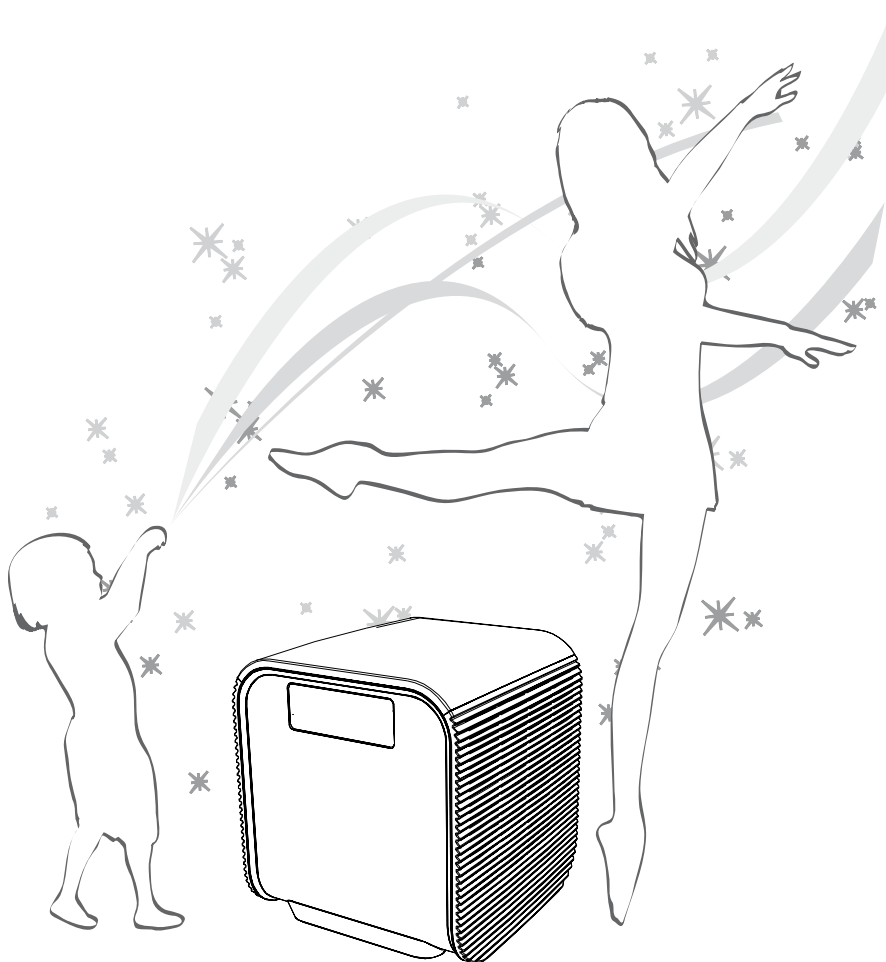




CE

TECHNICAL & SERVICE MANUAL

dados 9 plus/13 plus/xl



V 10/2013

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1. Safety precaution

1.1 Installation

For electrical work, contact the an authorized service center.

Do not disassemble or repair the product by yourself.

Sharp edges could cause injury, be especially careful of the case edges and the fins on the condenser and evaporator.

Be sure the installation area does not deteriorate with age.

Take care to ensure that power cable could not be pulled out or damaged during operation.

Do not place anything on the power cable.

Do not plug or unplug the power supply plug during operation.

Do not store or use flammable or combustible gas near the product.

When there are flammable gas leaks, turn off the gas and open a window for ventilation before turning the product on.

If strange sounds, or small or smoke comes from product, turn the breaker off.

When the product is soaked (flooded or submerged), contact an Authorized service center.

Pay attention that water does not enter the product.

Turn the main power off when cleaning or maintaining the product.

When the product is not in use for a long time, disconnect the power supply plug or turn off the breaker.

1.2 Caution

Always check that there are not gas (refrigerant) leakage after installation, otherwise please repair the product. After installing the drain hose make sure that water is drained away properly. Install the product only on a flat surface.

Do not install the product in places where hot air outlet could damage the neighborhoods.

Use two or more people to lift and transport the product.

Do not install the product where it will be exposed to sea wind (salt spray) directly.

1.3 Operation

Do not expose the skin directly to cool air for long periods of time. (Do not sit in front of the air outlet). Do not use the product for special purposes, such as preserving foods, works of art, etc.

Do not block the inlet or outlet of air flow.

Use a soft cloth to clean the air conditioner. Do not use harsh detergents, solvents, etc.

Do not touch the metal parts of the product when removing the air filter. They are very sharp.

Do not step on or put anything on the product.

Always insert the filter securely. Clean the filter every two weeks or more often if necessary.

Do not insert hands or other object through the air inlet or outlet while the product is operated.

Do not drink the water drained from the product.

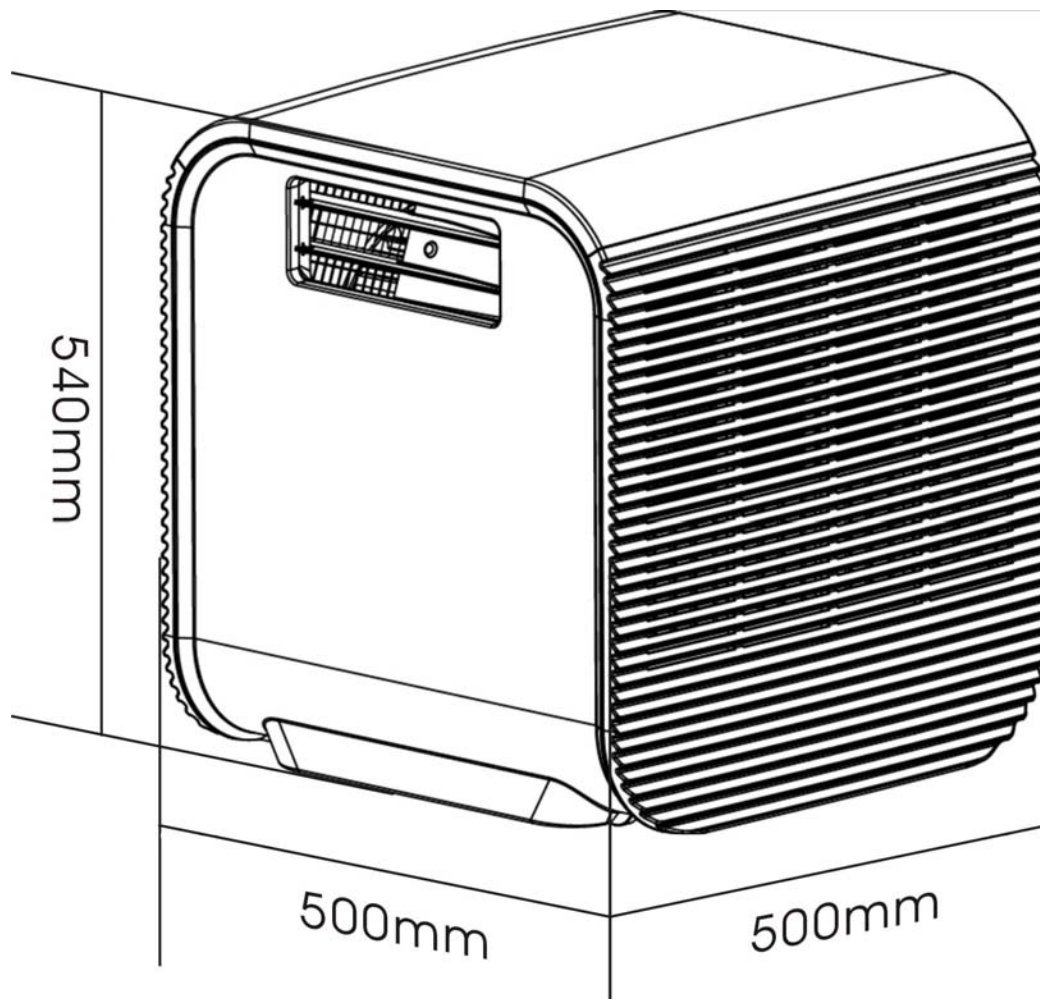
Replace the all batteries in the remote control with new ones of the same type. Do not mix old and new batteries or different types of batteries.
Do not recharge or disassemble the batteries. Do not dispose of batteries in a fire.
If the liquid from the batteries gets onto your skin or clothes, wash it well with clean water. Do not use the remote control when the batteries leak.

2. Specification

Model		DADOS 9 PLUS	DADOS 13 PLUS	DADOS XL
Nameplate marking				
Power supply	Ph-V-Hz	1 ϕ ,220V-240V~50Hz		
Cooling Capacity	W	2200/2300	2900/3000	3100/3200
Cooling Power consumption	W	820	1100	1100
Heating Power consumption	W	625	925	960
Cooling EER/COP	W/W	2.70/3.70	2.60/3.10	2.80/3.30
System data				
Refrigerant type	g	R410A/430g	R410A/620g	R410A/805g
Design pressure (Hi/Lo)	bar	33.5/10.5.	34.0/11.2	32.5/11.4
Moisture Removal(30°C,RH80%)	L/DAY	30	50	55
air flow (Hi/Mi/Lo)	m ³ /h	280/300/350	290/310/360	290/360/420
Noise level (Hi/Mi/Lo)	dB(A)	40/37/38	42/39/38	48/43/40
Dimension&Weight				
Dimension (WxDxH)	mm	W500xD500xH540		
Packing (WxDxH)	mm	W570xD570xH660		
Net/Gross weight	kg	29/32.7	32/36.3	34/38.5
System Details				
Compressor Model		KRRC072ELJC-A	KA-C098ELBC-E	
Type		Rotary		
Capacity	W	1665W \pm 5%	2268W \pm 5%	
Input	W	655W \pm 5%	855W \pm 5%	
Rated current(RLA)	A	2.85A \pm 5%	3.8A \pm 5%	
Locked rotor Amp(LRA)	A	21.1A \pm 5%	20A \pm 5%	
Thermal protector		B125-140-241C	T0705/46	
Capacitor		20uF 450V	25uF 450V	
Refrigerant oil	CC	240	300	
Fan Motor				
Model		MD99-3		MD97-3
Input	W	85/44/32		138/113/92
Capacitor		5uF 450V		
Lower speed Capacitor Mi		N/A		10uF 450V 950Rpm
Lower speed Capacitor Lo		N/A		15uF 450V 780Rpm
Speed(hi/mi/lo) \pm 50	Rpm	1030/830/730		1310/1220/1120
Evaporator				
Number of rows		2	3	3
Tube pitch(a)x row pitch(b)	mm	21x12.7		
Fin spacing	FPI	18		
Fin type		Hydrophilic aluminum		
Tube outside dimension type		Φ 7 inner groove tube		
Axial length x height x width	mm	317.7x336x25.4	317.7x336x38.1	317.7x336x38.1
Number of circuits		2	2	2
Condenser				
Number of rows		2	3	4
Tube pitch(a)x row pitch(b)	mm	21x12.7		
Fin spacing	FPI	18		
Fin type		aluminum		
Tude outside dimension type	mm	Φ 7 inner groove tube		
Axial length x height x width	mm	400x357x38.1	400x357x50.8	400x357x63.5
Number of circuits		1	1	1

