此面内容外协无需印刷，供北美业务和制单按照客户实际信息进行内容添加和修改，生成客牌说明书参考。

北美认证安规要求，FCC要求红外遥控产品必须随附FCC SDOC文件，请将如下模板内容放到说明书内容最前面或者封底地方：

1. 遥控器名称和型号

2.产品符合PART 15的说明

3.美国代理商的名字，地址，联系方式（根据客户实际信息填写）

参考模板如下：

Supplier's Declaration of Conformity
Per FCC Part 2 Section 2.1077

Unique Identifier: (e.g., Trade Name, Model Number)

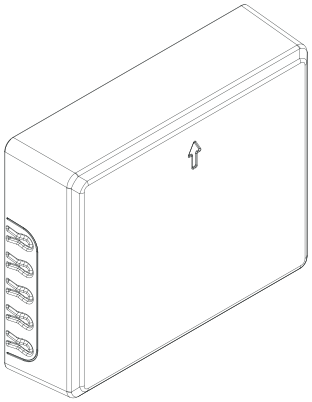
Responsible Party – U.S. Contact Information
Company name:*****
Street Address: *****
City, State： *****
Postal Code： *****
United States： *****
Telephone number or internet contact information： ***

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

A-COIL Mini Interface

INSTALLATION/ APPLICATION MANUAL

24V AC~60Hz



IMPORTANT NOTE:

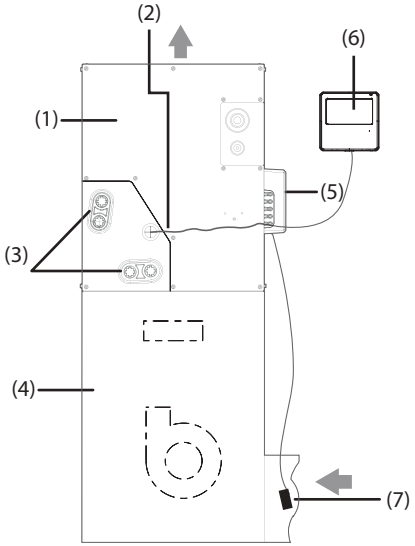
Read this manual carefully before installing or operating your new A-COIL Control Box Adapter. Make sure to save this manual for future reference.

INSTALLATION MANUAL

Read this manual

Inside you'll find many helpful hints on how to use and maintain your air conditioner properly. Much more preventive maintenance can reduce the cost of time and money by users. These instructions may not cover every possible condition of use, so common sense and attention to safety is required when installing, operating and maintaining this product.

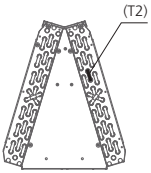
1. SYSTEM INTRODUCTION



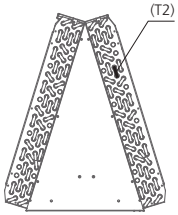
(1). A-COIL
(2). Pipe temperature sensor（T2）
(3). Condensate drain connection
(4). Furnace
(5). Control box
(6). Wired wall controller
(7). Room temperature sensor（T1）

NOTE: The 1/2-inch wiring holes on the box needs to be connected to standard conduit fitting and conduit (flexible or rigid).

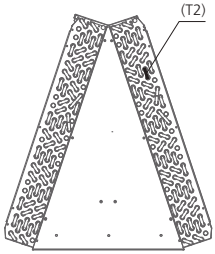
Position of the pipe temperature sensor(T2)



(3-row evaporator)



(4-row evaporator)



(5-row evaporator)

⚠ WARNING

- The power supply of the Mini Interface must meet the requirements of safety isolation.
- Before obtaining access to terminals, all supply circuits must be disconnected.
- Risk of electric shock. Can cause injury or death. Disconnect all remote electric power supplies before servicing.
- The electronic control board only provides control signals and does not drive high-power loads. The external load power cannot less than 15W.

