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CAUTION

READ THIS MANUAL CAREFULLY TO DIAGNOSE TROUBLE CORRECTLY BEFORE OFFERING SERVICE .

SERVICE MANUAL

Air Conditioners

MODEL: HSU-18LE03

THIS MANUAL IS USED BY QUALIFIED APPLIANCE TECHNICIANS ONLY. HAIER DOES NOT ASSUME ANY RESPONSIBILITY FOR PROPERTY DAMAGE OR PERSONAL INJURY FOR IMPROPER SERVICE PROCEDURES DONE BY ONE UNQUALIFIED PERSON.

REVISION 0

IMPORTANT INFORMATION

● Features

- ● Comfortable: wide-angle airflow
- ●health air purifying
- ●quiet operation
- ● super energy efficient

●Main Specification

- ●Cooling Capacity： 5000W
- ●Rated Power/Current(cooling)： 1900W/8.9A
- ●EER: 2.63
- ●Heating Capacity： ---
- ●Rated Power/Current(heating): ---
- ●COP: ---
- ●Air Volume(Indoor/outdoor): 620/-m^3/h
- ●Power: 1PH 220V~ 50 Hz

Safety Information

General Information

This Service Manual describes the operation,disassembly,troubleshooting,and repair of Haier Room Air Conditioners,etc. It is intended for use by authorized servicers who troubleshoot and repair these units.

NOTE:It is assumed that users of this manual are familiar with the use of tools and equipment used to troubleshoot and repair electrical,mechanical,and refrigeration systems;and understand the terminology used to describe and discuss them.

Haier urges you read and follow all safety precautions and warnings contained in this manual. Failure to comply with safety information may result in severe personal injury or death.

Related Publications

This is a base service manual,covering a range of similar models.It is intended to be used in conjunction with the Parts Manual and Technical Sheet covering specific model being serviced.

General Precautions and Warnings

WARNING

To avoid risk of personal injury or death due to electrical shock,disconnect electrical power to unit before attempting to service the unit.

WARNING

To avoid risk of personal injury or death due to electrical shock,**DO NOT**,under any circumstances,alter the grounding plug .Air conditioner must be grounded at all times.Do not remove warning tag from power cord.If a two-prong (non-grounding) wall receptacle is encountered,contact a qualified electrician and have the receptacle replaced with a properly grounder wall receptacle in accordance with the National Electrical Code.

WARNING

To avoid risk of personal injury or death due to electrical shock,grounding wires and wires colored like grounding wires are **NOT** to be used as current carrying conductors.The standard accepted color coding for ground wires is **green** or **green with a yellow stripe**.Electrical components such as the compressor and fan motor are grounded through an individual wire attached to the electrical component and to another part of the air conditioner.Grounding wires should not to be removed from individual components while servicing,unless the component is to be removed and replaced.It is extremely important to replace all removed grounding wires before completing service.

WARNING

To avoid risk of heat exposure,which may cause death or severe illness,air conditioner must be monitored when malfunctions or shuts down.

CONTENTS

SPECIFICATION

Model：	HSU-18LE03		Brand Mark：	Haier	
Cooling	Cooling Capacity：	5000 W	Frequency Range：	5 0 H z	
	Rated Power/Current：	1900W/8.9A	Power	1PH 220 V~ 50 Hz	
	Max Power/Current：	2500W/12.9A	Indoor motor power	2 6 W	
	EER	2.63	Outdoor motor power	3 0 W	
Heating	Heating Capacity：	------			
	Rated Power/Current：	------	Compressor manufacturer/Type	R E C H I **48R473AQ+51S**	
	Max Power/Current ：	------	Compressor Oil charge	325CC	
	COP	------			
Power/Current of Electric Heating：		-----	Refrigerant	Type/Net Charge：	R22 955g
Operating temp. range		-7°C-43°C		Additional Charge for exhausting air.	50g
Indoor Velocity	H：	1350 r/min		Charge if over Standrad Pipe Lenth	35g/m
	M：	1250 r/min	Capilary	Lenth×Internal/External Diametre	800Φ3.0*Φ1.8
	L：	1150 r/min		Refer No.：	-----
Outdoor Velocity	H：	880 r/min	Height of rising radiator slice	Indoor：	1.30mm
	M：	---- r/min		Outdoor：	1.37mm
	L：	---- r/min	Indoor Weight	Net：	11kg
				Gross：	14kg
Air Volume (High)	Indoor：	620 m^3/h	Outdoor Weight	Net：	34kg
				Gross：	39kg
	Outdoor：	----- m^3/h	Indoor Dimension(L×W×H)：		938×182×265 mm
Capacitor of Fan Motor：		3 μ F	Indoor Packaging Dimension(L×W×H)		1009 x277x339 mm
Class of electric Shock Protection		I	Outdoor Dimension (L×W×H)：		833×286×540 mm
Class of Water Proof：		IP 24	Outdoor Packaging dimension(L×W×H)		932×342×619 mm
Moisture Removal：		$1.7\times10^{-3}m^3/h$	Refrigerant Pipe	liquid /Gas pipe Diametre	Φ 6.35/9.52 mm
Remote Controller	Model：	YL-M07		standard Lenth	3m
	Refer. No.：	-----		Max Lenth	15m
Remote Controller Bracket：		-----	Lenth/Diametre of Drain Hose		------
Appearance：		-----	Max. pressure at warm side：		2.65MPa
Climate Type：		T1	Max.pressure at cool side：		0.65MPa
Installation Bracket Type：		-----	Evaporator area		0.19m2
Area available for clooling/heating		30-35 m^2	Condenser area		0.26m2
Max.running		Dry/Wet ball(indoor)： 32℃/ 23 ℃	Max.running		Dry/Wet ball(indoor) -------

ELECTRICAL CONTROL

1. Introduction to electrical control function

Including brief introduction to air conditioners of series models and electric control function.

Brief introduction to electric control function

(1) Automatic running (applicable to fan-coil model)

When the running mode is turned to automation after starting the system, the system will first determine the running mode according to the current room temperature and then will run according to the determined mode. Tr in the following selection conditions means room temperature, Ts means setting temperature, Tp means temperature of indoor coil pipe

After turning to the automation mode, the running mode can be switched between refrigerating mode, fan mode according to the change of the indoor ambient temperature.

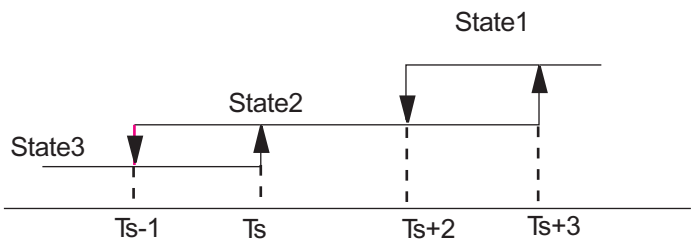
(2) Dehumidification running

The compressor, outdoor fan and indoor fan will run as per the following working pattern so as to realize the refrigerating running of dehumidification:

a. Tr> Ts+2°C, compressor, outdoor fan run continuously, indoor fan runs as per setting wind speed (State 1);

b. Ts+2°C>Tr>Ts, compressor, outdoor fan run intermittently with 10 minutes ON, 6 minutes OFF. (Compressor and outdoor fan are synchronous) indoor fan runs in fixed lower wind speed, and will cease at the stand-by time of 3 minutes (State 2)

c. Tr <Ts, compressor, outdoor fan ceases, indoor fan runs in lower wind speed after 3 minutes ceases. (State 3)



(3) Compensatory function of power failure

If the unit is suddenly off during running due to power failure, or closed for maintenance or troubleshooting, it will restart to run after the power resumes with the original condition before the unit is off

Note: 1. Function setting: Pressing the SLEEP button on the remote control unit for 10 times within 5 seconds until hearing 4 sounds from the buzzer on the panel.
2. Memory content: Running mode, setting wind speed, setting temperature, sleep state, flap state.
3. Cancellation of function: Pressing the SLEEP button on the remote control unit for 10 times with in 5 seconds until hearing 2 sounds from the buzzer on the panel.

(4) Trial run function

When the air conditioner is in OFF state, press the emergency switch for 5 seconds till hearing 2 sounds of click from the buzzer, then the air conditioner will turn to the trial run state. The unit will run in the refrigerating mode and the indoor fan will run in high wind speed mode.

