USER'S MANUAL

NEW UNI DC INVERTER

INDOOR DUCT UNITS

ASD-xxAIN

sinclair

AIR CONDITIONING

Original instructions

Safety Precautions

⚠ **WARNING!**	This mark indicates procedures which, if improperly performed, might lead to the death or serious injury of the user.
⚠ **CAUTION!**	This mark indicates procedures which, if improperly performed, might possibly result in personal harm to the user, or damage to property.

⚠ WARNING!
(1). For operating the air conditioner pleasantly, install it as outlined in this installation manual.
(2). Connect the indoor unit and outdoor unit with the room air conditioner piping and cord available from our standard parts. This installation manual describes the correct connections using the installation set available from our standard parts.
(3). Installation work must be performed in accordance with national wiring standards by authorized personnel only.
(4). If refrigerant leaks while work is being carried out, ventilate the area. If the refrigerant comes in contact with a flame, it produces toxic gas.
(5). Do not power on until all installation work is complete.
(6). During installation, make sure that the refrigerant pipe is attached firmly before you run the compressor. Do not operate the compressor under the condition of refrigerant piping not attached properly with 2-way or 3-way valve open. This may cause abnormal pressure in the refrigeration cycle that leads to breakage and even injury.
(7). During the pump-down operation, make sure that the compressor is turned off before you remove the refrigerant piping. Do not remove the connection pipe while the compressor is in operation with 2-way or 3-way valve open. This may cause abnormal pressure in the refrigerant cycle that leads to breakage and even injury.
(8). When installing and relocating the air conditioner, do not mix gases other than the specified refrigerant (R410A) to enter the refrigerant cycle. If air or other gas enters the refrigerant cycle, the pressure inside the cycle will rise to an abnormally high value and cause breakage, injury, etc.
(9). This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
(10).Children should be supervised to ensure that they do not play with the appliance.
(11).If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

Outline of the Unit and Main Parts

Indoor

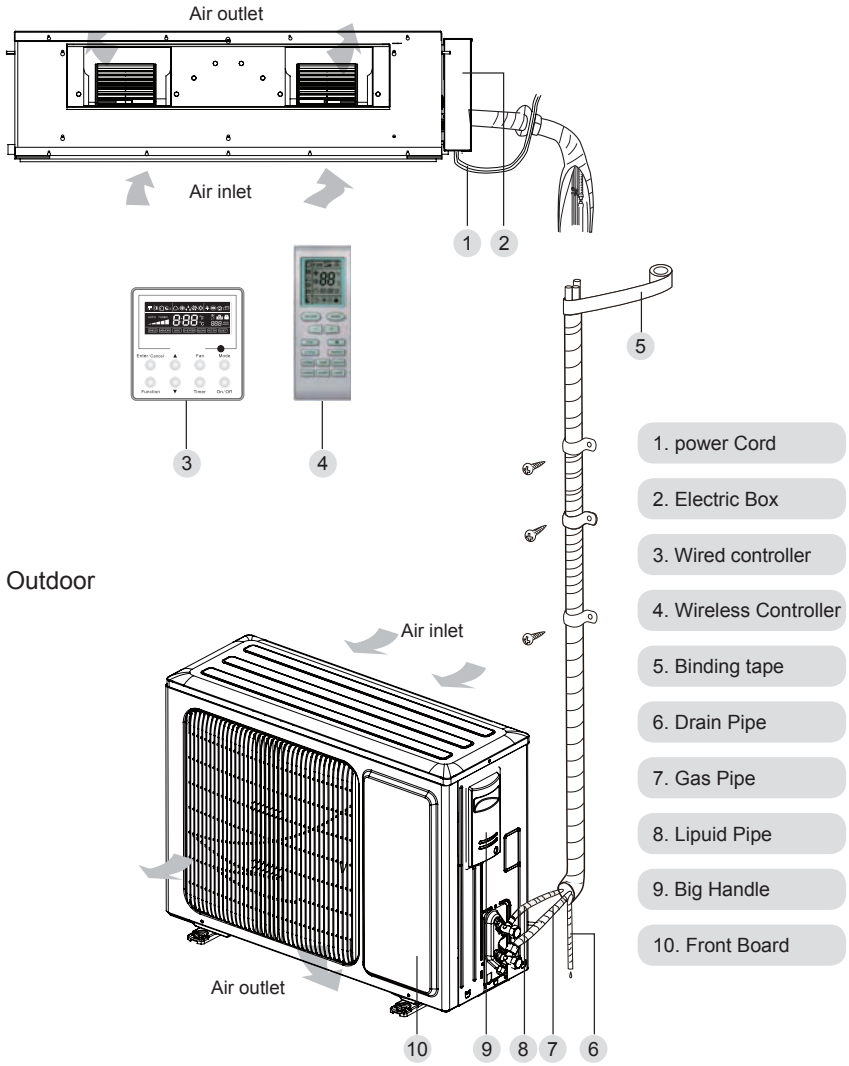
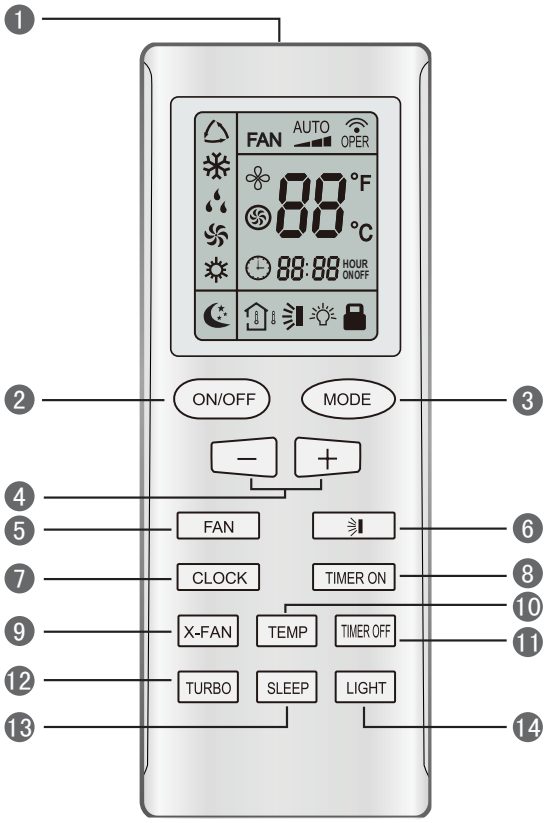


Fig.1

NOTE!
①. The connection pipe and duct for this unit should be prepared by the user.
②. The unit is standard equipped with rectangular duct.

WIRELESS REMOTE CONTROLLER

Operation and Display View



Note: This remote controller is universal and can be used for multi-functional air conditioning. If the button on the remote controller with the function which the air conditioner doesn't have is pressed, the unit remains in its original operating mode.

Table Operation instruction of wireless remote controller

No.	Name	Function Description
1	Signal transmitter	● Signal transmitter
2	ON/OFF button	● Press this button and the unit will be turned on; press it once more, and the unit will be turned off. When turning off the unit, the Sleep function will be canceled, but the presetting time is still remained.
3	MODE button	● By pressing this button, Auto, Cool, Dry, Fan, Heat mode can be selected circularly. Auto mode is default after power on. Under the Auto mode, the setting temperature will not be displayed; Under the Heat mode, the initial value is 28°C (82°F);Under other modes, the initial value is 25°C(77°F). AUTO; COOL; DRY; FAN; HEAT (only for cooling and heating unit)
4	- button	● Preset temperature can be decreased by pressing this button. Pressing and holding this button for more than 2 seconds can make the temperature changed quickly until release this button and then transmit this order. The temperature adjustment is unavailable under the Auto mode, but the order can be sent by pressing this button. Centigrade setting range: 16-30; Fahrenheit scale setting range 61-86.
	+ button	● Preset temperature can be increased by pressing this button. Pressing and holding this button for more than 2 seconds can make the temperature changed quickly until release the button and then transmit this order. The temperature adjustment is unavailable under the Auto mode, but the order can be sent by pressing this button. Centigrade setting range: 16-30; Fahrenheit scale setting range 61-86.
5	FAN button	● By pressing this button, Auto, Low, Middle, High speed can be circularly selected. After power on, Auto fan speed is default. ● AUTO Low speed Middle speed High speed Note: Under the DRY mode, the fan will be kept running at the low speed and the fan speed isn't adjustable.