2. THE CONTROL BOX ADAPTER

2.1 Main functions of the control box

(1) Communicates the difference in space temperature and space setpoint temperature to the control that sets compressor speed;
(2) Provides a signal to the indoor fan to set fan speed appropriate for compressor staging;

Features:

- The control box is connected to the outdoor unit via RS485 communication and to the furnace via 24V control.
- It also supports wired controller and thermostat control.
- Room temperature sensor and pipe temperature sensor are equipped as standard.

⚠ WARNING

- Wires must be properly sized according to the NEC/NFPA 70, CEC and all prevailing codes, ordinances and standards.
- All conductors must be installed with a strain relief eliminating stress on the wire following installation which may result in wire damage and/or overheating with a potential for fire.
- Installation must be performed in accordance with the requirement of NEC and CEC by authorized personnel only.
- All wiring to be rated for the control box amperage rating.
- All wiring installed to meet general industry standards and practices.
- Do not install adapter near flammable liquids or gases.
- Do not operate the unit with wet hands, as this could lead to electrical shock.

⚠ CAUTION

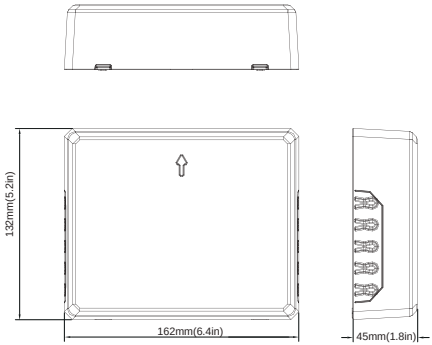
- When connecting with RS485 communication to the outdoor unit, shielded wire must be used and grounded at one end only.
- When using shielded wire the cable should be grounded at one end to reduce EMI.
- T1 sensor cable shall not exceed 23′ (7 m).

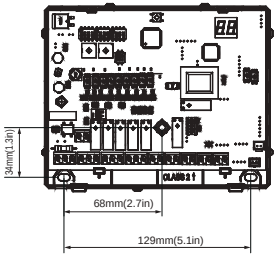
Read this manual carefully before installing or operating your new air conditioning unit. Make sure to save this manual for future reference.

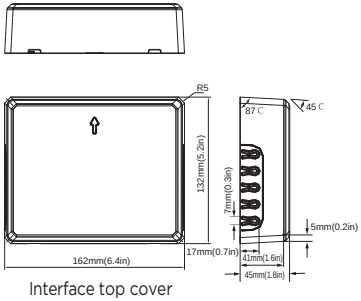
2.2 Ensure you have the following parts

No	Name	Quantity	Remarks	No	Name	Quantity	Remarks
1	Control box	1		6	Ferrite Clamp	1	
2	Screws	3	M4*25 (For mounting on the wall)	7	Coil Temp. Sensor (T2) (1.6m)	1	
3	Screws	4	M4*16	8	Zip tie	3	
4	Anchors	3	For mounting on the wall	9	Room Temp. Sensor line (T1) (5m)	1	
5	Room Temp. Sensor (T1)	1	For connecting the sensor				

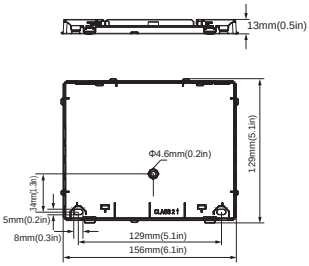
3. DIMENSIONS







Interface top cover



Interface bottom cover

Name	Materials	Wall thickness
Interface top cover	ABS	2.5mm
Interface bottom cover	PC/ABS 5003	2.5mm

4. INSTALLATION METHOD

4.1 Choose Install Location

Priority should be given to installing on the front of the coil, or you can choose to install it on the side or on nearby walls as needed.

Figure 1: Installed on the side of the coil.

Figure 2: Installed on the wall of the coil attachment.

