



WIRED REMOTE CONTROLLER

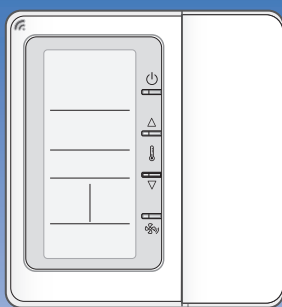
Basic : MWR-WS00

Model : MWR-WH00

Model code : MWR-WH00

SERVICE *Manual*

WIRED REMOTE CONTROLLER



MWR-WH00

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Refer to the service manual in the GSPN(see the rear cover) for the more information.

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1. Precautions

1-1 Precautions for the Service

- **Use the standard parts when replacing the electric parts.**
 - Confirm the model name, rated voltage, rated current of the electric parts.
- **Repair the disconnection of HARNESS securely when repairing the break down.**
 - If there is any connection error, it causes an abnormal noise and incorrect operation.
- **In case that you assemble or disassemble the products with laying it on the side, do work on the work cloth.**
 - If not, the exterior of products can be scratched.
- **Remove dust and foreign materials from harness, connection part, and inspection part thoroughly when repairing the break down.**
 - It protects the danger of fire such as tracking and short.
- **Check the assembly status of parts after repairing the break down.**
 - It should be same as the status before repairing.

1-2 Precautions for the Safety

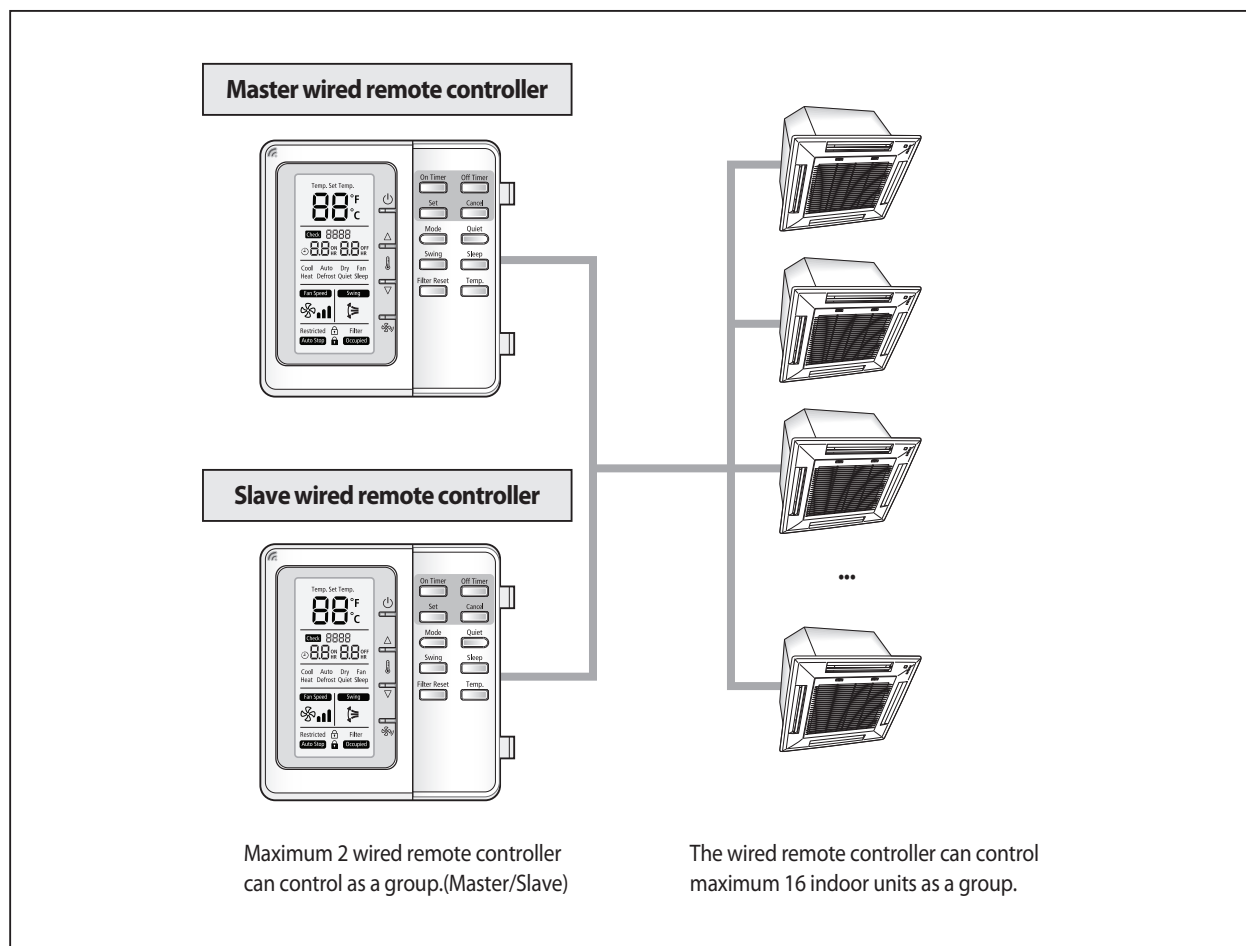
- **Do not pull any electric wires and do not touch an auxiliary power switch with a wet hand.**
 - There is a danger of electric shock or fire.
- **In case any wire or power plug has been damaged, replace it to eliminate any possible danger.**
- **Do not bend the power cord by force and do not put any heavy object on the power cord.**
 - There is a danger of electric shock or fire.
- **Ground the product if necessary.**
 - Be sure to ground the product if there is any danger of electric leakage due to water or moisture.
- **Be sure to turn off the auxiliary power switch or pull out the power plug during replacement or repair of electric parts.**
 - There is a danger of electric shock.

