OWNER S MANUAL

WIRE CONTROLLER OF AIR-CONDITIONER

MODEL: KJR-08B1/E

For correct installation, read this manual before starting installation . This manual may be subject to change without notice for purpose of improvement.

CONTENTS

SAFETY PRECAUTION

- Please read the safety precaution carefully before using. Do observe the following safety precautions,for they are very important.
- Before you come to the text, please be familiar with the following markers and icons, and comply with the precautions.

■ Marks

Marks	Indication
⚠ WARNING	The sign shows the risk of death or serious injury will be caused due to the wrong operation .
⚠ CAUTION	The sign shows the risk of injury or the damage to the property will be caused due to the wrong operation.

■ Icons

Icons	Indication
⊘	**FORBID** Followed by the detailed illustration
❗	**ENFORCE** Followed by the detailed illustration

Notes :

1. Injury means causing from the harm, burn and electrical shock , but not serious for the hospitalization.
2. The damage of material means the disrepair of property and material.

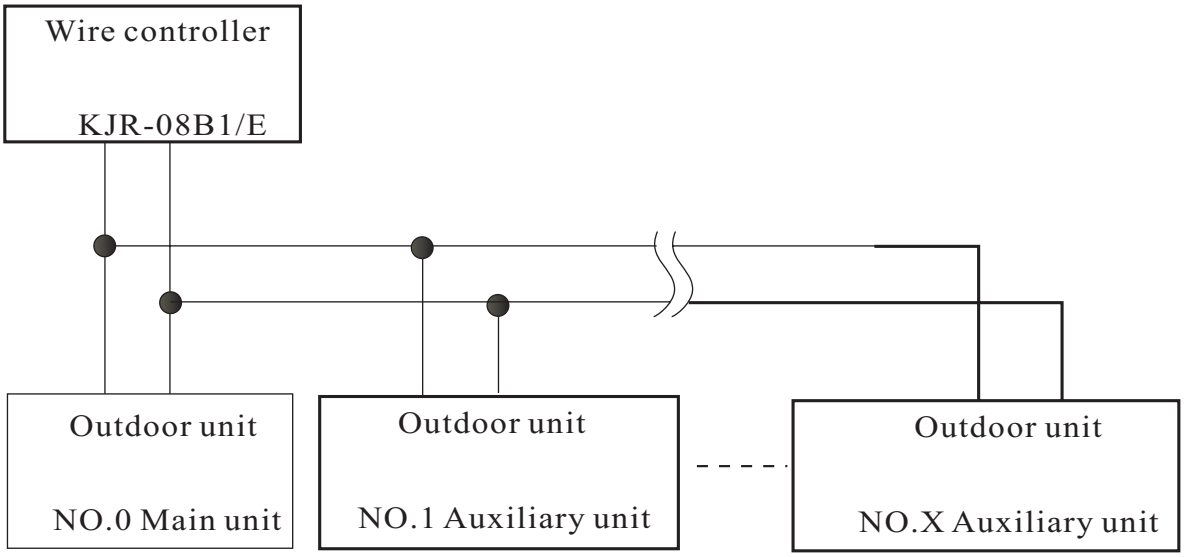
⚠ WARNING

INSTALLATION WARNING	❗ **Installation commitment**	**Please entrust the dealer or the professional person to do the installation.** Users can’t install the units by themselves, or the electrical shock or fire may be caused.
OPERATION CAUTION	⊘ FORBID	Do not spray inflammable liquid on the Wire Controller, or fire may be caused.
		Do not operate with wet hands . Do not let water go into the Wire Controller, or electric shock hazard may occur.
MOVE and REPAIR CAUTION	⚠ FORBID	If you want to move or re-install your Wire Controller, please contact with local dealer.
		Do not disassemble your Central Controller at will . If it is needed, please contact the local dealer. A random disassembly may cause abnormal operation or heating, which may result in fire.