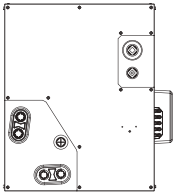


Figure 1

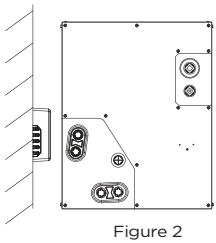
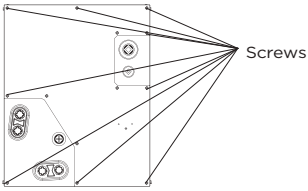


Figure 2

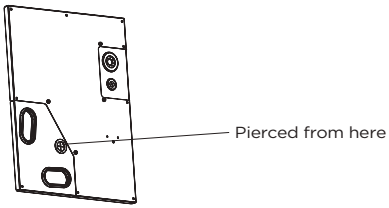
4.2 Dismantling panels

Remove the screws around the front, and the screws in the middle do not need to be removed



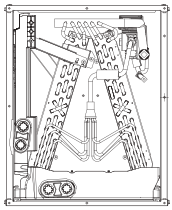
4.3 Processing through holes

Use a screwdriver or other sharp tool to machine holes in the wire passing rubber so that the sensor wire can pass through. This interface can be use with an older version of the Midea coil, pls add this mention. (If your coil doesn't have this hole you can use one of the drain plug.)



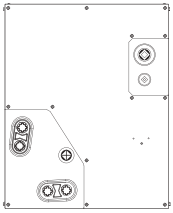
4.4 Fixed Temperature Sensor

Use a temperature sensing sleeve and T2 temperature sensor to fix it. The specific fixing position is explained on the first page of the component.



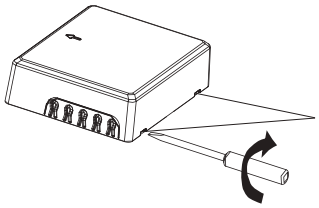
4.5 Closing the panel

Fix the screws securely.



4.6 Dismantling the control box

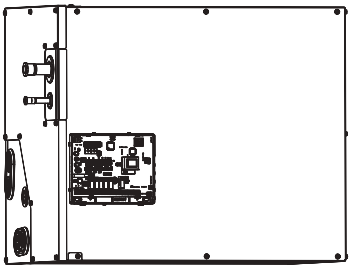
Using a screwdriver, pull at the two positions shown in the diagram.



Using a flat-head screwdriver, insert the two marked positions and gently rotate the screwdriver to open the cover.

4.7 Fixed Box

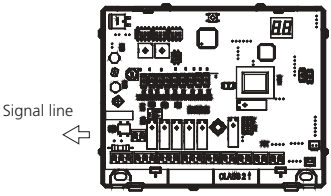
Fix 3 screws, 2 of which require drilling.



4.8 Wiring.

The power to the unit must be disconnected before any wiring. Be sure to show application of ferrite clamp and room temp sensor and cable. Make note to review the different application (scenarios) options for proper wiring. Make sure strain relief and proper conduit are used when connecting to the box, recommended use of metal-clab cable.

NOTE: Use copper wire only.Separate the power supply leads and communication leads by the strain relif or segregate the power supply leads from communication leads.



LINES GAUGE		
OUTDOOR-INDOOR SIGNAL LINE	LINE DIAMETER(AWG)	20
24V SIGNAL LINE	LINE DIAMETER(AWG)	18

RATINGS:

Electrical –INPUTS:

Input Type	Input Rating	Terminals	Recommend Wire Range / Torque
Power Input	24 V ac, 60 Hz, 150mA, Class 2	Terminal Block CN1-3(R), CN1-2(C)	14-22 AWG / 0.5 N.m
Remote Control Signal Input	12 V DC, SELV	CN2	14-22 AWG / 0.5 N.m

COMMUNICATION:

Type	Rating	Terminal	Recommend Wire Range / Torque
Communication Between Indoor and Outdoor Unit	5 V DC, Class 2, Limited Energy (≦ 15 W)	CN17	14-22 AWG / 0.5 N.m
Communication Between Data Conversion Board and External Thermostat	24 V AC, 60 Hz,Class 2	CN4, CN6, CN11	14-22 AWG / 0.5 N.m
Communication Between Data Conversion Module PWB and Centralized Controller	5 V DC, Class 2	CN3	14-22 AWG / 0.5 N.m
External Communication	18 V DC, Class 2, Limited Energy (≦ 15 W)	CN19	14-22 AWG / 0.5 N.m

OUTPUTS:

Type	Rating	Terminal	Recommend Wire Range / Torque
Control Device for Furnace (Relay RY7, RY8)	24 V AC, 60 Hz,Class 2, General Use(Signal Use)	CN9	14-22 AWG / 0.5 N.m
Control Device for Furnace (Relay, RY9, RY10)	24 V AC, 60 Hz,Class 2, General Use(Signal Use)	CN10	14-22 AWG / 0.5 N.m
Control signal of UV LED relay (Relay, RY11)	24 V AC, 60 Hz,Class 2, General Use(Signal Use)	CN43	14-22 AWG / 0.5 N.m

4.9 Cut off the cover wiring port

The wiring method can be installed as shown in the diagram

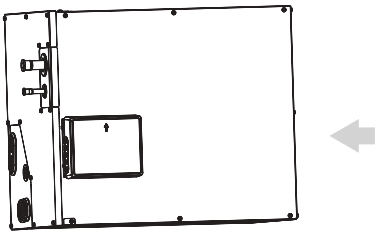
Use pliers to cut the upper cover, and cut the left position according to the diagram.

Close the cover photo

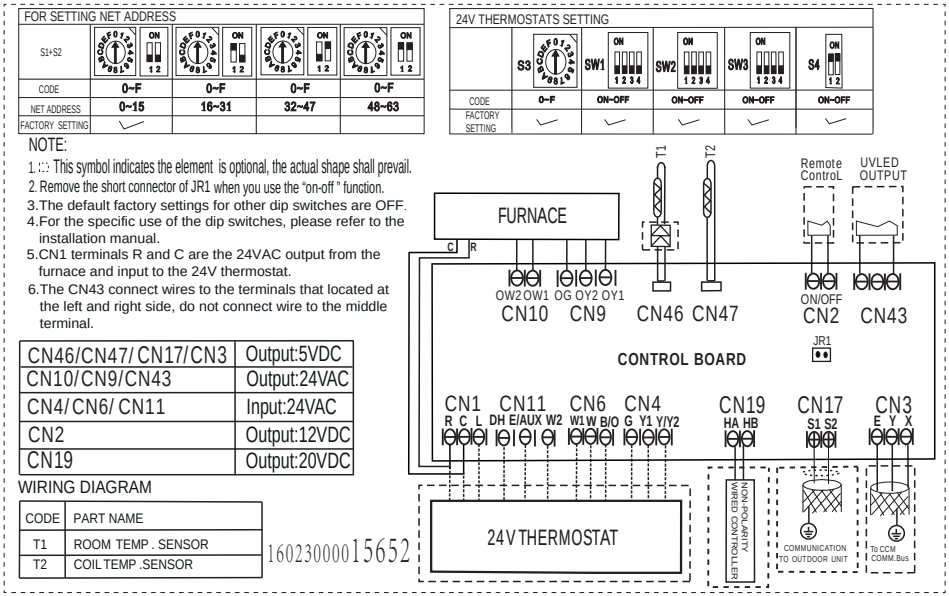
Cut off the appropriate part according to the position for wires outlet. If it is a single wire, you can cut a single wire hole, if there are multiple wires, you can cut off the cover along the maximum outline.

4.10 Close the lid

Close the cover to complete the installation of the control box.



5. ELECTRICAL WIRING



6. CONTROL SIGNALS TO THE FURNACE

Control signals to the furnace are the standard thermostat control signals R,C,OW1,OW2, OG, OY1 and OY2.

