User's Manual for KW-86J1 Wire Controller

（V1.0）

- Please carefully read the Manual before using this product.
- Please keep its backup after reading it.

Dear user,

You are welcome to buy and use our product! We are grateful to you for having your trust in our company! We are willing to create a comfortable and healthy living space for you through our sincere services and you are welcome to put forward valuable opinions on our work.

Before using this product, please carefully read this Manual and keep it properly after reading it.

This Company is committed to constant improvement of products. Please understand no further notice in case of any change of this product!

Applicable Series: KW-86J1

1. Important Matters

• This Company is committed to constant improvement of products and will have no further notice in case of any change of this product.
• This Company bears no responsibility for any damage accident of this equipment due to being in any specific environment.
• It is prohibited to duplicate any part of this Manual without authorization.
• The eye-catching words (such as "Dangerous", "Warning" and "Notice") are used for indicating the degree of danger. Here are the eye-catching words and the corresponding definitions of their degrees of danger.

	Dangerous:	Any dangerous or unsafe circumstance which can cause any serous personal injury and even death.
	Warning:	Any dangerous or unsafe circumstance which may cause any serous personal injury and even death.
	Notice:	Any dangerous or unsafe circumstance which may cause any minor personal injury or damage any product or property.
	Note:	Any prompt or instruction for operation, maintenance or repair.

• The installation, maintenance and repair of this product should be done by the qualified professional personnel.
• If you have any question, please contact any of our distributor or service center designated by this Company.
• This Manual should be deemed to be one part of an air conditioning equipment and thus should be kept properly.

2. Inspection After the Arrival of Goods

• After receiving the equipment, it is necessary to check whether or not the equipment suffers transportation damage. If there is any damage on the surface or inside the equipment, it is necessary to immediately declare such damage in written form to the corresponding transport company.

• Please check whether or not the accessories are complete as per the packing list.

• Check the product model, electrical parameters (power supply, voltage and frequency) as well as accessories and then determine whether or not they meet the corresponding requirements.

The standard usage of this machine is seen in this Manual. Therefore, we suggest not using this machine in any other condition not specified in this Manual.

• The installation and service works must conform to the corresponding local standards, laws and regulations.

• In case of any problem, please contact the local agent.

3. Safety Summary

 **Dangerous**

• Please don’ t install this machine by yourself. Please entrust professional personnel or authorized distributor for installation. If you install this machine by yourself and your installation is improper, an electric shock or fire accident may occur.

- It is prohibited to operate this machine with wet hand(s) or drench it with water. otherwise, a serious electric shock or short circuit may occur.
- It is prohibited to touch or adjust the safety device in the equipment. Otherwise, a serious accident may occur.

- It is prohibited to open the shell of the equipment for repair when the power supply of main circuit is not cut off.
- It is necessary to use the specification-designated cables for wiring and reliably connect the cables in order to prevent them from being clamped by the shell.
- At the time of installation, please use the accompanying or designated components and parts. Otherwise, such accidents as electric shock and fire may occur.
- Please steadily install this machine onto a position which can bear the weight of this machine. Otherwise, this machine may drop and be damaged.
- It is necessary to power the equipment on and detect its electric leakage after installing it.

Warning

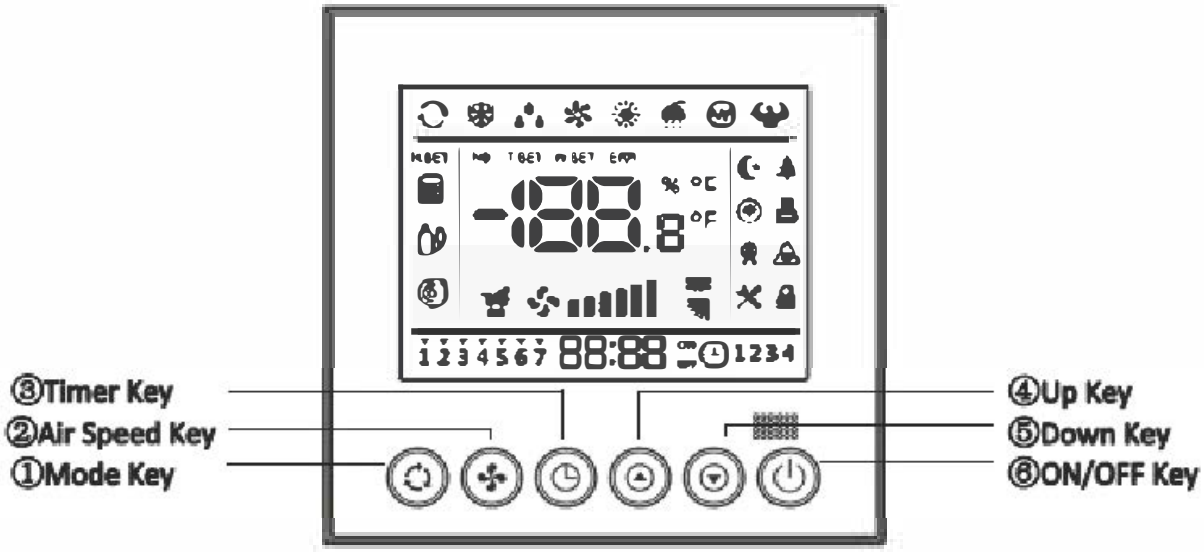
- Please don't install this machine in any of the following places. Otherwise, such installation may cause fire, machine deformation or going wrong.

