

Indoor Unit Operation & Installation Manual

AD072MLAHA

AD092MLAHA

AD122MLAHA

AD142MLAHA

AD162MLAHA

AD182MLAHA

AD242MLAHA

No.0010578408

- Please read this manual carefully before using
- Keep this operation manual for future reference

User Manual

Your air conditioner may be subject to any change owing to the improvement of Haier products.

MRV series multiple air conditioning systems adopt the consistent running mode, by which, all indoor units can only be heating or refrigerating operation at the same time.

To protect the compressor, the air conditioning unit should be powered on for over 12 hours before using it. All indoor units of the same refrigerating system should use the unified power switch to ensure that all indoor units are in the state of being powered on at the same time during the operation of air conditioner.

Product Features:

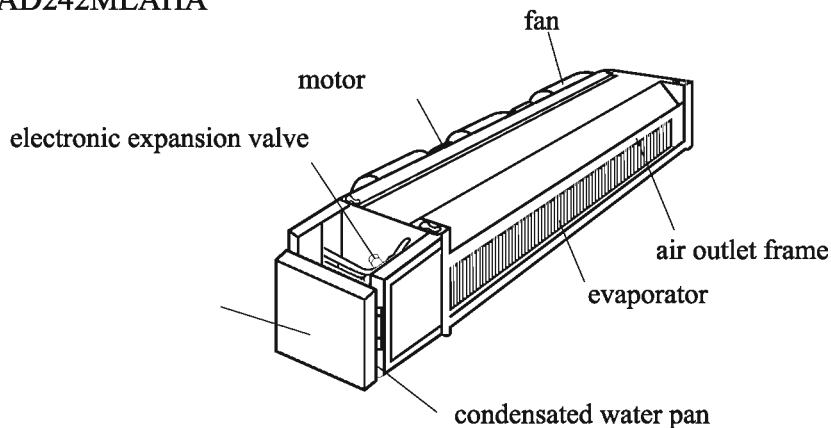
1. Low static pressure air conditioners for the indoor units of this series;
2. The built-in installation to save space;
3. Automatic display of fault detection;
4. Central control function (optional from our company);
5. The air conditioner is provided with the function of compensation for power supply. During operation, when the power supply fails emergently and resumes again, the air conditioner returns to the working condition before power failure, if provided with compensation function.
6. Now this indoor unit only has wired controller function, the indoor unit that has remote controller function need to set in factory especially.

Contents

Parts and Functions	1-5
Safety Considerations	6-7
Operation instruction	8-15
Maintenance	16
Fault Checkup	17
Installation Procedures	18-22
Electrical Wiring	23-27
Functions of Wired Controller	28
Test Run & Fault Code	29
Technical Specifications	30-31

Parts and Functions

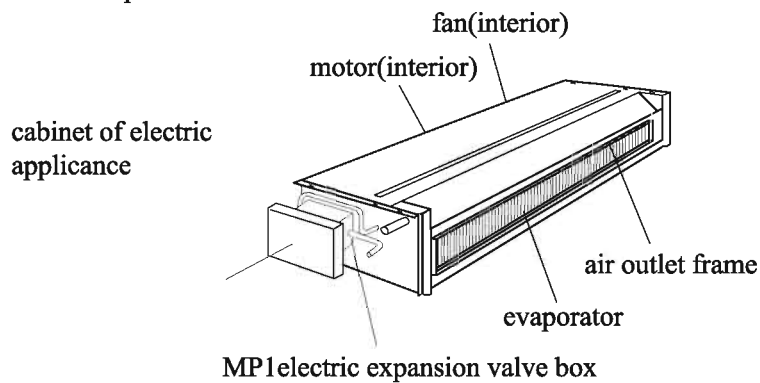
AD242MLAHA



NB:Model AD242MLAHA,as shown in the figure,in not equipped with the return air plenum before delivery.

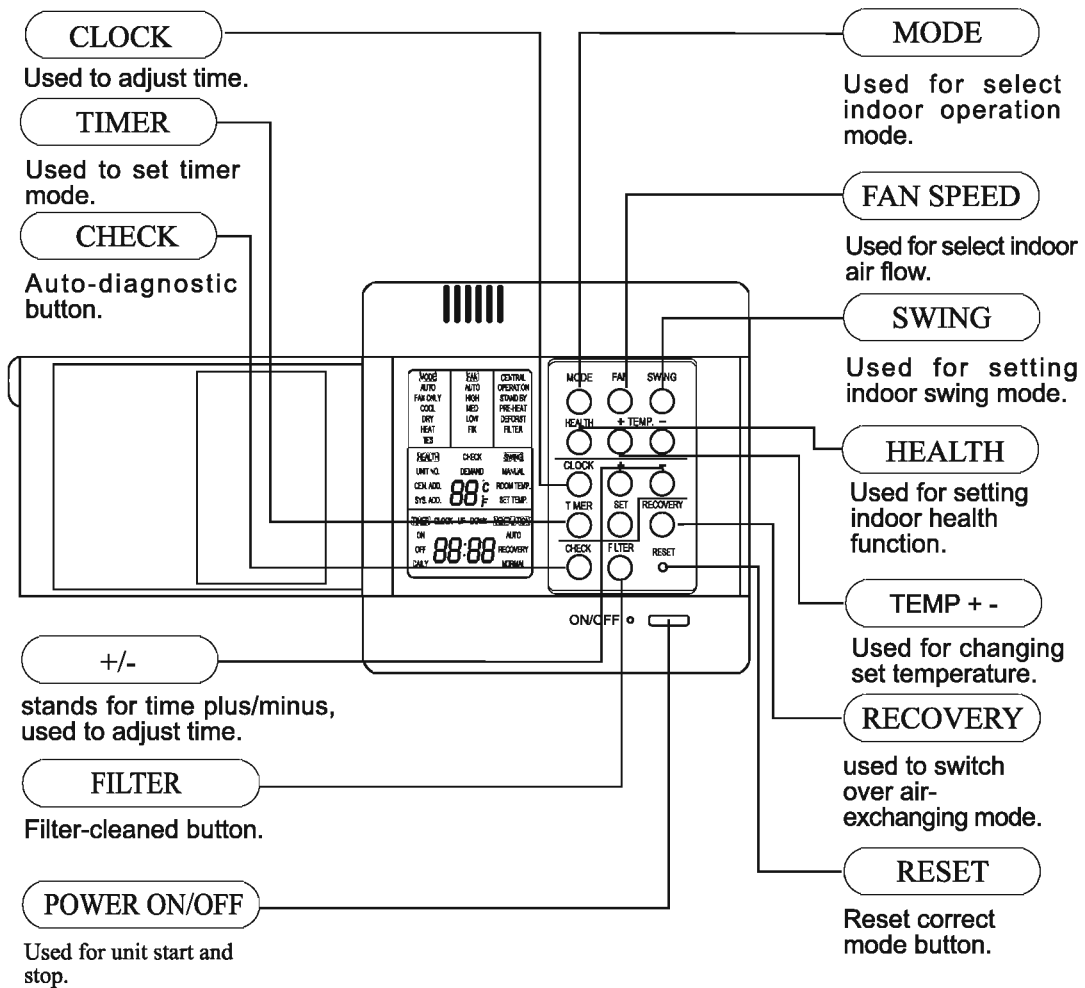
AD072~182MLAHA

NB:Model AD072~182 indoor units are provided for air return plenum with rear air return before delivery,as shown in the figure.The return can be replaced by the lower air return as required.



