

SAMSUNG

# DUCT TYPE AIR CONDITIONER

## INDOOR UNIT

HH105ECM

HH140ECM

HH175ECM

## OUTDOOR UNIT

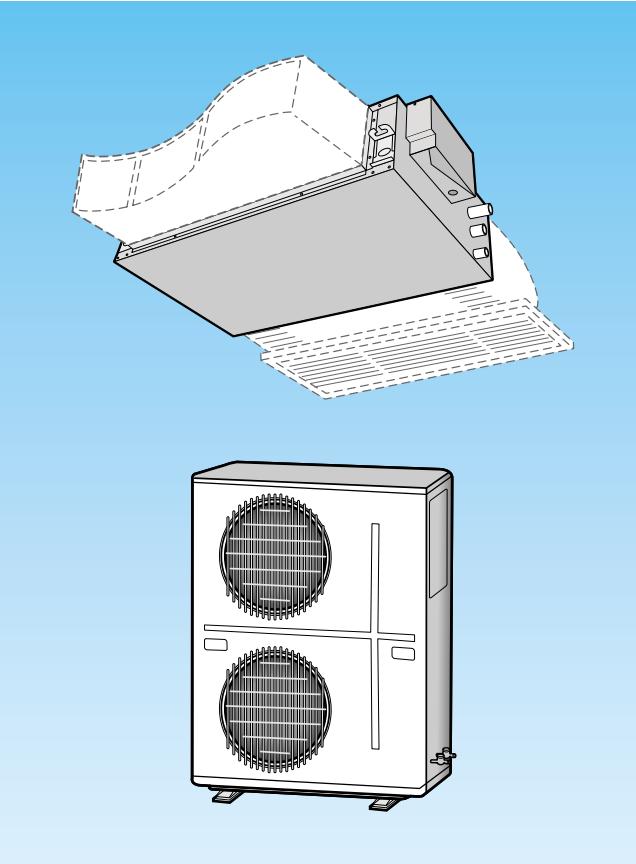
UH105GCM

UH140GCM

UH175GCM

# SERVICE *Manual*

## AIR CONDITIONER



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# 1. Product Specifications

## 1-1 Table

| MODEL           | INDOOR UNIT                     |                          | HH105ECM            | HH140ECM            | HH175ECM    |
|-----------------|---------------------------------|--------------------------|---------------------|---------------------|-------------|
|                 | OUTDOOR UNIT                    |                          | UH105GCM            | UH140GCM            | UH175GCM    |
| Capacity        | Cooling                         | BTU/h                    | 34,000              | 47,800              | 56,300      |
|                 |                                 | W                        | 10,000              | 14,000              | 16,500      |
|                 | Heating                         | BTU/h                    | 38,200              | 54,600              | 64,800      |
|                 |                                 | W                        | 11,200              | 16,000              | 19,000      |
| Power Supply    |                                 |                          | 3ø, 380-415V~, 50Hz |                     |             |
| Power Input     | Cooling                         |                          | kW                  | 3.9                 | 5.10        |
|                 | Heating                         |                          | kW                  | 3.9                 | 5.65        |
| Running Current | Cooling                         |                          | A                   | 6.8                 | 9.1         |
|                 | Heating                         |                          | A                   | 6.8                 | 9.8         |
| Indoor Unit     | Fan Speed<br>(at 0mmAq)         | H.H                      | r.p.m               | 1,000               | 1,050       |
|                 |                                 | Hi                       | r.p.m               | 860                 | 1,000       |
|                 |                                 | Med                      | r.p.m               | 760                 | 950         |
|                 |                                 | Low                      | r.p.m               | 660                 | 900         |
|                 | Air Circulation<br>(at 14mmAq)  | H.H                      | m³/min              | 35                  | 36          |
|                 |                                 | Hi                       | m³/min              | 29                  | 34          |
|                 |                                 | Med                      | m³/min              | 23                  | 32          |
|                 |                                 | Low                      | m³/min              | 20                  | 30          |
|                 | Noise Level<br>(Sound Pressure) | Hi                       | dB(A)               | 48                  | 49          |
|                 |                                 | Med                      | dB(A)               | 47                  | 48          |
|                 |                                 | Low                      | dB(A)               | 46                  | 47          |
|                 | Heat Exchanger                  | Type                     |                     | Wave fin coil       |             |
|                 |                                 | Row x Stages x Fin Pitch |                     | 3 x 14 x 1.7(900mm) |             |
|                 | Fan                             | Type                     |                     | Sirocco             |             |
|                 |                                 | Motor Output             | W                   | -                   | 211         |
|                 | Dimensions                      | H                        | mm                  | 390                 | 390         |
|                 |                                 | W                        | mm                  | 1,110               | 1,110       |
|                 |                                 | D                        | mm                  | 650                 | 650         |
|                 | Weight                          | kg                       | Net / Gross         | 66 / 77             | 66 / 77     |
|                 | Fan Speed                       | Hi                       | r.p.m.              | 980                 | 980         |
|                 |                                 | Low                      | r.p.m.              | 480                 | 480         |
|                 | Air Circulation (Hi)            |                          | m³/min              | -                   | 90          |
|                 | Sound Pressure Level            |                          | dB(A)               | 65                  | 65          |
| Outdoor Unit    | Fan                             | Type                     |                     | Propeller           |             |
|                 |                                 | Motor Output             | W                   | 114                 | 114         |
|                 | Compressor                      | Type                     |                     | Scroll              |             |
|                 |                                 | Model                    |                     | ZR47KCE-TFD         | ZR61KCE-TFD |
|                 |                                 |                          |                     |                     | ZR81KCE-TFD |

## Table(cont.)

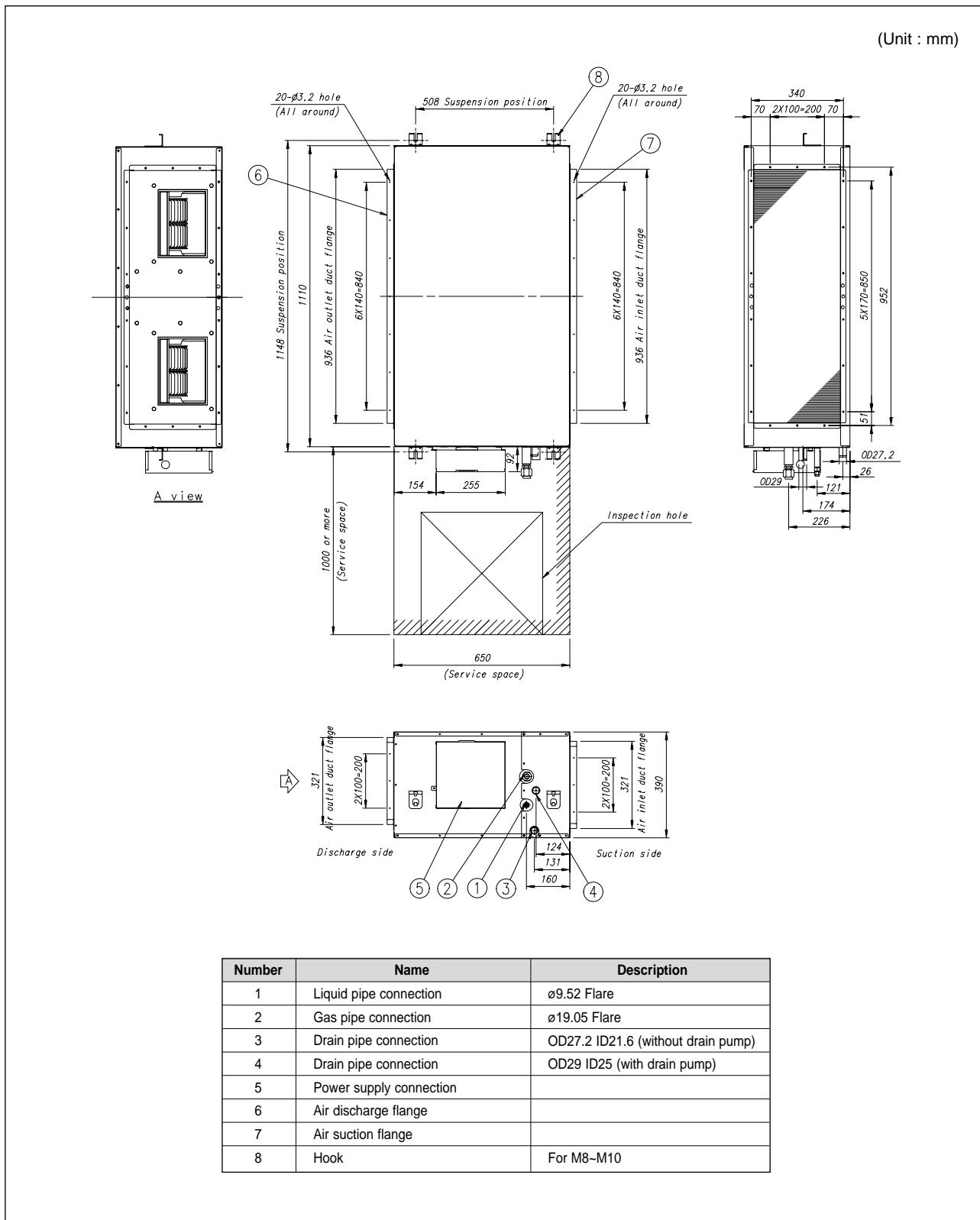
| MODEL        | INDOOR UNIT       |                          | HH105ECM    | HH140ECM                   | HH175ECM                                  |
|--------------|-------------------|--------------------------|-------------|----------------------------|---|
|              | OUTDOOR UNIT      |                          | UH105GCM    | UH140GCM                   | UH175GCM                                  |
| Outdoor Unit | Compressor        | Capacity                 | kW          | 11.7                       | 18.1                                      |
|              |                   | Protection               |             | Internal                   |   |
|              | Heat Exchanger    | Type                     |             | Wave fin coil              |   |
|              |                   | Row x Stages x Fin Pitch |             | 2 x 36 x 1.7(840 / 806)    | 2 x 44 x 1.7(911) 2 x 48 x 1.7(935 / 915) |
| Condition    | Refrigerant       | Face Area                |             | 0.756                      | 1.022                                     |
|              |                   | m <sup>2</sup>           |             | 1.122                      |   |
|              | Dimensions        | Control                  |             | Electrical expansion valve |   |
|              |                   | (R407C)Charge            | g           | 2,800                      | 3,800                                     |
|              | Weight            | (H x W x D)              | mm          | 968 x 880 x 320            | 1,135 x 930 x 375                         |
|              | Indoor Unit       | kg                       | Net / Gross | 85 / 90                    | 105 / 115                                 |
|              |                   | Cool(DB/WB)              | °C          | 27 / 19                    |   |
|              | Outdoor Unit      | Heat(DB/WB)              | °C          | 20 / 15                    |   |
|              |                   | Cool(DB/WB)              | °C          | 35 / 24                    |   |
| Piping       | Between           | Heat(DB/WB)              | °C          | 7 / 6                      |   |
|              |                   | Pipe O.D.                | Liquid      | 9.52(3/8")                 |   |
|              | Size              | Gas                      | mm(inch)    | 19.05(3/4")                |   |
|              | Connection Method |                          |             | Flare                      |   |
|              | Between           | Height                   | m           | Max. 30                    |   |
|              |                   | Pipe Length              | m           | Max. 50                    |   |

Notice : This model is tested under the external static pressure of 14mmAq.

## 1-2 Dimensions

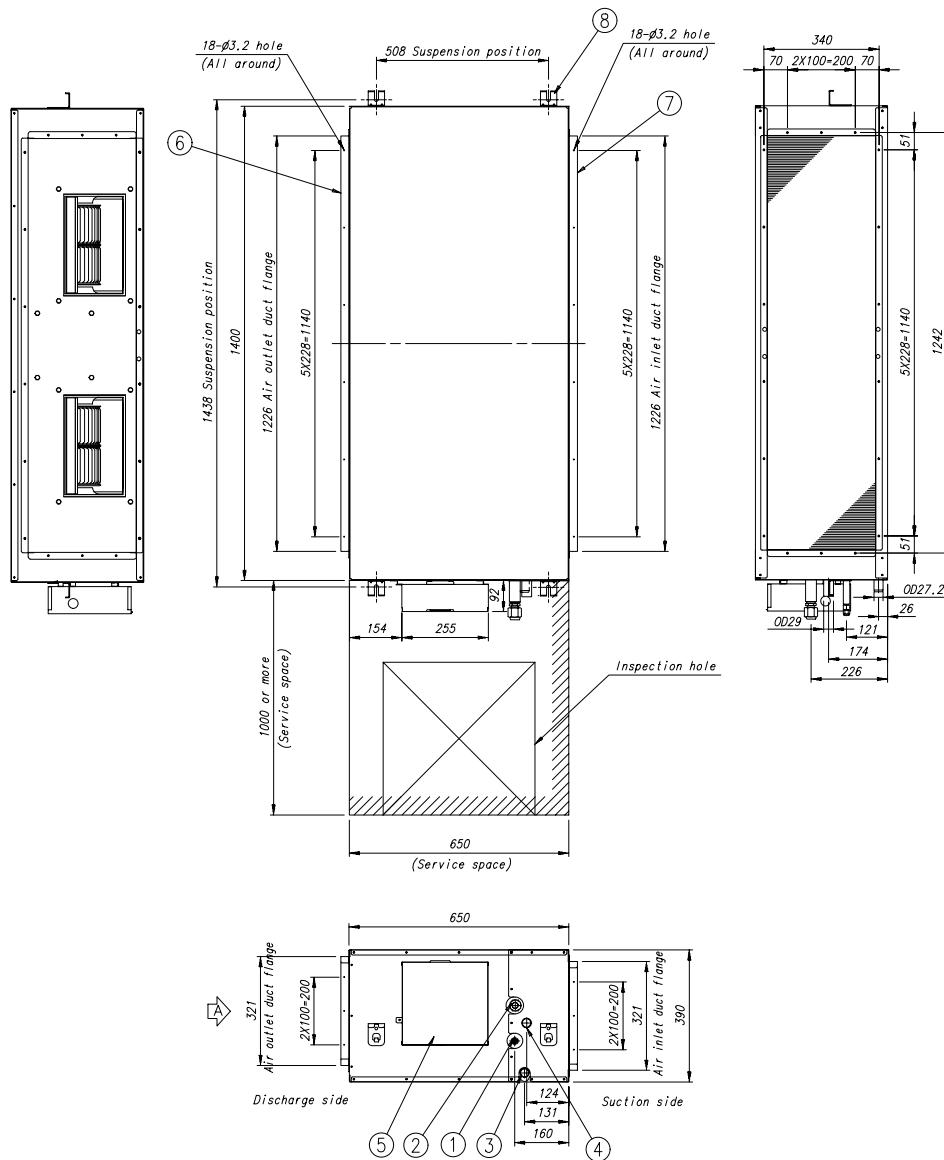
### 1-2-1 Indoor Unit

#### ■ HH105ECM / HH140ECM



## ■ HH175ECM

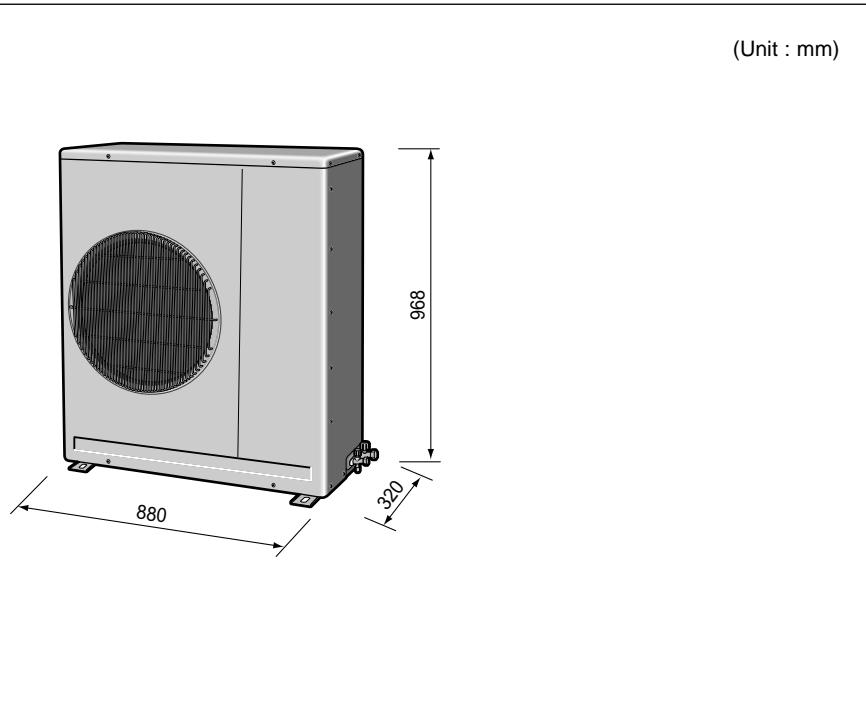
(Unit : mm)



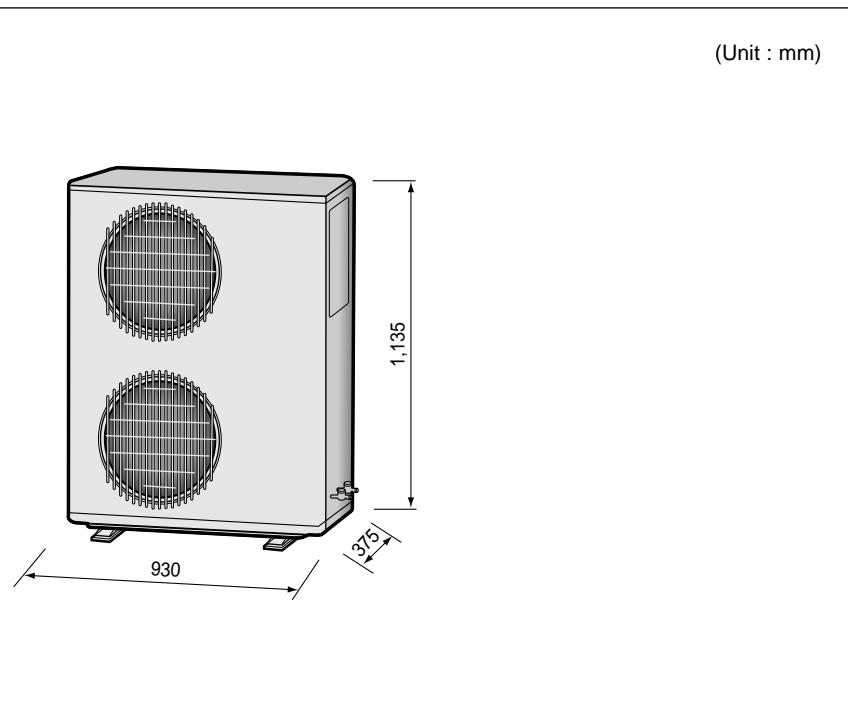
| Number | Name                    | Description                        |
|--------|-------------------------|------------------------------------|
| 1      | Liquid pipe connection  | ø9.52 Flare                        |
| 2      | Gas pipe connection     | ø19.05 Flare                       |
| 3      | Drain pipe connection   | OD27.2 ID21.6 (without drain pump) |
| 4      | Drain pipe connection   | OD29 ID25 (with drain pump)        |
| 5      | Power supply connection |                                    |
| 6      | Air discharge flange    |                                    |
| 7      | Air suction flange      |                                    |
| 8      | Hook                    | For M8~M10                         |

## 1-2-2 Outdoor Unit

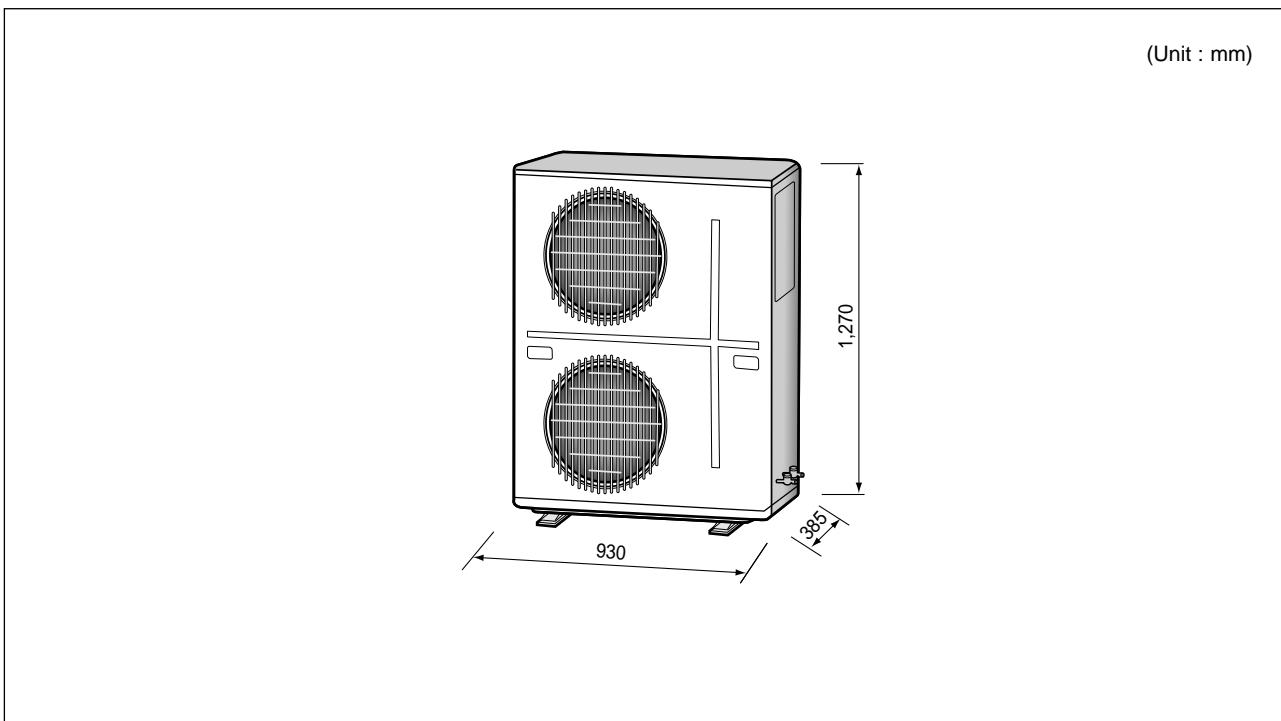
### ■ UH105GCM



### ■ UH140GCM



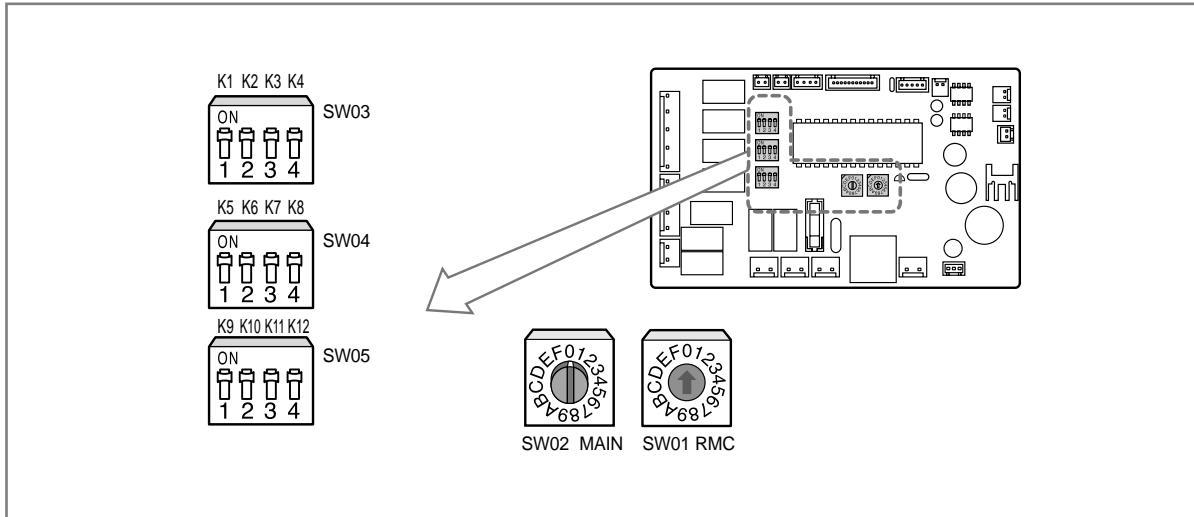
■ UH175GCM



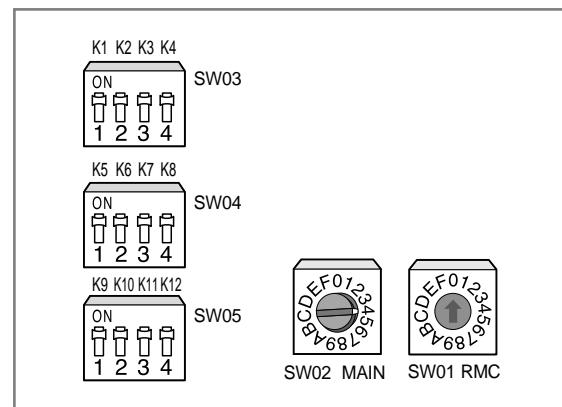
## 2. Installation

### 2-1 Assigning Address to Indoor Unit

1. Before installing the indoor unit, assign an address to the indoor unit according to the air conditioning system plan.
2. The address of the indoor unit is assigned by adjusting MAIN(SW02) and RMC(SW01) rotary switches.