2. Product Specifications

2-1 The Feature of Product

2-1-1 Feature

■ Basic wired remote controller with stylish design



1) PBA : MAIN PBA

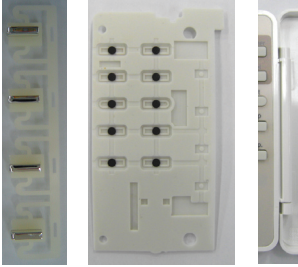
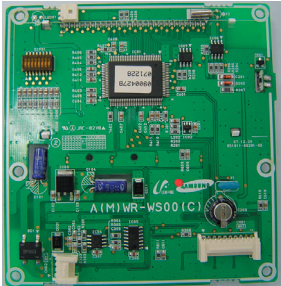
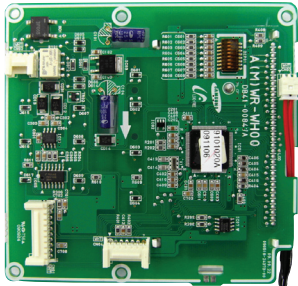
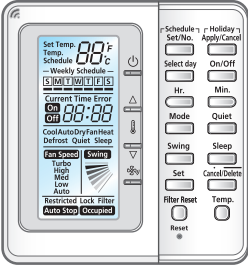
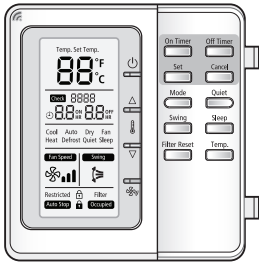
- Samsung 3F4A1H
- FRAM
- FSTN
- Wrong wiring protection Relay applied
- Diode for multiple recognition of buttons applied

2) Application S/W

- Basic Control
- On-time, Off-time control
- Error Display
- User-setting function, Service mode

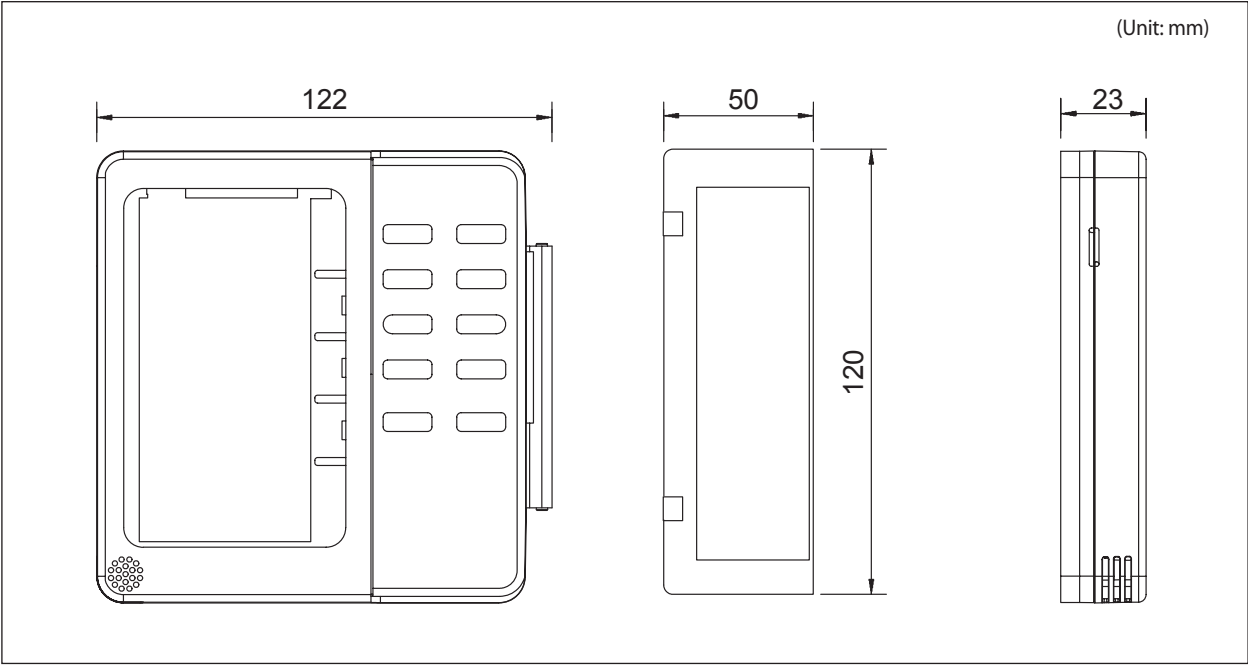
3) Commercialization materials: Box, Label, Manual

