

EHKME

**Auxiliary Heater
Sizes 3kW to 10kW**

Installation Manual

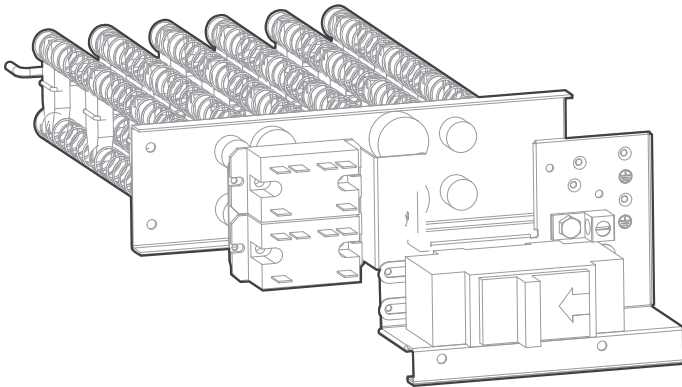


Fig. 1 – Auxiliary Heater

NOTES: Read the entire instruction manual before starting the installation.

Images are for illustration purposes only. Actual models may differ slightly.

TABLE OF CONTENTS

	Page
SAFETY CONSIDERATIONS	1
ACCESSORIES	4
MODEL SIZE SELECTION	4
Table 2 – Selection of Available Sizes	4
DIMENSIONS	5
INSTALLATION	8
Installation Requirements	8
ELECTRICAL SPECIFICATIONS	11
WIRING DIAGRAMS	12
ELECTRIC AUXILIARY HEATING WIRING DIAGRAMS ..	12

SAFETY CONSIDERATIONS

Installing, starting up, and servicing air-conditioning equipment can be hazardous due to system pressures, electrical components, and equipment location (roofs, elevated structures, etc.).

Only trained, qualified installers and service mechanics should install, start-up, and service this equipment.

Untrained personnel can perform basic maintenance functions such as coil cleaning. All other operations should be performed by trained service personnel.

When working on the equipment, observe precautions in the literature and on tags, stickers, and labels attached to the equipment.

Follow all safety codes. Wear safety glasses and work gloves. Keep a quenching cloth and fire extinguisher nearby when brazing. Use care in handling, rigging, and setting bulky equipment.

Read these instructions thoroughly and follow all warnings or cautions included in literature and attached to the unit. Consult local building codes and National Electrical Code (NEC) for special requirements. Recognize safety information.

This is the safety-alert symbol .


When you see this symbol on the unit and in instructions or manuals, be alert to the potential for personal injury. Understand these signal words: **DANGER**, **WARNING**, and **CAUTION**. These words are used with the safety-alert symbol.

DANGER identifies the most serious hazards which will result in severe personal injury or death.

WARNING signifies hazards which could result in personal injury or death.

CAUTION is used to identify unsafe practices which may result in minor personal injury or product and property damage.

NOTE is used to highlight suggestions which will result in enhanced installation, reliability, or operation.


 **WARNING**

ELECTRICAL SHOCK HAZARD

Failure to follow this warning could result in personal injury or death.


Before installing, modifying, or servicing system, the main electrical disconnect switch must be in the OFF position. There may be more than 1 disconnect switch. Lock out and tag switch with a suitable warning label.

! WARNING



EXPLOSION HAZARD
 Failure to follow this warning could result in death, serious personal injury, and/or property damage.
 Never use air or gases containing oxygen for leak testing or operating refrigerant compressors. Pressurized mixtures of air or gases containing oxygen can lead to an explosion.

! WARNING



EXPLOSION HAZARD
 Failure to follow this warning could result in personal injury or death.
 Before installing, modifying, or servicing system, the main electrical disconnect switch must be in the OFF position.
 There may be more than 1 disconnect switch. Lock out and tag switch with a suitable warning label.

! WARNING

Only use the specified wire. If the wire is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard. The product must be properly grounded at the time of installation, or electric shock may occur.

For all electrical work, follow all local and national wiring standards, regulations, and the Installation Manual. Connect the cables tightly, and clamp them securely to prevent external forces from damaging the terminal. Improper electrical connections can overheat and cause fire, and may also cause shock. All electrical connections must be made according to the Electrical Connection Diagram located on the panels of the indoor and outdoor units.

All wiring must be properly arranged to ensure that the control board cover can close properly. If the control board cover is not closed properly, it can lead to corrosion and cause the connection points on the terminal to heat up, catch fire, or cause electrical shock.

Disconnection must be incorporated in the fixed wiring in accordance with NEC, CSA, and Local Codes. Do not share the electrical outlet with other appliances. Improper or insufficient power supply can cause fire or electric shock.

If connecting power to fixed wiring, an all-pole disconnection device which has at least 3mm clearances in all poles, and have a leakage current that may exceed 10mA, the residual current device (RCD) having a rated residual operating current not exceeding 30mA, and disconnection must be incorporated in the fixed wiring in accordance with NEC, CSA, and Local Codes.

! WARNING

ELECTRICAL WARNING

The product must be properly grounded at the time of installation or electrical shock may occur.

For all electrical work, follow all local and national wiring standards, regulations, and the Installation Manual. Connect cables tightly, and clamp them securely to prevent external forces from damaging the terminal. Improper electrical connections can overheat and cause a fire, and may also cause shock. All electrical connections must be made according to the Electrical Connection Diagram located on the panels of the indoor and outdoor units.

All wiring must be properly arranged to ensure that the control board cover can close properly. If the control board cover is not closed properly, it can lead to corrosion and cause the connection points on the terminal to heat up, catch fire, or cause electrical shock. If connecting power to fixed wiring, an all-pole disconnection device which has at least 3mm clearances in all poles, and have leakage current that may exceed 10mA, the residual current device (RDC) having rated residual operating current not exceeding 30mA, and disconnection must be incorporated in the fixed wiring in accordance

! WARNING

Turn of the unit and disconnect the power before performing any installation or repairing. Failure to do so can cause electric shock.

Installation must be performed by an authorized dealer or specialist. Defective installation can cause water leakage, electrical shock, or fire.