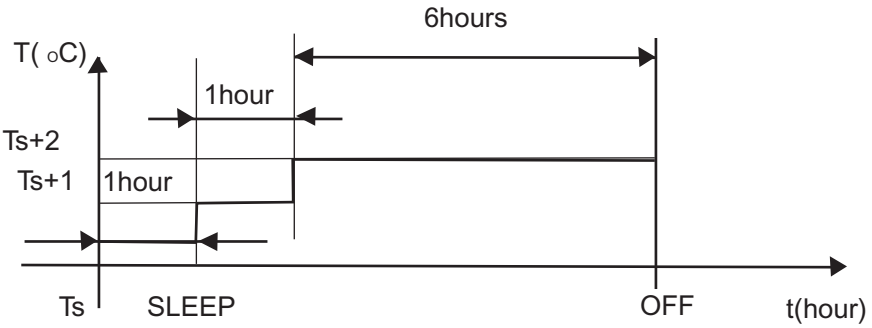
(5) Emergency running mode

When the air conditioner is in stand-by state, press the emergency switch till hearing a sound from the buzzer, then the air conditioner will turn to the emergency run state. The rules of emergency run are as follows:

a.Tr>23°C, running refrigerating mode, Ts = 26°C;

(6) Sleeping function

a.After setting the sleeping function, the refrigerating mode and dehumidification mode will run as per the following rules:



TROUBLE SHOOTING

Before asking for service, check the following first.

	Phenomenon	Cause or check points
Normal Performance inspection	The system does not restart immediately. 	• When unit is stopped, it won't restart immediately until 3 minutes have elapsed to protect the system. • When the electric plug is pulled out and reinserted, the protection circuit will work for 3 minutes to protect the air conditioner.
	Noise is heard:	• During unit operation or at stop, a swishing or gurgling noise may be heard. At first 2-3 minutes after unit start, this noise is more noticeable. (This noise is generated by refrigerant flowing in the system.) • During unit operation, a cracking noise may be heard. This noise is generated by the casing expanding or shrinking because of temperature changes. • Should there be a big noise from air flow in unit operation, air filter may be too dirty.
	Smells are generated.	• This is because the system circulates smells from the interior air such as the smell of furniture, cigarettes.
	Mist or steam are blown out.	• During COOL or DRY operation, indoor unit may blow out mist. This is due to the sudden cooling of indoor air.
Multiple check	Does not work at all.	• Is power plug inserted? • Is there a power failure? • Is fuse blown out?
	Poor cooling 	• Is the air filter dirty? Normally it should be cleaned every 15 days. • Are there any obstacles before inlet and outlet? • Is temperature set correctly? • Are there some doors or windows left open? • Is there any direct sunlight through the window during the cooling operation?(Use curtain) • Are there too much heat sources or too many people in the room during cooling operation?

TROUBLE SHOOTING

Table for Wrong Codes

lights indication			reasons	ways and means	solutions	tools
power	time	run				
★	■	■	Sensor is shorted out or opened circuit	Check the sensor of indoor ambient temperature , if the resistance value is 0 or ∞,the sensor is abnormal.	Change the sensor	Multimeter
★	□	□	Sensor is shorted out or opened circuit	Check the sensor of indoor coil pipe , if the resistance value is 0 or ∞,the sensor is abnormal.	Change the sensor	Multimeter
■	□	★	Indoor fan motor don't feed back	check whether indoor motor has 80~170V voltage, if it has, wiring board is normal, then check whether the optical SCR is good, replace it if it is has flaw; else check whether there are something wrong with connecting line, indoor fan motor cpacitor and coil assembly	Change the capacitor or optical SCR or connecting line or indoor PCB	Multimeter
★	□	★	Data error or no EEPROM	Check whether the EEPROM is installed properly	Change the EEPROM	Multimeter and electric iron

★ stand for the light is flickering, ■ stand for light is extinguished, □ stand for light is on

INSTALLATION

- Read this manual before installation
- Explain sufficiently the operating means to the user according to this manual.

Necessary Tools for Installation

1.Driver
2.Hacksaw
3.Hole core drill
4.Spanner(17,19 and 26mm)
5.Torque wrench(17mm,22mm,26mm)
6.Pipe cutter
7.Flaring tool
8.Knife
9.Nipper
10.Gas leakage detector or soap-and-water solution
11.Measuring tape
12.Reamer

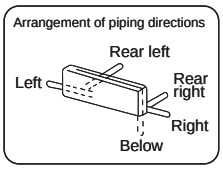
Drawing for the installation of indoor and outdoor units

Accessory parts

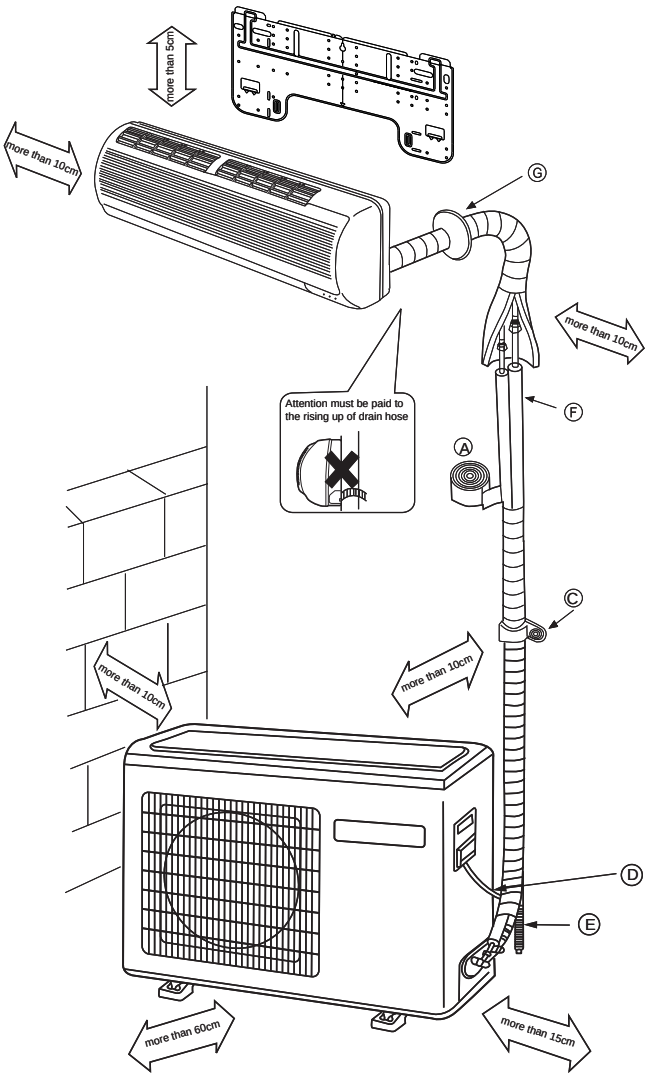
No.	Accessory parts	Number of articles
①	Remote controller	1
②	R-03 dry battery	2
③	Mounting plate	1
④	Drain hose	1
⑤	ϕ4X50 Steel nail, cement	6
⑥	ϕ4X25 Screw; Plastic cap	4
⑦	Drain-elbow	1
⑧	Cover	1
⑨	Cushion	4
⑩	Pipe supporting plate	1

Optional parts for piping

Mark	Parts name
Ⓐ	Non-adhesive tape
Ⓑ	Adhesive tape
Ⓒ	Saddle(L.S) with screws
Ⓓ	Connecting electric cable for indoor and outdoor
Ⓔ	Drain hose
Ⓕ	Heating insulating material
Ⓖ	Piping hole cover



Note:Cooling only units don't have Drain-elbow

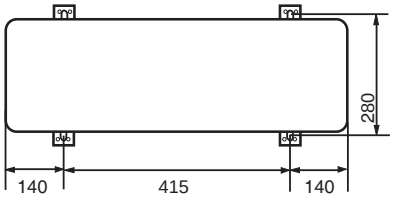


※ The marks from Ⓐ to Ⓖ in the figure are the parts numbers.

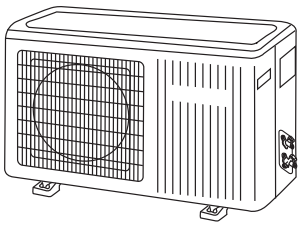
※ The distance between the indoor unit and the floor should be more than 2m.

No.0010561651

INSTALLATION



Floor fixing dimensions of the outdoor unit (Unit:mm)



HSU-18LE03

Fixing of outdoor unit

- Fix the unit to concrete or block with bolts(ϕ10mm) and nuts firmly and horizontally.
- When fitting the unit to wall surface, roof or rooftop, fix a supporter surely with nails or wires in consideration of earthquake and strong wind.
- If vibration may affect the house, fix the unit by attaching a vibration-proof mat.

Indoor Unit Selection of Installation Place Outdoor Unit

- Place, robust not causing vibration, where the body can be supported sufficiently.
- Place, not affected by heat or steam generated in the vicinity, where inlet and outlet of the unit are not disturbed.
- Place, possible to drain easily, where piping can be connected with the outdoor unit.
- Place, where cold air can be spread in a room entirely.
- Place, nearby a power receptacle, with enough space around. (Refer to drawings).
- Place where the distance of more than lm from televisions, radios, wireless apparatuses and fluorescent lamps can be left.
- In the case of fixing the remote controller on a wall, place where the indoor unit can receive signals when the fluorescent lamps in the room are lightened.
- Place, which is less affected by rain or direct sunlight and is sufficiently ventilated.
- Place, possible to bear the unit, where vibration and noise are not increased.
- Place, where discharged wind and noise do not cause a nuisance to the neighbors.
- Place, where a distance marked ⇔is available as illustrated in the above figure.

