

ORIGINAL  
MANUAL



# INSTALLATION & OWNER'S MANUAL

Gateway

KCC-64 CLOUD



Thank you for purchasing our product.

Before using the unit, please read this manual carefully and keep it for future reference.



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# 1 Safety Precautions

The Operation and Installation Manual of this product describes how to properly handle the product, prevent harm to others and prevent property losses, as well as how to use the product correctly and safely. Read the following carefully, make sure you understand the content (symbols and marks), and observe the precautions below.

## ⚠ CAUTION

Read the safety warnings carefully prior to installation.  
 Be sure to observe the important safety precautions provided below.  
 Meanings of labels:

-  **Warning** Improper handling may lead to personal injury or material loss.
-  **Caution** Indicates that the operations will be affected due to ignoring a precaution. After the installation is completed, confirm that no errors occur during the trial run, and hand over the manual to the customer for safekeeping.

## 1.1 Icon description

Icon	Name	
	Prohibited. Information about what is specifically prohibited is provided using graphs or texts in the icon or nearby.	
	Mandatory. Specific mandatory content is provided using graphs or texts in the icon or nearby.	
 Warning	Commissioned Installation	Ask your local dealer or professionals to install the product. Installation personnel must have relevant professional knowledge. When installation is performed by non-professionals, false operations may lead to a fire, electric shock, or injury.
 Warning of Use	Prohibited	Do not use combustible paints to spray directly on the data converter as this may cause a fire.
	Prohibited	Do not handle the product with wet hands, and do not let water seep into the device, as this will cause electric shock.

 **WARNING**

This unit must be installed by professional technicians. Users are not allowed to install the unit themselves; otherwise, it may cause harm to you or others or damage the controller.

Other electrical wiring work must be carried out by a professional technician according to the circuit diagram. All wiring work must comply with electrical safety specifications.

It is forbidden to modify the use and function of the product without authorization.

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 **CAUTION**

Do not install the product in a location where flammable gas can easily leak. Any leakage within the vicinity of the device may cause a fire.

The wiring must be compatible with controller current.

Be sure to check the wiring before powering on, because it is prohibited to install the machine while the power is on.

In the event of any malfunction, please contact a professional technician. **DO NOT** disassemble or repair the unit without authorization.

This equipment is not suitable for places where children gather.

 **WARNING**

This unit must be installed by professional technicians. Users are not allowed to install the unit themselves; otherwise, it may cause harm to you or others or damage the controller.

Other electrical wiring work must be carried out by a professional technician according to the circuit diagram. All wiring work must comply with electrical safety specifications.

It is forbidden to modify the use and function of the product without authorization.

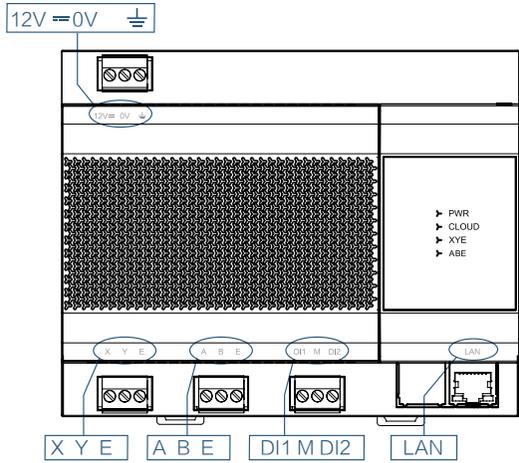
# 2 Operation Instructions

## 2.1 Gateway Hardware

KCC-64-CLOUD Gateway [hereinafter referred to as the "Gateway"] is used together with "Cloud Service" to upload VRF unit data to the cloud server through the Gateway.

The system protocol supported is V8 or V6 protocol.

The Gateway supports one RS-485 bus and is capable of taking in 8 refrigerant systems (the maximum IDU quantity is 64); Supports 1 DI port which is defined as an emergency stop interface; Supports 1 LAN port used for Web page configuration.