* Any place splashing oil (including the machine oil) or any site with any inflammable gas.
* Any site with any gaseous sulfide (such as hot spring) or hypersaline or highly acidic or basic site in coastal areas.
* Any place at high temperature or with open fire. Otherwise, heat or fire may occur.
* Any place close to any electromagnetic wave machine. The electromagnetic wave may affect the remote control system and result in failure of the controller to run normally.
* Any place with much moisture or possibly soaked in water. Once water enters the centralized controller, the water not only may cause a electric shock but also may result in failure of internal electronic components.

- Please don't start such work as machine installation and wire connection before reading the Installation Manual.

Contents

I. An Introduction to Wire Controller



◆ **Description of Icons or Symbols**

	Sleep		Fresh		Door Card		Defrost
	Anti-freeze		Set		Child Lock		Economic
	Up/Down Swing		Left/Right Swing		Degree centigrade		Water Pump Sign
	Electric	ERR.	Error		Water Level		Fahrenheit
W.	Current Water	T.	Ambient Temperature	SET	Set Temperature		Compressor Sign
ON	Timer ON	OFF	Timer OFF				

Remark : If an icon goes on, it means "ON"; if such icon goes off, it means "OFF".

◆ **Dial Setting**

Definition	SW1-1	SW1-2	Description
Reserve	ON	-	/
	OFF	-	/
Reserve	-	ON	/
	-	OFF	/

II. Initial Power-on

2.1 It is necessary to initially power the wire controller on for self-check wherein all the icons or symbols go on for 3 seconds. During such period, all the key ad remote controller operations are invalid.

2.2 The wire controller is without the power-down memory function by default. If a user needs to use the power-down memory function, such user can see the detailed parameters corresponding to "P5" in Section 7.2 --- Parameter Setting.

III. Key Description

3.1 [ON/OFF] Key

3.1.1. Press the [ON/OFF] key once to start the controller; press the [ON/OFF] key once again to stop the controller.

3.1.2. Liquid Crystal Self-check:

Press the [ON/OFF] key to power the controller on for 5 seconds and then release such key; the controller enters self-check at the moment. The controller executes the liquid crystal self-check in the following sequence:

After the buzzer short sounds once, the following outputs successively motion (wherein the liquid crystal successively goes on from left to right and then go off.) After that, the controller exits from the self-check.

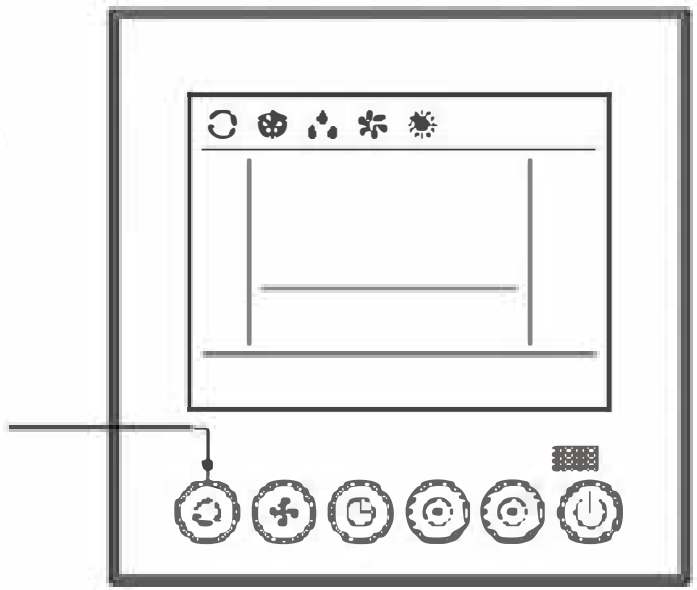
Notes: 1. The controller exits from the self-check status after it is powered off in the self-check status.

