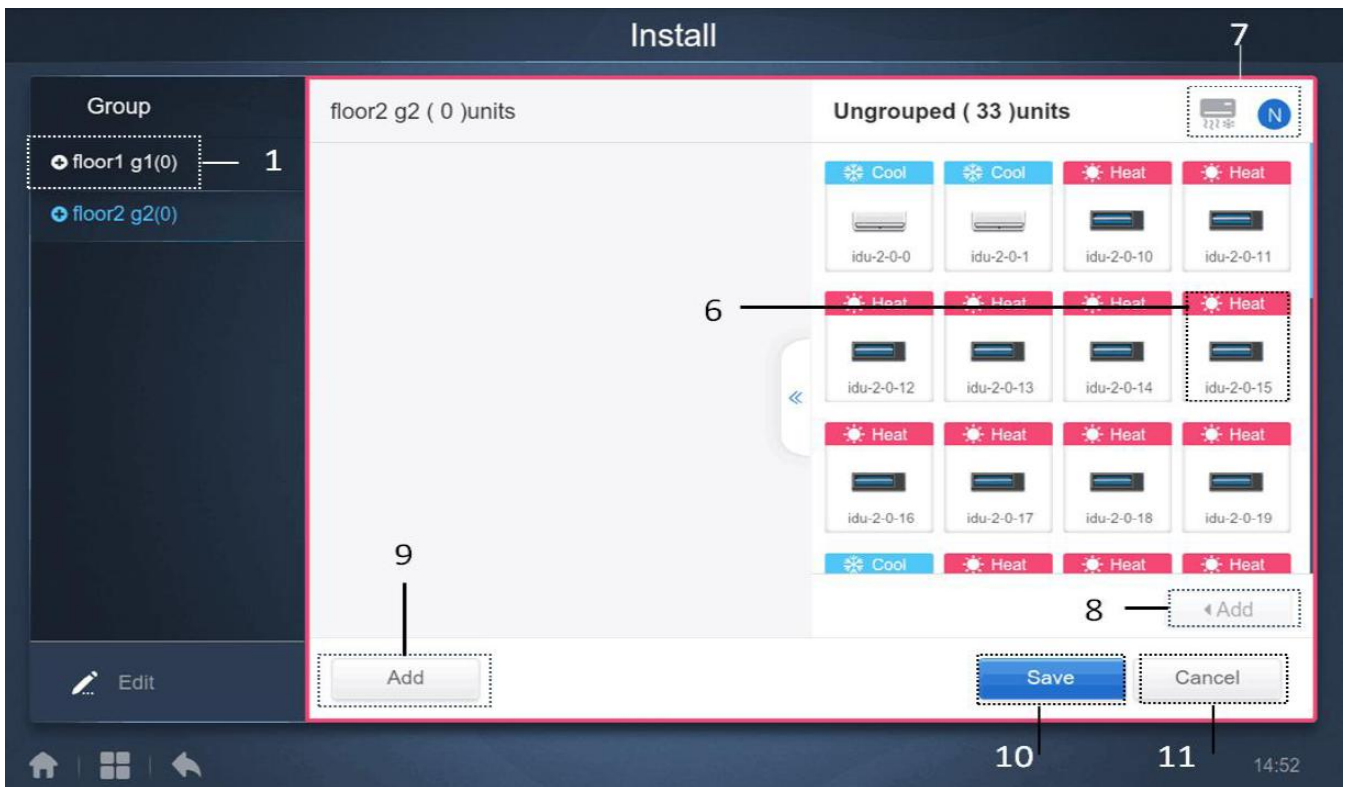
The following markings have been described as follows:

1. Group Selection Area. Tap "Edit" to edit the map in the selected group. Groups with subgroups are marked with an icon on the left of the group. Tap ⊕, if you want to expand the group and see the subgroups present inside it. Tap ⊖ , if the group is already expanded and you want to roll back the expansion. Expand the structure further and further to see the various subgroups.

2. Tap to go to the functions to add, delete and edit the group.

3. Tap to go to the edit function to add or remove the devices as well as add or remove the map (floor plan). The edit page is as shown above.

4. Tap ＋ to zoom into the map. Tap − to zoom out of the map. Zoom range is 75% to 150%.

5. In the edit mode, tap 5 to display the "Add panel" as shown in the figure above. If you try to tap "Edit" before selecting any groups, the following error message would be prompted:
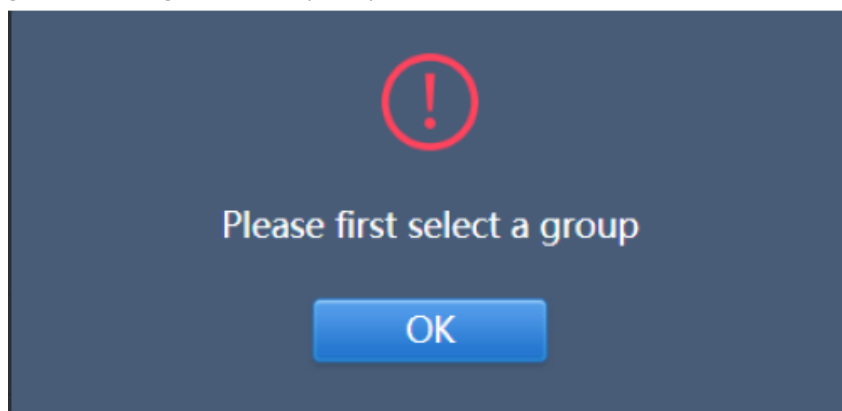
If you tap 5 before entering the Edit mode, the following error message is prompted:

Functions

Please click Edit first

OK
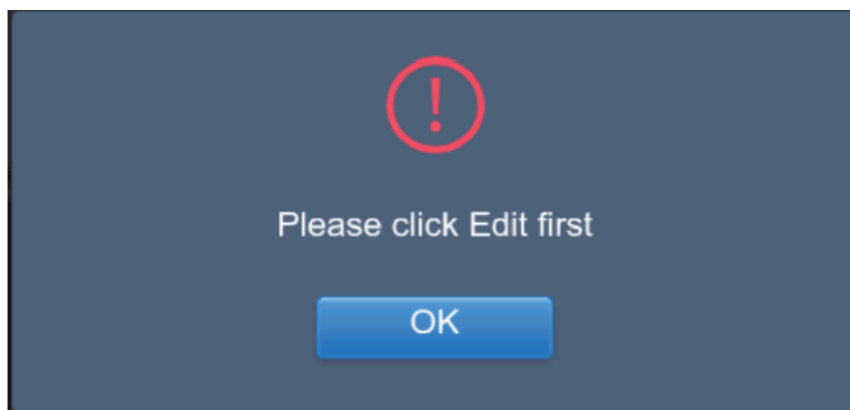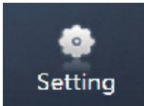
6. It shows the devices that are not in the map. Default is to sort by name. Use 7 to switch the sort menu by mode. Tap to select the device; tap again to deselect the device. Add up to seven devices each time.

7. The blue icon is sort logic in active state:

9 Setting
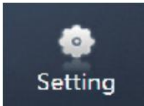
Tap ![Setting] in the main page to go to the settings page. Default is the user management module

No	Description
1	List of available functions in the settings page. Tap to jump to the corresponding tab
2	Shows the details of different tabs

Now let us discuss the details of each of these functions one by one:

9.1 Account

For Touch screen & Computer website: This function is same for both.

Administrator
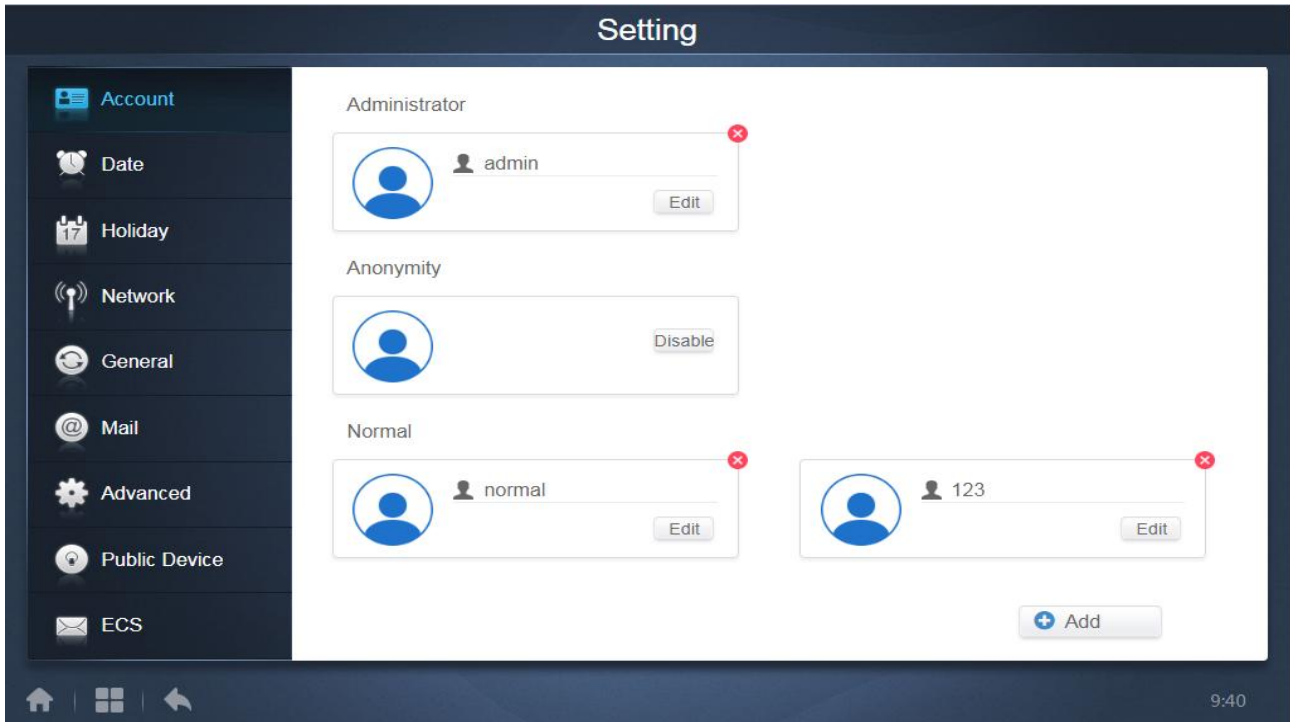
(Administrator Page)

The administrator account has permissions to add or remove accounts; along with that an administrator account has the permissions to change the passwords of other accounts. This account is basically for the Engineers or Service personnel, for the end user a normal account should be provided which has been described as below

The default username and password for the administrator account are as follows:

Username: admin
Password: 123456

Add Users:

On clicking the "Add" button at the bottom right, the following dialog box will pop up:

The user needs to add the username, password and select the permissions for the new user account.