BRIEF INTRODUCTION OF WIRE CONTROLLER

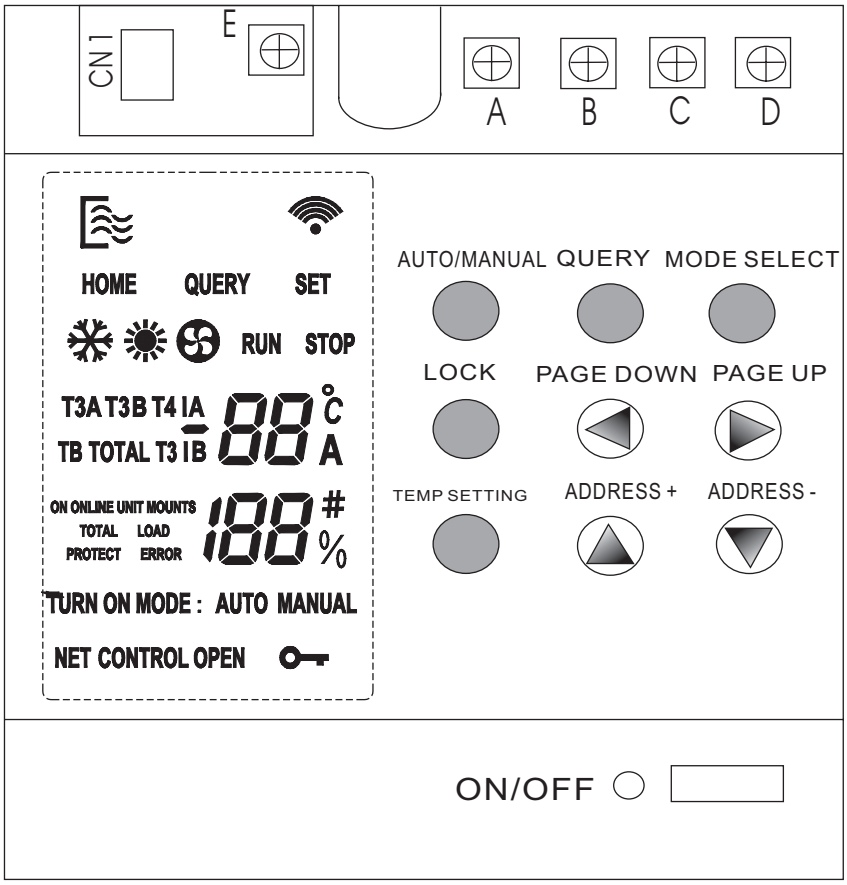
1. Basic operation conditions:
   1) Voltage input: 220V~±10%
   2) Alternating current frequency: 50Hz/60Hz
   3) Ambient Temp.: -10℃~+43℃
   4) Ambient humidity: RH40%~RH90%
   5) Available for air-cooled heat-pump module unit

2. Components of controlling system
   The controlling system consists of wire controller and electric control in outdoor unit, which is shown as following chart:



Centralized controlling the air-conditioner unit, the wire controller can send various controlling orders, set mode, receive and display the unit running data.

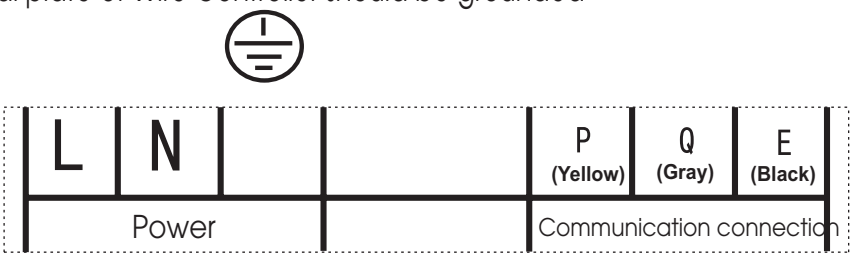
OUTLINE OF WIRE CONTROLLER AND WIRING TERMINAL