3. The MAIN address is for communication between the indoor unit and the outdoor unit. Therefore, you must set it to operate the air conditioner properly.
4. It is required to set the RMC address if you install the wired remote controller and/or the centralized controller.
5. If you install optional accessories such as the wired remote controller, centralized controller, etc. see an appropriate installation manual.
6. If an optional accessory is not installed, you do not have to set the RMC address. However, adjust K1 and K2 switches of the SW03 DIP switch to "ON" position in this case.
7. Set the MAIN address by adjusting the rotary switch(SW02) from 0 to F. Each indoor unit connected to the same outdoor unit must have different address.
  - i. e. If an indoor unit does not have an optional accessory and its MAIN address is "4".

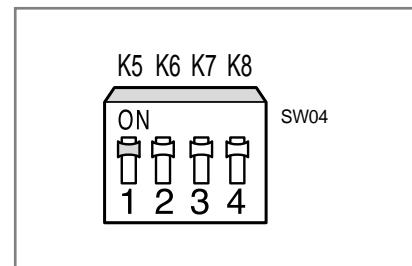


## 2-2 Additional Functions

### ■ Compensation for lost temperature in heating operation

- Reduces the difference between an actual room temperature and a sensed temperature by the air conditioner when heating.

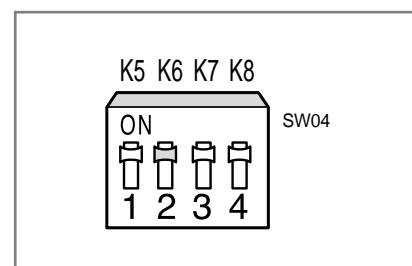
| Switch No. | Switch ON        | Switch OFF       |
|------------|------------------|------------------|
| K5         | 2°C compensation | 5°C compensation |



### ■ Adjusting filter cleaning cycle

- You can adjust the cycle for filter sign indicator.

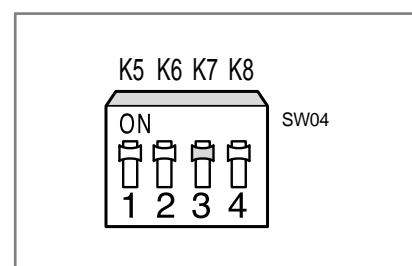
| Switch No. | Switch ON  | Switch OFF |
|------------|------------|------------|
| K6         | 1000 hours | 2000 hours |



### ■ Hot water heater

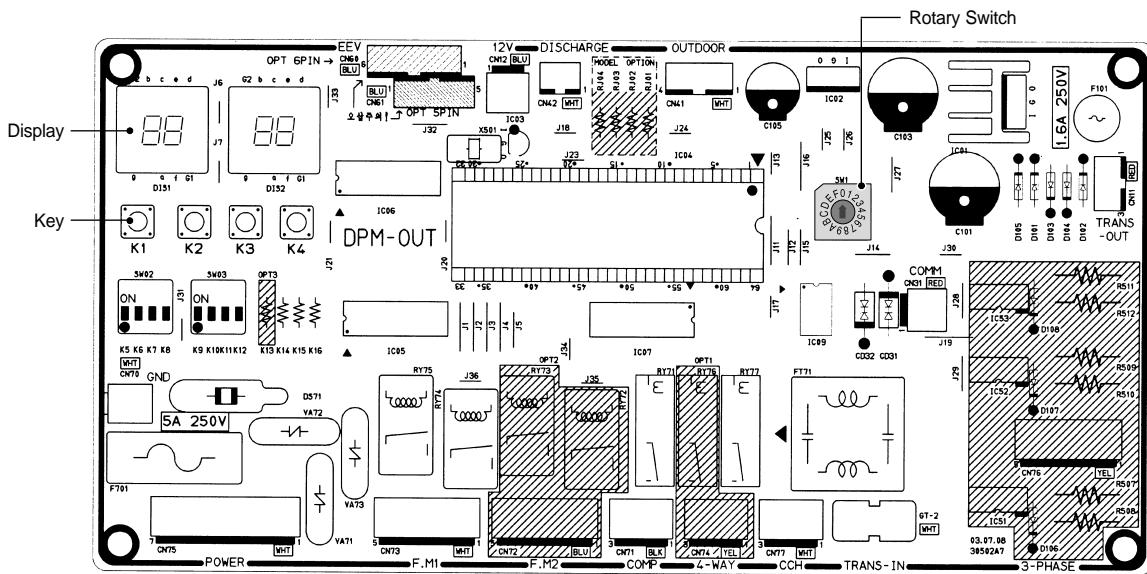
- You must adjust the K7 when you install the hot water heater.

| Switch No. | Switch ON                  | Switch OFF              |
|------------|----------------------------|-------------------------|
| K7         | No use of hot water heater | Use of hot water heater |



## 2-3 Setting Up Option Switches

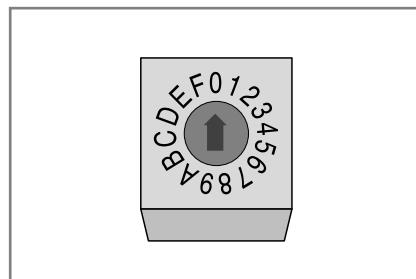
## ■ Option Switch



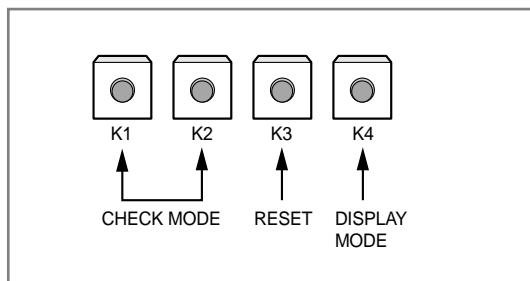
## ■ Rotary Switch

You should display that how many indoor units are connected to the outdoor unit. Refer to the table below, then turn the arrow to appropriate position.

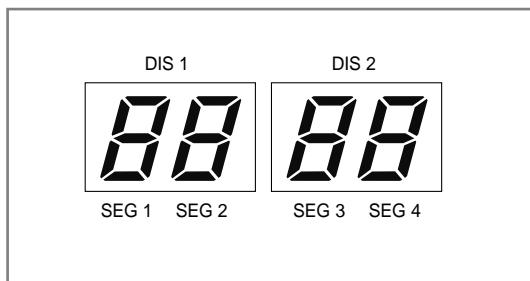
| Switch No. | Number of indoor unit(s) | Switch No. | Number of indoor unit(s) |
|------------|--------------------------|------------|--------------------------|
| 0 or 1     | One                      | 9          | Nine                     |
| 2          | Two                      | A          | Ten                      |
| 3          | Three                    | B          | Eleven                   |
| 4          | Four                     | C          | Twelve                   |
| 5          | Five                     | D          | Thirteen                 |
| 6          | Six                      | E          | Fourteen                 |
| 7          | Seven                    | F          | Fifteen                  |
| 8          | Eight                    | -          | -                        |



■ KEY



## ■ Display



## ■ Summary of KEY functions

| Function<br>Number<br>of press times \ | K1<br>(Displayed on SEG 3, 4)      | K2<br>(Displayed on SEG 3, 4)         | K3<br>(Displayed on SEG 3, 4) | K4<br>(Displayed on SEG 3, 4) |
|--|------------------------------------|---------------------------------------|-------------------------------|-------------------------------|
| 1                                      | Adding refrigerant at heating mode | Adding refrigerant at cooling mode    | Reset                         | Displays data                 |
| 2                                      | Test operation at heating mode     | Test operation at cooling mode        | -                             | -                             |
| 3                                      | End                                | Pump Down for recovery of refrigerant | -                             | -                             |
| 4                                      | -                                  | End                                   | -                             | -                             |

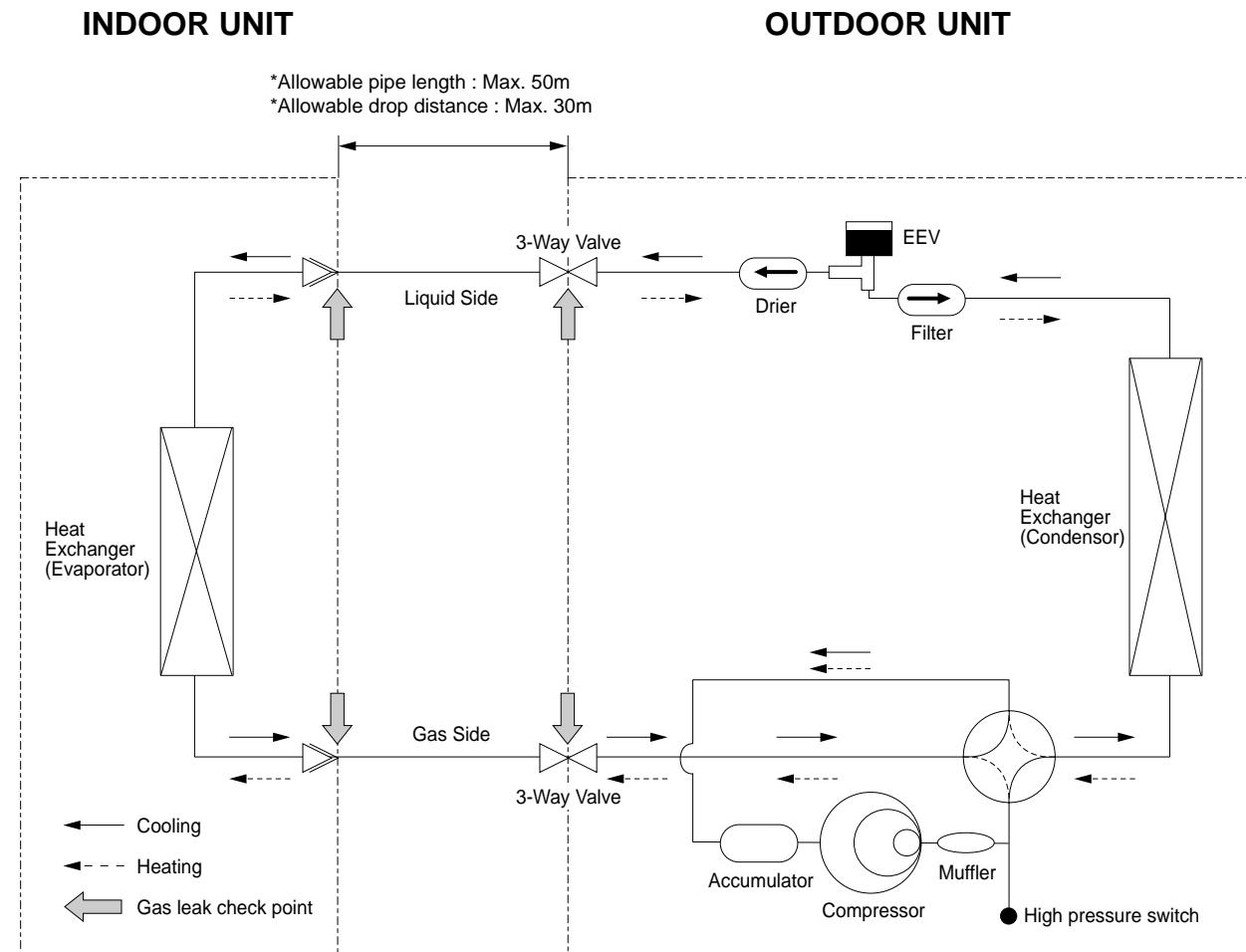
\* Use the K1 only for heat pump models.

## ■ Reading data indicated on the display

| KEY | Number of press | Item   | Example |                      |
|-----|-----------------|--|---------|----------------------|
|     |                 |  | Display | Meaning              |
| K1  | 1               | Adding refrigerant for heat pump models  | 88F8    |                      |
|     | 2               | Test operation for heat pump models  | 88F2    |                      |
|     | 3               | End  | 8888    |                      |
| K2  | 1               | Adding refrigerant for cooling only models                                       | 88F3    |                      |
|     | 2               | Test operation for cooling only models   | 88F4    |                      |
|     | 3               | Pump Down for recovery of refrigerant  | 88F5    |                      |
|     | 4               | End  | 8888    |                      |
| K3  |                 | Reset  | 8888    |                      |
| K4  | 1               |  | 8888    |                      |
|     | 2               |  | 2888    |                      |
|     | 3(1)            | Discharge temperature of compressor  | 3810    | 110 °C               |
|     | 4(2)            | Temperature of outdoor heat exchanger  | 4838    | 38 °C                |
|     | 5(3)            | Outdoor temperature  | 5834    | 34 °C                |
|     | 6(4)            | Step of electronic expansion valve<br>(0 step : all closed, 480 step : all open) | 6812    | 120STEP<br>(12 x 10) |
|     | 7(5)            | Temperature of evaporator  | 7882    | -2 °C                |
|     |                 |  | 7812    | 12 °C                |
|     | 8(6)            | Indoor temperature   | 8822    | 22 °C                |
|     | 9               |  | 9888    |                      |
|     | 10(7)           | Stopping view mode & display communication data                                  | 8888    |                      |

\* ( ) is adjusted to HH105ECM/HH140ECM models.

### 3. Refrigerating Cycle Diagram



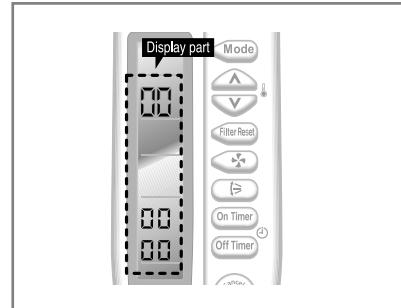
## 4. Set Up the Model Option

### 4-1 Setting Option Setup Method

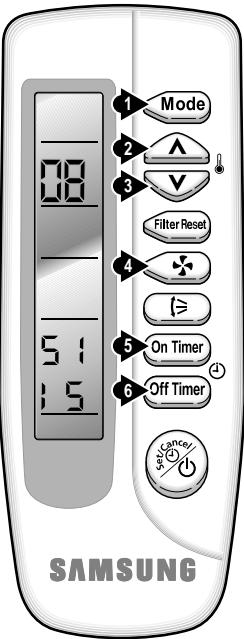
ex) Option No. : 085115-1 d2340

Step 1 : Enter the Option Setup mode.

- 1<sup>st</sup> Take out the batteries of remote control.
- 2<sup>nd</sup> Press the temperature  button simultaneously and insert the battery again.
- 3<sup>rd</sup> Make sure the remote display shown as 



Step 2 : Enter the Option Setup mode and select your option according to the following procedure.



- 1 The default value is  . Otherwise, push the  button to  . Every time you push the button, the display panel reads                 repeatedly.
- 2 Push the  button to set the display panel to  . Every time you push the button, the display panel reads                 repeatedly.
- 3 Push the  button to set the display panel to  . Every time you push the button, the display panel reads                 repeatedly.
- 4 Push the  button to set the display panel to  . Every time you push the button, the display panel reads                 repeatedly.
- 5 Push the  button to set the display panel to  . Every time you push the button, the display panel reads                 repeatedly.
- 6 Push the  button to set the display panel to  . Every time you push the button, the display panel reads                 repeatedly.

\* Setting is not required if you must  a value which has a  default.



\* Setting is not required if you must 0 a value which has a 0 default.

7

Press **Mode** button, then the default value is 10.

8

Push the **Up** button to set the display panel to 0.

Every time you push the button, the display panel reads 0 → 1 → 2 → 3 → ... 9 → R → b → c → d → E → F repeatedly.

9

Push the **Down** button to set the display panel to 2.

Every time you push the button, the display panel reads 0 → 1 → 2 → 3 → ... 9 → R → b → c → d → E → F repeatedly.

10

Push the **Left** button to set the display panel to 3.

Every time you push the button, the display panel reads 0 → 1 → 2 → 3 → ... 9 → R → b → c → d → E → F repeatedly.

11

Push the **On Timer** button to set the display panel to 4.

Every time you push the button, the display panel reads 0 → 1 → 2 → 3 → ... 9 → R → b → c → d → E → F repeatedly.

12

Push the **Off Timer** button to set the display panel to 0.

Every time you push the button, the display panel reads 0 → 1 → 2 → 3 → ... 9 → R → b → c → d → E → F repeatedly.

### Step 3 : Upon completion of the selection, check you made right selections.

Press the Mode Selection key, **Mode** to set the display part to 0 and check the display part.

→ The display part shows 00.  
51  
15

Press the Mode Selection key, **Mode** to set the display part to 1 and check the display part.

→ The display part shows 10.  
23  
40

### Step 4 : Pressing the ON/OFF button ( )

When pressing the operation ON/OFF key with the direction of remote controller for unit, the sound "Ding" or "Diriring" is heard and the OPERATION ICON( ) lamp of the display is flickering at the same time, then the input of option is completed. (If the diriring sound isn't heard, try again pressing the ON/OFF button.)

### Step 5 : Unit operation test-run

**First**, Remove the battery from the remote controller.

**Second**, Re-insert the battery into the remote controller.

**Third**, Press ON/OFF key with the direction of remote controller for set.

#### • Error Mode

1<sup>st</sup> If all lamps of indoor unit are flickering, Plug out, plug in power plug again and press ON/OFF key to retry.

2<sup>nd</sup> If the unit is not working properly or all lamps are continuously flickering after setting the option code, see if the correct option code is set up for its model.

**■ OPTION ITEMS**

| REMOCON<br>MODEL | SEG1 | SEG2 | SEG3 | SEG4 | SEG5 | SEG6 | SEG7 | SEG8 | SEG9 | SEG10 | SEG11 | SEG12 |
|------------------|------|------|------|------|------|------|------|------|------|-------|-------|-------|
| HH105ECM         | 0    | 1    | 5    | 4    | 4    | 2    | 1    | F    | 0    | 0     | 0     | 0     |
| HH140ECM         | 0    | 1    | 5    | c    | 4    | 2    | 1    | 3    | 0    | 0     | 0     | 0     |
| HH175ECM         | 0    | 1    | 5    | 8    | 0    | 0    | 1    | 4    | 0    | 0     | 0     | 0     |

## 5. Troubleshooting

### ■ Detection of errors

- If an error occurs during the operation, an LED flickers and the operation is stopped except the LED.
- If you re-operate the air conditioner, it operates normally at first, then detect an error again.

### 5-1 LED Display on the receiver & display unit

#### ■ LED Display

| Abnormal conditions   | Indicators     |     |   |   |   | Operating  |  |
|---|----------------|-----|---|---|---|--|--|
|   | Concealed Type |     | ● | ● | ● |  |  |
|   | Blue           | Red |   |   |   |  |  |
|   | Standard Type  |     |   |   |   |  |  |
| Power reset   | ●              | ×   | × | × | × |  |  |
| Error of temperature sensor in indoor unit (OPEN/SHORT)   | ×              | ×   | ● | × | × | Displayed on appropriate indoor unit which is operating  |  |
| Error of heat exchanger sensor in indoor unit(OPEN/SHORT)   | ●              | ×   | ● | × | × | Displayed on appropriate indoor unit which is operating  |  |
| Error of outdoor temperature sensor<br>Error of COND sensor<br>Error of DISCHARGE sensor (OPEN/SHORT)   | ●              | ×   | × | ● | × | Displayed on appropriate indoor unit which is operating<br>Displayed on outdoor unit   |  |
| 1. No communication for 2 minutes between indoor unit and outdoor unit (communication error for more than 2 minutes)<br>2. Indoor unit receiving the communication error from outdoor unit<br>3. Outdoor unit tracking 3 minute error<br>4. When sending the communication error from outdoor unit the mismatching of the communication numbers and installed numbers after completion of tracking. (communication error for more than 2 minutes) | ×              | ×   | ● | ● | × | 1. Error of indoor unit: Displayed on the indoor unit regardless of operation<br>2. Error of outdoor unit: Displayed on the indoor unit which is operating |  |
| 1. Communication error between indoors (Communication error for more than 2 minutes)<br>2. Slave of indoor unit tracking error  | ●              | ×   | × | × | ● | Error of indoor unit: Displayed on the indoor unit regardless of operation   |  |

- If you turn off the air conditioner when the LED is flickering, the LED is also turned off.

- If you re-operate the air conditioner, it operates normally at first, then detect an error again.

● : On     ● : Flickering     × : Off

## ■ LED Display(cont.)

| Abnormal conditions  | Indicators     |   |      |     |               | Operating  |  |
|--|----------------|---|------|-----|---------------|--|--|
|  | Concealed Type |   | Blue | Red | Standard Type |  |  |
|  |                |   |      |     |               |  |  |
|  |                |   |      |     |               |  |  |
| 1. 2nd detection of high temperature COND<br>2. 2nd detection of high temperature DISCHARGE<br>3. Error of reverse phase | ×              | × | ●    | ●   | ●             | Displayed on appropriate indoor unit which is operating<br>Displayed on outdoor unit |  |
| Error of float switch  | ×              | × | ×    | ●   | ●             |  |  |
| Error of setting option switches for optional accessories  | ×              | × | ●    | ×   | ●             |  |  |
| EEPROM error   | ●              | × | ●    | ●   | ×             |  |  |
| EEPROM option error  | ●              | ● | ●    | ●   | ●             |  |  |

- If you turn off the air conditioner when the LED is flickering, the LED is also turned off.