Power Source

- Before inserting power plug into receptacle, check the voltage without fail. The power source is the same as the corresponding name plate.
- Install an exclusive branch circuit of the power.
- A receptacle shall be set up in a distance where the power cable can be reached. Do not extend the cable by cutting it.

Selection of pipe

- To this unit, both liquid and gas pipes shall be insulated as they become low temperature in operation.
- Use optional parts for piping set or pipes covered with equivalent insulation material.
- The thickness of the pipe must be 0.8 mm at least.

	HSU-18LE03	
Liquid pipe(ϕ)	6.35mm(1/4")	
Gas pipe(ϕ)	12.7mm(1/2")	

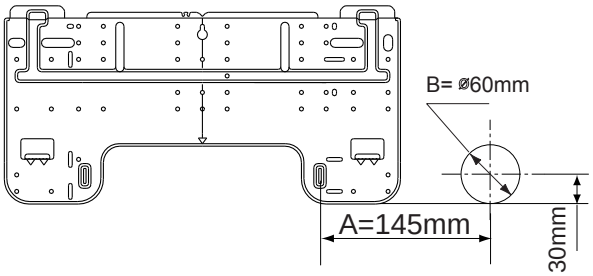
INSTALLATION

Indoor unit

1.Fitting of the Mounting Plate and Positioning of the wall Hole

When the mounting plate is first fixed

1.Carry out, based on the neighboring pillars or lintels, a proper leveling for the plate to be fixed against the wall, then temporarily fasten the plate with one steel nail.
2. Make sure once more the proper level of the plate, by hanging a thread with a weight from the central top of the plate, then fasten securely the plate with the attachment steel nail.
3. Find the wall hole location A using a measuring tape

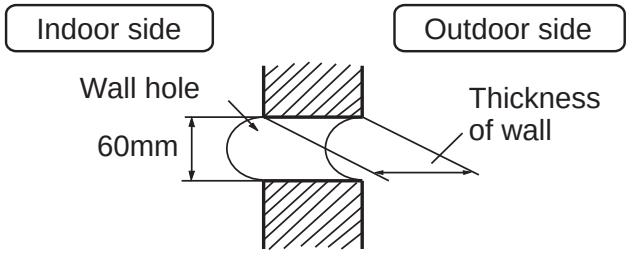


When the mounting plate is fixed side bar and lintel

- Fix to side bar and lintel a mounting bar, Which is separately sold, and then fasten the plate to the fixed mounting bar.
- Refer to the previous article, " When the mounting plate is first fixed ", for the position of wall hole.

2.Making a Hole on the Wall and Fitting the Piping Hole Cover

- Make a hole of 60 mm in diameter, slightly descending to outside the wall.
- Install piping hole cover and seal it off with putty after installation



(Section of wall hole) Ⓖ Piping hole pipe

3.Installation of the Indoor Unit

Drawing of pipe

[Rear piping]

- Draw pipes and the drain hose, then fasten them with the adhesive tape

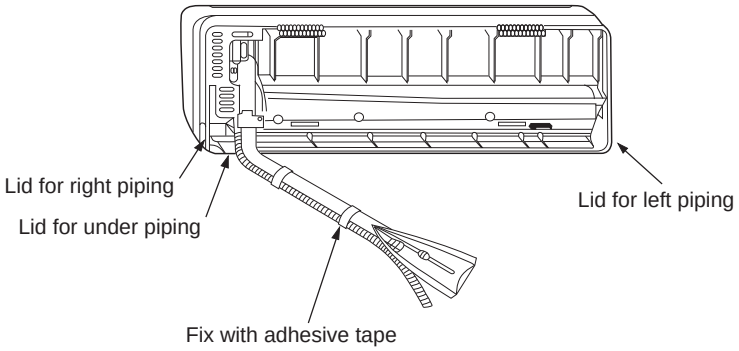
[Left • Left-rear piping]

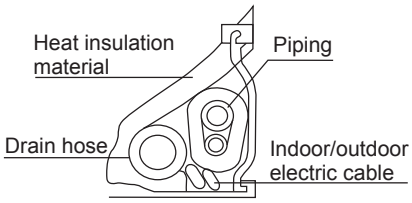
- In case of left side piping, cut away, with a nipper, the lid for left piping.
- In case of left-rear piping, bend the pipes according to the piping direction to the mark of hole for left-rear piping which is marked on heat insulation materials.

INSTALLATION

Indoor unit

1. Insert the drain hose into the dent of heat insulation materials of indoor unit.
2. Insert the indoor/outdoor electric cable from backside of indoor unit, and pull it out on the front side, then connect them.
3. Coat the flaring seal face with refrigerant oil and connect pipes.
   Cover the connection part with heat insulation materials closely, and make sure fixing with adhesive tape





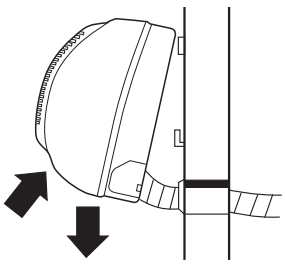
- Indoor/outdoor electric cable and drain hose must be bound with refrigerant piping by protecting tape.

[Other direction piping]

- Cut away, with a nipper, the lid for piping according to the piping direction and then bend the pipe according to the position of wall hole. When bending, be careful not to crash pipes.
- Connect beforehand the indoor/outdoor electric cable, and then pull out the connected to the heat insulation of connecting part specially.

Fixing the indoor unit body

- Hang surely the unit body onto the upper notches of the mounting plate. Move the body from side to side to verify its secure fixing.
- In order to fix the body onto the mounting plate,hold up the body aslant from the underside and then put it down perpendicularly.

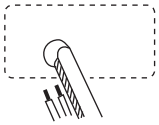


4.Connecting the indoor/outdoor Electric Cable

Removing the wiring cover

- Remove terminal cover at right bottom corner of indoor unit, then take off wiring cover by removing its screws.

When connecting the cable after installing the indoor unit



1. Insert from outside the room cable into left side of the wall hole, in which the pipe has already existed.
2. Pull out the cable on the front side, and connect the cable making a loop.

INSTALLATION

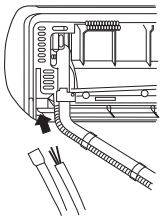
Indoor unit

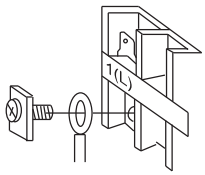
When connecting the cable before installing the indoor unit

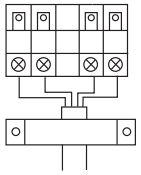
- Insert the cable from the back side of the unit, then pull it out on the front side.
- Loosen the screws and insert the cable ends fully into terminal block, then tighten the screws.
- Pull the cable slightly to make sure the cables have been properly inserted and tightened.
- After the cable connection, never fail to fasten the connected cable with the wiring cover.

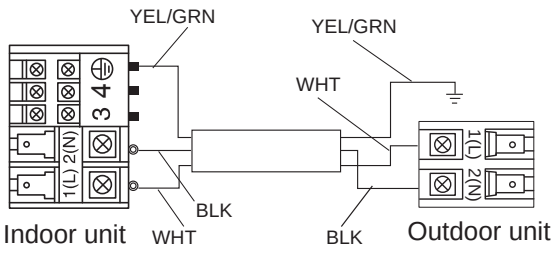
Note: When connecting the cable, confirm the terminal number of indoor and outdoor units carefully. If wiring is not correct, proper operation can not be carried out and will cause defect.

1. If the supply cord is damaged, it must be replaced by the manufacturer or its service agent or a similar qualified person. The type of connecting wire is H05RN-F or H07RN-F.
2. If the fuse on PC board is broken please change it with the type of T. 3.15A/250V.
3. The wiring method should be in line with the local wiring standard.
4. After installation, the power plug should be easily reached.
5. A breaker should be incorporated into fixed wiring. The breaker should be all-pole switch and the distance between its two contacts should be not less than 3mm.









HSU-18LE03

$\geqslant$3G1.0mm^2

Connecting wiring:
-mod 09-12: *3G1.0mm2

Power cable:
-mod 09-12: *3G1.0mm2

INSTALLATION

Outdoor unit

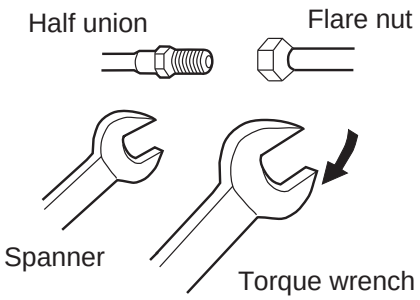
Outdoor unit

1.Installation of Outdoor Unit

Install according to Drawing for the installation of indoor and outdoor units

2.Connection of pipes

- To bend a pipe, give the roundness as large as possible not to crush the pipe
- Connecting the pipe of gas side first makes working easier.
- The max vertical distance between the indoor unit and the outdoor unit is 5 m.



