



Touch Key Wired Controller Manual



Three/five core communication

MY2025

Touch Key Wired Controller Manual

Three/five core communication



The presentation of function button



Mode key:

Set the mode of the air conditioner.



Temperature increase or decrease key:

Set the set temperature of the air conditioner.



Fan speed key:

Set different fan speeds of air conditioner.



Energy/Power key:

The first touch goes into energysaving mode (low-speed operation, 26°C), the second time press to turbo mode (high-speed, 16°C while running cooling mode; high-speed, 32°C while running heating mode), third time press to exit the turbo.



On/Off key:

Start-up and shut-down of air conditioner.



Function key:

Set the timing start-up and shutdown, swing, sleep, electric heating, query, screen cleaning, and key lock of the wired controller.

1. Introduction

This is three/five-core communication wired controller with WIFI controlled function.

2. Description of the line controller

The wired controller communicates with the system control mainboard through its mainboard, controls the operating state of the system through the keys, and displays the working state of the entire system through LCD.

The appearance of this wired controller is shown in the cover page image.

3. Functional description

The wired controller detects communication after power-on. If the communication is successful, it displays normally. Otherwise, the “---” icon will flash. The fault code E9 will appear if communication is not successful within 1 minute.

Functions of keys:

3.1 ON/OFF key ("ON / OFF")

(1)Control the ON/OFF state of the system.

(2)When the wired controller enters the function setting, parameter setting or engineering parameter setting, press the “ON/OFF” key to exit the setting and return to the main display interface.

3.2 Mode key

Automatic mode→Cooling→Dehumidification→Heating→Ventilation→Automatic mode

Cycle switching

3.2.1 Dehumidification mode: The temperature of the wired controller can be set, and the fan speed cannot be set.

3.2.2 Fan mode: mandatory display of T1 temperature;

3.2.3 Forced cooling mode: set the 6th item in the engineering parameter setting. In forced mode, press the shutdown or mode key to switch to other modes.

3.3 Fan speed + key

Adjust the indoor fan speed. Each time you press the fan speed key, the fan speed will change as below:

(Five core communication)

Level 2 →Level 4 →Level 6 →Automatic fan

(Three core communication)

Level 1 →Level 2 →Level 3 →Level 4 →Level 5 →Level 6 →Automatic fan

Level 1 → Level 2 → Level 3 → Level 4 → Level 5 → Level 6 → Turbo → Automatic fan → Level 1 (For Class A inverter air duct units and WDA60)

3.4 Fan speed - key

Adjust the indoor fan speed. Each time you press the fan speed key, the fan speed will change as below:

(Five core communication)

Level 2 ← Level 4 ← Level 6 ← Automatic fan

(Three core communication)

Level 1 ← Level 2 ← Level 3 ← Level 4 ← Level 5 ← Level 6 ← Automatic fan

Level 1 ← Level 2 ← Level 3 ← Level 4 ← Level 5 ← Level 6 ← Turbo ← Automatic fan → Level 1 (For Class A inverter air duct units and WDA60)

3.5 Temperature + key (“▲”)

Each time the “▲” key is pressed, the set temperature is increased by 0.5 °C. When the set temperature is increased to 32 °C, the temperature will remain at 32 °C while pressing this key (the maximum temperature limit).

Note: If the Fahrenheit temperature display is selected: each time the “▲” key is pressed, the set temperature will be increased by 1 °F. When the set temperature is increased to the set maximum temperature, it will be no longer increased.

3.6 Temperature - key (“▼”)

Each time the “▼” key is pressed, the set temperature is reduced by 0.5 °C, and when the set temperature is reduced to 16 °C, Press this key to keep the temperature at 16 °C (or set the minimum temperature).

Note: If the Fahrenheit temperature display is selected: Each time the “▼” key is pressed, the set temperature will be decreased by 1 °F. When the set temperature is decreased to the set minimum temperature, it will be no longer decreased.

3.7 Energy /Power key (“ ”)

In the power-on state: Press the “Energy/Power” key for the first time, set the temperature to 26°C, and the fan speed is the level-2 wind.

Press the “Energy/Strength” key for the second time, set the temperature to 32 °C (set the maximum temperature) in the heating mode; 16 °C (set the minimum temperature) in the cooling mode, and the fan speed is level-6 wind (effective in power-on state and in cooling or heating mode)

3.8 Wifi connection button

Press “▲” and “ON/OFF” together and keep 2s, it can clear current WiFi information and re-configure user's WiFi account and password.