Port	Function
12V 0V	12 V DC power supply
X Y E	Connect the ODU XYE port (*1) and support 8 refrigerant systems (up to 64 IDUs). Multiple refrigerant system access gateways (*2), with the X/Y/E ports on the ODU master unit of each refrigerant system connected to the X/Y/E ports of the Gateway in serial. XYE port of the gateway also connect to the D1 D2 Port of the IDU(up to 64 IDU)(* 3)
A B E	Reserved
DI1 M DI2	Dry contact for short circuit connection of DI1 and M when the Gateway will start emergency shutdown logic. * This function will release the startup lock of the IDU. The emergency stop function is described in detail in the following sections.
LAN	Data are uploaded to the cloud server over the LAN.

\*1: The X port of the Gateway is connected to the X port of the ODU, and the Y port of the Gateway is connected to the Y port of the ODU.

\*2: When multiple refrigerant systems are connected, they need to use different addresses.

\*3: The X port and Y port of the gateway connect to the D1 port and D2 Port of the V8 IDU, the E port of the gateway connect to the E port of the IDU.

LED	Function
PWR	When the power supply is working normally, the power supply indicator PWR remains illuminated. Note: When the power supply indicator flashes, the power supply is abnormal.
CLOUD	Indicate whether the connection to the cloud server is successful: remains on when the connection is successful; turns off when the connection fails.
XYE	When the VRF unit and IDU can communicate normally, the light flashes once each time normal data are received.
A B E	Reserved

Operating ambient temperature	-10°C to +50°C
Operating ambient humidity	RH25%-RH90%

## 2.2 Gateway Functions

### 2.2.1 Gateway Web

The default IP of the gateway is DHCP when it leaves the factory. You can check the IP address assigned to the gateway on the router, and then enter the IP address to log in to the gateway's web display interface. The Web page of the Gateway is shown in the figure below:

Note: If the gateway fails to obtain an IP address from DHCP, it will become the default static IP:192.168.1.200.

Note: Please use chrome browser to login the web page, other browsers may be incompatible, preventing the Web function from working properly.

The screenshot shows the 'Cloud Gateway' web interface with a language selector for '中文 | English'. The 'Firmware' tab is active, and the 'Settings' section is expanded to show 'Network Settings', 'Server Settings', and 'Gateway Settings'.  
**Network Settings:**  
 IP address: 192.168.1.200  
 Mask: 255.255.255.0  
 Gateway: 192.168.1.1  
 DHCP:   
**Server Settings:**  
 Server IP address: mqtt-report.ibuildinghvac.com:8883  
**Gateway Settings:**  
 version: AI00023082C240724V3.1(V8V6) bin  
 SN: 0000CCT5444H77IGD03R00000015BIGG  
 A 'Save' button is located at the bottom of the settings area.

### 2.2.1.1 Settings

The parameters are described as follows:

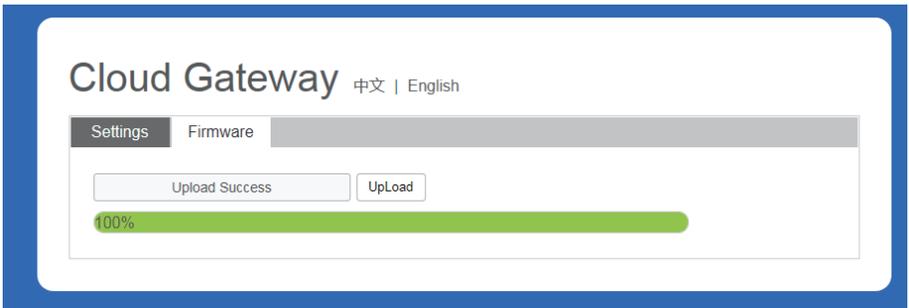
Parameter page		Description
Network Settings	IP address	The IP address of the gateway is DHCP from router. Note: Unchecking the DHCP checkbox allows you to modify the static IP.
	Mask	Subnet mask with factory setting 255.255.255.0
	Gateway	Default gateway is xx.xx.xx.1 reference IPaddress
	DHCP	If it is checked, the DHCP function is enabled. This function is abled on factory settings
Server Settings	Server IP address	Default server IP address is mqtt-report.ibuildinghvac.com 8883
		US: mqtt-report-us.ibuildinghvac.com 8883; Europe: mqtt-report-eu.ibuildinghvac.com 8883
gateway_settings	version	Software version of gateway firmware
	SN	SN of gateway

After modifying parameters, click "Save" to automatically restart the gateway.