- If you re-operate the air conditioner, it operates normally at first, then detect an error again.

● : On     ● : Flickering     × : Off

## 5-2 Outdoor Unit

If an error occurs during the operation, it is displayed on the outdoor unit PCB.

| Display                    | Explanation   | Remark  |
|----------------------------|---|---|
| $Er \leftrightarrow P0$    | High temperature of Discharge (Protection control)  | Error about protection control of outdoor unit  |
| $Er \leftrightarrow P1$    | High temperature of outdoor heat exchanger (Protection control)                                 |   |
| $Er \leftrightarrow P5$    | COMP DOWN to protect being frozen   |   |
| $Er \leftrightarrow P6$    | Error of momentary power failure (disappears when the unit is Off/On)                           |   |
| $Er \leftrightarrow E1$    | Error of OUT TEMP sensor (OPEN/SHORT)   | Errors about outdoor unit sensor (OPEN/SHORT)<br>Detection during the operation of indoor unit (Sensing and sending errors into the communication data) |
| $Er \leftrightarrow E2$    | Error of temperature sensor in outdoor heat exchanger (OPEN/SHORT)                              |   |
| $Er \leftrightarrow E3$    | Error of Discharge TEMP sensor (OPEN/SHORT)   |   |
| $Er \leftrightarrow E1$    | System Down caused by communication error after completion of tracking                          | Communication and indoor unit errors  |
| $Er \leftrightarrow E2$    | Mismatching of the indoor unit numbers set with those communicated after completion of tracking |   |
| $Er \leftrightarrow E3$    | Error of float switch in indoor unit  | Self-diagnosis of indoor and outdoor unit (x:indoor unit address)   |
| $Er \leftrightarrow E5$    | Error of setting option switches for optional accessories                                       |   |
| $Er \leftrightarrow 9x$    | OPEN/SHORT error of room sensor in indoor unit  |   |
| $Er \leftrightarrow rx$    | OPEN/SHORT error of eva in sensor in indoor unit  |   |
| $Er \leftrightarrow ux$    | EEPROM option error   | Displays of operating status  |
| $Er \leftrightarrow ux$    | Error of fan starting   |   |
| $Er \leftrightarrow U4$    | Open error of electronic expansion valve in outdoor unit (Detected once or more times)          |   |
| $Er \leftrightarrow U5$    | Close error of electronic expansion valve in outdoor unit (Detected once or more times)         |   |
| $U1$ Flicker               | Below -5°C when cooling (Outdoor temperature)   |   |
| $U2$ Flicker               | Over 30°C when heating (Outdoor temperature)  |   |
| K1, K2, K3, K4, K5 Flicker |   |   |

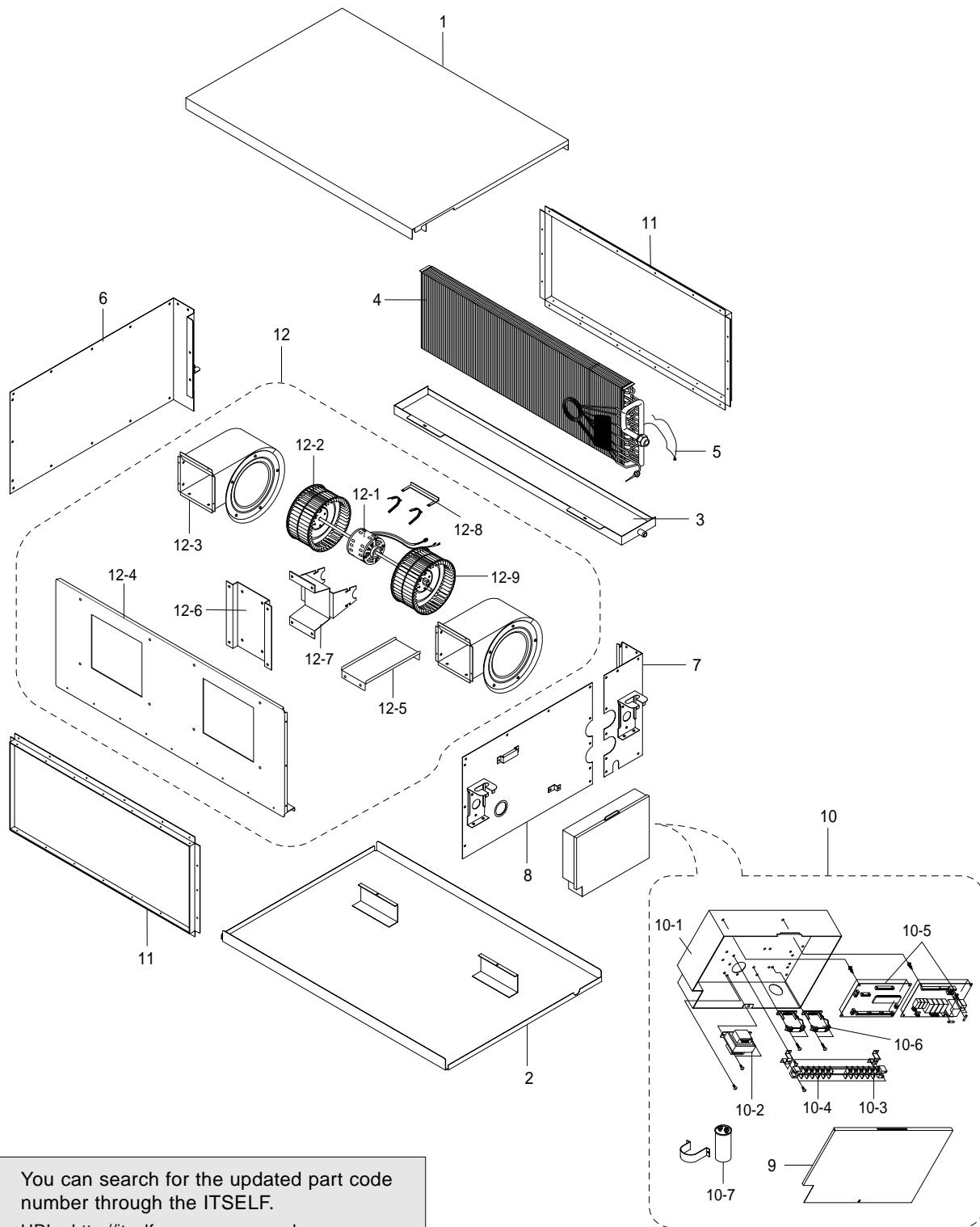
The order of priority : E1 → E2 → E4 → E5 → P0 → P1 → P5 → P6 → t1 → t2 → t3 → tu → to → G4 → G5 → E3 → qx → rx → vx →

K1, K2, K3, K4, K5

- In case that the same error displays from multi-indoor units, the one having the faster address has the priority.

## 6. Exploded Views and Parts List

### 6-1 Indoor Unit

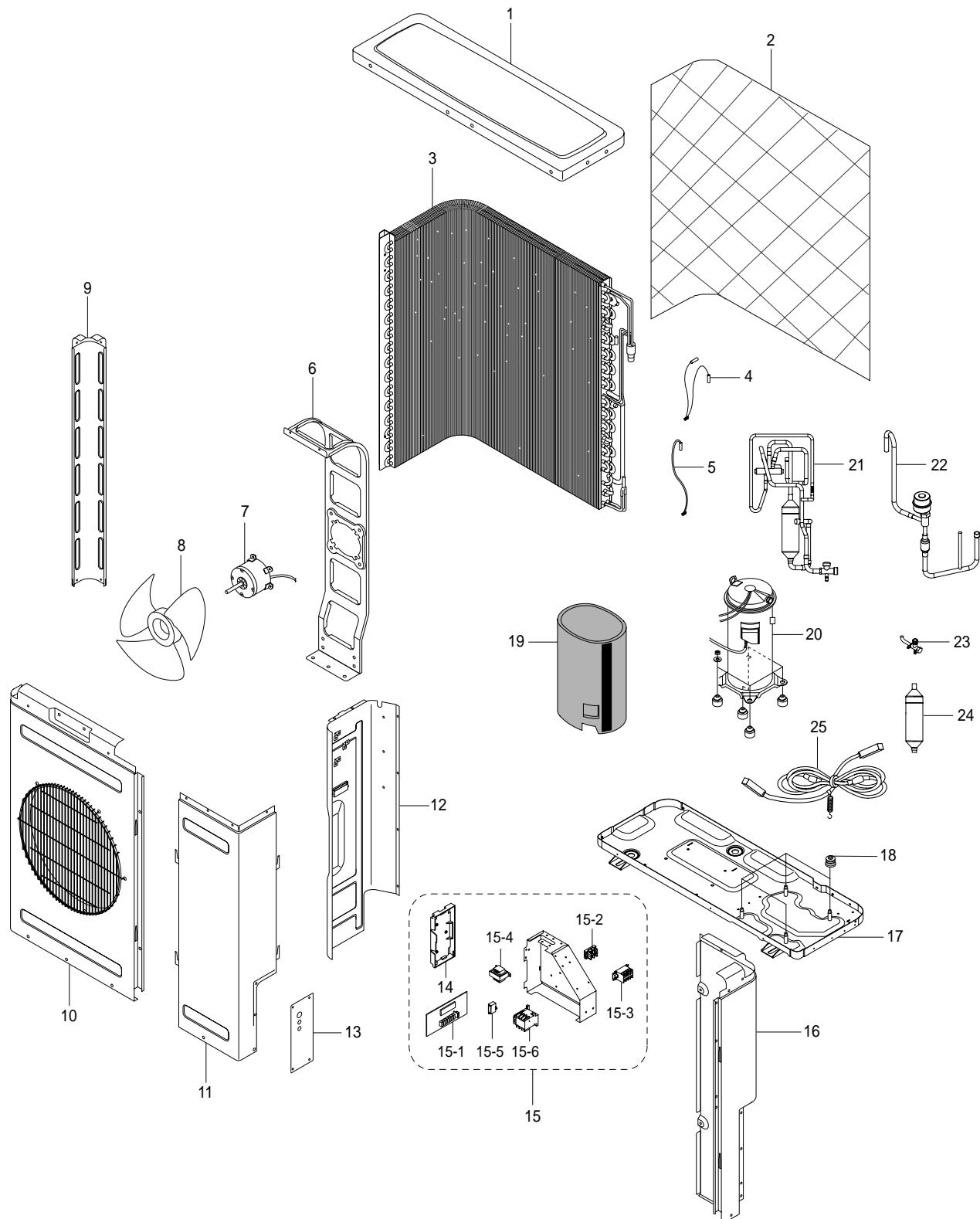


## ■ Parts List

| No.  | Code No.    | Description                  | Specification                         | Q'TY     |          |          |
|------|-------------|------------------------------|---------------------------------------|----------|----------|----------|
|      |             |                              |                                       | HH105ECM | HH140ECM | HH175ECM |
| 1    | DB98-06745A | ASS'Y CABINET TOP            | HH105ECM/HH140ECM, DUCT TYPE          | 1        | 1        | -        |
|      | DB98-05295A | ASS'Y CABINET TOP            | HH175ECM, DUCT TYPE                   | -        | -        | 1        |
| 2    | DB98-06744A | ASS'Y CABINET BASE PART      | HH105ECM/HH140ECM, DUCT TYPE          | 1        | 1        | -        |
|      | DB98-05294A | ASS'Y CABINET BASE PART      | HH175ECM, DUCT TYPE                   | -        | -        | 1        |
| 3    | DB94-00093A | ASS'Y DRAIN PAN              | HH105ECM/HH140ECM, DUCT TYPE          | 1        | 1        | -        |
|      | DB94-00184A | ASS'Y DRAIN PAN              | HH175ECM, DUCT TYPE                   | -        | -        | 1        |
| 4    | DB96-02934A | ASS'Y EVAP                   | HH105ECM, DUCT TYPE                   | 1        | -        | -        |
|      | DB96-02872A | ASS'Y EVAP                   | HH140ECM, DUCT TYPE                   | -        | 1        | -        |
|      | DB96-02634A | ASS'Y EVAP                   | HH175ECM, DUCT TYPE                   | -        | -        | 1        |
| 5    | DB32-00016B | THERMISTOR-ASS'Y             | HH105ECM/HH140ECM/HH175ECM, DUCT TYPE | 1        | 1        | 1        |
| 6    | DB98-05296A | ASS'Y CABINET SIDE LF PART   | HH105ECM/HH140ECM/HH175ECM, DUCT TYPE | 1        | 1        | 1        |
| 7    | DB72-00499A | INSULATION-CABINET SIDE LF B | HH105ECM/HH140ECM/HH175ECM, DUCT TYPE | 1        | 1        | 1        |
| 8    | DB72-00498A | INSULATION-CABINET SIDE LF A | HH105ECM/HH140ECM/HH175ECM, DUCT TYPE | 1        | 1        | 1        |
| 9    | DB63-00080A | COVER-CONTROL                | SGCC-M, T0.8                          | 1        | 1        | 1        |
| 10   | DB93-01616J | ASS'Y CONTROL IN             | 220V, 50Hz, HH105ECM                  | 1        | -        | -        |
|      | DB93-01616H | ASS'Y CONTROL IN             | 220V, 50Hz, HH140ECM                  | -        | 1        | -        |
|      | DB93-01616A | ASS'Y CONTROL IN             | 220V, 50Hz, HH175ECM                  | -        | -        | 1        |
| 10-1 | DB61-00098A | CASE-CONTROL                 | SGCC-M, T0.8                          | 1        | 1        | 1        |
| 10-2 | DB26-10065B | TRANS-POWER                  | 230V, 50Hz                            | 1        | 1        | 1        |
| 10-3 | DB65-00004H | TERMINAL BLOCK-6P            | 6p                                    | 1        | 1        | 1        |
| 10-4 | DB65-00004L | TERMINAL BLOCK-6P            | 6p                                    | -        | -        | 1        |
|      | DB65-00169A | TERMINAL BLOCK-6P            | 6p                                    | 1        | 1        | -        |
| 10-5 | DB93-00849M | ASS'Y PCB MAIN-DPM DUCT      | DPM, PCB, HH105ECM/HH140ECM           | 1        | 1        | -        |
|      | DB93-00849D | ASS'Y PCB MAIN-DPM DUCT      | DPM, PCB, HH175ECM                    | -        | -        | 1        |
| 10-6 | DB61-40291B | HOLDER-WIRE                  | PP, BLK                               | 2        | 2        | 2        |
| 10-7 | 2301-001367 | C-FILM                       | 6µF, AC450V                           | 1        | -        | -        |
|      | 2501-001233 | C-OIL                        | 15µF, AC450V                          | -        | -        | 1        |
| 11   | DB90-00315A | ASS'Y-BRACKET OUTLET         | HH105ECM/HH140ECM, DUCT TYPE          | 2        | 2        | -        |
|      | DB90-00751A | ASS'Y-BRACKET OUTLET         | HH175ECM, DUCT TYPE                   | -        | -        | 2        |
| 12   | DB94-00222A | ASS'Y BLOWER                 | HH105ECM, DUCT TYPE                   | 1        | -        | -        |
|      | DB94-00222B | ASS'Y BLOWER                 | HH140ECM, DUCT TYPE                   | -        | 1        | -        |
|      | DB94-00193A | ASS'Y BLOWER                 | HH175ECM, DUCT TYPE                   | -        | -        | 1        |
| 12-1 | DB31-00145A | MOTOR FAN                    | OSME-2004SAC(S329)                    | 1        | -        | -        |
|      | DB31-00079E | MOTOR FAN                    | OSM-1604SAC(S324)                     | -        | 1        | -        |
|      | DB31-00142A | MOTOR FAN                    | OSME-3751SAC(S325)                    | -        | -        | 1        |
| 12-2 | DB67-00117A | BLOWER LF                    | SGCC-M                                | 1        | 1        | -        |
|      | DB67-00206A | BLOWER LF                    | SGCC-M                                | -        | -        | 1        |
| 12-3 | DB90-00313A | ASS'Y-HOUSING                | HH105ECM/HH140ECM, DUCT TYPE          | 2        | 2        | -        |
|      | DB94-00185A | ASS'Y-HOUSING                | HH175ECM, DUCT TYPE                   | -        | -        | 2        |
| 12-4 | DB64-00529A | PANEL-DUCT                   | SGCC-M                                | 1        | 1        | -        |
|      | DB64-00495A | PANEL-DUCT                   | SGCC-M                                | -        | -        | 1        |
| 12-5 | DB61-00911A | SUPPORT-MOTOR                | SGCC-M, T1.6                          | 1        | 1        | 1        |
| 12-6 | DB61-00541A | HOLDER-MOTOR                 | SGCC-M, W220xL200xT2.0                | 1        | 1        | 1        |
| 12-7 | DB61-20071A | BASE-MOTOR                   | HH105ECM/HH140ECM, DUCT TYPE          | 1        | 1        | 1        |
| 12-8 | DB61-00540A | BRACKET-MOTOR GUIDE          | SGCC-M, T1.6                          | 1        | 1        | -        |
|      | DB61-00919A | BRACKET-MOTOR GUIDE          | SGCC-M, T1.6                          | -        | -        | 1        |
| 12-9 | DB67-00117B | BLOWER-RH                    | SGCC-M                                | 1        | 1        | -        |
|      | DB67-00206B | BLOWER-RH                    | SGCC-M                                | -        | -        | 1        |

## 6-2 Outdoor Unit

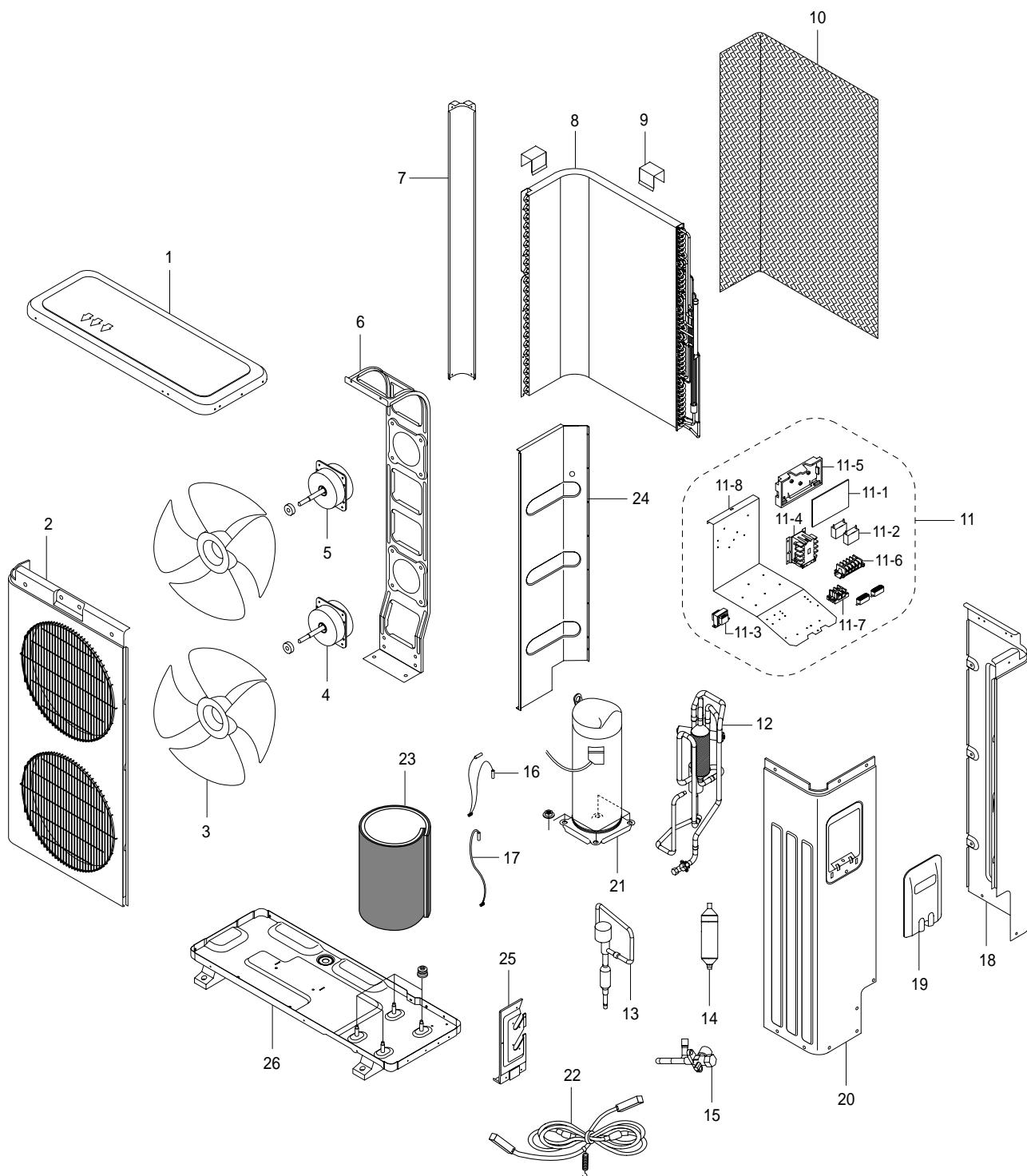
### ■ UH105GCM



## ■ Parts List

| No.  | Code No.    | Description               | Specification                                      | Q'TY | Remark |
|------|-------------|---------------------------|--|------|--------|
| 1    | DB90-01029B | ASS'Y CABINET-TOP         | UH105GCM,ASS'Y(SECC-P)                             | 1    |        |
| 2    | DB61-01348A | GUIDE-SCREEN              | RVMPC035B2M0                                       | 1    |        |
| 3    | DB96-02943A | ASS'Y COND-UNIT           | UH105GCM,2x36                                      | 1    |        |
| 4    | DB32-00120D | THERMISTOR                | -,10Kohm,--,20~100,--,--,--                        | 1    |        |
| 5    | DB32-00071C | THERMISTOR                | --,--,--,--,--,RFPC020B2M0                         | 1    |        |
| 6    | DB61-01173B | BRACKET MOTOR             | UH105GCM,--,--,--,--                               | 1    |        |
| 7    | DB31-00240B | MOTOR FAN-OSME-904SRC     | OSME-904SRC,UH105GCM,220V,50Hz                     | 1    |        |
| 8    | DB67-00438A | FAN-PROPELLER             | AS+GF 20%,AP-N2390F,OD460,T3.5,NOVA-PJT            | 1    |        |
| 9    | DB64-00857A | CABINET-BACK LF           | RVMC035B2M0,SECCP,T1.0,W81,L947,--<br>WHITE GRAY,- | 1    |        |
| 10   | DB90-01026A | ASS'Y-CABI FRONT LF       | RVMPC035B2M0                                       | 1    |        |
| 11   | DB90-01224A | ASS'Y CABINET FRONT-RH    | UH105GCM,ASS'Y                                     | 1    |        |
| 12   | DB94-00319A | ASS'Y PARTITION-OUT       | RVMPC035B2M0                                       | 1    |        |
| 13   | DB90-01222A | ASS'Y-WIRE PLATE          | UH105GCM,SECC-P,SC-90073T                          | 1    |        |
| 14   | DB61-00152A | CASE-PCB-OUT              | AE-240E,T2.5,ABS,--,BLK,-                          | 1    |        |
| 15   | DB93-02266C | ASS'Y CONTROL OUT         | HP,--,--,--,UH105GCM                               | 1    |        |
| 15-1 | DB93-01855H | ASS'Y PCB-MAIN            | DPM OUT PCB  | 1    |        |
| 15-2 | DB65-00004D | TERMINAL BLOCK-2P         | UH105GCM   | 1    |        |
| 15-3 | DB65-00129B | TERMINAL BLOCK-8P         | UH105GCM   | 1    |        |
| 15-4 | DB26-10070A | TRANS-POWER               | DC17,AC230V,6A                                     | 1    |        |
| 15-5 | 2301-001367 | C-FILM                    | 6μF,AC450V   | 1    |        |
| 15-6 | DB34-90089A | MAGNETIC SWITCH           | FURNAS,APH450PG,42AF 35AL                          | 1    |        |
| 16   | DB90-01423A | ASS'Y CABINET BACK-RH     | UH105GCM,ASS'Y                                     | 1    |        |
| 17   | DB90-01030B | ASS'Y BASE OUT            | UH105GCM,DPM 3.5HP OUTDOOR                         | 1    |        |
| 18   | DB73-10023A | GROMMET-COMP              | -,EPDM,T41,--,--,BLK,-                             | 1    |        |
| 19   | DB62-02696A | INSULATION-SOUND          | T12,W630,L390,--,--,ACH3600G                       | 4    |        |
| 20   | DB95-10057W | ASS'Y-DIGITAL SCROLL COMP | UH105GCM,ZR45KCE-TFD                               | 1    |        |
| 21   | DB96-02946B | ASS'Y TUBE-4WAY VALVE     | UH105GCM,2WAY 3.5HP,OUT                            | 1    |        |
| 22   | DB96-02941B | ASS'Y-EXPANSION TUBE      | UH105GCM,DPM3.5HP,H/P                              | 1    |        |
| 23   | DB62-00425B | VALVE SERVICE-3/8         | CH44CA,--,3/8",30KG,--,R407C                       | 1    |        |
| 24   | DB96-00542B | ASS'Y TUBE-DRIER          | CH44CAX,--   | 1    |        |
| 25   | DB95-30013Y | ASS'Y-HEATER COMP         | UH105GCM   | 1    |        |