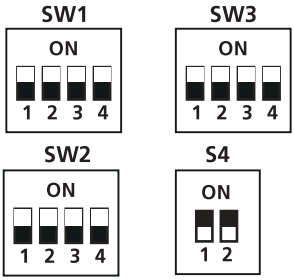
Connector	Usage
R	Provides 24VAC power from the furnace to the board.
C	The 24VAC common wire between the furnace and the board.
OW1	First stage of furnace command line from the board to the furnace. If the furnaces that only have a W and do not have a W2, connect OW1 to the W of the furnace and make no connection with the OW2 signal wire.
OW2	Second stage of furnace command line from the board to the furnace. OW2 cannot be ON unless OW1 is already ON.
OY1/OG	For 1-speed configuration, connect the OG signal to G of the furnace. For 2-speed configuration, connect the OG signal to G of the furnace and connect the OY1 signal to Y1 of the furnace.
OY2	For 1-speed configuration, connect this signal to Y of the furnace. In this configuration, the OY2 signal turns on when fan is requested while in Cool mode or Heat mode using the heat pump. For 2-speed configuration, connect this signal to Y2 of the furnace. In this configuration, the OY2 signal turns on as follows: In Fan mode, Cool mode or Heat mode with HP when high speed fan is requested. In Auto Fan and Cool mode, the signal goes to high speed when the difference between room temperature and set point temperature is more than or equal to 1.5° C. The signal goes back to low speed when the temperature difference is less than 1° C. In Auto Fan and Heat mode with the HP, the signal goes to high speed when the difference between room temperature and set point temperature is less than or equal to -1.5° C. The signal goes back to low speed when the temperature difference is more than 0° C.

In addition:
Room temperature sensor to be installed in the return air
Duct temperature sensor to be installed on the COIL as specified

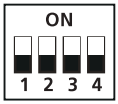
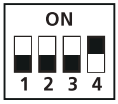
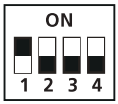
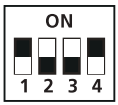
7. DIP SWITCH DEFINITIONS

Function DIP switch settings:

The 24V thermostat mode needs to refer to the following settings:



Function combination table of SW1-1 and SW1-4:

SW1	Control type
	Wired controller/ 24V thermostat
	Wired controller
	24V Thermostat
	24V Thermostat

Control Box Dial code

No.	Dial Code	Control Scenario	Function	ON	OFF	Note
1	SW1-2	1,2	Anti-cold blow protection option	NO	[Default] YES	
2	SW1-3	1,2	Single cooling / heating and and cooling options	Cooling	[Default] Cooling & Heating	
3	SW2-1	2	Temperature differential to active first stage furnace heating for HP+furnace mode.	4℃	[Default] 3℃	
4	SW2-4	1	Compressor	The operation of heat pump is limited by the outdoor temperature, and the operation of furnace heat is not limited.The system makes judgments according to the following rules: 1) The compressor can be operated when the outdoor temperature is ⩾S3 DIP switch temperature +2 °C. 2) The compressor cannot be operated when the outdoor temperature is lower than the S3 DIP switch temperature.	[Default]The operation of heat pump is limited by the outdoor temperature, and the operation of furnace heat is not limited. The system makes judgments based on the following rules: 1) The compressor cannot be operated when the outdoor temperature is lower than the S3 DIP switch. 2) The compressor can be operated when the outdoor temperature is ⩾S3 DIP switch temperature +2 °C.	SW2-4 and S3 need to working together
5	SW2-4	2	Compressor/ Auxiliary heat outdoor ambient lockout	The operation of heat pump is limited by the outdoor temperature, and the operation of auxiliary heat is not limited.The system makes judgments according to the following rules: 1) The compressor can be operated when the outdoor temperature is ⩾S3 DIP switch temperature +2 °C. 2) The compressor cannot be operated when the outdoor temperature is lower than the S3 DIP switch temperature.	[Default]Only one heat pump or auxiliary heat can be operated .The system makes judgments according to the following rules: 1) When the outdoor temperature is lower than the S3 DIP switch temperature,the compressor is not allowed to operated, but auxiliary heat is allowed to operated ; 2) When the outdoor temperature is ⩾ S3 DIP switch temperature +2(°C), the compressor can be operated, but auxiliary heat cannot be operated.	
6	Rotary Switch S3	1,2	Set outdoor temperature Limitation (for auxiliary heating or compressor)	Table A		