Forced fastening without careful centering may damage the threads and cause a leakage of gas.

Pipe Diameter (ϕ)	Fastening torque
Liquid side 6.35mm(1/4")	18N.m
Gas side 9.52mm(3/8")	40N.m
Gas side 12.7mm(1/2")	55N.m
Gas side 15.88mm(5/8")	60N.m

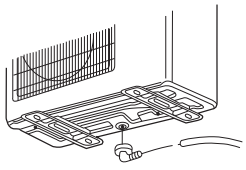
Be careful that matters, such as wastes of sands, etc. shall not enter the pipe.

3.Connection

- Use the same method on indoor unit. Loosen the screws on terminal block and insert the plugs fully into terminal block, then tighten the screws.
- Insert the cable according to terminal number in the same manner as the indoor unit.
- If wiring is not correct, proper operation can not be carried out and controller may be damaged.
- Fix the cable with a clamp.

4.Attaching Drain-Elbow

- If the drain-elbow is used, please attach it as figure. (Note: Only for heat pump unit.)



INSTALLATION

Outdoor unit

5.Purging Method:

Push the air out of the indoor unit and piping as followes:

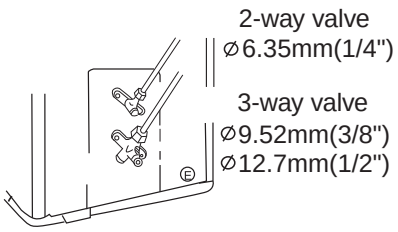
(1) Remove the valve cap on 2-way valve in outdoor unit.

(2) Loosen by 1/2 turn the flare nut of gas pipe, which is conneted to 3-way valve.

(3) Loosen 2-way valve by 90o using hexagon wrench, and after approx. 10 sec tighten it up. Gas comes out through flare nut on wide pipe. If no gas is discharged, tighten flare nut with specified torque.

(4) Open 2-way and 3-way valves using specified torque.

(5) Tighten the caps on the valves with specified torque.



HSU-18LE03

	Tighten torque N.m
Valve rod	7-9
Valve cap	20-25

- When connecting pipe exceeds 5 meters, 16g refrigerant shall be added per exceeding meter. Charge according to the following list.

Piping length	5m	7m	10m
Additional amount	No need	32g	80g

- Note: When extending piping, air inside piping shall be removed by using external refrigerant gas, charge according to the following list.

Brand new outdoor unit is charged 50g more refrigerant than regulated weight. Only for first installation, this extra 50g can be used to purge air in pipes.

★ 1 During this procedure, 50g refrigerant will be discharged in piping. (This must be strictly controlled within 90o and 10 sec.)

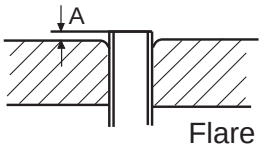
INSTALLATION

1.Power Source Installation

- The power source must be exclusively used for air conditioner. (Over I0A)
- In the case of installing an air conditioner in a moist place, please install an earth leakage breaker.
- For installation in other places, use a circuit breaker as far as possible.

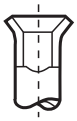
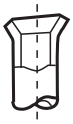
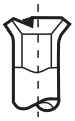
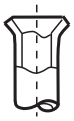
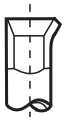
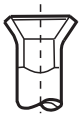
2.Cutting and Flaring Work of Piping

- Pipe cutting is carried out with a pipe cutter and burs must be removed.
- After inserting the flare nut, flaring work is carried out.



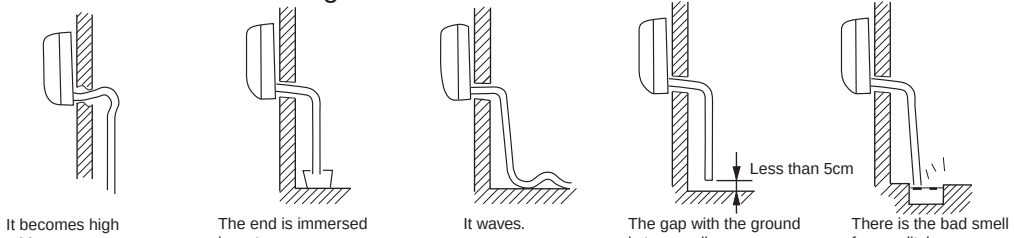
Flare tooling die

	Pipe diameter(ϕ)	Size A(mm)
Liquid side	6.35mm(1/4")	0.8~1.5
Gas side	9.52mm(3/8")	1.0~1.8
Gas side	12.7mm(1/2")	1.2~2.0
Gas side	15.88mm(5/8")	1.4~2.2

Correct	Incorrect				
					
	Lean	Damage of flare	Crack	Partial	Too outside

3.On Drainage

Please install the drain hose so as to be downward slope without fail.
Please don't do the drainage as shown below.



It becomes high midway. | The end is immersed in water. | It waves. | The gap with the ground is too small | There is the bad smell from a ditch

- Please pour water in the drain pan of the indoor unit, and confirm that drainage is carried out surely to outdoor.
- In case that the attached drain hose is in a room, please apply heat insulation to it without fail.

Check for Installation and Test Run

- Please kindly explain to our customers how to operate through the instruction manual.

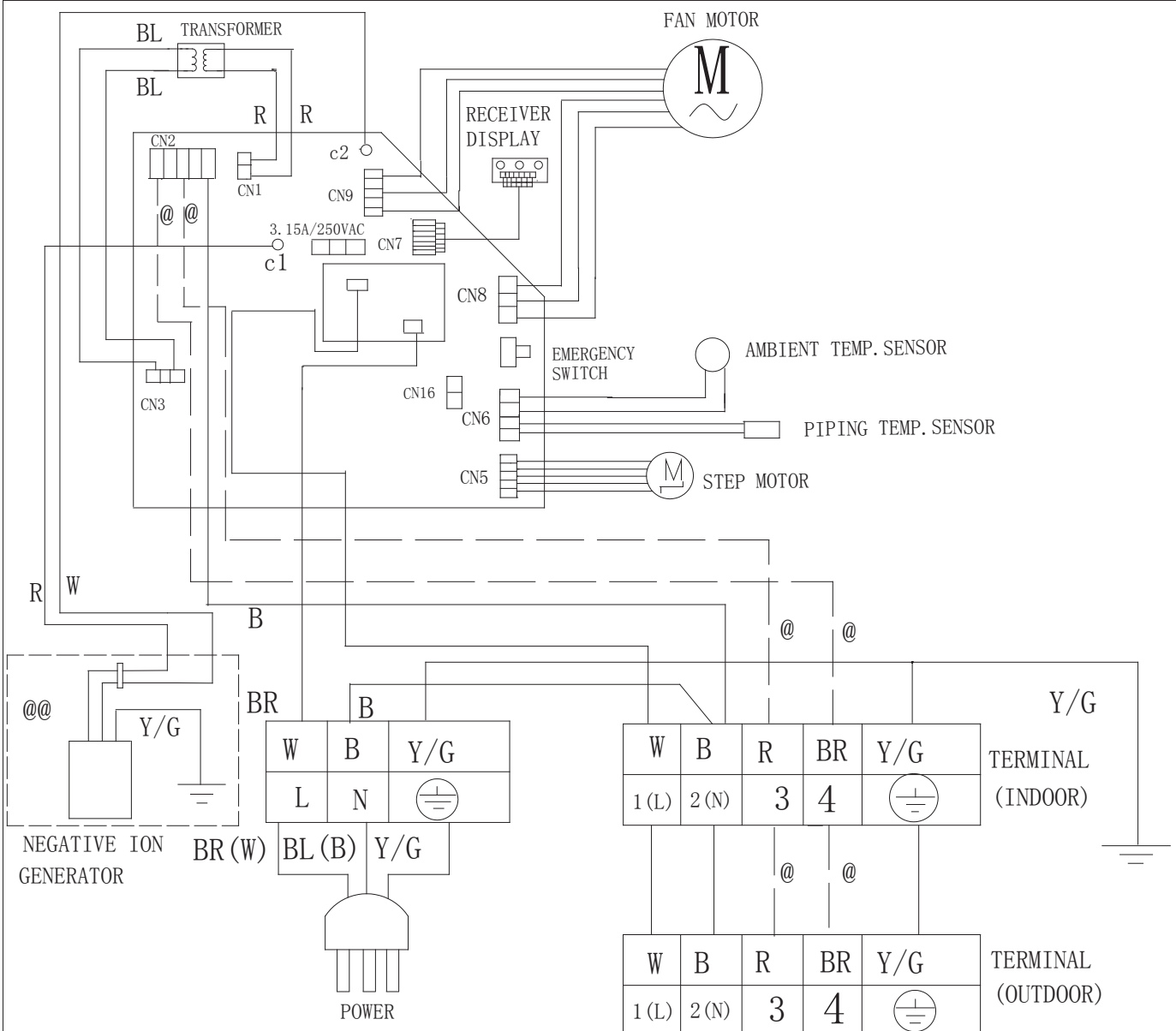
Check Items for Test Run

☐ Put check mark ✓ in boxes

- ☐ Gas leak from pipe connecting?
- ☐ Heat insulation of pipe connecting?
- ☐ Are the connecting wirings of indoor and outdoor firmly inserted to the terminal block?
- ☐ Is the connecting wiring of indoor and outdoor firmly fixed?
- ☐ Is drainage securely carried out?
- ☐ Is the earth line securely connected?
- ☐ Is the indoor unit securely fixed?
- ☐ Is power source voltage abided by the code?
- ☐ Is there any noise?
- ☐ Is the lamp normally lighting?
- ☐ Are cooling and heating (when in heat pump) performed normally?
- ☐ Is the operation of room temperature regulator normal?