Edit User

On clicking the Edit tab of the user account, the following dialog box would pop up , the password can be changed for the respective account.
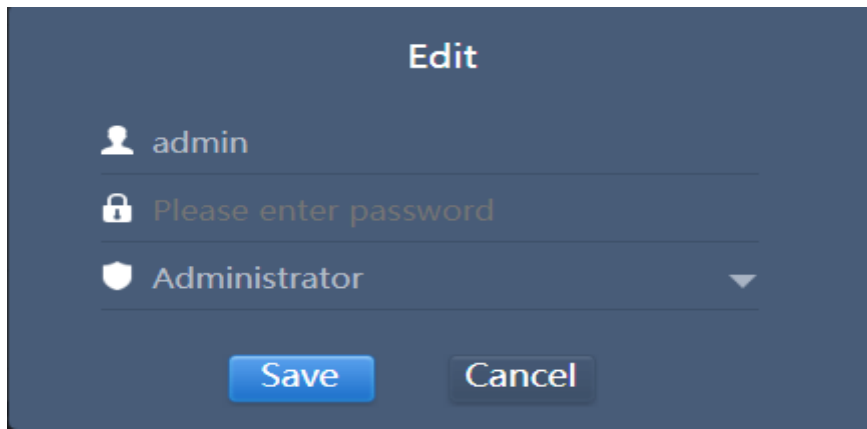
Disable the Anonymity Account
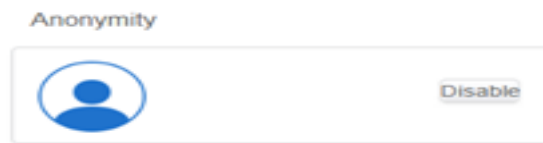
Clicking on disable would disable the Anonymity account.

Delete users
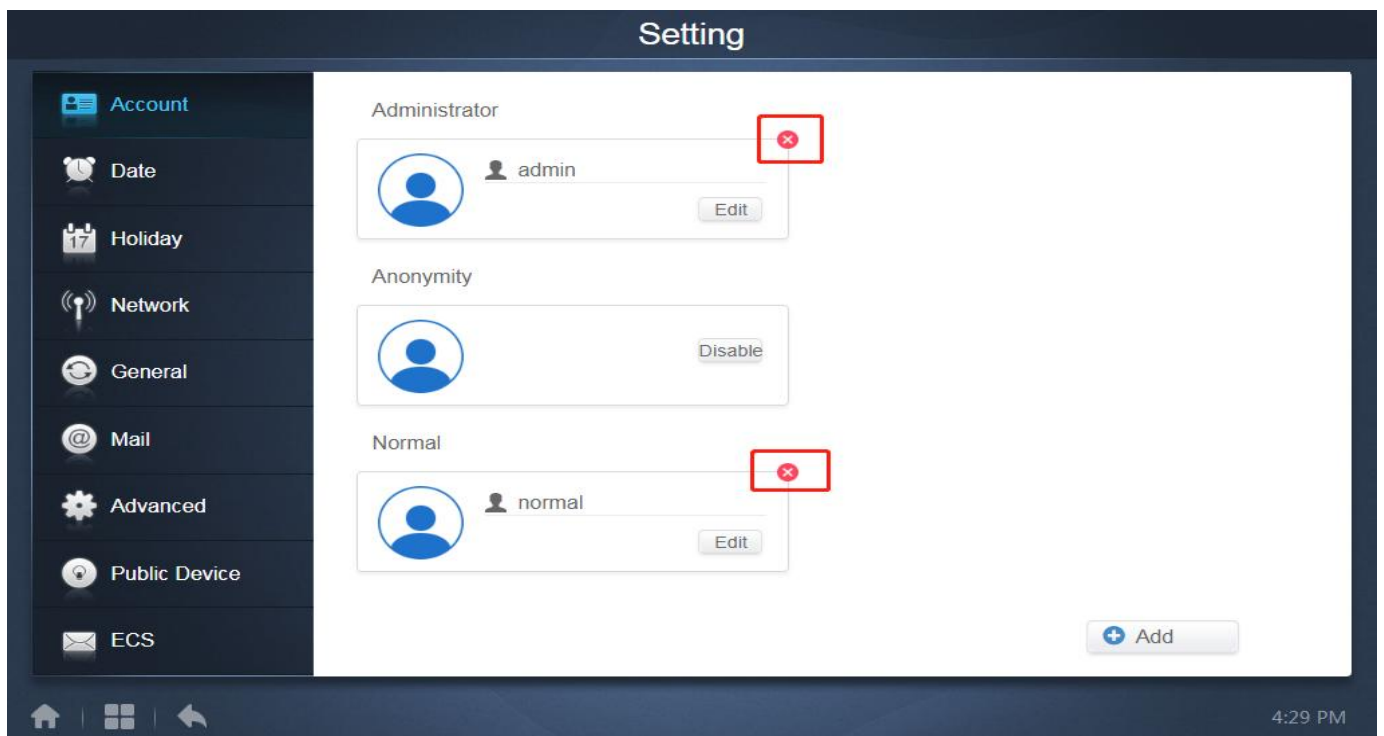
Clicking on the small cross on the top right of the account would open a dialog box promptly asking to delete the user account.
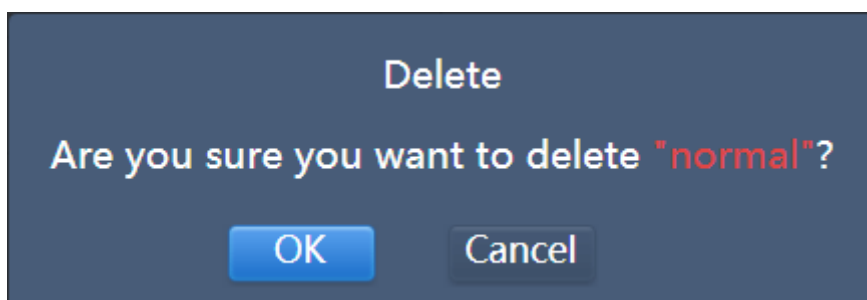
Clicking on "OK" would delete that particular account

VAMCC-D48384T

Note-The administrator cannot delete his own account.

Normal account
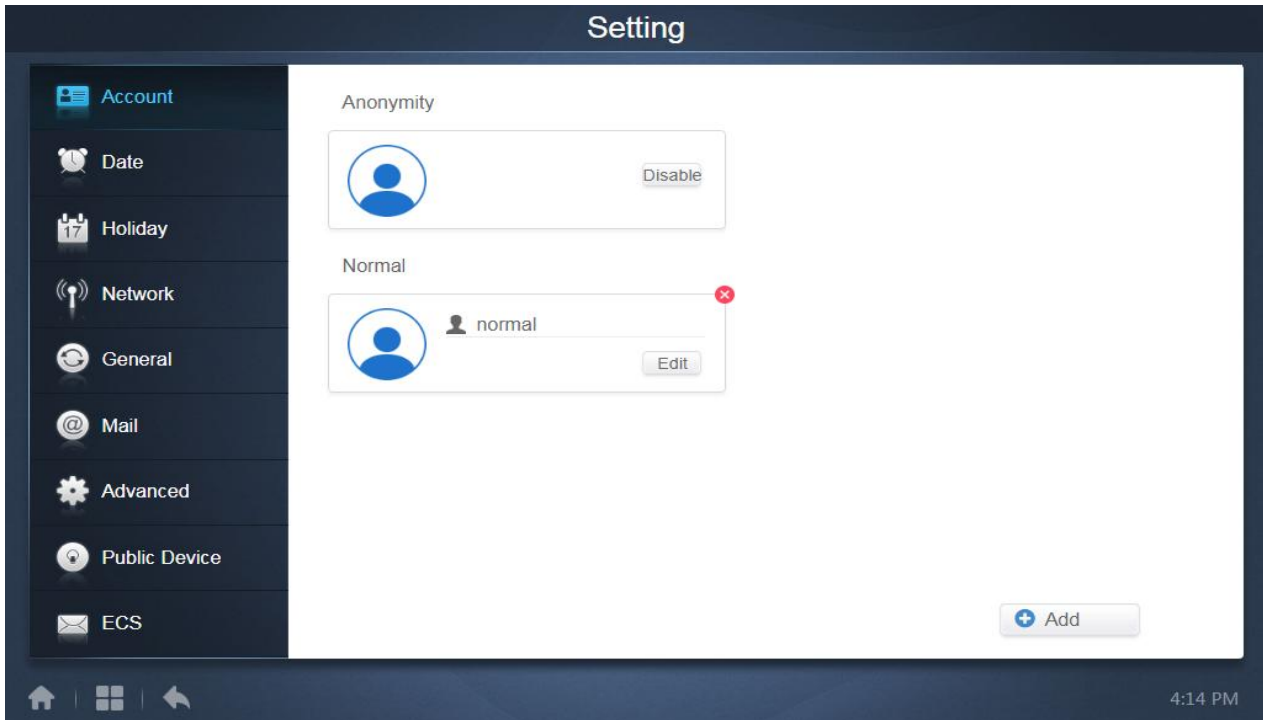
(Normal User Page)

The normal user cannot disable the Anonymity account or add or delete any other users. The normal users here can only change the password of his account.

On clicking the "Add" button at the bottom right, the following prompt box would be shown:
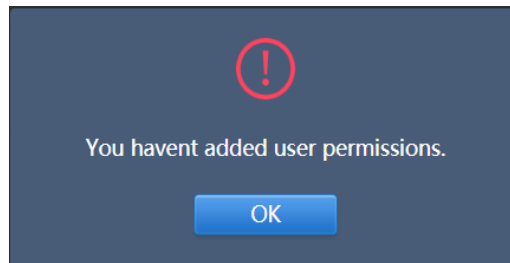
9.2 Date and Time Settings

Tap the list to go to the [Date] tab to set the date and time as shown in Figure. Default is the No Edit page. You can see the current date and time. Use "◀" and "▶" or any grey numbers that do not belong to this month to jump to another month. Tap to check the blue icon on the left of Modify date and time" to enter the Edit mode as shown in Figure.