❻	SWING UP/DOWN button	● Press this button to set up the swing angle, which circularly changes as below: OFF ● When the guide louver starts to swing up and down, if SWING functions is canceled, the air guide louver will stop and remains at the current position. ● indicates the guide louver swings up and down among those five directions.(Simplified SWING function applicable for some Fan Coil Units: When the wireless remote controller is energized initially with the unit under the OFF status, it should be set by pressing the + button and the SWING button simultaneously, with the symbol blinking twice. Then, after the unit is turned on, this function can be activated by pressing the SWING button, with the displayed symbol indicating swing function is on and without this displayed symbol indicating swing function is off.)
❼	CLOCK button	● By pressing this button, the clock is allowed to be set, with blinking, and then press the +/- button to adjust the clock within 5 seconds. If the +/-button is pressed down constantly for more than 2 seconds, the clock setting will be increased or decreased 10 minutes every 0.5 seconds. After that, another press on the CLOCK button accepts the setting. 12:00 is the default, when the wireless remote controller is energized.
❽	TIMER ON button	● When TIMER ON is activated, ON will blink while the symbol will disappear. Within 5 seconds it is allowed to set the ON time by pressing the +/- button. Each press will make the time increase or decrease one minute. Besides, the time can also be set by pressing the +/- button constantly. that is, in the early 2.5 seconds, the time will increase/decrease quickly per single minute, and in the late 2.5, the time will increase/decrease per ten minutes. After the desired time value is set, press TIENE ON again to conform the setting within five seconds. After that, another press on TIMER ON will cancel the setting. Prior to this setting, the clock shall be set to the actual time.
❾	X-FAN button	● Pressing this button can activate or deactivate the X-FAN function. In Cool or Dry mode, by pressing this button, if "" is displayed, it indicates the X-FAN function is activated. By repressing this button, if "" disappears, it indicates the X-FAN function is deactivated. After energization, X-FAN OFF is defaulted. If the unit is turned off, X-FAN can be deactivated but can't be activated.
❿	TEMP button	● By pressing this button it is allowed to select displaying the indoor setting temperature or the indoor ambient temperature. ● Indoor setting temperature is default after the indoor unit is energized initially. ● By pressing the TEMP button, when the temperature symbol is displayed, the indoor displayer will show the indoor setting temperature; when is displayed, it will show the indoor ambient temperature; when is invalidation, If current displays indoor ambient temperature, if received the other remote control signal, it will display presetting temperature, 5s later, will back to display the ambient temperature. (This function is applicable to partial of models)
⓫	TIMER OFF button	● By pressing this button it is available to go to the TIMER OFF setting state with the same setting method as that of the TIMER ON, in which case the OFF symbol blinks.
⓬	TURBO button	● In the Cool or Heat mode, pressing this button can activate or deactivate the TURBO function. When the TURBO function is activated, its symbol will be displayed; when the running mode or the fan speed is changed, this function will be canceled automatically.(This function is applicable to partial of models).
⓭	SLEEP button	● By pressing this button, Sleep On and Sleep Off can be selected. After powered on, Sleep Off is defaulted. Once the unit is turned off, the Sleep function is canceled. When Sleep is set to On, the symbol of SLEEP will display. Under the Fan and Auto modes, this function is not available.
⓮	LIGHT button	● Press this button to select LIGHT on or off in the displayer. When the LIGHT is set to on, the icon will be displayed and the indicating light in the displayer will be on. When the LIGHT is set to off, the icon will be disappeared and the indicating light in the displayer will be off.

WIRED CONTROLLER

Display View

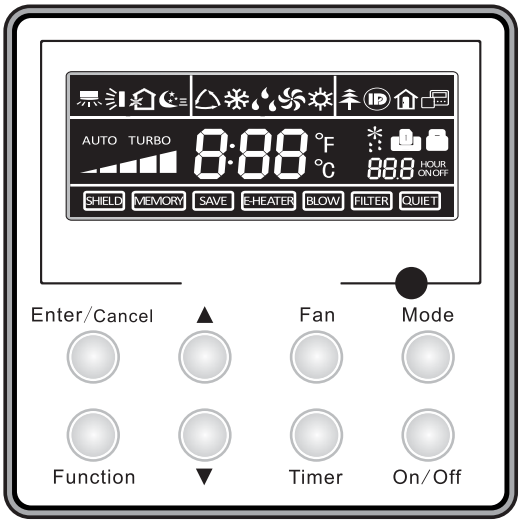


Figure 2-3-1 Appearance of wired controller

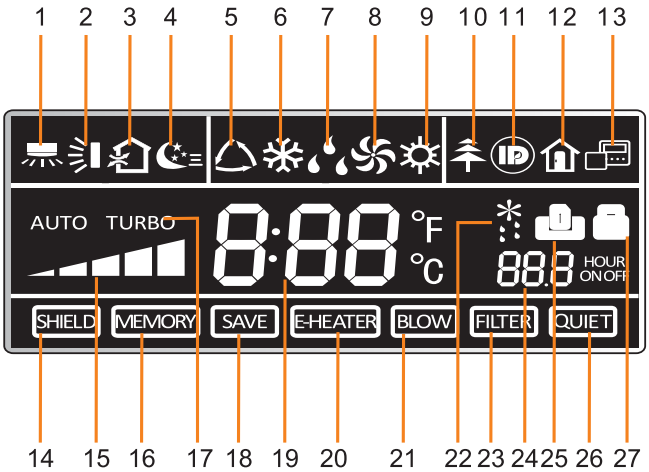


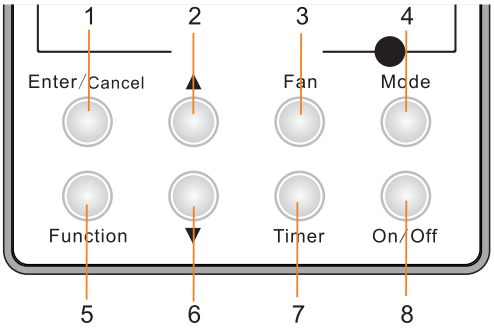
Figure 2-3-2 LCD display of wired controller

Table Instruction to LCD Display

No.	Icons	Introduction
1		Left and right swing function
2		Up and down swing function
3		Air exchange function
4		Sleep function
5		Auto mode
6		COOL mode
7		DRY mode
8		FAN mode
9		HEAT mode
10		Health function
11		I-Demand function
12		Vacation function
13		Status display of master and slave wired controller
14	SHIELD	Shield function The button operation, temperature setting, "On/Off" operation, "Mode" setting, and "Save" setting are disabled.
15	AUTO TURBO	Fan speed
16	MEMORY	Memory function The unit will resume the original setting state after power recovery.
17	TURBO	Turbo function
18	SAVE	Energy-saving function
19	8·88 °F °C	Ambient/setting temperature
20	E-HEATER	Electric heater
21	BLOW	Blow function
22		Defrosting function
23	FILTER	Filter cleaning
24	88.8 HOUR ON OFF	Timer Setting
25		Keycard control / Detected status sensed by human body
26	QUIET	Quiet function
27		Lock function