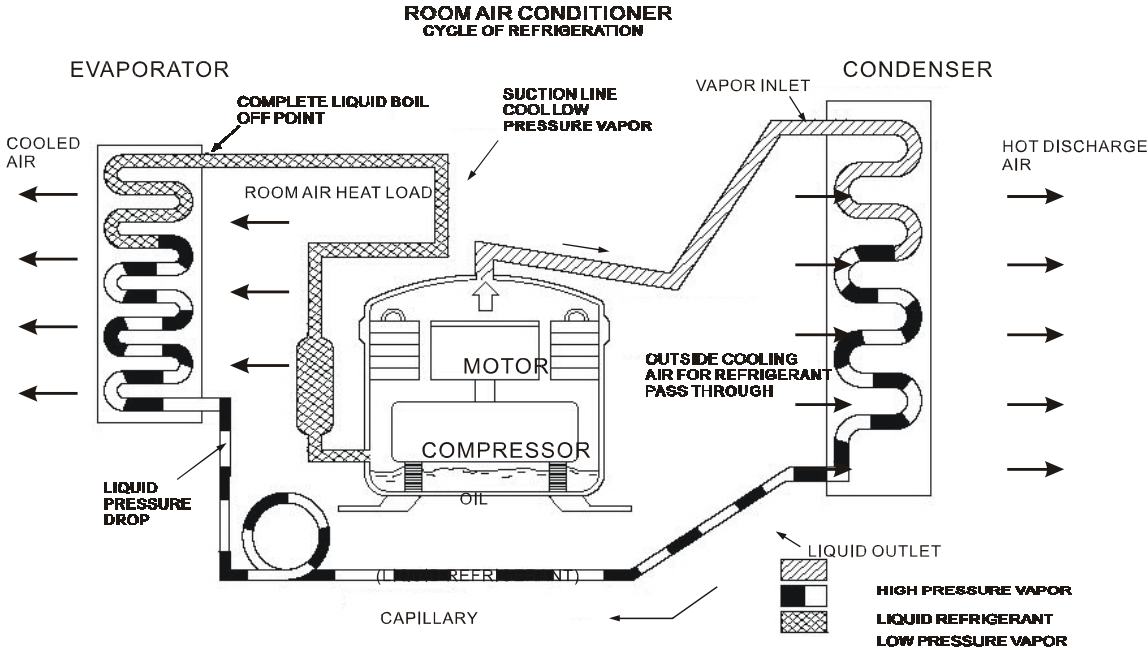
The standard is EN14511 -2:2007 test condition is 35°C db/ 24°C wb

3. Outer dimension



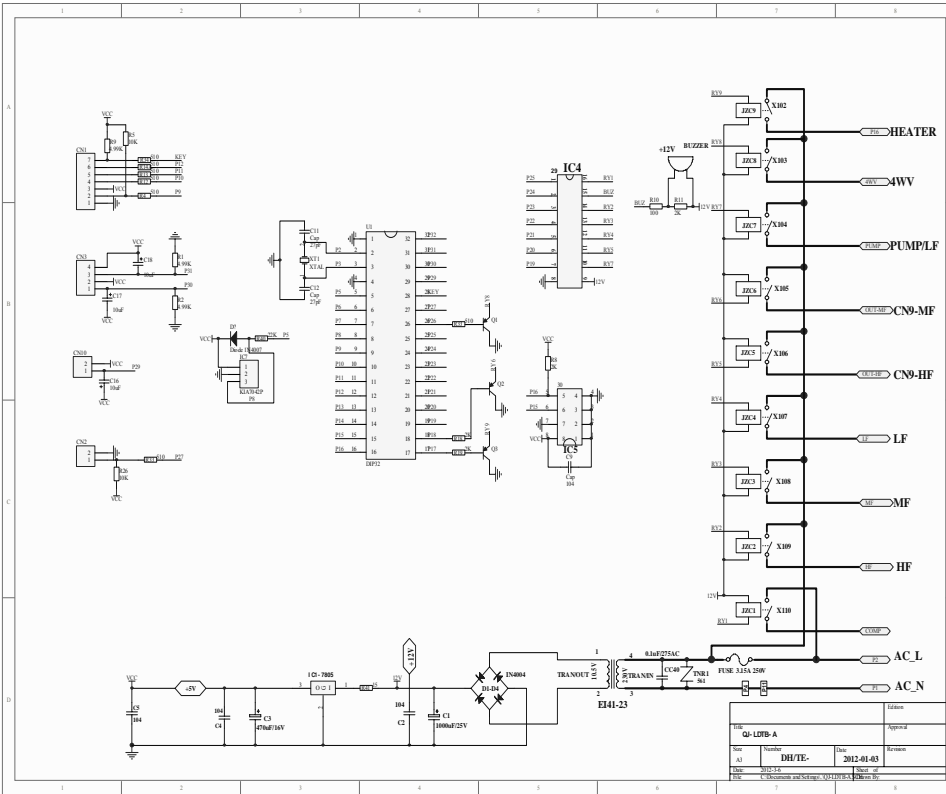
4. Refrigerant cycle diagram

The figure below is a brief description of the important components and their function in what is called the refrigeration system

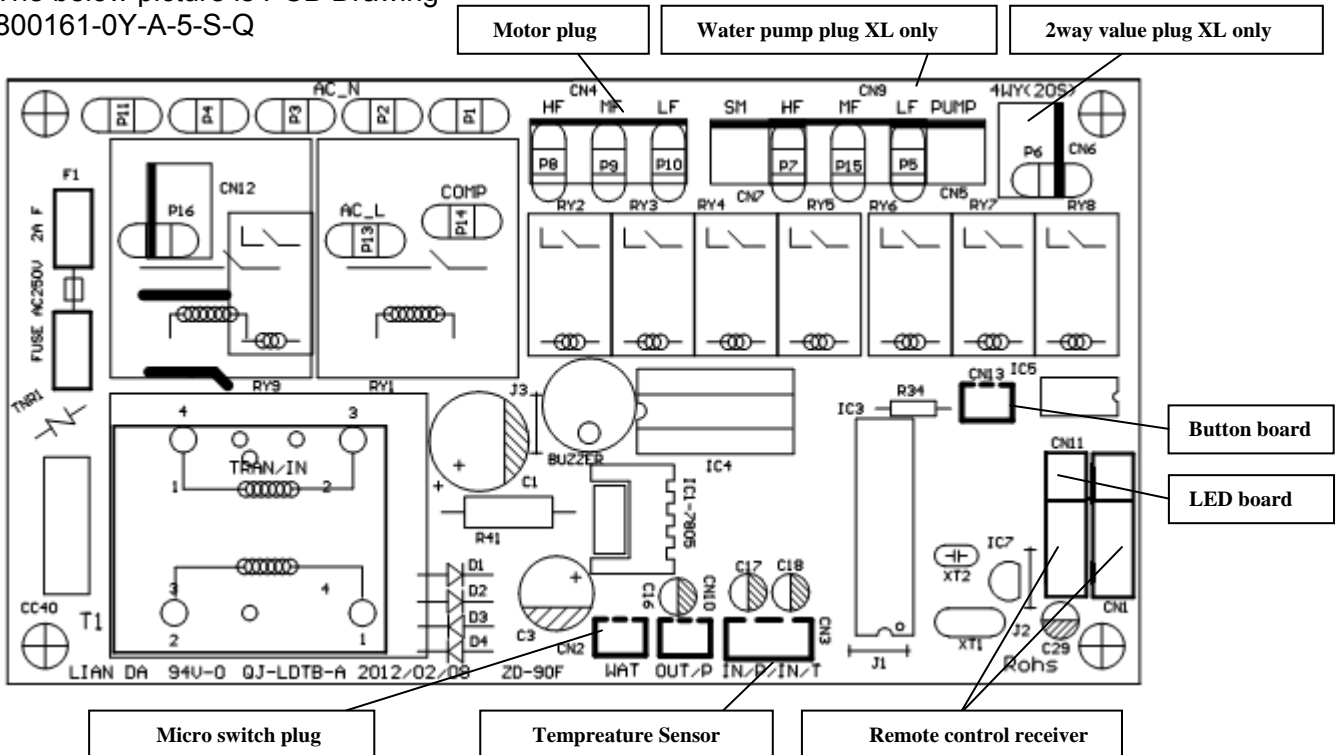


5. PCB drawing & wiring diagram

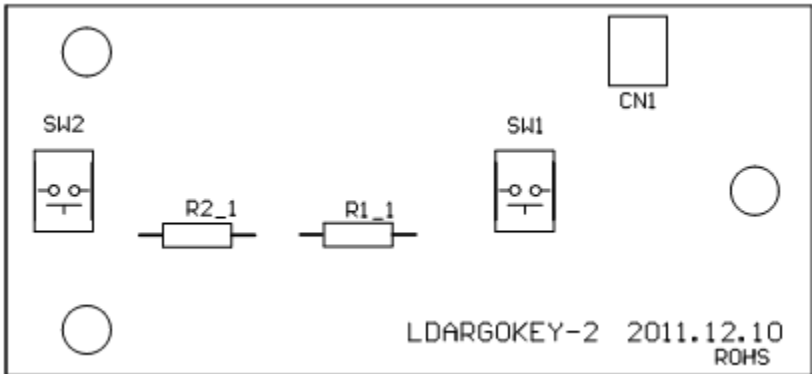
The below picture is PCB schematic:
800161-0Y-A-5-S-Q