WIRING DIAGRAM

INDOOR WIRING DIAGRAM 0010543658



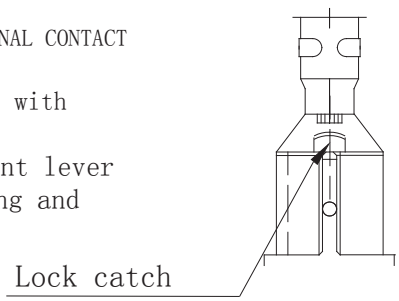
W:White BL:Blue
B:Black BR:Brown
R:Red
Y/G :Yellow/Green

Note:

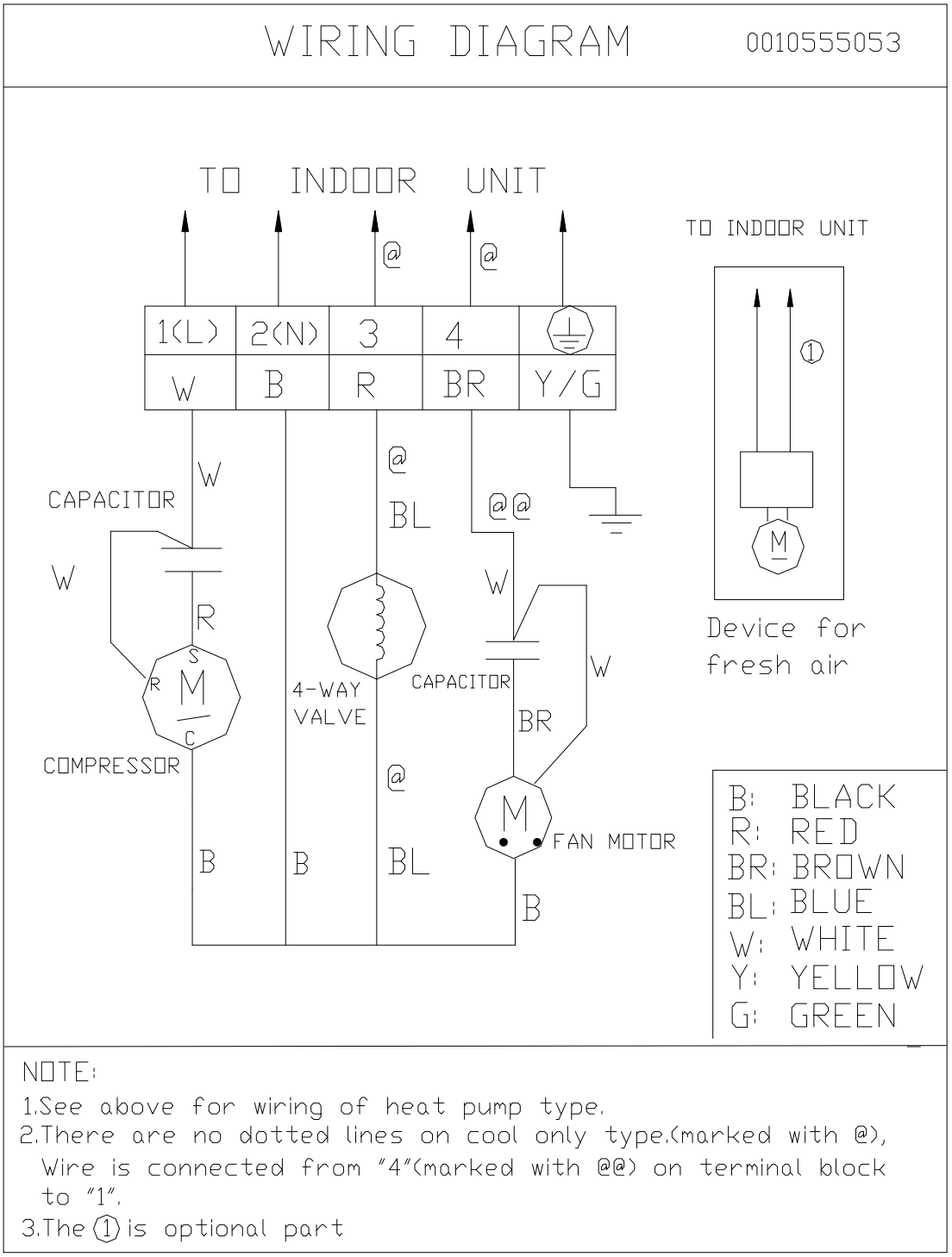
1:There are dotted lines(marked with@) on cool-warm type.
2:The dotted lines (marked with @) are needn't in cooling only type.
3:CN16 is connected with centralize controller.
4:The part marked with@@ is optional.

REMOVAL OF LOCKING TERMINAL CONTACT

Terminal contact comes with locking structure,
Please press the front lever to release the locking and pull the cable out.



WIRING DIAGRAM



NOTE:

1.See above for wiring of heat pump type.
2.There are no dotted lines on cool only type.(marked with @),
Wire is connected from "4"(marked with @@) on terminal block to "1".
3.The ① is optional part

THERMISTER RESISTANCE CHART

room temperature sensor

T(℃)	R(KΩ)	VOLTAGE(V)
-20	251.8	0.33
-19	236.9	0.35
-18	223.1	0.37
-17	210.1	0.40
-16	197.9	0.42
-15	186.5	0.45
-14	175.9	0.47
-13	165.9	0.50
-12	156.5	0.53
-11	147.7	0.56
-10	139.5	0.59
-9	131.8	0.62
-8	124.5	0.65
-7	117.7	0.69
-6	111.3	0.73
-5	105.3	0.76
-4	99.63	0.80
-3	94.3	0.84
-2	89.3	0.88
-1	84.58	0.92
0	80.14	0.97
1	75.96	1.01
2	72.02	1.06
3	68.31	1.10
4	64.81	1.15
5	61.51	1.20
6	58.39	1.25
7	55.45	1.00
8	52.68	1.35
9	50.06	1.41
10	47.58	1.46
11	45.24	1.51
12	43.02	1.57
13	40.93	1.63
14	38.95	1.68
15	37.08	1.74
16	35.31	1.80
17	33.63	1.85
18	32.04	1.91
19	30.53	1.97

THERMISTER RESISTANCE CHART

20	29.1	2.00
21	27.75	2.09
22	26.47	2.15
23	25.25	2.21
24	24.1	2.27
25	23.0	2.33
26	21.96	2.38
27	20.97	2.44
28	20.03	2.50
29	19.14	2.56
30	18.3	2.62
31	17.49	2.67
32	16.73	2.73
33	16.0	2.78
34	15.3	2.84
35	14.65	2.89
36	14.02	2.95
37	13.42	3.00
38	12.85	3.05
39	12.31	3.10
40	11.79	3.15
41	11.30	3.20
42	10.83	3.25
43	10.39	3.30
44	9.96	3.35
45	9.553	3.39
46	9.165	3.44
47	8.794	3.48
48	8.441	3.52
49	8.103	3.57
50	7.78	3.51
51	7.472	3.65
52	7.178	3.68
53	6.897	3.72
54	6.628	3.76
55	6.371	3.80
56	6.125	3.83
57	5.889	3.37
58	5.664	3.90
59	5.449	3.93
60	5.243	3.96
61	5.046	3.99
62	4.857	4.02

THERMISTER RESISTANCE CHART

63	4.676	4.05
64	4.502	4.08
65	4.336	4.11
66	4.177	4.13
67	4.024	4.16
68	3.878	4.18
69	3.738	4.21
70	3.603	4.23
71	3.474	4.25
72	3.35	4.28
73	3.231	4.30
74	3.117	4.32
75	3.008	4.34
76	2.903	4.36
77	2.802	4.38
78	2.705	4.40
79	2.611	4.42
80	2.522	4.43