### 2.2.1.2. Firmware

Upgrade Gateway firmware: click "UpLoad" and select the correct firmware.

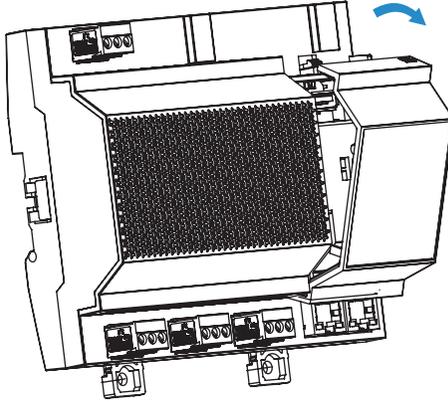
The firmware is successfully imported when the progress bar displays 100%. The gateway automatically restarts and updates the firmware.



## 2.2.2 Engineering configuration

### 2.2.2.1. Keys and switch

Remove the upper cover, you will see the keys and switch



	SW1	SW2	S1_1	S1_2
Function	Restore factory setting	Check Protocol	Select Protocol	Reserved

### 2.2.2.2. Protocol setting

The system protocol supported by the gateway can be checked through the SW2 button on the PCB of the gateway and set through S1\_1 switch.

ODU and IDU system	Protocol type
V8 ODU+V8 IDU	V8
V8 ODU+2 <sup>nd</sup> generation IDU	V6
V6 ODU+2 <sup>nd</sup> generation IDU	V6
V8 IDU	V8

S1_1	ON	OFF
Protocol type	V6	V8

SW2	Digital display	Protocol type
Press once	V8	V8
Press once	V6	V6

 **CAUTION**

A gateway can not support V6 and V8 protocol at the same time.

### 2.2.3 Restore factory setting

When the factory configuration is restored, the gateway IP address, and server parameters are set to factory setting values.

Steps:

1. Power off the Gateway, press and hold SW1 and turn on the power of Gateway;
2. Keep holding SW1 until the digital display shows "LL" and release SW1; when the digital display shows "FF", the Gateway has been restored to factory configuration and automatically reset and restarted.

### 2.2.4 Emergency Stop

In the event of a short circuit connection of DI1 and M, the Gateway will start the emergency shutdown function.

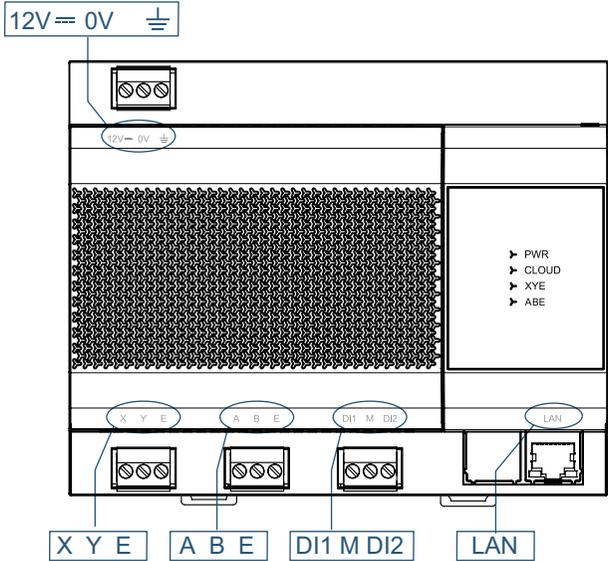
Logic description of emergency stop: The Gateway uses continuous polling (\*4) to obtain the information of the connected device. During the effective period of the emergency stop function, the Gateway determines that the IDU is locked in on the state according to the polling information, and will unlock the locked-on attribute of the corresponding IDU.

If the IDU is on, the Gateway sends a shutdown command until the Gateway exits the emergency stop function (\*5).

- \*4: The interval of Gateway polling depends on the number of devices connected, and usually takes five minutes to complete.
- \*5: Exiting the emergency stop will not restore the IDU's locked-on status, namely, the IDU which was originally locked on becomes unlocked.