Operation View

Silk Screen of Buttons



Instruction to Function of Buttons

Table Instruction to buttons of wired controller

No.	Description	Functions
1	Enter/Cancel	①. Function selection and canceling; ②. Press it for 5s to view the ambient temperature; press Mode button to select viewing outdoor ambient temperature or indoor ambient temperature.
2	▲	①. Running temperature setting range of indoor unit: 16-30°C; ②. Timer setting range: 0.5-24hr; ③. Setting of air function level; ④. Setting of energy-saving temperature; ⑤. Setting of cleaning class.
6	▼	
3	Fan	Setting of high/medium high/medium/medium low/low/auto fan speed.
4	Mode	Setting of auto/cooling/heating/fan/dry mode of indoor unit.
5	Function	Switch over among these functions of swing/air/sleep/health/ I-Demand/out/turbo/save/ e-heater/X-fan/clean/quiet.
7	Timer	Timer setting.
8	On/Off	Turn on/off indoor unit.
4 Mode and 2 ▲	Memory function	Press Mode and ▲ buttons at the same time for 5s under off state of the unit to enter/ cancel memory function (If memory function is set, indoor unit will resume original setting state after power failure and then power recovery. If not, indoor unit is defaulted to be off after power recovery. Ex-factory setting of memory function is on).
2 ▲ and 6 ▼	Lock	Upon startup of the unit without malfunction or under off state of the unit, press ▲ and ▼ buttons at the same time for 5s to enter lock state. In this case, any other buttons won't respond when pressing. Repress ▲ and ▼ buttons for 5s to quit lock state.
4 Mode and 5 Function	Enquiry and setting of address of wired controller	Under off state of the unit, press Mode and Function buttons at the same time for 5s to set the address. (More details please refer to project debugging)
5 Function and 7 Timer	Setting of project parameters (More details please refer to the Notes)	Under off state of the unit, press Function and Timer buttons at the same time for 5s to go to the debugging menu. Press Mode button to adjust the setting items and press ▲ or ▼ buttons to set the actual value.
4 Mode and 6 ▼	Switch between Fahrenheit and Centigrade	Under off state of the unit, press Mode and ▼ buttons at the same time for 5s to switch between Fahrenheit and Centigrade.
5 Function and 6 ▼	Viewing historical malfunction	Continuously press Function and ▼ buttons for 5s to view historical malfunction. Then press ▲ and ▼ buttons to adjust displayed contents. The timer displaying position displays the sequence of malfunction and the detailed error code. The 5th displayed malfunction is the last malfunction.
1 Enter/Cancel and 4 Mode	Setting of master and slave wired controller	Under off state of the unit, press Enter/Cancel and Mode buttons at the same time for 5s to set master and slave wired controller. Press ▲ or ▼ button to adjust. (More details please refer to project debugging)

Notes: The following functions can be set through Function and Timer buttons: setting of ambient temperature sensor, selecting three speeds in high speed and three speeds in low speed of indoor fan motor, display setting of freeze protection error code, setting of cold air prevention and hot air hot prevention function, setting of refrigerant-lacking protection function, selecting of blowing residual heat of indoor unit, selecting of compressor electric heater mode, selecting of low-power consumption mode, selecting door control function, selecting human sensitive function, long-distance monitoring, temperature compensation value at the air return port.

Setting of Wired Controller's Address

Enquiry and Setting of Wired Controller's Address

Under off state of the unit, press Function and Mode buttons at the same time for 5s to enter setting interface of wired controller's address. In this case, LCD displays address number. Then press▲ or ▼ button to adjust address and then press Enter/Cancel button to confirm. The address setting is related to the setting of Debugging Function 4.9.10. When the selection in 4.9.10 is 00, address of centralized controller is to be set and the address setting range is 01~16; when the selection in 4.9.10 is 01, address of long-distance monitor is to be set and the address setting range is 01~255.

Enquiry and setting of wired controller's address is shown as below:

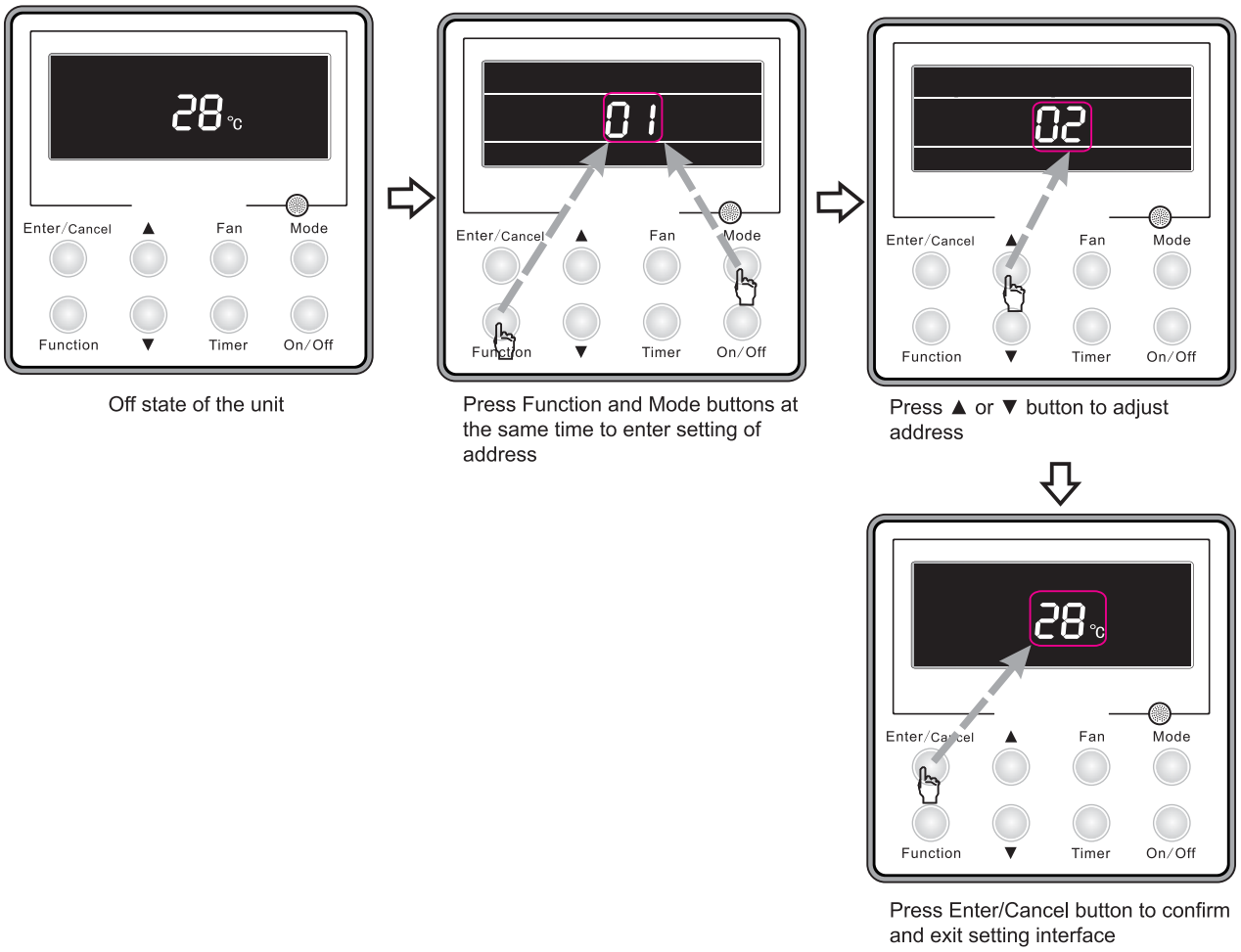


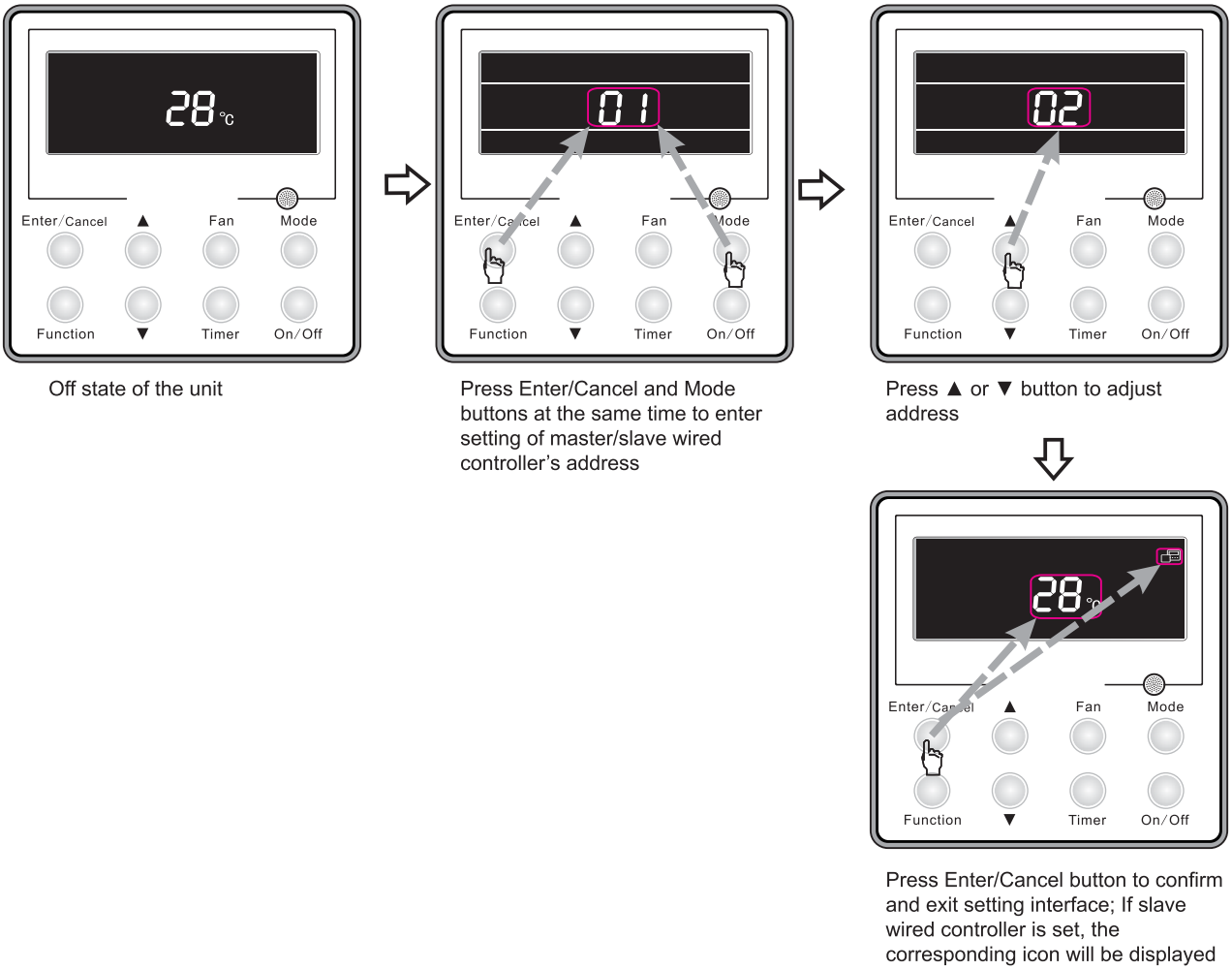
Figure Enquiry and setting of wired controller's address

Setting of Master/Slave Wired Controller's Address

Under off status of the unit, press Enter/Cancel and Mode buttons at the same time for 5s to go to the enquiry and setting interface of master/slave wired controller. In this case, LCD displays wired controller's address (01 for master wired controller and 02 for slave wired controller). Press ▲ or ▼ button to adjust address of master/slave wired controller and then press Enter/Cancel button to confirm. If slave wired controller is set, the icon will be displayed.

Note: If there is only one wired controller, it only can be set as the master; If there are two wired controllers, one should be the master and the other should be the slave.

Setting of master/slave wired controller's address is shown as Figure below:



Off state of the unit

Press Enter/Cancel and Mode buttons at the same time to enter setting of master/slave wired controller's address

Press ▲ or ▼ button to adjust address

Press Enter/Cancel button to confirm and exit setting interface; If slave wired controller is set, the corresponding icon will be displayed

Figure Enquiry and setting of master/slave wired controller's address

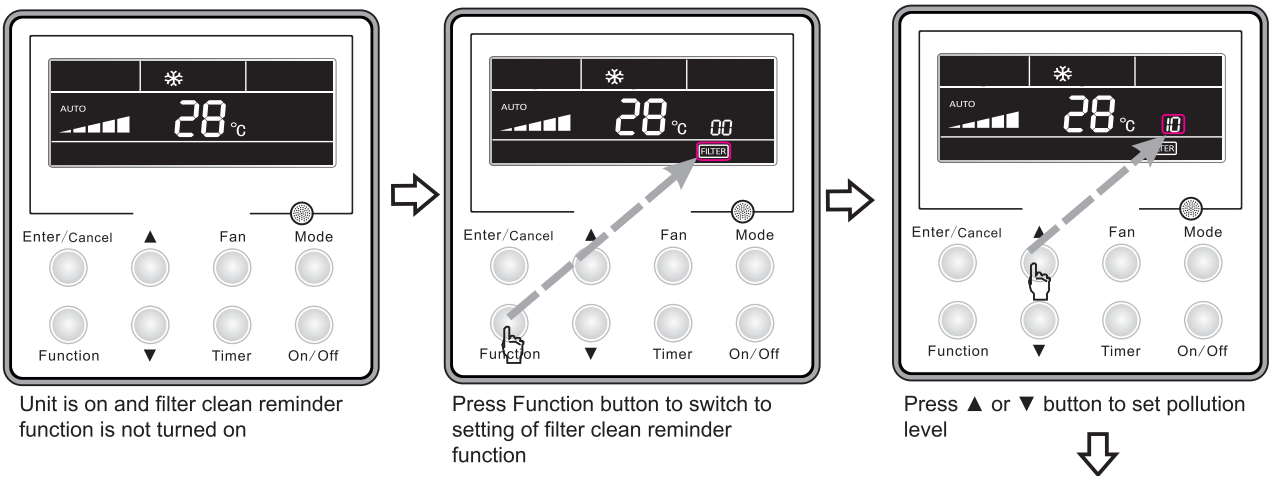
OPERATION INSTRUCTION OF SPECIAL FUNCTIONS

Setting of Filter Clean Reminder Function

When unit is on, press Function button to switch to filter clean reminder function. The FILTER icon will blink and then enter setting of filter clean reminder function. Timer zone displays the set pollution level and you can press ▲ or ▼ button to adjust the level. Then press Enter/Cancel button to turn on this function.

When filter clean reminder function is turned on, press Function button to switch to filter clean reminder function. The FILTER icon will blink and press ▲ or ▼ button to adjust timer zone to display "00". Then press Enter/Cancel button to cancel this function.