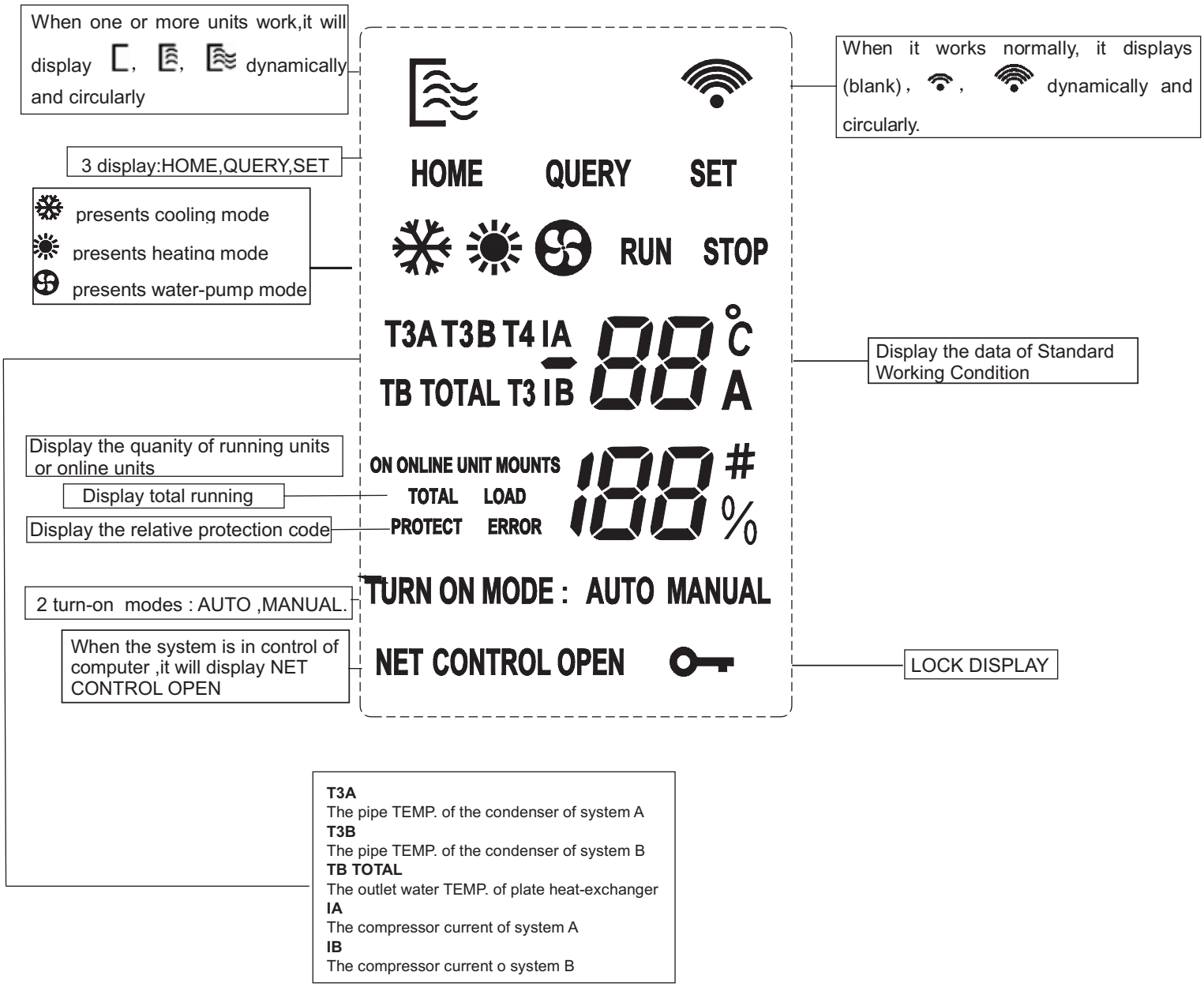
Note:

The Wiring Terminal P,Q and E on the back of Wire Controller are corresponding to the Terminal P、Q and E of Wiring Board in Main Module.