2. All the keys are invalid during the self-check.

3.2【Mode】Key

3.2.1 Mode Switch

On the startup interface, press the [Mode] key once when the selected mode icon normally goes on and other icons go off. The switch sequence is as shown in the right picture.

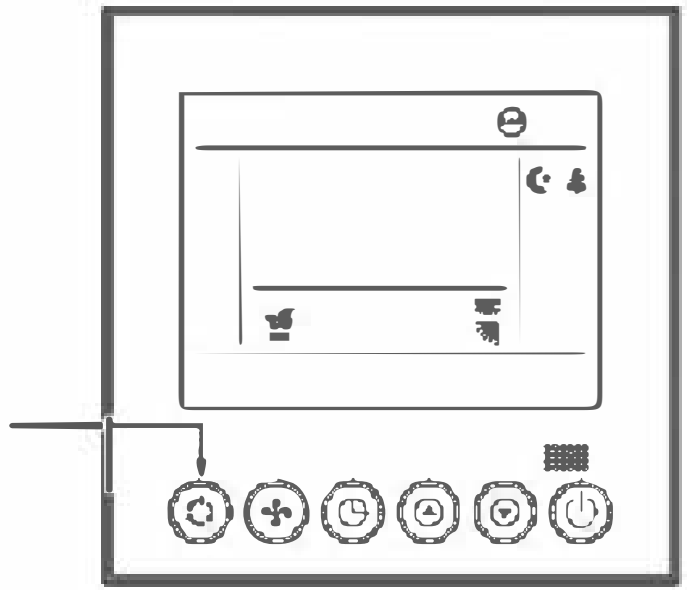


● The refrigeration machine is without the "Heat" icon.

● Automatic Mode: The controller with the power-down memory function can be powered on again after being powered down, re-judge the temperature and then re-execute the automatic mode; if the power-down memory function is not started, the controller will enter the standby mode.

3.2.2 Function Setting:

On the startup interface, long press the [Mode] key for over 5 seconds to enter the function setting interface; short press the [Mode] key when the selected function icon twinkles with the frequency of 1Hz and other icons act as per the actual status (if the status is ON, the icons normally go on; otherwise, the icons go off.)



3.3【▲】/【▼】Key

3.3.1. On the startup interface, press the [▲]/[▼] key once to set the temperature increase or decrease by 0.5℃;

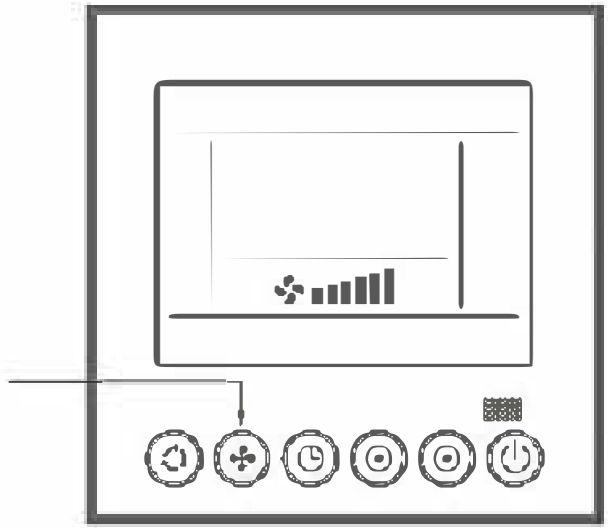
Note: The operations of [▲] and [▼] keys of fresh air machine are invalid;

3.3.2. Forced Defrosting

On the startup interface, set the wire controller to be in the heating mode and at the temperature of 16℃, and then finish the following 6 keys of operations within 5 seconds: "[▲]→[▼]→[▲]→[▼]→[▲]→[▼]". At the moment, the system successfully enters the forced defrosting and then the buzzer long beeps once.

3.4【Air Speed】Key

On the startup interface, press the [Air Speed] key once, the selected air speed icon normally goes on and other icons go off wherein the air speed switches in the cyclic sequence of low air speed → intermediate air speed → high air speed



- When the wire controller is initially powered on, its default air speed is low and the icon of low air speed is displayed.
- When the wire controller is at the time of automatic air, the air speed icon is successively displayed in the dynamic and cyclic sequence of low air speed → intermediate air speed→high air speed→low air speed.
- When the wire controller is at the time of automatic air, the air speed icon is successively displayed in the dynamic and cyclic sequence of low air speed → intermediate air speed→high air speed→idle→low air speed.
- If the air speed is of individual backup, the wire controller will display the last set air speed of the corresponding mode when it enters the same mode next time.

