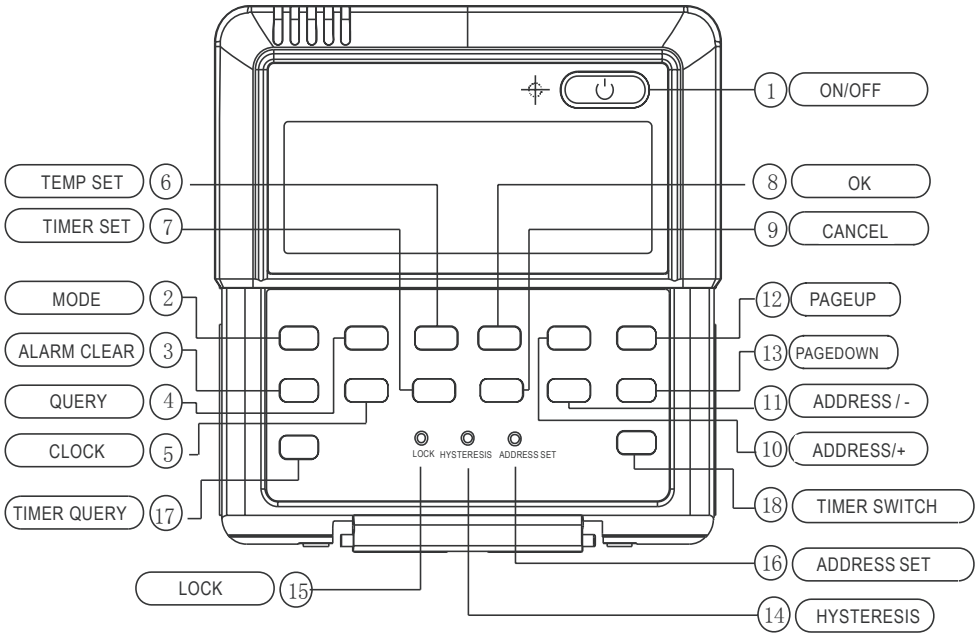
16.3 Wired controller KJR-120A/MBTE(Optional)

16.3.1 NAMES OF KEYS ON THE WIRED CONTROLLER AND THE KEYPAD OPERATION DESCRIPTION



① ON/OFF button:

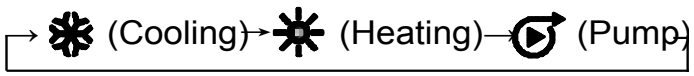
In the power off status, press this key and the startup indicator led comes on, and the wired controller enters the startup status and keeps the current set information such as temperature value, timing. In the startup status, press this button once, and the startup indicator led goes off and transmits the shutdown information.

② Operation mode button:

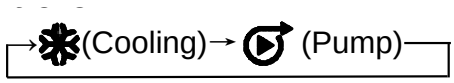
In the power off status, press this button to select the operation mode. This function is invalid at power on status.

Modes shifted sequence as follows:

1). Mode of KJR-120A/MBTE air cooled scroll wired controller:



2). Cooling only air cooled scroll wired controller:



③ ALARM CLEAR button

Press the button, then can clear some errors which need to operate manually for recovery. These errors represent there are problems while the unit is operating, but will not affect the system safety. If this type of error came out frequently then it needs to check and maintain the unit.

④ QUERY button

Press the button, inquire state information of No. 0 to No. 15 outdoor units (the default is state information of No.0 unit) and enter inquiry state. After entering inquiry state, inquire the information of the former unit or the following unit through “ADDRESS/+” and “ADDRESS/-”. After a certain outdoor unit is selected, state information of the outdoor unit can be inquired through “page up” and “page down”. There are two possible inquiry sequences.

1).Error→protection →outlet water temperature Tou→inlet water temperature Tin→outdoor ambient temperatures T4→outdoor pipe temperature T3A→outdoor pipe temperature T3b→current of the compressor IA → current of the compressor Ib→anti-freezing temperature T6→electronic expansion valve opening FA→electronic expansion valve opening Fb→Error.....The wired controller only displays the last fault information and the protection information, when query is conducted on fault and protection information.