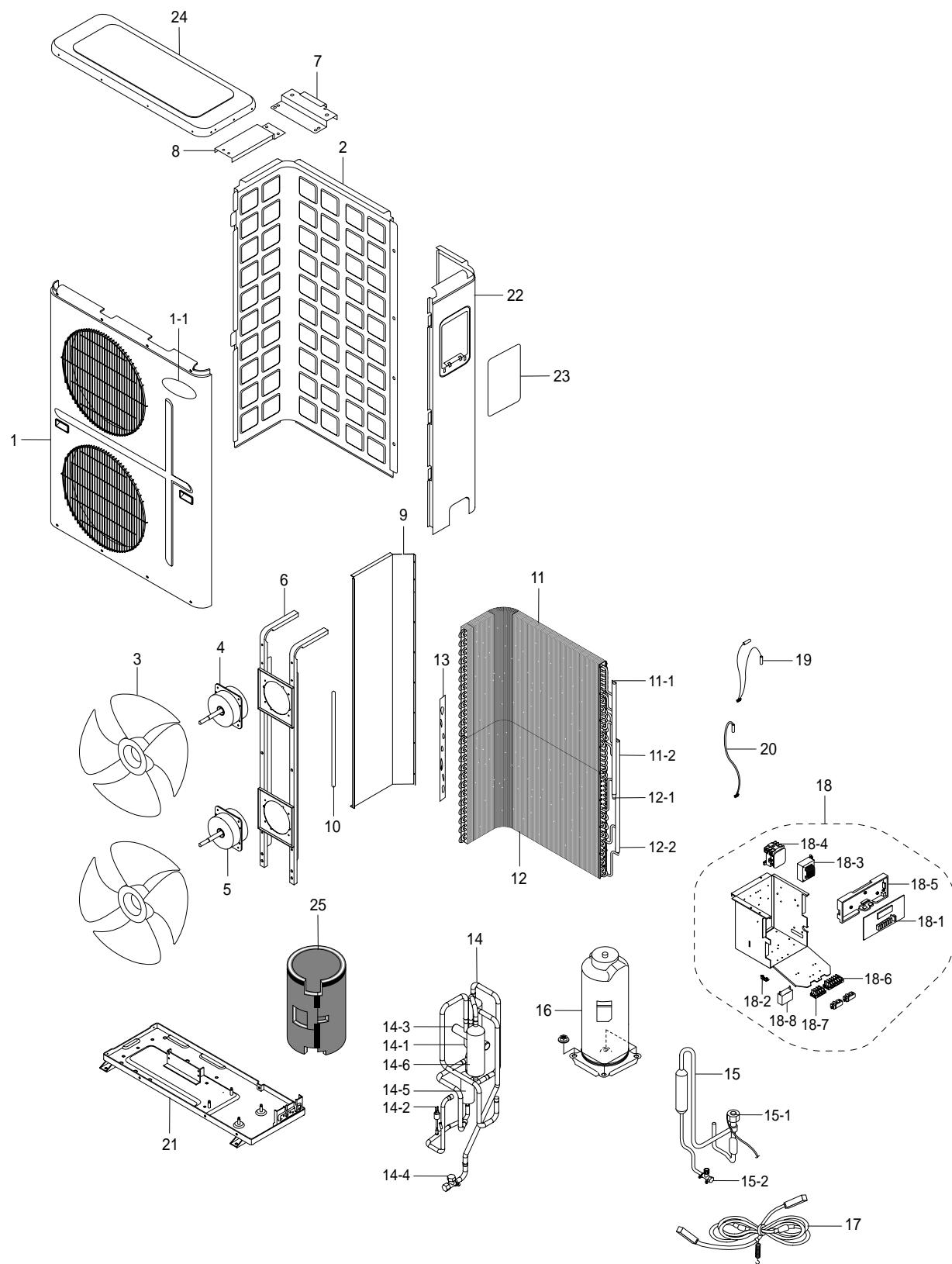
■ UH140GCM



## ■ Parts List

| No.  | Code No.    | Description                 | Specification   | Q'TY |
|------|-------------|-----------------------------|---|------|
| 1    | DB90-01395A | ASS'Y COVER-TOP             | AP-Q4040  | 1    |
| 2    | DB90-01397A | ASS'Y CABINET FRONT-LF      | AP-Q4040  | 1    |
| 3    | DB67-00438A | FAN-PROPELLER               | AS+GF 20%,AP-N2390F,OD460,T3.5,NOVA-PJT                 | 2    |
| 4    | DB31-00240A | MOTOR FAN-OSME 904SRC       | OSME-904SRC,UH140GCM,50Hz,220V                          | 1    |
| 5    | DB31-00240B | MOTOR FAN-OSME 904SRC       | OSME-904SRC,UH140GCM,50Hz,220V                          | 1    |
| 6    | DB90-01429B | ASS'Y-BKT-MOTOR             | AP-Q4040,   | 1    |
| 7    | DB64-01016A | CABINET BACK-LF PAINT       | AP-Q4030,SECC-P,T0.8                                    | 1    |
| 8    | DB96-03217A | ASS'Y COND OUT              | UH140GCM,2LOW 44COLUMN,R407C                            | 1    |
| 9    | DB61-00943A | HOLDER-COND                 | RVMH100H1M0,SGCC-M(Z22),0.8,43,50,10HP HOLDER-COND, TOP | 2    |
| 10   | DB63-30110L | GUARD-SCREEN                | AP-Q4030,P.E.H,T2.5,1094,1014,BLK                       | 1    |
| 11   | DB93-02596A | ASS'Y CONTROL OUT           | R407C,UH140GCM  | 1    |
| 11-1 | DB93-01855G | ASS'Y PCB MAIN              | DPM OUT PCB,PCB ASS                                     | 1    |
| 11-2 | 2301-001367 | C-FILM,LEAD-OTHER           | 6000nF,+10-5%,450V,BK,58x25x40mm                        | 2    |
| 11-3 | DB26-10070A | TRANS-POWER                 | DC17,AC230,DC17,DC0.6A                                  | 1    |
| 11-4 | DB34-90089A | SWITCH-MAGNET               | FURNAS,-,3P,APH450PG,42AF35AL                           | 1    |
| 11-5 | DB61-00152A | CASE-PCB-OUT                | AE-240E,T2.5,ABS,BLK                                    | 1    |
| 11-6 | DB65-00074C | TERMINAL BLOCK-8P           | ASSØY,HSP TYPE  | 1    |
| 11-7 | DB65-40062L | TERMINAL BLOCK-2P           | RING TERMINAL,250V 25A,39X29X39                         | 1    |
| 11-8 | DB90-01448A | ASS'Y CASE-CONTROL OUT      | UH140GCM,48K, HEAT PUMP                                 | 1    |
| 12   | DB99-00418B | ASS'Y VALVE 4WAY            | UH140GCM,RANCO, R407C                                   | 1    |
| 13   | DB99-00419B | ASS'Y VALVE-EXPANSION       | UH140GCM,FUJIKOKI50, R407C                              | 1    |
| 14   | DB96-00542B | ASS'Y TUBE-DRIER            | CH44CAX   | 1    |
| 15   | DB62-02535A | VALVE SERVICE-3/8           | UH140GCM,ASS,OD9.52,R407C                               | 1    |
| 16   | DB32-00120C | THERMISTOR-ASS'Y            | 103AT,10KOHM,-,3435KOHM,-,-20~+100,-20,+100             | 1    |
| 17   | DB32-00071E | THERMISTOR-DISCHARGE SENSOR | -,-,-,-,-,-   | 1    |
| 18   | DB64-01018B | CABINET BACK-RH-PAINT       | UH140GCM,SECC-P,0.8,48K BTU,HEAT PUMP                   | 1    |
| 19   | DB90-00144A | ASS'Y COVER-CONTROL         | ASM-3500A,B   | 1    |
| 20   | DB90-01396B | ASS'Y CABINET FRONT-RH      | AP-Q4040  | 1    |
| 21   | DB95-10057X | ASS'Y-COMP                  | ZR61KCE-TFD,3Ø380V,50HZ                                 | 1    |
| 22   | DB95-30013Z | ASS'Y-HEATER COMP           | AP-18000  | 1    |
| 23   | DB72-00236A | INSULATION-SOUND            | T12,W710,L410,ACH4400G                                  | 1    |
| 24   | DB94-00467D | ASS'Y PARTITION             | AP-Q4040  | 1    |
| 25   | DB61-01671A | BRACKET-V/V                 | AP-Q4030,SGCC-M,T1.2                                    | 1    |
| 26   | DB90-01394A | ASS'Y BASE OUT              | AP-8750,SC-90073T                                       | 1    |

■ UH175GCM



## ■ Parts List

| No.  | Code No.    | Description             | Specification                          | Q'TY |
|------|-------------|-------------------------|--|------|
| 1    | DB90-00250A | CABINET FRONT           | ASS'Y CABINET FRONT                    | 1    |
| 1-1  | DB68-10612A | LABEL SAMSUNG           | HARD PC,T0.5                           | 1    |
| 2    | DB90-00551A | ASS'Y CAB BACK-LF       | ASS'Y CABINET BACK LF                  | 1    |
| 3    | DB67-50067A | FAN-PROPELLER           | ABS+GF20,D495,4BLADE                   | 2    |
| 4    | DB31-00060L | MOTOR FAN               | ASME-1156SRC,(S542)                    | 1    |
| 5    | DB31-00060M | MOTOR FAN               | ASME-1156SRC,(S543)                    | 1    |
| 6    | DB61-00837A | BRACKET MOTOR           | SGCC-M,T1.6                            | 1    |
| 7    | DB61-00398A | SUPPORTER-MOTOR         | SGCC-M,T1.6                            | 1    |
| 8    | DB61-30615A | SUPPORTER-FRAME         | SGCC-M,T1.2                            | 1    |
| 9    | DB67-30025A | PARTITION               | SBHG1,T1.0                             | 1    |
| 10   | DB61-30365A | SUPPORTER-COND          | SBHG1,T1.6                             | 1    |
| 11   | DB96-01259D | ASS'Y COND-UP           | ASS'Y COND-UP                          | 1    |
| 11-1 | DB96-01052A | ASS'Y-COLLECTOR IN UP   | CU,COLLECTOR IN UP                     | 1    |
| 11-2 | DB96-01056A | ASS'Y-COLLECTOR OUT UP  | CU,COLLECTOR OUT UP                    | 1    |
| 12   | DB96-01258D | ASS'Y COND-LOW          | ASS'Y COND-LOW                         | 1    |
| 12-1 | DB96-01053A | ASS'Y COLLECTOR IN LOW  | UH175GCM,IN LOW                        | 1    |
| 12-2 | DB96-01057A | ASS'Y COLLECTOR OUT LOW | UH175GCM,OUT LOW                       | 1    |
| 13   | DB61-30358B | SUPPORTER-UNIT OUT      | SGCC-A,T1.2                            | 1    |
| 14   | DB96-02226A | ASS'Y-4-WAY VALVE       | UH175GCM,4-WAY VALVE                   | 1    |
| 14-1 | DB33-00003J | SOLENOID VALVE          | SAGINOMIYA                             | 1    |
| 14-2 | DB34-00021B | SWITCH-HIGH PRESSURE    | 220-240,1~4A,33KGF/ØG                  | 1    |
| 14-3 | DB62-40019A | VALVE-4WAY              | 3/4 INCH                               | 1    |
| 14-4 | DB62-00450A | VALVE-SERVICE           | C3604,30KG/CM2G                        | 1    |
| 14-5 | DB67-00197A | MUFFLER                 | UH175GCM                               | 1    |
| 14-6 | DB67-10042A | ACCUMULATOR             | UH175GCM,ACCUM                         | 1    |
| 15   | DB96-02241A | ASS'Y-VALVE EXPANSION   | UH175GCM,4WAY-CASSETTE-48K             | 1    |
| 15-1 | DB62-01251A | VALVE EXPAN-ELEC        | EDM-60YP                               | 1    |
| 15-2 | DB62-00425A | VALVE-SERVICE           | 3/8 INCH                               | 1    |
| 16   | DB95-00336A | ASS'Y-COMP-SCROLL       | ZR72KC-TFD                             | 1    |
| 17   | DB95-30013S | ASS'Y HEATER-COMP       | UH175GCM                               | 1    |
| 18   | DB93-01156C | ASS'Y CONTROL OUT       | UH175GCM                               | 1    |
| 18-1 | DB93-02074A | ASS'Y PCB PARTS         | PE-DPM5HP-03                           | 1    |
| 18-2 | 3601-000438 | FUSE-CARTRIDGE          | 250V,15A,SLOW-BLOW,CERAMIC,6.35x31.8mm | 1    |
| 18-3 | DB26-10070A | TRANS-POWER             | DC17,AC230,DC17,DC0.6A                 | 1    |
| 18-4 | 3501-001231 | SWITCH-MAGNET           | 220V,50Hz,UH175GCM                     | 1    |
| 18-5 | DB61-00152A | CASE-PCB-OUT            | AE-240E,T2.5,ABS,BLK                   | 1    |
| 18-6 | DB65-00074C | TERMINAL BLOCK-8P       | UH175GCM                               | 1    |
| 18-7 | DB65-40062L | TERMINAL BLOCK-2P       | UH175GCM                               | 1    |
| 18-8 | 2301-001367 | C-FILM                  | 6µF,AC450V                             | 1    |
| 19   | DB32-00021E | THERMISTOR-ASS'Y OUT    | 103AT,-20~+100,-5V                     | 1    |
| 20   | DB32-00071B | THERMISTOR-ASS'Y        | UH175GCM                               | 1    |
| 21   | DB90-00247A | ASS'Y BASE OUT          | UH175GCM                               | 1    |
| 22   | DB90-01125A | ASS'Y CAB BACK-RH       | UH175GCM                               | 1    |
| 23   | DB90-00144A | ASS'Y COVER-CONTROL     | ASMa-3500A                             | 1    |
| 24   | DB90-00626A | ASS'Y CAB-TOP           | UH175GCM                               | 1    |
| 25   | DB62-01793A | INSULATION-COMP SOUND   | MUF-0911,FEKTM T12                     | 1    |

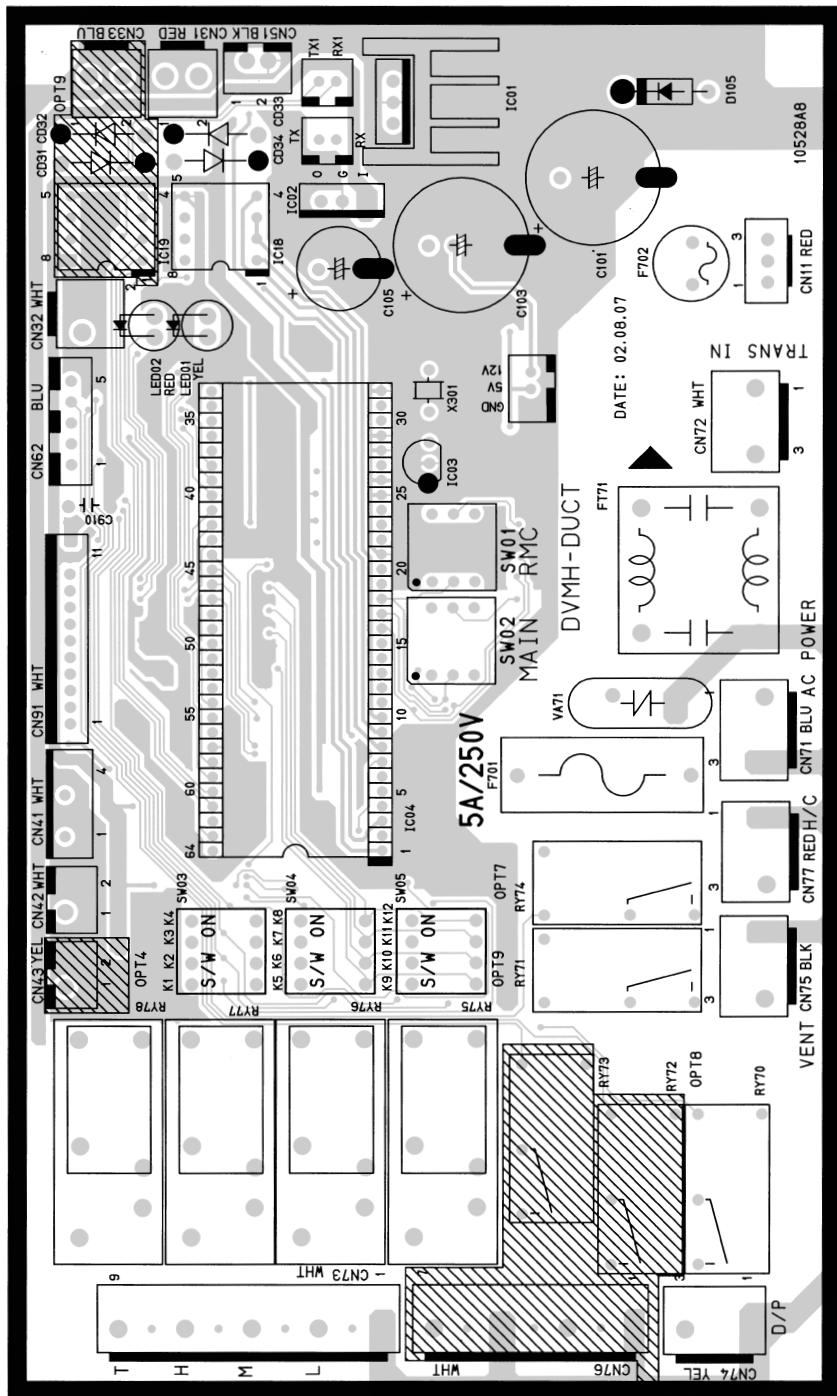
## 7. PCB Diagram

## 7-1 Indoor Unit

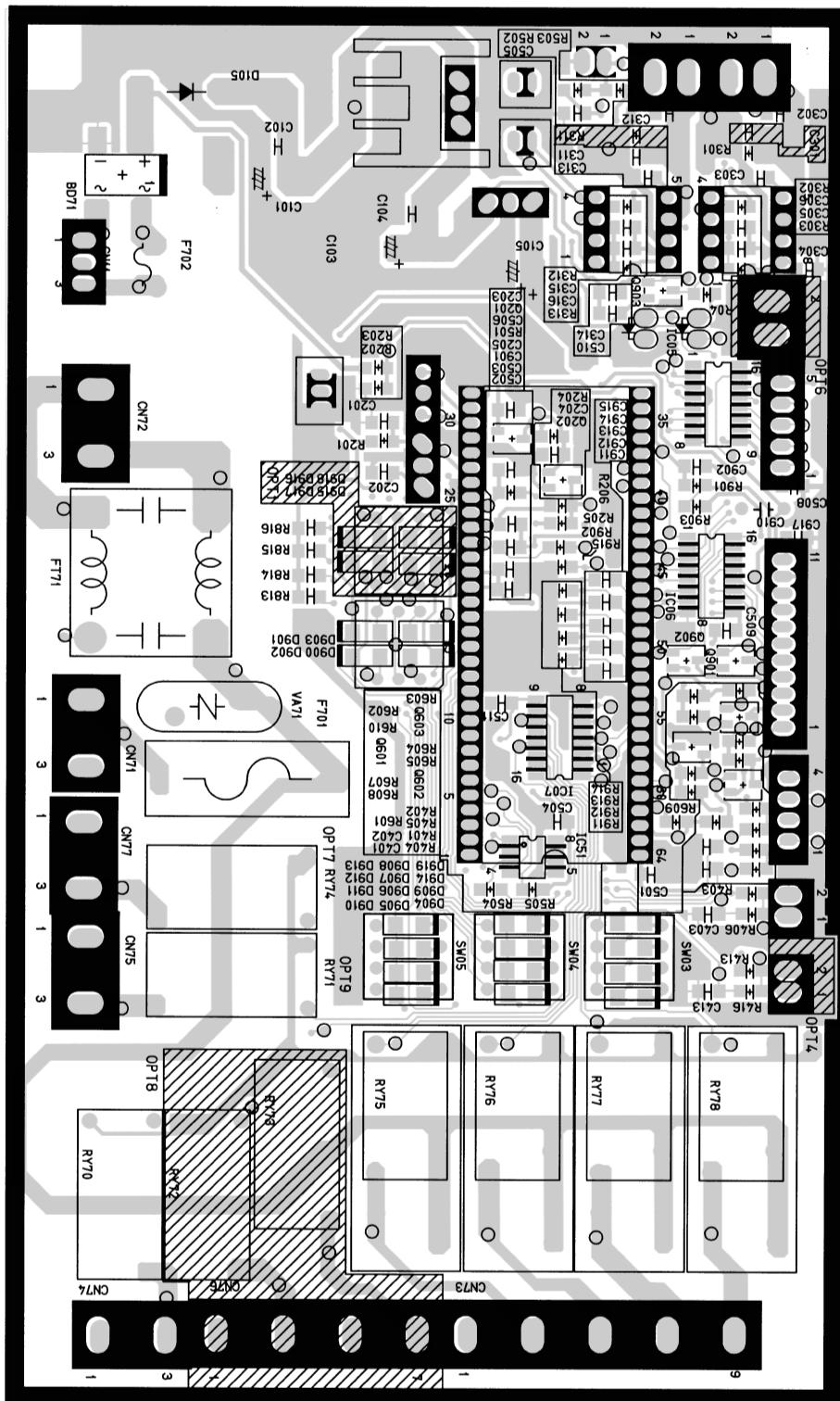
7-1-1 HH105ECM / HH140ECM (Code No : DB93-00849M)