NB:When welding connecting pipes for indoor units after sales,disconnect them after making marks on the transducers of gas & liquid pipes to prevent the transducers from burning .After welding the pipes,insert the transducers,together with spring clips,into the sleeve.Make sure not to insert the transducers of gas & liquid pipes revesely.The tubes on MP1 electric expansion valve box and transducers should be wrapped in the bushing for heat preservation by the installation personnel.

Parts and Functions



Cautions:
On cooling only unit, heating mode is not available.

Note:
The above information is the explanation of the displayed information therefore varies with those displayed in actual operation.

Parts and Functions

[MODE]

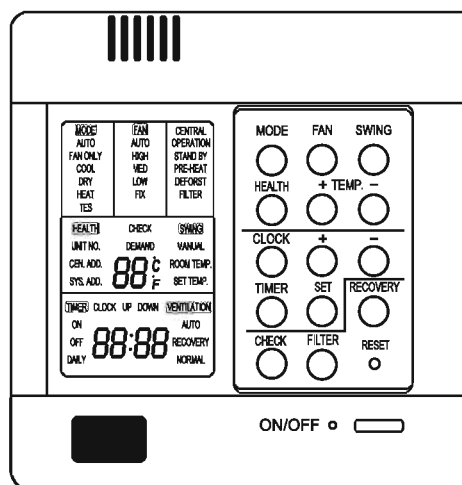
- [AUTO]:Auto operation mode.
- [FAN ONLY]:air-throwing mode.
- [COOL]:Cooling operation mode.
- [DRY]:Dehumidification mode.
- [HEAT]:Heating operation mode.

[FAN]

- [AUTO]:Auto fan running.
- [HIGH]:High fan speed.
- [MED]:Medium fan speed.
- [LOW]:Low fan speed.
- [FIX]: Fixed fan speed, it will display only when fixed fan speed is requested to main indoor unit.

[CENTRAL]:Central control mode.

- [OPERATION]:Running mode.
- [STAND BY]: Waiting mode.
- [PRE-HEAT]: Pre-heating mode.
- [DEFROST]: Defrosting mode.
- [FILTER]: Request of filter to be cleaned.
- [HEALTH]:Health function.
- [CEN.ADD]:Central control address, the address number will display on "88".
- [SYS.ADD.]:System address, the address number will display on "88".
- [CHECK]:Auto-diagnostic, trouble shooting.
- [DEMAND]:Compulsory operation function, when it works, [CENTRAL] will flash.



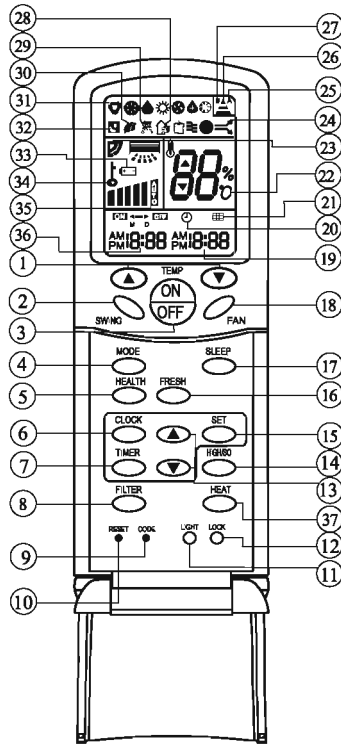
- [SWING][MANUAL]:Swing mode.
- [ROOM TEMP.]:Indoor ambient temperature.
- [SET TEMP.]:Set admired temperature.

[TIMER]

- [ON]:Timer function is on.
- [OFF] :Timer function is off.
- [ON][OFF] :Timer function ON-OFF.
- [ON][OFF][DAILY]:Timer ON-OFF will switch over in turn daily
- [CLOCK]:Clock display, the displaying time is the current time of the clock.
- [UP],[DOWN]:Indicator of filter elevating.
- [VENTILATION]
 - [AUTO]:Auto ventilation mode.
 - [NORMAL]:Normal ventilation mode.

Parts and Functions

Remote controller



1.TEMP Setting Button

(Used to set temperature. Setting ranges: 16°C to 30°C)

In Up/Down function of filter, for controlling up and down filter.

2.SWING Button

If you press this button once, auto swing will be activated.

If you press this button again, the louver will fix in the present position.

3.Power ON/OFF Button

Used for unit start or stop

After power on, the LCD of remote controller will display the previous operation state (except for TIMER,SLEEP and SWING state).

4.Operation MODE

Used to select operation mode.

Every time you press MODE button, operation mode changes according to following sequence:



5.HEALTH Button

6.CLOCK Button

Used to set correct time.

7.TIMER Button

Used to select TIMER mode:TIMER ON,TIMER OFF, TIMER ON/OFF.

(Note: if time of TIMER ON is the same as TIMER OFF,TIMER ON/OFF cannot be set)

8. FILTER Button

Used to set up/down function of filter.

9.CODE Button

Used to select Code A or B, Normally at Code A.

As you can't control the indoor unit, please change the Code to B.

10.RESET Button

Press this button by using a sharp article to resume the correct operation of the remote controller in case of need, i.e. for example in case of malfunctions due to electromagnetic disturbance.

11.LIGHT Button

Used to light the control panel

12.LOCK Button

Used to lock operation button and LCD display contents: by pressing this button, other buttons comes out of function and lock state display appears; if you press it again, lock state will be no more active and lock state display will disappear.

13.HOUR Adjustment

Used to set clock and timer setting

14.HIGH/SO Button

Used to select HIGH or SOFT operation.

15.SET Button

Used to confirm TIMER and CLOCK settings.

16.FRESH Button

Used to set fresh mode, the unit will draw in fresh air.