2). outdoor pipe temperature T3A→protection→Error→outlet water temperature Tou→current of the compressor Ib→current of the compressor IA →Setting temperature Ts→outdoor ambient temperatures T4 →outdoor pipe temperature T3b→outdoor pipe temperature T3A.....The wired controller only displays the last fault information and the protection and protection information.

⑤ CLOCK button

Press the “CLOCK” button once 【Press for the first time】, and enter to the week adjustment, 【Press for the second time】, and enter to the hour adjustment,【Press for the third time】,and enter the minute adjustment. The numerical valve of week, hour and minute can be adjusted by “ADDRESS/+” and “ADDRESS/-”, after the adjustment then press the OK button for the setting confirmation.

⑥ TEMP SET button

Setup the total water outlet temperature in cooling and heating mode.
The numerical valve of temperature setting can be adjusted by “ADDRESS/+” and “ADDRESS/-”

⑦TIMER SET button

Press the button can enter the timer set adjustment. The numerical valve of the week, the start period, the end period, the operation mode and the setting temperature can be adjusted by “ADDRESS/+” and “ADDRESS/-”.

⑧ OK button

Once finished upon, press OK key, wired controller will delivery order to main unit.

⑨ CANCEL button

Press the button can return to the interface previous and not save the setting information when the timer switch is ON.

If press the button for 3 seconds continuously, all the setting information of the timer will be cleared.

⑩ ADDRESS/+ button

Press this button at Check mode, when select the next scroll, the operation status of the next scroll will display; if the current scroll is 15#, and the next one is 0#.

Press this button for add address at wire address setting mode. If the wired controller address is 15, press this key will display the next address is 0.

Press this button for add temperature at wire temperature setting mode.

Press this button for add clock or time at wire clock or time setting mode.

⑪ ADDRESS/- button

Press this button at query mode, when select the previous scroll, the operation status of the previous scroll will display; if the current scroll is 0#, and the previous one is 15#.

Press this button for minus address at wire address setting mode. If the wired controller address is 0, press this key will display the next address is 15.

Press this button for minus temperature at wire temperature setting mode.

Press this button for minus clock or time at wire clock or time setting mode.

⑫ ⑬ PAGEUP/DOWN button to spot check the operation parameters of unit in the main menu.

⑭ HYSTERESIS button (Hidden)

Use a small round bar with 1mm diameter to press this button, then can adjust the return parameter δ＝(2,3,4,5℃). The numerical valve of hysteresis can be adjusted by "ADDRESS/+" and "ADDRESS/-", after the adjustment then press the OK button for the setting confirmation.

The factory defaults δ＝2℃.

⑮ LOCK button (Hidden)

Use a 1mm-diameter round bar to lock the current setting. Press this button again to unlock.

⑯ ADDRESS SET button (Hidden)

The address of wired controller can be set by pressing this button. The address range 0~15, therefore, 16 wired controller could be parallel at most.

When there is only one wired controller, it is necessary to execute this setting, the address of wired controller should be set to '0'(main wired controller).

⑰ TIMER QUERY button

Press the button can inquire the timer setting information, such as the week, the setting operation mode, the starting period, the end period and the setting temperature and so on.

⑱ TIMER SWITCH button

Press the button can open the weekly timer function or close the weekly timer function.

16.3.2. OPERATION PROCEDURE OF WIRED CONTROLLER

● Operation procedure of mode setting

1. Press MODE at shutdown status, you could select appropriate mode as you want. The function is invalid at startup status.

2. The mode which you can select depends on outdoor unit.

● Operation procedure of water temperature setting

1. Press [TEMP SET] button of wired controller when background light is on.

2. Press [ADDRESS/+] or [ADDRESS/-] button, you can select the water temperature. Temperature range is not same in different operation mode.