The metal plate of Wire Controller should be grounded

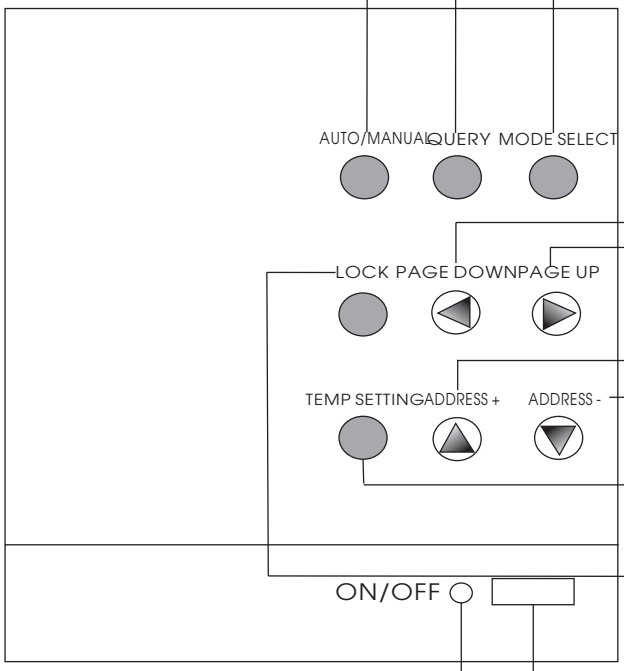


NAMES AND FUNCTIONS OF INDICATORS ON WIRE CONTROLLER



T3A
The pipe TEMP. of the condenser of system A
T3B
The pipe TEMP. of the condenser of system B
TB TOTAL
The outlet water TEMP. of plate heat-exchanger
IA
The compressor current of system A
IB
The compressor current o system B

BUTTONS ON WIRE CONTROLLER



AUTO/MANUAL button
Choose AUTO or MANUAL when set running mode.

QUERY button
Inquire every module status circularly.

MODE SELECT button
Select the needing mode of the air-conditioner.

PAGE DOWN button
Choose the former set of data when QUERY.

PAGE UP button
Choose the next set of data when QUERY.

ADDRESS+ button
Choose the former address module when QUERY.
Add the module quantity when SET .

ADDRESS- button
Choose the next address module when QUERY.
Decrease the module quantity when SET..

TEMP SETTING button
Choose the next address module when QUERY.
Decrease the module quantity when SET..

LOCK button
When you push the LOCK button, all current settings are locked in and the wire controller does not accept any operation except that of the LOCK button . Use the lock mode when you want to prevent setting from being changed accidentally or play fully. Push the LOCK button again when you want to cancel the LOCK mode.

ON/OFF button
To connecting the power to operate the wire controller.
Push again to stop it.

ON/OFF lamp
Indicate the air-conditioner operating or not.

INITIAL STATUS BEFORE OPERATION

When the wire controller is connected to the power for the first time, symbols on the LCD will all be on for 2 seconds .Then they are all extinguished . After 1 second the system automatically shifts to normal display situation and the wire controller is in acquiescent initial situation .The acquiescent mode is COOLING ,AUTO . Meanwhile the indicator light flashes and standing by . If it continues to receive no press-operation for 8 seconds , it will quit standing-by situation . This moment the indicator light extinguishes and it returns to display home data. Anytime the wire controller continues to receive no press-operation, it will return to display home data.

BUTTON OPERATION EXPLANATION

AUTO/MANUAL button

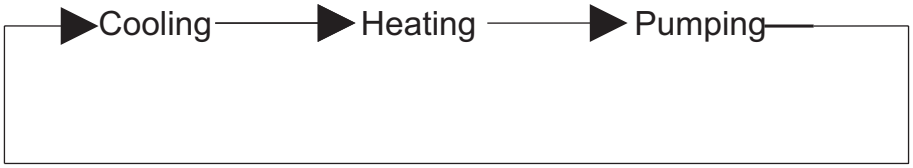
The AUTO/MANUAL button is only valid in mode-setting display situation .When pressing AUTO/MANUAL button, the module operation will shift from manual mode to automatic mode or vice verse.If choosing automatic mode ,the number of module can not be changed ,which reaches to the maximum.

QUERY button

Pressing QUERY button anytime ,the LCD will shift to be in query display situation and display the running data of the chose module.The address 0 unit is chose as default and the data on the first page will be displayed.

MODE SELECT button

It will shift to mode-set display when pressing the button in non mode-set display and pressing the button again will chang the running mode . If the system is working , the current running mode can not be changed when pressing the button. If the system stops , the mode will be changed circularly in the following sequence by every pressing .



LOCK button

If the wire controller is unlocked, press the LOCK button for more than 5 seconds and the situation of buttons will shift from the locked to the unlocked or vice verse . If the wire controller is locked by the computer , press LOCK button , AUTO/MANUAL button and MODE SELECT button simultaneously for more than 10 seconds, the locked situation of wire controller and buttons will be cancelled.If the wire controller or the buttons are locked,all the buttons are invalid except the LOCK button.

PAGE DOWN button

Only be available on the query display situation . The data on the next page will be displayed when pressing the button. If current page is the first, the last page will be displayed.