Re-press WiFi connection button (“▲” and “ON/OFF”), it will exchange between remote WiFi configuration mode and LAN mode.

(LAN control function is reserved)

Relationship between Wifi Icon flashing and WiFi state

WIFI Icon	WIFI state	Remark
Slow flash 3s	Press wifi connection button one time	3 times flashing within 3s, then off 3s
Fast flash	In wifi configuration state	2 times flashing with 1s
Double flash	In LAN state (Reserved)	2 times fast flashing within 1s then off 0.5s
Slow flash	Failed connect to wifi	1 time flashing within 2s
ON	Failed connect to wifi, and failed connect to cloud server	
Fast flash one time every 5s when it is ON	Normal, connect to wifi and cloud server	

3.9 Query key

(1) Press and hold the Query key (“Energy/Power”) to enter the query status. The digits “double 8” will appear at the lower right corner of the LCD showing the inspection number, and the query data information will appear in the middle of the LCD. Press the temperature + and temperature - (“▲” , “▼”) key to switch the query data.

(2) To exit the query state, press and hold the Query key (“Energy/Power”), or press the ON/OFF key, or wait for 10 seconds without operation.

Five core communication:

Checked table for VRF indoor unit

Inspection No.	Parameter Description
1	Parameter Description
2	Indoor unit' s capacity demand
3	T1 temperature value
4	T2 temperature value
5	T2B temperature value
6	Average of T2 temperature value
7	Opening of EXV

Checked table for ON-OFF series

Inspection No.	Parameter Description
1	Indoor temperature T1
2	Evaporator temperature T2
3	Condenser temperature T3
4	
5	
6	
7	

Checked table for inverter series

Inspection No.	Parameter Description	Inspection No.	Parameter Description
1	Indoor unit capacity	8	T3 temperature value
2	Indoor unit's capacity demand(Reserved)	9	T4 temperature value
3	Revised demand by T4(Reserved)	10	T5 temperature value
4	Revised demand by T2(Reserved)	11	Opening of EXV
5	T1 temperature value	12	Operating frequency of compressor
6	T2 temperature value	13	Primary side voltage/4(Reserved)
7	T2B temperature value	14	

Three core communication:

Checked table for inverter split unit

Inspection No.	Parameter Description	Inspection No.	Parameter Description
1	Indoor unit capacity (HP*10)	11	Opening of electronic expansion valve/8
2	Indoor unit's capacity demand	12	Operating frequency of compressor
3	Revised demand by T4	13	Outer fan gear
4	Revised demand by T2	14	Primary current *2
5	T1 temperature value	15	Secondary current *2
6	T2 temperature value	16	Primary side voltage/4
7	T2B temperature value	17	Secondary side voltage/4-50
8	T3 temperature value	18	Last failure(no fault E-)
9	T4 temperature value	19	The second last fault(no fault P-)
10	T5 temperature value/2	20	Humidity

Checked table for VRF indoor unit

Inspection No.	Parameter Description	Inspection No.	Parameter Description
1	Indoor unit's address	7	Average of T2 temperature value
2	Indoor unit's capacity	8	Opening of EXV
3	Indoor unit's capacity demand	9	Last failure (no fault E-)
4	T1 temperature value	10	The second last failure (no fault P-)
5	T2 temperature value	11	Humidity
6	T2B temperature value	12	

3.10 Function key

Under any operating states (except query), press the function key to enter the function setting interface.

3.10.1 Press "Function key" , the left and right wind swing will flash. The "intermediate double 8 digital tube" displays the current state: "--" -off, "ON"-open. Press the "▲" "▼" key to switch on and off;

3.10.2 Press "Function Key" to enter the next setting,  "The up and down wind swing will flash, the "big double 8 digital tube" shows the current state: "--" -off, "ON"-open. Press the "▲" "▼" key to switch on and off;

3.10.3 Press "Function Key" to enter the next setting, it will directly enter the "Timer Off" setting and the "OFF" icon will flash. The "Left digital tube" indicates the current status, "---" indicates no timer off, "***h" indicates the unit will be turn off automatically after the timer is activated for ** hours. Press "▲" "▼" to adjust the set time for timing off, the unit is 0.5H. (similar to the countdown timer of remote controller, after the timer works, the timer will disappear, so people need to reset a new timer for the nest day manually)

3.10.4 Press "Function Key" to enter the next setting, it will directly enter the "Timer On" setting and the "ON" icon will flash. The "Left digital tube" indicates the current status, "---" indicates no timer on, "***h" indicates the unit will be turn on automatically after the timer is activated for ** hours. Press "▲" "▼" to adjust the set time for timer on, the unit is 0.5H.