Installation must be performed according to the installation instructions. Improper installation can cause water leakage, electrical shock, or fire.

Contact an authorized service technician for repair or maintenance of this unit. This appliance shall be installed in accordance with national wiring regulations. Only use the included accessories, parts, and specified parts for installation. Using non-standard parts can cause water leakage, electrical shock, fire, and can cause the unit to fail.

Install the unit in a firm location that can support the unit's weight. If the chosen location cannot support the unit's weight, or the installation is not done properly, the unit may drop and cause serious injury and damage.

Install drainage piping according to the instructions in this manual. Improper drainage may cause water damage to your home and property.

For units that have an auxiliary electric heater, do not install the unit within 3 feet (1 meter) of any combustible materials.

If combustible gas accumulates around the unit, it may cause fire.

Do not turn on the power until all work has been completed.

When moving or relocating the unit, consult experienced service technicians for disconnection and re-installation of the unit.

⚠ WARNING

PERSONAL INJURY AND PROPERTY DAMAGE HAZARD
 For continued performance, reliability, and safety, the only approved accessories and replacement parts are those specified by the equipment manufacturer. The use of non-manufacturer approved parts and accessories could invalidate the equipment limited warranty and result in fire risk, equipment malfunction, and failure. Review the manufacturer’s instructions and replacement parts catalogs available from your equipment supplier.

⚠ WARNING

WARNING FOR PRODUCT INSTALLATION

Installation must be performed by an authorized dealer or specialist. Defective installation can cause water leakage, electrical shock, or fire. Installation must be performed according to the installation instructions. Improper installation can cause water leakage, electrical shock, or fire. (In North America, installation must be performed in accordance with the requirement of NEC and CEC by authorized personnel only.)

Contact an authorized service provider for repair or maintenance of this unit. This appliance shall be installed in accordance with national wiring regulations. Only use the included accessories, parts, and specified parts for installation. Using non-standard parts can cause water leakage, electrical shock, fire, and can cause the unit to fail.

For units that have an auxiliary electric heater, do not install the unit within 1 meter (3 feet) of any combustible materials.

Do not install the unit in a location that may be exposed to combustible gas leaks. If combustible gas accumulates around the unit, it may cause fire.

Do not turn on the power until all work has been completed.






When moving or relocating the auxiliary heater, consult experienced service technicians for disconnection and re-installation of the unit.

⚠ WARNING

WARNINGS FOR CLEANING AND MAINTENANCE

Turn off the device and disconnect the power before cleaning. Failure to do so can cause electrical shock.

Table 1 — Symbols Displayed on Indoor Unit or Outdoor Unit

	WARNING	This symbol shows that this appliance used a flammable refrigerant. If the refrigerant is leaked and exposed to an external ignition source, there is a risk of fire.
	CAUTION	This symbol shows that the operation manual should be read carefully.
	CAUTION	This symbol shows that a service personnel should be handling this equipment with reference to the installation manual.
	CAUTION	This symbol shows that information is available such as the operating manual or installation manual.
	CAUTION	This symbol shows that information is available such as the operating manual or installation manual.

⚠ WARNING

FOR FLAMMABLE REFRIGERANTS

Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.

The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater).

Do not pierce or burn. Be aware that refrigerants may not contain an odor.

⚠ WARNING

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

WARNING - RISK OF FIRE DUE TO FLAMMABLE REFRIGERANT USED. FOLLOW HANDLING INSTRUCTIONS CAREFULLY IN COMPLIANCE WITH NATIONAL REGULATIONS.

R-454B  Refrigerant Safety Group **A2L** R-454B

NOTE: Risk of Fire. Flammable refrigerant used. To be repaired only by trained service personnel. Do not puncture refrigerant tubing.

ACCESSORIES

The system is shipped with the following accessories. Use all of the installation parts and accessories to install the system. Improper installation may result in water leakage, electrical shock and fire, or cause the equipment to fail. Keep the installation manual in a safe place and do not discard any other accessories until the installation has been completed.

NOTE: Installation must be performed by a licensed contractor. Take necessary precautions when performing the installation operation.

Name	Quantity
Manual	1
Foam gasket	1
Screws	9
Silicone breaker cover	1
Electric auxiliary heating wiring diagram	1
Circuit breaker label	1

MODEL SIZE SELECTION

For installations requiring supplemental heating, the optional Electric Auxiliary Heat Module is available in sizes from 3kW to 10kW to accommodate appropriate sizing given the specific heat load and electrical requirements of each installation. Please refer to the table below for selection of available sizes of each model, being sure to avoid improper matching.

NOTICE: Only use matched modules certified for use with model. Please refer to the Electric Auxiliary Heat Model specification for additional details to ensure proper selection and installation.

Table 2 – Selection of Available Sizes

Model Btu/h	Heater Unit Size			
	3kw	5kw	8kw	10kw
18K	Y	Y	Y	Y
24K	Y	Y	Y	Y
30K	Y	Y	Y	Y
36K	Y	Y	Y	Y

NOTE: Only use matched modules certified for use with model. Refer to the Electric Auxiliary Heat Model specification for additional details to ensure proper selection and installation.

NOTE: This heater cannot be powered from a 115 volt circuit. Separate 208/230 volt power must be supplied to the electric heaters for ALL applications.

NOTE: If the unit needs to be equipped with the electric auxiliary heat module, check the electric auxiliary heat module specification that is compatible with the unit to avoid unnecessary consequences caused by improper matching and refer to the Product Data manual.