HH175ECM(Code No : DB93-00849D)

TOP



## ■ BOTTOM



## ■ Parts List

| Location No. | Description  | Specification    |
|--------------|--------------|------------------|
| BD71         | DIODE BRIDGE | DF06S            |
| C101         | C-ELEC       | 2200uF 35V       |
| C102         | C-CHIP       | CS2012Y 5V 104Z5 |
| C103         | C-ELEC       | 2200uF 25V       |
| C104         | C-CHIP       | CS2012Y 5V 104Z5 |
| C105         | C-ELEC       | SD 470uF,25V     |
| C201         | C-CHIP       | CS2012Y 5V 104Z5 |
| C202         | C-CHIP       | CS2012Y 5V 104Z5 |
| C203         | C-CHIP       | CS2012Y 5V 104Z5 |
| C204         | C-CHIP       | CS2012 5V 103Z5  |
| C205         | C-CHIP       | CS2012 5V 103Z5  |
| C301         | C-CHIP       | CS2012 5V 103Z5  |
| C302         | C-CHIP       | CS2012Y 5V 104Z5 |
| C303         | C-CHIP       | CS2012Y 5V 104Z5 |
| C304         | C-CHIP       | CS2012Y 5V 104Z5 |
| C305         | C-CHIP       | CS2012Y 5V 104Z5 |
| C306         | C-CHIP       | CS2012Y 5V 104Z5 |
| C311         | C-CHIP       | CS2012 5V 103Z5  |
| C312         | C-CHIP       | CS2012Y 5V 104Z5 |
| C313         | C-CHIP       | CS2012Y 5V 104Z5 |
| C314         | C-CHIP       | CS2012Y 5V 104Z5 |
| C315         | C-CHIP       | CS2012Y 5V 104Z5 |
| C316         | C-CHIP       | CS2012Y 5V 104Z5 |
| C401         | C-CHIP       | CS2012Y 5V 104Z5 |
| C402         | C-CHIP       | CS2012Y 5V 104Z5 |
| C403         | C-CHIP       | CS2012Y 5V 104Z5 |
| C413         | C-CHIP       | CS2012Y 5V 104Z5 |
| C501         | C-CHIP       | CS2012Y 5V 104Z5 |
| C502         | C-CHIP       | CS2012Y 5V 104Z5 |
| C503         | C-CHIP       | CS2012Y 5V 104Z5 |
| C504         | C-CHIP       | CS2012Y 5V 104Z5 |
| C505         | C-CHIP       | CS2012Y 5V 104Z5 |
| C506         | C-CHIP       | CS2012Y 5V 104Z5 |
| C508         | C-CHIP       | CS2012Y 5V 104Z5 |
| C509         | C-CHIP       | CS2012Y 5V 104Z5 |
| C510         | C-CHIP       | CS2012Y 5V 104Z5 |
| C511         | C-CHIP       | CS2012Y 5V 104Z5 |
| C901         | C-CHIP       | CS2012X 7R 102K5 |
| C902         | C-CHIP       | CS2012Y 5V 104Z5 |
| C910         | C-FILM       | 2A 472J          |
| C911         | C-CHIP       | CS2012 5V 103Z5  |
| C912         | C-CHIP       | CS2012 5V 103Z5  |
| C913         | C-CHIP       | CS2012 5V 103Z5  |
| C914         | C-CHIP       | CS2012 5V 103Z5  |
| C915         | C-CHIP       | CS2012 5V 103Z5  |
| C917         | C-CHIP       | CS2012Y 5V 104Z5 |

## ■ Parts List(cont.)

| Location No. | Description       | Specification       |
|--------------|-------------------|---------------------|
| CD31         | DIODE-TVS         | SAC5.0              |
| CD32         | DIODE-TVS         | SAC5.0              |
| CD33         | DIODE-TVS         | SAC5.0              |
| CD34         | DIODE-TVS         | SAC5.0              |
| CN11         | CONNECTOR         | SMW250-03 RED       |
| CN31         | CONNECTOR         | YW396-02V RED       |
| CN32         | CONNECTOR         | YW396-02V WHT       |
| CN33         | CONNECTOR         | YW396-02V BLU       |
| CN41         | CONNECTOR         | SMW250-04 WHT       |
| CN51         | CONNECTOR         | SMW250-02 BLK       |
| CN71         | CONNECTOR         | YW396-03AV BLU      |
| CN72         | CONNECTOR         | YW396-03AV WHT      |
| CN73         | CONNECTOR         | YW396-09AV WHT      |
| CN74         | CONNECTOR         | YW396-03AV YEL      |
| CN75         | CONNECTOR         | YW396-03 BLK        |
| CN77         | CONNECTOR         | YW396-03 RED        |
| CN91         | CONNECTOR         | SMW200-11 WHT       |
| D105         | DIODE-RECT        | IN4007              |
| D900         | DIODE             | 4148M               |
| D901         | DIODE             | 4148M               |
| D902         | DIODE             | 4148M               |
| D903         | DIODE             | 4148M               |
| D904         | DIODE             | 4148M               |
| D905         | DIODE             | 4148M               |
| D906         | DIODE             | 4148M               |
| D907         | DIODE             | 4148M               |
| D908         | DIODE             | 4148M               |
| D909         | DIODE             | 4148M               |
| D910         | DIODE             | 4148M               |
| D911         | DIODE             | 4148M               |
| D912         | DIODE             | 4148M               |
| D913         | DIODE             | 4148M               |
| D914         | DIODE             | 4148M               |
| D915         | DIODE             | 4148M               |
| D916         | DIODE             | 4148M               |
| D917         | DIODE             | 4148M               |
| D918         | DIODE             | 4148M               |
| D919         | DIODE             | 4148M               |
| F701         | FUSE              | 250V,5A             |
| F701         | HOLDER FUSE       | FB58-20             |
| F702         | FUSE              | 250V,1A             |
| FT71         | FILTER NOISE      | HP1-P10             |
| IC01         | HEAT SINK         | A6063,L25.5 W15,WHT |
| IC01         | IC VOLT REGULATOR | KA7812A             |
| IC01         | SCREW-TAPPING     | PH,M3,L8,FE FZY     |
| IC02         | IC VOLT REGULATOR | KA7805A             |

## ■ Parts List(cont.)

| Location No. | Description        | Specification |
|--------------|--------------------|---------------|
| IC03         | IC-RESET           | KA7533Z       |
| IC04         | IC-MCU             | MB89635       |
| IC05         | IC DRIVE           | ULN2003AFW    |
| IC06         | IC DRIVE           | ULN2003AFW    |
| IC07         | IC DRIVE           | ULN2003AFW    |
| IC18         | IC-BUS TRANSCEIVER | MAX485        |
| IC19         | IC-BUS TRANSCEIVER | MAX485        |
| IC51         | EEPROM             | 93LC56B-1/SN  |
| LED01        | LED LAMP           | SY5511 YEL    |
| LED02        | LED LAMP           | SR5511 RED    |
| Q201         | TR SMALL SIGNAL    | 2SC2412K      |
| Q202         | TR SMALL SIGNAL    | 2SC2412K      |
| Q601         | TR SMALL SIGNAL    | 2SC2412K      |
| Q602         | TR SMALL SIGNAL    | 2SC2412K      |
| Q603         | TR SMALL SIGNAL    | MMST2907A     |
| Q901         | TR DIGITAL         | DTA114EKA     |
| Q902         | TR DIGITAL         | DTA114EKA     |
| Q903         | TR DIGITAL         | DTA114EKA     |
| R04          | R-CHIP             | R2012 1kΩ±5   |
| R201         | R-CHIP             | R2012 1kΩ±5   |
| R202         | R-CHIP             | R2012 3.3kΩ±5 |
| R203         | R-CHIP             | R2012 10kΩ±5  |
| R204         | R-CHIP             | R2012 1kΩ±5   |
| R205         | R-CHIP             | R2012 1kΩ±5   |
| R206         | R-CHIP             | R2012 1kΩ±5   |
| R302         | R-CHIP             | R2012 10kΩ±5  |
| R303         | R-CHIP             | R2012 10kΩ±5  |
| R312         | R-CHIP             | R2012 10kΩ±5  |
| R313         | R-CHIP             | R2012 10kΩ±5  |
| R401         | R-CHIP             | R2012 6.8kΩ±1 |
| R402         | R-CHIP             | R2012 6.8kΩ±1 |
| R403         | R-CHIP             | R2012 6.8kΩ±1 |
| R404         | R-CHIP             | R2012 330Ω±5  |
| R405         | R-CHIP             | R2012 330Ω±5  |
| R406         | R-CHIP             | R2012 330Ω±5  |
| R413         | R-CHIP             | R2012 24kΩ±1  |
| R416         | R-CHIP             | R2012 330Ω±5  |
| R501         | R-CHIP             | R2012 10kΩ±5  |
| R502         | R-CHIP             | R2012 330Ω±5  |
| R503         | R-CHIP             | R2012 10kΩ±5  |
| R504         | R-CHIP             | R2012 47kΩ±5  |
| R505         | R-CHIP             | R2012 47kΩ±5  |
| R601         | R-CHIP             | R2012 1kΩ±5   |
| R602         | R-CHIP             | R2012 10kΩ±5  |
| R603         | R-CHIP             | R2012 1kΩ±5   |
| R604         | R-CHIP             | R2012 470Ω±5  |

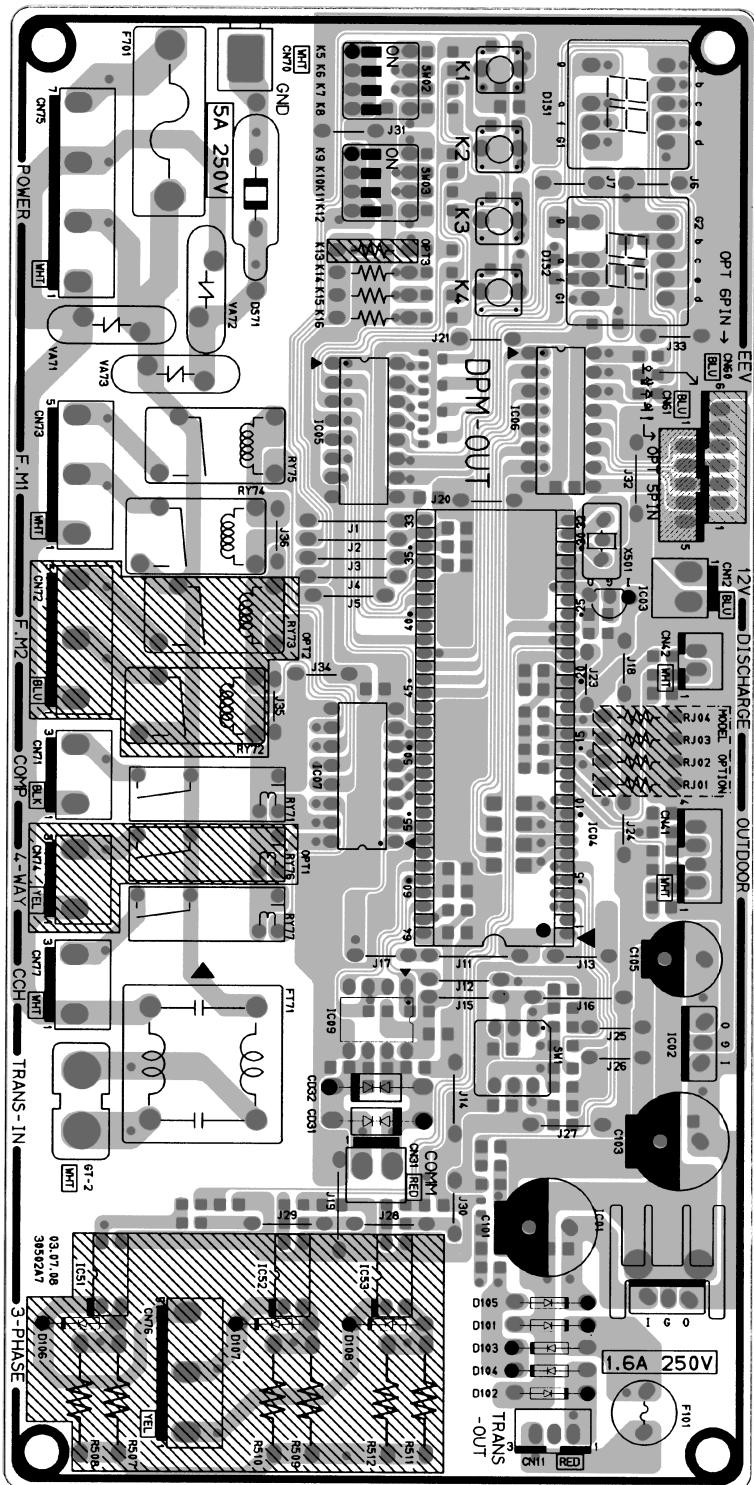
## ■ Parts List(cont.)

| Location No. | Description    | Specification |
|--------------|----------------|---------------|
| R605         | R-CHIP         | R2012 470Ω±5  |
| R607         | R-CHIP         | R2012 1kΩ±5   |
| R608         | R-CHIP         | R2012 10kΩ±5  |
| R609         | R-CHIP         | R2012 10kΩ±5  |
| R610         | R-CHIP         | R2012 3.3kΩ±5 |
| R813         | R-CHIP         | R2012 1kΩ±5   |
| R814         | R-CHIP         | R2012 1kΩ±5   |
| R815         | R-CHIP         | R2012 1kΩ±5   |
| R816         | R-CHIP         | R2012 1kΩ±5   |
| R901         | R-CHIP         | R2012 330Ω±5  |
| R902         | R-CHIP         | R2012 1kΩ±5   |
| R903         | R-CHIP         | R2012 10kΩ±5  |
| R911         | R-CHIP         | R2012 10kΩ±5  |
| R912         | R-CHIP         | R2012 10kΩ±5  |
| R913         | R-CHIP         | R2012 10kΩ±5  |
| R914         | R-CHIP         | R2012 10kΩ±5  |
| R915         | R-CHIP         | R2012 10kΩ±5  |
| RY70         | RELAY          | JQ1a-12V      |
| RY71         | RELAY          | JQ1a-12V      |
| RY74         | RELAY          | JQ1a-12V      |
| RY75         | RELAY          | CS11-12SH     |
| RY76         | RELAY          | CS11-12SH     |
| RY77         | RELAY          | CS11-12SH     |
| RY78         | RELAY          | CS11-12SH     |
| SW01         | DIGITAL-SWITCH | PT65 103      |
| SW02         | DIGITAL-SWITCH | PT65 503      |
| SW03         | DIP-SWITCH     | BSD-104       |
| SW04         | DIP-SWITCH     | BSD-104       |
| SW05         | DIP-SWITCH     | BSD-104       |
| VA71         | VARISTOR       | INR14D561K-BS |
| X301         | RESONATOR      | 10MHz         |

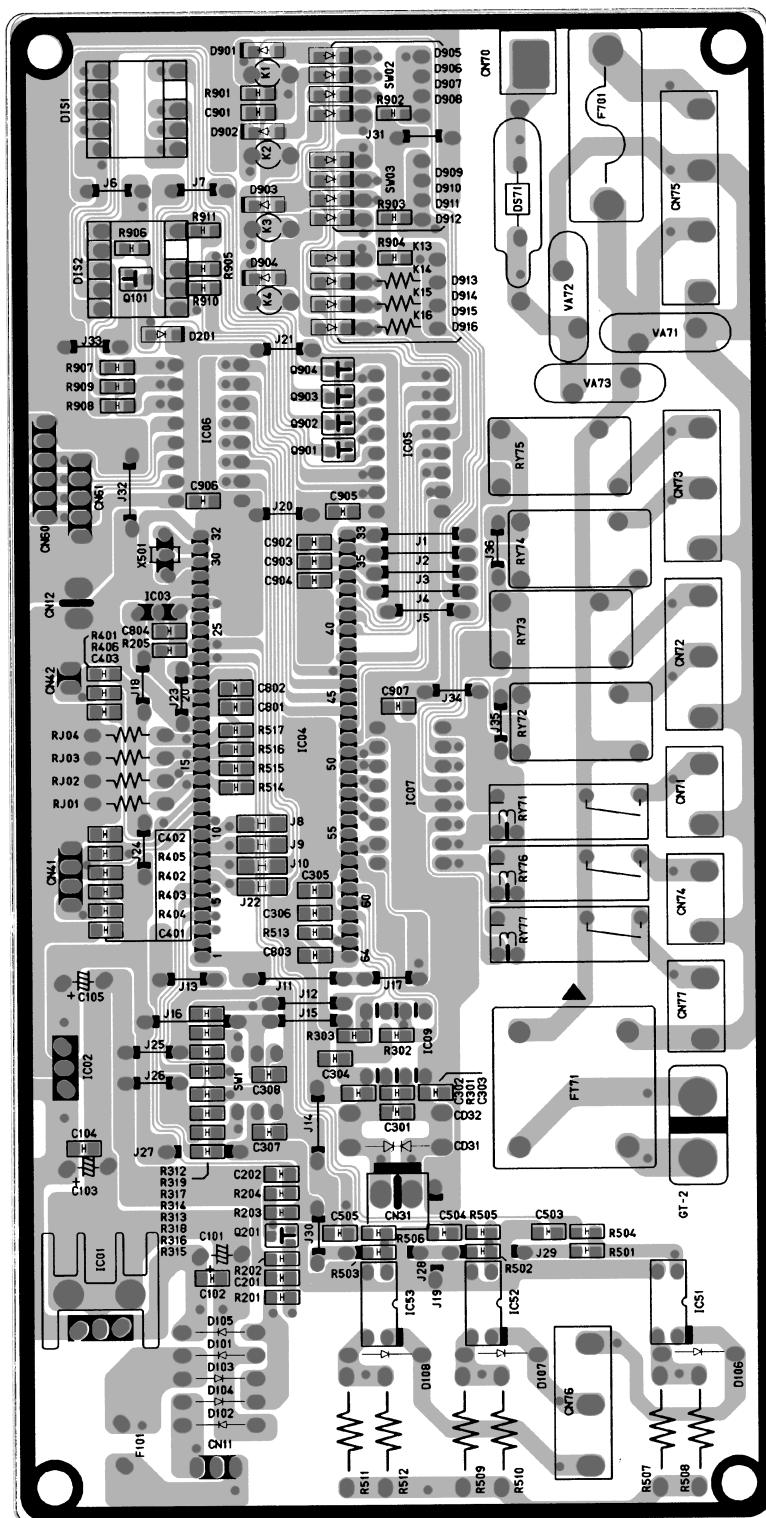
## 7-2 Outdoor Unit

7-2-1 UH105GCM(Code No : DB93-01855H)  
UH140GCM(Code No : DB93-01855G)

TOP



■ BOTTOM



## ■ Parts List

| Location No. | Description      | Specification                     |
|--------------|------------------|-----------------------------------|
| C101         | C-AL             | 1000uF,20%,35V,GP,TP,13x25,5      |
| C102         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012     |
| C103         | C-AL             | 1000uF,20%,35V,GP,TP,13x25,5      |
| C104         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012     |
| C105         | C-AL             | 470uF,20%,25V,GP,TP,10x12.5mm     |
| C201         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012     |
| C202         | C-CERAMIC,CHIP   | 10nF,+80-20%,50V,Y5V,TP,2012      |
| C301         | C-CERAMIC,CHIP   | 10nF,+80-20%,50V,Y5V,TP,2012      |
| C302         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012     |
| C303         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012     |
| C304         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012     |
| C305         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012     |
| C306         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012     |
| C307         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012     |
| C308         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012     |
| C401         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012     |
| C402         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012     |
| C403         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012     |
| C503         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012     |
| C504         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012     |
| C505         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012     |
| C801         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012     |
| C802         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012     |
| C803         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012     |
| C804         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012     |
| C901         | C-CERAMIC,CHIP   | 10nF,+80-20%,50V,Y5V,TP,2012      |
| C902         | C-CERAMIC,CHIP   | 10nF,+80-20%,50V,Y5V,TP,2012      |
| C903         | C-CERAMIC,CHIP   | 10nF,+80-20%,50V,Y5V,TP,2012      |
| C904         | C-CERAMIC,CHIP   | 10nF,+80-20%,50V,Y5V,TP,2012      |
| C905         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012     |
| C906         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012     |
| C907         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012     |
| CD31         | DIODE-TVS        | SAC5.0,7.6/-V,500W,DO-15          |
| CD32         | DIODE-TVS        | SAC5.0,7.6/-V,500W,DO-15          |
| CN11         | CONNECTOR-HEADER | BOX,3P,1R,2.5mm,STRAIGHT,SN       |
| CN12         | CONNECTOR-HEADER | 1WALL,2P,1R,3.96mm,STRAIGHT,SN    |
| CN31         | CONNECTOR-HEADER | 1WALL,2P,1R,3.96mm,STRAIGHT,SN    |
| CN41         | CONNECTOR-HEADER | BOX,4P,1R,2.5mm,STRAIGHT,SN       |
| CN42         | CONNECTOR-HEADER | BOX,2P,1R,2.5mm,STRAIGHT,SN       |
| CN60         | CONNECTOR-HEADER | BOX,6P,1R,2.5mm,STRAIGHT,SN       |
| CN61         | CONNECTOR-HEADER | BOX,5P,1R,2.5mm,STRAIGHT,SN       |
| CN70         | CONNECTOR-HEADER | BOX,1P,1R,6mm,STRAIGHT,NI,WHT     |
| CN71         | CONNECTOR-HEADER | 1WALL,2P,1R,7.92mm,STRAIGHT,SN,BL |
| CN72         | CONNECTOR-HEADER | 1WALL,3P,1R,7.92mm,STRAIGHT,SN,BL |
| CN73         | CONNECTOR-HEADER | 1WALL,3P,1R,7.92mm,STRAIGHT,SN,WH |
| CN74         | CONNECTOR-HEADER | 1WALL,2P,1R,7.92mm,STRAIGHT,SN,YE |