3.10.5 Press "Function Key" to enter the next setting, it will directly enter the "Sleep" setting and the "Sleep" icon will flash. The "Big double 8 digital tube" indicates the current status, "--"-off, "ON"-open, and press "▲" "▼" to adjust the on and off.

3.10.6 Press "Function Key" to enter the next setting and directly go to the electric auxiliary heat setting  and  will flash. The "Big double 8 digital tube" indicates the current state, 0-manual off; 1-manually on; 2-automatic switch, and press "▲" and "▼" key to adjust the setting parameters.

3.10.7 Press "Function Key" to enter the next setting, if screen cleaning reminder icon  appears, the "Big double 8 digital tube" indicates the current status 1, press the "▲" "▼" key to switch the cancellation and no cancellation; if the  does not appear, it indicates that the timing cleaning reminder time has not arrived, otherwise jump to the next setting 3.10.8.

3.10.8 Press "Function Key" to enter the next setting and jump directly to the key lock , and the icon  will flash. The "Big double 8 digital tube" displays the current status, 0-off, 1-open; press "▼" and "▲" to switch On and Off. (It will only take effect when you exit the general function setting interface)

3.10.9 Press "Function key" to enter the next setting and jump directly to

"WiFi Link Setting" to display the current status, the default value is 0. Press "▲" and "▼" key to set. Set 1 for AP mode and set 2 for one-touch configuration.

In this case, the line controller is the entry for the function setting. Press and hold the "Query" key on the 10.9 interface to enter the user parameter setting interface.

3.10.9.1 In the user parameters interface, the right digital tube displays the serial number of the setting item, and the middle digital tube displays the numerical value, as shown in the table below. In the user parameter interface: press the "Fan Speed+" , "Fan Speed-" key or function key to select the serial number of the setting item; press "▲" and "▼" to adjust the parameter value.

Serial number	Parameter	Parameter Description	Remarks
1	Fahrenheit/Celsius setting	Default °C; °C->F->°C	Displayed at set temperature
2	Set the maximum temperature	Default 32°C, with range of 24-32°C Default 88F, with range of 76F-88F	Display set value
3	Set the minimum temperature	Default	Display set value
4	Temperature display in the main interface	Display set temperature by default (display indoor temperature)	Display 0/1
5	(Reserved)	(Reserved)	(Reserved)
6	Cleaning reminder time setting	2000h/3000h/3500h/4000h / 5000h/6000h (Default 4000h)	Display 20/30/35/40/50/60
7	Remote master/slave settings	Default 0-host; 1- slave(optional)	(This option can only be set when two line controllers are connected, otherwise normal communication will not be realized)
8	Multiple online address settings	0~99	Display set value

Note 1: When the slave line controller is set, the engineering parameter settings and queries cannot be used.

Note 2: Multiple online address settings: Press "+" and "-" button to change, then press "ON/OFF" button to save and exit.

3.10.10 When it is in the user parameter setting interface and in the seventh item setting (engineering parameter setting entry), press and hold the "Query" key to enter the project parameter setting interface. (This operation can only be performed after the machine is powered on and no operation is performed for 20 seconds)(VRF indoor unit does not have this function)

3.10.10.1 In the engineering setting interface, the right digital tube indicates the serial number of the setting item, and the middle digital tube indicates the numerical value, as shown in the following table:

3.10.10.2 In the engineering settings interface, the left digital tube indicates the serial number of the setting item, and the middle digital tube indicates the numerical value, as shown in the table below. In the user parameter interface: press the “Fan Speed+” , “Fan Speed-” key or function key to select the serial number of the setting item; press “▲” and “▼” to adjust the parameter value.