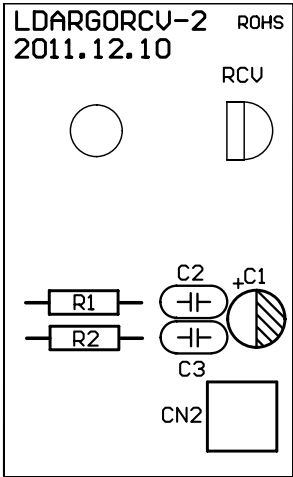
The below picture is PCB Drawing
800161-0Y-A-5-S-Q



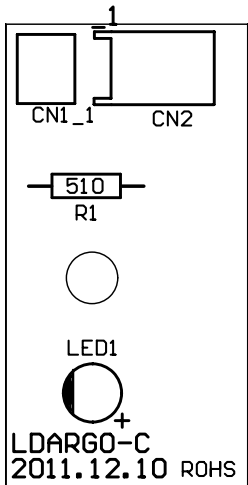
The below picture is control logic drawing:
800194-0Y-1



The below picture is remote receiver logic Drawing:
800195-0Y-1

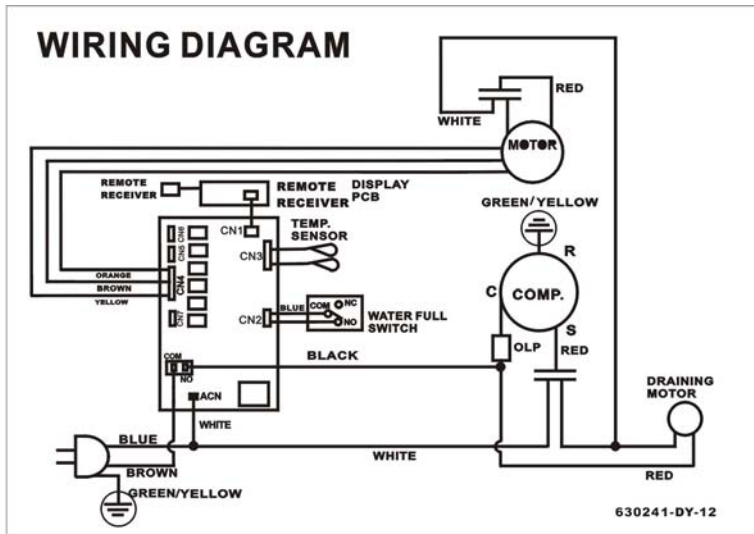


The below picture is display panel Drawing:
800196-0Y-1

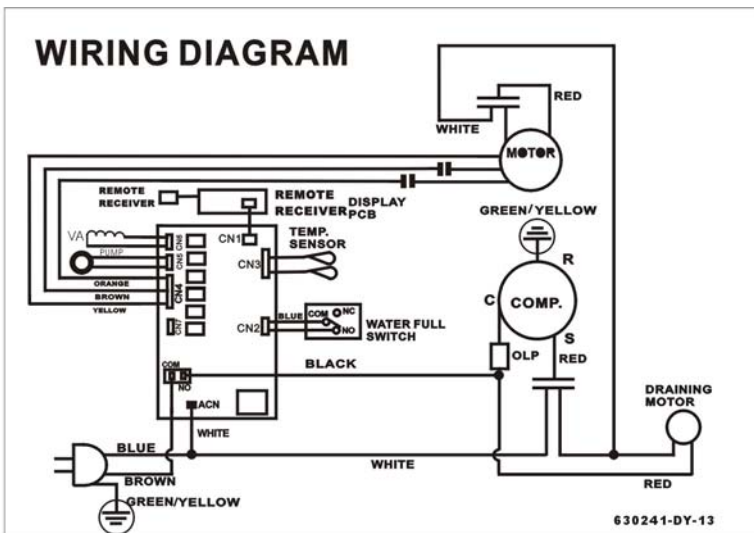


Wiring Diagrams

630241-DY-12 for DADOS 9 & 13



630241-DY-13 for DADOS XL

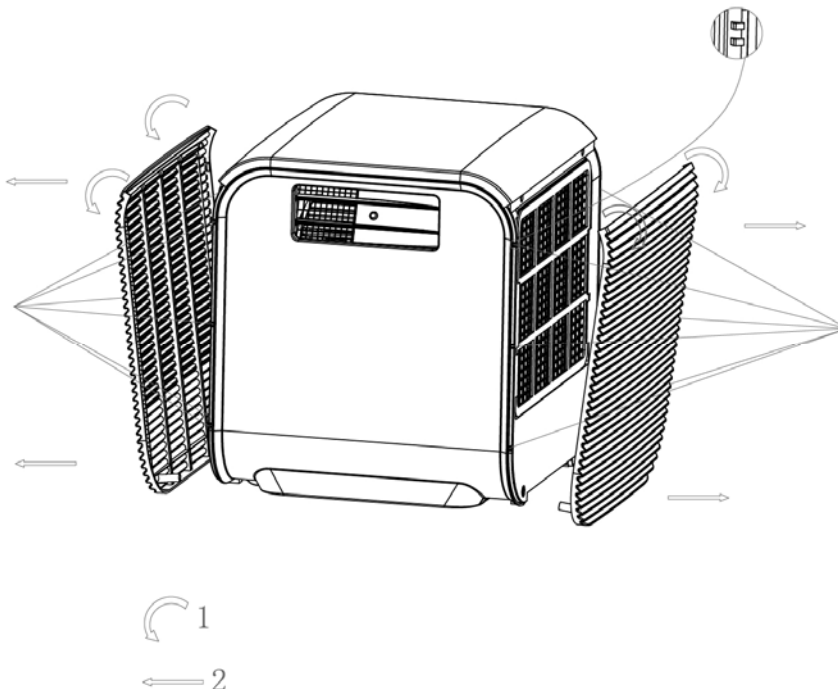


6. Unit Disassembly sequence

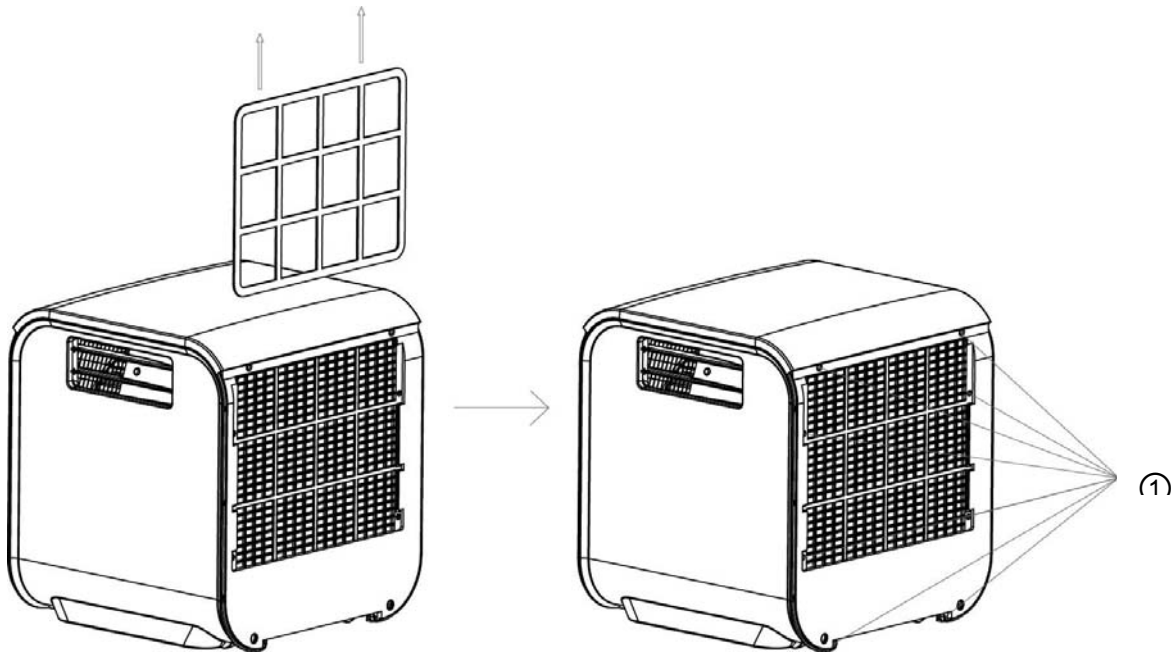
	Screws	Position	Quantity
1	Sharp-End Screws 4x12	Side panel/Front an back panel/Upper cover/Electric box/Metal bracket	60pcs
2	Double-End Screws 3x8	Light Setting Board	2pcs
3	Sharp-End Screws 3.5x10	Light Board/Receiver Board/Button Board	7pcs
4	Truss-head Screws 4x10	Air-outlet/Main PCB/Protective cover of motor/water pump	16pcs
5	Stainless Stell Screws 4x12	Evaporator end plate	4pcs