7	SW3-1	1	system automatically stages up capacity to satisfy set point. This adds 1 to 5°F to the user set point in the calculated control point to increase capacity and satisfy user set point.	30 minutes	[Default] 90 minutes	
8	SW3-2	1	Cooling and heating Y/Y2 temperature differential adjustment.	Compressor slower speed	[Default] Faster Compressor	Only affects compressor
9	SW3-3	2	Temperature differential to active second stage furnace heating for furnace only or HP+furnace mode.	5℃	[Default]4℃	
10	S4-1	1	Default ON	[Default] For single stage supplemental heat,W1 and W2 are connected	For dual stage supplemental heat, W1 and W2 are controlled independently	
11	S4-2	1	DH function selection	[Default] Dehumidification control not available	Dehumidification feature is enabled through thermostat	

Control Scenario	24V Tstat, S1+S2	1
	Wired Controller S1+S2	2

Table A

S3	S3 (°F)	S3 (°C)
0	OFF	OFF
1	-22	-30
2	-18	-28
3	-15	-26
4	-11	-24
5	-8	-22
6	-4	-20
7	3	-16
8	10	-12
9	18	-8
A	25	-4
B	32	0
C	36	2
D	39	4
E	43	6
F	46	8

8. DESCRIPTION OF WIRED CONTROLLER MODES

AUX	Single-furnace heating
Heat	HP heating
AUX+Heat	Furnace heating, HP heating automatic control

9. ERROR CODE

Display	Malfunction & protection indication
EH00	Indoor EEPROM malfunction
EH0A	Indoor EEPROM parameter error
EL01	Communication malfunction between indoor and outdoor units
EL11	Communication malfunction between main unit and secondary units
EH12	Main unit or secondary units malfunction
EC50	Outdoor temperature sensor error
EC51	Outdoor EEPROM malfunction
EC52	Condenser coil temperature sensor (T3) malfunction
EC53	Outdoor ambient temperature sensor (T4) malfunction
EC54	Outdoor unit exhaust temperature sensor error
EC0d	Outdoor unit malfunction or protection
EH60	Indoor room temperature sensor T1 error
EH61	Indoor evaporator coil temperature sensor T2 error
EC07	Outdoor DC fan speed malfunction
EH0b	Indoor PCB and display board communication error
EHb3	Conmunication malfunction between wire and master control
FL09	New and old platform match malfunction
PC00	Inverter module (IPM) protection
PC01	Over high voltage or over low voltage protection
PC02	High temperature protection of compressor top/ IPM temperature protection
PC04	Inverter compressor drive error
PC60	Discharge high temperature error
PC03	Pressure protection
PC0L	Low temperature protection of outdoor unit

SPECIFICATIONS			
MODEL NUMBER	US1-KFR70A/N1TA18-A.ZY001. JD.T.NK.DK1.1	TEMPERATURE LIMITS OF MOUNTING SURFACES (Ts)	-22-122°F
POWER SOURCE	24V ac-60Hz	PROTECTION AGAINST ELECTRIC SHOCK	Class 2
INPUT CURRENT	150mA		
LOAD TYPE	GENERAL USE (SIGNAL USE)		

The design and specifications are subject to change without prior notice for product improvement. Consult with the sales agency or manufacturer for details. Any updates to the manual will be uploaded to the service website, please check for the latest version.

QS002UI-External controller(A-coil)
16100101008962
20240801

此面无需印刷

技术 要求：

1. 双胶纸(说明书)80g非E项目大度
2. 尺寸：A5
3. 颜色：黑白
4. 注意：排版时注意页码数字都是居中的，以便翻阅
5. 装订。