INDOOR PIPE TEMPERATURE SENSOR

T(℃)	R(KΩ)	VOLTAGE(V)
-20	87.42	0.90
-19	82.71	0.95
-18	78.29	0.99
-17	74.12	1.04
-16	70.21	1.08
-15	66.52	1.13
-14	63.06	1.18
-13	59.79	1.23
-12	56.71	1.28
-11	53.81	1.33
-10	51.08	1.39
-9	48.5	1.44
-8	46.07	1.50
-7	43.77	1.55
-6	41.6	1.61
-5	39.55	1.66
-4	37.62	1.72

THERMISTER RESISTANCE CHART

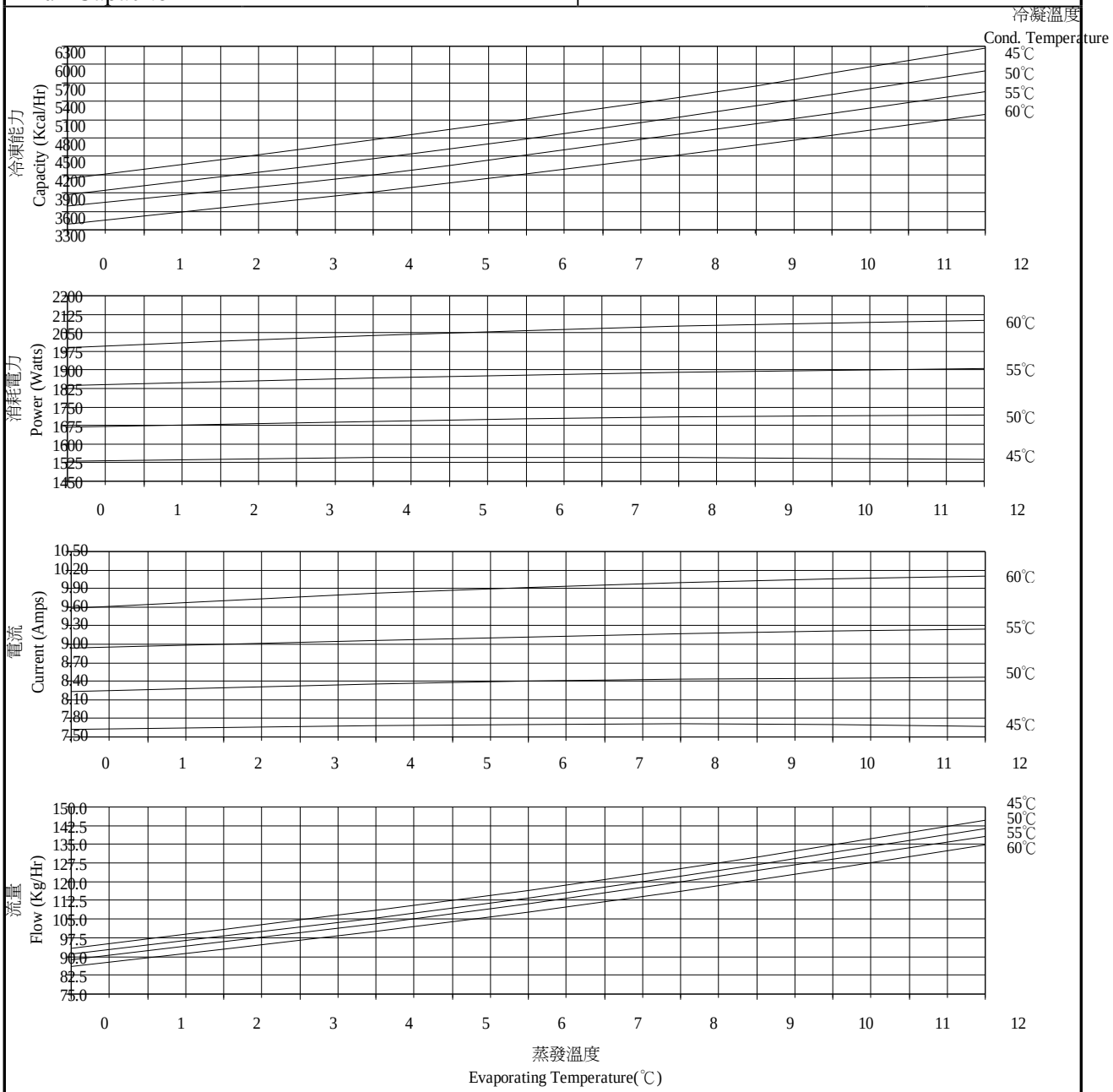
-3	35.79	1.78
-2	34.06	1.84
-1	32.43	1.90
0	30.88	1.98
1	29.42	2.01
2	28.03	2.07
3	26.72	2.13
4	25.48	2.19
5	24.3	2.25
6	23.18	2.31
7	22.12	2.37
8	21.12	2.43
9	20.17	2.49
10	19.26	2.54
11	18.4	2.60
12	17.59	2.56
13	16.81	2.72
14	16.08	2.77
15	15.38	2.83
16	14.71	2.88
17	14.08	2.93
18	13.48	2.99
19	12.91	3.04
20	12.36	3.09
21	11.84	3.14
22	11.35	3.19
23	10.88	3.24
24	10.43	3.29
25	10.00	3.33
26	9.59	3.38
27	9.20	3.42
28	8.833	3.47
29	8.479	3.51
30	8.141	3.55
31	7.819	2.59
32	7.511	3.63
33	7.217	3.67
34	6.936	3.71
35	6.668	3.75
36	6.411	3.78
37	6.166	3.82
38	5.931	3.86
39	5.707	3.89

THERMISTER RESISTANCE CHART

40	5.492	3.92
41	5.287	3.95
42	5.09	3.98
43	4.902	4.01
44	4.722	4.04
45	4.549	4.07
46	4.383	4.10
47	4.225	4.12
48	4.073	4.15
49	3.927	4.17
50	3.788	4.20
51	3.654	4.22
52	3.525	4.24
53	3.402	4.26
54	3.283	4.28
55	3.17	4.31
56	3.061	4.33
57	2.956	4.35
58	2.855	4.37
59	2.759	4.38
60	2.666	4.40
61	2.577	4.42
62	2.491	4.44
63	2.408	4.45
64	2.329	4.47
65	2.253	4.48
66	2.179	4.50
67	2.108	4.51
68	2.04	4.53
69	1.975	4.54
70	1.912	4.55
71	1.851	4.57
72	1.793	4.58
73	1.737	4.59
74	1.682	4.60
75	1.63	4.61
76	1.58	4.62
77	1.531	4.63
78	1.484	4.64
79	1.439	4.65
80	1.395	4.66

COMPRESSOR PERFORMANCE DIAGRAM

Performance Curve			
Model	48R473A	Return Gas Temperature	35 ℃
Power Supply	220V / 50Hz / 1PH	Subcooling	8.3 ℃
Run Capacitor	35 μF / 370 VAC	Ambient Temperature	35 ℃



			RECHI PRECISION CO., LTD
			Dwg. Name: Curves OF Compressor
			Dwg. No.: 48R473A

SOUND PRESSURE LEVEL

INDOOR：42.9/41.4/38.9dB(A)

OUTDOOR：56.3 dB(A)

NOTE:

The sound pressure level is based on the following conditions:

1 meter above the discharge grille and 1 meter from the front side.