3.5.【Timer】Key

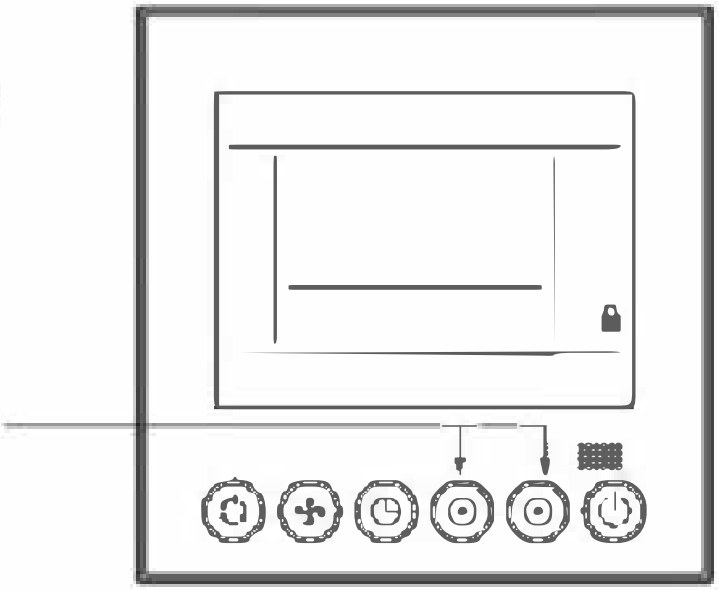
3.5.1. Continuously press the [Timer] key for over 5 seconds to enter the clock setting interface (See Chapter **V**---Clock Setting for details).

3.5.2. Press the [Timer] key once to enter the timer setting interface (See Chapter **VI**---Timer Setting for details).

IV. Auxiliary Functions

4.1 Child Lock

1. On the startup or shutdown interface, simultaneously press the [▲] and [▼] keys for over 5 seconds to enable the child lock when the child lock icon normally goes on.
2. When the child lock is valid, the operations of other keys are invalid but the icons twinkle with the frequency of 1Hz.