6.1 Step 1 - Casing Disassembly

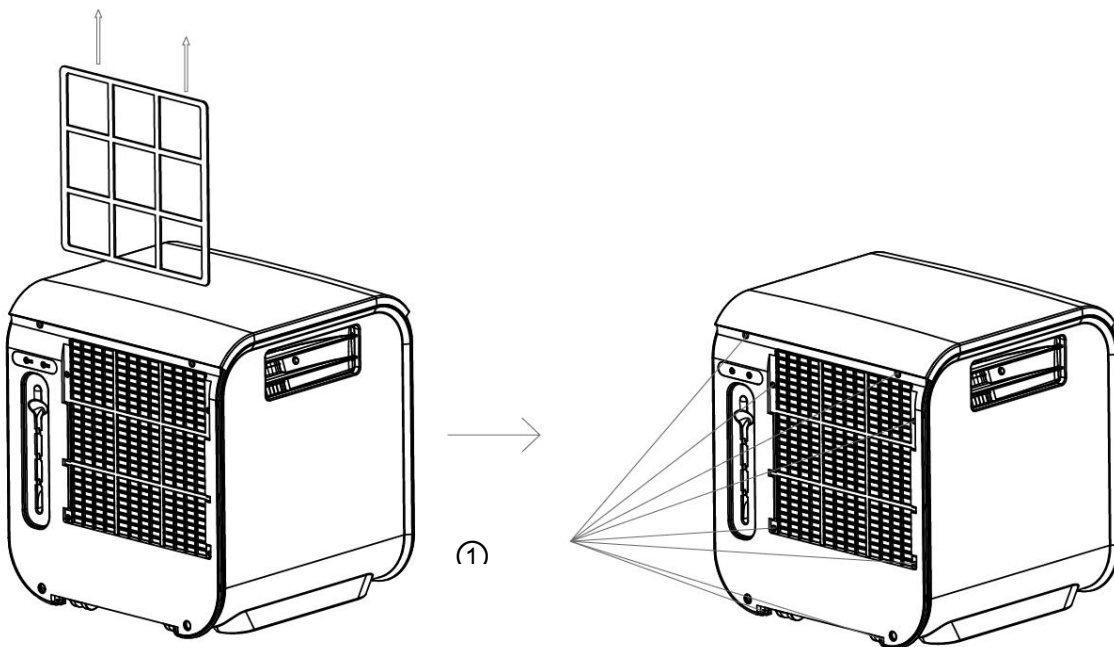
Disassemble the casing from both left & right side
 Extend both left and right side panel outwards, see below photo



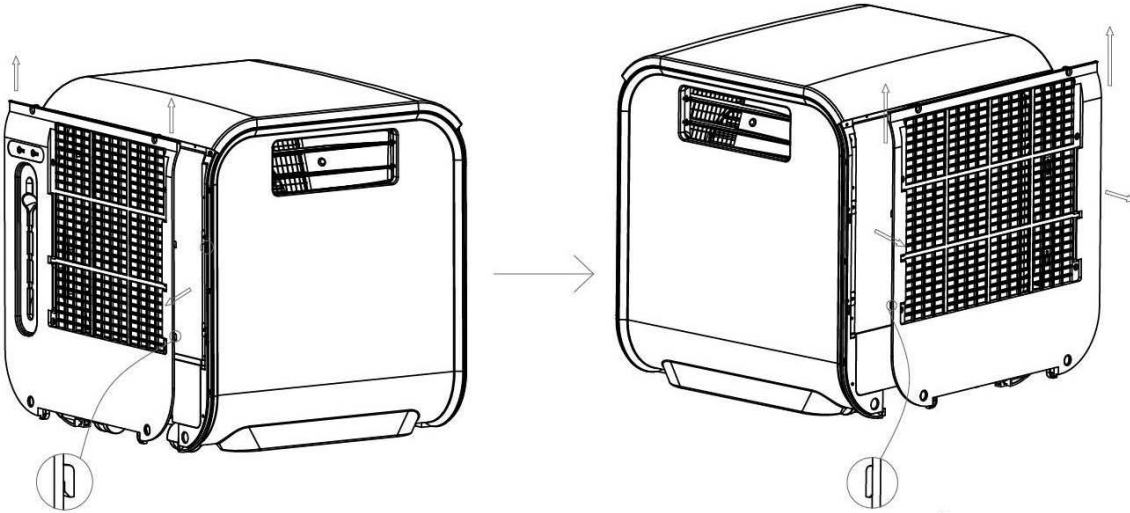
Take out the filter upwards, then unscrew the hot air louver.



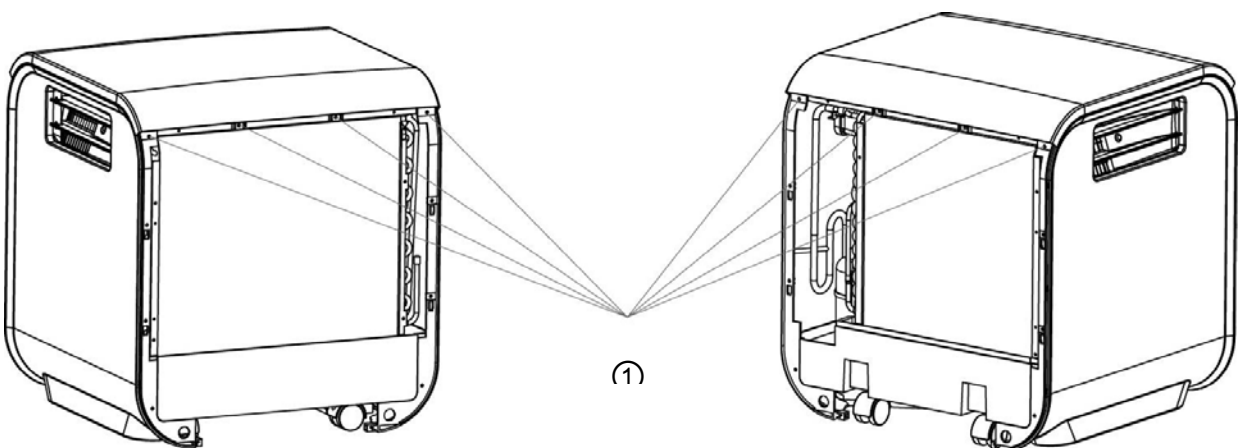
Take out the filter upwards, then unscrew the hot air louver on the other side.



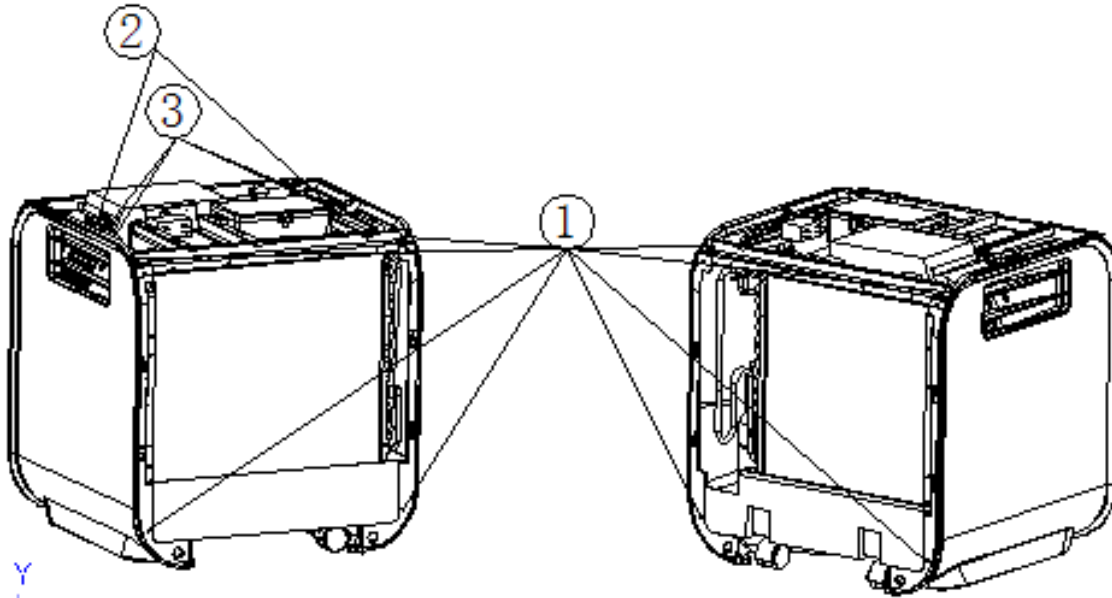
Disassemble the case by easing the buttons in an upward direction, then to take it out outwardly.



Unscrew the front & back casing



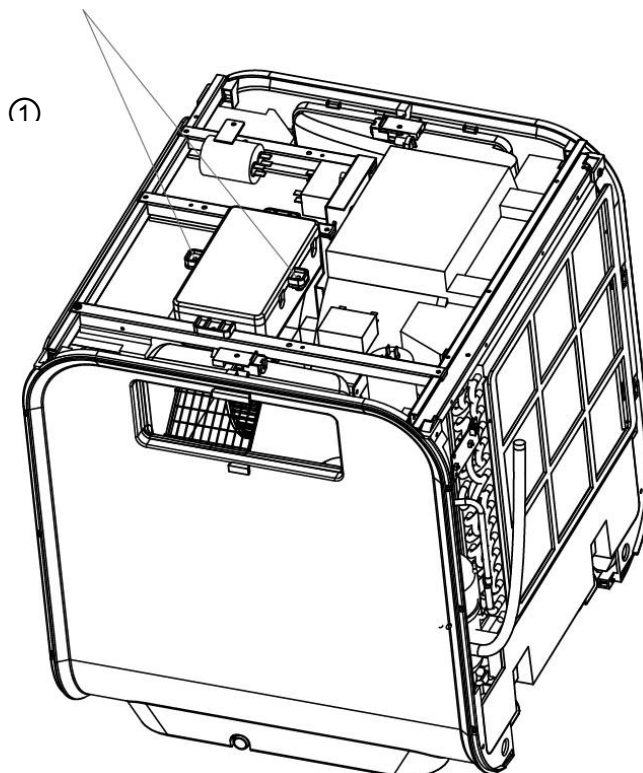
Disassemble the top casing



6.2 Step 2 - Internal Parts Disassembly

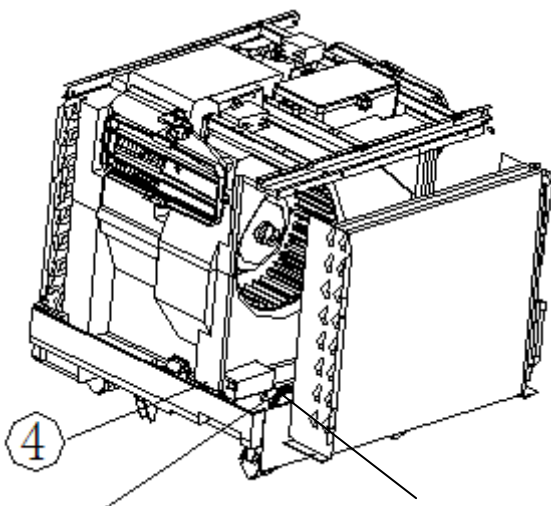
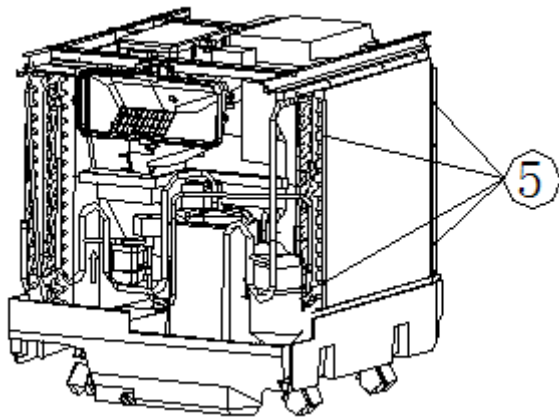
PCB Disassembly :