2-1-2 Changes in Comparison to Basic Model

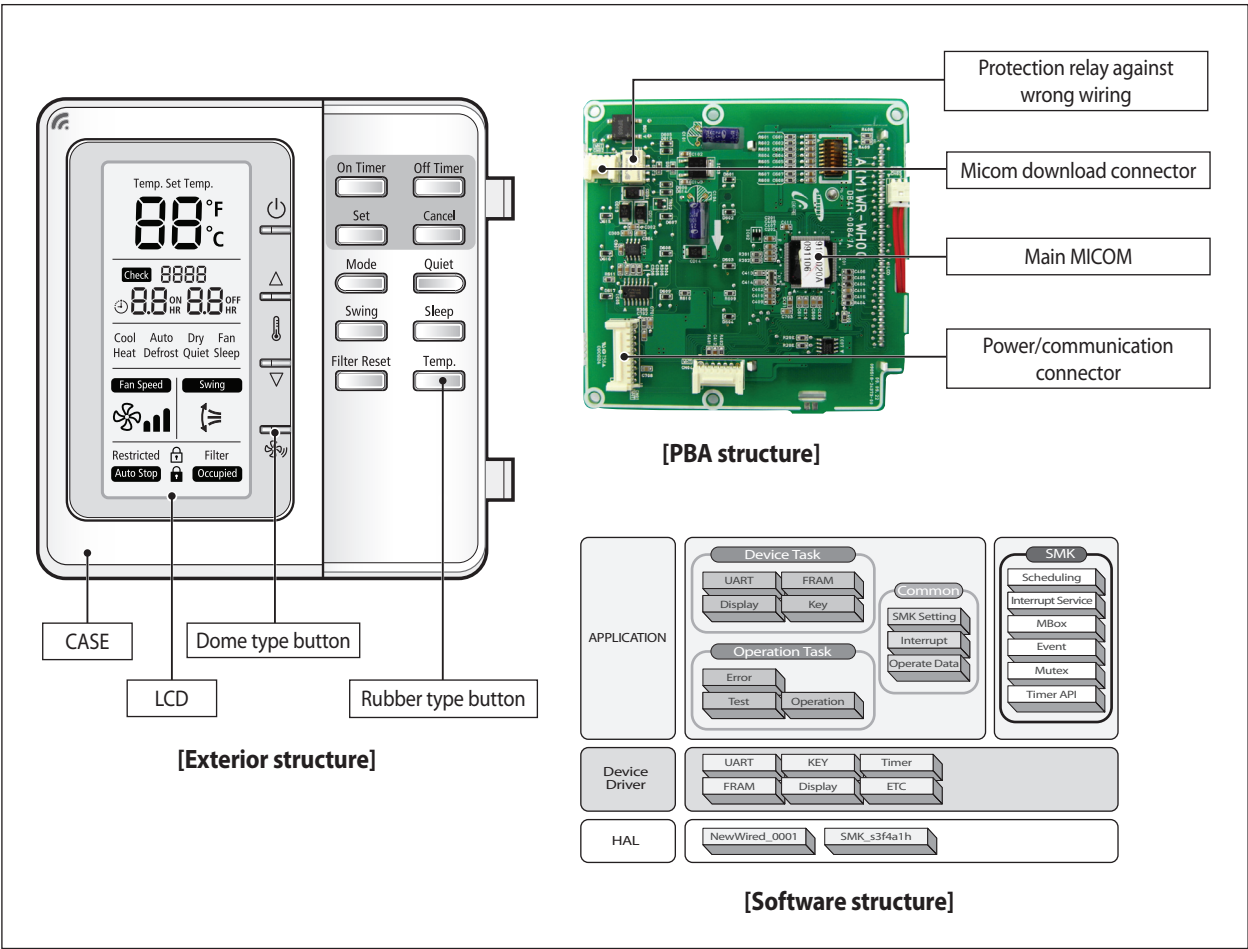
Item	Basic Model (MWR-WS00)	Development Model (MWR-WH00)	Remarks
Ass'y Case			1) Switch rubber components changed 2) Switch plastic components improvement 3) Cover hinge improvement
Ass'y PCB			1) MCU changed - MB90F423(Fujitsu) - S3F4A1H(Samsung) 2) 485 communication Relay added - Wrong wiring protection 3) MCU download port added 4) JIG POINT added - ICT JIG improvement 5) Button Diode added - Integrated key function improvement
Etc.			1) LCD changed 2) Button Inlay development

2-2 The Structure of Product

■ Dimensional Drawing



■ Exterior structure



2-3 Product Specifications

2-3-1 Using Environment

Classification	No.	Item	Specification	Remarks
General requirements	1	Area	Europe	
	2	Type	Wall-mounted type indoor unit remote control device	Refer to the user's manual
	3	Accessory	Contact service center	
Installation requirements	1	Standard temperature/humidity	15- 25°C , 35 - 65 %	
	2	Temperature	0°C~40°C (for indoor only)	
	3	Humidity	Humidity 30%RH~90%RH(Condition: No dew condensate)	
Power	1	Input	12VDC/500mA	
Installation	2	Space requirements	Installing on the wall using the bracket	
Delivery	1	Installer	Qualified technician	
	2	Open	Follow the instructions.	
	3	Check delivery	•Check according to the CHECK SHEET. Repair the inferior goods. •Follow the user's manual for using method, using condition and precautions. If a problem occurs, you will be supported by the service center.	
Installation method	1		- Refer to the installation manual	
Etc.	1		- Make sure to refer to the installation manual and user's manual	

2-3-2 Feature deployment specification

1) Max. quantity of connected units : Max. 16 units of indoor units can be connected.

2) Master and Slave connection is possible between MWR-WH00s for connecting 1 indoor unit.

3) Master and Slave connection is possible between MWR-WH00 and MWR-WE00.

- MWR-WH00(Master) – MWR-TH00,TH01(Slave):Connection is impossible
- MWR-WH00(Master) – MWR-WS00(Slave):Connection is impossible
- MWR-WH00(Master) – MWR-SH00(Slave):Connection is impossible
- MWR-WH00(Master) – MWR-VH00, VH01, VH02 (Slave): Connection in impossible
- Against the above is same too.