Default Display
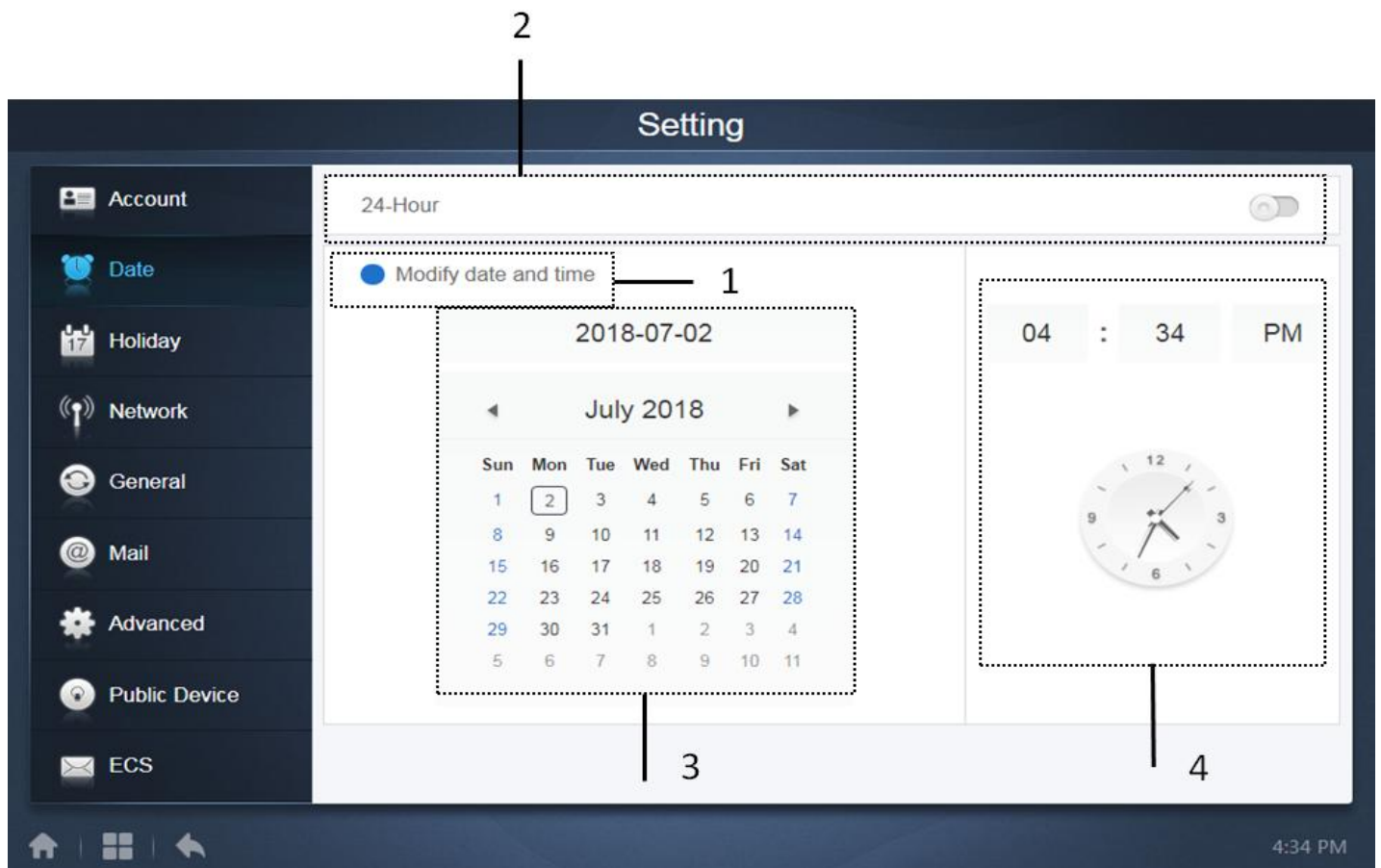
(Default display)

No	Description
1	Clicking on this will open the Edit mode for the dare and time
2	The toggle switch is used to switch between the 12 hr and 24hr display of time
3	It shows the current date in the form of a calendar
4	It shows the analog as well as a digital clock showing the current time for the VAMCC-D48384T gateway
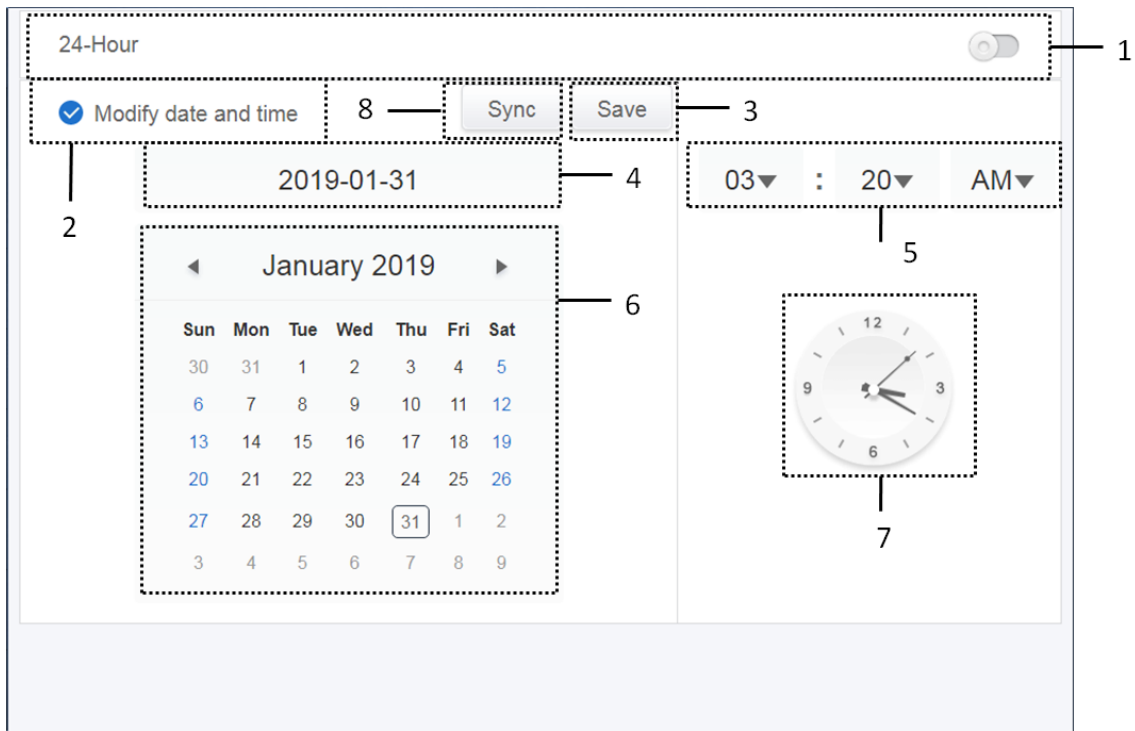
Edit Mode

(Edit Mode)

No	Description
1	Use to switch between 24-hour clock and 12-hour clock system. You can adjust the system timing system in both Edit and No Edit modes. When the slider is white and inactive, slide to the left, and the slider becomes blue and active, and the system switches to the 24-hour clock system. When the slider is active, slide to the right and the slider is now inactive, and system switches to a 12-hour clock system.
2	Tap the blue icon on the left side of "Modify date and time". Once this icon is checked, Edit mode is on. Tap again to uncheck the icon to exit the Edit mode, and all changes will be discarded.
3	Appears only when Edit is on to save the changes to the date and time. Tap to save the result and exit the Edit mode.
4	Displays the current system date when Edit is off. Displays the date selected when Edit is on.
5	Displays the current system time in the No Edit mode. Tap "▢" when Edit is on to activate the number selection list to adjust the time. Scroll the list to select the desired time, and close the list.
6	Displays dates in a calendar format with a solid box to frame today's date. Tap the grey numbers or "◀" and "▶" to change the month. When Edit is off, you can only view the calendar. When Edit is on, tap on any date to select and modify the date. Selected dates have a blue background.
7	Displays the current time in the form of a clock. Clock stops when Edit is on. Automatically skip to the modified time once the modified time is saved.
8	Pressing the sync button will sync the time inside the controller with the time of the computer to which the controller is connected

9.3 Holiday Settings

For Touch Screen & Computer Website: This function is same for both.
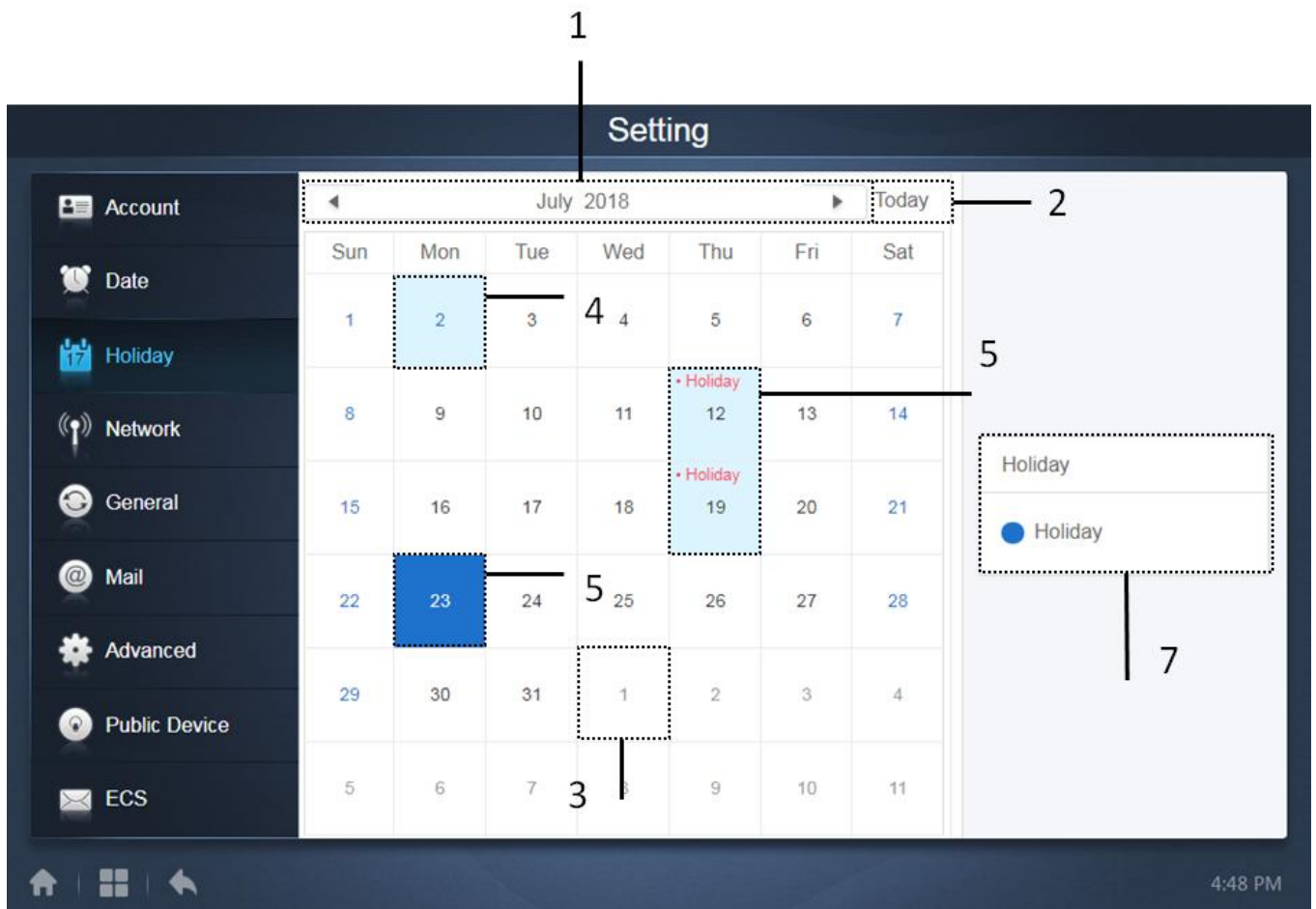
No	Function
1	Displays current year and month. Tap "◀" and "▶" to change the month.
2	Shortcut to return to the current system date. Tap to activate it immediately.
3	Dates in grey do not belong to the current displayed month. Tap to jump to the date that the grey number belongs to and select the date.
4	Light blue background colour and blue font for today's date.
5	Dates with light blue background and red text are marked as holidays.
6	Selected date has a dark blue background. Tap the dates in black or blue font to select the date.
7	Non-holidays are marked with ● . Holidays are marked with ✓. Select the corresponding date to view its status. Tap the blue icon to switch the status.