## ■ Parts List(cont.)

| Location No. | Description          | Specification                             |
|--------------|----------------------|---|
| CN75         | CONNECTOR-HEADER     | 1WALL,4P,1R,7.92mm,STRAIGHT,SN,WH         |
| CN76         | CONNECTOR-HEADER     | 1WALL,3P,1R,7.92mm,STRAIGHT,SN,YE         |
| CN77         | CONNECTOR-HEADER     | 1WALL,2P,1R,7.92mm,STRAIGHT,SN,WH         |
| D101         | DIODE-RECTIFIER      | 1N4007,1000V,1A,DO-41,TP                  |
| D102         | DIODE-RECTIFIER      | 1N4007,1000V,1A,DO-41,TP                  |
| D103         | DIODE-RECTIFIER      | 1N4007,1000V,1A,DO-41,TP                  |
| D104         | DIODE-RECTIFIER      | 1N4007,1000V,1A,DO-41,TP                  |
| D105         | DIODE-RECTIFIER      | 1N4007,1000V,1A,DO-41,TP                  |
| D106         | DIODE-RECTIFIER      | 1N4007,1000V,1A,DO-41,TP                  |
| D107         | DIODE-RECTIFIER      | 1N4007,1000V,1A,DO-41,TP                  |
| D108         | DIODE-RECTIFIER      | 1N4007,1000V,1A,DO-41,TP                  |
| D201         | DIODE-SWITCHING      | RLS4148,100V,200mA,SOD-80C,TP             |
| D901         | DIODE-SWITCHING      | RLS4148,100V,200mA,SOD-80C,TP             |
| D902         | DIODE-SWITCHING      | RLS4148,100V,200mA,SOD-80C,TP             |
| D903         | DIODE-SWITCHING      | RLS4148,100V,200mA,SOD-80C,TP             |
| D904         | DIODE-SWITCHING      | RLS4148,100V,200mA,SOD-80C,TP             |
| D905         | DIODE-SWITCHING      | RLS4148,100V,200mA,SOD-80C,TP             |
| D906         | DIODE-SWITCHING      | RLS4148,100V,200mA,SOD-80C,TP             |
| D907         | DIODE-SWITCHING      | RLS4148,100V,200mA,SOD-80C,TP             |
| D908         | DIODE-SWITCHING      | RLS4148,100V,200mA,SOD-80C,TP             |
| D909         | DIODE-SWITCHING      | RLS4148,100V,200mA,SOD-80C,TP             |
| D910         | DIODE-SWITCHING      | RLS4148,100V,200mA,SOD-80C,TP             |
| D911         | DIODE-SWITCHING      | RLS4148,100V,200mA,SOD-80C,TP             |
| D912         | DIODE-SWITCHING      | RLS4148,100V,200mA,SOD-80C,TP             |
| D913         | DIODE-SWITCHING      | RLS4148,100V,200mA,SOD-80C,TP             |
| D914         | DIODE-SWITCHING      | RLS4148,100V,200mA,SOD-80C,TP             |
| D915         | DIODE-SWITCHING      | RLS4148,100V,200mA,SOD-80C,TP             |
| D916         | DIODE-SWITCHING      | RLS4148,100V,200mA,SOD-80C,TP             |
| DIS1         | LED DISPLAY-7SEG     | ELD-306GWA,-,2,14,-,15x15.5x7.2,G         |
| DIS2         | LED DISPLAY-7SEG     | ELD-306GWA,-,2,14,-,15x15.5x7.2,G         |
| DS71         | POSISTOR             | DSA-332mA,2pF MAX,100Mohm,ASM-3           |
| F101         | FUSE                 | 250V,1.6A,TIME-LAG,PLASTIC,8.4x7.6mm      |
| F701         | FUSE-BLOCK           | 500V,-,100M                               |
| F701_1       | FUSE-CARTRIDGE       | 250V,5A,FAST-ACTING,GLASS,5.2x20mm        |
| FT71         | FILTER-EMI AC LINE   | 250V,1A,UL/CSA/TUV/SEMKO,100000           |
| GT-2         | CONNECTOR-TERMINAL   | PIN,MALE,#18-22,2.35mm                    |
| IC01         | IC-POSI.FIXED REG.   | 7812A,TO-220,3P,-,PLASTIC,11.5            |
| IC02         | IC-POSI.FIXED REG.   | 7805,TO-220,3P,-,PLASTIC,4.8/5            |
| IC03         | IC-VOLTAGE COMP.     | 7533,TO-92,3P,-,SINGLE,-,PLASTIC          |
| IC04         | IC MICOM             | MB89538AP-101,MB89538AP-101,64P,+5V,10MHz |
| IC05         | IC-DARLINGTON DRIVER | KID65003AP,DIP,16PIN,300MIL,H             |
| IC06         | IC-DARLINGTON DRIVER | KID65003AP,DIP,16PIN,300MIL,H             |
| IC07         | IC-DARLINGTON DRIVER | KID65003AP,DIP,16PIN,300MIL,H             |
| IC09         | IC-BUS TRANSCEIVER   | 485,DIP,8P,300MIL,SINGLE,ST,PLASTIC       |
| IC51         | PHOTO-COUPLER        | TR,130-260%,200mW,DIP-4,ST                |
| IC52         | PHOTO-COUPLER        | TR,130-260%,200mW,DIP-4,ST                |

## ■ Parts List(cont.)

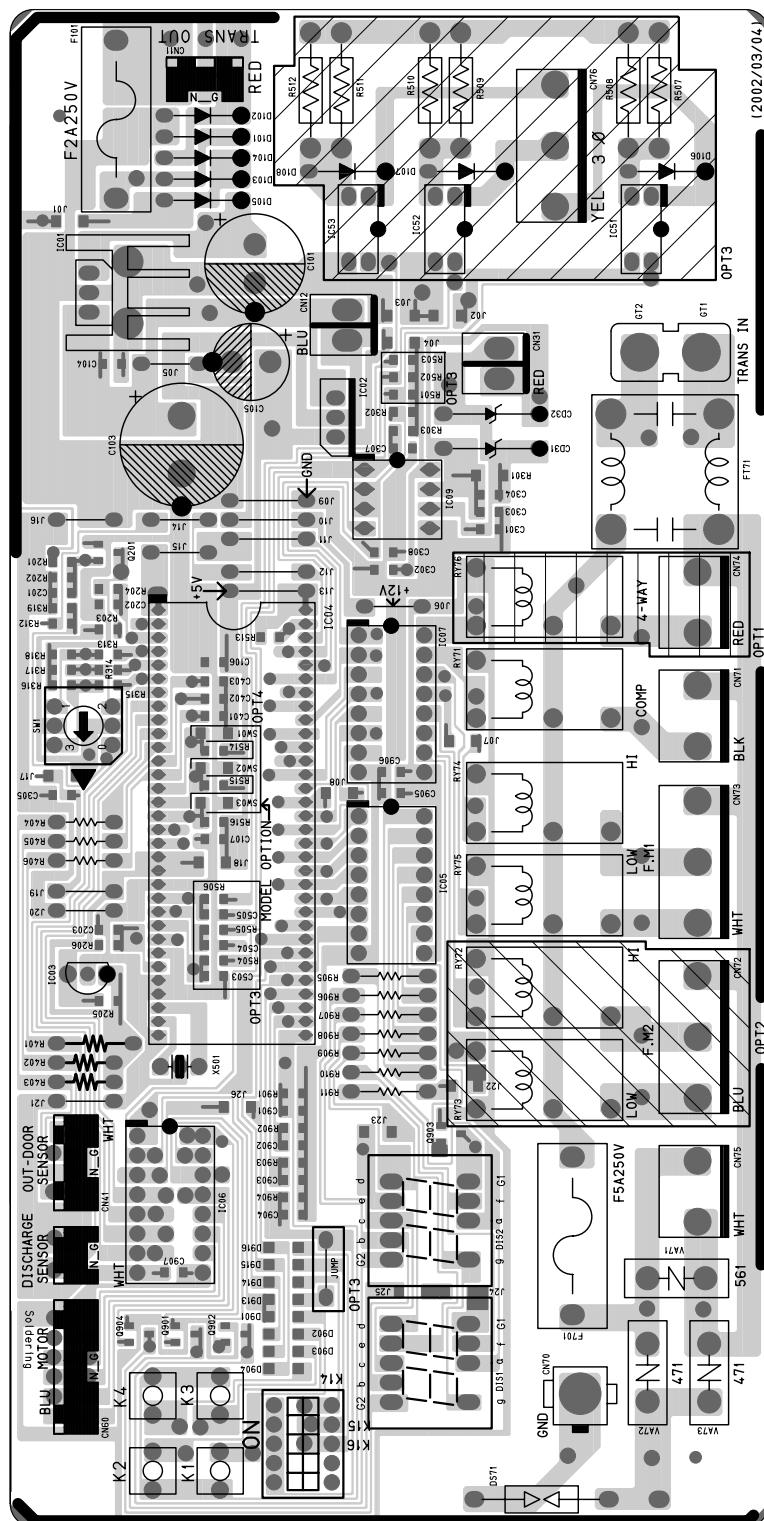
| Location No. | Description     | Specification                         |
|--------------|-----------------|---------------------------------------|
| IC53         | PHOTO-COUPLER   | TR,130-260%,200mW,DIP-4,ST            |
| K1           | SWITCH-PUSH     | 125V,1A,SPDT,ON-ON,-                  |
| K13          | R-CARBON        | 0ohm,5%,1/4W,AA,TP,2.4x6.4mm          |
| K14          | R-CARBON        | 0ohm,5%,1/4W,AA,TP,2.4x6.4mm          |
| K15          | R-CARBON        | 0ohm,5%,1/4W,AA,TP,2.4x6.4mm          |
| K16          | R-CARBON        | 0ohm,5%,1/4W,AA,TP,2.4x6.4mm          |
| K2           | SWITCH-PUSH     | 125V,1A,SPDT,ON-ON,-                  |
| K3           | SWITCH-PUSH     | 125V,1A,SPDT,ON-ON,-                  |
| K4           | SWITCH-PUSH     | 125V,1A,SPDT,ON-ON,-                  |
| Q101         | TR-DIGITAL      | KSR1102,NPN,200mW,10K/10K,SOT-23,TP   |
| Q201         | TR-SMALL SIGNAL | 2SC2412K,NPN,200mW,SOT-23,TP,1        |
| Q901         | TR-DIGITAL      | DTA114EKA,PNP,200mW,10K/10K,SOT-23,TP |
| Q902         | TR-DIGITAL      | DTA114EKA,PNP,200mW,10K/10K,SOT-23,TP |
| Q903         | TR-DIGITAL      | DTA114EKA,PNP,200mW,10K/10K,SOT-23,TP |
| Q904         | TR-DIGITAL      | DTA114EKA,PNP,200mW,10K/10K,SOT-23,TP |
| R201         | R-CHIP          | 10Kohm,5%,1/8W,TP,2012                |
| R202         | R-CHIP          | 3.3Kohm,5%,1/8W,TP,2012               |
| R203         | R-CHIP          | 1Kohm,5%,1/8W,TP,2012                 |
| R204         | R-CHIP          | 1Kohm,5%,1/8W,TP,2012                 |
| R205         | R-CHIP          | 1Kohm,5%,1/8W,TP,2012                 |
| R301         | R-CHIP          | 120ohm,5%,1/8W,TP,2012                |
| R302         | R-CHIP          | 10Kohm,5%,1/8W,TP,2012                |
| R303         | R-CHIP          | 10Kohm,5%,1/8W,TP,2012                |
| R312         | R-CHIP          | 10Kohm,5%,1/8W,TP,2012                |
| R313         | R-CHIP          | 10Kohm,5%,1/8W,TP,2012                |
| R314         | R-CHIP          | 10Kohm,5%,1/8W,TP,2012                |
| R315         | R-CHIP          | 10Kohm,5%,1/8W,TP,2012                |
| R316         | R-CHIP          | 10Kohm,5%,1/8W,TP,2012                |
| R317         | R-CHIP          | 10Kohm,5%,1/8W,TP,2012                |
| R318         | R-CHIP          | 10Kohm,5%,1/8W,TP,2012                |
| R319         | R-CHIP          | 10Kohm,5%,1/8W,TP,2012                |
| R401         | R-CHIP          | 24Kohm,1%,1/8W,TP,2012                |
| R402         | R-CHIP          | 18Kohm,1%,1/8W,TP,2012                |
| R403         | R-CHIP          | 18Kohm,1%,1/8W,TP,2012                |
| R404         | R-CHIP          | 330ohm,5%,1/8W,TP,2012                |
| R405         | R-CHIP          | 330ohm,5%,1/8W,TP,2012                |
| R406         | R-CHIP          | 330ohm,5%,1/8W,TP,2012                |
| R501         | R-CHIP          | 10Kohm,5%,1/8W,TP,2012                |
| R502         | R-CHIP          | 10Kohm,5%,1/8W,TP,2012                |
| R503         | R-CHIP          | 10Kohm,5%,1/8W,TP,2012                |
| R504         | R-CHIP          | 330ohm,5%,1/8W,TP,2012                |
| R505         | R-CHIP          | 330ohm,5%,1/8W,TP,2012                |
| R506         | R-CHIP          | 330ohm,5%,1/8W,TP,2012                |
| R507         | R-METAL OXIDE   | 200Kohm,5%,2W,AA,BK,5.5x16mm          |
| R508         | R-METAL OXIDE   | 200Kohm,5%,2W,AA,BK,5.5x16mm          |
| R509         | R-METAL OXIDE   | 200Kohm,5%,2W,AA,BK,5.5x16mm          |

## ■ Parts List(cont.)

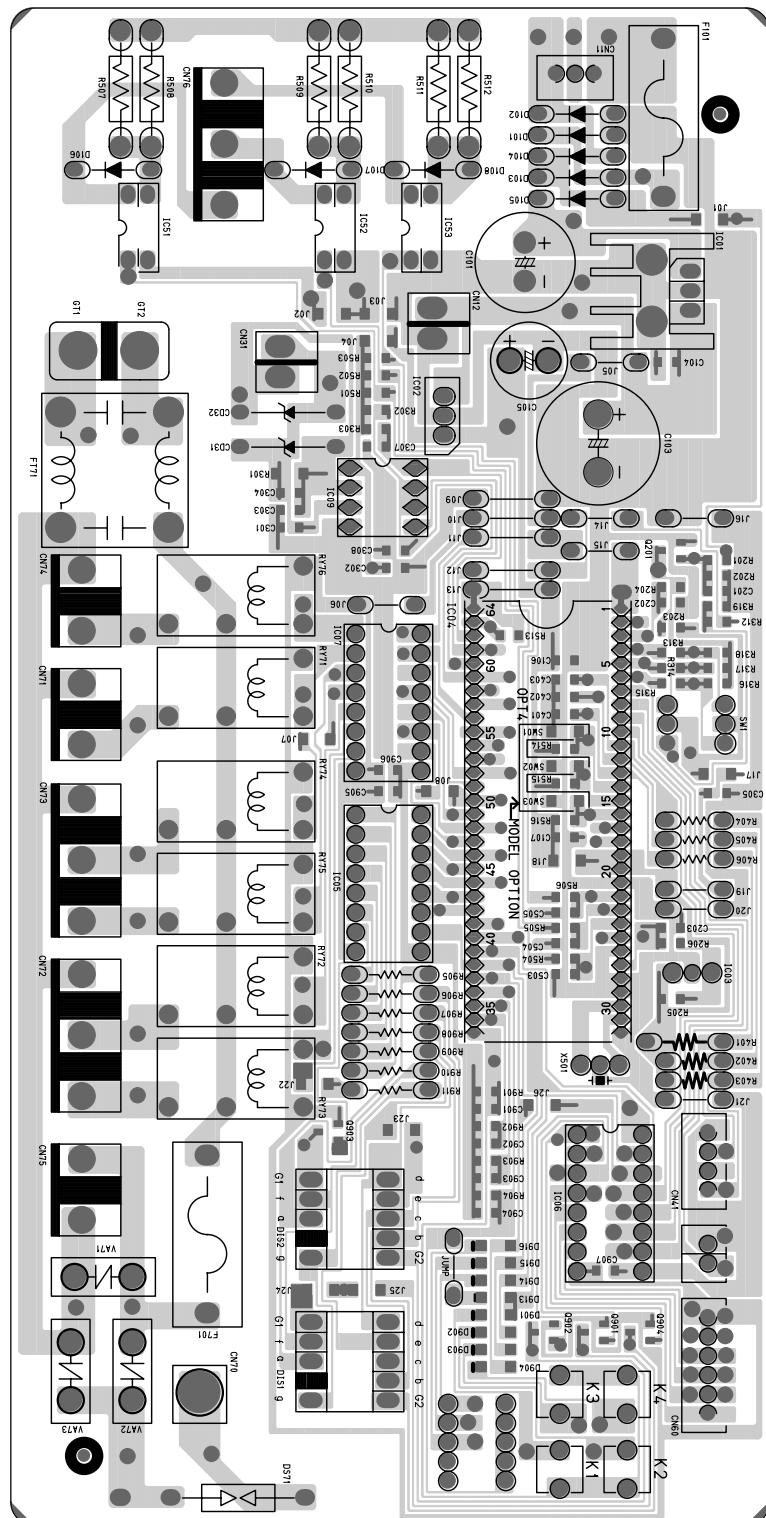
| Location No. | Description       | Specification                       |
|--------------|-------------------|-------------------------------------|
| R510         | R-METAL OXIDE     | 200Kohm,5%,2W,AA,BK,5.5x16mm        |
| R511         | R-METAL OXIDE     | 200Kohm,5%,2W,AA,BK,5.5x16mm        |
| R512         | R-METAL OXIDE     | 200Kohm,5%,2W,AA,BK,5.5x16mm        |
| R513         | R-CHIP            | 10Kohm,5%,1/8W,TP,2012              |
| R514         | R-CHIP            | 10Kohm,5%,1/8W,TP,2012              |
| R515         | R-CHIP            | 10Kohm,5%,1/8W,TP,2012              |
| R516         | R-CHIP            | 10Kohm,5%,1/8W,TP,2012              |
| R517         | R-CHIP            | 10Kohm,5%,1/8W,TP,2012              |
| R901         | R-CHIP            | 10Kohm,5%,1/8W,TP,2012              |
| R902         | R-CHIP            | 10Kohm,5%,1/8W,TP,2012              |
| R903         | R-CHIP            | 10Kohm,5%,1/8W,TP,2012              |
| R904         | R-CHIP            | 10Kohm,5%,1/8W,TP,2012              |
| R905         | R-CHIP            | 10Kohm,5%,1/8W,TP,2012              |
| R906         | R-CHIP            | 10Kohm,5%,1/8W,TP,2012              |
| R907         | R-CHIP            | 10Kohm,5%,1/8W,TP,2012              |
| R908         | R-CHIP            | 10Kohm,5%,1/8W,TP,2012              |
| R909         | R-CHIP            | 10Kohm,5%,1/8W,TP,2012              |
| R910         | R-CHIP            | 10Kohm,5%,1/8W,TP,2012              |
| R911         | R-CHIP            | 10Kohm,5%,1/8W,TP,2012              |
| RJ01         | R-CARBON          | 0ohm,5%,1/4W,AA,TP,2.4x6.4mm        |
| RJ02         | R-CARBON          | 0ohm,5%,1/4W,AA,TP,2.4x6.4mm        |
| RJ03         | R-CARBON          | 0ohm,5%,1/4W,AA,TP,2.4x6.4mm        |
| RJ04         | R-CARBON          | 0ohm,5%,1/4W,AA,TP,2.4x6.4mm        |
| RY71         | RELAY-MINIATURE   | 12VDC,200mW,3000mA,1FORMA,10mS,10M  |
| RY72         | RELAY-MINIATURE   | 12VDC,200mW,3000mA,1FORMA,10mS,10M  |
| RY73         | RELAY-MINIATURE   | 12VDC,200mW,3000mA,1FORMA,10mS,10M  |
| RY74         | RELAY-MINIATURE   | 12VDC,200mW,3000mA,1FORMA,10mS,10M  |
| RY75         | RELAY-MINIATURE   | 12VDC,200mW,3000mA,1FORMA,10mS,10M  |
| RY76         | RELAY-MINIATURE   | 12VDC,200mW,3000mA,1FORMA,10mS,10M  |
| RY77         | RELAY-MINIATURE   | 12VDC,200mW,3000mA,1FORMA,10mS,10M  |
| SW02         | SWITCH-DIP        | 5V DC,100mA,SLIDE,-                 |
| SW03         | SWITCH-DIP        | 5V DC,100mA,SLIDE,-                 |
| SW1          | SWITCH-DIGITAL    | PT65 103,ROTARY DIP,-,DC24V MAX,0.4 |
| VA71         | VARISTOR          | 560V,2500A,17.5x7.5mm,TP            |
| VA72         | VARISTOR          | 470V,4500A,17x12mm,BK               |
| VA73         | VARISTOR          | 470V,4500A,17x12mm,BK               |
| X501         | RESONATOR-CERAMIC | 10MHz,0.5%,BK,8x3x5.5mm             |

7-2-2 UH175GCM(Code No : DB93-02074A)

TOP



■ BOTTOM



## ■ Parts List

| Location No. | Description      | Specification                  |
|--------------|------------------|--------------------------------|
| C101         | C-AL             | 1000uF,20%,35V,GP,TP,13x25,5   |
| C103         | C-AL             | 2200uF,20%,25V,GP,TP,16x25,7.5 |
| C104         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012  |
| C105         | C-AL             | 470uF,20%,25V,GP,TP,10x16,5    |
| C106         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012  |
| C107         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012  |
| C201         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012  |
| C202         | C-CERAMIC,CHIP   | 10nF,10%,50V,X7R,TP,2012       |
| C203         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012  |
| C301         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012  |
| C302         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012  |
| C303         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012  |
| C304         | C-CERAMIC,CHIP   | 10nF,10%,50V,X7R,TP,2012       |
| C305         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012  |
| C306         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012  |
| C307         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012  |
| C308         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012  |
| C401         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012  |
| C402         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012  |
| C403         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012  |
| C503         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012  |
| C504         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012  |
| C505         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012  |
| C901         | C-CERAMIC,CHIP   | 10nF,10%,50V,X7R,TP,2012       |
| C902         | C-CERAMIC,CHIP   | 10nF,10%,50V,X7R,TP,2012       |
| C903         | C-CERAMIC,CHIP   | 10nF,10%,50V,X7R,TP,2012       |
| C904         | C-CERAMIC,CHIP   | 10nF,10%,50V,X7R,TP,2012       |
| C905         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012  |
| C906         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012  |
| C907         | C-CERAMIC,CHIP   | 100nF,+80-20%,50V,Y5V,TP,2012  |
| CD31         | DIODE-TVS        | SAC5.0,7.6/-V,500W,DO-15       |
| CD32         | DIODE-TVS        | SAC5.0,7.6/-V,500W,DO-15       |
| CN11         | CONNECTOR-HEADER | BOX,3P,1R,2.5mm,STRAIGHT,SN    |
| CN12         | CONNECTOR-HEADER | 1WALL,2P,1R,3.96mm,STRAIGHT,SN |
| CN31         | CONNECTOR-HEADER | 1WALL,2P,1R,3.96mm,STRAIGHT,SN |
| CN41         | CONNECTOR-HEADER | BOX,4P,1R,2.5mm,STRAIGHT,SN    |
| CN42         | CONNECTOR-HEADER | BOX,2P,1R,2.5mm,STRAIGHT,SN    |
| CN60         | CONNECTOR-HEADER | BOX,6P,1R,2.5mm,STRAIGHT,SN    |
| CN70         | CONNECTOR-HEADER | BOX,1P,1R,-,STRAIGHT,NI        |
| CN71         | CONNECTOR-HEADER | 1WALL,3P,1R,3.96mm,STRAIGHT,SN |
| CN72         | CONNECTOR-HEADER | 1WALL,3P/5P,1R,3.96mm,STRAIGHT |
| CN73         | CONNECTOR-HEADER | 1WALL,3P/5P,1R,3.96mm,STRAIGHT |
| CN74         | CONNECTOR-HEADER | 1WALL,3P,1R,3.96mm,STRAIGHT,SN |
| CN75         | CONNECTOR-HEADER | 1WALL,3P,1R,3.96mm,STRAIGHT,SN |
| D101         | DIODE-RECTIFIER  | 1N4007,1000V,1A,DO-41,TP       |
| D102         | DIODE-RECTIFIER  | 1N4007,1000V,1A,DO-41,TP       |