3. Temperature range depends on outdoor unit.

●Operation procedure of system ON/OFF

Press [ON/OFF] button, running indicator of wired controller is light, unit is start to run, and display running status at wired controller. Press this button once again, unit will stop running.

●Operation procedure of system information querying

1. Press [QUERY] ,enter Check status.

2. Press [ADDRESS/+] or [ADDRESS/-] button, select the unit you want to query.

3.Press [PAGEUP] or [PAGEDOWN] button to query the unit information, which includes E-, P-, Tou, Tin, T4,T3A, T3b ,IA, Ib, T6, FA, Fb or T3A, P-, E-,Tout, Ib, IA, Ts, T4, T3B.

●Operation of remote on/off

If the main unit's is under the remote on/off control, Net-ON flashes, and communicate with upper unit is invalid.

●Operation procedure of HYSTERESIS TEMP.SET(δ)

1.Through the hysteresis setting, the system can adjust the load effectively.

2.The adjusting logic of cooling mode :

(The parameter of δ1,δ2,Tj1 and Tj2 are decided by the outdoor unit)

Unit start temperautre	$T_{AL} \geqslant Ts+ \delta_1$
Loading region	$T_{AL} > Ts+ \delta$
Stable region	$Ts < T_{AL} \leqslant Ts+ \delta$
Unloading region	$Tj1 < T_{AL} \leqslant Ts$
Abrupt stop region	$T_{AL} \leqslant Tj1$

16.3.3 The adjusting logic of heating mode: (the parameter of δ1,δ2,Tj1 and Tj2 are decided by the outdoor unit)

Unit start temperautre	$T_{AL} \leqslant Ts-\delta$
Loading region	$T_{AL} < Ts+1-\delta$
Stable region	$Ts-1+\delta > T_{AL} \geqslant Ts+1-\delta$
Unloading region	$Ts-1+\delta \leqslant T_{AL} < Tj2$
Abrupt stop region	$T_{AL} \geqslant Tj2$

(TAL: total outlet water temperature)

● **Fault alarm handling**

1.When unit fails or the wired controller detects failure of communication with the outdoor units, the indicator blinks. After all errors of the system and the wired controller are eliminated, the indicator stops blinking. The fault indicator and the operation indicator share the same LCD.

2.Some errors will be auto cleared after the errors are cleared, and some error must press the “ALARM CLEAR” button and then be cleared after the errors are cleared. The details can refer to the error code table. If this type of error comes out frequently, then need to check and maintain the unit.

OVERVIEW OF WIRED CONTROLLER

Basic conditions of operating the wired controller:

1. Applicable range of supply voltage: Input voltage is AC 220V±10%, powered to wired controller by attached power adapter.

2. Operating environment temperature of wired controller: -15˚C~+43˚C.

3. Operating RH of wired controller: RH40%~RH90%.

16.3.4 OUTLINE OF FUNCTIONS

This wired controller provides the following functions:

1. Connect with the outdoor unit through the terminals P, Q and E. Connect with the upper unit through the terminals X, Y and E(reserved).Connect with other wired controllers through the terminals P, Q and E.

2. Set the action mode through the keypad operation.

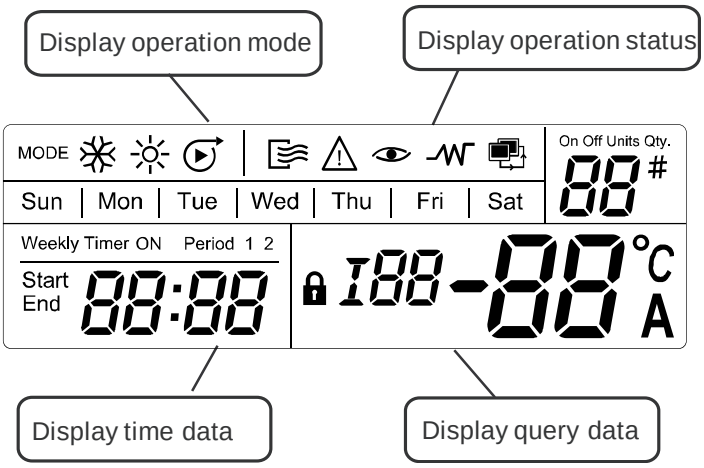
3. Provide the LCD display function.