9.4 Network Settings
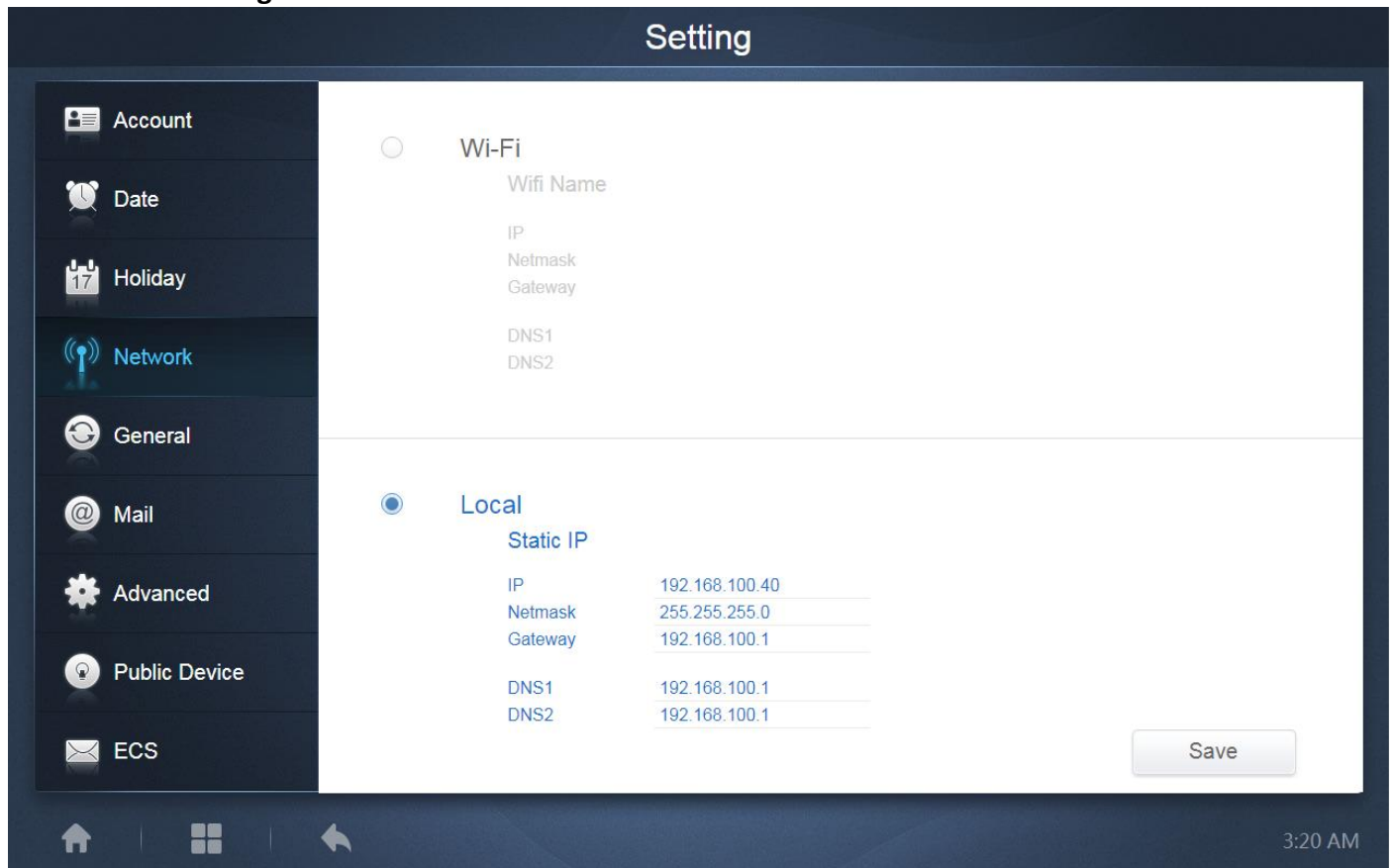
In this page you can change the IP of the VAMCC-D48384T. Just click on the IP written in this page and you can edit the IP according to your will and requirement. Click on "Save" save the changed IP settings

9.5 General Settings

No	Function
1	This tab has no meaning for the VAMCC-D48384T website
2	Changes the display language. Tap to activate the drop-down box, and tap to select the desired language.
3	Adjusts the group's display mode. Selected mode is highlighted in blue. Tap the grey icon to activate its mode. The two modes are mutually exclusive. The function targets the Group Navigation at the Device Monitor and Installation. Image on the right is related to the display of indoor units in the subgroups. Expand to display the indoor units in the subgroups on the right. Otherwise, the indoor units in the subgroups are merged into the subgroup folder and only the number of indoor units is displayed.
4	If the indoor ambient temperature for T1 should be displayed. Left is Display, right is not Displayed. Selected mode is highlighted in blue. Tap the grey icon to activate that mode. The two modes are mutually exclusive.
5	Unit of temperature. Selected mode is highlighted in blue. Tap the grey icon to activate its mode. The two modes are mutually exclusive.
6	This is to set the set point step values, which are to change the set point in steps of 0.5degree or 1 degree respectively.
7	This is to set the set point step values, which are to change the room temperature in steps of 0.5degree or 1 degree respectively.

Note: *Only English and Chinese are the two supported languages right now.

Functions

9.6 Mail Settings (Invalid for computer website)
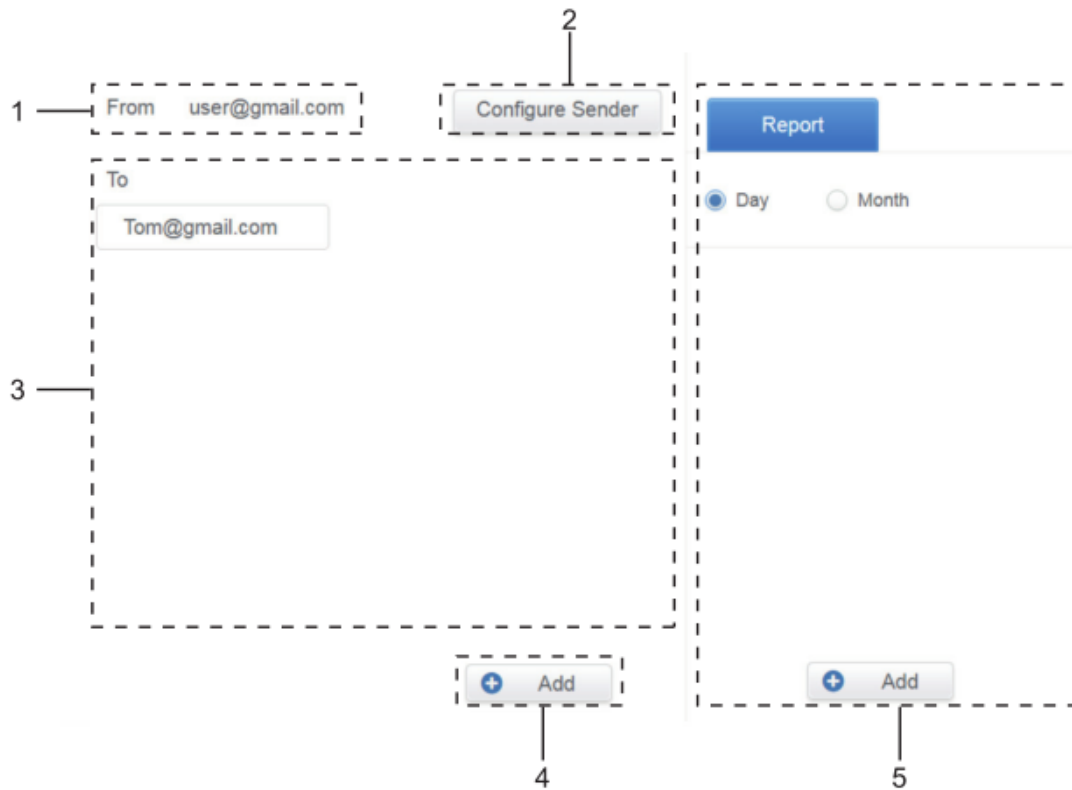
1. Displays the configuration of the current sender. Tap to configure and edit the sender.
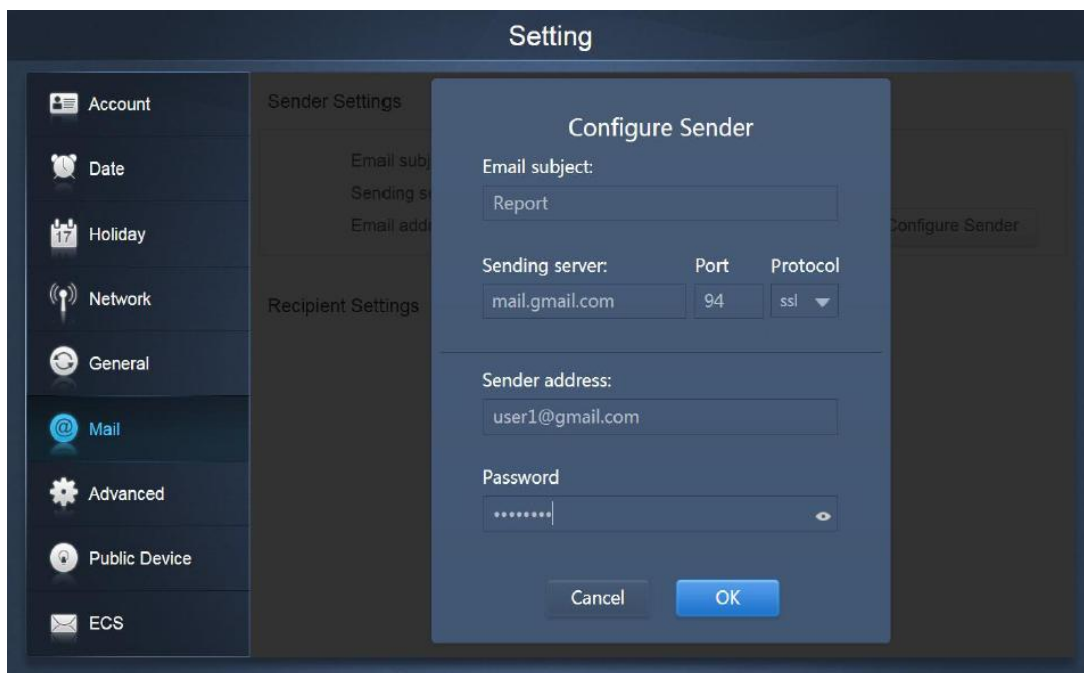
Fill up the corresponding details. Tap "OK" to save and exit. Tap "Cancel" to cancel all operations and exit.
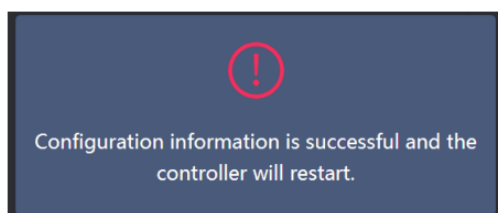
Note: It is advised to take help from IT experts during configuring the settings.