DIMENSIONS

DIMENSIONS AND WEIGHTS					
System Size		3KW	5KW	8KW	10KW
		(208/230 V)	(208/230 V)	(208/230 V)	(208/230 V)
Height (H)	inch	4.41	4.41	4.41	4.41
	mm	112	112	112	112
Width (W)	inch	19.57	19.57	19.57	19.57
	mm	497	497	497	497
Depth (D)	inch	9.06	9.06	9.06	9.06
	mm	230	230	230	230
Weight -Net	lbs.	3.09	3.09	4.19	4.19
	kg	1.4	1.4	1.9	1.9
PACKAGING					
Height	inch	6.30	6.30	6.30	6.30
	mm	160	160	160	160
Width	inch	23.03	23.03	23.03	23.03
	mm	585	585	585	585
Depth	inch	13.19	13.19	13.19	13.19
	mm	335	335	335	335
Weight-Gross	lbs.	7.72	7.72	8.82	8.82
	kg	3.5	3.5	4	4
Carton Drawing No.	--	ZXW-570*320*145S-NS1			
Carton Material	--	Double corrugated cardboard			
Material Thickness	inch	0.197	0.197	0.197	0.197
	mm	5	5	5	5

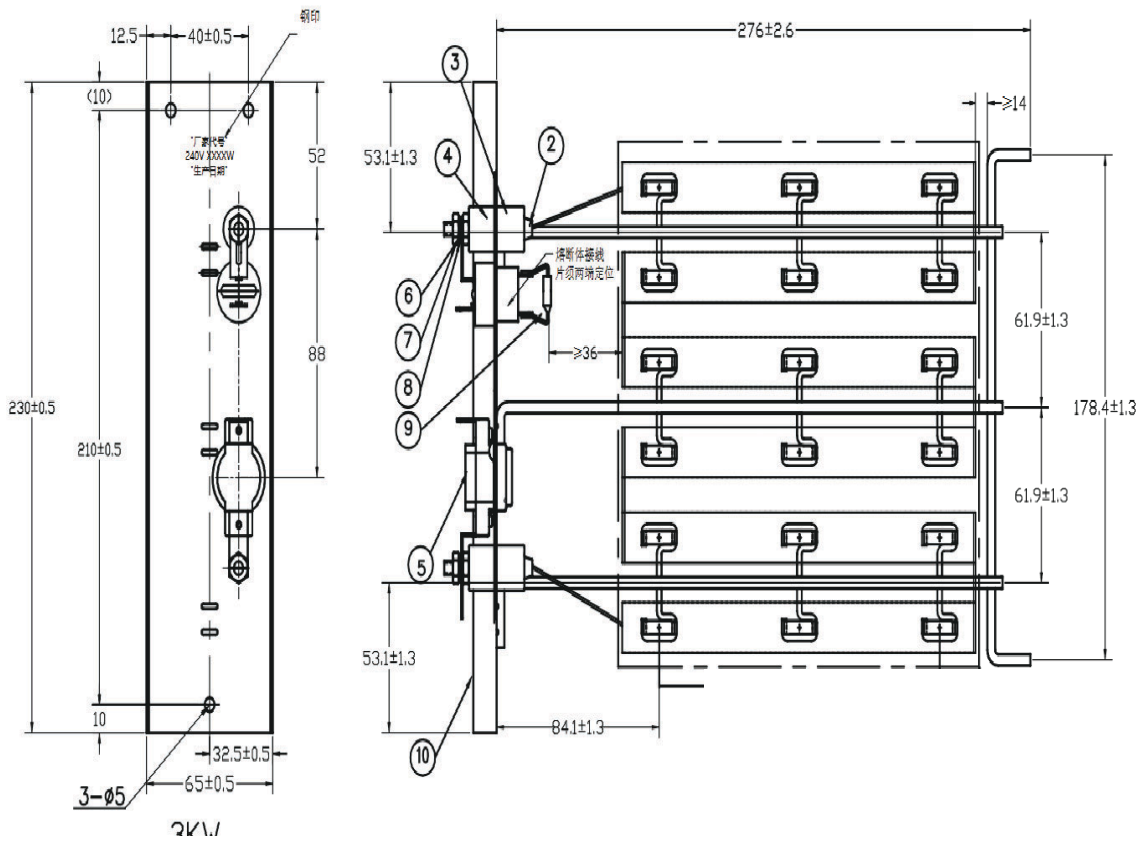


Fig. 2 – Dimensions (Size 3kw)