Setting of filter clean reminder function is shown as Figure below:



Unit is on and filter clean reminder function is not turned on

Press Function button to switch to setting of filter clean reminder function

Press ▲ or ▼ button to set pollution level

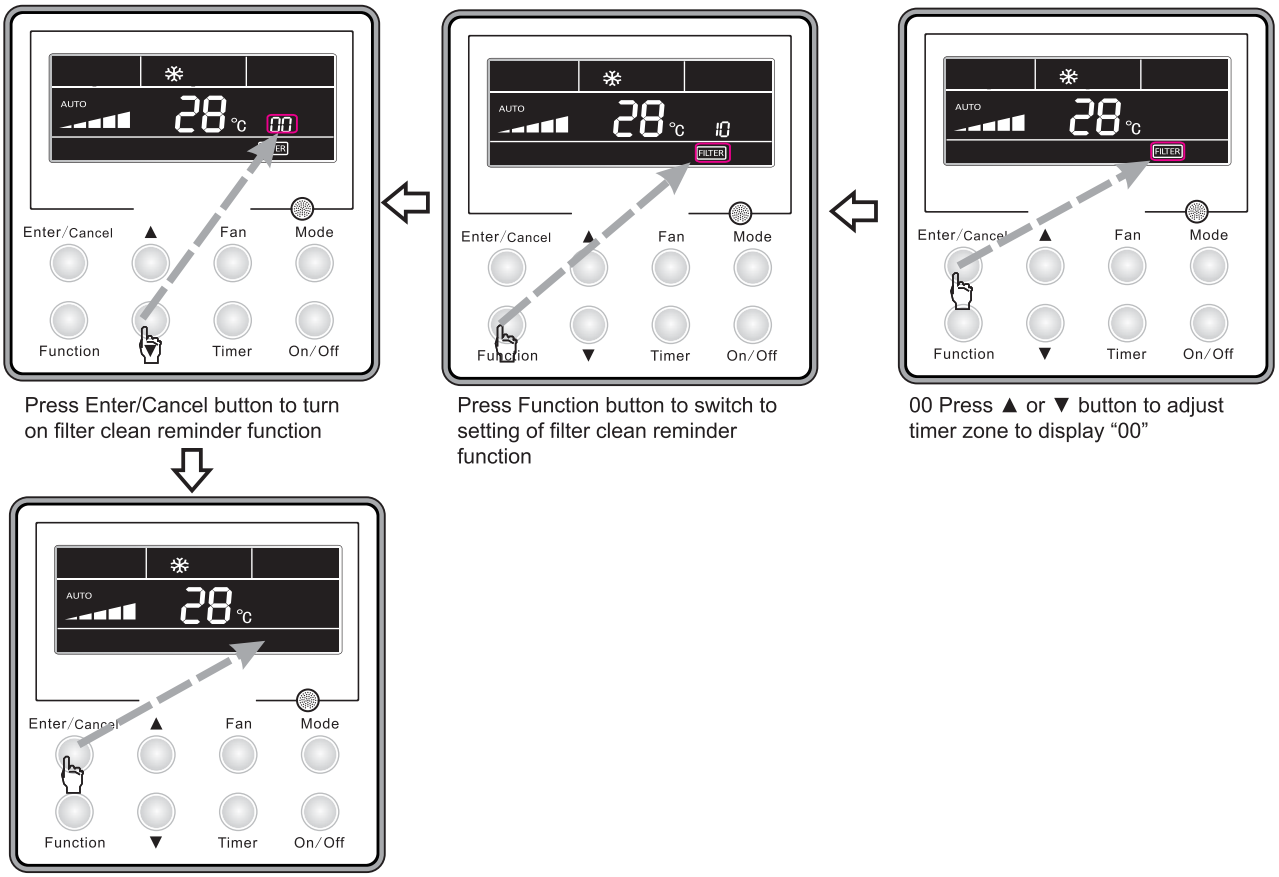


Figure Setting of filter clean reminder function

When setting the filter clean reminder function, timer zone will display 2 digits, of which the former indicates the pollution degree of operating place and the latter indicates the accumulated operating time of indoor unit. There are 4 types of situations:

(1). Clean Reminder is off (Timer zone shows “00“);

(2). Slight pollution: the former digit in timer zone shows 1 while the latter one shows 0, which indicates the accumulated operating time is 5500hr. Each time the latter digit increases 1, the accumulated operating time increases 500hr. When it reaches 9, it means the accumulated operating time is 10000hr;

(3). Medium pollution: the former digit in timer zone shows 2 while the latter one shows 0, which indicates the accumulated operating time is 1400hr. Each time the latter digit increases 1, the accumulated operating time increases 400hr. When it reaches 9, it means the accumulated operating time is 5000hr;

(4). Heavy pollution: the former digit in timer zone shows 3 while the latter one shows 0, which indicates the accumulated operating time is 100hr. Each time the latter digit increases 1, the accumulated operating time increases 100hr. When it reaches 9, it means the accumulated operating time is 1000hr;

The detailed pollution level and the corresponding time is as shown in Table below:

Table Pollution level and corresponding time

Pollution level	Accumulated operating time (hour)	Pollution level	Accumulated operating time (hour)	Pollution level	Accumulated operating time (hour)
10	5500	20	1400	30	100
11	6000	21	1800	31	200
12	6500	22	2200	32	300
13	7000	23	2600	33	400
14	7500	24	3000	34	500
15	8000	25	3400	35	600
16	8500	26	3800	36	700
17	9000	27	4200	37	800
18	9500	28	4600	38	900
19	10000	29	5000	39	1000

If filter clean reminder function is turned on, the FILTER icon will be on.

(1). If cleaning time is not reached, no mater the setting is changed or not, the accumulated operating time won't be recalculated when pressing Enter/Cancel button;

(2). If cleaning time is reached, in unit on or off state, FILTER will blink every 0.5s for reminder. Press Function button to switch to FILTER icon and press ▲ and ▼ button to adjust the level. Then press Enter/Cancel button, so the accumulated operating time won't be cleared (If the adjusted level is higher than the present accumulated operating time, the icon won't blink any more; if the adjusted level is lower than the present accumulated operating time, the icon will go on blinking).

(3). The only way to cancel filter clean reminder function is to press Function button to switch to filter clean reminder function. The FILTER icon will blink and press ▲ or ▼ button to adjust timer zone to display "00". In this case, the accumulated operating time will be cleared.

Low Temperature Drying Function

Under dry mode and when set temperature is 16°C, continuously press ▼ button for twice and then the set temperature will be 12°C. In this case, the unit will enter low temperature drying function.

When low temperature drying function is turned on, press ▲ button or Mode button to exit low temperature drying function.

Lock Function

When unit is turned on normally or turned off, pressing ▲ and ▼ buttons at the same time for 5s will turn on Lock function. LCD will display . Pressing ▲ and ▼ buttons at the same time for 5s to turn off this function.

When Lock function is turned on, any other buttons won't respond when pressing. The function can be memorized after power failure and then power recovery.

Memory Function

Press Mode and ▲ buttons at the same time for 5s under off state of the unit to turn on or cancel memory function. If memory function is set, MEMORY is displayed. If not, indoor unit is defaulted to be off after power recovery.

If memory function is set, indoor unit will resume original setting state after power failure and then power recovery.

Note: If cut off power with 5s after memorized content is changed, the memorized content may be abnormal. Do not cut off power within 5s after memorized content is changed.

Door Control Function/Human Sensitive Function

Door control function or human sensitive function can be selected (More details please refer to Debugging Function). These two functions can't be turned on at the same time.

When door control function is selected, the wired controller will work when the room card is inserted and stop working when the room card is not inserted; when human sensitive function is selected, the wired controller will work when it senses there is somebody in the room and stop working when it senses there is nobody in the room. When the door control function senses the room card is not inserted or human sensitive function senses there is nobody in the room, the wired controller will display icon.

Note:

① . In long-distance monitoring or centralized control, no matter the room card is inserted or not, the ON/OFF of unit can be controlled. If long-distance monitoring or centralized control information is received when the room card is not inserted, icon is cleared. When the card is reinserted, door control function is judged to be turned on. If long-distance monitoring or centralized control information is received when the room card is inserted, it will keep the original status.

② . The unit can not be controlled by buttons when the card is not inserted.

③ . When door control function and human sensitive function have been set at the same time, it is defaulted that door control function is valid and human sensitive function is invalid.