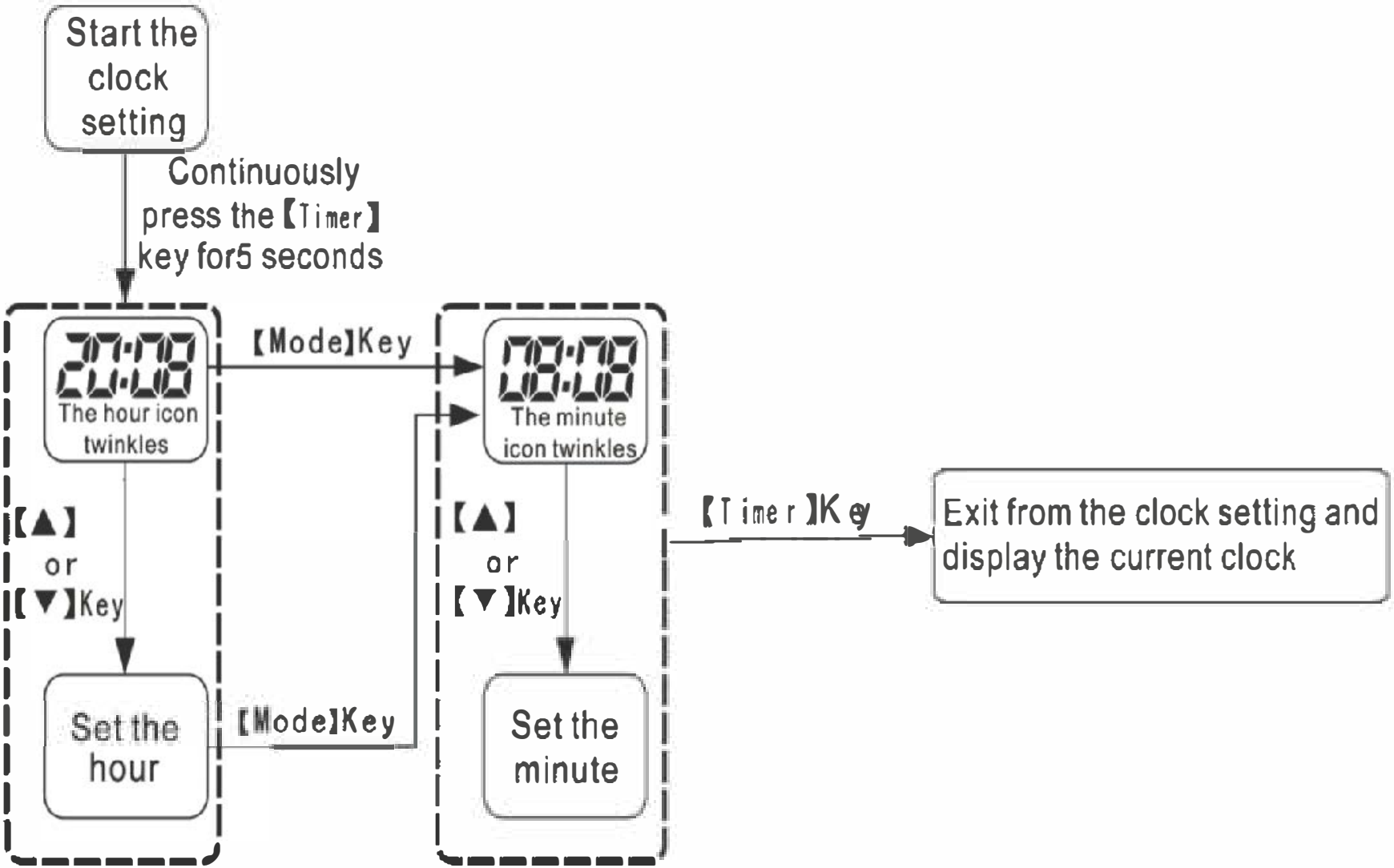


V. Clock Setting

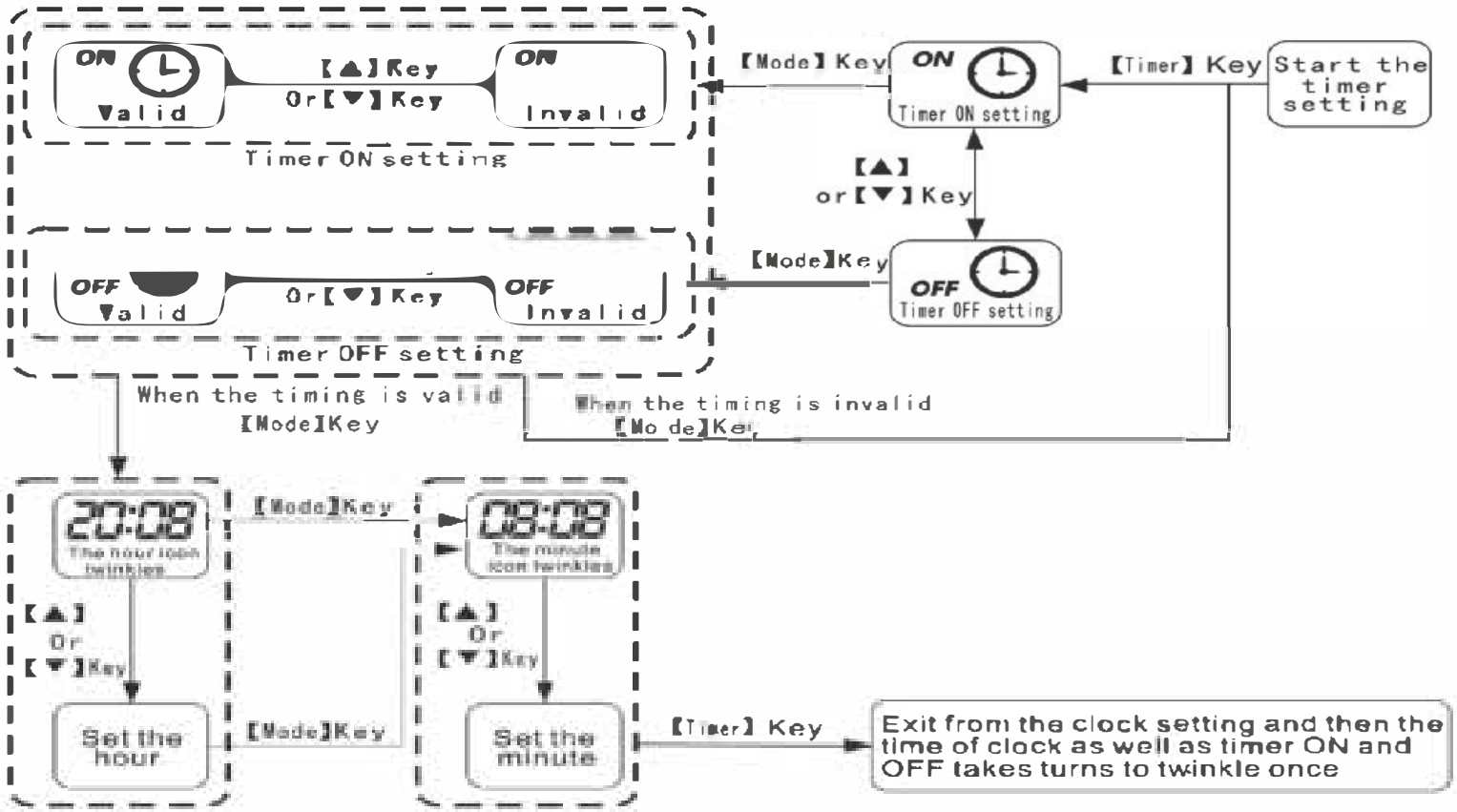
Set the period by pressing the [Timer] key and then exit from the clock setting with such setting saved;