The software would restart automatically after the sender is configured.

2. Displays all the information about the recipient. Tap ✎ to edit.
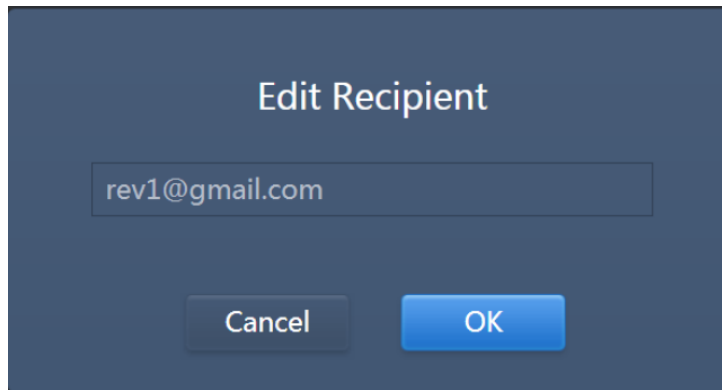
Fill in the corresponding details. Tap "OK" to save and exit. Tap "Cancel" to cancel all the operations and exit. If the mailbox format is wrong, there would be corresponding error message to fill those details. Tap "Cancel" to cancel all the operations and exit. System would discard the operation.

Examples:

i. "@" is missing
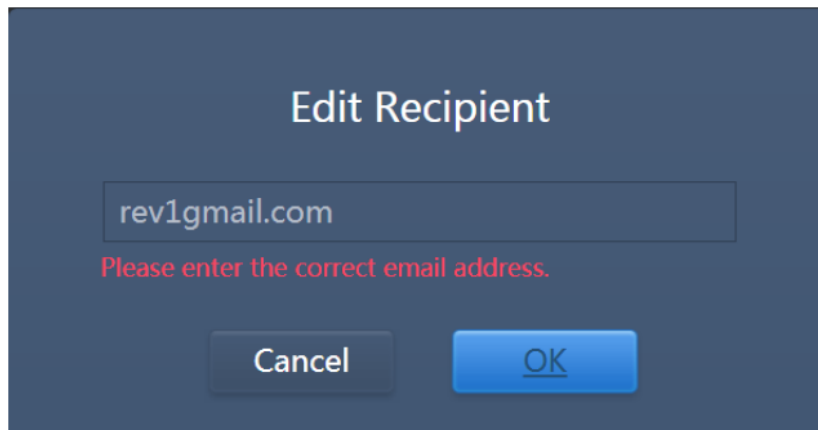
ii. Incomplete email domain name.
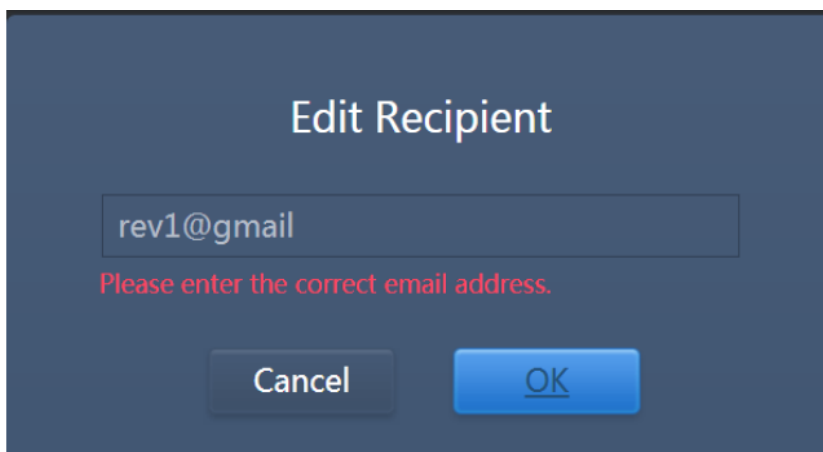
iii. Invalid username
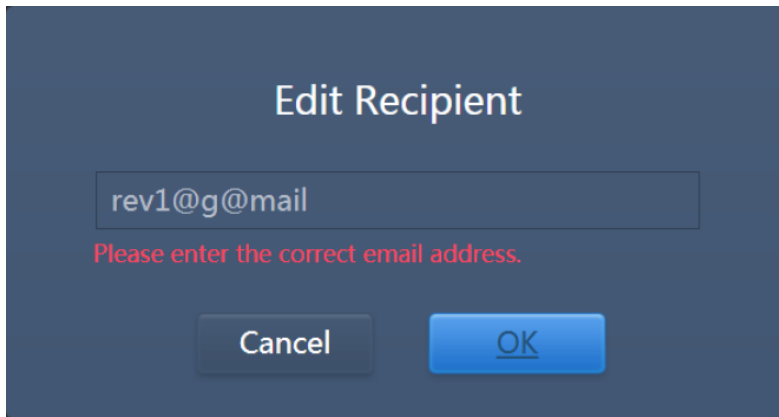
3. Tap "Add" to add up to six recipients.
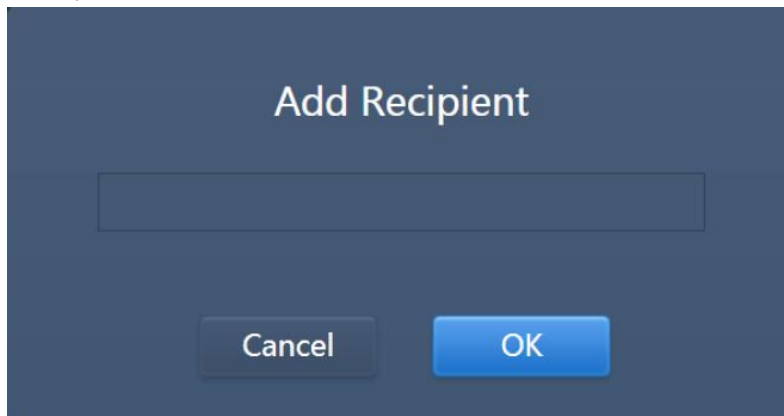
Fill up the corresponding details. Tap "OK" to save and exit. Tap "Cancel" to cancel all the operations and exit.

4. Tap "Delete" to activate the delete mode.
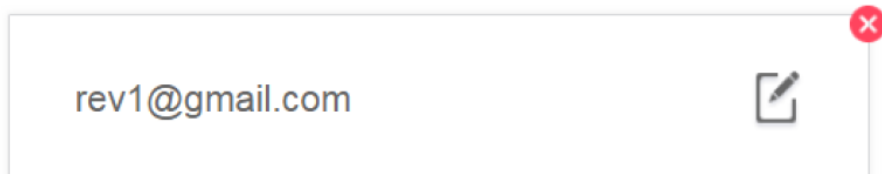
On the top right corner of the recipient name, there will be a delete mark. Tap on the delete mark to receive the confirmation dialog box about deleting that user ad delete would be carried out. Tap "OK" to save and exit. Tap "Cancel" to cancel all the operations and exit. Tap "Delete" again to exit the delete mode.

