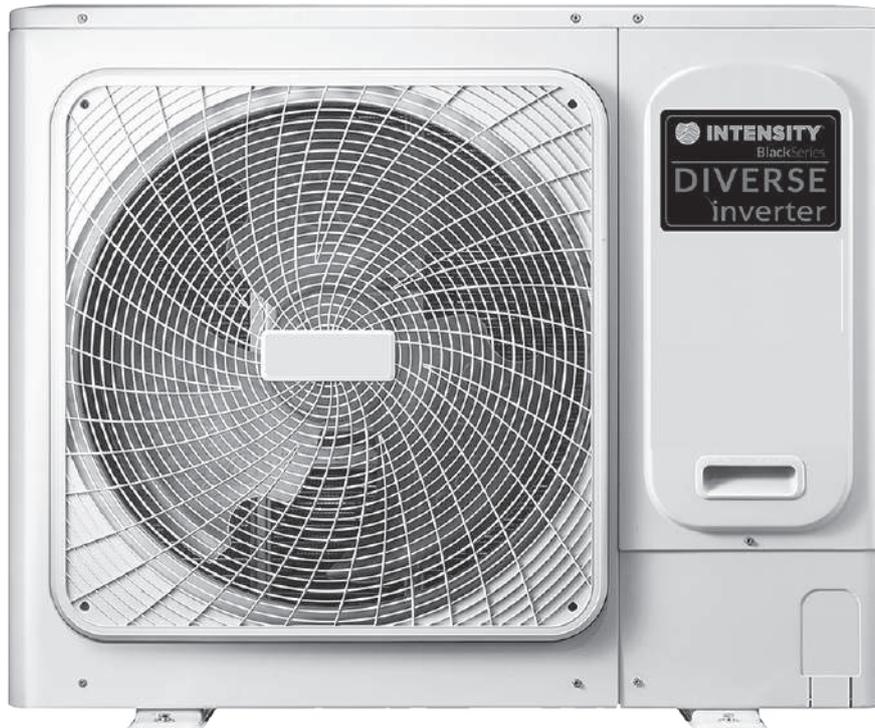




**INTENSITY**<sup>®</sup>  
AIR CONDITIONING  
**BlackSeries.**



## OUTDOOR UNIT DIVERSE inverter

MDVC-V28W/DHN1(At), MDVC-V36W/DHN1(At), MDVC-V42W/DHN1(At),  
MDVC-V48W/DHN1(At), MDVC-V56W/DHN1(At), MDV-V28W/DHN1(At),  
MDV-V36W/DHN1(At), MDV-V42W/DHN1(At), MDV-V48W/DHN1(At),  
MDV-V56W/DHN1(At)

## OWNER'S MANUAL

Thank you very much for purchasing our air conditioner.  
Before using it, please read this manual carefully and keep it for future reference.