## ■ Parts List(cont.)

| Location No. | Description        | Specification                       |
|--------------|--------------------|-------------------------------------|
| D103         | DIODE-RECTIFIER    | 1N4007,1000V,1A,DO-41,TP            |
| D104         | DIODE-RECTIFIER    | 1N4007,1000V,1A,DO-41,TP            |
| D105         | DIODE-RECTIFIER    | 1N4007,1000V,1A,DO-41,TP            |
| D106         | DIODE-RECTIFIER    | 1N4007,1000V,1A,DO-41,TP            |
| D107         | DIODE-RECTIFIER    | 1N4007,1000V,1A,DO-41,TP            |
| D108         | DIODE-RECTIFIER    | 1N4007,1000V,1A,DO-41,TP            |
| D901         | DIODE-SWITCHING    | MM4148,100V,150mA,LL-34,TP          |
| D902         | DIODE-SWITCHING    | MM4148,100V,150mA,LL-34,TP          |
| D903         | DIODE-SWITCHING    | MM4148,100V,150mA,LL-34,TP          |
| D904         | DIODE-SWITCHING    | MM4148,100V,150mA,LL-34,TP          |
| D913         | DIODE-SWITCHING    | MM4148,100V,150mA,LL-34,TP          |
| D914         | DIODE-SWITCHING    | MM4148,100V,150mA,LL-34,TP          |
| D915         | DIODE-SWITCHING    | MM4148,100V,150mA,LL-34,TP          |
| D916         | DIODE-SWITCHING    | MM4148,100V,150mA,LL-34,TP          |
| DIS1         | LED DISPLAY        | SSD-A3202GS-A15,GRN,2digit,16x      |
| DIS2         | LED DISPLAY        | SSD-A3202GS-A15,GRN,2digit,16x      |
| DS71         | SURGE ABSORBER     | 3.3kV,20%,1500A,-,AXIAL             |
| F101         | FUSE               | FSF,250V,2A,20mm,50F,-              |
| F101         | HOLDER-FUSE        | FH-51H,7.5A,-,-,-,-                 |
| F701         | FUSE-CARTRIDGE     | 250V,5A,FAST-ACTING,GLASS,5.2x20mm  |
| F701         | HOLDER-FUSE        | FH-51H,7.5A,-,-,-,-                 |
| FT71         | FILTER-NOISE       | MD,250V1.6A,-25C/85C                |
| GT1          | CONNECTOR-TERMINAL | PIN,MALE,#18-22,2.35mm              |
| GT2          | CONNECTOR-TERMINAL | PIN,MALE,#18-22,2.35mm              |
| IC01         | HEAT SINK-S1       | A6063,L25.5,W15,-,WHT,25x22         |
| IC01         | IC-VOLT REGU       | KA7812A,TO-220AB,-,-,-,-            |
| IC01         | SCREW-TAP PH       | -,-,FEFZY,-,PH,M3,-,L8,-,-          |
| IC02         | IC-VOLT REGU       | KA7805A,TO-220AB,1A,0/125C,-,-      |
| IC03         | IC                 | KA7533,DIP,-,-,-,-                  |
| IC04         | IC MICOM           | MB89P637P-G-SH,16K,DIP,OTP,-,-      |
| IC05         | IC-DRIVE           | KID65003AP,DIP,16P,STICK,TR-AR      |
| IC06         | IC-DRIVE           | KID65003AP,DIP,16P,STICK,TR-AR      |
| IC07         | IC-DRIVE           | KID65003AP,DIP,16P,STICK,TR-AR      |
| IC09         | IC-BUS TRANSCEIVER | 485,DIP,8P,300MIL,SINGLE,ST,PLASTIC |
| IC51         | PHOTO COUPLER      | PC817                               |
| IC52         | PHOTO COUPLER      | PC817                               |
| IC53         | PHOTO COUPLER      | PC817                               |
| J01          | R-CHIP             | 0ohm,5%,1/8W,DA,TP,3216             |
| J02          | R-CHIP             | 0ohm,5%,1/8W,DA,TP,3216             |
| J03          | R-CHIP             | 0ohm,5%,1/8W,DA,TP,3216             |
| J04          | R-CHIP             | 0ohm,5%,1/8W,DA,TP,3216             |
| J06          | WIRE-SO COPPER     | PI0.6,SN,T,52mm TAPING_WIRE         |
| J07          | R-CHIP             | 0ohm,5%,1/8W,DA,TP,3216             |
| J08          | R-CHIP             | 0ohm,5%,1/8W,DA,TP,3216             |
| J09          | WIRE-SO COPPER     | PI0.6,SN,T,52mm TAPING_WIRE         |
| J10          | WIRE-SO COPPER     | PI0.6,SN,T,52mm TAPING_WIRE         |

## ■ Parts List(cont.)

| Location No. | Description     | Specification                           |
|--------------|-----------------|---|
| J11          | WIRE-SO COPPER  | PI0.6,SN,T,52mm TAPING_WIRE             |
| J12          | WIRE-SO COPPER  | PI0.6,SN,T,52mm TAPING_WIRE             |
| J13          | WIRE-SO COPPER  | PI0.6,SN,T,52mm TAPING_WIRE             |
| J14          | WIRE-SO COPPER  | PI0.6,SN,T,52mm TAPING_WIRE             |
| J15          | WIRE-SO COPPER  | PI0.6,SN,T,52mm TAPING_WIRE             |
| J16          | WIRE-SO COPPER  | PI0.6,SN,T,52mm TAPING_WIRE             |
| J17          | R-CHIP          | 0ohm,5%,1/8W,DA,TP,3216                 |
| J18          | R-CHIP          | 0ohm,5%,1/8W,DA,TP,3216                 |
| J19          | WIRE-SO COPPER  | PI0.6,SN,T,52mm TAPING_WIRE             |
| J20          | WIRE-SO COPPER  | PI0.6,SN,T,52mm TAPING_WIRE             |
| J21          | WIRE-SO COPPER  | PI0.6,SN,T,52mm TAPING_WIRE             |
| J22          | R-CHIP          | 0ohm,5%,1/8W,DA,TP,3216                 |
| J23          | R-CHIP          | 0ohm,5%,1/8W,DA,TP,3216                 |
| J24          | R-CHIP          | 0ohm,5%,1/8W,DA,TP,3216                 |
| J25          | R-CHIP          | 0ohm,5%,1/8W,DA,TP,3216                 |
| J26          | R-CHIP          | 0ohm,5%,1/8W,DA,TP,3216                 |
| K1           | SWITCH-TACT     | 12V,50mA,160gf,6x6x3.6mm,SPST           |
| K13          | WIRE-SO COPPER  | PI0.6,SN,T,52mm TAPING_WIRE             |
| K14          | WIRE-SO COPPER  | PI0.6,SN,T,52mm TAPING_WIRE             |
| K16          | WIRE-SO COPPER  | PI0.6,SN,T,52mm TAPING_WIRE             |
| K2           | SWITCH-TACT     | 12V,50mA,160gf,6x6x3.6mm,SPST           |
| K3           | SWITCH-TACT     | 12V,50mA,160gf,6x6x3.6mm,SPST           |
| K4           | SWITCH-TACT     | 12V,50mA,160gf,6x6x3.6mm,SPST           |
| PCB          | PCB-SUB         | PE-DPM-00,FR-1,-,-,T1.6,W197*L197,-,-,- |
| Q201         | TR-SMALL SIGNAL | MMBT3904,NPN,350mW,SOT-23,TP,30-300     |
| Q901         | TR-DIGITAL      | KRA226M,PNP,400mW,2.2K/10K,TO-92M,TP    |
| Q902         | TR-DIGITAL      | KRA226M,PNP,400mW,2.2K/10K,TO-92M,TP    |
| Q903         | TR-DIGITAL      | KRA226M,PNP,400mW,2.2K/10K,TO-92M,TP    |
| Q904         | TR-DIGITAL      | KRA226M,PNP,400mW,2.2K/10K,TO-92M,TP    |
| R201         | R-CHIP          | 10Kohm,5%,1/10W,DA,TP,2012              |
| R202         | R-CHIP          | 3.3Kohm,5%,1/10W,DA,TP,2012             |
| R203         | R-CHIP          | 1Kohm,5%,1/10W,DA,TP,2012               |
| R204         | R-CHIP          | 1Kohm,5%,1/10W,DA,TP,2012               |
| R205         | R-CHIP          | 1Kohm,5%,1/10W,DA,TP,2012               |
| R206         | R-CHIP          | 1Kohm,5%,1/10W,DA,TP,2012               |
| R301         | R-CHIP          | 120ohm,5%,1/8W,DA,TP,3216               |
| R302         | R-CHIP          | 10Kohm,5%,1/10W,DA,TP,2012              |
| R303         | R-CHIP          | 10Kohm,5%,1/10W,DA,TP,2012              |
| R312         | R-CHIP          | 1Kohm,5%,1/10W,DA,TP,2012               |
| R313         | R-CHIP          | 1Kohm,5%,1/10W,DA,TP,2012               |
| R314         | R-CHIP          | 1Kohm,5%,1/10W,DA,TP,2012               |
| R315         | R-CHIP          | 1Kohm,5%,1/10W,DA,TP,2012               |
| R316         | R-CHIP          | 10Kohm,5%,1/10W,DA,TP,2012              |
| R317         | R-CHIP          | 10Kohm,5%,1/10W,DA,TP,2012              |
| R318         | R-CHIP          | 10Kohm,5%,1/10W,DA,TP,2012              |
| R319         | R-CHIP          | 10Kohm,5%,1/10W,DA,TP,2012              |

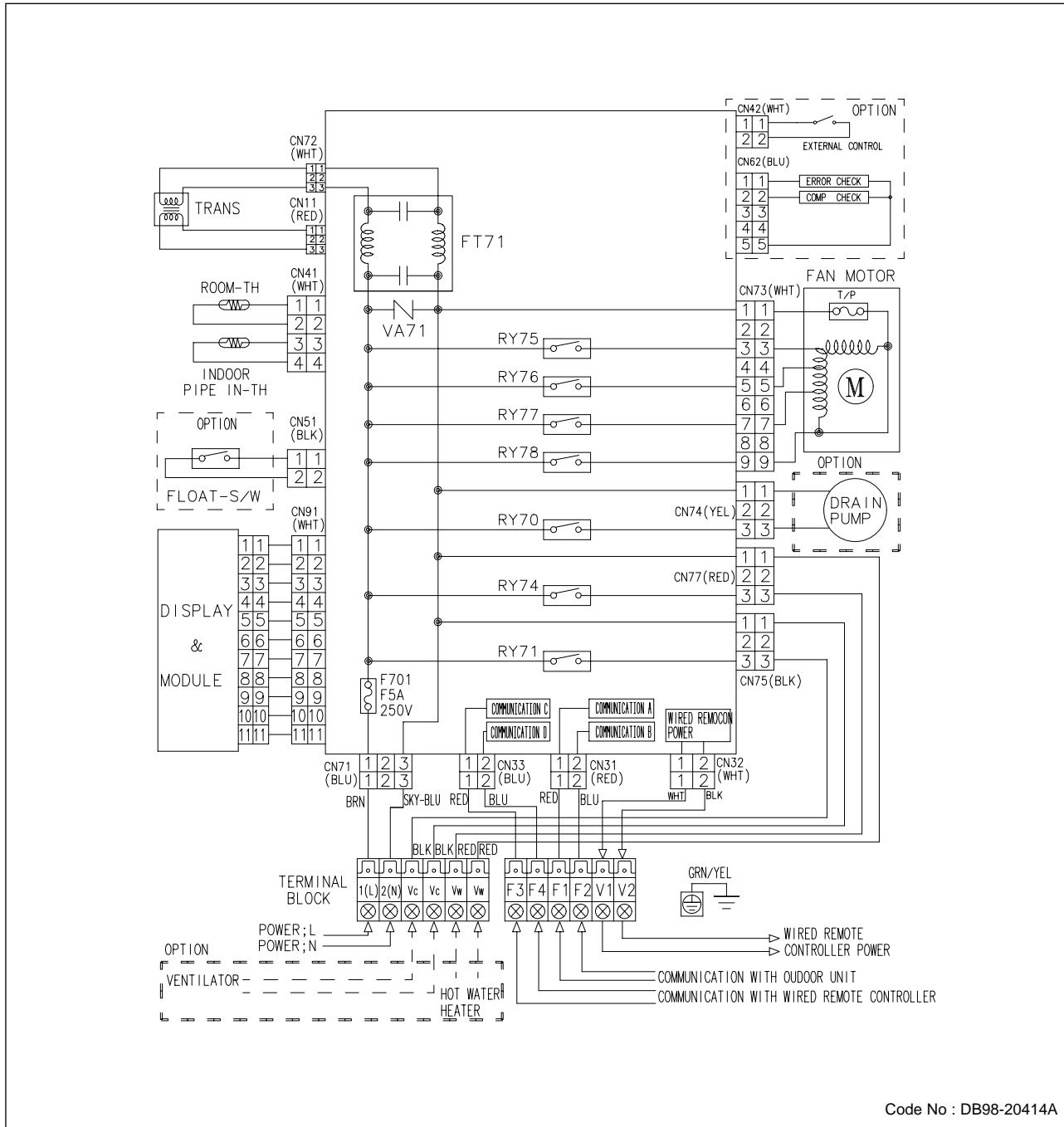
## ■ Parts List(cont.)

| Location No. | Description       | Specification                   |
|--------------|-------------------|---------------------------------|
| R401         | R-METAL           | 24Kohm,1%,1/4W,AA,TP,2.4x6.4mm  |
| R402         | R-METAL           | 18Kohm,1%,1/8W,AA,TP,1.8x3.2mm  |
| R403         | R-METAL           | 18Kohm,1%,1/8W,AA,TP,1.8x3.2mm  |
| R404         | R-CARBON          | 330ohm,5%,1/8W,AA,TP,1.8x3.2mm  |
| R405         | R-CARBON          | 330ohm,5%,1/8W,AA,TP,1.8x3.2mm  |
| R406         | R-CARBON          | 330ohm,5%,1/8W,AA,TP,1.8x3.2mm  |
| R501         | R-CHIP            | 10Kohm,5%,1/8W,DA,TP,2012       |
| R502         | R-CHIP            | 10Kohm,5%,1/8W,DA,TP,2012       |
| R503         | R-CHIP            | 10Kohm,5%,1/8W,DA,TP,2012       |
| R504         | R-CHIP            | 330ohm,5%,1/8w,DA,TP,2012       |
| R505         | R-CHIP            | 330ohm,5%,1/8w,DA,TP,2012       |
| R506         | R-CHIP            | 330ohm,5%,1/8w,DA,TP,2012       |
| R507         | R-METAL OXIDE     | 200Kohm,5%,2W,AA,TP             |
| R508         | R-METAL OXIDE     | 200Kohm,5%,2W,AA,TP             |
| R509         | R-METAL OXIDE     | 200Kohm,5%,2W,AA,TP             |
| R510         | R-METAL OXIDE     | 200Kohm,5%,2W,AA,TP             |
| R511         | R-METAL OXIDE     | 200Kohm,5%,2W,AA,TP             |
| R512         | R-METAL OXIDE     | 200Kohm,5%,2W,AA,TP             |
| R513         | R-CHIP            | 10Kohm,5%,1/10W,DA,TP,2012      |
| R514         | R-CHIP            | 10Kohm,5%,1/10W,DA,TP,2012      |
| R515         | R-CHIP            | 10Kohm,5%,1/10W,DA,TP,2012      |
| R516         | R-CHIP            | 10Kohm,5%,1/10W,DA,TP,2012      |
| R901         | R-CHIP            | 10Kohm,5%,1/10W,DA,TP,2012      |
| R902         | R-CHIP            | 10Kohm,5%,1/10W,DA,TP,2012      |
| R903         | R-CHIP            | 10Kohm,5%,1/10W,DA,TP,2012      |
| R904         | R-CHIP            | 10Kohm,5%,1/10W,DA,TP,2012      |
| R905         | R-CARBON(S)       | 1Kohm,5%,1/2W,AA,TP,2.4x6.4mm   |
| R906         | R-CARBON(S)       | 1Kohm,5%,1/2W,AA,TP,2.4x6.4mm   |
| R907         | R-CARBON(S)       | 1Kohm,5%,1/2W,AA,TP,2.4x6.4mm   |
| R908         | R-CARBON(S)       | 1Kohm,5%,1/2W,AA,TP,2.4x6.4mm   |
| R909         | R-CARBON(S)       | 1Kohm,5%,1/2W,AA,TP,2.4x6.4mm   |
| R910         | R-CARBON(S)       | 1Kohm,5%,1/2W,AA,TP,2.4x6.4mm   |
| R911         | R-CARBON(S)       | 1Kohm,5%,1/2W,AA,TP,2.4x6.4mm   |
| RY71         | RELAY-MINIATURE   | 12Vdc,200mW,5A,1FormA,6mS,4mS   |
| RY72         | RELAY-MINIATURE   | 12Vdc,200mW,5A,1FormA,6mS,4mS   |
| RY73         | RELAY-MINIATURE   | 12Vdc,200mW,5A,1FormA,6mS,4mS   |
| RY74         | RELAY-MINIATURE   | 12Vdc,200mW,5A,1FormA,6mS,4mS   |
| RY75         | RELAY-MINIATURE   | 12Vdc,200mW,5A,1FormA,6mS,4mS   |
| RY76         | RELAY-MINIATURE   | 12Vdc,200mW,5A,1FormA,6mS,4mS   |
| SW1          | SWITCH-DIGITAL    | JM2005,--,10mmx6.0mm,--,PAC,--, |
| VA71         | VARISTOR          | 560V,2500A,17.5x7.5mm,TP        |
| VA72         | VARISTOR          | 470V,4500A,17x12mm,BK           |
| VA73         | VARISTOR          | 470V,4500A,17x12mm,BK           |
| X501         | RESONATOR-CERAMIC | 10MHz,0.5%,TP,10.0x5.0x8.0mm    |