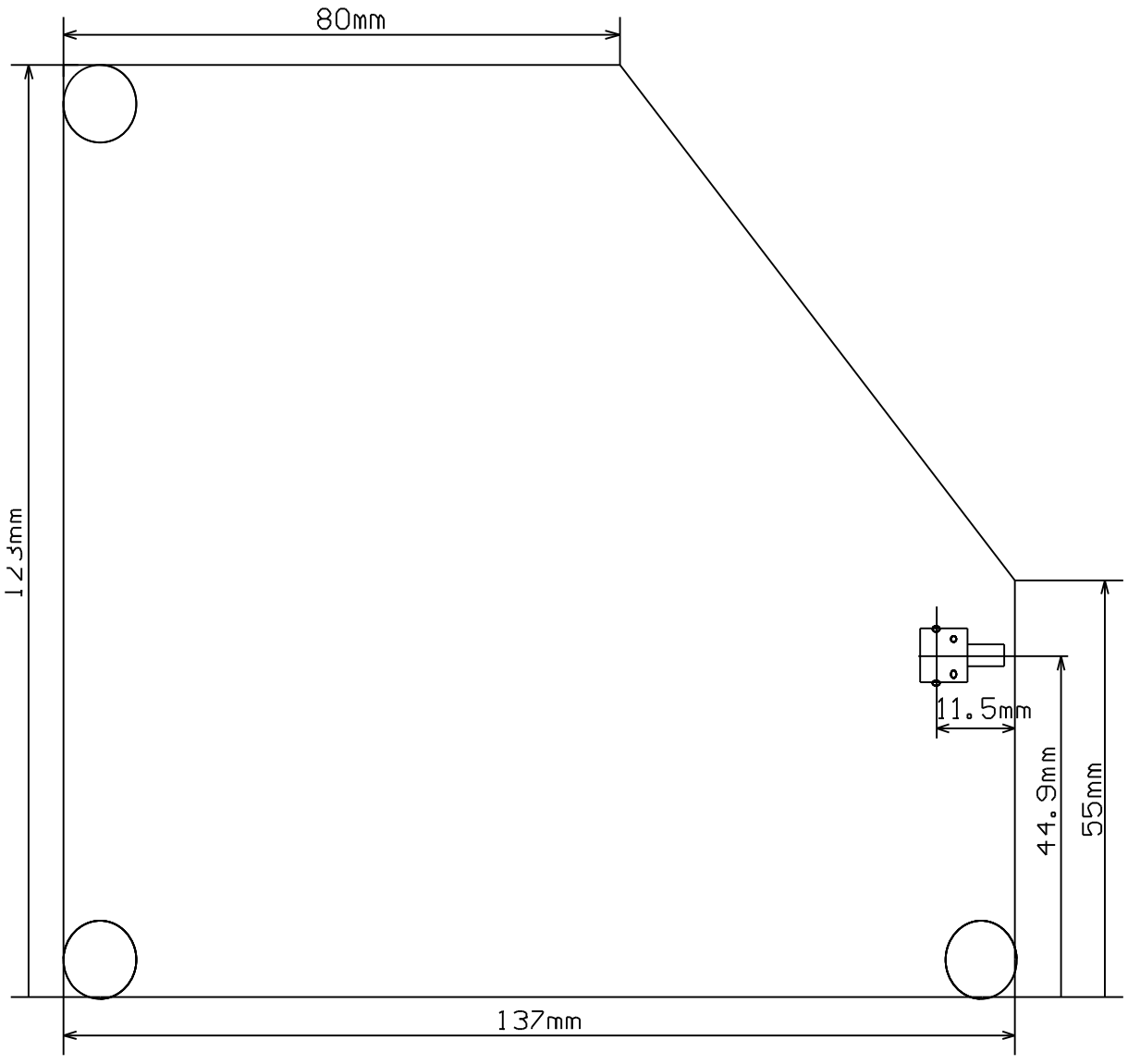
Voltage of the power source for the indoor fan motor is 220V.

In case of the power source of 240V, the sound pressure level increases by about 1 dB.

The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration when installing the unit.