PAGE UP button

Only be available on the query display situation.The data on the former page will be displayed when pressing the button. If current page is the last, the first page will be displayed.

ADDRESS+ button

Pressing the button on the home page, it will enter the query display situation, select 0# unit and display the data of the first page as default.

When pressing on the query display situation, it will select the unit before the current one and display its running data. If it is already 0# unit, 15# (or 7#) unit will be selected.

On mode-setting display situation, if you choose manual mode, the number of the module unit will increase by 1 by every pressing and return to 1 if the number has reached to the maximum . If you choose auto mode, the number will be 16 which can not be changed.

ADDRESS - button

Pressing the button on the home page, it will enter the query display situation, select 0# unit and display the data of the first page as default.

When pressing on the query display situation, it will select the next unit and display its data.If it is already 15# (or 7 #) unit, 0# unit will be selected.

On mode-setting display situation, if choose manual mode, the number of the module unit will decrease by 1 by every pressing and return to 16 (or 8) if the number is 1.If you choose auto mode, the number reach to maximum, which can not be changed.

ON/OFF button

It is only available on mode-setting display situation . When the system is working, it will stop when pressing the button , while the running mode can not be selected and the current running mode will not be displayed as well . When the system is off , it will work when press the button , while the running mode can be selected and the current running mode will be displayed.

TEMP SETTING button

On cooling or heating mode, pressing this button can adjust the temperature, icon RUN and SET will be lightened and running mode is unchangeable. Temperature adjustment is realized by PAGE UP and PAGE DOWN button. On cooling mode,temperature range is 7~12℃, and on heating mode, which is 45~50℃. On temp setting state, pressing this button will send the command to the unit which will run under new set temperature. On mode set state, this button is invalid.

THE OPERATION OF WIRE CONTROLLER

1.On/off operation

Module units are electrified first and then the wire controller

Mode select display: Cooling , Auto

Setting mode by pressing Mode Select button

Press Auto/Manual button and turn to Manual mode

Press Auto/Manual button and turn to Auto mode . The running units will be adjusted automatically

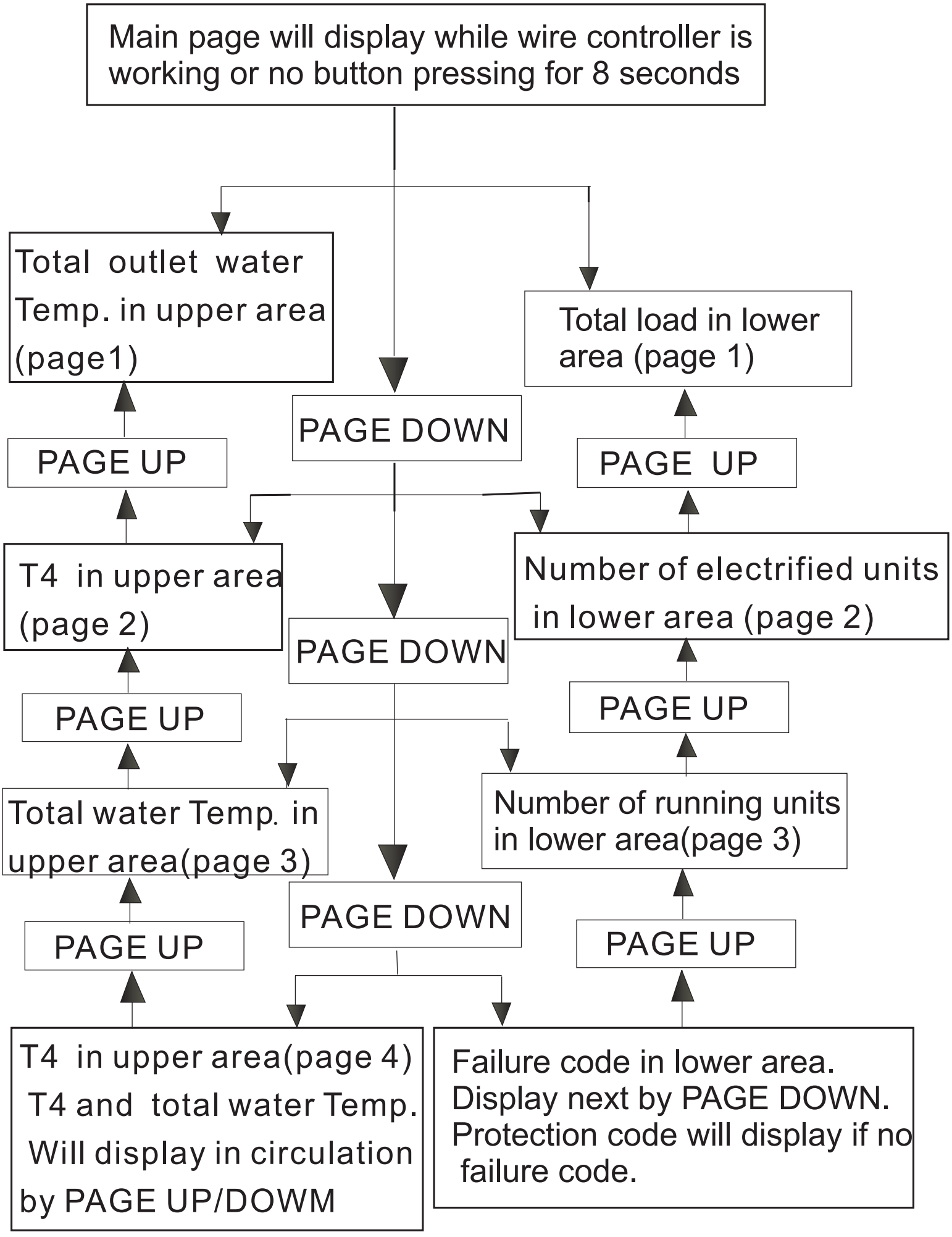
Select the number of units by pressing Address+ and Address- button