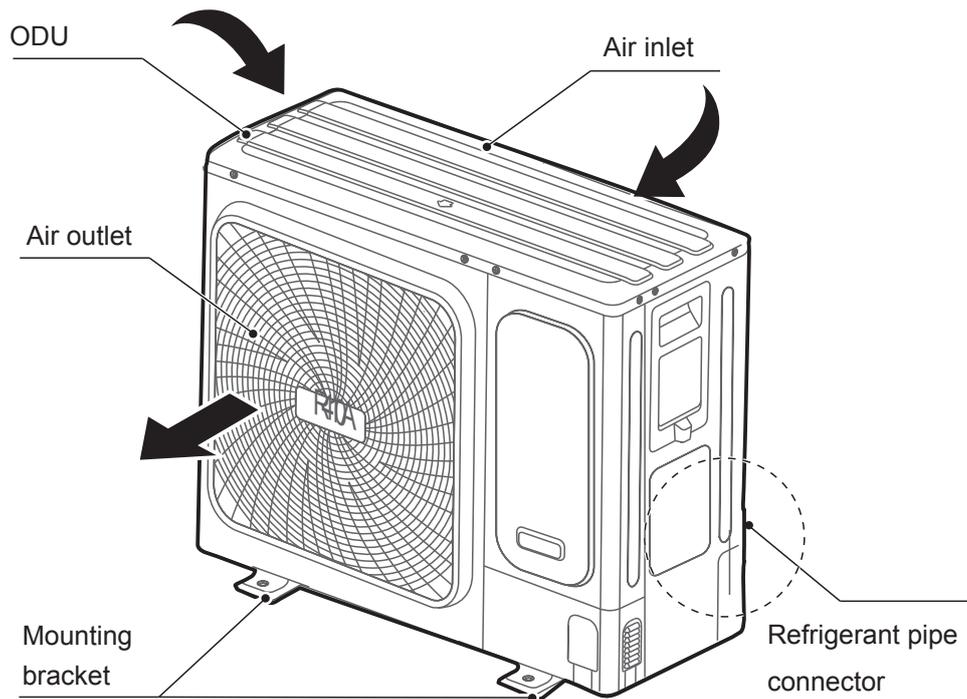


Fig.1



**NOTE**

All the pictures in this manual are for explanation purpose only. They may be slightly different from the air conditioner you purchased(depend on model). The actual shape shall prevail.

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## 1. IMPORTANT SAFETY INFORMATION

To prevent injury to the user or other people and property damage, the following instructions must be followed. Incorrect operation due to ignoring of instructions may cause harm or damage.

The safety precautions listed here are divided into two categories. either case, important safety informations listed which must be carefully.



### WARNING

Failure to observe a warning may result in death. The appliance shall be installed in accordance with national wiring regulations.



### CAUTION

Failure to observe a caution may result in injury or damage to the equipment.



### WARNING

**This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.**

Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision. (Only European)

**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.** Children should be supervised to ensure that they do not play with the appliance.

The partial units shall only be connected to an appliance suitable for the same refrigerant.

The units 8-16kW are partial unit air conditioners, complying with partial unit requirements of this International Standard, and must only be connected to other units that have been confirmed as complying to corresponding partial unit requirements of this International Standard.

#### **Ask your dealer for installation of the air conditioner.**

Incomplete installation performed by yourself may result in a water leakage, electric shock, and fire.

#### **Ask your dealer for improvement, repair, and maintenance.**

Incomplete improvement, repair, and maintenance may result in a water leakage, electric shock, and fire.

**In order to avoid electric shock, fire or injury, or if you detect any abnormality such as smell of fire, turn off the power supply and call your dealer for instructions.**

**Never let the indoor unit or the remote controller get wet.** It may cause an electric shock or a fire.

**Never press the button of the remote controller with a hard, pointed object.**

The remote controller may be damaged.

**Never replace a fuse with that of wrong rated current or other wires when a fuse blows out.**

Use of wire or copper wire may cause the unit to break down or cause a fire.

**It is not good for your health to expose your body to the air flow for a long time.**

**Do not insert fingers, rods or other objects into the air inlet or outlet.**

When the fan is rotating at high speed, it will cause injury.

**Never use a flammable spray such as hair spray, lacquer or paint near the unit.**

It may cause a fire.

**Never touch the air outlet or the horizontal blades while the swing flap is in operation.**

Fingers may become caught or the unit may break down.

**Never put any objects into the air inlet or outlet.**

Objects touching the fan at high speed can be dangerous.

**Never inspect or service the unit by yourself.**

Ask a qualified service person to perform this work.

**Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.**

Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities.



Contact you local government for information regarding the connection systems available.

**If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging your health and well-being.**

**To prevent refrigerant leak, contact your dealer.**

When the system is installed and runs in a small room, it is required to keep the concentration of the refrigerant, if by any chance coming out, below the limit. Otherwise, oxygen in the room may be affected, resulting in a serious accident.

**The refrigerant in the air conditioner is safe and normally does not leak.**

If the refrigerant leaks in the room, contact with a fire of a burner, a heater or a cooker may result in a harmful gas.

**Turn off any combustible heating devices, ventilate the room, and contact the dealer where you purchased the unit.**

Do not use the air conditioner until a service person confirms that the portion where the refrigerant leaks is repaired.



### CAUTION

**Do not use the air conditioner for other purposes.**

In order to avoid any quality deterioration, do not use the unit for cooling precision instruments, food, plants, animals or works of art.

**Before cleaning, be sure to stop the operation, turn the breaker off or pull out the supply cord.**

Otherwise, an electric shock and injury may result.

**In order to avoid electric shock or fire, make sure that an earth leak detector is installed.**

**Be sure the air conditioner is grounded.**

In order to avoid electric shock, make sure that the unit is grounded and that the earth wire is not connected to gas or water pipe, lightning conductor or telephone earth wire.