NOTE: 1.Models in this manual have no functions (5)(8)(11)(14)(16)(17)(21)(23)(24)(27)(28)(29)(30)(37)

2.HIGH/SO button

This button is active in Cooling/Heating mode, the fan speed is in AUTO mode after pressing it and " high function " will be automatically cancelled after 15 minutes running.

Parts and Functions

17.SLEEP Button

(The clock must be corrected before setting sleep function)

Used to set sleep mode.

18.FAN Button

Used to select fan speed:LOW,MID,HIGH,AUTO.

19.TIME Display

20.TIMER Display

21.FILTER Display

When the filter need be cleaned, you can press the FILTER button for 3s, to up/down function.

22.TEMPERATURE Display

23.AUTO SWING Display

24.HIGN/SO Run Display

25.Code A of controller's state

Code A is used for this unit

26.SIGNAL SENDING Display

27.Code B of controller's state

28.Fresh Display

29.Auxiliary ELECTRICAL HEATING Display

30.HEALTH Display

Displays when healthy run function is set.

31.Operation MODE Display

AUTO RUN	COOL RUN	DRY RUN	HEAT RUN	FAN RUN

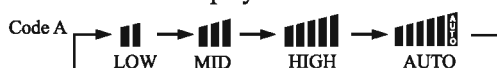
32.SLEEP State Display

33.BATTERY Energy Display

Notify the user when it is time to change the batteries.

34.LOCK State Display

35.FAN SPEED Display



36.TIMER ON Display

37.HEAT Button

Used to select auxiliary heater.

Remote Controller Operation

- When in use, direct signal transmission head to the receiver placed on the indoor unit

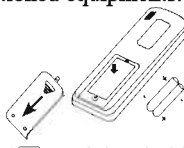
- The distance between the remote controller and the receiver should be max 7m and there should be no obstacle between them.
- Do not throw the remote controller; prevent it from being damaged.
- When operating the remote controller in an area where electronically controlled lights are installed or wireless handsets are used, please move closer to the indoor unit as the function of the remote controller might be affected by signals emitted by the above mentioned equipments.

Battery loading

Battery loading

Batteries are fitted as follows:

Remove the battery compartment lid Slightly press and disengage the battery compartment lid marked with “” and then hold the remote controller by the upper section and then remove the battery compartment lid by pressing in the direction of the arrow as shown in the figure above.



Loading the battery

Ensure that batteries are correctly placed in the compartment as required for positive and negative terminals.

Replacing the battery compartment lid

The battery compartment lid is reinstalled in the reverse sequence.

Display review

Press the button to see if batteries are properly fitted. If no display appears, refit the batteries.

Confirmation indicator

If no indication is displayed after press ON/OFF button, reload the batteries.

Caution:

If the remote controller does not operate as designed after fitting new batteries of the same type, press the Reset button (marked) with a pointed article.

Note:

It is recommended that the batteries be removed from the compartment if the remote controller is not used for an extended period.

The remote controller is programmed for automatic test of operation mode after the batteries are replaced. When the test is conducted, all icons will appear on the screen and then disappear if the batteries are properly fitted.

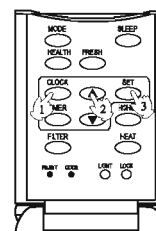
When throw away the waste batteries, please perform in accordance with the local regulation.

Clock Set





When unit is started for the first time and after replacing batteries in remote controller, clock should be adjusted as follows:

- Press CLOCK button, clock indication of " AM " or " PM " flashes.
- Press or to set correct time. Each press will increase or decrease 1 min. If the button is kept pressed, time will increase or decrease quickly.
- After time setting is confirmed, press "SET" : AM or PM stop flashing, while clock starts working.

Note:AM means morning and PM means afternoon.



Safety Considerations

- If the air conditioner is transferred to a new user, this manual shall be transferred to the user, together with the conditioner.
- Before installation, be sure to read Safety Considerations in this manual for proper installation.
- The safety considerations stated below is divided into “ Warning” and “ Attention”. The matters on severe accidents caused from wrong installation, which is likely to lead to death or serious injury, are listed in “ Warning”. However, the matters listed in “ Attention” are also likely cause the severe accidents. In general, both of them are the important items related to the security, which should be strictly abided by.
- After the installation, perform test run to make sure everything is in normal conditions, and then operate and maintain the air conditioner in accordance with the User Manual. The User Manual should be delivered to the user for proper keeping.















Warning

- Please ask the special maintenance station for installation and repair. Water leakage, electric shocks or fire accidents might be caused from improper installation if you conduct the installation by your own.
- The installation should be conducted properly according to this manual. Water leakage, electric shocks or fire accidents might be caused from improper installation.
- Please make sure to install the air conditioner on the place where can bear the weight of the air conditioner. The air conditioner can't be installed on the grids such as the non-special metal burglar-proof net. The place with insufficient support strength might cause the dropdown of the machine, which may lead to personal injuries.
- The installation should be ensured against typhoons and earthquakes, etc. The installation unconformable to the requirements will lead to accidents due to the turnover of the machine.
- Specific cables should be used for reliable connections of the wirings. Please fix the terminal connections reliably to avoid the outside force applied on the cables from being impressed on the cables. Improper connections and fixings might lead to such accidents as heating or fire accidents.
- Correct shapes of wirings should be kept while the embossed shape is not allowed. The wirings should be reliably connected to avoid the cover and the plate of the electrical cabinet lipping the wiring. Improper installation might cause such accidents as heating or fire accidents.
- While placing or reinstalling the air conditioner, except the specific refrigerant (R22), don't let the air go into the refrigeration cycle system. The air in the refrigeration cycle system might lead to the cracking or personal injuries due to abnormal high pressure of the refrigeration cycle system.
- During installation, please use the accompanied spare parts or specific parts. If not, water leakage, electric shocks, fire accidents or refrigerant leakage might be caused.
- Don't drain the water from the drainpipe to the waterspout where may exist harmful gases such as sulfured gas to avoid the harmful gases entering into the room.
- During installation, if refrigerant leakage occurs, ventilation measures should be taken, for the refrigerant gas might generate harmful gases upon contacting the flame.
- After installation, check if any refrigerant leakage exists. If the refrigerant gas leaks in the room, such things as air blowing heaters and stoves, etc. may generate harmful gases.
- Don't install the air conditioner at the places where the flammable gases may leak. In case the gas leakage occurs around the machine, such accidents as fire disasters may be caused.
- The drainpipe should be properly mounted according to this manual as to ensure the smooth drainage. In addition, heat preservation should be taken to avoid condensation. Improper drainpipe mounting might cause water leakage, which will get the articles at home wet.
- The refrigerant gas pipe and liquid pipe should be heat insulated to preserve heat. For inappropriate heat insulation, the water caused from the condensation will drop to get the article at home wet.