9.7 Advanced Settings

For Touch Screen & Computer website: This function is same for both.
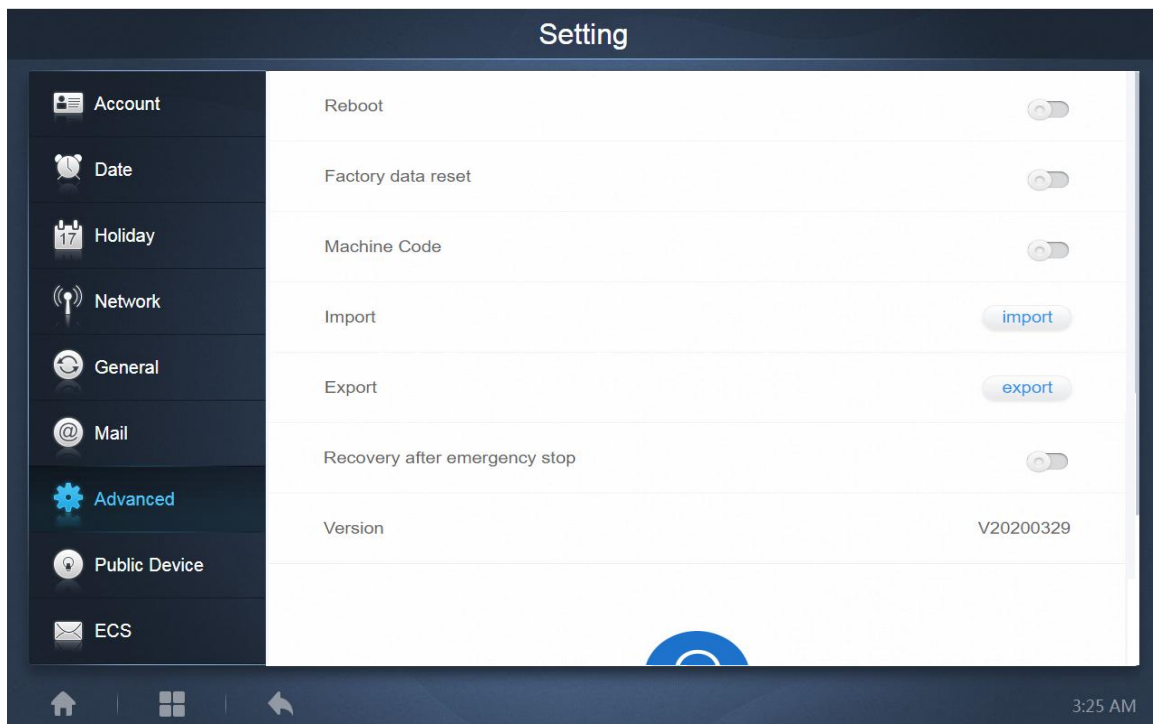
Reboot: On adjusting the slider, the following below shown dialog box will get opened. This function is to reboot the device
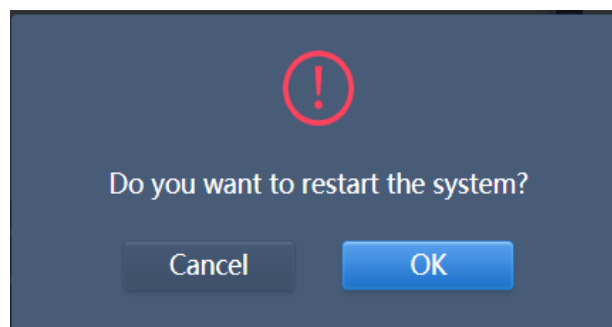
Factory data Reset: This button is to restore the factory settings in VAMCC-D48384T. On adjusting the slider, the following below shown dialog box will get opened.
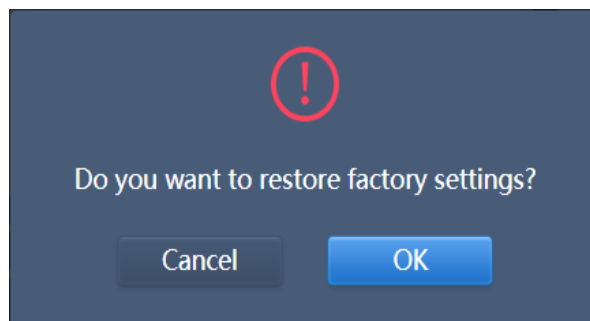
VAMCC-D48384T

Machine Code: This setting is to activate the Electricity Charge Distribution function for the VAMCC-D48384T device. On clicking the slider, the following below shown dialog box would get opened. The subsequent QR code needs to be sent to OMEGA Technical Support Engineer for the Activation of the function.

Import:

This button allows you to import all the data (including topology, unit names, refrigerant system, group, map, schedule, gateway setting information ect, but not include energy statist and system running record information) present inside the touch screen controller. In case you want to change the old controller to a new one or the old controller is broken, you can transfer all the data from the old controller using the import and export function.

Export:

This button allows you to export all the data (including topology, unit names, refrigerant system, group, map, schedule, gateway setting information ect, but not include energy statist and system running record information) present inside the touch screen controller. In case you want to change the old controller to a new one or the old controller is broken, you can transfer all the data from the old controller using the import and export function.

Recovery after emergency stop:

This button allows you to set the "recovery after emergency stop" to restore the operation statuses of devices after emergency stop is released. If this function is enabled, and when emergency stop is released, the controller sends a startup command to recover devices that were active before the emergency stop to their original operation statuses. (The controller recovers only devices that are active when emergency stop is triggered.) If this function is not enabled, when emergency stop is released, the controller will not send any startup command.

Note: The recovery function recovers only the operating modes and set temperatures of the devices. Therefore, the fan speed and angle may be different from those at the moment of emergency stop.

Version:

This shows the current version of the VAMCC-D48384T. You must always tell what is the version of VAMCC-D48384T which you are handling while talking with OMEGA Technical Support Engineer.

Update:

Tap the blue icon 🔵, the 10.1 inch touch screen would automatically search the OMEGA_upgrade.tar.gz file in the root directory of the USB disk, if this file exist, an installation interface would appear. if this file does not exist or no USB disk insertion, there would be a message appear as "The upgrade file does not exist".

Notes: please make sure the update file OMEGA_upgrade.tar.gz is correct, otherwise the installation would fail.

For the computer website, you need to upload the local update file(*.bin), and then waiting for 7~8 minutes to finish installation, finally to reboot the system.

9.8 Public Device

No	Function
1	Displays the group option. All the devices in the groups (including subgroups) are displayed on the right, and the groups are arranged based on the time of creation.
2	Changes the properties of the selected devices. Public refers to public devices. Enable refers to devices that have been enabled. Tap to select all the devices that can be selected. Tap "Cancel" to unselect all.
3	Method to display public devices.
4	Displays enabled devices. Selected device is marked by an icon at the top right corner. ✓ marked enabled devices that are selected. ✓ marked public devices that are selected.
5	Filters the devices in the group. Tap "All" to display all devices. Tap "Public" to display the public devices. Tap "Enable" to display all the enabled devices.

Important points:

1. For those marked as public devices, its power will share to all enabled devices during power allocation.
2. Power from public devices is shared equally to other devices where fees are being charged. It does not distinguish the time settings. Once it is set as a public device, all queries will see that device as a public device (power allocation is only effective during the query, the database records the original file, and the calculation is performed only during the query).
3. Devices in the wired controller group do not support this function.

9.9 ECS Settings

For Touch Screen & Computer Website:

This kind of setting is related to the energy consumption statistics function of the VAMCC-D48384T gateway. The various functions under this have been described as below:

No	Function
1	It is to set the price of one unit for the Electricity consumption
2	FTP stands for file Transfer Protocol. This value is the same as the IP address of the computer. It is used to exchange information between VABAC-D software and VAMCC-D48384T
3	It shows the version of the software of VAMCC-D48384T
4	It is to select whether the Standby power of the Outdoor unit will be distributed in the Indoor Units running power of that particular system only or the standby power of all the outdoor units would be evenly distributed to all the operating indoor units irrespective of their system
5	Selecting this, it will also add the power consumed by the IDU. The power consumed here would be added on the basis of the power rating of the IDU and Electric heater written in the Edit page of the Install menu. Refer 2.7.1 section for the complete details
6	This is to select the display pattern in Energy Statistics Document

10 Help
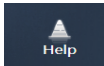
For Touch Screen & Computer Website: This function is same both for the touch screen and computer website.

https://www.youtube.com/watch?v=OMT4hNSt67k
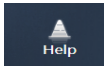
Tap [Help] on the main page to go to the Help Module of the website of VAMCC-D48384T. Under this section, you can find the list of Error Codes both for the IDU and ODU which can be very helpful for the users.
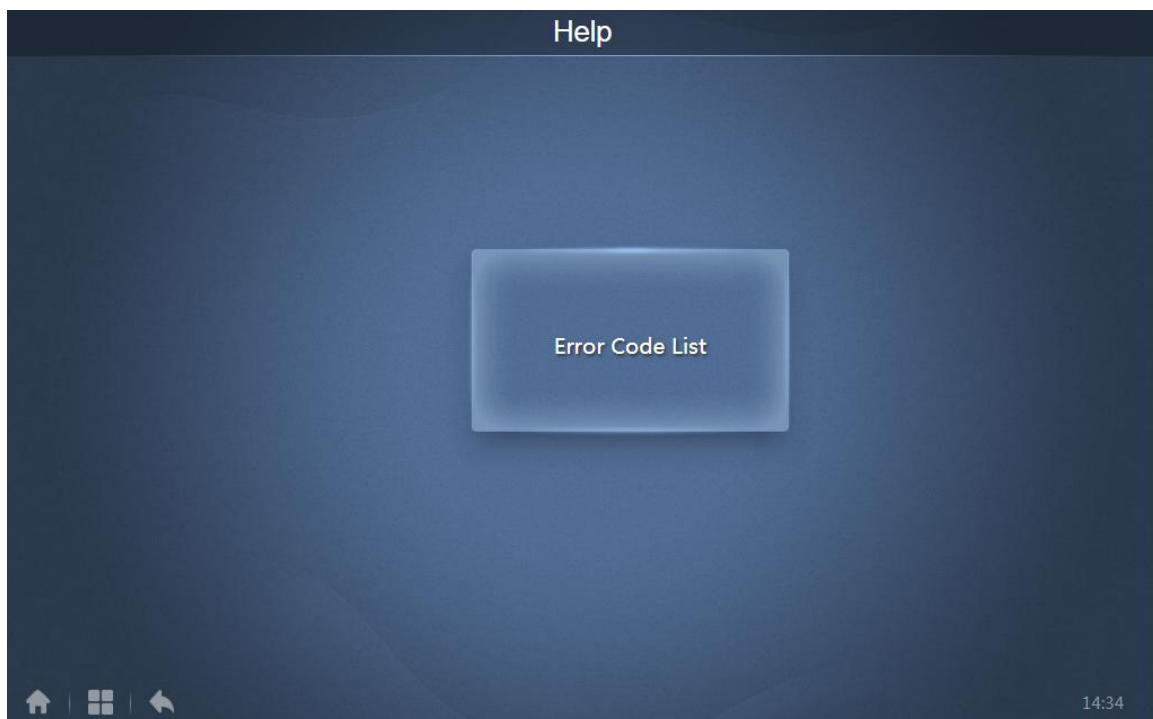
Functions

Help

Device Type	Error Code	Error Code Description
ODU	E0	Communication error between outdoor units
ODU	E1	Phase sequence error
ODU	E2	Communication error between indoor and master unit
ODU	E4	T3/T4 temperature sensor malfunction
ODU	E5	Abnormal power supply voltage
ODU	E7	Compressor top or discharge pipe temperature sensor (T7C1/2) error
ODU	E8	Outdoor unit address error
ODU	E9	EEPROM mismatch
ODU	EF	Other error
ODU	EL	Reserved
ODU	P0	Compressor temperature protection
ODU	P1	Discharge pipe high pressure protection
ODU	P2	Suction pipe low pressure protection
ODU	P3	Compressor current protection

14:35

11   Comparison between Touch Screen and Computer Website functions

Parameter	Touch Screen	Computer Website
Map View	Available	Not Available
Mail Function	Available	Not Available
Map View	Available	Not Available
Update Function	Available	Not Available
Default Export Location	USB Disk / Email	Default download folder for web browser
Email Support	Available	Not Available
Wi-Fi Support	Available	Not Available
USB Support	Available	Not Available
Brightness Adjustment	Available	Not Available
Energy Statistics record time	12 Months	12 Months

Functions

Part 4

Troubleshooting

VAMCC-D48384T Multimedia Service Manual

1 Basic Troubleshooting

In this section we will discuss about some basic troubleshooting for the VAMCC-D48384T. Also, are listed some preliminary steps that are required to be taken to eliminate these problems. Let us have a look at some of the basic troubles that may be encountered by the users while using VAMCC-D48384T.