In order to avoid injury, do not remove the fan guard of the outdoor unit.

**Do not operate the air conditioner with a wet hand.**  
An electric shock may happen.

**Do not touch the heat exchanger fins.**  
These fins are sharp and could result in cutting injuries.

**Do not place items which might be damaged by moisture under the indoor unit.**  
Condensation may form if the humidity is above 80%, the drain outlet is blocked or the filter is polluted.

**After a long use, check the unit stand and fitting for damage.**  
If damaged, the unit may fall and result in injury.

**To avoid oxygen deficiency, ventilate the room sufficiently if equipment with burner is used together with the air conditioner.**

**Arrange the drain hose to ensure smooth drainage.**  
Incomplete drainage may cause wetting of the building, furniture etc.

**Never touch the internal parts of the controller.**  
Do not remove the front panel. Some parts inside are dangerous to touch, and a machine trouble may happen.

**Never expose little children, plants or animals directly to the air flow.**  
Adverse influence to little children, animals and plants may result.

**Do not allow a child to mount on the outdoor unit or avoid placing any object on it.**  
Falling or tumbling may result in injury.

**Do not operate the air conditioner when using a room fumigation - type insecticide.**  
Failure to observe could cause the chemicals to become deposited in the unit, which could endanger the health of those who are hypersensitive to chemicals.

**Do not place appliances which produce open fire in places exposed to the air flow from the unit or under the indoor unit.**  
It may cause incomplete combustion or deformation of the unit due to the heat.

**Do not install the air conditioner at any place where flammable gas may leak out.**  
If the gas leaks out and stays around the air conditioner, a fire may break out.

**When capacity of indoor unit greater than the sum of 100%, capacity of indoor unit will be attenuated.**

**When capacity of indoor unit greater than or equal to the sum of 120%, in order to ensure the effectiveness of machine, and then try to open the indoor units at different time.**

**The outdoor unit window-shades should be periodic cleaning in case of being jammed.**  
This window-shapes is heat dissipation outlet of components, if being jammed will cause the components shorten their service life spans because of overheated for a long time.

**The temperature of refrigerant circuit will be high, please keep the interconnection cable away from the copper tube.**

**The sound pressure level is below 56 dB(A).**

This appliance is intended to be used by expert or trained users in shops, in light industry and on farms, or for commercial use by lay persons.

## 2. PARTS NAMES

The air conditioner consists of the indoor unit, the outdoor unit, the connecting pipe and the remote controller. (see Fig.1)

Operate the switches and push buttons with an insulated stick (such as a closed ball-point pen) or insulating gloves to avoid touching of live parts