Switch between Fahrenheit and Centigrade

Under off state of the unit, press Mode and ▼ buttons at the same time for 5s to switch between Fahrenheit and Centigrade.

Enquiry of Ambient Temperature

Under off or on state of the unit, press it for 5s to view the ambient temperature. In this case, timer zone displays ambient temperature type 01 or 02. Ambient temperature zone displays the corresponding temperature of that type. 01 stands for outdoor ambient temperature and 02 stands for the indoor ambient temperature after compensation. Press Mode button to switch between 01 and 02. Pressing other buttons except Mode button or receiving remote control signal will exit enquiry state. If there is no operation within 20s will also exit enquiry state.

Note:

① . If the unit is not connected to outdoor ambient temperature sensor, display of outdoor ambient temperature will be shielding after energizing for 12hr.

② . If there is malfunction of outdoor ambient temperature sensor, display of outdoor ambient temperature will be shielding after energizing for 12hr.

Enquiry of Historical Malfunction

Under off or on state of the unit, continuously press Function and ▼ buttons for 5s to view historical malfunction.

In enquiry state, set temperature displaying zone displays “00”. Press ▲ and ▼ buttons to view the 5 malfunctions happened recently. The timer displaying position displays the detailed error code. The 5th displayed malfunction is the last malfunction.

Debugging Function

Under off state of the unit, press Function and Timer buttons at the same time for 5s to go to the debugging menu. Press Mode button to adjust the setting items and press ▲ or ▼ button to set the actual value.

Setting ambient temperature sensor (dual ambient temperature sensors function)

Under debugging state, press Mode button to adjust to “00” in temperature displaying zone. Timer zone displays setting state and press ▲ or ▼ button to adjust. There are 3 selections:

(1). The ambient temperature at air return is set as indoor ambient temperature (timer zone displays 01).

(2). The temperature at wired controller is set as indoor ambient temperature (timer zone displays 02).

(3). Select the temperature sensor at air return in cooling, dry and fan mode; select the temperature sensor at wired controller in heating and auto mode(timer zone displays 03).

Selecting three speeds in high speed and three speeds in low speed of indoor fan motor

Under debugging state, press Mode button to adjust to “01” in temperature displaying zone. Timer zone displays setting state and press ▲ or ▼ button to adjust. There are 2 selections:

(1). Three speeds in low speed (LCD displays 01)

(2). Three speeds in high speed (LCD displays 02)

Three speeds in low speed include high, medium and low speeds; three speeds in high speed include super high, high and medium speed.

Note: For this series, this function is invalid.

Displaying setting of freeze protection error code

Under debugging state, press Mode button to adjust to “02” in temperature displaying zone. Timer zone displays setting state and press ▲ or ▼ button to adjust. There are 2 selections:

(1). Displayed (LCD displays 01)

(2). Not displayed (LCD displays 02)

It is defaulted to be not displayed for export unit and be displayed for domestic unit.

Setting refrigerant lacking protection function

Under debugging state, press Mode button to adjust to “04” in temperature displaying zone. Timer zone displays setting state and press ▲ or ▼ button to adjust. There are 2 selections:

(1). With refrigerant lacking protection function (LCD displays 01)

(2). Without refrigerant lacking protection function (LCD displays 02)

Selecting blowing residual heating of indoor unit

Under debugging state, press Mode button to adjust to “05” in temperature displaying zone. Timer zone displays setting state and press ▲ or ▼ button to adjust. There are 2 selections:

(1). Mode 1 (LCD displays 00)

(2). Mode 2 (LCD displays 01)

Note: Blowing residual heating of indoor unit

Mode 1: Unit stops when reaching temperature point and indoor fan motor does not stop in cooling mode; after unit stops when reaching temperature point in heating mode, duct type unit and floor ceiling unit blow residual heat for 60s and then stop indoor unit, while cassette type unit always operates in low fan speed and blows residual heat for 60s when there is malfunction.

Mode 2: After unit stops when reaching temperature point, the indoor fan motor stops operation with a 10s delay no matter in cooling mode or in heating mode.

Mode selecting of compressor electric heating belt

Under debugging state, press Mode button to adjust to “06” in temperature displaying zone. Timer zone displays setting state and press ▲ or ▼ button to adjust. There are 2 selections:

(1). Mode 1 (LCD displays 00)
(2). Mode 2 (LCD displays 01)

Note:

① . Mode 1: Compressor electric heating belt starts when outdoor ambient temperature is below 35°C and stops when outdoor ambient temperature is above 37°C. When outdoor ambient temperature is within 35°C~ 37°C, the belt will keep its previous operation state.

② . Mode 1: Compressor electric heating belt starts when outdoor ambient temperature is below -2°C and stops when outdoor ambient temperature is above 0°C. When outdoor ambient temperature is within -2°C~0°C, the belt will keep its previous operation state.

Selecting low-power consumption mode

Under debugging state, press Mode button to adjust to “07” in temperature displaying zone. Timer zone displays setting state and press ▲ or ▼ button to adjust. There are 2 selections:

(1). With low-power consumption mode (LCD displays 00)
(2). Without low-power consumption mode (LCD displays 01)

Selecting door control function

Under debugging state, press Mode button to adjust to “08” in temperature displaying zone. Timer zone displays setting state and press ▲ or ▼ button to adjust. There are 2 selections:

(1). Without door control function (LCD displays 00)
(2). With door control function (LCD displays 01)

Selecting human sensitive function

Under debugging state, press Mode button to adjust to “09” in temperature displaying zone. Timer zone displays setting state and press ▲ or ▼ button to adjust. There are 2 selections:

(1). Without human sensitive function (LCD displays 00)
(2). With human sensitive function (LCD displays 00)

Selecting long-distance monitoring or centralized controller

Under debugging state, press Mode button to adjust to “10” in temperature displaying zone. Timer zone displays setting state and press ▲ or ▼ button to adjust. There are 2 selections:

(1). Centralized controller (LCD displays 00)
(2). Long-distance monitoring (LCD displays 01)

Selecting fan mode of indoor fan motor

Under debugging state, press Mode button to adjust to “11” in temperature displaying zone. Timer zone displays setting state and press ▲ or ▼ button to adjust. There are 5 selections:

(1). P3 (LCD displays 03)
(2). P4 (LCD displays 04)
(3). P5 (LCD displays 05)
(4). P6 (LCD displays 06)
(5). P7 (LCD displays 07)

Note: You can select P03, P04, P05, P06, P07 in fan mode of indoor fan motor, which means different fan mode combinations are corresponding to different static pressure. Ex-factory defaulted mode is P05. You can set the mode through wired controller. S01, S02, S03……S12, S13 means the rotation speed of indoor unit is from low to high.

Table Combination relationship of P03, P04, P05, P06, P07

Static pressure selection	Super high speed	High speed	Medium high speed	Medium speed	Medium low speed	Low speed	Quiet R1 speed	Quiet R2 speed	Quiet R13 speed
P03	S09	S08	S07	S06	S05	S04	S03	S02	S01
P04	S10	S09	S08	S07	S06	S05	S04	S03	S02
P05	S11	S10	S09	S08	S07	S06	S05	S04	S03
P06	S12	S11	S10	S09	S08	S07	S06	S05	S04
P07	S13	S12	S11	S10	S09	S08	S07	S06	S05

Selecting compensation of temperature sensor at air return

Under debugging state, press Mode button to adjust to “12” in temperature displaying zone. Timer zone displays setting state and press ▲ or ▼ button to adjust. There are 16 selections:

(1). Compensate 0°C (LCD displays 00)
(2). Compensate 1°C (LCD displays 01)
(3). Compensate 2°C (LCD displays 02)

(4). Compensate 3°C (LCD displays 03)
(5). Compensate 4°C (LCD displays 04)
(6). Compensate 5°C (LCD displays 05)
(7). Compensate 6°C (LCD displays 06)
(8). Compensate 7°C (LCD displays 07)
(9). Compensate 8°C (LCD displays 08)
(10). Compensate 9°C (LCD displays 09)
(11). Compensate 10°C (LCD displays 10)
(12). Compensate 11°C (LCD displays 11)
(13). Compensate 12°C (LCD displays 12)
(14). Compensate 13°C (LCD displays 13)
(15). Compensate 14°C (LCD displays 14)
(16). Compensate 15°C (LCD displays 15)

Note: Indoor ambient temperature compensation can be set through wired controller (E.g. If 02 is selected, it indicates the compensation temperature is 2°C. If the indoor ambient temperature detected by the temperature sensor at air return is 29°C, the ambient temperature after compensation is 29°C-2°C=27°C).