Set the period by pressing the [ON/OFF] or [Mode] key and then exit from the clock setting with such setting not saved;

Set the status and if there are no key operations for 15 consecutive seconds, exit from the clock setting with such setting not saved.


Start the clock setting
Continuously press the【Timer】key for5 seconds
The hour icon twinkles
【Mode】Key
The minute icon twinkles
【▲】or【▼】Key
【▲】or【▼】Key
【Timer】Key
Exit from the clock setting and display the current clock
Set the hour
【Mode】Key
Set the minute

VI. Timer Setting



Set the period by pressing the [Timer] key and then exit from the clock setting with such setting saved ;

Set the period by pressing the [ON/OFF] or [Mode] key and then exit from the clock setting with such setting not saved;

Set the status and if there are no key operations for 15 consecutive seconds, exit from the clock setting with such setting not saved.

VII. Parameter Query/Setting

7.1 Parameter Query

◆ Continuously press the "[Mode]+[▲]" combination keys for 5 seconds to automatically enter the parameter query interface when the "Time Area-Hour" icon twinkles and displays the "Parameter Code" and "Temperature Area" displays the current "Parameter Value" corresponding to such "Parameter Code".

◆ When the parameter code twinkles, press the [▲] or [▼] key to switch the parameter code.

Parameter Code	Area Display	Parameter Name	Query the Current		Query Range
			Value to Query	Area Display	
01	Time Area-Hour	Indoor ambient temperature	Current value	Temperature Area	-30~150
02	Time Area-Hour	Aperture of expansion valve of the indoor unit	Current value	Temperature Area	0~500
03	Time Area-Hour	Temperature at the inlet of evaporator of the indoor unit	Current value	Temperature Area	-30~150
04	Time Area-Hour	Temperature in the middle of evaporator of the indoor unit	Current value	Temperature Area	-30~150

Parameter Code	Area Display	Parameter Name	Query the Current		Query Range
			Value to Query	Area Display	
05	Time Area-Hour	Temperature at the outlet of evaporator of the indoor unit	Current value	Temperature Area	-30~150
06	Time Area-Hour	Engineering number of the indoor unit	Current value	Temperature Area	/
07	Time Area-Hour	IP address of the indoor unit	Current value	Temperature Area	/
E1	Time Area-Hour	Historical Error 1	Err+**	Temperature Area	
E2	Time Area-Hour	Historical Error 2	Err+**	Temperature Area	
E3	Time Area-Hour	Historical Error 3	Err+**	Temperature Area	
E4	Time Area-Hour	Historical Error 4	Err+**	Temperature Area	
E5	Time Area-Hour	Historical Error 5	Err+**	Temperature Area	

7.2 Parameter Setting

- Continuously press the "[Mode]+[▼]" combination keys for 5 seconds to automatically enter the parameter query interface when the "Time Area-Hour" icon twinkles and displays the "Parameter Code" and "Temperature Area" displays the current "Parameter Value" corresponding to such "Parameter Code".
- When the parameter code twinkles, press the [▲] or [▼] key to switch the "Parameter Code"; press the [Mode] key to stop the "Parameter Code" from twinkling and enters the "Parameter Value" changing interface when the "Parameter Value" twinkles.
- When the parameter value twinkles, press the [▲] or [▼] key to change the "Parameter Value"; press the [Mode] key to save the "Parameter Value" and return to the "Parameter Code" twinkling interface.