Attention

- The air conditioner should be effectively grounded. Electric shocks may occur if the air conditioner is ungrounded or inappropriately grounded. The wire for earthing shouldn't be connected to the connections on the gas pipe, water pipe, lightning rod or telephone.
- The breaker for electricity leakage should be mounted. If not, accidents such as electric shocks may happen.
- The installed air conditioner should be checked for electricity leakage by being powered.
- After installation, all cassette concealed indoor units should be trial-tested. After the proper operation of the machine, other fitments can be made.

Safety Considerations

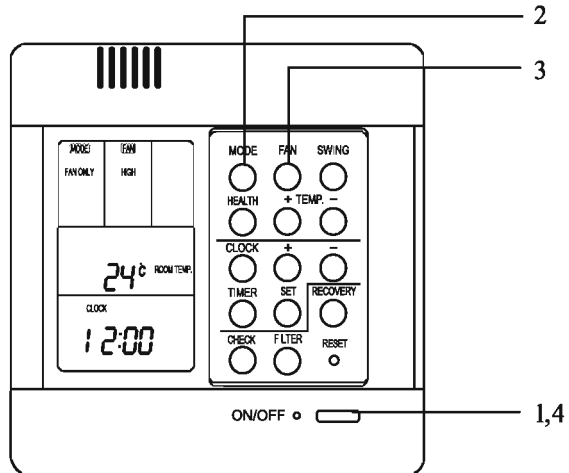
 Attention	
Notices during Operation	<ul style="list-style-type: none"> • It is not allowed to put any heating apparatus under the indoor units, for the heat may cause distortion of the units. • Pay attention to the aeration condition to avoid anoxic symptom.  • Flammable apparatus should not be placed in the place where the air conditioner wind could reach directly, or incomplete burning of the apparatus may be caused.  • Check the mount table of the air conditioner for damage for a long period of operation. If placed on the damaged table, the unit may drop down causing damage.  • Plants and animals should not be put to the place where wind of the air conditioner blows directly, otherwise damage to them may be caused.  • It cannot be used for the preservation of food, living creature, precise instrument and artworks, etc, otherwise damage may occur.  • Use the fuse with proper capacity. Metal wires and copper wires, etc., may cause fire or other faults.  • Do not use water heater or like next to the indoor unit and the wired controller. Water/power leakage or short circuit may happen if the steam generating apparatus is working next to machine.  • Defrosting during heating To improve the heating effect, the outdoor unit will perform defrosting automatically when frost appears on the outdoor unit during heating (approximately 2-10 min). During defrosting, the fan of the indoor unit runs at a low speed or stops while that of the outdoor unit stops running.
	<ul style="list-style-type: none"> • Power should be cut off when the air conditioner is left unused for a long period. Power will be consumed if the air conditioner is not powered off. The power switch of the outdoor unit switch should be powered on 12 hours in advance before operation to protect the unit after a long period of storage. • 3-minute protection To protect the unit, compressor can be actuated with at least 3-minute delay after stopping. • Close the window to avoid outdoor air getting in. Curtains or window shutters can be put down to avoid the sunshine.  • Do not touch the switch with the wet hand to avoid power shock.  • Stop running and switch off the manual power switch when cleaning the unit.  • During the operation of the control unit, don't switch off the manual power switch and the controller can be used. Please do not press the liquid crystal zone of controller to prevent damage.  • Cleaning the unit with water may cause electric shock.  • Do not put flammable spray close to the air conditioner. Don't inject flammable spray towards the air conditioner, which may cause fire.  • Stopping fan rotation The unit which stops operating will actuate the fan for a 2-8 min swing every 30 – 60 minutes for protecting the unit while other indoor unit are in the operating state.

Operation instruction

Wired controller

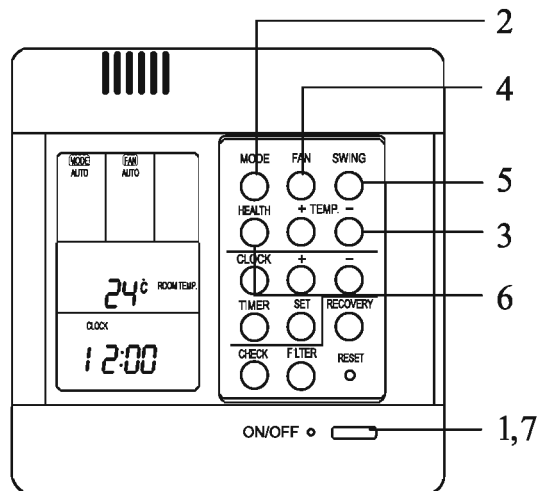
FAN ONLY OPERATION:

- 1) Start up operation: press the button of ON/OFF, the system will start up, and will display on LCD.
- 2) Select MODE: press the MODE button, then you will see in the display section [MODE] switch over in below sequence: [FAN ONLY] → [COOL] → [DRY] → [HEAT] → [AUTO] → [FAN ONLY]. Select [FAN ONLY].
- 3) Select fan speed: press FAN button, then you see in the display section [FAN] switch over in below sequence: [HIGH] → [MED] → [LOW] → [HIGH]. Select proper fan speed.
- 4) Power off: press ON/OFF button, indoor unit will be powered off, there are only time and the ambient temperature in the screen.



AUTO operation, COOLING, HEATING and DEHUMIDIFICATION operation

- 1) Start up operation: press the button of ON/OFF, the system will start up, and will display on LCD.
- 2) Select MODE: press the MODE button, then you will see in the display section [MODE] switch over in below sequence: [FAN ONLY] → [COOL] [DRY] → [HEAT] → [AUTO] → [FAN ONLY].
- 3) Change set temperature: press TEMP + or - every time, [SET] will display, and set temperature will increase/reduce 1 °C (F).
- 4) Select fan speed: press FAN button, then you see in the display section [FAN] switch over in below sequence: [HIGH] → [MED] → [LOW] → [HIGH]. Select proper fan speed.
- 5) Select [SWING]: press [SWING] button, [SWING] will display, swing function is valid, press again, [SWING] will disappear, swing function is invalid.
- 6) Set [HEALTH]: used to set the indoor health function. Press it once, [HEALTH] will display in the display section, then indoor health function is valid. Press it again, [HEALTH] will disappear, then the health function is invalid. This function is valid only for the unit with health function.
- 7) Power off: press ON/OFF button, indoor unit is powered off. There are only time and the ambient temperature in the screen.