After finishing setting, press Enter/Cancel button to save and exit setting. After entering this interface, the system will exit this menu if there is no operation on the button within 20s. Normal off state interface will be displayed and present setting will not be saved.

INSTALLATION OF WIRED CONTROLLER

Standard Accessories

Table Standard Accessories of Wired Controller

Description	Quantity	Note
Socket base box installed in the wall	1	No.1 in Figure 2-5-1
Base plate of wired controller	1	No.2 in Figure 2-5-1
Screw M4×25	2	No.3 in Figure 2-5-1
Panel of wired controller	1	No.4 in Figure 2-5-1

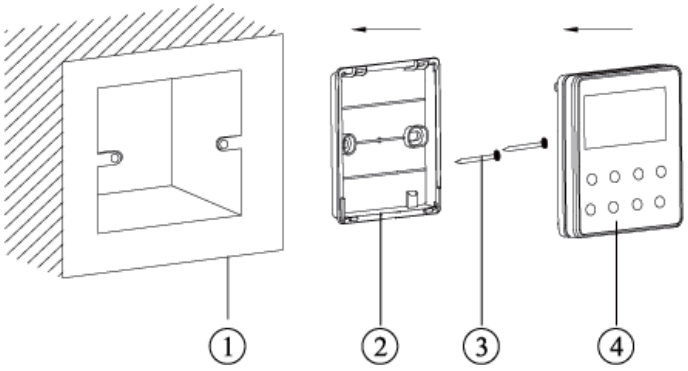


Figure 2-5-1

Installation Position and Requirement

(1). Prohibit installing the wired controller at the misty place or the place with direct sunlight.

(2). Prohibit installing the wired controller at the place near high temperature objects or water-splashing places.

(3). Prohibit installing the wired controller at the place where faces forward to the window, to avoid interference of another remote controller from neighborhood.

(4). Cut off the power of heavy current wire in the installation hole of the wall. All power should be cut off during installation.

(5). In order to avoid abnormal operation due to electromagnetic interference, etc., pay attention to the following notes during connecting wires:

1). Make sure the tie-in interface of communication wire is correct, otherwise it may lead to communication malfunction.

2). The signal wires and communication wires of wired controller should be separated from power cord and connection wire between indoor unit and outdoor unit.

3). If the air conditioner is installed at the strong electromagnetic interference place, signal wire and

communication wire of wired controller must use shielding twisted wire.

Installation of Wired Controller

Firstly, the selection and connection way of wired controller's signal wire are as below:

(1). Choose suitable signal wire: 2-core signal wire (wire diameter >=0.75mm, wire length<30m and the recommended length is 8m).

(2). Make sure the power of indoor unit is cut off; fix the signal wire of wired controller on the wiring board for wired controller of indoor unit with screws; make sure the signal wire is solid.

Then, the detailed installation procedures of wired controller are as shown in Figure 2-5-2:

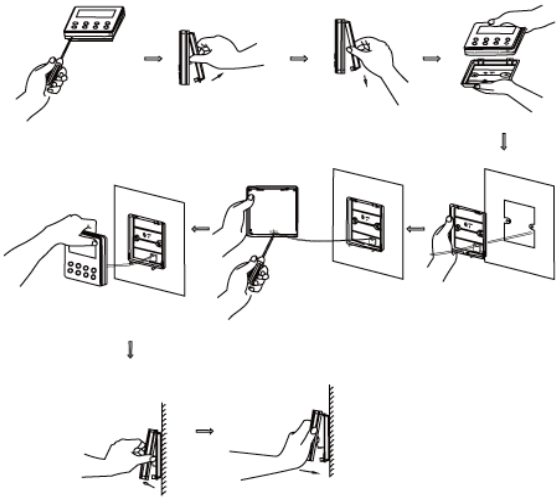


Figure 2-5-2 Installation of wired controller

Brief instructions of installation procedure:

1). Pull out the 2-core signal wire in the installation hole of the wall and then let this wire go through the hole at the back of wired controller's base plate.

2). Fix the base plate and installation hole of the wall together with screw M4×25.

3). Fix the above mentioned 2-core signal wire on the copper insert X1 and X2 with the equipped screws of wired controller.

4). Fasten the wired controller's panel with its base plate together.

Removal of Wired Controller

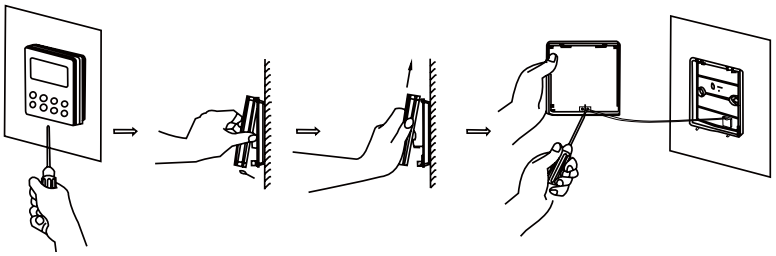


Figure 2-5-3 Removal of wired controller

TROUBLESHOOTING

Display of Error Code

Table 2-6-1 Error Code List

Error Code	Error
E1	Compressor high pressure protection
E2	Freeze protection
E3	Compressor low pressure protection, refrigerant lacking protection, refrigerant recycling mode
E4	Compressor high discharge temperature protection
E6	Communication malfunction
E8	Malfunction of indoor fan motor
E9	Full water protection
F0	Malfunction of indoor ambient temperature sensor
F1	Malfunction of evaporator temperature sensor

F2	Malfunction of condenser temperature sensor
F3	Malfunction of outdoor ambient temperature sensor
F4	Malfunction of discharge temperature sensor
F5	Malfunction wired controller temperature sensor
C5	Wong dial switch of capacity
EE	Malfunction of outdoor main control memory chip
PF	Malfunction of electric box sensor
H3	Compressor overload protection
H4	Overload protection
H5	IPM protection
H6	Malfunction of DC fan motor
H7	Drive desynchronizing protection
Hc	pfc protection
L1	Malfunction of humidity sensor
Lc	Start-up failure
Ld	Compressor phase protection
LF	Power protection
Lp	Models of indoor unit and outdoor unit do not match with each other
U7	Direction changing malfunction of 4-way valve
P0	Drive reset protection
P5	Overcurrent protection
P6	Communication malfunction between main control and drive
P7	Malfunction of drive module sensor
P8	High temperature protection of drive module
P9	Zero-cross protection
PA	AC current protection
PC	Malfunction of drive current
Pd	Sensor connection protection
PE	Temperature excursion protection
PL	Low voltage protection of bus bar
PH	High voltage protection of bus bar
PU	Charging circuit malfunction
PP	Abnormity of input voltage
ee	Malfunction of outdoor drive memory chip

When there is a malfunction during operation, error will be displayed on the temperature displaying zone of LCD. When several malfunctions occur at the same time, these error code will be displayed circularly.

When there is a malfunction, please turn off the unit and ask the professional for maintenance.

For example, E1 means high pressure protection during operation.