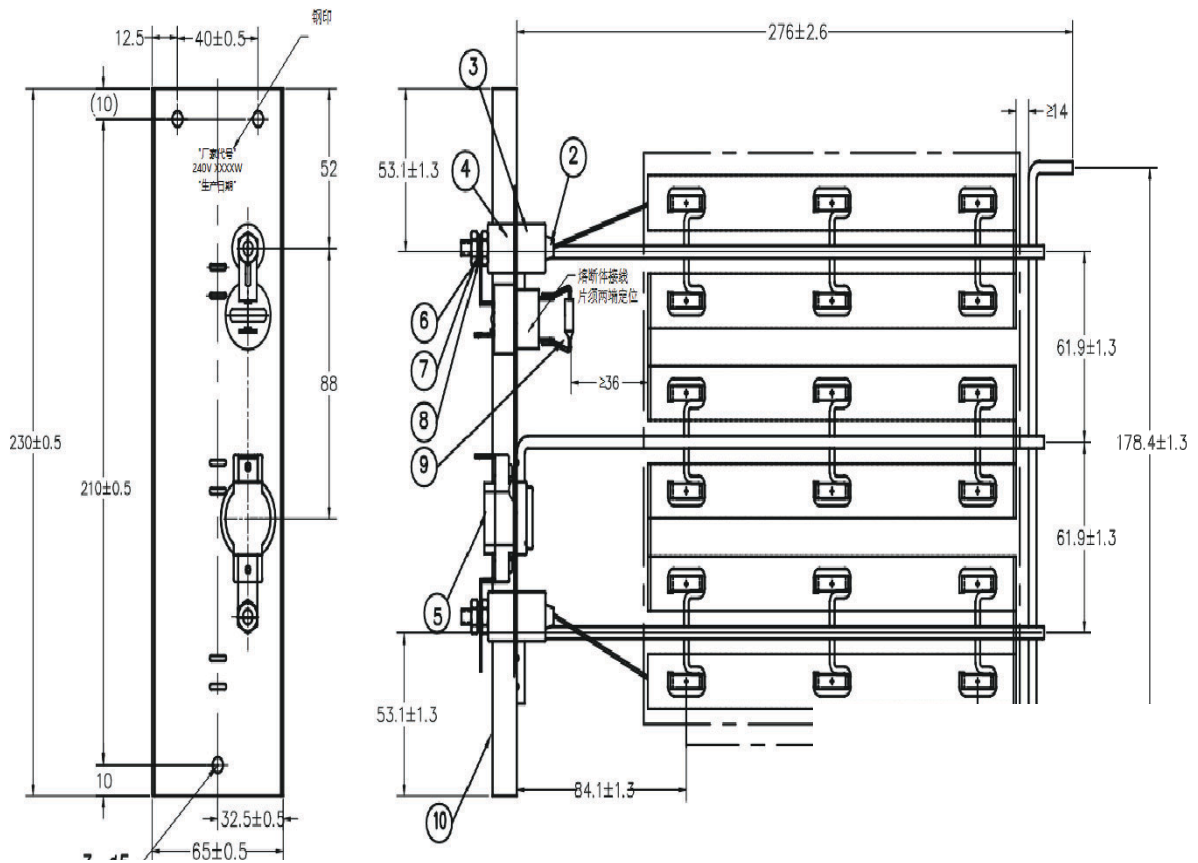


Fig. 3 – Dimensions (Size 5kw)

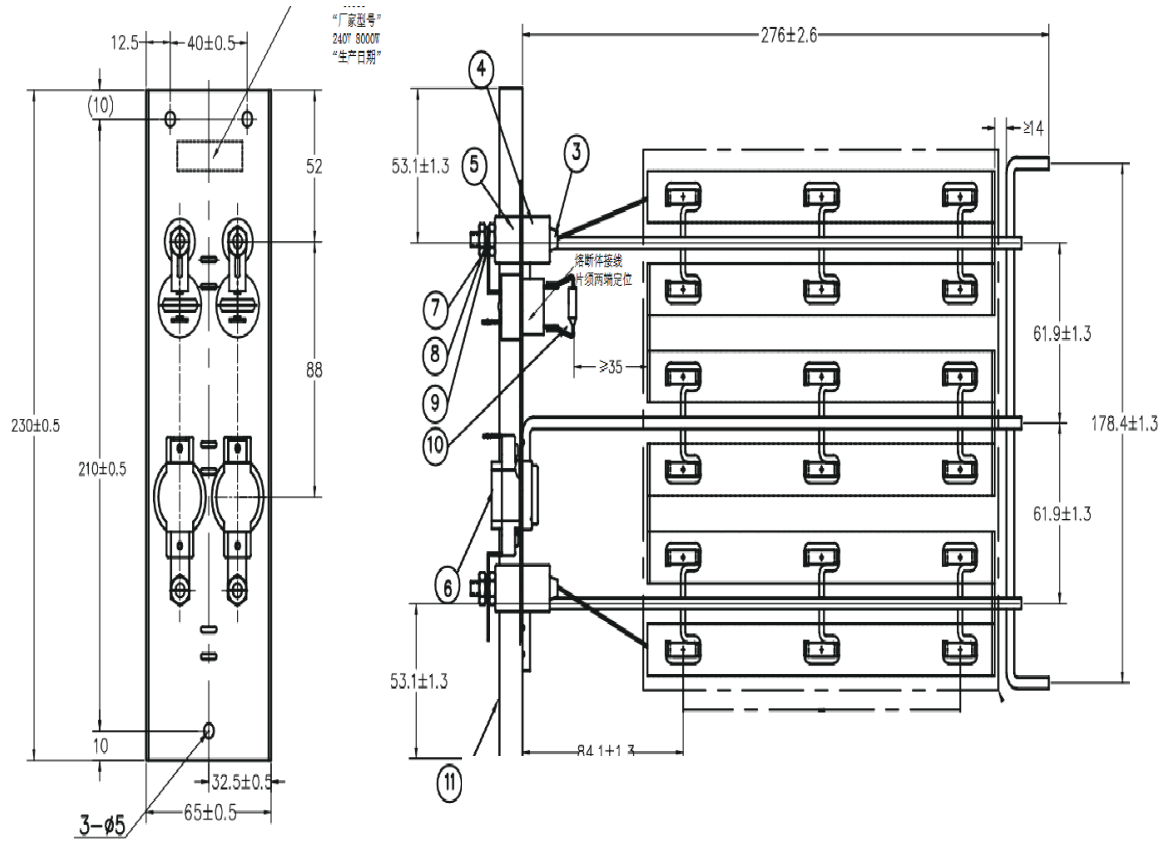


Fig. 4 – Dimensions (Size 8kw)