Operation instruction

Wired controller

Set TIMER operation:

Adjust clock: when powered on, for the first time to set timer function, the clock will be adjusted. Press “CLOCK” button, and set the current clock. Now, “CLOCK” will flash at the frequency of 2Hz every minute. Press the clock +/- button; the current clock can be adjusted. Until the proper time comes, press [SET].

TIMER ON operation:

Press TIMER button, and keep pressing it, in the display section [TIMER] will switch over in below sequence: [ON]→[OFF]→[ON][OFF]→[ON][OFF][DAILY]→[]. Select [TIMER] [ON], then [TIMER] [ON] flashes, press the clock +/- button to adjust the time of TIMER ON, press [SET] button.



TIMER OFF operation:

Press TIMER button, and keep pressing it, in the display section [TIMER] will switch over in below sequence: [ON]→[OFF]→[ON][OFF]→[ON][OFF][DAILY]→[]. Select [TIMER] [OFF], then [TIMER] [OFF] flashes, press the clock +/- button to adjust the time of TIMER OFF, press [SET] button.

TIMER ON-OFF operation:

Press TIMER button, and keep pressing it, in the display section [TIMER] will switch over in below sequence: [ON]→[OFF]→[ON][OFF]→[ON][OFF][DAILY]→[]. Select [TIMER] [ON] [OFF]. Firstly, [TIMER][ON] flashes, press the clock +/- button to adjust the time of TIMER ON, press [SET]. [TIMER][ON] will be constant on. Then [TIMER] [OFF] flashes, press the clock +/- button to adjust the time of TIMER OFF, press [SET]. The time sequence of timer on and timer off will determine the mode is [TIMER] [ON]→[OFF] or [TIMER] [OFF]→[ON].

Note:

1. If the two times are the same, the unit will adjust the state after set time arrives according to the current state. If current state is in running mode, after set time arrives the unit will switch to “power off” state. If current state is in “power off” mode, after set time arrives, the unit will switch to running mode.
2. When in TIMER setting state, if you do not input any button in continuous 10 seconds, the unit will think [SET] pressed.

Cancel TIMER operation:

In the timer operation state, press [TIMER] button, the unit will quit from the current timer operation state, and the set data will be memorized, then enter the next timer mode.

After timer be set, press ON/OFF to cancel timer mode. When in running again, timer mode will be continuous (without timer).

[FILTER] function

When the wired controller receives the filter-cleaned signal from indoor unit, [FILTER] will display. After finishing clean, press [FILTER], the sign [FILTER] disappears, and the controller will send the filter reset signal to indoor unit.

When the sign [FILTER] not display, it is invalid to press [FILTER] in short time.

Operation instruction

Wired controller

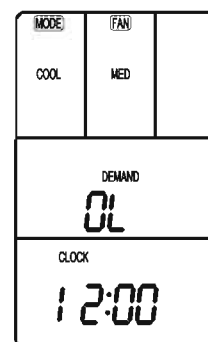
FILTER ELEVATING function: (only for the unit with elevating function)

In power off state, press [FILTER] for 5 seconds to enter filter elevating set state. In this state, the sign [FILTER] will flash at the frequency of 2Hz. By pressing [+] TEMP [-], filter can go up or down. Press TEMP [+], in timer section [UP] will display, while press TEMP [-], in timer section [DOWN] will display. Press [FILTER] button to quit the mode. This function is invalid for the AB*2MCAHA models in this book.

DEMAND operation function:

In the stop state of cooling mode, press [ON/OFF] button for 5 seconds to enter [DEMAND] cooling operation state, the sign [DEMAND] will display. In the 7-segmet liquid crystal screen of set temp. section, "0" will display in first position, which shows that No. 0 indoor unit has enter demand operation. In the second position, "L" will display, in the meantime, [COOL] will flash, [FAN][AUTO] is constant on. Press TEMP [+] [-] to set different indoor unit. Press [ON/OFF] to cancel [DEMAND] operation.

In the stop state of heating mode, press [ON/OFF] button for 5 seconds to enter [DEMAND] heating operation state, the sign [DEMAND] will display. In the 7-segmet liquid crystal screen of set temp. section, "0" will display in first position, which shows that No. 0 indoor unit has enter demand operation. In the second position, "H" will display, in the meantime, [HEAT] will flash, [FAN][AUTO] is constant on. Press TEMP [+] [-] to set different indoor unit. Press [ON/OFF] to cancel [DEMAND] operation.



VENTILATION mode (only for the unit with fresh air function or heat recovery function)

Press [RECOVERY] button, then the unit will switch over the ventilation mode:

[] → [VENTILATION][AUTO] → [VENTILATION][RECOVERY] → [VENTILATION][NORMAL] → [], please select appropriate ventilation mode.

Query indoor malfunction history:

In the state of power on or power off, press [CHECK] button, enter the malfunction-querying mode of all indoor units in the group. Then [CHECK] and [UNIT NO.] will display, and the actual indoor numbers will be displayed in some sequence (unit number is in decimals). At the same time, in the time region, there will be the current malfunction and the latest fine malfunction, the displaying format is [XX:YY], in which XX stands for the current malfunction, if normal, it will display "--"; YY stands for the latest time malfunction. The failure code of every unit will display for 3 seconds. After the failure codes of all indoor units in the whole group are displayed, the mode will quit automatically.

Clear abnormal state and malfunction history:

In normal state, press [CHECK] button for 5 seconds to clear abnormal states, at the same time, wired controller will send the data of "clear abnormal state", but the malfunction history still retains.

In normal state, press [CHECK] button for 15 seconds, except for malfunction states, the malfunction history in wired controller will be cleared.

Operation instruction

Wired controller

Query indoor performance state:

Under normal condition, press “Setting” button for 5 seconds until the temperature zone on the liquid crystal screen shows [XX], referring to the unit number of indoor units and select unit, and select unit number by “Temp. +/-” button. The time zone displays [YZZZ], in which, Y refers to the data type and ZZZ to the responding data. Select the data type by “Time +/-” button.

Y	ZZZ	System
A	Temperature of indoor unit transducer TA	Actual value, decimal system
B	Temperature of indoor unit transducer TC1	Actual value, decimal system
C	Temperature of indoor unit transducer TC2	Actual value, decimal system
D	PMV step of indoor units	Actual value/2. decimal system(e.g. indication of 50 with actual step of 100)
E	Communication address between indoor/outdoor units	Actual value, sexadecimal system
F	Central address	Actual value, sexadecimal system

Under the inquiring state, press “CHECK” button to quit the inquiring state and return to the normal operating state.