4) Special function

- Auto stop function : Turn off the indoor unit after set time has passed since any button on the remote controller was last pressed.
- Temperature limit : Set upper limit or lower limit of temperature
- Part locking of the button : , , , and  buttons

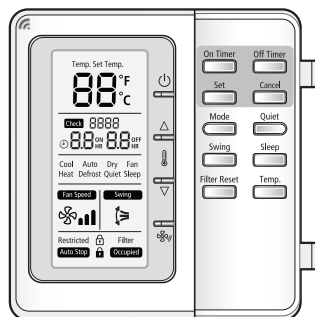
5) Service mode specification

- a) Monitoring and setting the indoor unit option code
- b) Monitoring the indoor unit's main or group address
- c) Monitoring the indoor unit cycle data
- d) Monitoring and setting the indoor temperature compensation for the wired remote controller
- e) Monitoring the RPM compensation
- f) Monitoring the EEV Step for the stopped indoor unit during heating mode
- g) Monitoring the filter time setting
- h) Monitoring the temperature compensation value under heating mode
- i) Checking the centralized control usage
- j) Checking the drain pump usage
- k) Checking the electric heater usage
- l) Checking the water coil usage
- m) Checking the external control usage
- n) Checking the connected indoor unit quantity
- o) Checking the wired remote controller PCB settings
- p) Checking the wired remote controller software version

6) Error display

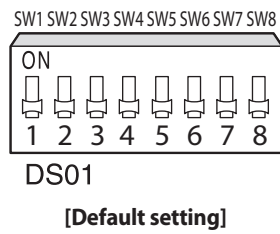
- Indoor unit error
- Outdoor unit error
- Wired remote controller error

7) Buttons and display specification



No.	Button	Description
1		Start or Stop the operation
2		Set temperature up
3		Set temperature down
4		Fan speed (Auto → Low → Medium → High → Auto)
5		Set the desired time to turn on indoor unit
6		- Set the desired time to turn off indoor unit - Hold down(3 sec) : Enter the User-setting mode
7		- Press : Check the input - Hold down : Lock the buttons
8		Cancel the set on/off-timer
9		Select the operation mode (Auto → Cool → Dry → Fan → Heat → Auto)
10		Operate the quiet mode
11		Turn on or off the air swing
12		Operate the sleep mode
13		When the Filter is on, Clean the filter and turn off the display pressing the filter reset button.
14		Display current room temperature.
15	+	Hold down(5 sec) : Reset the wired remote controller
16	+	Hold down(5 sec) : Enter the Service mode

2-3-3 Option Switch Setting



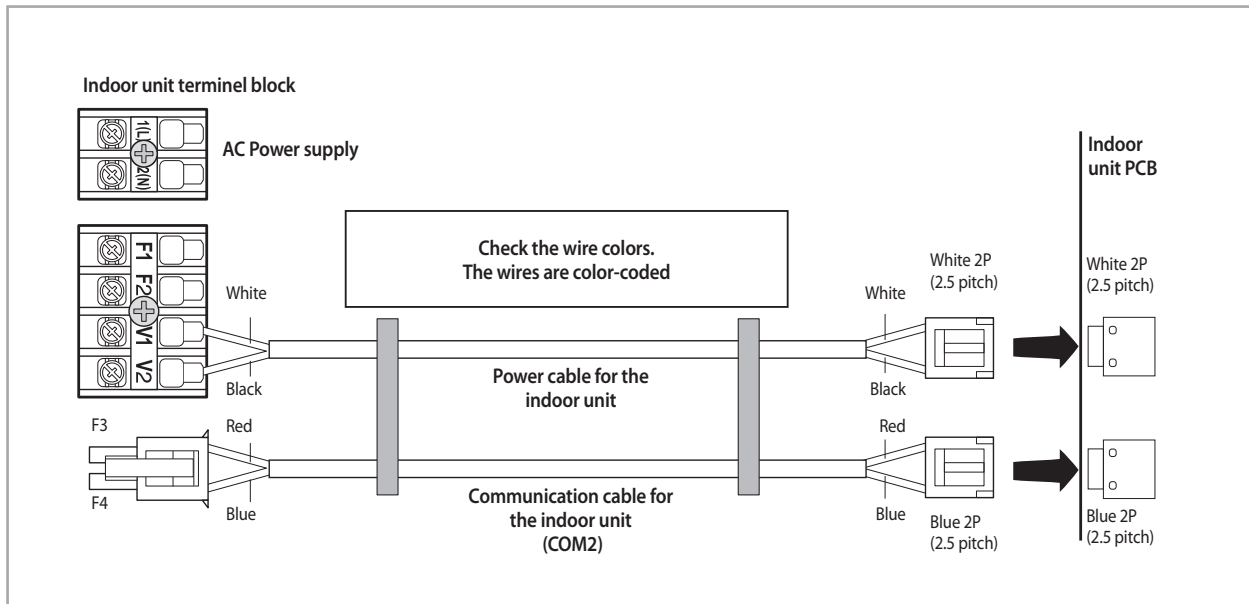
DIP switch No.	Port	Off	On
SW1	P2.6/#76	Cooling and Heating	Cooling only
SW2	P2.7/#77	Allow the wireless remote controller	Disable the wireless remote controller
SW3	P2.8/#78	Master remote controller	Slave remote controller
SW4	P2.9/#79	Temperature display : °C	Temperature display : °F
SW5	P2.10/#80	Use the indoor unit temperature sensor for the indoor unit control.	Use the wired remote controller temperature sensor for the indoor unit control.
SW6	P2.11/#81	-	Use the average of the indoor unit sensor and the wired remote controller sensor for the indoor unit control.
SW7	P2.12/#82	Auto mode enable	Auto mode disable
SW8	P2.13/#83	-	-