### Force Cooling Control

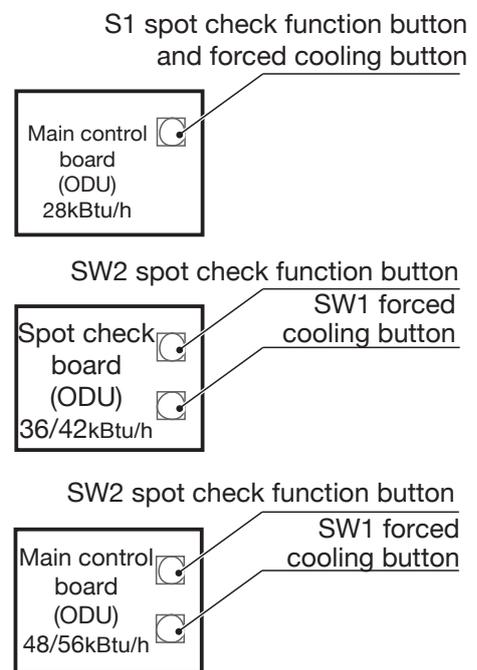


Fig. 2-1

### Force Cooling Control

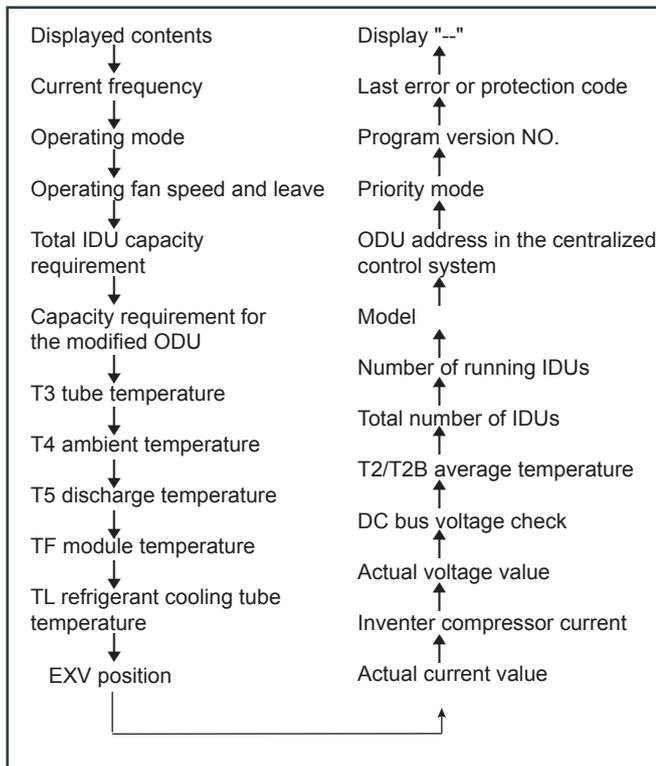
The ODU main control board is provided with a forced cooling button SW1. The button is pressed once to send a forced cooling signal (for 28k Btu/h models, the button is long pressed for over 5s) to all IDUs at once, forcing all IDUs to start cooling. The outdoor compressor runs at a fixed frequency according to the table and the IDU fan operates at a high speed. Press the button again to exit the forced cooling operation (for 28k Btu/h models, the button is long pressed for over 5s).

### Forced cooling frequency table

Model	28k Btu/h single phase	36/42/48/56k Btu/h single phase
Forced cooling frequency (Hz)	44	44

### Display function

The ODU main control board is equipped with the spot check function button (In the above figure: S1 for 28k Btu/h and SW2 for 36/42/48/56k Btu/h). The digital tubes on the main control board will show the parameters of the air conditioner in the following order (the button displays one parameter at a time). For 28k Btu/h models, the Compressor Current Value and System Address display "--".



**NOTE**

- 12 hours preheating is imperative after turn on the power switch. Please do not shut down the power when the unit is supposed to stop running in 24h or shorter time. (This is to warm the crankcase heat box to avoid compulsive start of condenser.)
- Pay attention not to block the air inlet and outlet. Blocks may decrease the efficiency of the unit or startup the protector, which will stop running.
- Operate the switches and push buttons with an insulated stick (such as a closed ball-point pen) to avoid touching of live parts.

### 3. OPERATION RANGE

Use the system in the following temperature for safe and effective operation. The Max operation temperature for the air conditioner. (Cooling/Heating)

Table 3-1

Model		28/36/42kBtu/h	48/56kBtu/h
Cooling	Room temperature	17 to 32	17 to 32
	Outdoor temperature	-5 to 55	-5 to 55
Heating	Room temperature	0°C to 30	0°C to 30
	Outdoor temperature	-15 to 27	-15 to 27
Dehumidification	Room temperature	12 to 32	12 to 32
	Outdoor temperature	-5 to 55	-5 to 55



**NOTE**

- 1 If the above operating conditions cannot be met, the safety protection function may be triggered and the air conditioner may malfunction.
- 2 When the unit operates in "cooling" mode in a relatively humid environment (relative humidity higher than 80%), condensation may occur on the surface of the IDU and water may drip. In this case, turn the air guide to the maximum air outlet position and set the fan speed to "High".

## 4. OPERATION AND PERFORMANCE

### 4.1 Protection Equipment

This Protection Equipment will enable the Air Conditioner to stop when the Air Conditioner is to be directed running compulsively.

When the Protection Equipment is activated, the Operation Indicator still lights while the Air Conditioner is not running. But the Check Indicator Lights.

The protection equipment may be activated in following conditions:

■ **Cooling Operation**

- The air inlet or air outlet of outdoor unit is blocked.
- Strong wind is continuously blowing to the air outlet of the outdoor unit.

■ **Heating Operation**

- Too much dust and rubbish adhere to the dust filter in the indoor unit
- The air outlet of indoor unit is choked



**NOTE**

When the protection equipment starts, please shut down the manual power switch, and restart operation after problem is solved.