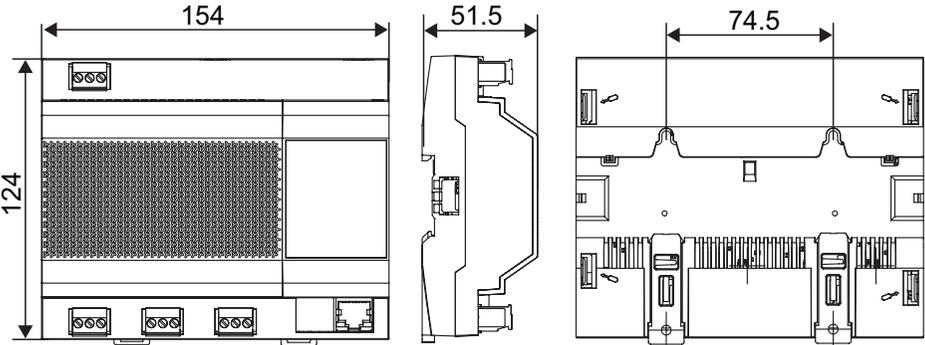
# 3 Installation Instructions

## 3.1 Product Introduction



## 3.2 Product Dimensions

Unit: mm



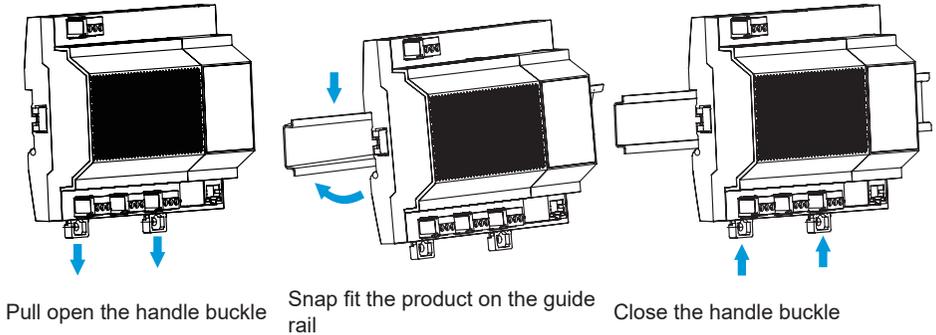
### 3.3 Installation Accessories

Please check that you have all the following parts.

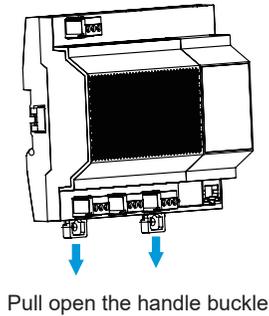
No.	Name	Quantity	Remarks
1	Self-tapping screw	4	ST4* 20
2	Plastic expansion pipe	4	For use in installing the controller onto the wall
3	3 pin black terminal	3	For communication
4	3 pin gray terminal	1	For connecting the power supply

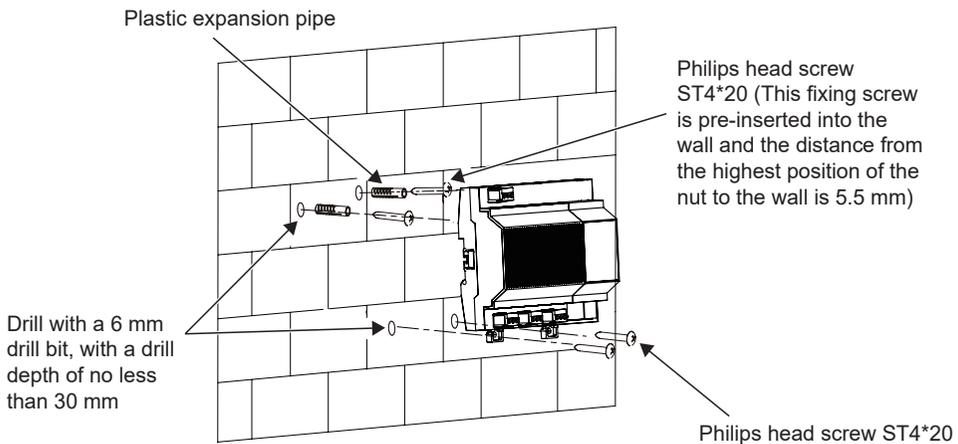
### 3.4 Installation Method

#### 3.4.1. Installing the Guide Rail



#### 3.4.2. Mounting the Device on the Wall







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