2-4 Installation

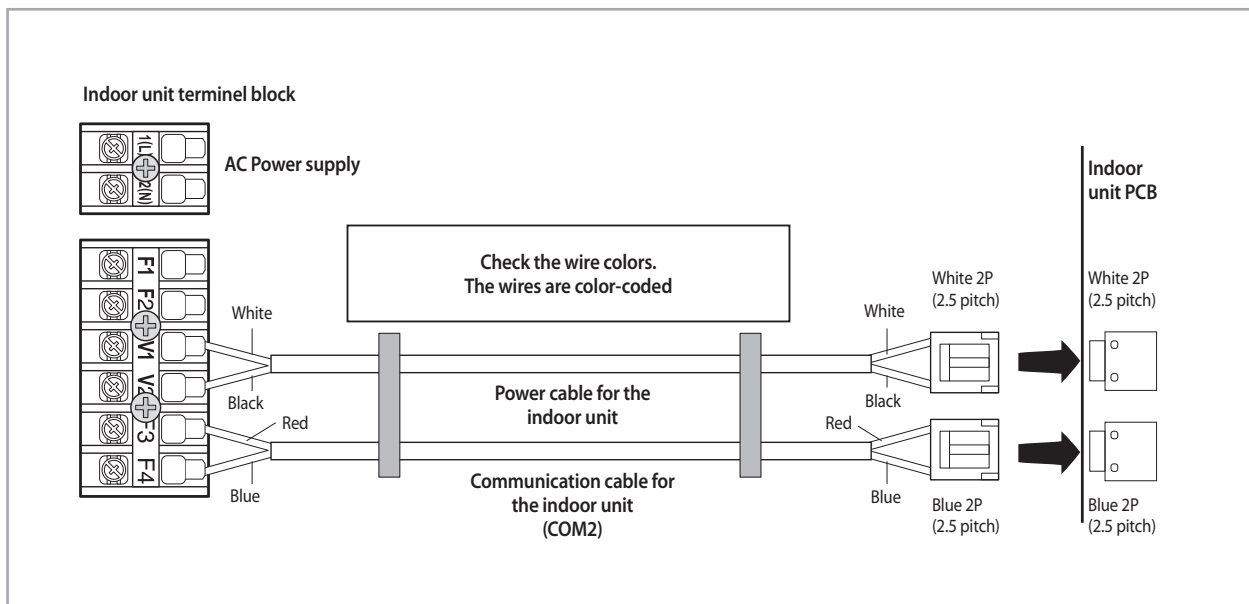
2-4-1 Installing the Power Cables inside of Indoor Unit

This is an explanation of power supply cable and communication cable. Make sure that you read this thoroughly before installation.

■ Connector type cable connection



■ Terminal type cable connection

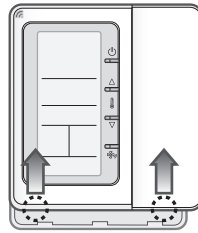


- 1 way cassette indoor unit does not contain the power cable. In this case, use the power cable inside of the indoor unit which is provided with the wired remote controller.

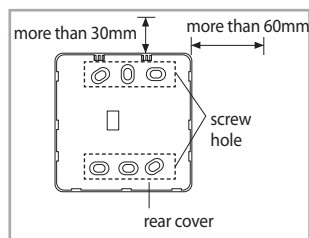
2-4-2 Installing the Wired Remote Controller

- 1) Open the wired remote controller by pushing up the top cover of the remote controller while holding the rear cover firmly.

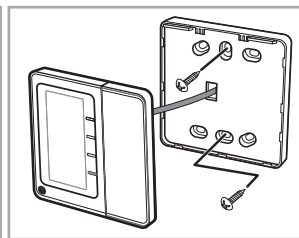
- The wired remote controller opens in the way of slide.



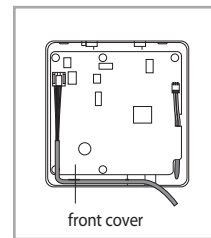
- 2) Install the rear cover of the wired remote controller on the wall with the supplied screws.
After that, arrange the power cables on rear side of the front cover.



- * Before fixing the rear cover, clear 30mm of space on the top and 60mm on the right side.



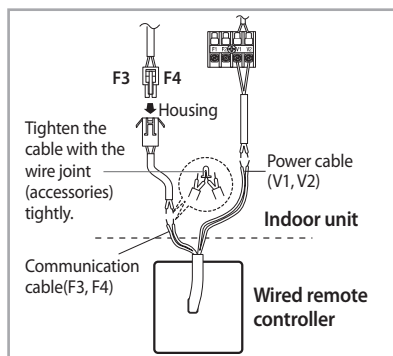
- * Fasten the screw in the screw hole.



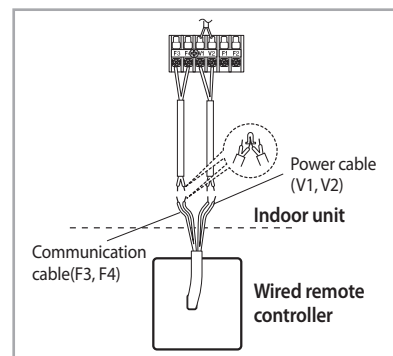
- 3) Connect the yellow and orange wires from the wired remote controller to the V1 and V2 terminal of the indoor unit.
Connect the red and blue wires to the F3 and F2.