### 4.2 About power cut

- If power is cut during operation, stop all the operation immediately.
- Power comes again. The lamp on the display panel of indoor unit flashes. And then unit will auto-restart.
- Mishandling in operation: If mishandling happens because of lighting or mobile wireless, please shut off the manual power switch, and turn on again, then push the ON/OFF button.

### 4.3 Heating capacity

- The heating operation is a heat-pump process that heat will be absorbed from outdoor air and released in doors. Once the outdoor temperature is decreased, heating capacity decreased correspondingly.
- Other heating equipment is suggested to be used together when outdoor temperature is too low.
- In some extreme cold upland that buy another indoor unit equipped electrical heater will obtain better performance.(Refer to indoor unit owner's manual for details)



**NOTE**

1. The motor in Indoor Unit will continue running for 20~30 seconds for to remove residual heat when the Indoor Unit receiving OFF command during heating operation.
2. If the air conditioner malfunction occurs because of disturb, please reconnect the air conditioner to power, then turn on it again.

### 4.4 Three-minute protection feature

- A protection feature prevents the air conditioner from being activated for approximately 3 minutes when it restarts immediately after operation.

## 4.5 Cooling and heating operation

- The indoor unit of the intelligent inverter centralized air conditioner can be controlled solely, but the indoor unit in the same system can not run cooling and heating at the same time.
- When the Cooling and Heating operation confront with each other, the Indoor Unit which are running on Cooling Mode would stop and there will be Standby or No Priority displayed in the Control Panel. Those Indoor Units which are running on Heating Mode will run continuously.
- If the Air Conditioner Administrator has set running mode, then the air conditioner can not run on modes other than the presetted. Standby or No Priority will be displayed in the Control Panel.

## 4.6 Features of heating operation

- Warm air will not be blown out immediately at the beginning of the heating operation, 3~5 minutes ago (depends on the indoor and outdoor temperature), until the indoor heat exchanger become hot, then blows out warm air.

- During operation, the fan motor in the outdoor unit may stop running under high temperature.
- During Fan Operation, if other Indoor Units are running on Heating Mode, the fan may stop in order to prevent sending heat wind.

## 4.7 Defrost in the heating operation

- During heating operation, outdoor unit sometimes will frost. To increase efficiency, the unit will start defrosting automatically (about 2~10 minutes), and then water will be drained out from outdoor unit.
- During defrosting, both the fan motors in the outdoor unit and indoor unit will stop running.

# 5 MALFUNCTION CODE OF OUTDOOR UNIT

Table 5-1 (28kBTu/h)

No.	Fault or protection type	Recovery mode	Error code
1	Module board stop abnormally	Recoverable	EE
2	Communication error between indoor and outdoor unit	Recoverable	E2
3	Outdoor heat exchanger temperature sensor (T3) error or outdoor ambient temperature sensor (T4) error	Recoverable	E4
4	Input voltage protection	Recoverable	E5
5	DC fan protection	Recoverable	E6
6	Discharge pipe temperature sensor error	Recoverable	E7
7	EEPROM mismatch	Unrecoverable	E9
8	Compressor parameters mismatch	Unrecoverable	E.9.
9	E6 error occurs more than six times in an hour.	Unrecoverable	Eb
10	PFC error (reserved)	Recoverable	EF
11	Heat exchanger temperature sensor(reserved)	Recoverable	EH
12	Cooling ambient temperature is below -5 degrees Celsius	Recoverable	EP
13	Communication fault between main board and module board	Recoverable	H0
14	M-Home mismatch(reserved)	Recoverable	HF
15	L0 error occurs three times in one hour.	Unrecoverable	H4
16	Number of indoor units decreased or increased error	Recoverable	H7
17	IPM module protection	Recoverable	L0
18	DC bus low voltage protection	Recoverable	L1
19	DC bus high voltage protection	Recoverable	L2
20	MCE error (reserved)	Recoverable	L4
21	Zero speed protection	Recoverable	L5
22	Phase sequence error	Recoverable	L7
23	Compressor over-current protection	Recoverable	LA
24	Compressor current sampling circuit fault (reserved)	Recoverable	LC
25	Compressor start-up error (reserved)	Recoverable	LH
26	Radiator surface high temperature protection	Recoverable	PL
27	System high voltage protection (reserved)	Recoverable	P1
28	System low voltage protection	Recoverable	P2
29	Over-current protection	Recoverable	P3
30	Discharge temperature (T4) protection	Recoverable	P4
31	Outdoor heat exchanger temperature(T3) protection	Recoverable	P5
32	Typhoon protection	Recoverable	P8
33	T2 indoor unit evaporator temperature protection	Recoverable	PE