After disassembling casings, please unscrew both sides of the cabinet to take out the PCB



Disassembly steps for water motor :

please dismantle the screws of the condenser, slide up the partition panel.and then take out slow the condenser from the left hand side. From there, you can see the water motor. Caution, please notice that in order to avoid any water split by water wheel, you should uphold the condenser

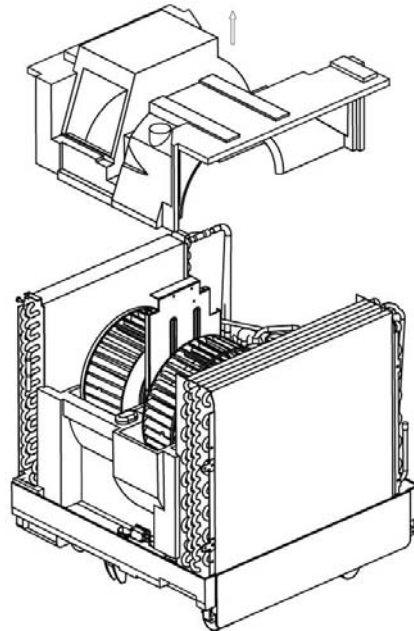
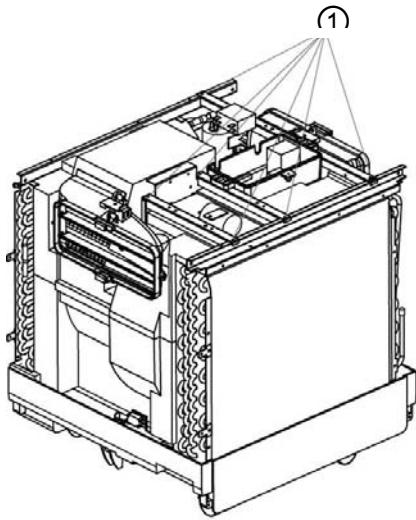


Water motor

Water wheel

Motor Disassembly

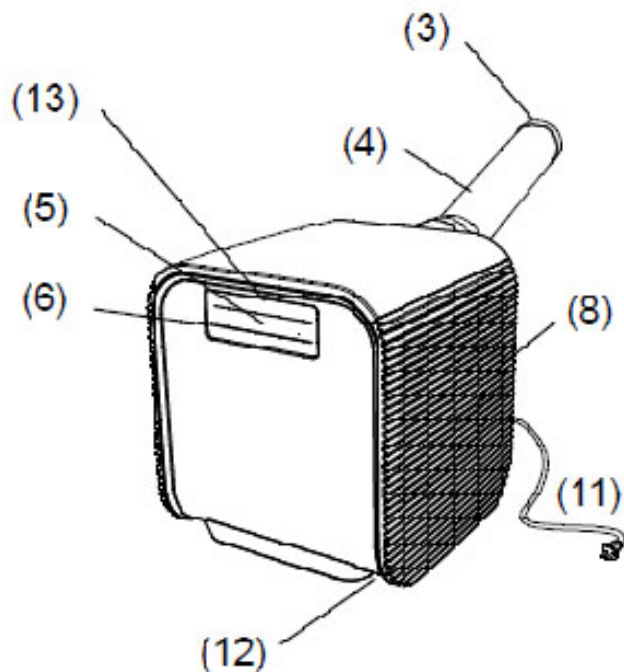
Unscrew the top metal parts, to take out the polyfoam upwards



7. Features

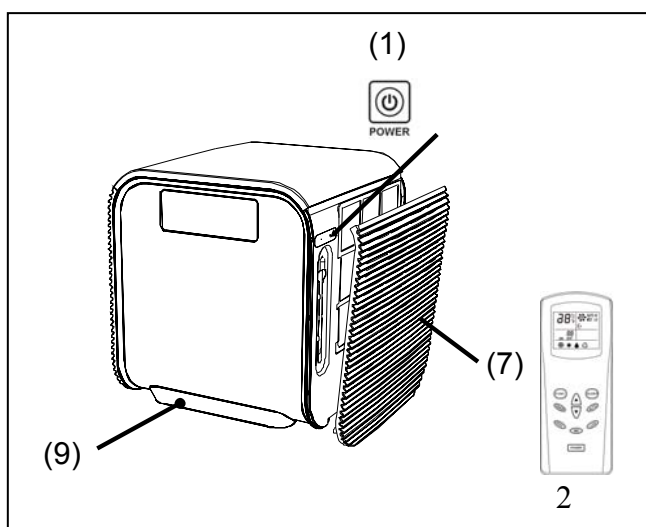
7.1 Parts of the Air Conditioner

FRONT VIEW - SIDE FOR COOLING, DEHUMIDIFYING, FAN MODES

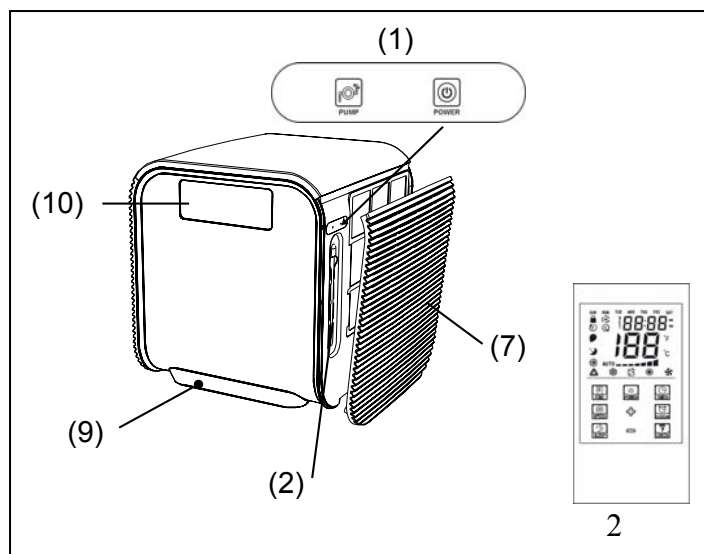


- 1) CONTROL PANEL - FUNCTION BUTTONS FOR OPERATION WITHOUT REMOTE CONTROL
- 2) TOUCH SCREEN REMOTE CONTROL
- 3) TERMINAL CONNECTOR OF THE AIR EXPULSION TUBE
- 4) AIR EXPULSION TUBE
- 5) REMOTE CONTROL RECEIVER
- 6) COOL AIR OUTLET (COMPLETE WITH AIR LOUVERS)
- 7) 8) INLET GRILLES
- 9) CONDENSATE DRAIN HOLE
- 11) POWER CORD
- 12) CONCEALED WHEELS
- 13) BLUE OPERATING LED

REAR VIEW



DADOS 9/13



DADOS XL

Fix Led: Operation
 Flash ON-OFF (1 sec. ON – 1 sec. OFF): Stand-By
 Flash ON-OFF (1/6 sec. ON - 1/6 sec. OFF): Full Tank

7.2 Accessories

Digital remote control



Type AAA batteries for the remote control.



Circular connection to be positioned between the end of the tube and the terminal connection (A+B).



Opening kit for installation in window (also for double glazing).



Flat connection to be positioned between the air expulsion mouth and the flexible hose, positioned between the window leafs.



Flat connection to be positioned between the air expulsion mouth and the flexible divided up into two parts (A and B), to be joined hose, easily applicable thanks to the convenient magnet system.



Flat connection



8. Electronic function

8.1 Function

8.1.1 Cooling , Heating or Dehumidifying mode

8.1.2 Auto switch on, off and sleep mode function

8.1.3 Ts range : Cooling : 17 ~ 30°C ; Heating : 15 ~ 30°C (dados XL)

8.1.4 Time delay safety control

8.1.5 Auto Memory Function

8.2 Controller Specifications

8.2.1 Normal power source: 220VAC±15%

8.2.2 Operation temperature for electrical system:

- working temperature range : - 10°C~ + 60°C

- storage temperature range : - 20°C~ + 70°C

- relative humidity range : 35~98%

8.2.3 Temperature sensor : R25/50=5K、 B=3470 temperature precision : ±1°C

8.3 Controller Structure

The control logic consists of remote control, indoor control panel, indoor main control panel. The output of main control is including motor fan (high, mid, low fan speed), compressor.

8.4 Sensor Definitions

TA: Temperature of ambient, (T1).

TE: Temperature of evaporator, (T2).

TS: Setting temperature, (T3).

8.5 Mode

8.5.1 Cooling

8.5.1.1 In cooling mode, set point temperature is 17 ~ 30°C ; starting temperature is 25°C.

8.5.1.2 Cooling mode - compressor working condition:

A: Under the condition of $T1 - T3 \geq +1^{\circ}\text{C}$, compressor will be running

B: Under the condition of $T1 - T3 \leq +1^{\circ}\text{C}$, the unit will be switched off, compressor will be off too

Each time the compressor and internal motor system will be switching back to the original setting

Note: When compressor is off, cooling operation light is flashing. When the compressor is running, the operation light will be turned on.

8.5.2 Dehumidification mode

8.5.2.1 During dehumidification mode fan system is in “low” setting and the compressor is working.

8.5.2.2 Dehumidification mode.

A. If indoor temperature $\leq 0^{\circ}\text{C}$, compressor will be off.

B. If $0^{\circ}\text{C} < \text{indoor temperature} \leq 20^{\circ}\text{C}$, compressor will be on for 15 min and stop for 3 min.