● Connector type cable connection

- Using the provided indoor unit communication cable, connect to the housing.



● Terminal type cable connection

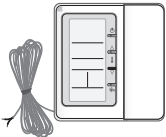
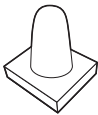


- 4) Reassemble the wired remote controller.

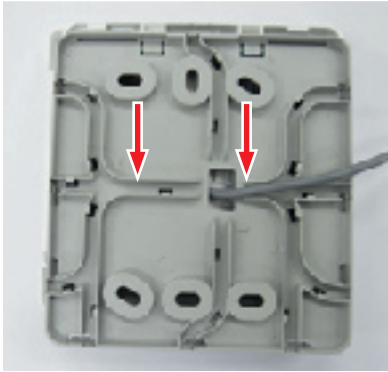
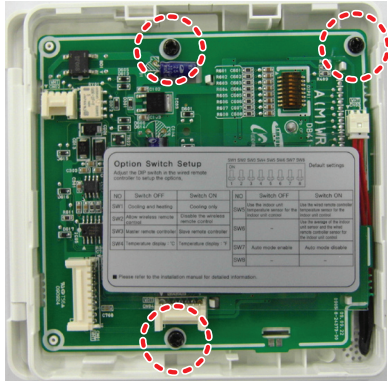
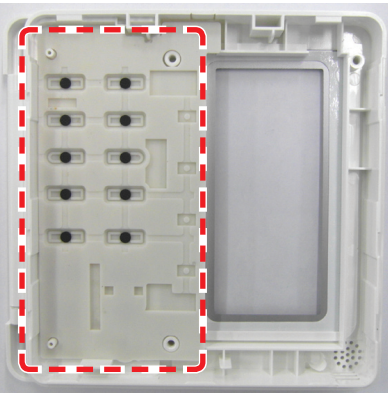
- When you reassemble the wired remote controller, match the grooves on the left side.

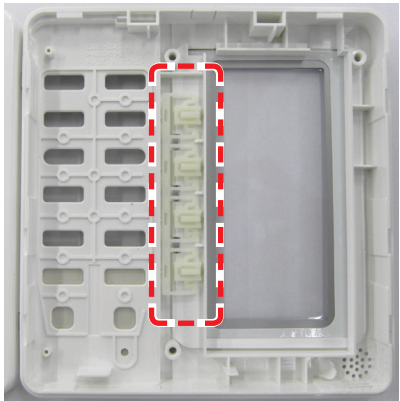
2-5 Accessory and Option Specifications

2-5-1 Accessories

Image	Name	Code	Quantity	Remarks
	Wired remote controller MWR-WH00	DB93-08033B	1	
	Cable tie	DB65-10088B	2	
	Cable clamp	DB65-10074E	4	
	M4X16 screw	6002-000474	5	
	Power cable for indoor unit	DB39-00221A	1	
	Communication cable for indoor unit	DB39-00933A	1	
	Wire joint	DB39-90020A	4	
	User's manual	DB98-31219A	1	
	Installation manual	DB98-31218A	1	

3. Disassembly and Reassembly

No.	Image	Procedure
1		To disassemble the front and rear cover, hold the front cover firmly and push the rear cover downward. ⚠ If you pull the rear cover to the front instead of pulling it to downward, it can be damaged.
2		Separate the power connector.
3		Loosen three screws and separate the PBA.
4		Separate the rubber button.

No.	Image	Procedure
5		Separate the button.
6		Separate the door.

4. Troubleshooting

4-1 What to Check before Diagnosis

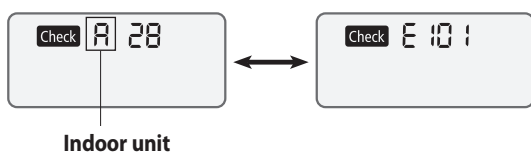
4-1-1 Wired Remote Controller Error Display

The error codes of wired remote controller, indoor unit, outdoor unit are displayed on the LCD display.

■ When the indoor/outdoor unit error occurs

Main(COM1) address(A) of the indoor/outdoor unit where error occurred and error code are displayed in turns.

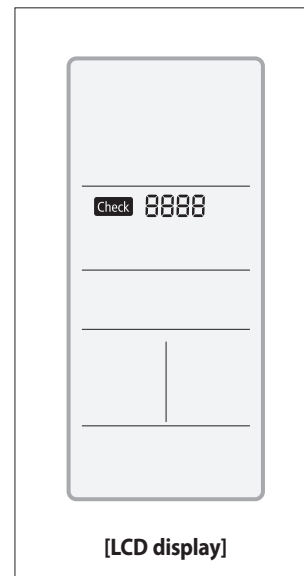
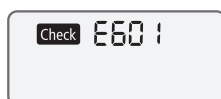
Ex) 101 error occurred in #28 indoor unit



■ When the wired remote controller error occurs

Error code is displayed only. (Address will not be displayed.)