Table 5-2 (36/42kBtu/h)

No.	Fault or protection type	Recovery mode	Error code
1	Communication fault between main control board and communication terminals block	Recoverable	C0
2	IDU communication error	Recoverable	E2
3	T3 or T4 temperature sensor error	Recoverable	E4
4	Input voltage protection	Recoverable	E5
5	DC fan protection	Recoverable	E6
6	EEPROM error	Unrecoverable	E9
7	Wrong compressor parameters	Unrecoverable	E.9.
8	E6 fault occurs more than six times in an hour.	Unrecoverable	Eb
9	PFC fault	Unrecoverable	EF
10	Refrigerant radiator temperature sensor error	Recoverable	EH
11	Cooling ambient temperature lower than -5	Recoverable	EP
12	DC bus voltage protection	Recoverable	F1
13	Communication between the main control board and the inverter fails.	Recoverable	H0
14	M-Home mismatch(reserved)	Recoverable	HF
15	L (L0/L1) fault occurs three times in one hour.	Unrecoverable	H4
16	The fault is increased or reduced on the IDU.	Recoverable	H7
17	IPM protection	Recoverable	L0
18	DC bus low voltage protection	Recoverable	L1
19	DC bus high voltage protection	Recoverable	L2
20	MCE error	Recoverable	L4
21	Zero speed protection	Recoverable	L5
22	Compressor phase sequence error	Recoverable	L7
23	Protection for compressor speed change > 15Hz	Recoverable	L8
24	Protection for the difference between the set speed and the running speed of the compressor > 15Hz	Recoverable	L9
25	Radiator surface temperature protection	Recoverable	PL
26	System high pressure protection	Recoverable	P1
27	System low pressure protection	Recoverable	P2
28	Overcurrent protection	Recoverable	P3
29	Discharge temperature T5 protection	Recoverable	P4
30	Outdoor condenser temperature T3 protection	Recoverable	P5
31	Typhoon protection	Recoverable	P8
32	IDU evaporator temperature T2 protection	Recoverable	PE

Table 5-3 (48/56kBtu/h)

No.	Fault or protection type	Recovery mode	Error code
1	Communication error between IDU and ODU	Recoverable	E2
2	T3 or T4 temperature sensor error	Recoverable	E4
3	Input voltage protection	Recoverable	E5
4	DC fan protection	Recoverable	E6
5	EEPROM fault	Unrecoverable	E9
6	Wrong compressor parameters	Unrecoverable	E.9.
7	E6 fault occurs more than six times in an hour.	Unrecoverable	Eb
8	PFC error	Unrecoverable	EF
9	Refrigerant radiator temperature sensor error	Recoverable	EH
10	DC bus voltage protection	Recoverable	F1
11	Communication between the main control board and the inverter fails.	Recoverable	H0
12	M-Home mismatch(reserved)	Recoverable	HF
13	L (L0/L1) fault occurs three times in one hour.	Unrecoverable	H4
14	The fault is increased or reduced on the IDU.	Recoverable	H7
15	IPM protection	Recoverable	L0
16	DC bus low voltage protection	Recoverable	L1
17	DC bus high voltage protection	Recoverable	L2
18	MCE error	Recoverable	L4
19	Zero speed protection	Recoverable	L5
20	Compressor phase sequence error	Recoverable	L7
21	Protection for compressor speed change > 15Hz	Recoverable	L8
22	Protection for the difference between the set speed and the running speed of the compressor > 15Hz	Recoverable	L9
23	Radiator surface temperature protection	Recoverable	PL
24	System high pressure protection	Recoverable	P1
25	System low pressure protection	Recoverable	P2
26	Overcurrent protection	Recoverable	P3
27	T5 discharge temperature protection	Recoverable	P4
28	T3 outdoor condenser temperature protection	Recoverable	P5
29	Typhoon protection	Recoverable	P8
30	T2 IDU evaporator temperature protection	Recoverable	PE
31	Ambient temperature less than or equal to -5 in cooling mode (ODU reports the fault)	Recoverable	EP

If the problem remains, please contact the distributor or Intensity's air conditioner customer service center, and provide info about the product model and the fault details.