1.1 Equipment cannot be started
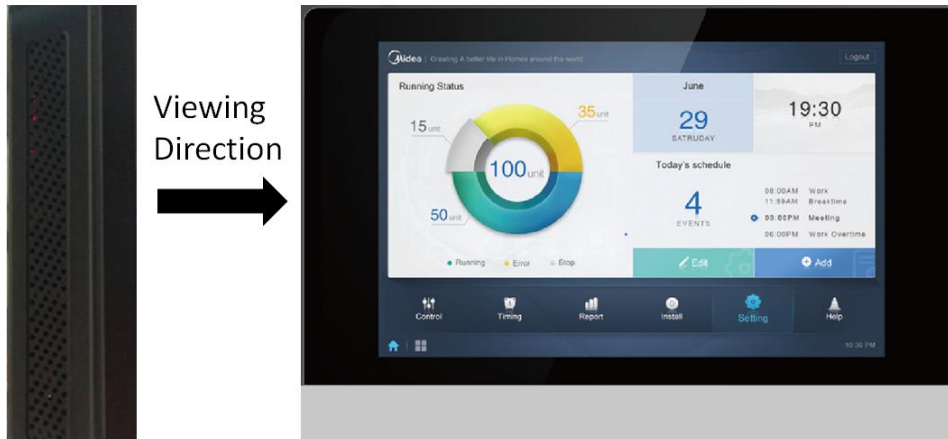
Solution: First of all, check whether the red coloured system lightings inside the back panel of the VAMCC-D48384T are blinking or not. If not blinking, it indicates that the power is not getting supplied. Check whether the power cable is properly connected or not. If the system LEDs are blinking but the VAMCC-D48384T screen remains black for some time, check whether the signal lines of the screen are connected to the main board properly. (Disassembling is required)

1.2 Cannot find the equipment/Equipment is disconnected.

Solution: The solution for this problem is discussed in two parts as follows:

1. If no information is available for all the buses, please check whether ODU has started, whether wires are normal and the wiring sequence at the port is correct.
2. If only part of equipment information is available and IDU information is absent, please check the PQE wires connecting IDU and ODU; If ODU (slave) information is absent, check the H1H2E wires connecting ODUs; If the entire system is absent, check H1H2E wires connecting systems.

1.3 Display Errors on the Webpage

Solution: If there are display errors on the webpage such as header errors and wrong icon placements, ensure that you use a latest browser at least chrome 52 or later versions. Use the browser's mandatory refresh function to refresh the page (such as "Shift+F5" for the Chrome browser).

1.4 Wrong Error Code displayed

Solution: The error code shown in the indoor unit on the old platform is different from the error code shown in the nixie tube display of the indoor unit.
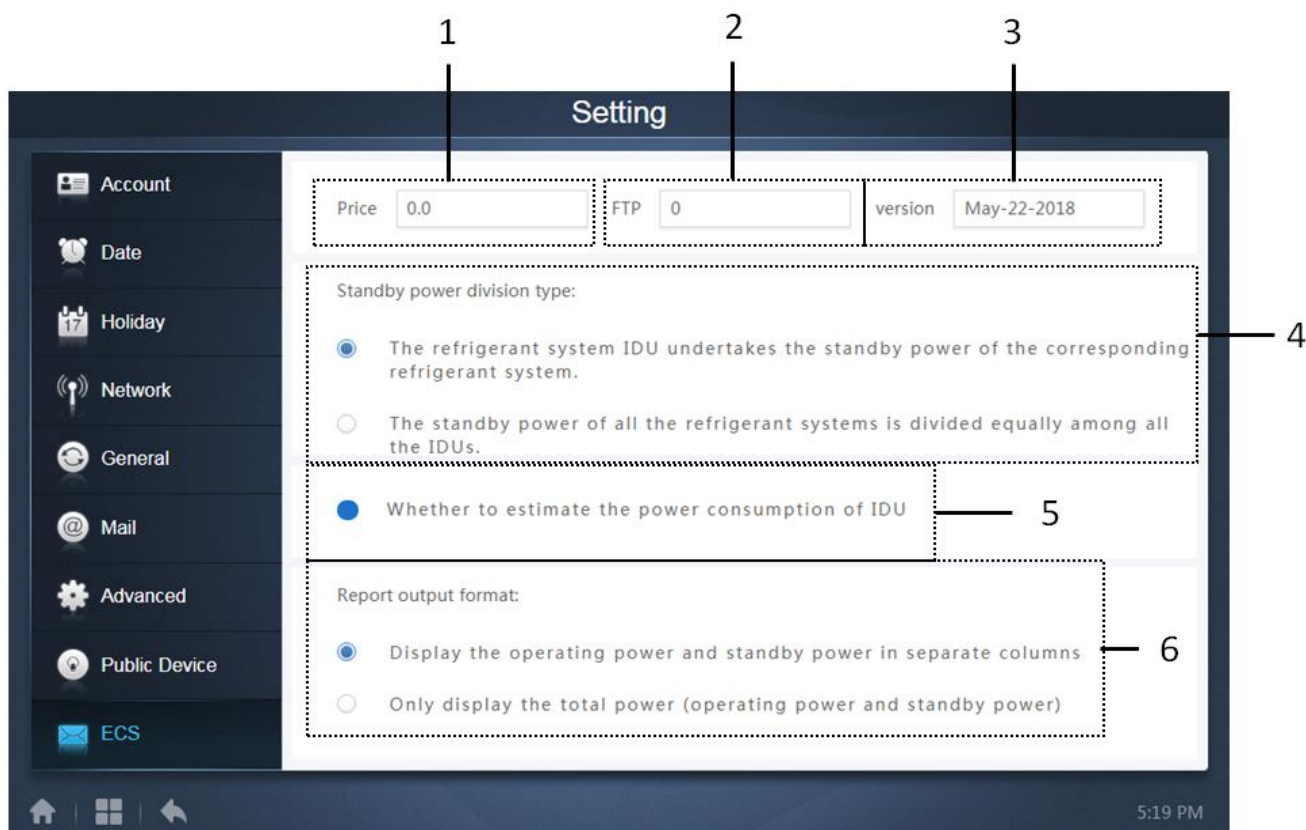
1.5 Power Allocation for Public Devices

Solution: For those marked as public devices, its power will be shared to all enabled devices during power allocation. Power from public devices is shared equally to other devices where fees are being charged. It does not distinguish the time settings. Once it is set as a public device, all queries will see that device as a public device (power allocation is only effective during the query; the database records the original file and the calculations are performed only during the query).

1.6 Failed to Upgrade the Equipment

Solution: While upgrading the VAMCC-D48384T software, always make sure that the upgrade file is correct otherwise the upgrade would fail.

1.7 Failed to save the Group Operation

Solution: Group operation: Make sure you tap "Save" at the bottom of the page to save all create and edit operations (delete operation excluded). Otherwise, the changes will be discarded.

1.8 Failed to Execute the Weekly Plan

Solution:

1. Check whether the expected execution date of weekly plan falls under a holiday period and "Holiday" option is not selected during setup.
2. Check whether the expected execution date of weekly plan is not in the cycle (for example, the cycle is configured that execution is carried out during working days only, while the expected execution date is at the weekends and is not a user-defined date. In this case, the weekly plan will not be executed on the expected date).
3. Check whether the expected weekly plan is within the valid period of the cycle.

1.9 Number of indoor units is less than the number of indoor units connected

Solution: For the new units, certain wired controllers support the access of multiple IDUs where these IDUs will then form a "wired controller group". In VAMCC-D48384T, these IDUs will be treated as a single virtual IDU and in the icon view in the "Control" page, the wired

1.10 Failed to find the required maps, while importing maps from USB disk

Solution: Ensure that the picture is a .jpeg or .png or .jpg file less than 1Mb and stored in the USB disk. The file should not be inside any folder. It should be just inside the USB disk

1.11 VAMCC-D48384T does not support other languages

The VAMCC-D48384T only supports the input of English alphabets through the touch screen side.   If it is required to input other languages, use a browser on the computer.

2 APPENDIX

2.1 Appendix 1: Software Use Precautions

a) If there are display errors on the webpage such as header errors and wrong icon placements, use the browser's mandatory refresh function to refresh the page (such as "Shift+F5" for the Chrome browser).

2.2 Appendix 2: Wired Controller Group

For the new units, certain wired controllers support the access of multiple IDUs where these IDUs will then form a "wired controller group". In VAMCC-D48384T, these IDUs will be treated as a single virtual IDU, and in the icon view in "Control" the wired controller group of IDUs will have its own icon. The name of the wired controller group is the same as the name of the smallest IDU.

Note: Refer to the relevant manuals on wired controllers and indoor units for specific information on how to set the address of the wires controller group.

Condition	IDUs in Wired Controller Group
"Control" Icon View	When one or more IDUs are offline in the wired controller group, the wired controller group icon will display an offline status. When there are errors in one or more IDUs in the wired controller group, the wired controller group icon will display an error status, and the error code will be the error code in the IDU with the smallest address. When the wired controller group is normal, the wired controller group icon will show the operating state of the smallest IDU.
"Control" List view	In a list view, each IDU in the group is displayed on a separate line, and you can view the details of each IDU in the group.
"Statistical data", "Energy statistics"	Each IDU in the group is displayed on a separate line, and you can view the statistics of each IDU in the group.
Send control command	The same commands are sent to the wired controllers in the group.

2.3 Appendix 3: Export File Samples

In this section, we have listed some of the samples of the reports that would be outputted by the VAMCC-D48384T system under various circumstances.

2.3.1 Energy Statistics Excel

The energy document outputted from VAMCC-D48384T system will look as follows:

	A	B	C	D	E	F	G
1	Name	ID	IDU Operating Powe	IDU Standby Power	Total IDU Cost		
2	idu-2-0-63	2-63	20	10	60		
3	idu-2-0-62	2-62	25	10	70		
4	idu-2-0-61	2-61	30	10	80		
5	idu-2-0-60	2-60	31	10	82		
6	idu-2-0-59	2-59	23	10	66		
7	idu-2-0-58	2-58	26	10	72		
8	idu-2-0-57	2-57	29	10	78		
9	idu-2-0-56	2-56	32	10	84		
10	idu-2-0-55	2-55	36	10	92		
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							

Note: The energy cost depends up on the cost per unit set in the Setting part. Here we have set the cost to 2 per unit. It can be altered according to the local rate.