Press ON/OFF button to start the unit. It will work 3 minutes later

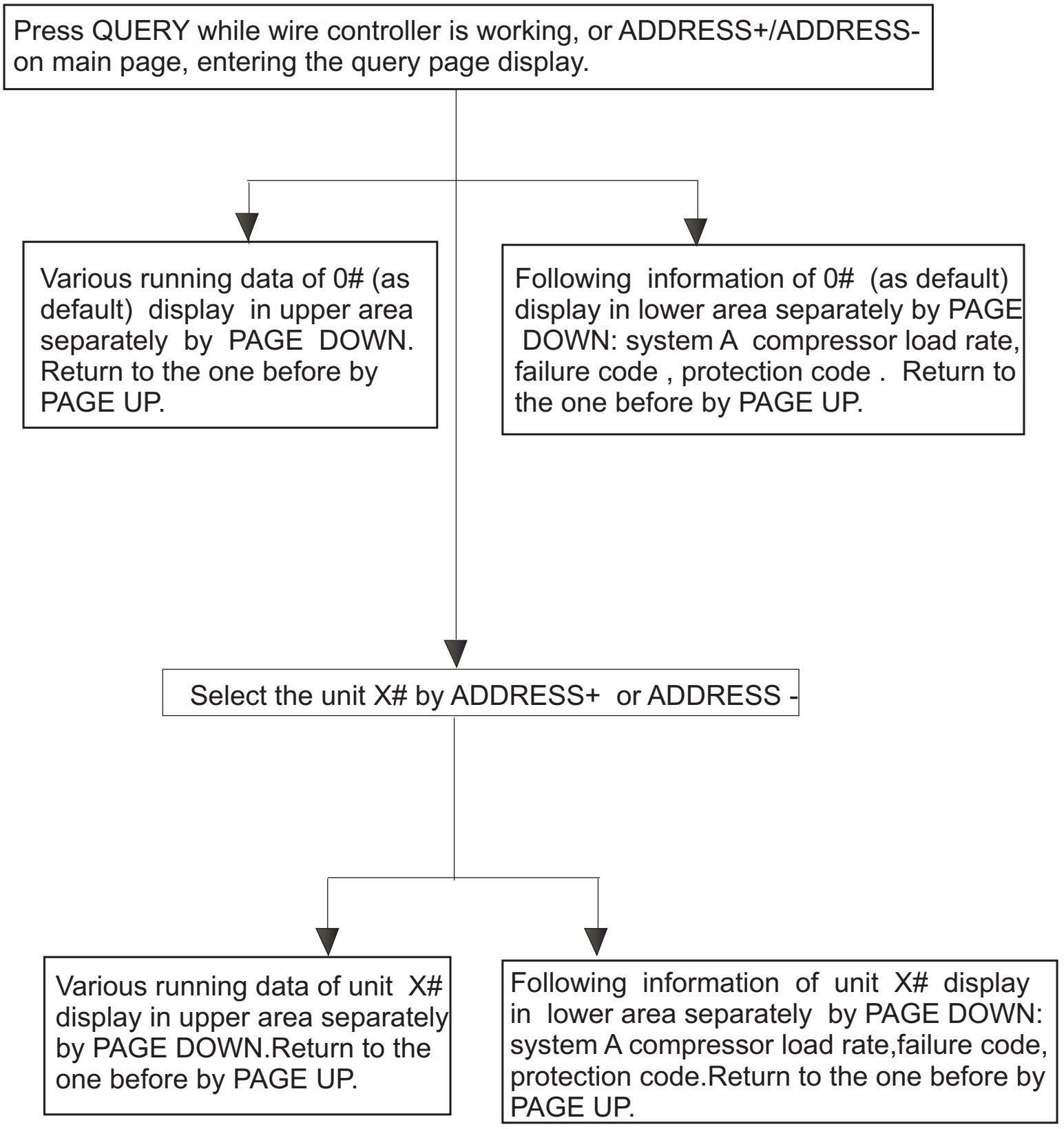
OFF requirement

Turn off the unit by pressing ON/OFF button

2.Main page display operation



3.Query page display



DATA DISPLAY

1. Home page display

Home page consists of indefinite pages.

1) Page 1(default) is displayed, check other pages via PAGE UP/DOWN.

2)Total outlet water temperature and T4 will be displayed circularly via PAGE UP/DOWN on upper area of page 1. The quantity of online unit and running units will be displayed on lower area of page 1and 2 respectively.

3) The failure codes of current unit will display from page 3; 4 failure codes can be displayed by paging down. If there are over 4 failure codes, the rest will not be displayed. If no failure, only one page displays E- and next page displays protection code.

4)The lower area displays the protection codes after all the failure codes have been shown. 4 protection codes will display, the rest will not display if there more than 4. If no protection, only one page display P- and the next page displays the information of page 1.

5)It will turn to page 1 by paging down when all the pages have displayed . The last page will display by paging up from page 1.

2. Query page display

Query pages consist of indefinite numbers of pages.

1)When entering the query page display for the first time, 0# unit will be selected as default and the data on the first page will displayed . Other pages could be displayed by pressing PAGE UP or PAGE DOWN.

2)The upper area on the display will show the following information from the first to the fifth page respectively: plate heat exchanger outlet water Temp, system A condenser tube Temp, system B condenser tube Temp., compressor current of system A and compressor current of system B. If the pages are more than 5, then the rest display the information of page 1.

3)The lower area on the display will show the current unit address and compressor loading rate of system A on page 1 and 2 respectively. The failure codes of current unit will display from page 3; 4 failure codes can be displayed by paging down. If there are over 4 failure codes, the rest will not be displayed. If no failure,only one page displays "E-" and next page displays protection code.