Parameter Code			Query the Current		Query Range
Parameter Code	Area Display	Parameter Name	Value to Query	Area Display	
P1	Time Area-Hour	The indoor unit corresponding to the wire controller is the indoor unit in the master mode	SL	Temperature Display Area	SL: From the indoor unit
P2	Time Area-Hour	Clearing Away the Master Indoor Unit from the Set	00	Temperature Display Area	00: No action
P3	Time Area-Hour	Address Setting of Two-wire Controller	01	Temperature Display Area	01: Upper computer of RS485

Parameter Code			Query the Current		Query Range
Parameter Code	Area Display	Parameter Name	Value to Query	Area Display	
P5	Time Area-Hour	Power-down memory mode	Off	Temperature Display Area	On: Valid
			on		Off: Invalid
P6	Time Area-Hour	Temperature Unit Conversion	℃	Temperature Display Area	C: degree centigrade
			°F		
P7	Time Area-Hour	Selection of Ambient Temperature Sensing Bag	IL	Temperature Display Area	/
P8	Time Area-Hour	Modification Value of Return-air Temperature Sensing Bag	00	Temperature Display Area	-15℃~15℃
P9	Time Area-Hour	Modification Value of Return-air Temperature Sensing Bag	00	Temperature Display Area	-15℃~15℃
PF	Time Area-Hour	Thermal Aggregation Prevention	00	Temperature Display Area	00~60
PH	Time Area-Hour	Maximum Defrosting Duration	15	Temperature Display Area	00~20

VIII. Error Protection and Description

- When the system goes wrong or enters protection, the "ERR." Icon normally goes on and the "Temperature Area" twinkles and displays the current error or protection code.
- When there are multiple errors or protections simultaneously, the codes are displayed in the cyclic sequence of "Code 1 → Code 2 → ...Code 5"

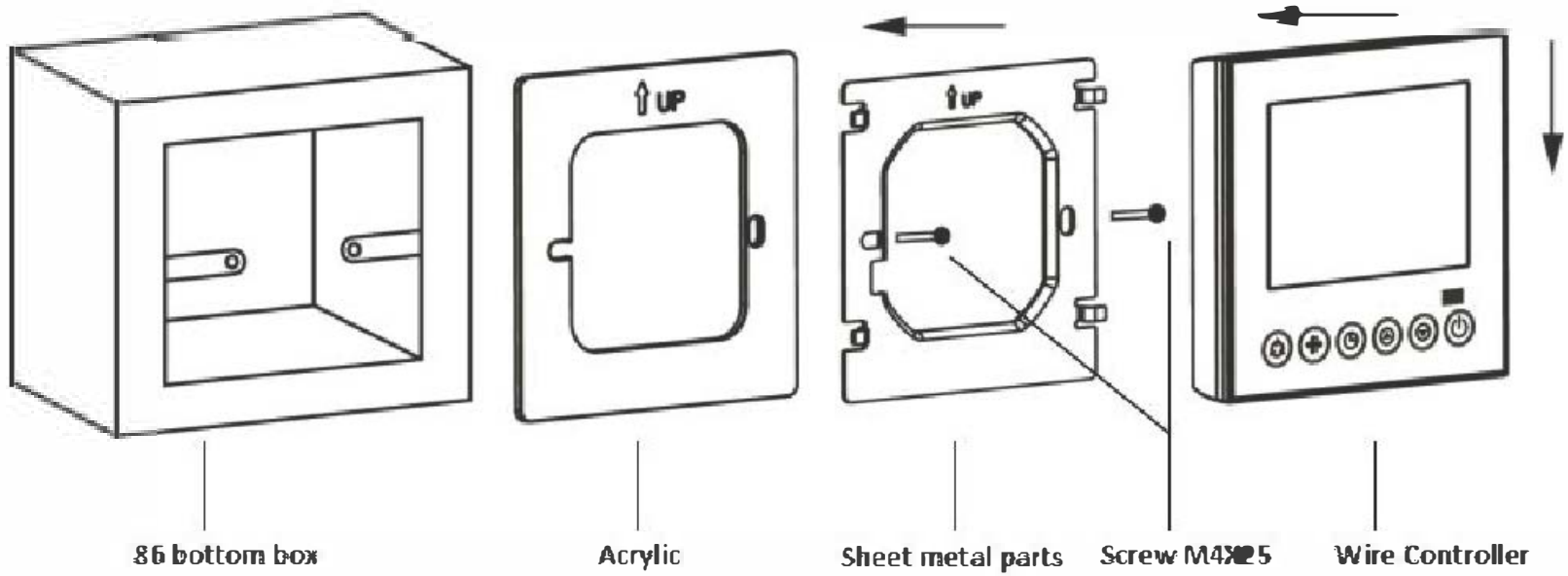
Classification	Code	Error Description
Error	E0	The Indoor-outdoor communication goes wrong.
	E1	The Room Temperature Sensor T1 goes wrong.
	E2	The Internal Coil Temperature Sensor T2 goes wrong.
	E3	The External Coil Temperature Sensor T3 goes wrong.
	E4	The outdoor unit goes wrong.
	E5	The model configuration processing (frequency conversion) goes
	E6	The indoor fan goes wrong and/or the communication between the indoor DC fan and the indoor main control panel goes wrong.
	E7	The Outdoor Temperature Sensor T4 goes wrong.
	E8	The exhaust temperature sensor (TP1 of variable-frequency compressor) goes wrong.
	E9	The variable-frequency module goes wrong.
	EA	The current sensor goes wrong.
	EH	The Return-air Temperature Sensor T5 goes wrong.
	EC	The outdoor communication goes wrong.