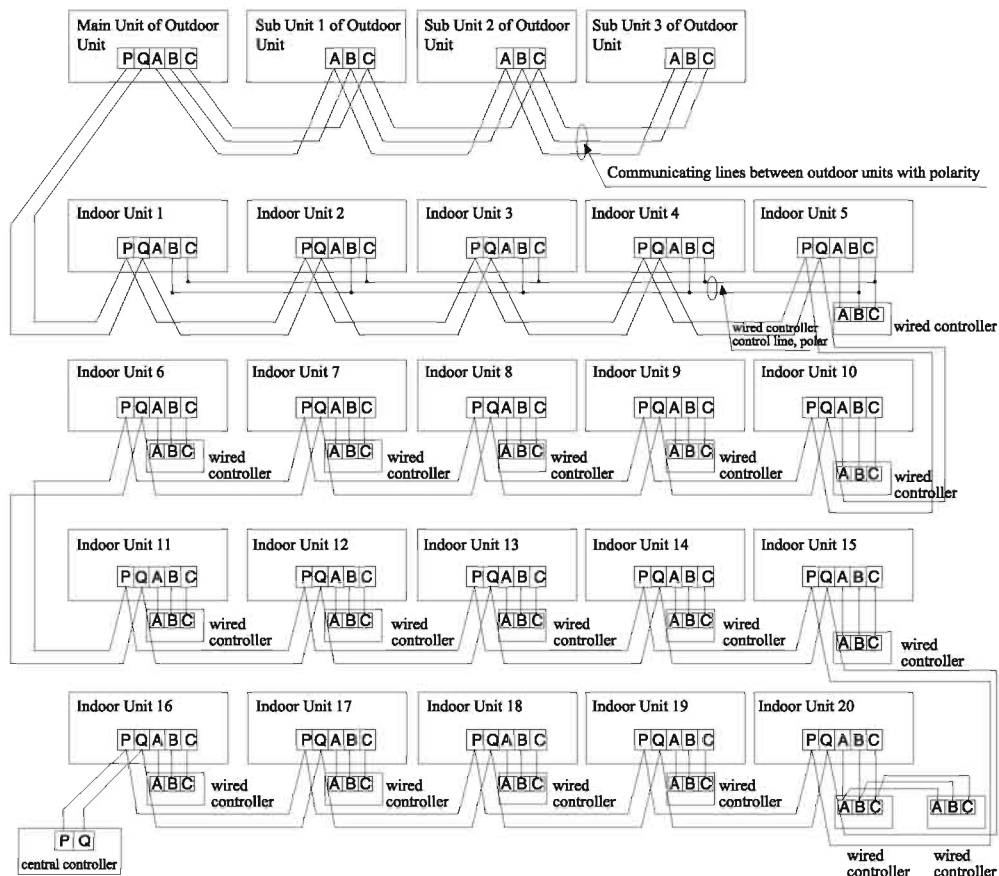
How to change the function switches?

No.	Type	State of switch	Function description
J03	Display of room temperature	Connected	Yes
		Cut off	No
SW01 ①	Changeover of master or slave controller	ON	Set as slave controller
		OFF	Set as master controller
SW01 ②	°C or °F	ON	°F
		OFF	°C
D1	Shorten time function	Connected	Indoor unit in shorted time function
		Cut off	Common control
D2	Compulsorily defrost	Connected	Send compulsorily defrost signal to indoor unit
		Cut off	Common control

Note: The switches in grey can be operated after opening the cover of wired

Electrical Wiring

Signal Wiring Drawing



Outdoor units are of parallel connection via three lines with polarity. The main unit, central control and all indoor units are of parallel connection via two lines without polarity.

There are three connecting ways between line control and indoor units:

- One line control controls multiple units, i.e. 2-16 indoor units, as shown in the above figure, (1-5 indoor units). The indoor unit 5 is the line-controlled main unit and others are the line-controlled sub units. The remoter control and the main unit (directly connected to the indoor unit of line control) are connected via three lines with polarity. Other indoor units and the main unit are connected via two lines with polarity. SW01 on the main unit of line control is set to 0 while SW01 on other sub units of line control are set to 1, 2, 3 and so on in turn. (Please refer to the code setting A at page 25)
- One line control controls one indoor unit, as shown in the above figure (indoor unit 6-19). The indoor unit and the line control are connected via three lines with polarity.
- Two line controls control one indoor unit, as shown in the figure (indoor unit 20). Either of the line controls can be set to be the master line control while the other is set to be the auxiliary line control. The master line control and indoor units, and the master and auxiliary line controls are connected via three lines with polarity.

When the indoor units are controlled by the remote control, switch over the modes by Switching Mode of Line-Controlled Main Unit/ Line-Controlled Sub Units/ Remote-Controlled Types. The signal terminals needn't to be equipped with wires and connected to the line control.

Electrical Wiring

The combination of multiple indoor units can be controlled by wired controller or remote controller.

※ Switching Mode of Line-Controlled Main Unit/ Line-Controlled Sub Units/ Remote-Controlled Types can be used for switching over ※

Control Mode Socket/Code	Line-Controlled Main Unit	Line-Controlled Sub Unit	Type Switching Mode of Remote Control
CN23	strapping	no strapping	no strapping
CN30	strapping	strapping	no strapping
CN21	null	null	connected to receiving plank of remote control
SW08-[6]	ON	ON	OFF
Signal Terminals	A,B,C are connected to wired controller	B,C are connected to wired controller	A,B,C are not connected to wired controller

Note:AD*MLAHA models are set to remote- controlled type before delivery

The wiring for the power line of indoor unit, the wiring between indoor and outdoor units as well as the wiring between indoor units:

Total Current of Indoor Units(A)	Items	Cross Section (mm ²)	Length (m)	Rated Current of Overflow Breaker(A)	Rated Current of Power Leakage Breaker (A) Leaking Current(mA) Operating Period (S)	Cross Sectional Area of Signal Line	
						Outdoor -indoor (mm ²)	Indoor -indoor (mm ²)
<10		2	20	20	20 A,30 mA,0.1S or below	2 cores × 0.75-2.0 mm ² shielded line	
≥10 and <15		3.5	25	30	30 A,30 mA,0.1S or below		
≥15 and <22		5.5	30	40	40 A,30 mA,0.1S or below		
≥22 and <27		10	40	50	50 A,30 mA,0.1S or below		

- ※ The electrical power line and signal lines must be fastened tightly.
- ※ Every indoor unit must have the ground connection.
- ※ The power line should be enlarged if it exceeds the permissible length.
- ※ Shielded lays of all the indoor and outdoor units should be connected together, with the shielded lay at the side of signal lines of outdoor units grounded at one point.
- ※ It is not permissible if the whole length of signal line exceeds 1000m.