4)The lower area displays the protection codes after all the failure codes have been shown. 4 protection codes will display, the rest will not display if there more than 4. If no protection, only one page display "P-" and the next page displays the information of page 1.

5)It will turn to page 1 by paging down when all the pages have displayed . The last page will display by paging up from page 1.

6)Pressing ADDRESS + or ADDRESS - can select the module unit address and inquire the running data of different units.

7)Whenever entering the query page or changing the module unit, it is necessary to wait for the latest data of corresponding unit. Before receiving the data, the upper area displays -- and the lower displays the module unit address, meanwhile, paging up and down is not available. Such situation will last until the wire controller receives the data.

3. Mode-setting page display
   Only one page for this situation.

   Usually, the upper area is blank . After setting the running mode , it will show whether the mode setting is successful or not . It will turn blank when the displaying time is over . The lower area displays the current module unit address, the range is 0~the number of online module.If no online module , the display value is 0.If choosing auto mode,it will display the number of current online module permanently .

COMMUNICATION WITH UNITS

The wire controller can receive the running data of all the module units . During the period when electrifying the wire controller and units, information exchanges between wire controller and all the module units constantly. Whenever there are 10 seconds communication blank with the main unit , it will be regarded as communication failure and the code is "EC" .The failure will be cleared after the communication recovers ." ED" stands for the data mistakes either with the main unit or with the auxiliary unit . It will be cleared after the failure recovers.