Serial number	Parameter	Parameter Description	Remarks
1	T1 sensor selection	0-main control board T1; 1-wire controller T1	
2	Static pressure selection (Reserved)	0: low static pressure; 1, 2, 3 high static pressure	Currently only two options are available
3	Heating temperature Compensation(Reserved)	0~8°C (default 6°C)	
4	Reserved	0: (reserved); 1: (reserved)	
5	Motherboard power-down memory function(Reserved)	0: no power-down memory; 1: power-down memory(default)	
6	Forced cooling setting	0: (no setting); 1: (forced cooling)	
7	Cooling 1 speed setting(Reserved)	Real speed Rad/Min / 10	
8	Cooling 2 speed setting(Reserved)		
9	Cooling 3 speed setting(Reserved)		
10	Cooling 4 speed setting(Reserved)		
11	Cooling 5 speed setting(Reserved)		
12	Cooling 6 speed setting(Reserved)		
13	Heating 1 speed setting(Reserved)		
14	Heating 2 speed setting(Reserved)		
15	Heating 3 speed setting(Reserved)		
16	Heating 4 speed setting(Reserved)		
17	Heating 5 speed setting(Reserved)		
18	Heating 6 speed setting(Reserved)		

Note: As the static pressure is divided into low static pressure and high static pressure, corresponding to different speeds, when setting as low static pressure, then items 7-18 are set as the low static pressure speed values; when setting as high static pressure, the items are set as the high static pressure values.

4. Fault Code Description

Note: If there is a conflict between a wire controller fault and an internal unit fault, please prevail with the internal unit fault.

Five core communication:

Fault code table for ON-OFF series

Display	Fault Description	Display	Fault Description
F0	Indoor fan stall protection	F9	Three-phase electricity phase sequence failure
F2	Outdoor protection	E0	Communication failure of indoor and outdoor unit
F3	High pressure protection	E1/E9	Indoor unit and wire controller communication failure
F4	Low pressure protection	E2	Room ambient temperature sensor(T1) failure
F5	Water fullfilled protection	E3	Evaporator tube temperature sensor(T2) failure
F7	Outdoor unit over-current protection	E5	Condenser tube temperature sensor(T3) failure
F8	Outdoor unit exhaust temperature over-high protection	P6	Indoor unit EEPROM failure

Fault code table for VRF indoor unit

Display	Fault Description	Display	Fault Description
E1	Communication failure of indoor and outdoor unit	E8	Wind testing fault of PG electric motor
E2	Room temperature sensor failure(T1)	E9	Communication fault of wire controller
E3	Tube temperature midpoint sensor failure (T2)	EA	Outdoor unit current fault
E4	Tube temperature outlet sensor failure (T2B)	Eb	Outdoor unit IPM fault
E5	Malfunction of outdoor unit	EF	Model conflict
E6	Testing fault of zero-crossing signal		
E7	EEPROM malfunction		

Fault code table for inverter series

LED Display	Display	Error Description
Time light flash	E2	Room temperature T1 sensor error
Defrost,run, protection light flash	E3	Evaporator temperature T2 sensor error
Deforst light flash	E4	Evaporator outlet temperature T2B sensor error
Protection light flash	EE	Water full filled error
Run, defrost light flash	E9	Indoor unit and wired controller communication error
Run, time light flash	E7	Indoor EEPROM error
Defrost, time light flash	E8	Indoor fan motor speed lose protection
Defrost warning lights flash	F4	Outside ambient temperature T 4 sensor error
	F5	Discharge temperature T5 sensor error
	P9	Outdoor fan motor protection
	E5	Outdoor unit error
	FE	Outdoor EEPROM error
	F6	Condenser temperature T3 sensor error
	P5	Condenser temperature T3 too high protection
	PA	Anti-typhoon protection
	L1	DC side over-voltage
	PE	DC side over-current
	EF	Mode conflict
	P6	Inverter IPM protection
	H6	3 times P4 protection (Reserved)
	H5	3 times P2 protection (Reserved)
Timing warning lights flash	E1	Communication error between indoor and outdoor unit
Running defrost timing lights flash	P1	High pressure protection
Defrost timing warning lights flash	P2	Low pressure protection
Running timing warning lights flash	P4	Outdoor discharge temperature too high protection
Running defrost timing	E0	Three phase sequence error

Three core communication:

Its fault code description:

Display	Fault Description	Display	Fault Description
E0	Sequence fault	F0	Outdoor communication failures
E1	Indoor and outdoor communication failures	F1	Phase sequence error protection
E2	Room temperature sensor failure(T1)	F2	Outdoor or indoor communication failures
E3	Tube temperature midpoint sensor failure (T2)	F3	Exhaust air temperature sensor fault
E4	Tube temperature outlet sensor failure (T2B)	F4	External T4 sensor failure
E5	Outdoor unit failure	F5	T6A sensor failure TP exhaust temperature sensor fault
E6	Zero-crossing protection	F6	External T3 sensor failure
E7	Indoor unit E-party failure	F7	T6B sensor failure
E8	Indoor unit stall protection	F8	Outdoor unit address error T5 exhaust temperature sensor fault
E9	Wire controller communication failure	F9	Voltage ultra-high/ultra-low protection
EA	Compressor overcurrent (four times) fault	FA	Refrigerant cooling copper tube sensor fault. Outdoor unit E-party failure
Eb	Inverter module protection	Fb	T6 sensor failure or temperature protection
EC	Refreshing faults	FC	T7 sensor failure
Ed	Reserved	Fd	reserved
EE	Water level alarm	FE	E-party failure Indoor unit address error
EF	Mode conflict	FF	reserved

Display	Fault Description	Display	Fault Description
P0	(reserved)	H0	Communication failure between external main board and drive board
P1	High pressure protection	H1	Communication failure between master and slave chips
P2	Low pressure protection	H2	The decrease in the number of outdoor failures
P3	Primary side over current protection	H3	The increase in the number of outdoor failures
P4	Ultra-high exhaust temperature protection	H4	3 P6 protection in 60 minutes
P5	T3 /T3B high temperature protection	H5	3 P2 protection in 60 minutes
P6	IPM module protection	H6	3 P4 protection in 100 minutes
P7	The lack of the degree of superheat	H7	The decrease in the number of indoor failures
P8	(reserved)	H8	Pressure sensor failure
P9	Outdoor DC fan failure	H9	3 P9 in 30 minutes
L0	Inverter compressor malfunction	HA	3 P3 in 60 minutes
L1	DC generatrix low voltage protection	PA	IPM module temperature too high protection Anti-typhoon protection
L2	DC generatrix high voltage protection	Pb	Evaporate temperature T2 too high protection Refrigerant cooling temperature T6 too high protection
L3	reserved	PC	Temperature T3 too high protection in heating mode
L4	MCE error/ Synchronization / closed loop		Fan protection in zone A for 5 minutes during heating
L5	Zero speed protection	Pd	Abnormal current protection
L6	reserved	PE	Over current protection in DC side
L7	Wrong phase protection	PF	High pressure protection (High pressure sensor)
L8	Speed difference >15Hz protection between the front and the back clock		
L9	Speed difference >15Hz protection between the real and the setting speed		

5. WIFI and app function

Wired controller can connect wifi and realize remote control.

5.1 Operation for WIFI configuration and adding device

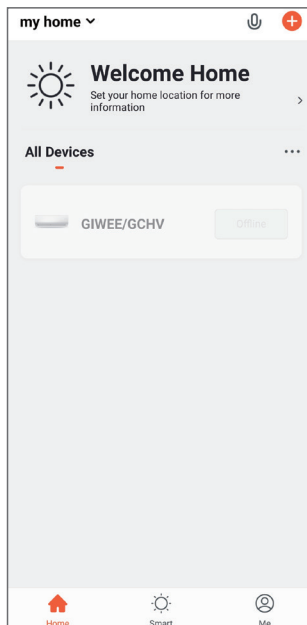
5.1.1 WIFI configuration

Method 1: Press “▲” and “ON/OFF” together and keep 2s

Method 2: Press “Function” button and enter into 9th setting, it is WIFI connection setting interface, press “▲”“▼”, after LCD show “2”, then press “ON/OFF” button to confirm.

After that, WIFI icon will flash 3 times slowly, then fast flash.

5.1.2 After it go to configuration statue, open TUYA APP, press the “add device” → “add manually” → “air conditioner” as the following pics;



- 5.1.3 Input the WIFI name and password to configure;
- 5.1.4 Select SmartConfig mode to start the network distribution, and the device can be added after the network distribution is completed.

Cancel

**Select 2.4 GHz Wi-Fi
Network and enter password.**

If your Wi-Fi is 5GHz, please set it to be 2.4GHz. [Common router setting method](#)

 
 2.4GHz  5GHz

 Wi-Fi Name 

The mobile phone is not connected to Wi-Fi.

 Password 

Next

Cancel EZ Mode 

Reset the device first.

Please turn on the device and confirm that indicator is blinking fast.
Attention: please complete pairing process within 3 minutes after device reset.



Resetting Devices >

 Confirm indicator rapidly blink

Network error, please try it again 50500