### Display Function Instruction:

1. When stand by, LED displaying the amount of indoor units online which communicate with outdoor units.
2. When operation, LED displaying frequency value of compressor.
3. When defrost, LED displaying "dF".

## 6. FOLLOWING SYMPTOMS ARE NOT AIR CONDITIONER TROUBLES

### Symptom 1: The system does not operate

- The air conditioner does not start immediately after the ON/OFF button on the remote controller is pressed. If the operation lamp lights, the system is in normal condition. To prevent overloading of the compressor motor, the air conditioner starts 3 minutes after it is turned ON.
- If the operation lamp and the "PRE-DEF indicator (cooling and heating type) or fan only indicator (cooling only type)" light, it means you choose the heating model. When just starting, if the compressor has not started, the indoor unit appears "anti cold wind" protection because of its overflow outlet temperature.

### Symptom 2: Change into the fan mode during cooling mode

- In order to prevent the indoor evaporator frosting, the system will change into fan mode automatically, restore to the cooling mode after soon.
- When the room temperature drops to the set temperature, the compressor goes off and the indoor unit changes to fan mode; when the temperature rises up, the compressor starts again. It is same in the heating mode.

### Symptom 3: White mist comes out of a unit

#### Symptom 3.1: Indoor unit

- When humidity is high during cooling operation. If the interior of an indoor unit is extremely contaminated, the temperature distribution inside a room becomes uneven. It is necessary to clean the interior of the indoor unit. Ask your dealer for details on cleaning the unit. This operation requires a qualified service person.

#### Symptom 3.2: Indoor unit, outdoor unit

- When the system is changed over to heating operation after defrost operation. Moisture generated by defrost becomes steam and is exhausted.

### Sptom 4: Noise of air conditioners cooling

#### Symptom 4.1: Indoor unit

- A continuous low "shah" sound is heard when the system is in cooling operation or at a stop. When the drain pump (optional accessories) is in operation, this noise is heard.
- A "pishi-pishi" squeaking sound is heard when the system stops after heating operation. Expansion and contraction of plastic parts caused by temperature change make this noise.

#### Symptom 4.2: Indoor unit, outdoor unit

- A continuous low hissing sound is heard when the system is in operation. This is the sound of refrigerant gas flowing through both indoor and outdoor units.
- A hissing sound which is heard at the start or immediately after stopping operation or defrost operation. This is the noise of refrigerant caused by flow stop or flow change.

#### Symptom 4.3: Outdoor unit

- When the tone of operating noise changes. This noise is caused by the change of frequency.

### Symptom 5: Dust comes out of the unit

- When the unit is used for the first time in a long time. This is because dust has gotten into the unit.

### Symptom 6: The units can give off odours

- The unit can absorb the smell of rooms, furniture, cigarettes, etc., and then emit it again.

### Symptom 7: The outdoor unit fan does not spin.

- During operation. The speed of the fan is controlled in order to optimize product operation.

## 7. TROUBLESHOOTING

### 7.1. Troubles and causes of air conditioner

**If one of the following malfunctions occur, stop operation, shut off the power, and contact with your dealer.**

- The operation lamp is flashing rapidly (twice every second). This lamp is still flashing rapidly after turn off the power and turn on again.
- Remote controller receives malfunction or the button does not work well.
- A safety device such as a fuse, a breaker frequently actuates.
- Obstacles and water enter the unit.
- Water leaks from indoor unit.
- Other malfunctions.