C . If indoor temperature $> 20^{\circ}\text{C}$ compressor will be on for 30 min and stop for 3 min.

Note: When compressor stops, the dehumidification indication light is on.

8.5.3 Heating mode (dados XL)

8.5.3.1 Heating mode: set point temperature range is 15 ~ 30°C, starting temperature is 20°C.

8.5.3.2 Heating mode, compressor working condition

A. Under the condition of $T3 - T1 \geq +1^{\circ}\text{C}$ (2°F) compressor will be turned on

B. Under the condition of $T3 - T1 \leq +1^{\circ}\text{C}$ (2°F) compressor will be turned off

Each time the compressor and internal motor system will be switching back to the original setting

Note: When compressor is off, cooling operation light is flashing. When the compressor is running, the operation light will be turned on.

8.6 Protection function

8.6.1 Compressor delay protection

8.6.1.1 When the unit is switched on, the compressor needs 3 min and 30 s in order to start to operate.

8.6.1.2 When the compressor is switched off and restarts again to operate, restarting period is 3 min and 30 s.

8.6.2 *Defrosting protection mode (Electrical defrosting) for DADOS 9 & 13.*

This protection prevents ice formation on the heat exchanger.

The protection is activated if the fan coil temperature is $\leq 1^{\circ}\text{C}$ and after 15 minutes operation.

If temperature is $> 6^{\circ}\text{C}$ defrosting mode will be off.

Defrosting protection mode (two way valve defrosting) for DADOS XL

If the coil temperature detected is $\leq 0^{\circ}\text{C}$ continuously for 5 min, the prevention deicing pipeline will start.

When temperature will be $\geq 2^{\circ}\text{C}$ then the system will exit the defrosting mode.

If the coil temperature detected is $\leq -3^{\circ}\text{C}$ continuously for 10 min, the prevention deicing pipeline will start.

When temperature will be $\geq 2^{\circ}\text{C}$ then the system will exit the defrosting mode.

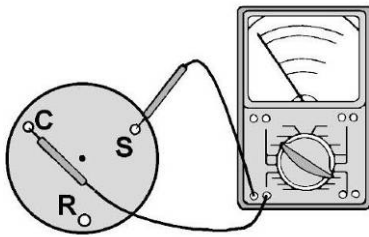
9. Basic test procedure

9.1 Defective compressor

Compressors are single phase, 220-240 volt, depending on the model unit. All compressor motors are permanent split capacitor type using only a running capacitor across the start and run terminal.

All compressors are externally mounted on rubber isolators.

9.1.1 Compressor wiring test



Remove compressor terminal box cover and disconnect wires from terminals. Using an ohmmeter, check continuity across the following:

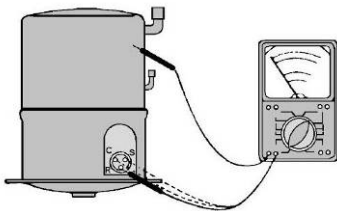
Terminal "C" and "S" - no continuity: Open winding - replace compressor.

Terminal "C" and "R" - no continuity: Open winding - replace compressor.

Terminal "R" and "S" - no continuity: Open winding - replace compressor.

9.1.2 Ground test

Use an ohmmeter set on its highest scale. Connect one lead to the compressor body (clean point of contact as a good connection is a must) and the other probe in turn to each compressor terminal (see Figure below.) If a reading is obtained, the compressor is grounded and must be replaced.



9.1.3 Checking the compressor efficiency

The reason for compressor inefficiency is normally due to broken or damaged suction and/or discharge valves, reducing the ability of the compressor to pump refrigerant gas.

This condition can be checked as follows:

1. Install a piercing valve on the suction and discharge or liquid process tube.
2. Attach gauges to the high and low sides of the system.
3. Start the system and run a "cooling or heating performance test."

If test shows:

- A. Below normal high side pressure.
- B. Above normal low side pressure.
- C. Low temperature difference across coil.

The compressor valves are faulty - replace the compressor.

9.1.4 Terminal overload (external)

Some compressors are equipped with an external overload which is located in the compressor terminal box adjacent to the compressor body. The overload is wired in series with the common motor terminal. The overload senses both major amperage and compressor temperature. High motor temperature or amperage heats the disc causing it to open and break the circuit to the common motor terminal.

Heat generated within the compressor shell is usually due to:

1. High amperage.
2. Low refrigerant charge.
3. Frequent recycling.
4. Dirty condenser.

9.1.5 Terminal overload (internal)

Some model compressors are equipped with an internal overload. The overload is embedded in the motor windings to sense the winding temperature and/or current draw. The overload is connected in series with the common motor terminal.

Should the internal temperature and/or current draw become excessive, the contacts in the overload will open, turning off the compressor. The overload will automatically reset, but it may require several hours before the heat is dissipated.

9.1.6 Checking the internal overload

1. With no power to unit, remove the leads from the compressor terminals.
2. Using an ohmmeter, test continuity between terminals C-S and C-R. If not continuous, the compressor overload is open and the compressor must be replaced.

9.2 Sealed refrigeration system repairs

9.2.1 Equipment require

1. Voltmeter
2. Ammeter
3. Ohmmeter
4. Refrigerant Recovery System
5. Vacuum Pump (capable of 200 microns or less vacuum)
6. Acetylene Welder
7. Electronic Halogen Leak Detector (G.E. Type H-6 or equivalent.)
8. Accurate refrigerant charge measuring device such as:
 - a. Balance Scales - 1/2 oz. accuracy (=0.0141747615625 kg)
 - b. Charging Board - 1/2 oz. accuracy (=0.0141747615625 kg)
9. High Pressure Gauge - (0 - 400 lbs.) (= 0 – 181 kg)
10. Low Pressure Gauge - (30 - 150 lbs.) (=14 – 68 kg)
11. Vacuum Gauge - (0 - 1000 microns)

9.2.2 Equipment must be capable of:

1. Recovery CFCs as low as 5%.
2. Evacuation from both the high side and low side of the system simultaneously.

-
3. Introducing refrigerant charge into high side of the system.
 4. Accurately weighing the refrigerant charge actually introduced into the system.
 5. Facilities for flowing nitrogen through refrigeration tubing during all brazing processes.

9.2.3 Hermetic compressor replacement.

The following procedure applies when replacing components in the sealed refrigeration circuit or repairing refrigerant leaks. (Include Compressor, condenser, evaporator, capillary tube, refrigerant leaks, etc.)

1. Recover the refrigerant from the system at the process tube located on the high side of the system by installing a line tap on the process tube. Apply gauge from process tube to EPA approved gauges from process tube to EPA approved recovery system. Recover CFCs in system to at least 5%.
2. Cut the process tube below pinch off on the suction side of the compressor.
3. Connect the line from the nitrogen tank to the suction process tube.
4. Drift dry nitrogen through the system and unsolder the more distant connection first. (Filter drier, high side process tube, etc.)
5. Replace inoperative component, and always install a new filter drier. Drift dry nitrogen through the system when making these connections.
6. Pressurize system to 30 PSIG (2.068 bar) with proper refrigerant and boost refrigerant pressure to 150 PSIG (10.342 bar) with dry nitrogen.
7. Leak test complete system with electric halogen leak detector, correcting any leaks found.
8. Reduce the system to zero gauge pressure.
9. Connect vacuum pump to high side and low side of system with deep vacuum hoses, or copper tubing. (Do not use regular hoses.)
10. Evacuate system to maximum absolute holding pressure of 200 microns or less. NOTE: This process can be speeded up by use of heat lamps, or by breaking the vacuum with refrigerant or dry nitrogen at 5,000 microns. Pressure system to 5 PSIG (0.344 bar) and leave in system a minimum of 10 minutes. Recover refrigerant, and proceed with evacuation of a pressure of 200 microns or a minimum of 10%.
11. Break vacuum by charging system from the high side with the correct amount of refrigerant specified. This will prevent boiling the oil out of the crankcase.
NOTE: If the entire charge will not enter the high side, allow the remainder to enter the low side in small increments while operating the unit.
12. Restart unit several times after allowing pressures to stabilize. Pinch off process tubes, cut and solder the ends. Remove pinch off tool, and leak check the process tube ends.

9.2.4 Special procedure in the case of compressor motor burnout.

1. Recover all refrigerant and oil from the system.
2. Remove compressor, capillary tube and filter drier from the system.
3. Flush evaporator condenser and all connecting tubing with dry nitrogen or equivalent, to remove all contamination from system. Inspect suction and discharge line for carbon deposits. Remove and clean if necessary.
4. Reassemble the system, including new drier strainer and capillary tube.
5. Proceed with processing as outlined under hermetic component replacement.

9.2.5 Rotary compressor special troubleshooting and service

Basically, troubleshooting and servicing rotary compressors is the same as on the reciprocating compressor with only a few exceptions.

1. Because of the spinning motion of the rotary, the mounts are critical. If vibration is present, check the mounts carefully.
2. The electrical terminals on the rotary are in a different order than the reciprocating compressors. The terminal markings are on the cover gasket. Use your wiring diagram to insure correct connections.

9.2.6 Refrigerant charge

1. The refrigerant charge is extremely critical. It must be measured charge carefully - as exact as possible to the nameplate charge.
2. The correct method for charging the rotary is to introduce liquid refrigerant into the high side of the system with the unit off. Then start compressor and enter the balance of the charge, gas only, into the low side. The introduction of liquid into the low side, without the use of a capillary tube, will cause damage to the discharge valve of the rotary compressor.

NOTE: All inoperative compressors returned for repair must have all lines properly plugged with the plugs from the replacement compressor.

9.3 Fan motor

A single phase permanent split capacitor motor is used to drive the evaporator blower and condenser fan. A self-resetting overload is located inside the motor to protect against high temperature and high amperage conditions.

9.3.1 Fan motor test

1. Determine that capacitor is serviceable.
2. Disconnect fan motor wires from fan speed switch or system switch.
3. Apply "live" test cord probes on black wire and common terminal of capacitor. Motor should run at high speed.
4. Apply "live" test cord probes on red wire and common terminal of capacitor. Motor should run at low speed.
5. Apply "live" test cord probes on each of the remaining wires from the speed switch or system switch to test intermediate speeds.