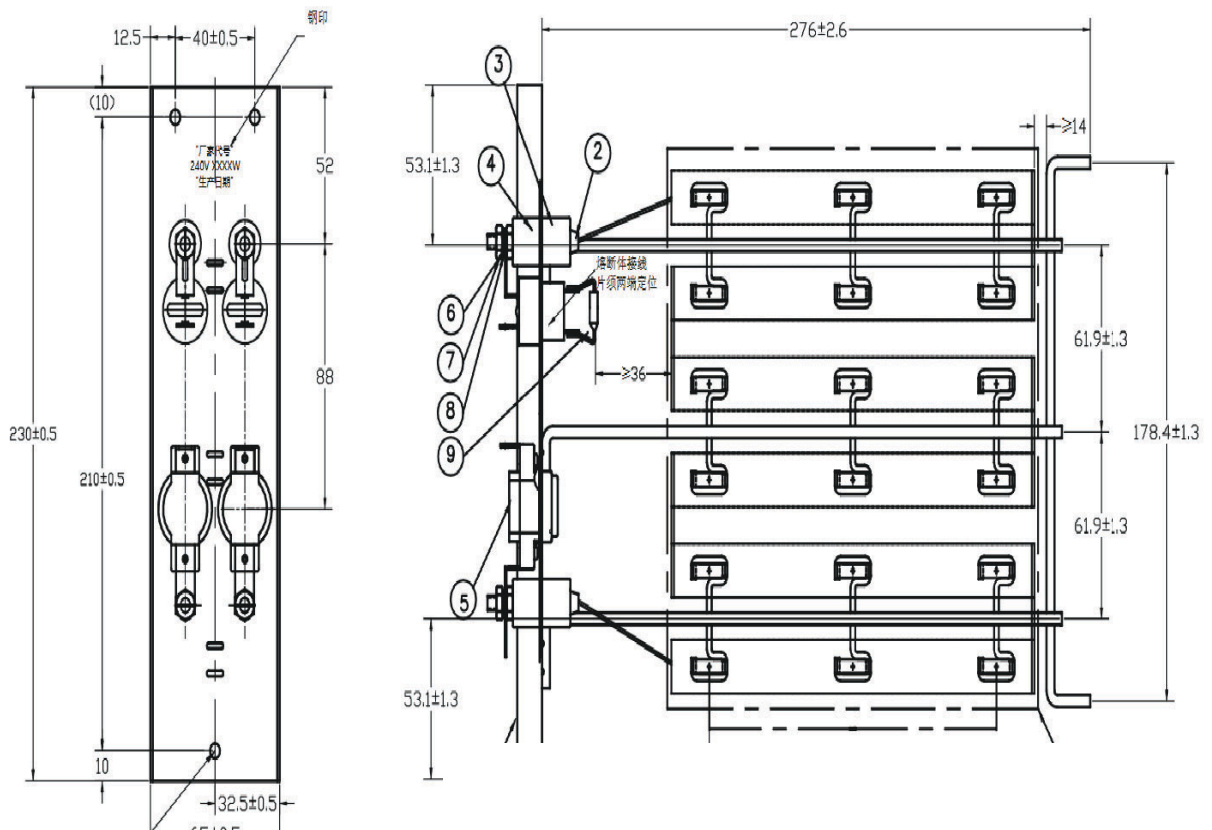


Fig. 5 – Dimensions (Size 10kw)

INSTALLATION

NOTE: Installation must be performed by a licensed contractor. Please make necessary precaution when performing the installation operation.

Installation Requirements

Installation of Auxiliary Electric Heat Module should be completed before installing the discharge ductwork to insure proper alignment of the inside support brackets. Before installation, check the list of electric auxiliary heat modules and physical objects. After transportation, check whether the electric heat module is damaged. If any damage is detected, contact the after-sales personnel immediately.

NOTE: A separate power source is required for an Auxiliary Electric Heater. These units do NOT support a SINGLE POINT electrical connection when using auxiliary heat.

PREPARATION FOR INSTALLATION

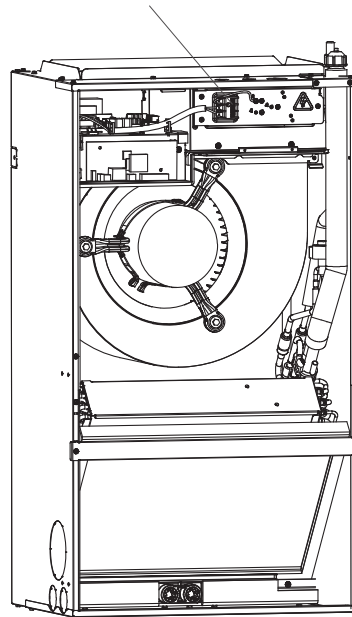
Before installation, confirm the electric auxiliary heat module and supplied accessories are complete and free of any damage. Do not attempt to install if damage is present.

! CAUTION

This electric auxiliary heat module is internally mounted in the air handler. **DO NOT** mount in the ductwork.

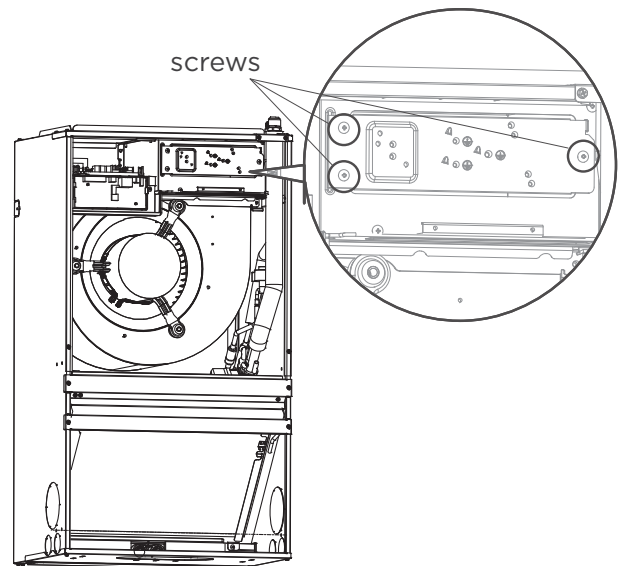
Step 3

Remove the wiring terminal block and grounding wires (if have) from the cover. Do not dismantle the connection at the other end of these wires.



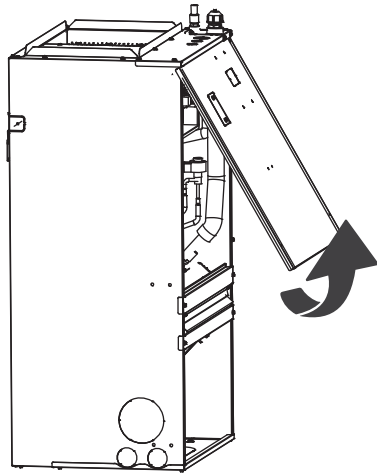
Step 4

Loosen the screws, and remove the electric auxiliary heating cover.



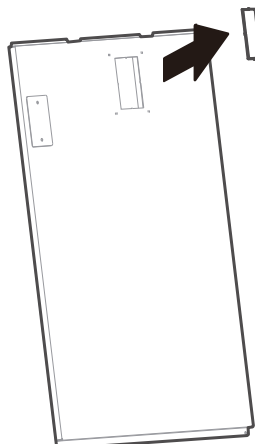
Step 1

Open the upper cover.