Signal Wiring of Wired controller

Length of Signal Line (m)	Wiring Dimensions	Length of Signal Line (m)	Wiring Dimensions
<100	0.3mm ² × 3 core shielding line	≥300 and <400	1.25mm ² × 3 core shielding line
≥100 and <200	0.5mm ² × 3 core shielding line	≥400 and <600	2mm ² × 3 core shielding line
≥200 and <300	0.75mm ² × 3 core shielding line		

- ※ The shielding lay of the signal line must be grounded at one end.
- ※ The total length of the signal line shall not be more than 600m.

Code Setting

- ※ The code is dialed to “ON” position with the overline at the state of strapping if the code or overline status is “1”; The code is dialed to “OFF” position with the overline at the state of disconnection if the code or overline status is “0”.
- ※ In the table below, the choice in the box “□” refers to the setting of the socket/overline before delivery.

① Indoor Units PCB

A. With the indoor units controlled by the line control in groups, the address setting of indoor units: SW01

- ※ The setting of SW01 is performed by installation personnel during installation.
- ※ Switch SW01 of the matching indoor unit to “0” in one line control to one unit, double line controls to one unit and remote controlling conditions.

Position of SW01 Main Unit	Position of SW01 Sub Unit
0	1-15 (The dialing codes of sub units in the same group should be different)

Electrical Wiring

B. The central control address setting of indoor units: SW02

- ※ When controlled by line control in groups, the main unit needs to be set while it is unnecessary to set the sub units.
- ※ The setting of SW02 can be done by installation personnel during installation.

SW02								Switching Description
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	
1	0	0	0	0	0	0	0	Central control address = 1
1	0	0	0	0	0	0	1	Central control address = 2
-----								-----
1	1	1	1	1	1	1	0	Central control address = 127
1	1	1	1	1	1	1	1	Central control address = 128

C. Communication Address Setting between Indoor Units and Outdoor Units: SW03

- ※ The setting of SW03 can be done by installation personnel during installation.

SW03								Switching Description
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	
1	1	0	0	0	0	0	0	Communication address of indoor units = 1
1	1	0	0	0	0	0	1	Communication address of indoor units = 2
-----								-----
1	1	1	1	1	1	1	0	Communication address of indoor units = 63
1	1	1	1	1	1	1	1	Communication address of indoor units = 64

- There are 1 ways of setting communication addresses between indoor units and outdoor units:

- A. Manual: first, set SW03-[1] to “1”, and then set SW03-[8]-[3] according to requirements.
 - B. Take one of the three ways while only one way is valid at the same time. The highest priority level is the Line Control way.
 - C. Line/Remote Control Option: set SW08-[6].
- ※ The setting of SW08-[6] can be done by installation personnel during installation.

Status of SW08-[6]	Controlling Method
<input type="checkbox"/> ON	Wired control(include one control to multiple units, two controls to one unit and one control to one unit)
<input type="checkbox"/> OFF	Remote control

Electrical Wiring

② Wired Controller Code Settings

Serial No.	Type	Switch Status	Switchover Function
J03	Choice of room temp. indications	0	There is no indication for room temperature
		<input type="checkbox"/> 1	Automatic reset after power failure
SW01-[1]	Switchover of main & auxiliary wired controllers	ON	Set to auxiliary wired controller
		<input type="checkbox"/> OFF	Set to main wired controller
SW01-[2]	Switchover of Centigrade & Fahrenheit	ON	Indicating Fahrenheit
		<input type="checkbox"/> OFF	Indicating Centigrade
D1	Schedule compression function	ON	Indoor units perform schedule compression
		<input type="checkbox"/> OFF	Normal control
D2	Compulsive defrosting	ON	Sending "Compulsive Defrosting" signal to indoor units
		<input type="checkbox"/> OFF	Normal control

- D1 and D2 are diodes. Turn to "OFF" to disconnect holes of both sides while turn to "ON" to strap the holes of two sides with a guide line.
- The code/ overline/ diode in the gray frame indicates that safety operation can be done by opening the shell of remote control.
- Only when dual line controls control one indoor unit can one of the line control be set to auxiliary line control by setting SW01-[1] to "ON" while keeping the settings of others "OFF".

Difference between Main Wired Controller and Auxiliary Wired Controller

Comparison Items	Main wired controller	Auxiliary wired controller
Functions	All functions	It can only set shutdown, mode, air quantity, temperature and swinging.

Functions of Wired Controller

Operation of Wired/Remote Controllers

- ① Initialization process of line control:
During the initialization of line control after powered on, [8888]→[888]→[88]→[8] for the wired controllers and LED flash for about 30 seconds. At this time, all buttons are disabled.
- ② Descriptions of other components and operating methods refer to the related operating guide.
- ③ Special functions of wired control:
 - A Setting of central control address of indoor units:
When indoor unit code setting allows line control to set the address, continually press “Resetting Filtering Screen” for 10 seconds to enter into the mode of setting the central control addresses, and select the unit No. of the group by “Time +/-” button.
Indication of temperature displays:
[Central Control Address]+XX: Press “Temp. +/-” button. XX ranges from 0-7F with the initial value of 00. After finishing the setting, press “Setting” button to save the setting and quit. By pressing other buttons or without pressing within 15 seconds, it will automatically quit and keep the last setting.
 - B Setting of communication address between indoor units and outdoor units:
When indoor unit code setting allows line control to set the address, continually press “Resetting Filtering Screen” for 5 seconds to enter into the mode of setting the communication addresses, and select the unit No. of the group by “Time +/-” button.
Indication of temperature displays:
[System Address]+XX: Press “Temp. +/-” button. XX ranges from 0-3F with the initial value of 00. After finishing the setting, press “Setting” button to save the setting and quit. By pressing other buttons or without pressing within 15 seconds, it will automatically quit and keep the last setting.
 - C Inquiry of fault records of indoor units:
In the state of startup or shutdown, press “CHECK” button to go into the mode of inquiring faults of all indoor units in this group. The temperature zone indicates “CHECK” and “Unit No.,” which shows the unit number with the actual connection in sequence in the decimal system. Meanwhile, the time zone indicates the code of the current fault and the previous fault of the responding machine in the format of [XX:YY], in which, XX refers to the code of the current fault (if normal, it shows “- -”) and YY refers to the code of the previous fault. The indication of fault code of each machine lasts 3 seconds. After the indication of the whole group, it automatically quit.
Removing abnormal states & clearing fault records:
 - D Under normal conditions, continually press “CHECK” button for 5 seconds to clear fault records. Inquiring running state of indoor units of the group:
 - E Under normal condition, press “Setting” button for 5 seconds until the temperature zone on the liquid crystal screen shows [XX], referring to the unit number of indoor units and select unit, and select unit number by “Temp. +/-” button. The time zone displays [YZZZ], in which, Y refers to the data type and ZZZ to the responding data. Select the data type by “Time +/-” button.