MODE SETTING

1. Mode setting page can be selected by local wire controller, on this page, you can set the number of the unit which needs to operate.
   1) On Auto mode, the mode setting is for the whole unit. The number of the unit is 16 which can not be changed and the unit for start and closing is selected by the electric controller of the main unit.

   2) On Manual mode, the mode setting is for the online unit and the number of the unit can be changed. After setting, the ON/OFF of the actual unit is controlled by the wire controller. If you choose turning on the unit, the units will start in the sequence from low address to high address until reaching the number selected. If you choose turning off the unit, the units will be turned off with the sequence from high address to low address until reaching the number selected. (including the unit which delays to start during the unit running term)

   3) When choosing Manual mode to start the unit,units will start every 6 seconds interval with the sequence from low address to high address until achieving the number selected (the units which are running are free of 6 seconds delay). If one unit fails, wire controller will turn off it automatically and turn on the next unit to replace the failed one from the low address to high address. After the failed recovers, it will start, while the replacement will be closed.

4） On Manual mode , if one module unit compressor stops , the unit will be delayed 3 minutes to start.The start orders of this module unit and others with higher address need to be delayed 3 minutes to send , which can prevent several compressors starting simultaneously.

5) When choosing Manual mode to turn off the unit, units will be turned off from high address to low address until the number selected.

6)Starting water pump on Manual mode is only available for main unit. Main unit can not be replaced if it fails.

7)The water pump working mode is just available for main unit while there is no water pump mode in auxiliary units. After setting, irrespective of the number of units, wire controller only sends the order to the main unit to start, while the auxiliary units keep off.

8) The current setting information can not be sent to the main unit until pressing CONFIRM button. Once pressing CONFIRM, the mode setting light will be turned on and the setting I nformation will be sent. The light will be off after the main unit receives response.

INDICATOR LIGHT DISPLAY

When the wire controller is on standby and the system stops , the indicator light will flash every other minute .

The indicator light will be on continuously when turning on the system for the first time or during the process of running.

If setting the running mode,the indicator light will flash every other minute while waiting for the response.The light will be off if wine controller is out of standby and the system stops.

In case of failure , the indicator light will flash will 5’HZ s frequency and no protection display.

FAILURE ALARM OPERATION

1. When there is failure in any unit or in the communication with main unit ,the indicator light will flash with 1 Hz frequency. The light will be off after all the failures are cleared . It should be pointed out that failure indicator light and the operation light of wire controller share one light.

2. If the main unit fails, all the units will stop in the sequence that from low address to high address . On Auto mode, all the auxiliary units including main unit will be turned off by main unit simultaneously ; on Manual mode, all the units will be turned off by wire controller. When failure is cleared , main unit or wire controller will recover the running state of corresponding units independently.

TECHNICAL INDEX AND REQUIREMENT

1. EMC and EMI conform to CE certificate.
2. Safety coefficient conforms to GB4706.32-1996, GB/T7725-1996.

Failure and protection codes table:

CODE	CONTENT	CODE	CONTENT
E0	Wate- flow check failure(main unit)	P0	System A high-pressure or discharge gas Temp. Protection
E1	Phases sequence failure	P1	System A low-pressure protection
E2	Communication failure	P2	System B high-pressure or discharge gas Temp. Protection
E3	Total outlet water Temp. Sensor failure	P3	System B low-pressure protection
E4	Plate heat-exchanger outlet water Temp. Sensor failure	P4	System A current protection
E5	Condenser A tube Temp. Sensor failure	P5	System B current protection
E6	Condenser B tube temp. Sensor failure	P6	System A condenser high-Temp. Protection
E7	Outdoor Temp. Sensor failure	P7	System B condenser high-Temp. Protection
E8	System A digital compressor discharge gas Temp.	P8	System A digital compressor discharge gas Temp. Protection
EA	Sensor failure Auxiliary units decrease		
EC	Communication failure between main unit and auxiliary unit	PB	System anti-freezing protection
ED	Data communication failure between wire controller and modules	PC	Digital compressor discharge gas Temp. (Higher than 125C) protection
EE	Communication failure between wire controller and computer		

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