## 8. Wiring Diagram

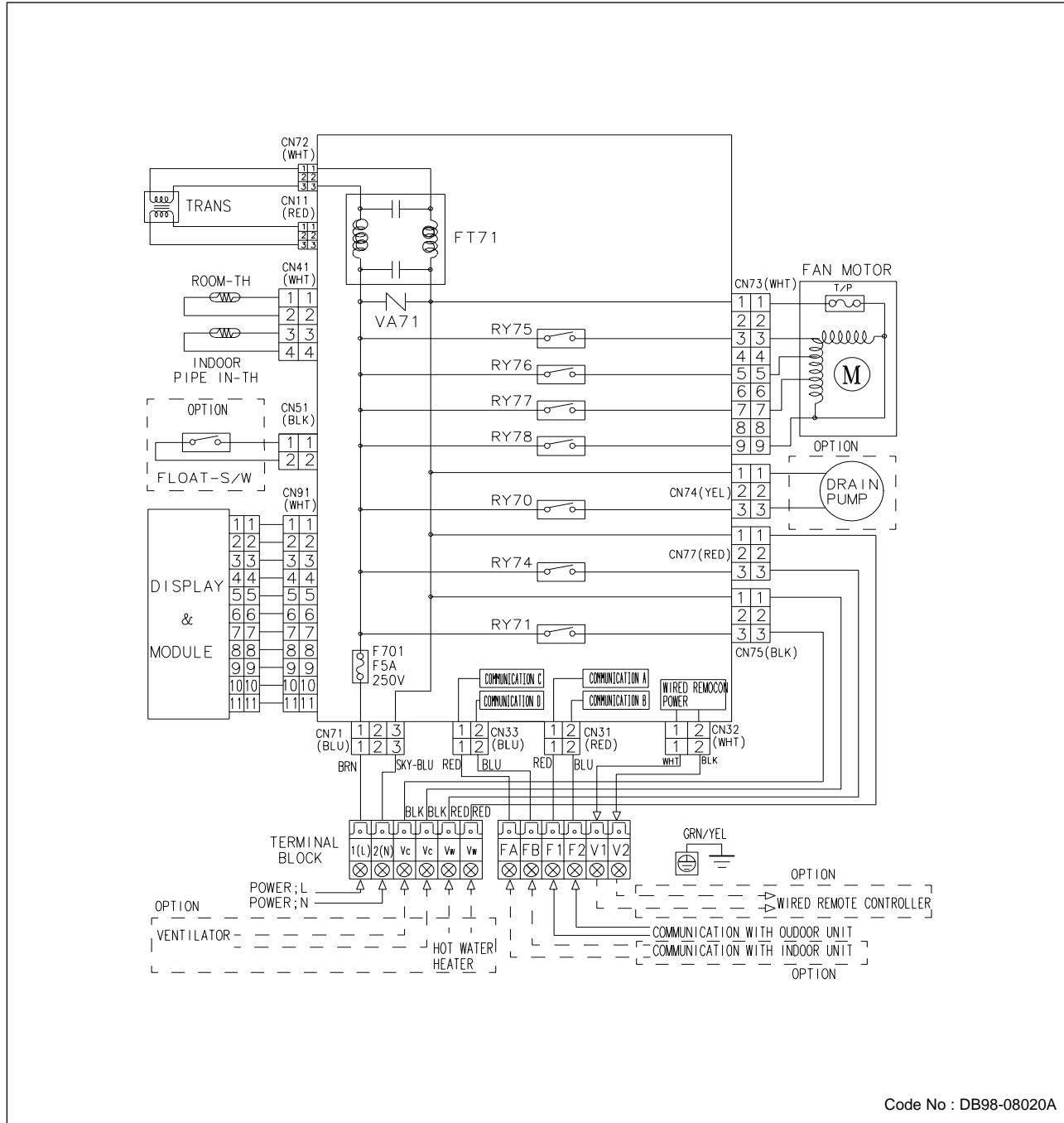
### 8-1 Indoor Unit

#### ■ HH105GCM / HH140ECM



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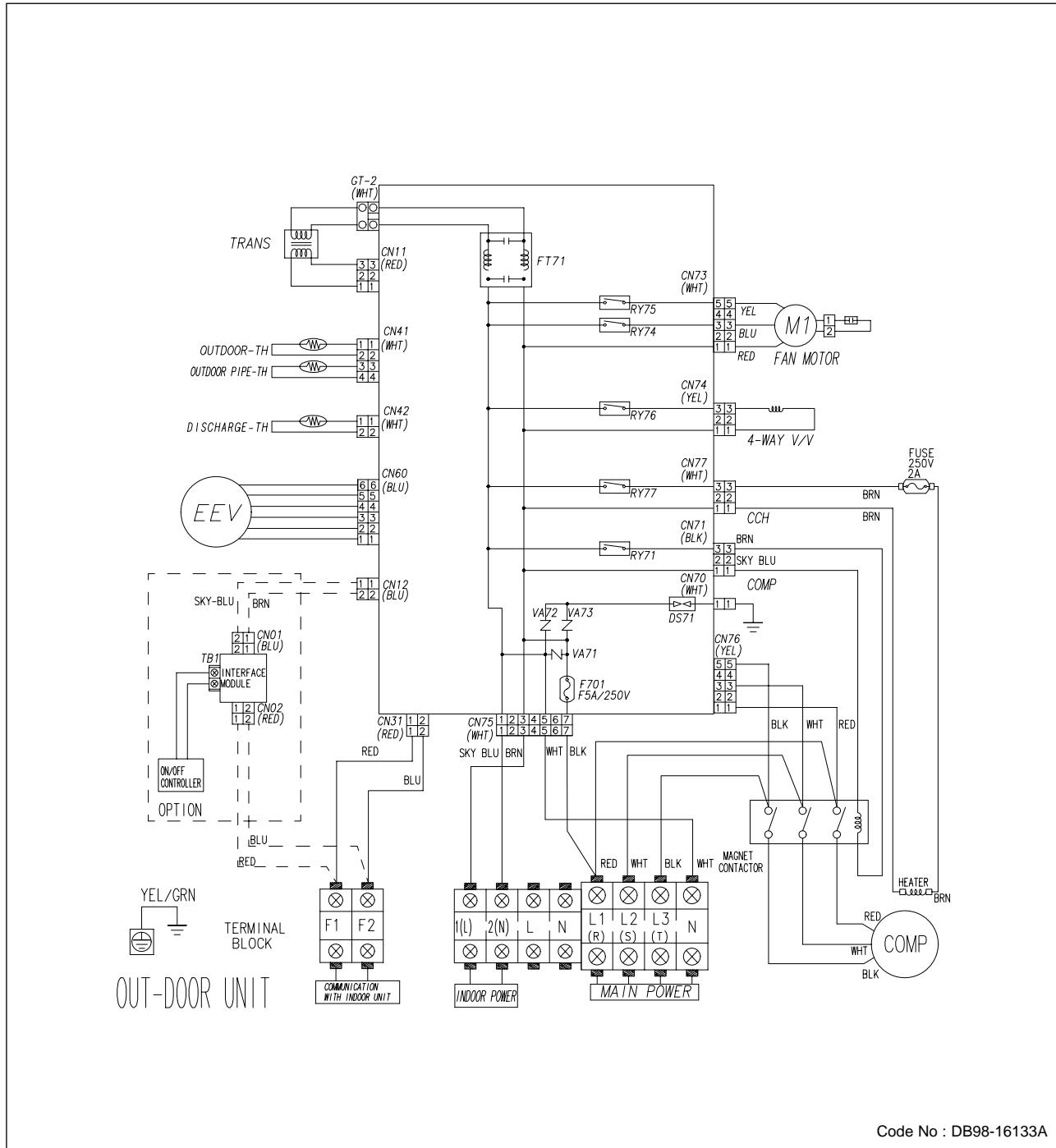
## ■ UH175GCM



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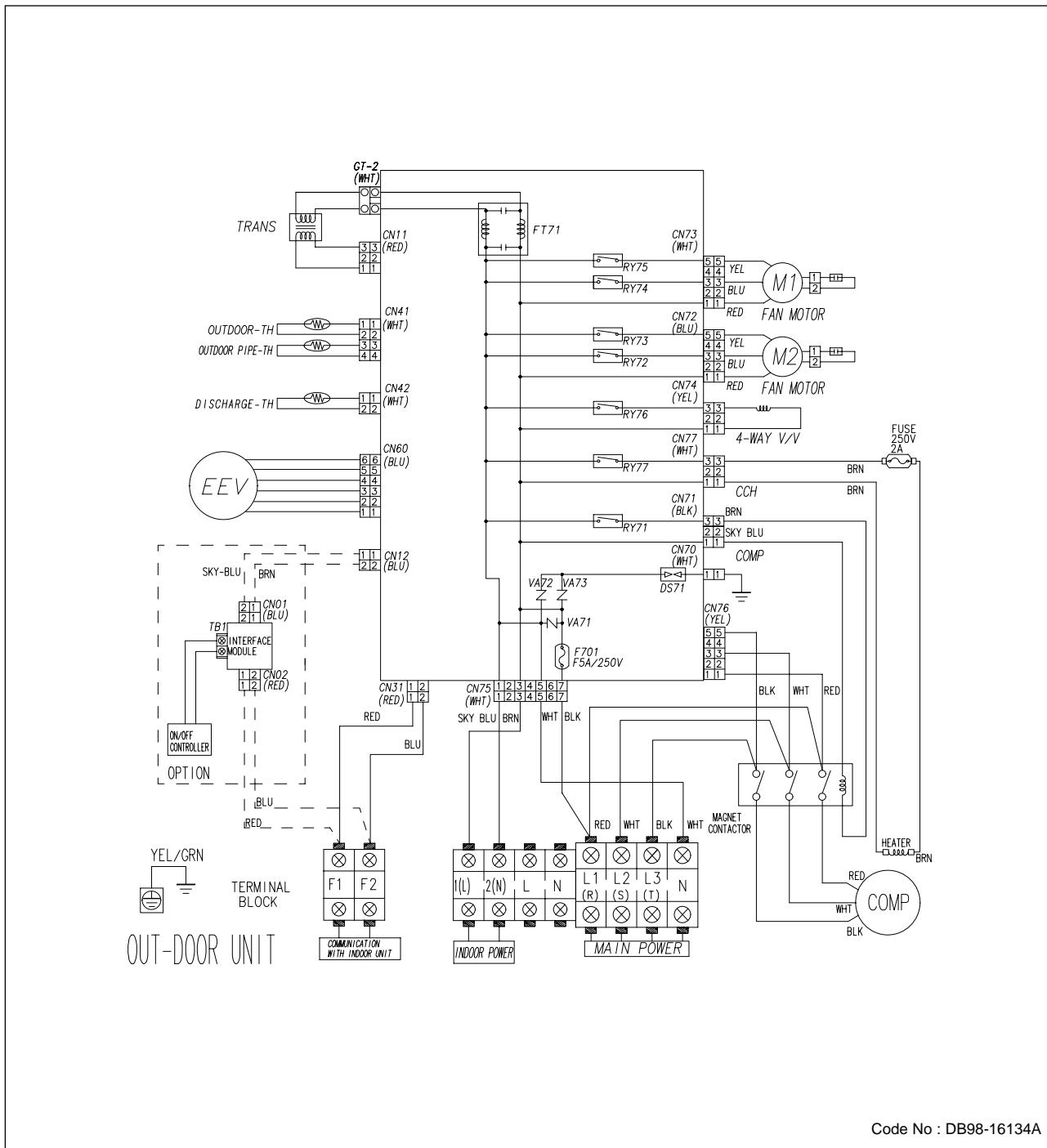
## 8-2 Outdoor Unit

### ■ UH105GCM



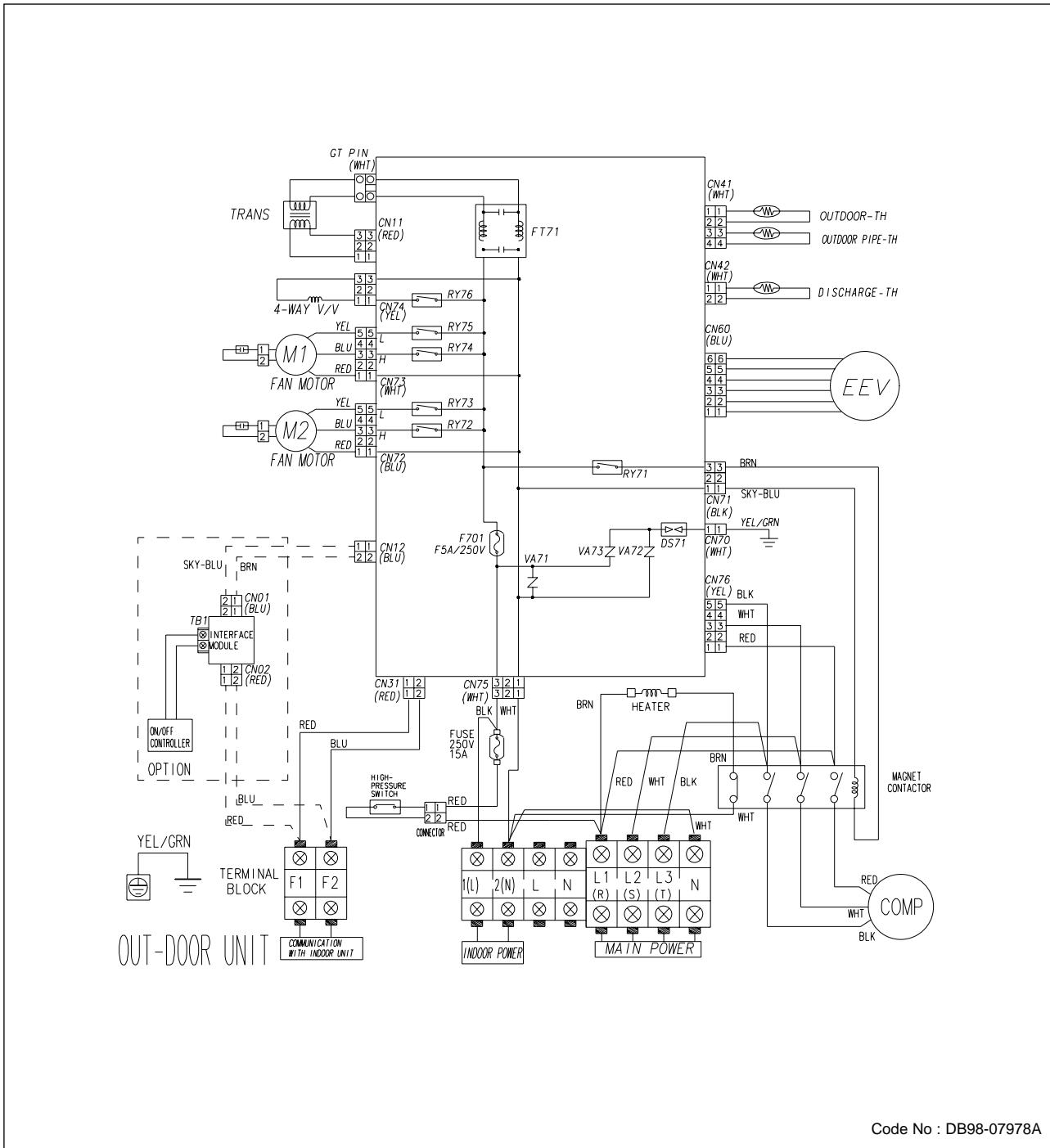
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## ■ UH140GCM



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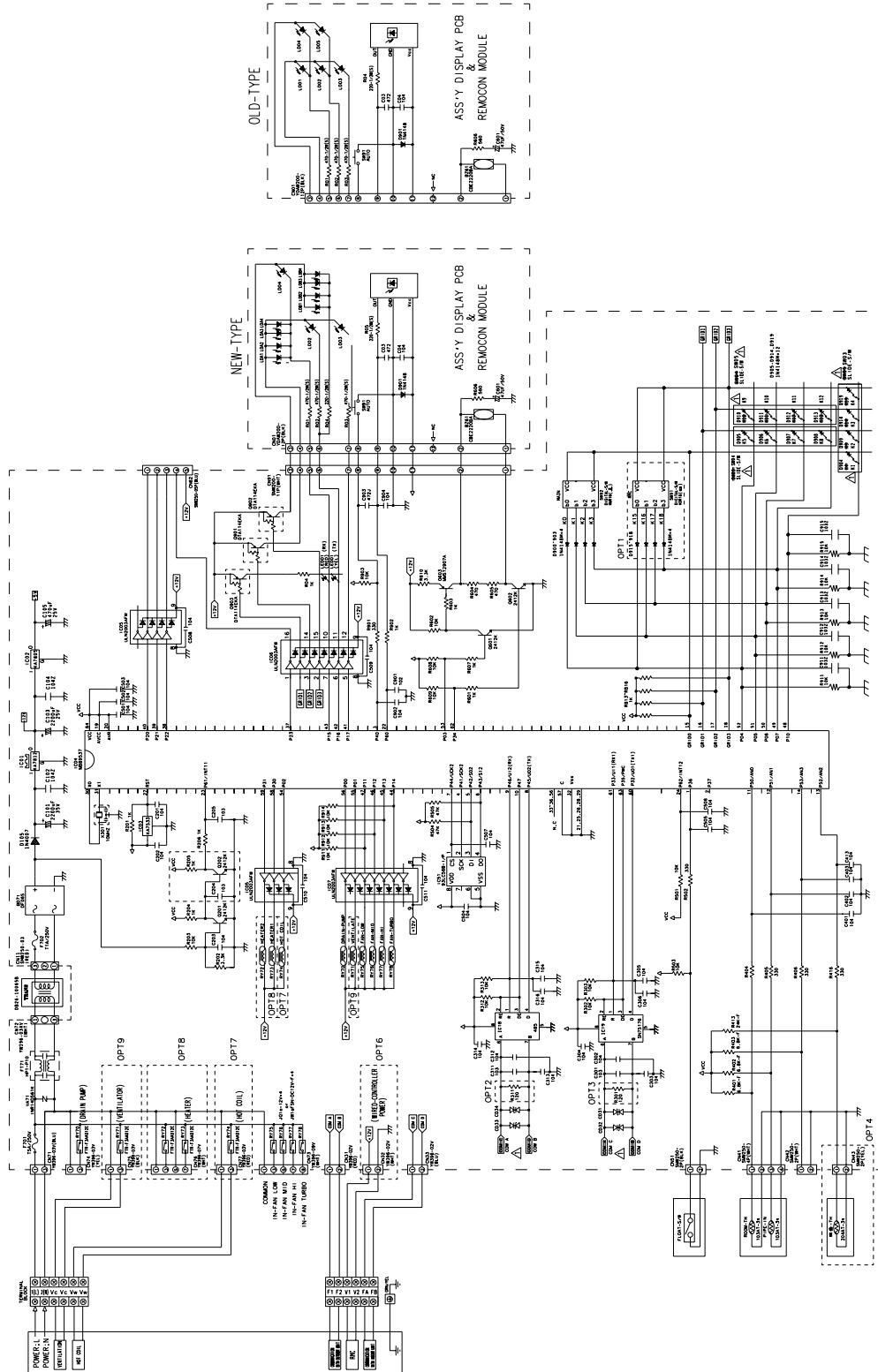
## ■ UH175GCM



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## 9. Schematic Diagram

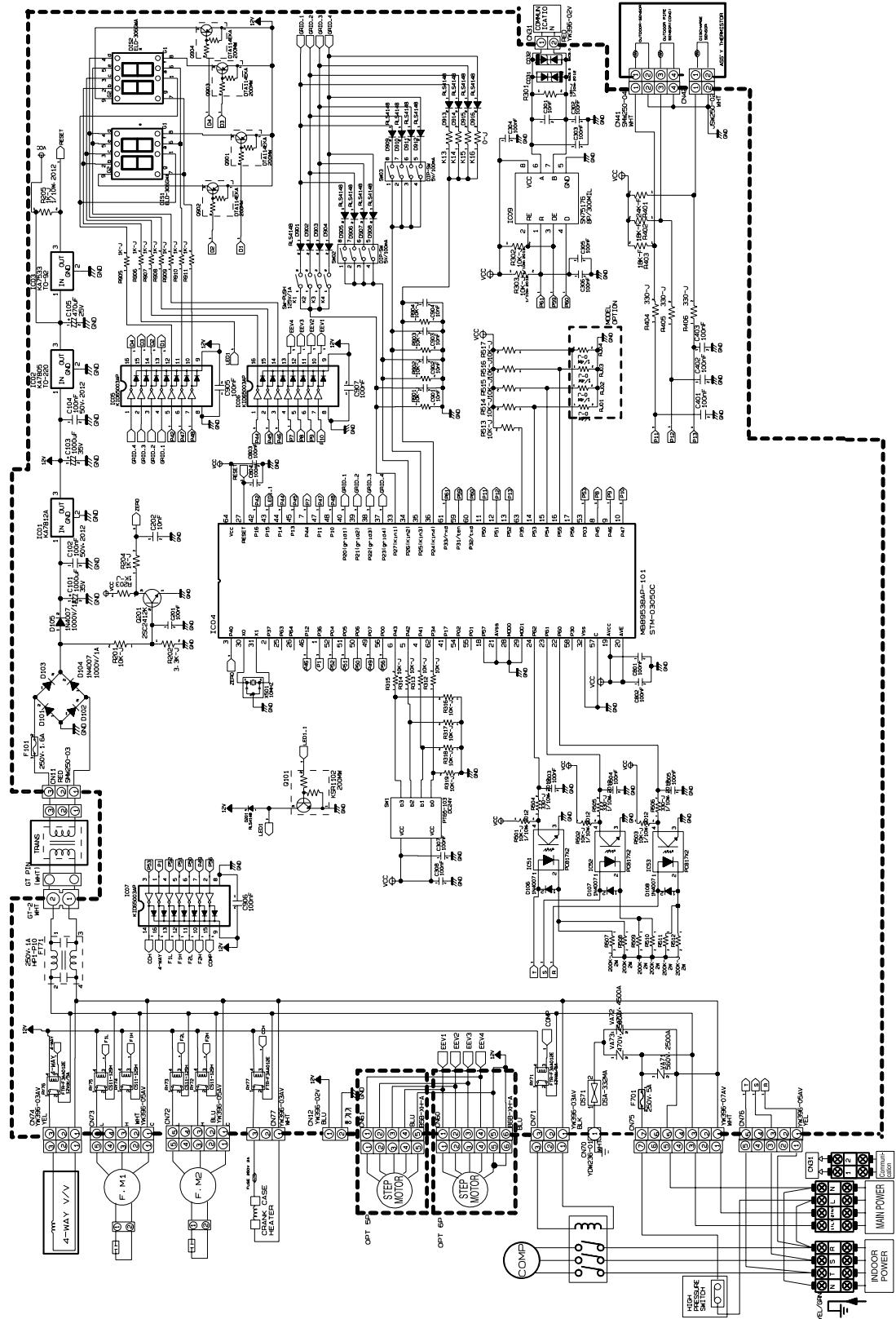
### 9-1 Indoor Unit



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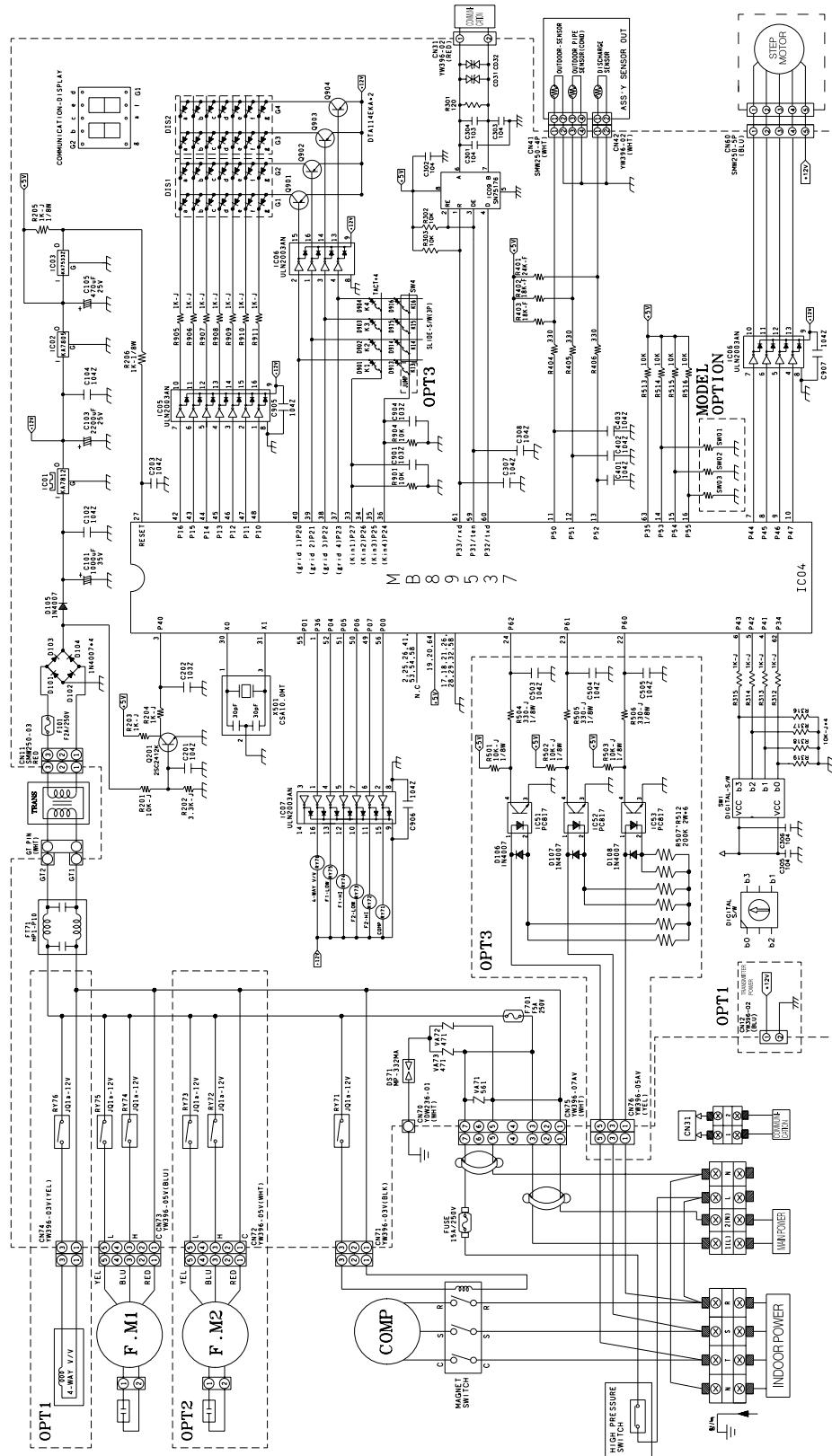
## 9-2 Outdoor Unit

## ■ UH105GCM/UH140GCM



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## ■ UH175GCM



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Use this page to keep any special servicing information. (Service Bulletin, etc.)

If only parts number changes, Just change parts number directly on parts list.

And if you need more information, please see the service website.

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