Y	ZZZ	System
A	Temperature of indoor unit transducer TA	Actual value, decimal system
B	Temperature of indoor unit transducer TC1	Actual value, decimal system
C	Temperature of indoor unit transducer TC2	Actual value, decimal system
D	PMV step of indoor units	Actual value/2. decimal system(e.g. indication of 50 with actual step of 100)
E	Communication address between indoor/outdoor units	Actual value, sexadecimal system
F	Central address	Actual value, sexadecimal system

Under the inquiring state, press “CHECK” button to quit the inquiring state and return to the normal operating state.

Test Run & Fault Code

Before Test Run

- Before switching it on, test the supply terminal tier (L, N terminals) and grounding points with 500V megaohm meter and check if the resistance is above 1M Ω . It can't be operated if it is below 1M Ω .
- Connect it to the power supply of outdoor units to energize the heating belt of the compressor. To protect the compressor at startup, power it on 12 hours prior to the operation.

Check if the arrangements of the drainpipe and connection line are correct.

The drainpipe shall be placed at the lower part while the connection line placed at the upper part. Heat preservation measures should be taken such as winding the drainpipe esp. in the indoor units with heating insulating materials.

The drain pipe should be made a slope type to avoid protruding at the upper part and concaving at the lower part on the way.

Checkup of Installation

- | | |
|---|--|
| <input type="checkbox"/> check if the mains voltage is matching | <input type="checkbox"/> check if the installation place meets the requirement |
| <input type="checkbox"/> check if there is air leakage at the piping joints | <input type="checkbox"/> check if there is too much noise |
| <input type="checkbox"/> check if the connections of mains power and indoor & outdoor units are correct | <input type="checkbox"/> check if the connecting line is fastened |
| <input type="checkbox"/> check if the serial numbers of terminals are matching | <input type="checkbox"/> check if the connectors for tubing are heat insulated |
| | <input type="checkbox"/> check if the water is drained to the outside |
| | <input type="checkbox"/> check if the indoor units are positioned |

Ways of Test Run

Do ask the installation personnel to make a test run. Take the testing procedures according to the manual and check if the temperature regulator works properly.

When the machine fails to start due to the room temperature, the following procedures can be taken to do the compulsive running. The function is not provided for the type with remote control.

- Set the wired controller to refrigerating/heating mode, press "ON/OFF" button for 5 seconds to enter into the compulsive refrigerating/heating mode. Re-press "ON/OFF" button to quit the compulsive running and stop the operation of the air conditioner.

Fault Remedies

When any fault appears, refer to "Inquiry of fault records of indoor units" at the previous page, consult the fault code of line control or the flashing times for LED5 of computer panel of indoor units/health lamp of receiving window of remote control and find out the faults as shown in the following table to remove all faults.

Indoor Unit Faults

Wired Controller Fault Code	PCB LED5(Indoor Units)/Receiving Window Health Lamp (Remote Controller)	Fault Descriptions
01	1	Fault of indoor unit ambient temp. transducer TA
02	2	Fault of indoor unit pipe temp. transducer TC1
03	3	Fault of indoor unit pipe temp. transducer TC2
04	4	Fault of indoor unit dual heat source temp. transducer
05	5	Fault of indoor unit EEPROM
06	6	Fault of communication between indoor & outdoor units
07	7	Fault of communication between indoor unit and wired control
08	8	Fault of indoor unit water drainage
09	9	Fault of duplicate indoor unit address
0A	10	Fault of duplicate central control address
Outdoor Unit Code	20	Corresponding faults of outdoor units

Technical Specifications

Model		AD072MLAHA	AD092MLAHA	AD122MLAHA	AD142MLAHA
Cooling Capacity W		2200	2800	3600	4000
Heating Capacity W		2600	3400	4000	4500
Input Power/Current		30W/0.15A	30W/0.15A	55W/0.28A	55W/0.28A
Noise	High dB(A)	35	35	35	35
	Middle dB(A)	32	32	32	32
	Low dB(A)	30	30	30	30
Net Weight kg		20	20	22	22
Overall Dimensions	Width mm	783	783	937	937
	Depth mm	450	450	450	450
	Height mm	225	225	225	225
Air Volume m ³ /h		520	520	650	700
Max. Static Pressure Value (Pa)		30	30	30	30

Model		AD162MLAHA	AD182MLAHA	AD242MLAHA
Cooling Capacity W		4500	5600	7100
Heating Capacity W		5000	6300	8000
Input Power/Current		60W/0.3A	60W/0.3A	110W/0.55A
Noise	High dB(A)	36	37	39
	Middle dB(A)	33	36	37
	Low dB(A)	31	34	35
Net Weight kg		28	28	44
Overall Dimensions	Width mm	1230	1230	1448
	Depth mm	450	450	450
	Height mm	225	225	225
Air Volume m ³ /h		1000	1000	1500
Max. Static Pressure Value (Pa)		30	30	30

Technical Specifications

NB: All descriptions and data are subject to change without notice. The standard working conditions of the state regulations are as follows: for refrigerating: dry bulb in the room: 27°C, wet bulb: 19°C; dry bulb out of the room: 35°C, web bulb:24°C; for heating: dry bulb in the room: 20°C, wet bulb: 15°C; dry bulb out of the room: 7°C, web bulb:6°C; all the above is measured under the condition of 220V. Parameters varies with indoor and outdoor temperatures.

Operating Range of Air Conditioner

Cooling Dehumidifying	Indoor Side	Max.	Dry Bulb Temp: 32°C; Wet Bulb Temp: 23°C
		Min.	Dry Bulb Temp: 18°C; Wet Bulb Temp: 14°C
	Outdoor Side	Max.	Dry Bulb Temp: 43°C; Wet Bulb Temp: 26°C
		Min.	Dry Bulb Temp: 18°C
Heating	Indoor Side	Max.	Dry Bulb Temp: 27°C
		Min.	Dry Bulb Temp: 15°C
	Outdoor Side	Max.	Dry Bulb Temp: 21°C; Wet Bulb Temp: 15°C
		Min.	Dry Bulb Temp: -15°C

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