**If the system does not properly operate except the above mentioned cases or the above mentioned malfunctions is evident, investigate the system according to the following procedures. (see in Table 7-1)**

Table 7-1

Symptoms	Causes	Solution
Unit does not start	<ul style="list-style-type: none"> <li>Power failure.</li> <li>Power switch is off.</li> <li>Fuse of power switch may have burned.</li> <li>Batteries of remote controller exhausted or other problem of controller.</li> </ul>	<ul style="list-style-type: none"> <li>Wait for the comeback of power.</li> <li>Switch on the power.</li> <li>ReplLocation:</li> <li>Replace the batterises or check the controller.</li> </ul>
Air flowing normally but completely can't cooling	<ul style="list-style-type: none"> <li>Temperature is not set correctly.</li> <li>Be in 3 minutes protection of compressor.</li> </ul>	<ul style="list-style-type: none"> <li>Set the temperature properly.</li> <li>Wait.</li> </ul>
Units start or stop frequently	<ul style="list-style-type: none"> <li>Refrigerant is too little or too much.</li> <li>Air or no concreting gas in the refrigerating circuit.</li> <li>Compressor is malfunction.</li> <li>Voltage is too high or too low.</li> <li>System circuit is blocked.</li> </ul>	<ul style="list-style-type: none"> <li>Check leakage, and rightly recharge refrigerant.</li> <li>Vacuum and recharge refrigerant.</li> <li>Maintenance or change compressor.</li> <li>Install manostat.</li> <li>Find reasons and solution.</li> </ul>
Low cooling effect	<ul style="list-style-type: none"> <li>Outdoor unit and indoor unit heat exchanger is dirty.</li> <li>The air filter is dirty.</li> <li>Inlet/outlet of indoor/outdoor units is blocked.</li> <li>Doors and windows are open</li> <li>Sunlight directly shine.</li> <li>Too much heat resource.</li> <li>Outdoor temp. is too high.</li> <li>Leakage of refrigerant or lack of refrigerant.</li> </ul>	<ul style="list-style-type: none"> <li>Clean the heat exchanger.</li> <li>Clean the air filter.</li> <li>Eliminate all dirties and make air smooth.</li> <li>Close doors and windows.</li> <li>Make curtains in order to shelter from sunshine.</li> <li>Reduce heat source.</li> <li>AC cooling capacity reduces (normal).</li> <li>Check leakage and rightly recharge refrigerant.</li> </ul>
Low heating effect	<ul style="list-style-type: none"> <li>Outdoor temperature is lower than 7°C</li> <li>Doors and windows not completely closed.</li> <li>Leakage of refrigerant or lack of refrigerant.</li> </ul>	<ul style="list-style-type: none"> <li>Use heating device.</li> <li>Close doors and windows.</li> <li>Check leakage and rightly recharge refrigerant.</li> </ul>

## 7.2 Troubles and causes of remote controller

Before asking for serving or repairing , check the following points.

(see in Table 7-2)

Table 7-2

Symptoms	Causes	Solution
The fan speed can not be changed.	<ul style="list-style-type: none"> <li>● Check whether the MODE indicated on the display is "AUTO"</li> </ul>	When the automatic mode is selected, the air conditioner will automatically change the fan speed.
	<ul style="list-style-type: none"> <li>● Check whether the MODE indicated on the display is "DRY"</li> </ul>	When dry operation is selected, the air conditioner automatically change the fan speed. The fan speed can be selected during "COOL" , "FAN ONLY", and "HEAT"
The remote controller signal is not transmitted even when the ON/OFF button is pushed.	<ul style="list-style-type: none"> <li>● Check whether the batteries in the remote controller are exhausted.</li> </ul>	The power supply is off.
The TEMP. indicator does not come on.	<ul style="list-style-type: none"> <li>● Check whether the MODE indicated on the display is FAN ONLY</li> </ul>	The temperature cannot be set during FAN mode.
The indication on the display disappears after a lapse of time.	<ul style="list-style-type: none"> <li>● Check whether the timer operation has come to an end when the TIMER OFF is indicated on the display.</li> </ul>	The air conditioner operation will stop up to the set time
The TIMER ON indicator goes off after a lapse of certain time.	<ul style="list-style-type: none"> <li>● Check whether the timer operation is started when the TIMER ON is indicated on the display.</li> </ul>	Up to the set time, the air conditioner will automatically start and the appropriate indicator will go off.
No receiving tone sounds from the indoor unit even when the ON/OFF button is pressed.	<ul style="list-style-type: none"> <li>● Check whether the signal transmitter of the remote controller is properly directed to the infrared signal receiver of the indoor unit when the ON/OFF button is pressed.</li> </ul>	Directly transmit the signal transmitter of the remote controller to the infrared signal receiver of the indoor unit, and then repeatedly push the ON/OFF button twice.