9.4 Capacitor

A run capacitor is wired across the auxiliary and main winding of a single phase permanent split capacitor motor such as the compressor and fan motor. A single capacitor can be used for each motor or a dual rated capacitor can be used for both.

The capacitor's primary function is to reduce the line current while greatly improving the torque characteristics of a motor. The capacitor also reduces the line current to the motor by improving the power factor of the load. Run capacitor hook-up line side of the capacitor is marked with a red dot and is wired to the line side of the circuit.

9.4.1 Capacitor test

1. Remove capacitor from unit.
2. Check for visual damage such as bulges, cracks, or leaks.
3. For dual rated, apply an ohmmeter lead to common (C) terminal and the other probe to the compressor (HERM) terminal. A satisfactory capacitor will cause a deflection on the pointer, and then gradually move back to infinity.

4. Reverse the leads of the probe and momentarily touch the capacitor terminals. The deflection of the pointer should be two times that of the first check if the capacitor is good.

5. Repeat steps 3 and 4 to check fan motor capacitor.

NOTE: A shorted capacitor will indicate a low resistance and the pointer will move to the "0" end of the scale and remain there as long as the probes are connected.

An open capacitor will show no movement of the pointer when placed across the terminals of the capacitor.

10. Characteristic of temperature sensor

电阻互换精度： R25 = 5.0KΩ±1.0%
 B25-50 = 3470k±1.0%

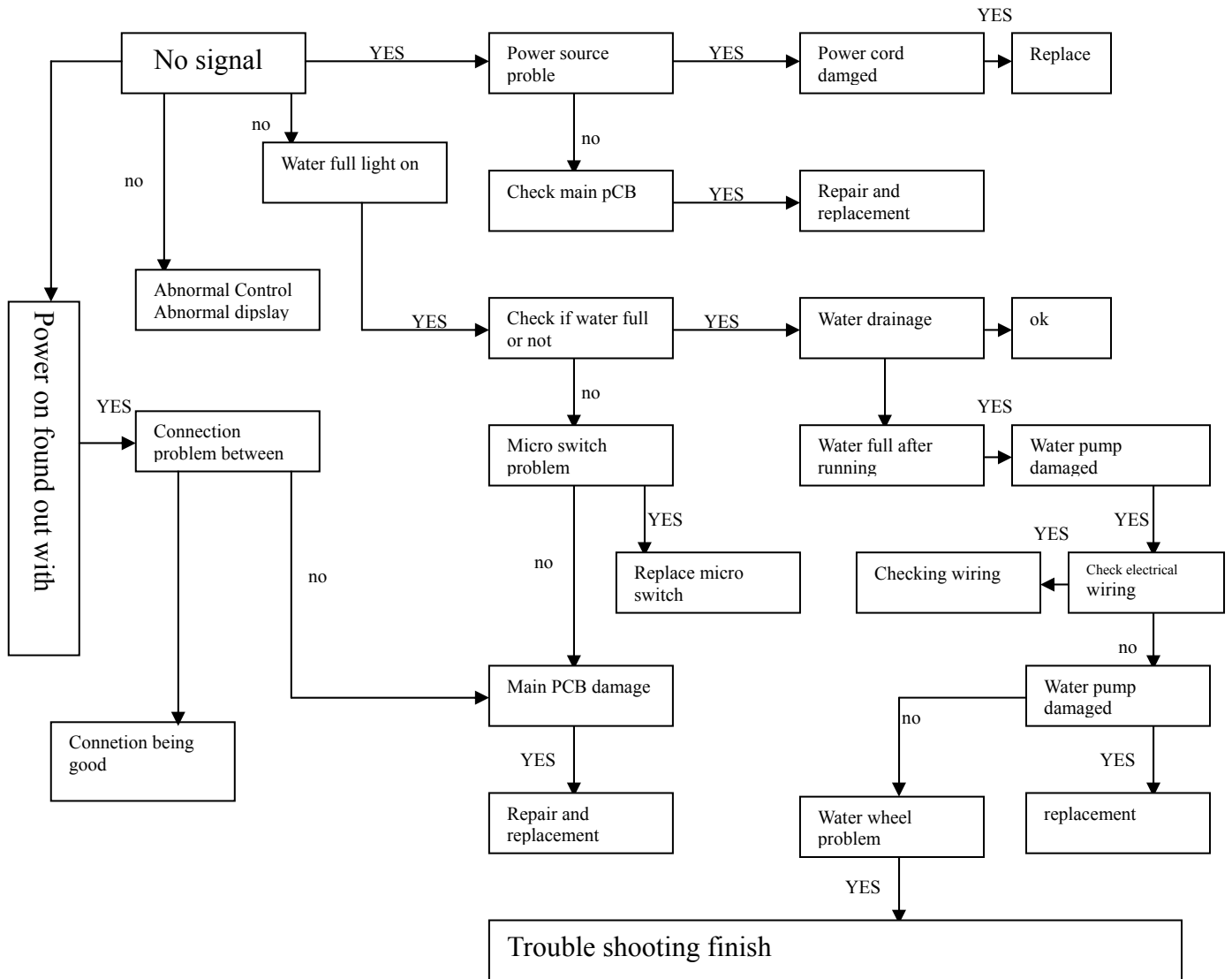
T (°C)	Rmin (KΩ)	R (KΩ)	Rmax (KΩ)	T (°C)	Rmin (KΩ)	T (°C)	Rmax (KΩ)
-30.000	61.427	63.647	66.959	26.000	4.960	6.000	6.060
-29.000	60.196	60.266	62.402	26.000	4.761	4.911	4.861
-28.000	58.162	57.082	59.074	27.000	4.650	4.650	4.680
-27.000	52.265	54.094	56.941	28.000	4.407	4.467	4.607
-26.000	49.630	51.260	52.992	29.000	4.242	4.291	4.341
-25.000	47.032	48.599	50.216	30.000	4.084	4.133	4.182
-24.000	44.628	46.092	47.698	31.000	3.932	3.981	4.030
-23.000	42.362	43.728	45.133	32.000	3.787	3.836	3.884
-22.000	40.225	41.499	42.810	33.000	3.648	3.696	3.744
-21.000	38.205	39.395	40.619	34.000	3.516	3.563	3.610
-20.000	36.299	37.411	38.663	35.000	3.388	3.435	3.482
-19.000	34.600	35.538	36.606	36.000	3.266	3.312	3.359
-18.000	32.800	33.770	34.766	37.000	3.148	3.194	3.241
-17.000	31.194	32.101	33.050	38.000	3.036	3.082	3.127
-16.000	29.677	30.524	31.392	39.000	2.928	2.973	3.019
-15.000	28.242	29.033	29.844	40.000	2.826	2.869	2.914
-14.000	26.885	27.625	28.382	41.000	2.726	2.770	2.814
-13.000	25.601	26.293	27.000	42.000	2.631	2.674	2.718
-12.000	24.387	25.033	25.694	43.000	2.539	2.582	2.625
-11.000	23.237	23.841	24.469	44.000	2.452	2.494	2.536
-10.000	22.148	22.713	23.290	45.000	2.368	2.409	2.451
-9.000	21.117	21.646	22.166	46.000	2.287	2.328	2.369
-8.000	20.141	20.656	21.138	47.000	2.209	2.249	2.290
-7.000	19.216	19.677	20.148	48.000	2.134	2.174	2.214
-6.000	18.337	18.769	19.209	49.000	2.063	2.102	2.141
-5.000	17.505	17.909	18.321	50.000	1.994	2.032	2.071
-4.000	16.716	17.094	17.478	51.000	1.927	1.965	2.003
-3.000	16.067	16.520	16.680	52.000	1.864	1.901	1.938
-2.000	15.556	15.987	16.222	53.000	1.802	1.839	1.876
-1.000	14.681	14.990	15.204	54.000	1.743	1.779	1.816
0.000	13.940	14.229	14.523	55.000	1.686	1.722	1.757
1.000	13.332	13.602	13.876	56.000	1.632	1.666	1.702
2.000	12.755	13.006	13.262	57.000	1.579	1.613	1.648
3.000	12.205	12.439	12.679	58.000	1.528	1.562	1.596
4.000	11.680	11.901	12.124	59.000	1.479	1.512	1.546
5.000	11.183	11.389	11.698	60.000	1.432	1.465	1.499
6.000	10.709	10.902	11.097	61.000	1.387	1.419	1.451
7.000	10.259	10.439	10.622	62.000	1.343	1.375	1.406
8.000	9.830	9.999	10.169	63.000	1.301	1.332	1.363
9.000	9.422	9.579	9.738	64.000	1.261	1.291	1.321
10.000	9.033	9.180	9.328	65.000	1.222	1.251	1.281
11.000	8.663	8.800	8.938	66.000	1.184	1.213	1.242
12.000	8.310	8.438	8.567	67.000	1.147	1.176	1.205
13.000	7.973	8.093	8.213	68.000	1.112	1.140	1.169
14.000	7.662	7.763	7.876	69.000	1.078	1.106	1.134
15.000	7.346	7.460	7.564	70.000	1.046	1.073	1.100
16.000	7.064	7.151	7.248	71.000	1.014	1.041	1.068
17.000	6.775	6.866	6.966	72.000	0.984	1.010	1.036
18.000	6.509	6.593	6.677	73.000	0.964	0.990	1.016
19.000	6.266	6.333	6.411	74.000	0.926	0.951	0.976
20.000	6.012	6.066	6.167	75.000	0.896	0.923	0.948
21.000	5.780	5.847	5.916	76.000	0.872	0.896	0.921
22.000	5.569	5.621	5.684	77.000	0.846	0.870	0.894
23.000	5.346	5.406	5.463	78.000	0.821	0.845	0.869
24.000	5.144	5.190	5.262	79.000	0.798	0.820	0.844
25.000	4.960	5.000	5.060	80.000	0.774	0.797	0.820