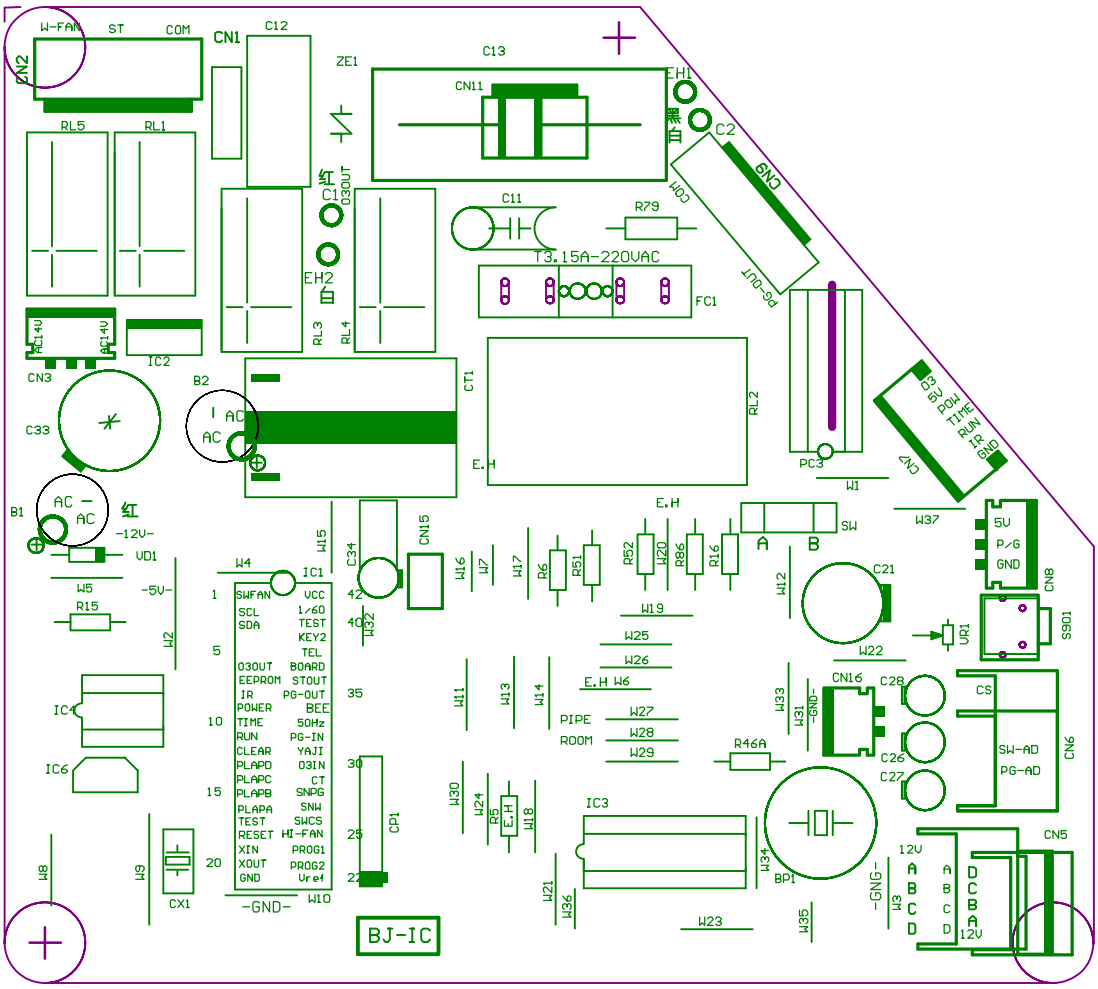
SCHEMATIC DIAGRAM OF PCB

SIZE



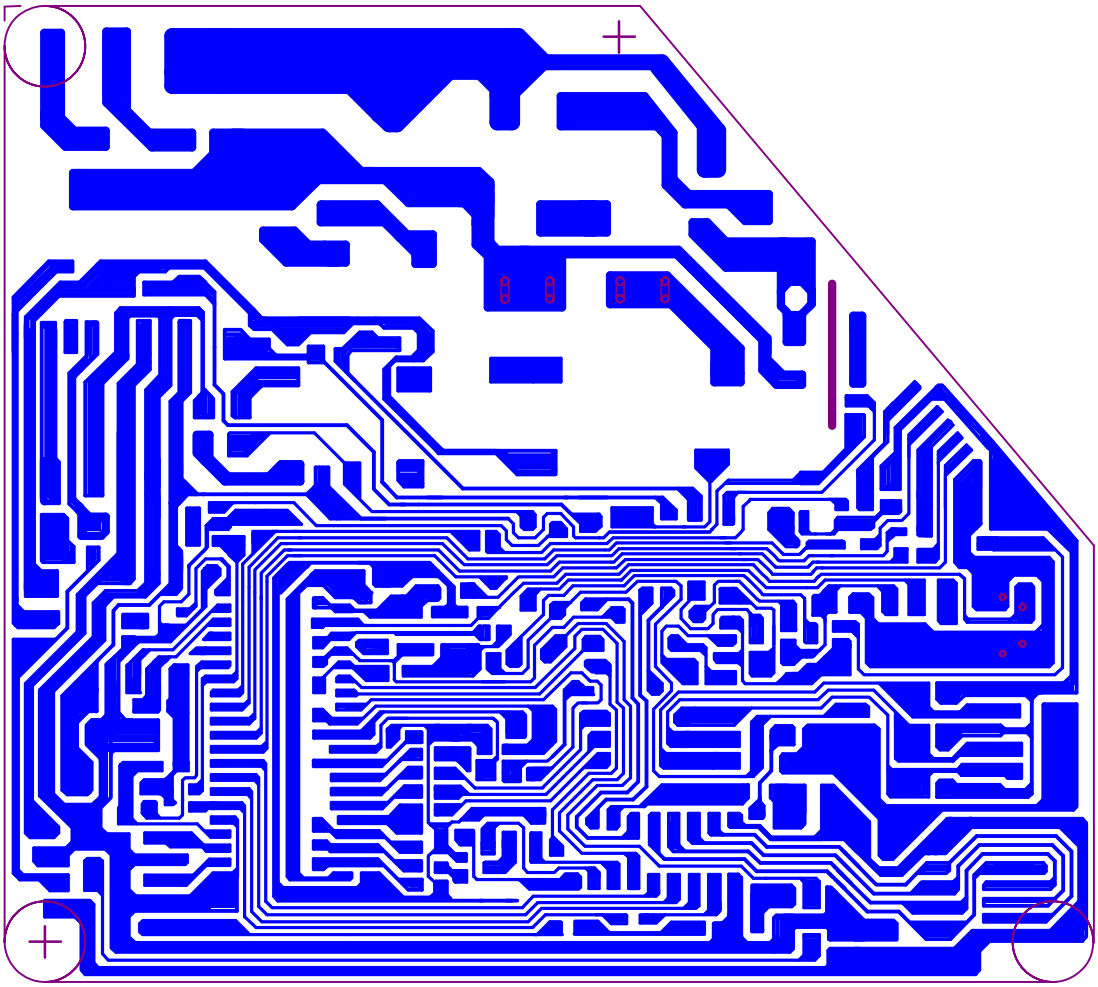
SCHEMATIC DIAGRAM OF PCB

TOP SILK SCREEN VIEW



SCHEMATIC DIAGRAM OF PCB

BOTTOM WIRING VIEW

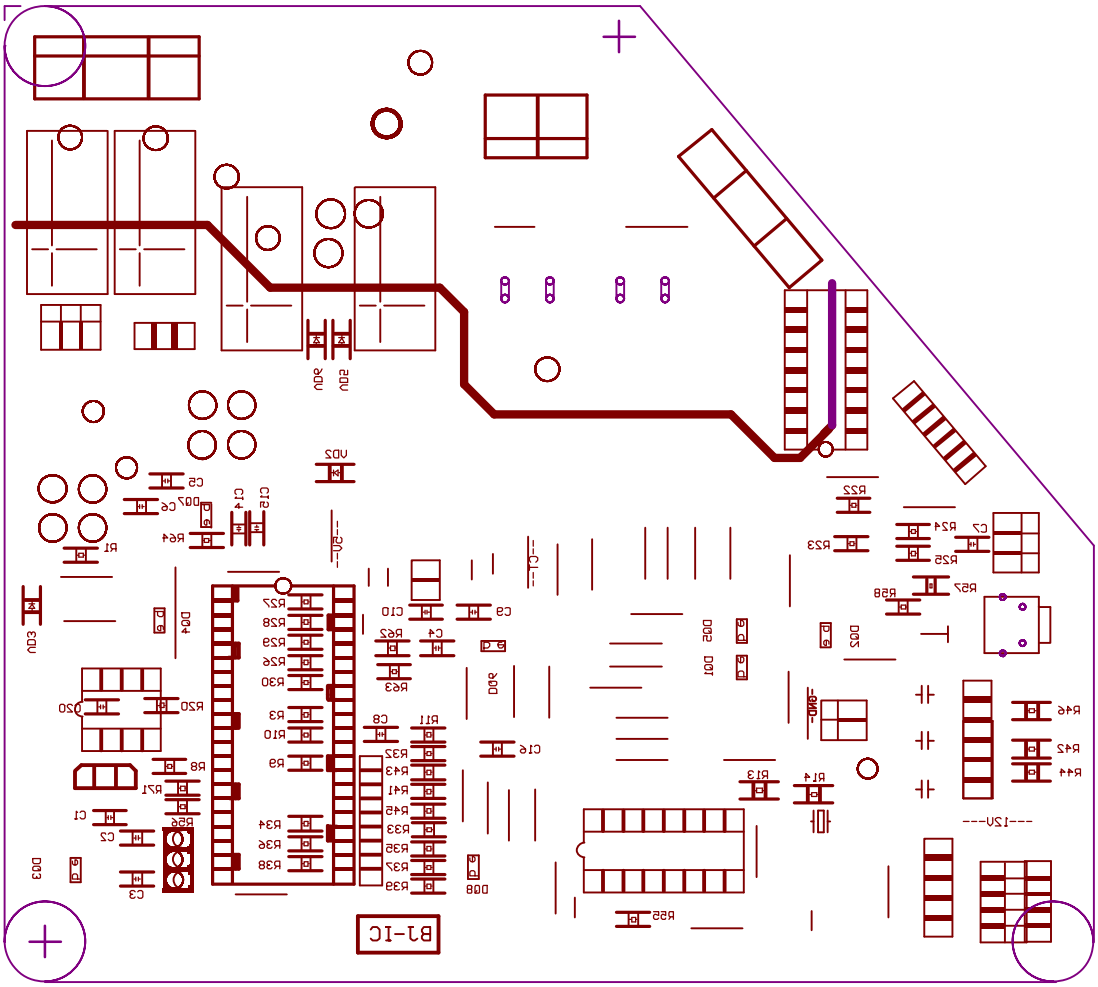


SCHEMATIC DIAGRAM OF PCB

WELDING VIEW

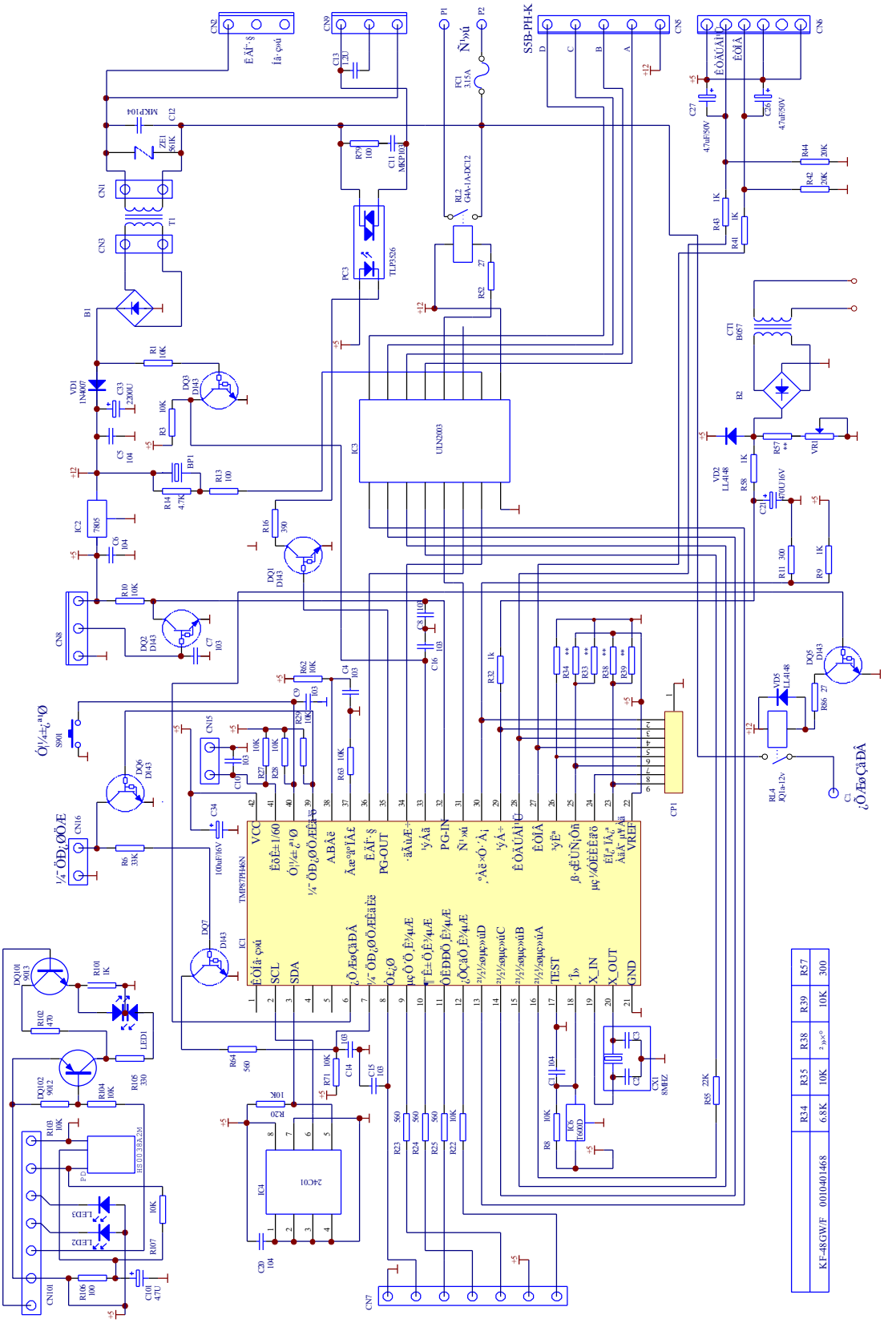
SCHEMATIC DIAGRAM OF PCB

BOTTOM SILK SCREEN VIEW



SCHEMATIC DIAGRAM OF PCB

RCUIT DIAGRAM



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