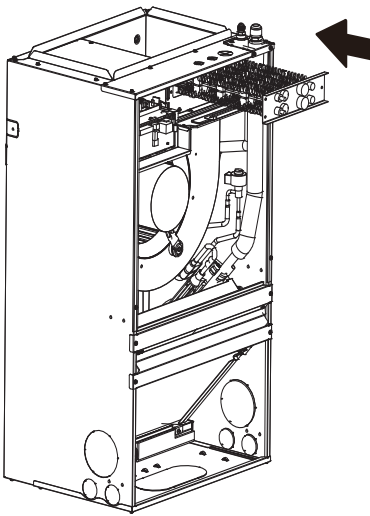
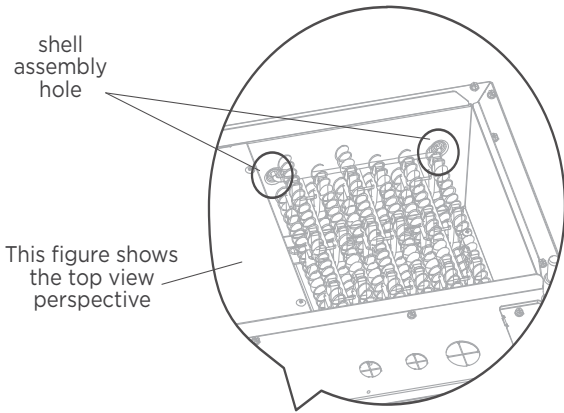
Step 2

Use tools to remove the knock-out holes of upper cover.



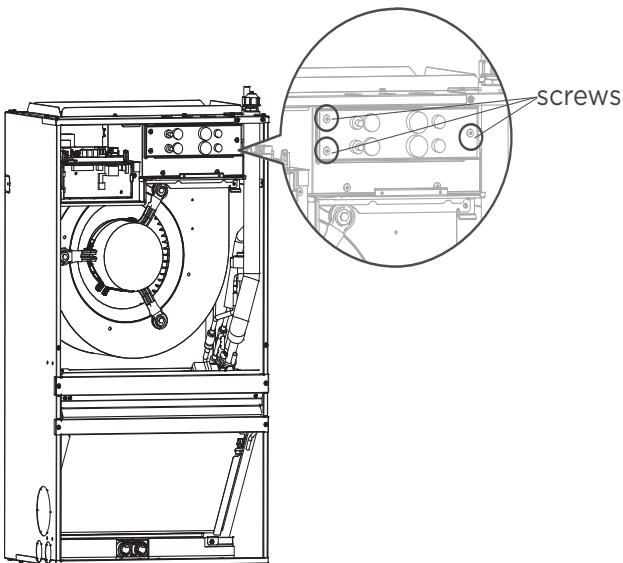
Step 5

Install the electric auxiliary heating assembly the front, and note that the support assembly must lock into the support holes in the back of the cabinet.



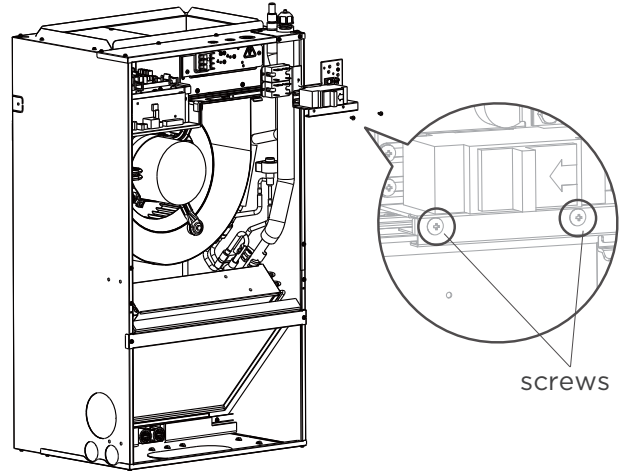
Step 6

Tighten the mounting screws.



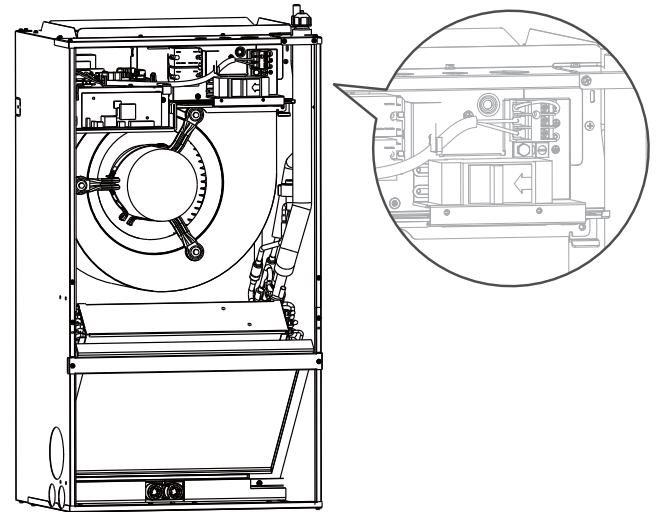
Step 7

Tighten the mounting screws.



Step 8

Fix the wiring terminal block and grounding wires (if have) that removed from the indoor unit to the corresponding positions on the electric auxiliary heater cover.



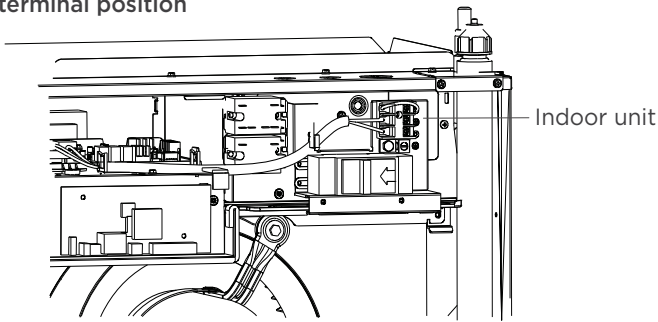
Indoor unit wiring has the following two methods:
 Option A – “Indoor unit powered separately” (Dual-point power):

The fan coil/indoor unit (IDU) is powered on its own circuit (115V or 208/230V, per model), and the electric heater has its own dedicated 208/230V circuit through the heater’s breaker. This is the factory-default arrangement.