4. Provide the timing startup function.

5. Real-time clock function (the wired controller inner place 3V battery)

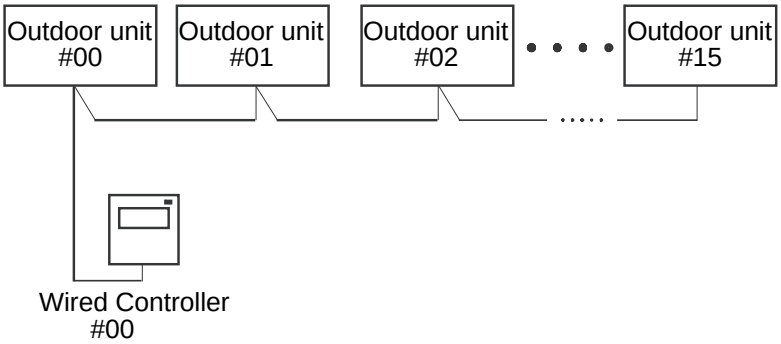
When the wired controller is powered on, the LCD will display the current time; if it is powered off, the clock will not be displayed, then it will be auto updated when the wired controller is re-power on.

16.3.5 NAME AND FUNCTION DESCRIPTION OF LCD SCREEN OF WIRED CONTROLLER



16.3.6 INSTALLATION PROCEDURE

Installation procedure:

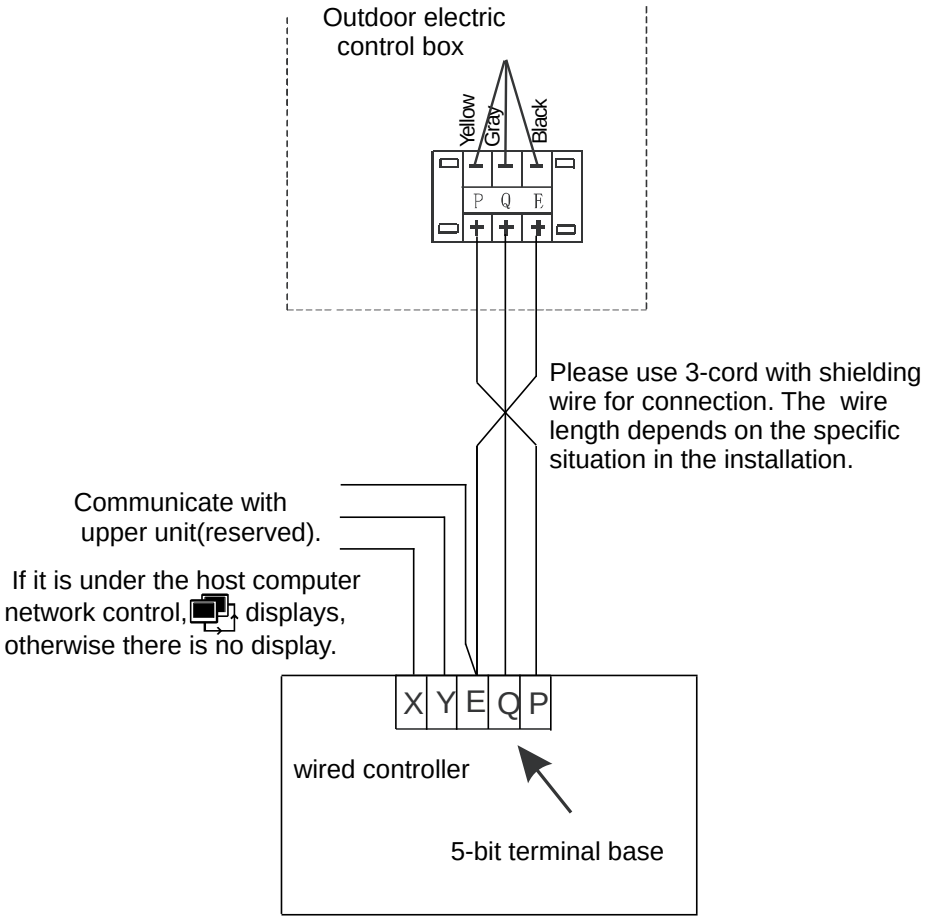


Use PQE connect with the outdoor units.