Ex) 601 error occurred in the wired remote controller



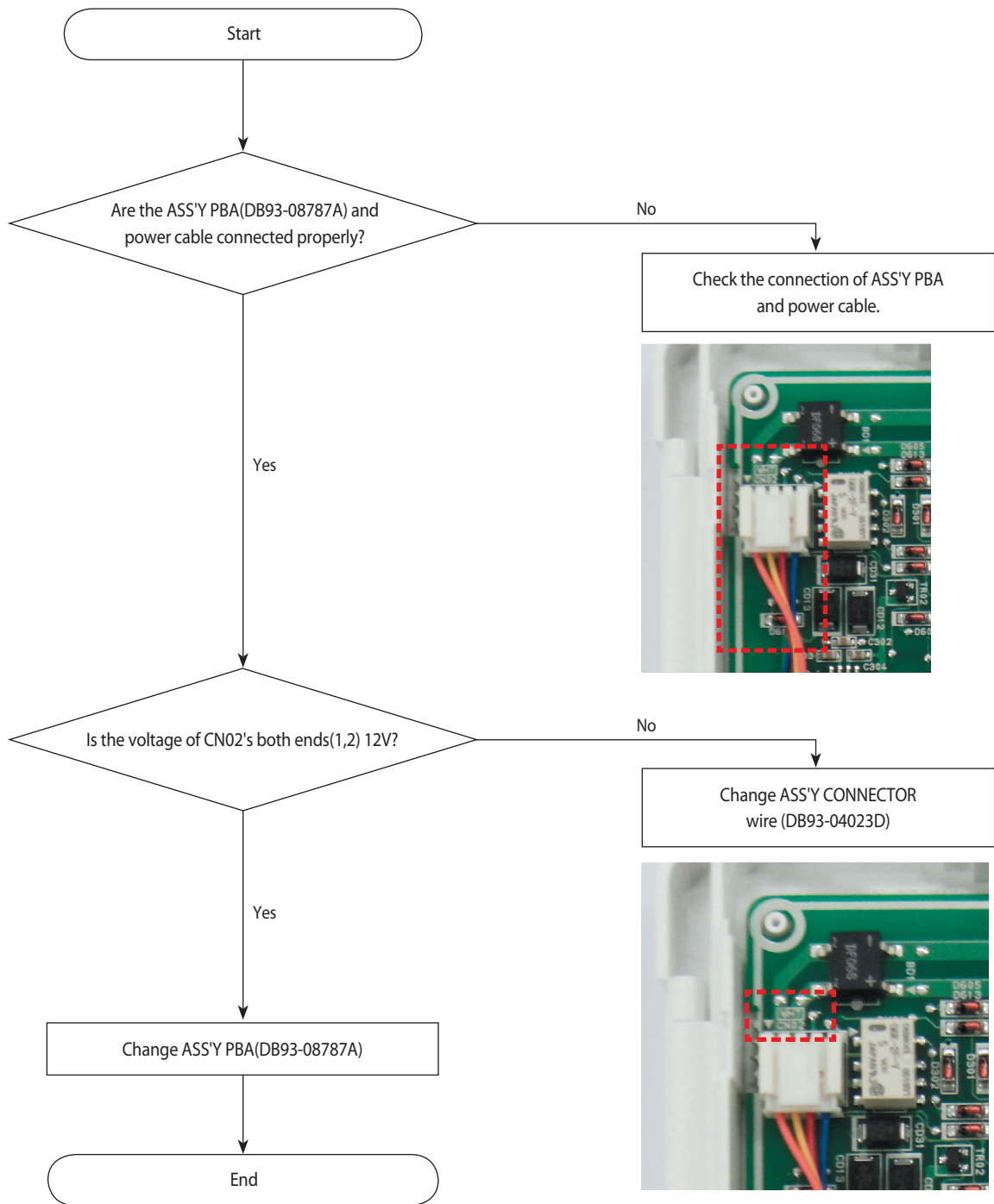
4-1-2 Wired Remote Controller Error List

Error Code	Explanation	Remarks
607	- Master error of several units. - Error occurs when 2 wired remote controllers are set as Master and installed in one communication cable. - If communication cable is connected to opposite polarity, detection is impossible. - Error is detected only in Master wired remote controller.	High Priority  Low Priority
626	- Error of independent ERV installation. - When ERV is installed without an indoor unit. - Error is detected only in Master wired remote controller.	
627	- Slave wired remote controller installation error. - When 2 slave wired remote controllers are installed. - When 1 wired remote controller and 2 slave ERV remote controllers are installed together.	
604	Communication Tracking Error.	
602	- Master ↔ Slave wired remote controller communication error. - Error is detected only in Slave wired remote controller.	
601	Wired remote controller ↔ indoor unit/ERV communication error.	
653	Temperature OPEN/SHORT error.	
654	FRAM READ/WRITE error.	
619	- Mixed installation of Celsius(°C)/Fahrenheit(°F) indoor unit error. - Error occurs when indoor units with Celsius(°C)/Fahrenheit(°F) settings are installed together. - Error is detected only in Master wired remote controller.	
620	- Celsius(°C)/Fahrenheit(°F) setting error of the wired remote controller - Error occurs when the indoor unit is set as Celsius and the wired remote controller is set as Fahrenheit or vice versa. - Change the setting of DIP switch 4 when the 620 error occurs.	