Option B – “Power taken from behind the circuit breaker” (Single-point power):

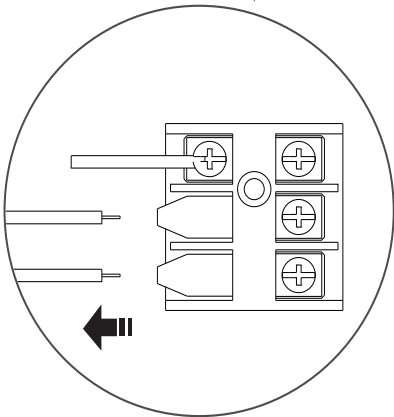
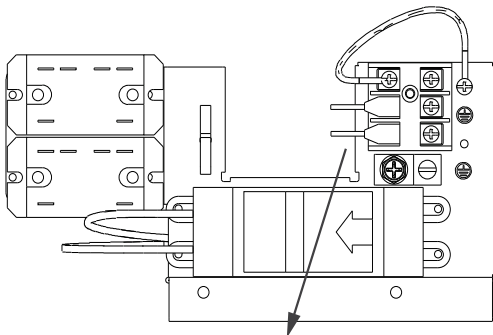
The IDU and heater are fed from one 208/230V supply routed through the heater’s breaker (the IDU taps power “behind”/downstream of that breaker). Only 208/230V is supported in this mode (no 115V single-point)

A) Indoor unit powered separately from the terminal position

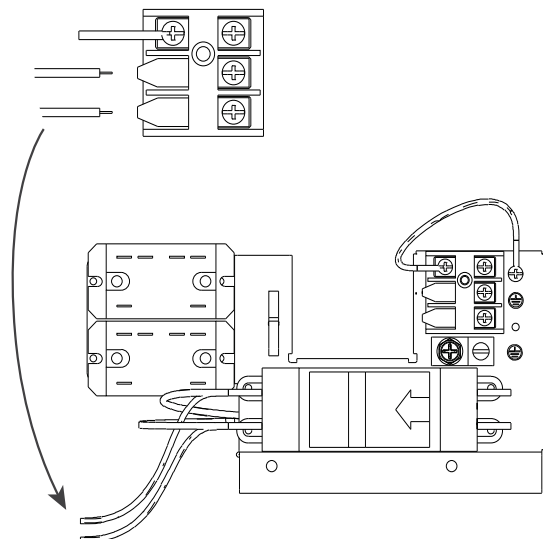


B) Power taken from behind the circuit breaker (only supports 208/230V)

1) Unplug the wires from the terminal block.



2) Connect the wires into the circuit breaker terminals.



Step 9

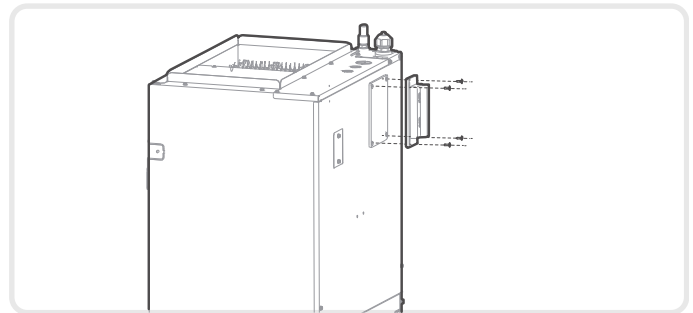
Wire according to the wiring nameplate. Apply the wiring diagram to the inside cover wiring is completed for future reference and maintenance.

NOTICE

For the indoor unit terminal block wiring method, please refer to the original power supply configuration and maintain consistency.

Step 10

Install the upper cover, and the silicone breaker cover.



Step 11

After installing the electric auxiliary heat module, apply the circuit breaker label near the silicone breaker cover that was just applied.

ELECTRICAL SPECIFICATIONS

NOTE: Electric auxiliary heating wiring diagram packed with the accessories. If branch circuit wire length exceeds 100ft, consult the local code to determine maximum wire length. Use 2% voltage drop.

After the electric heating wiring is connected, confirm the following before powering On:

- Check all wiring and ensure secure connection of all wiring.
- Ensure that wire size is properly selected per the local code.

Table 3 — Electrical Specification

Specifications	Number of Circuit Breakers	Number of Relays	Number of Power Cord Groups	Number of Power Cord Grounding Screws
3kw	1	1	2	2
5kW	1	1	2	2
8kW	1	2	2	2
10kW	1	2	2	2

Use copper wire only to connect unit. If other than uncoated (non-plated) 75°C copper wire (solid wire for 10 AWG and smaller, stranded wire for larger than 10 AWG) is used consult applicable tables of the National Electric Code (ANSI/NFPA 70).

NOTE: The specification may be different between different models, so refer to indoor unit's nameplate. Choose the cable type according to the local electrical codes and regulations. Please choose the right cable size according to the Minimum Circuit Ampacity indicated on the nameplate of the unit.