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2.3.2 Operating Duration

Below is a sample of the excel document outputted by clicking the Operating Duration Tab in the Report function of VAMCC-D48384T.

	A	B	C	D	E	F	G
1	Name	Date	Total	C running	C standby	H running	H standby
2	idu-2-0-63	21-06-2018	10	10	10	0	0
3	idu-2-0-62	21-06-2018	11	12	10	0	0
4	idu-2-0-61	21-06-2018	12	11	10	0	0
5	idu-2-0-60	21-06-2018	12	14	10	0	0
6	idu-2-0-59	21-06-2018	12	18	10	0	0
7	idu-2-0-58	21-06-2018	12	29	10	0	0
8	idu-2-0-57	21-06-2018	13	2	10	0	0
9	idu-2-0-56	21-06-2018	15	2	10	0	0
10	idu-2-0-63	21-06-2018	19	18	10	0	0

2.3.3 Running Record

Below is a sample document for the excel file exported from the running record tab of the Report function.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
1	Operating Duration	Name	Type	Group NO.	ID	Mode	Setpoint C	SetpoiH	Setpoir	Fan	Room temp	Error coc	C setpoir	H setpoir	Mode limi	DC limit	RC limit	Fan limit	ON/OFF li	Swing
2	05-07-2018 08:47	idu-0-0-6	2	0	0-63	Cool	26	--	--	Off	20	--	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Off
3	05-07-2018 08:44	idu-0-0-6	2	0	0-63	OFF	--	--	--	--	20	--	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	--
4	05-07-2018 08:44	idu-0-0-6	2	0	0-63	OFF	--	--	--	--	20	--	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	--
5	05-07-2018 08:44	idu-0-0-6	0	0	0-63	Offline	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6	05-07-2018 00:00	idu-0-0-6	0	0	0-63	Offline	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7	05-07-2018 08:47	idu-0-0-6	2	0	0-62	Cool	26	--	--	Off	20	--	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Off
8	05-07-2018 08:44	idu-0-0-6	2	0	0-62	OFF	--	--	--	--	20	--	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	--
9	05-07-2018 08:44	idu-0-0-6	2	0	0-62	OFF	--	--	--	--	20	--	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	--
10	05-07-2018 08:44	idu-0-0-6	0	0	0-62	Offline	--	--	--	--	--	--	--	--	--	--	--	--	--	--
11	05-07-2018 00:00	idu-0-0-6	0	0	0-62	Offline	--	--	--	--	--	--	--	--	--	--	--	--	--	--
12	05-07-2018 08:47	idu-0-0-6	2	0	0-61	Cool	26	--	--	Off	20	--	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Off
13	05-07-2018 08:44	idu-0-0-6	2	0	0-61	OFF	--	--	--	--	20	--	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	--
14	05-07-2018 08:44	idu-0-0-6	2	0	0-61	OFF	--	--	--	--	20	--	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	--
15	05-07-2018 08:44	idu-0-0-6	0	0	0-61	Offline	--	--	--	--	--	--	--	--	--	--	--	--	--	--
16	05-07-2018 00:00	idu-0-0-6	0	0	0-61	Offline	--	--	--	--	--	--	--	--	--	--	--	--	--	--
17	05-07-2018 08:47	idu-0-0-6	2	0	0-60	Cool	26	--	--	Off	20	--	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Off
18	05-07-2018 08:44	idu-0-0-6	2	0	0-60	OFF	--	--	--	--	20	--	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	--
19	05-07-2018 08:44	idu-0-0-6	2	0	0-60	OFF	--	--	--	--	20	--	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	--
20	05-07-2018 08:44	idu-0-0-6	0	0	0-60	Offline	--	--	--	--	--	--	--	--	--	--	--	--	--	--
21	05-07-2018 00:00	idu-0-0-6	0	0	0-60	Offline	--	--	--	--	--	--	--	--	--	--	--	--	--	--
22	05-07-2018 08:47	idu-0-0-5	2	0	0-59	Cool	26	--	--	Off	20	--	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Off
23	05-07-2018 08:44	idu-0-0-5	2	0	0-59	OFF	--	--	--	--	20	--	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	--
24	05-07-2018 08:44	idu-0-0-5	2	0	0-59	OFF	--	--	--	--	20	--	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	--
25	05-07-2018 08:44	idu-0-0-5	0	0	0-59	Offline	--	--	--	--	--	--	--	--	--	--	--	--	--	--
26	05-07-2018 00:00	idu-0-0-5	0	0	0-59	Offline	--	--	--	--	--	--	--	--	--	--	--	--	--	--
27	05-07-2018 08:47	idu-0-0-5	2	0	0-58	Cool	26	--	--	Off	20	--	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Off
28	05-07-2018 08:44	idu-0-0-5	2	0	0-58	OFF	--	--	--	--	20	--	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	--
29	05-07-2018 08:44	idu-0-0-5	2	0	0-58	OFF	--	--	--	--	20	--	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	--
30	05-07-2018 08:44	idu-0-0-5	0	0	0-58	Offline	--	--	--	--	--	--	--	--	--	--	--	--	--	--
31	05-07-2018 00:00	idu-0-0-5	0	0	0-58	Offline	--	--	--	--	--	--	--	--	--	--	--	--	--	--
32	05-07-2018 08:47	idu-0-0-5	2	0	0-57	Cool	26	--	--	Off	20	--	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Off
33	05-07-2018 08:44	idu-0-0-5	2	0	0-57	OFF	--	--	--	--	20	--	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	--
34	05-07-2018 08:44	idu-0-0-5	2	0	0-57	OFF	--	--	--	--	20	--	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	--
35	05-07-2018 08:44	idu-0-0-5	0	0	0-57	Offline	--	--	--	--	--	--	--	--	--	--	--	--	--	--
36	05-07-2018 00:00	idu-0-0-5	0	0	0-57	Offline	--	--	--	--	--	--	--	--	--	--	--	--	--	--
37	05-07-2018 08:47	idu-0-0-5	2	0	0-56	Cool	26	--	--	Off	20	--	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Off
38	05-07-2018 08:44	idu-0-0-5	2	0	0-56	OFF	--	--	--	--	20	--	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	--
39	05-07-2018 08:44	idu-0-0-5	2	0	0-56	OFF	--	--	--	--	20	--	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	Unlimitec	--
40	05-07-2018 08:44	idu-0-0-5	0	0	0-56	Offline	--	--	--	--	--	--	--	--	--	--	--	--	--	--
41	05-07-2018 00:00	idu-0-0-5	0	0	0-56	Offline	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Note: The VAMCC-D48384T can only store the data for last 12 months.

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2.4 Appendix 4: Introduction to VABAC-D System

Intelligent Manager of OMEGA VRF is OMEGA's new-generation VRF management system. It consists of four parts: VABAC-D or VAMCC-D48384T (Hardware), MicroDog and VRF refrigerant system (energy meter requirement is optional depending up on whether the user want to use). The VABAC-D software communicates with VAMCC-D48384T or VABAC-D via the network to control and manage the VRF units.

The system can control up to 3840 indoor units with just one computer. The VAMCC-D48384T, VABAC-D act as a gateway device for the Software. When connected it has only 4 XYE ports, 2560 indoor units may be controlled by one computer whereas, when connected with VAMCC-D48384T up to 3840 indoor units can be controlled by just one computer. The wiring and connections for system are highly simplified and with the one key installation feature of our latest software it becomes extremely convenient for the users to use this software. The MicroDog provided with the software acts as a key to use the software and only if it is inserted, the customer can use the software.

VABAC-D

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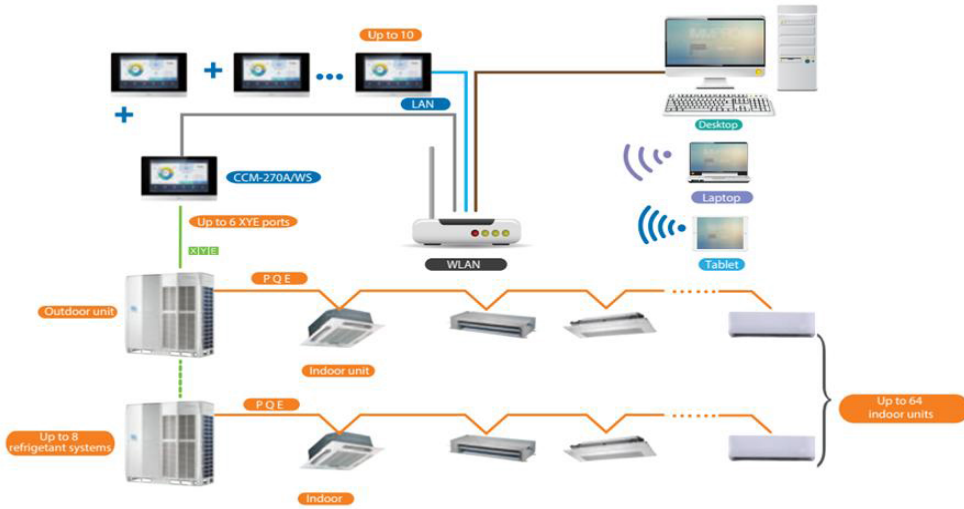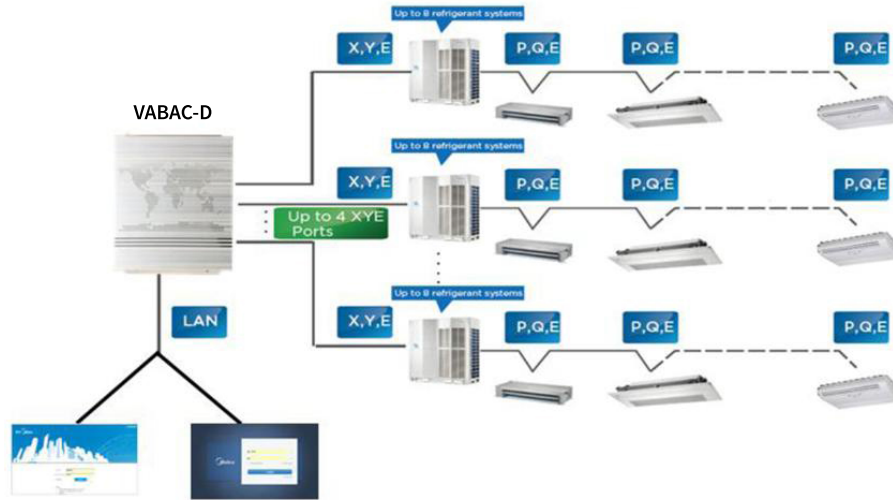
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