11. Trouble shooting

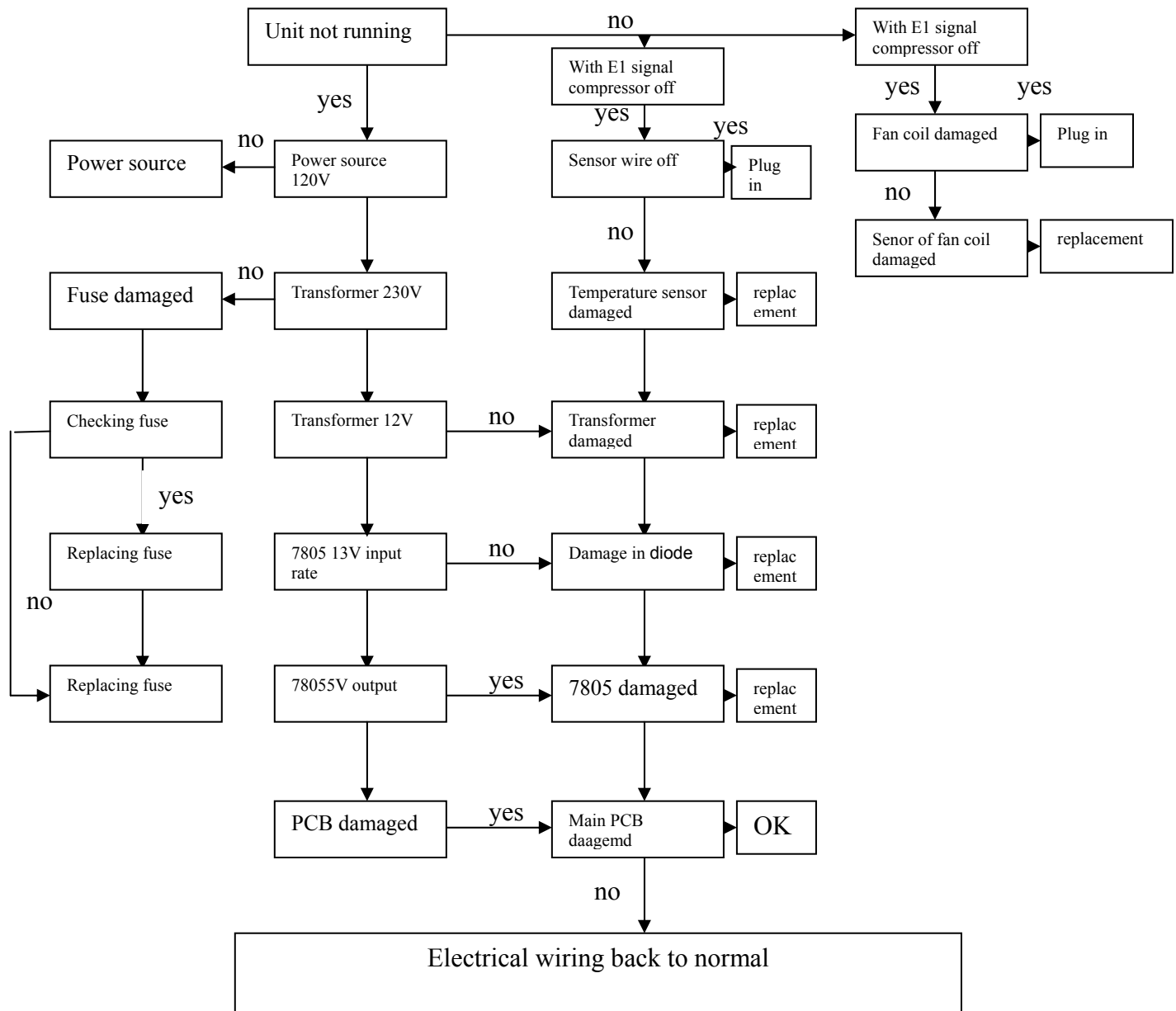
PROBLEM	POSSIBLE CAUSE	REMEDY
No power display on panel or any one of the buttons failure.	Power failure	Check the power supplier if the power supplier is supplied to the unit. Check the power cord and correct if damaged.
	Transformer (Discharge transformer before testing)	Check resistance between the two input/output lines on transformer. Replace the transformer if either of the input/output is open or the transformer is damaged.
	Display board or main PCB failure	Check the voltage on display board. Replace the display board if it is +5V else replace the main PCB.
Remote control failure.	Battery failure	Check the voltage of battery. Replace batteries if the voltage is lower than 2.3V.
	Fan motor runs intermittently	Cycles on overload.
Test capacitor. Replace if not within +/-10% of manufacture's rating.		
Check bearings. Replace the motor if the blower wheel cannot rotate freely.		
Pay attention to any change from high speed to low speed. Replace the motor if the speed does not change.		
Compressor stops instantly after startup.	Refrigerant	The amount of the refrigerant is too much, making the compressor load too big. Recycle and recharge the refrigerant after checking for the reason.
	Compressor	The compressor is blocked inside. Replace after checking for the reason.
Fan motor will not run.	No power	Check voltage at electrical outlet. Correct if none.
	Water alarm	Check and correct if water alarm happens.
	Power supply cord	Check voltage at the power cord terminal on Main PCB. Replace the power cord if none.
	Transformer (Discharge transformer before testing)	Check resistance between the two input/output lines on transformer. Replace the transformer if either of the input/output is open or the transformer is damaged.
	Wire disconnected or connection loose	Connect wire. Refer to wiring diagram for terminal identification. Repair or replace loose terminal.
	Main PCB failure	Select fan speed and Check the voltage on main PCB. Replace the main PCB if no voltage in anyone.
	Capacitor (Discharge capacitor before testing)	Test capacitor. Replace if not within +/-10% of manufacture's rating. Replace if shorted, open or damaged.
	Will not rotate	Fan blower hitting scroll. Realign assembly. Check fan motor bearings. Replace the motor if motor shaft do not rotate.
Fan motor noise.	Fan blower	Replace the fan blower if cracked, out of balance, or partially missing.
	Loose screws	Tighten them.
	Worn bearings	Replace the motor if knocking sounds continue when running or loose, or the motor hums or noise appears to be internal while running.
Compressor will not run while fan motor runs.	Voltage	Check voltage. Call Supply Authority if not within limits.
	Wiring	Check the wire connections, if loose, repair or replace the terminal. If wires are off, refer to wiring diagram for identification, and replace. Check wire locations. If not per wiring diagram, correct.
	Main PCB failure	Check voltage of main PCB. Replace the main PCB if open.
	Capacitor (Discharge capacitor before testing)	Check the capacitor. Replace if not within +/-10% of manufacturers rating. Replace if shorted, open, or damaged.

	Room temp sensor	Check the temperature setting if not at the coolest (in cooling mode) or the warmest (in heating mode). Set it if not.
	Compressor	Check the compressor for open circuit or ground. If open or grounded, replace the compressor.
Excessive noise.	Copper tubing	Remove the cabinet and carefully rearrange tubing not to contact cabinet, compressor, shroud and barrier.
Water full alarm	Water tank full	Check and pour if the water tank is full.
	Water depth sensor if failure	Check and replace if failure.
	Water depth is over load in chassis	Check and drainage the water in the chassis by open the drainage hose on the chassis.
	Water depth sensing structure	Check and replace or realign if the structure is failure.
Cooling or heating feels not good	Air filter	Clean or replace if restricted.
	Air discharge pipe	Realign and assemble if the installation of the air discharging pipe failure. Replace if damaged.
	Unit undersized	Determine if the unit is properly sized for the area to be cooled or heated.
	Condenser and Evaporator	Clean or replace if restricted.
	Circulation in condensing	Check whether water motor damaged or water hose is block or not
	Fan motor	Check the fan capacitor and replace if not within +/-10% of manufactures rating.
	Air flow	Clean or remove if any barrier is found to block the inlet/outlet wind flow of the unit.
	Less refrigerant	Check the tubes for reasons of leakage. Recycle the refrigerant, correct the leakage points and recharge.
	Capillary tube	Regulate the flow if capillary tube and make the evaporating temperature appropriate if the evaporator is frosted. Replace if blocked. Repair joint if leaking.
	Compressor	The inlet and outlet valve of the compressor is damaged, making the low pressure connected with the high pressure. The refrigerating system can not produce high pressure and low pressure. Replace the compressor after checking for the reason.
	Heat sources	Reduce if too many.
No cooling or heating.	No power	Check the voltage. Call an electrician if no within the limit.
	Wiring	Check the terminals. Repair and correct if loose.
	Temperature setting	Check and adjust the temperature setting.
	Mode setting	Check and adjust the mode setting.
	Compressor	Check and replace if the compressor, the over-load protector or wiring is broken.
	Electric heater failure	Check and replace if the heater is damaged.
	Over heat fuse failure	Check and replace if the fuse is damaged.
	Main PCB	Check the voltage of main PCB. Replace the main PCB when the unit failure in heating mode.
The unit starts and stops frequently.	Power supply	The input power supply voltage is too low. Call an electrician if not within limits.
	Main PCB	Check and replace the main PCB if the compressor relay on PCB is shorted or damaged.
	Room temperature	When the room temperature is too high, the compressor will protect.

Appendix
 Trouble shooting problems



Appendix
 Trouble shooting for electrical system



OPERATING LIMITS

DADOS XL

	Temperature	Indoor Air Intake Temp.
Cooling	Maximum	32°C D.B. / 23°C W.B.
	Minimum	17°C D.B. / 13°C W.B.
Heating	Maximum	32 °C D.B.
	Minimum	0° C D.B.
Dehumidification	Maximum	32° C D.B.
	Minimum	5° C D.B.

DADOS 9/13 PLUS

	Temperature	Indoor Air Intake Temp.
Cooling	Maximum	32°C D.B. / 23°C W.B.
	Minimum	17°C D.B. / 13°C W.B.
Heating	Maximum	32° C D.B.
	Minimum	10° C D.B.
Dehumidification	Maximum	32° C D.B.
	Minimum	5° C D.B.

SETTING TEMPERATURE

	Temperature	Indoor Air Intake Temp.
Cooling	Maximum	30°C D.B.
	Minimum	17°C D.B.
Heating	Maximum	30° C D.B.
	Minimum	15° C D.B.