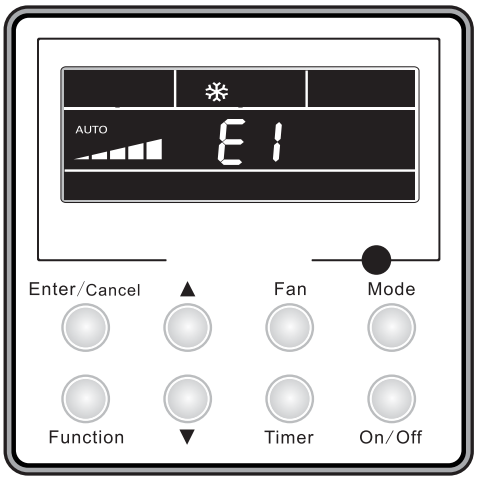


Figure 2-6-1

Troubleshooting and Maintenance

Troubleshooting

If your air-conditioning unit suffers from abnormal operation or failure, please first check the following points before repair:

Failure	Possible Reasons
The unit cannot be started.	①. The power supply is not connected. ②. Electrical leakage of air-conditioning unit causes tripping of the leakage switch. ③. The operating keys are locked. ④. The control loop has failure.
The unit operates for a while and then stops.	①. There is obstacle in front of the condenser. ②. The control loop is abnormal. ③. Cooling operation is selected when the outdoor ambient temperature is above 48°C.
Poor cooling effect.	①. The air filter is dirty or blocked. ②. There is heat source or too many people inside the room. ③. The door or window is open. ④. There is obstacle at the air intake or outlet. ⑤. The set temperature is too high. ⑥. There is refrigerant leakage. ⑦. The performance of room temperature sensor becomes worse
Poor heating effect	①. The air filter is dirty or blocked. ②. The door or window is not firmly closed. ③. The set room temperature is too low . ④. There is refrigerant leakage. ⑤. The outdoor ambient temperature is lower than -5°C. ⑥. Control loop is abnormal.

After carrying out the check of the above items and taking relevant measures to solve the problems found but the air-conditioning unit still does not function well, please stop the operation of the unit immediately and contact the local service agency designated by Sinclair. Only ask professional serviceman to check and repair the unit.

Routine Maintenance

Only a qualified service person is allowed to perform maintenance.

Before accessing to terminal devices, all power supply circuits must be disconnected.

Do not use water or air of 50°C or higher for cleaning air filters and outside panels.

Note:

①. Do not operate the air conditioner with the filter uninstalled, otherwise dust would come into the unit.

②. Do not remove the air filter except for cleaning. Unnecessary handling may damage the filter.

③. Do not clean the unit with gasolene, benzene, thinner, polishing powder or liquid insecticide,

Installation of Controllers

Refer to the Installation Manual of the controller for more details.

Test Running

I Operation and Testing

(1). The meaning of error codes as shown below:

Table 11

Number	Error code	Error	Remarks
1	E1	Compressor high pressure protection	
2	E2	Indoor anti-freeze protection	
3	E3	Compressor low pressure protection, refrigerant lack protection and refrigerant colleting mode	
4	E4	Compressor high discharge temperature protection	
5	E6	Communication error	
6	E8	Indoor fan motor error	
7	E9	Full water protection	
8	F0	Indoor ambient temperature sensor error	
9	F1	Evaporator temperature sensor error	
10	F2	Condenser temperature sensor error	
11	F3	Outdoor ambient temperature sensor error	
12	F4	Discharge temperature sensor error	
13	F5	Temperature sensor error of wired controller	
15	C5	Capacity code error	
16	EE	Outdoor memory chip error	
17	PF	Electric box sensor error	
18	H3	Compressor overload protection	
19	H4	Overloading	
20	H5	IPM protection	
21	H6	DC fan motor error	
22	H7	Drive desynchronizing protection	
23	Hc	Pfc protection	
25	Lc	Activation failure	
26	Ld	Compressor phase sequence protection	
27	LE	Compressor stalling protection	
28	LF	Power protection	
29	Lp	Indoor and outdoor mismatch	
30	U7	4-way valve direction changing protection	
31	P0	Drive reset protection	
32	P5	Over-current protection	
33	P6	Communication error between main control and drive	
34	P7	Drive module sensor error	
35	P8	Drive module over temperature protection	
36	P9	Zero passage protection	
37	PA	AC current protection	

38	Pc	Drive current error	
39	Pd	Sensor connecting protection	
40	PE	Temperature drift protection	
41	PL	Bus low voltage protection	
42	PH	Bus high voltage protection	
43	PU	Charge loop error	
44	PP	Input voltage abnormality	
45	ee	Drive memory chip error	

Note: When the unit is connected with the wired controller, the error code will be simultaneously shown on it.

(2). Instructions to the Error Indicating Lamps on the Panel of the Duct Type Unit.

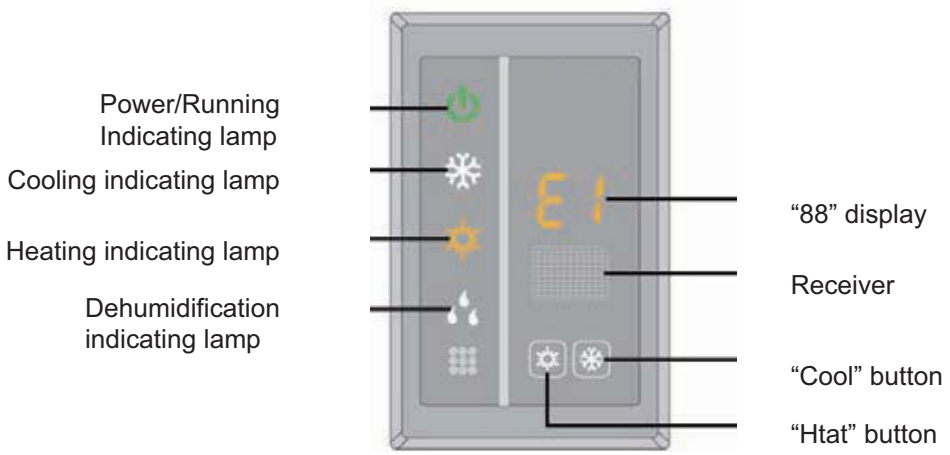


Fig.47

6.2.Working Temperature Range

Table 12

Test Condition	Indoor Side		Outdoor Side	
	DB(°C)	WB(°C)	DB(°C)	WB(°C)
Nominal Cooling	27	19	35	24
Nominal Heating	20	–	7	6
Rated Cooling	32	23	48	–
Low Temp. Cooling	21	15	-15	–
Rated Heating	27	–	24	18
Low Temp. Heating	20	–	-10	-11

Note:

① . The design of this unit conforms to the requirements of EN14511 standard.

② . The air volume is measured at the relevant standard external static pressure.

③ . Cooling (heating) capacity stated above is measured under nominal working conditions corresponding to standard external static pressure. The parameters are subject to change with the improvement of products, in which case the values on nameplate shall prevail.

④ . In this table, there are two outside DB values under the low temp cooling conditions, and the one in the brackets is for the unit which can operate at extreme low temperature.

Take-back of electrical waste
Information for Users to Disposal of electrical and electronic equipment (private households)

Icon on the product or in the accompanying documentation means that used electric or electronic products must not be disposed together with domestic waste. For the correct disposal of the product hand it over to a place for take-back, where it is collected free of charge. By correct disposal of the product you can help to preserve valuable natural resources and help in preventing potential negative impacts to environment and human health, which could be consequence of incorrect disposal of waste. Ask for more details from local authorities, nearest collection point, in Waste Acts of respective country, in the Czech Republic in Act no. 185/2001 Coll., in the wording of later regulations. In case of incorrect disposal of this waste, a fine can be imposed according to national regulations.

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