Classification	Code	Error Description
Error	EL	The outdoor low-temperature protection goes wrong.
	EE	The EEPROM goes wrong (The E2 of the outdoor unit goes wrong).
	EF	The outdoor fan goes wrong.
		The wire controller communication goes wrong.
	EP	The temperature switch at the top of compressor goes wrong.
	EU	The voltage sensor goes wrong.
	Eb	The communication between the main control panel and the display panel goes wrong.
	Ed	The EEPROM of main control panel goes wrong (The E2 of the indoor unit goes wrong)
	En	The indoor coil outlet temperature sensor goes wrong.
	b1	The ambient temperature sensor goes wrong.
	b2	The inlet pipe temperature sensor goes wrong.
	b3	The middle temperature sensor goes wrong.
	b4	The outlet pipe temperature sensor goes wrong.
	b5	The humidity sensor goes wrong.
	b6	The water temperature sensor goes wrong.
	b7	The indoor EEPROM goes wrong.
	b8	The swing motor goes wrong.
	b9	The MAC address of the indoor unit is abnormal.
	bA	The model dial is wrong.
	H0	The outdoor unit goes wrong (including protection) in an all-round way.

Classification	Code	Error Description
Error	C0	The CAN communication goes wrong in an all-round way.
	C1	Multiple main control panel errors
	C2	The number of outdoor unit modules is abnormal (Deficiency/increase)
	C3	The communication between the main control panel and the variable-frequency compressor drive goes wrong.
	C4	The communication between the main control panel and the variable-frequency fan drive goes wrong.
	C5	The communication between the indoor unit and the wire controller goes wrong.
Protection	P0	Module protection
	P1	Over/Under-voltage protection
	P2	Over-current protection (Variable-frequency compressor)
	P3	Outdoor unit protection
	P4	Exhaust high-temperature protection (Variable-frequency compressor or Slave F3)
	P5	Under-cooling protection in the cooling mode (Indoor unit coil temperature protection)
	P6	Over-heating protection in the cooling mode (Condenser high-temperature protection)
	P7	Over-heating protection in the heating mode (Indoor unit coil temperature protection)
	P8	Outdoor high/low-temperature protection

Classification	Code	Error Description
Error	P9	Drive protection (load abnormal)
	PA	The modes conflict and the top air-out board communication goes wrong.
	d1	Indoor fan protection
	d2	Auxiliary electric heating protection
	d3	Water full protection
	d4	Anti-freezing protection
	d5	The modes conflict.
	d6	The IP address of the indoor unit is abnormal.
	d7	The capacity dial is wrong.
	d8	The engineering numbers conflict.

IX. Installation instructions



The figure shows the installation diagram of the wire controller. The following problems should be paid attention to:

A. Before installation, please cut off the power supply of the strong wire embedded in the wall mounting hole. Live operation is not allowed in the whole installation process;

B. Pull out the four core shielding wire in the wall mounting hole, and pass the wire through the square hole of acrylic and sheet metal parts;

C. The acrylic and sheet metal parts are stacked together and pasted on the 86 bottom box surface, and the acrylic, sheet metal parts and the socket bottom box mounting hole are fixed together with the screw M4 * 25;

D. Insert the four core shielded wire into the socket of the wire controller, close the wire controller to the sheet metal part, and then buckle down to fix it.