Table 4 — Auxiliary Heater Electrical Data

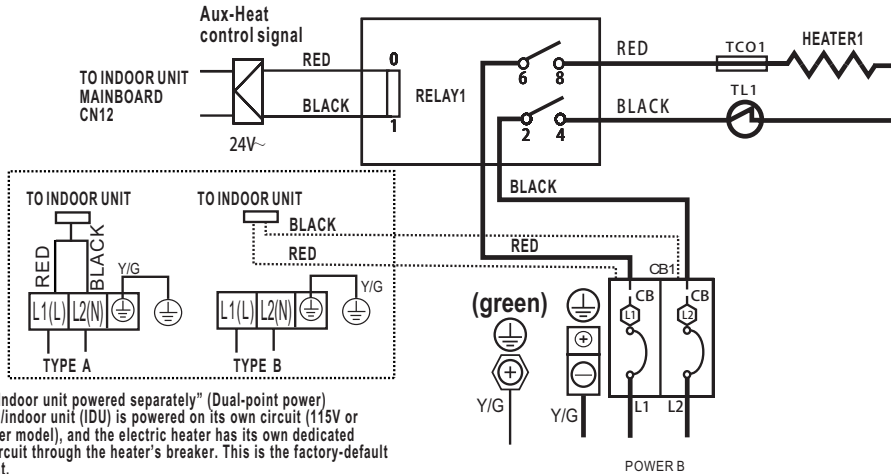
Heater Part Number	Heater kW	Internal Circuit Protection	Circuit 1 208/230V		
			Heater Amps	MCA (1)	MOP (2)
EHKME03KN	3	Circuit Breaker	10.8 / 12.0	14.0 / 16.0	15.0 / 20.0
EHKME05KN	5	Circuit Breaker	18.0 / 20.0	23.0 / 27.0	25.0 / 30.0
EHKME08KN	8	Circuit Breaker	28.0 / 32.0	37.0 / 42.0	40.0 / 45.0
EHKME10KN	10	Circuit Breaker	36.1 / 40.0	46.0 / 53.0	50.0 / 60.0

WIRING DIAGRAMS

ELECTRIC AUXILIARY HEATING WIRING DIAGRAMS

3KW/5KW HEAT KIT

-  : THERMAL CUT-OUT
-  : THERMAL LINK, SELF-RESETTING



NOTE1: [Symbol]
This symbol indicates the element is optional. The wiring type of the actual unit shall prevail.

NOTE2:
PLEASE ATTACH THE NAMEPLATE TO THE COVER OF THE ELECTRIC CONTROL BOX. ALL THE ROUND HOLES LOCATED ON THE PLATE REPRESENT NUMBERS. PLEASE REFER TO THE INSTALLATION MANUAL FOR DETAILS.

NOTES: TO BE WIRED IN ACCORDANCE WITH NEC AND LOCAL CODES.

Round hole number	Relay number	Round hole number	Circuit breaker number
○	RELAY 1	○	CB1
○◇			
◇◇			
◇◇◇			
◇◇◇◇			

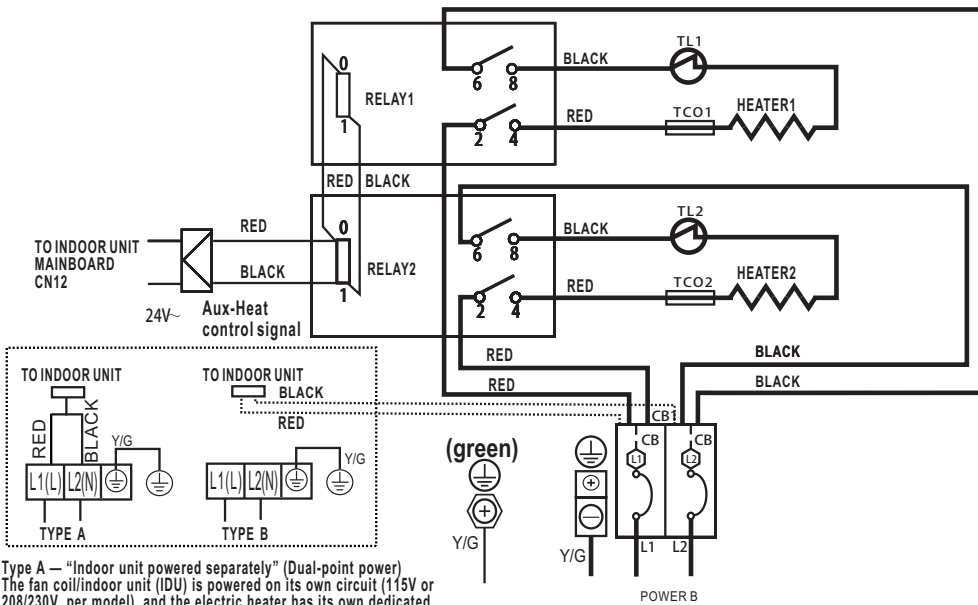
Type A — “Indoor unit powered separately” (Dual-point power)
The fan coil/indoor unit (IDU) is powered on its own circuit (115V or 208/230V, per model), and the electric heater has its own dedicated 208/230V circuit through the heater’s breaker. This is the factory-default arrangement.

Type B — “Power taken from behind the circuit breaker” (Single-point power):
The IDU and heater are fed from one 208/230V supply routed through the heater’s breaker (the IDU taps power “behind”/downstream of that breaker). Only 208/230V is supported in this mode (no 115V single-point)

Electric heating is only applicable to 208-230V.

8KW/10KW HEAT KIT

-  : THERMAL CUT-OUT
-  : THERMAL LINK, SELF-RESETTING



NOTE1: [Symbol]
This symbol indicates the element is optional. The wiring type of the actual unit shall prevail.

NOTE2:
PLEASE ATTACH THE NAMEPLATE TO THE COVER OF THE ELECTRIC CONTROL BOX. ALL THE ROUND HOLES LOCATED ON THE PLATE REPRESENT NUMBERS. PLEASE REFER TO THE INSTALLATION MANUAL FOR DETAILS.

NOTES: TO BE WIRED IN ACCORDANCE WITH NEC AND LOCAL CODES.

Round hole number	Relay number	Round hole number	Circuit breaker number
○	RELAY 1	○	CB1
○◇	RELAY 2		
◇◇			
◇◇◇			
◇◇◇◇			

Type A — “Indoor unit powered separately” (Dual-point power)
The fan coil/indoor unit (IDU) is powered on its own circuit (115V or 208/230V, per model), and the electric heater has its own dedicated 208/230V circuit through the heater’s breaker. This is the factory-default arrangement.

Type B — “Power taken from behind the circuit breaker” (Single-point power):
The IDU and heater are fed from one 208/230V supply routed through the heater’s breaker (the IDU taps power “behind”/downstream of that breaker). Only 208/230V is supported in this mode (no 115V single-point)

Electric heating is only applicable to 208-230V.

Fig. 6 – Wiring Connection (Power for Indoor Unit)