NOTE:

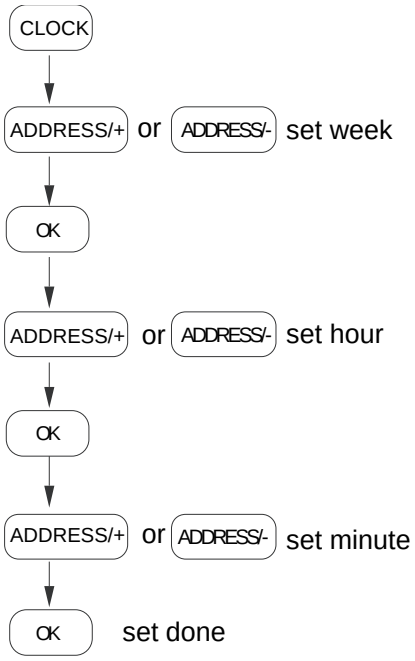
Please connect the attached shorted-wires to the corresponding communication port COM(I) or COM(O) in the main control board of the last parallel unit (dial code). Directly connect to the last parallel unit if only one unit is connected.

The wiring procedure and principles are shown in the figure:



16.3.7 USING METHOD

CLOCK SETTING

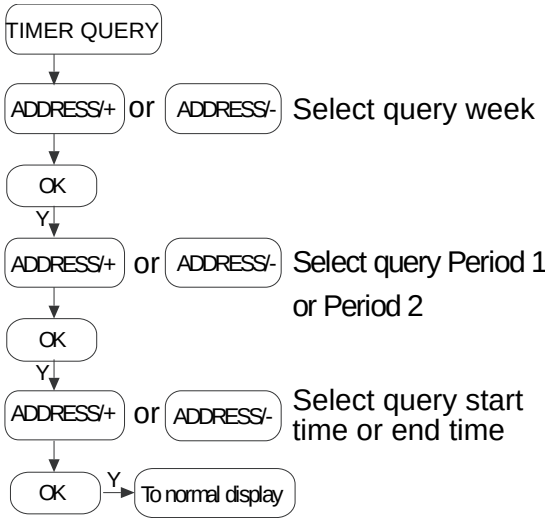


WEEKLY TIMER SETTING

NOTE:

In operating, press the key "CANCEL", to turn back to the previous step or the normal display interface.

WEEKLY TIMER QUERY



NOTE:

In operating, press the key "CANCEL", to turn back to the previous step or the normal display interface.

1.Before power failure of the heating water system or wired controller, the wired controller memorizes the status of the unit automatically, and sets the water temperature value except timing on/off function. After being powered on, the wired controller will send the relevant signals to the heating water system according to memorized status before power failure, in order to ensure that the unit can run in the originally set status after restoration of the power supply.

2. In the normal status, the background light is off. Press any key can only turn on the background light .

3. In order to protect the equipment, it is not allowed to change the running mode quickly or frequently. It should operate the wired controller to start up the unit after 3 minutes later or all units are shutdown.

4. The wired controller and the outdoor unit must connect with the same power supply, powered up and powered off simultaneously. It is not allowed to cut off the power supply separately.

5. When several wired controllers are parallel connected, the timing message can’t communicating in these wired controllers, and the timing will work separately. In order not to confuse, we suggest set the timing message on one wired controller for the reason of indoor unit performance is compliance with the sequence of setting time.

6.During changing or installing the battery, pay attention to the “+”,“-” poles of the battery and install it correctly, or will damage the control panel or battery, even worse will put lives at risk.