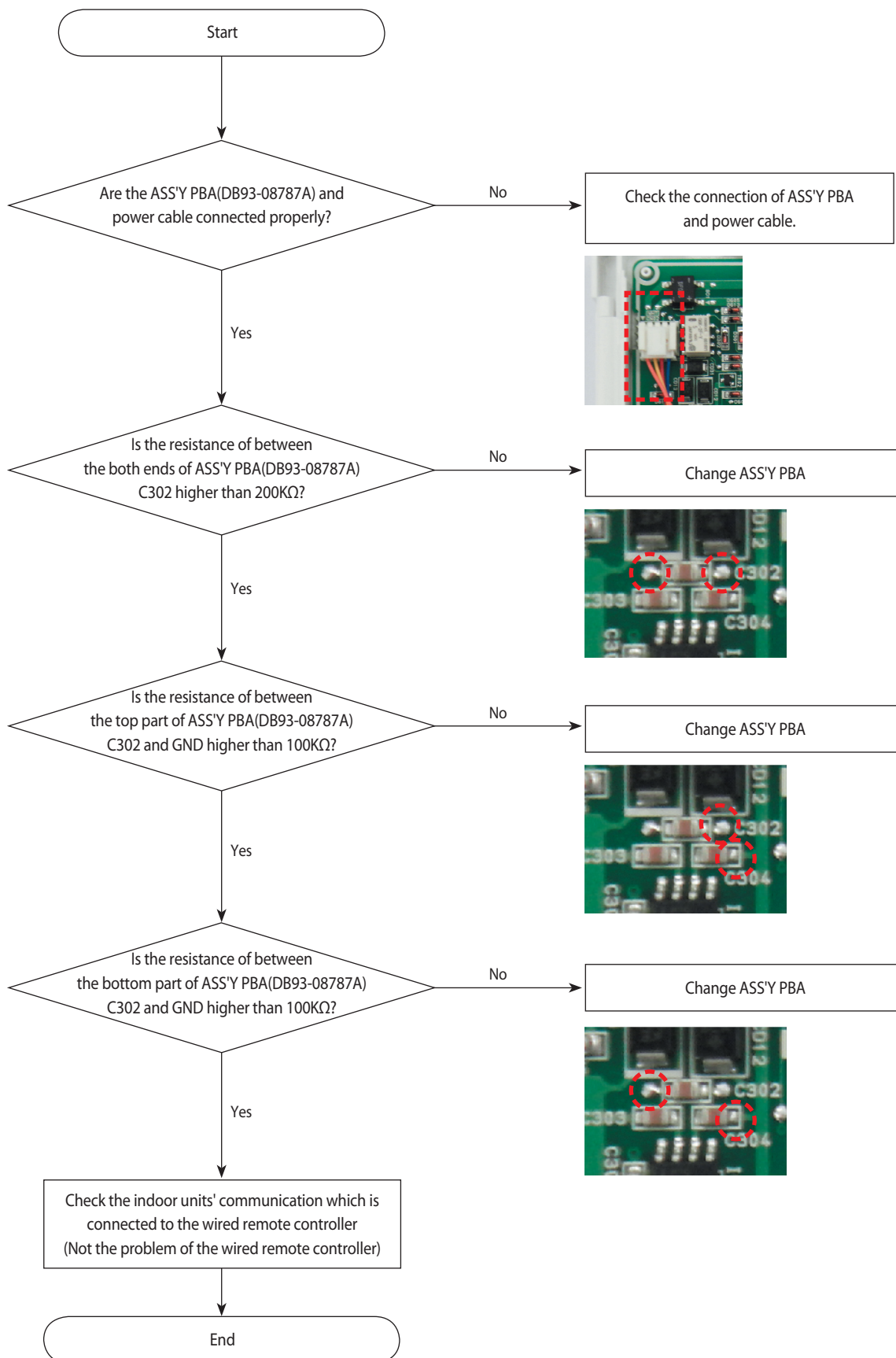
* Refer to the installation manual of each device(Indoor/Outdoor Unit) for error code references.

4-2 How to Take Measures for Each Symptom

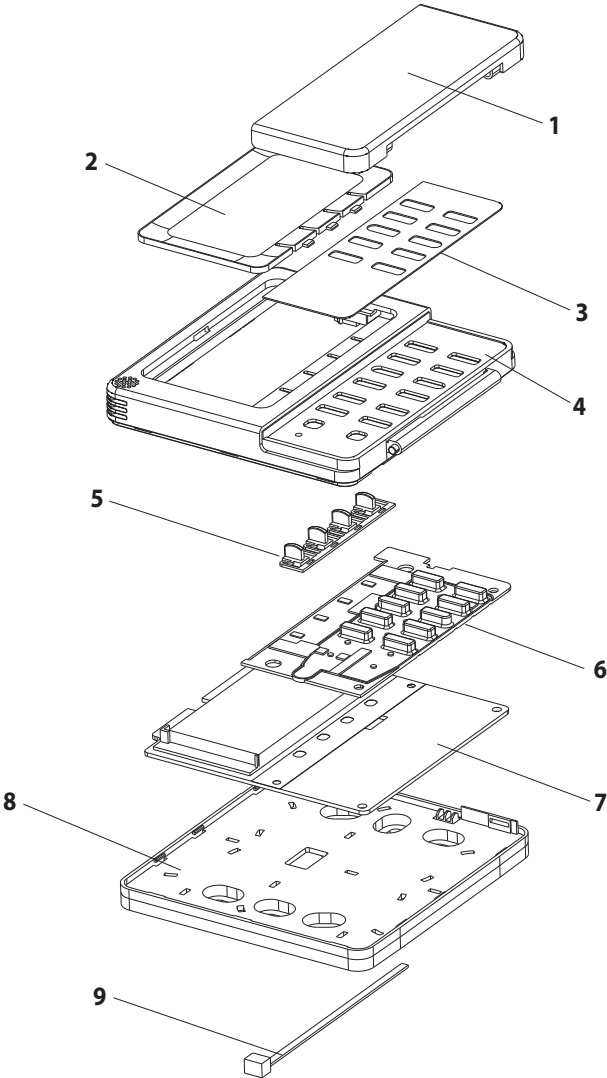
4-2-1 When the LCD Display Doesn't Show



4-2-2 When Communication Error Occurs or Communication is Impossible



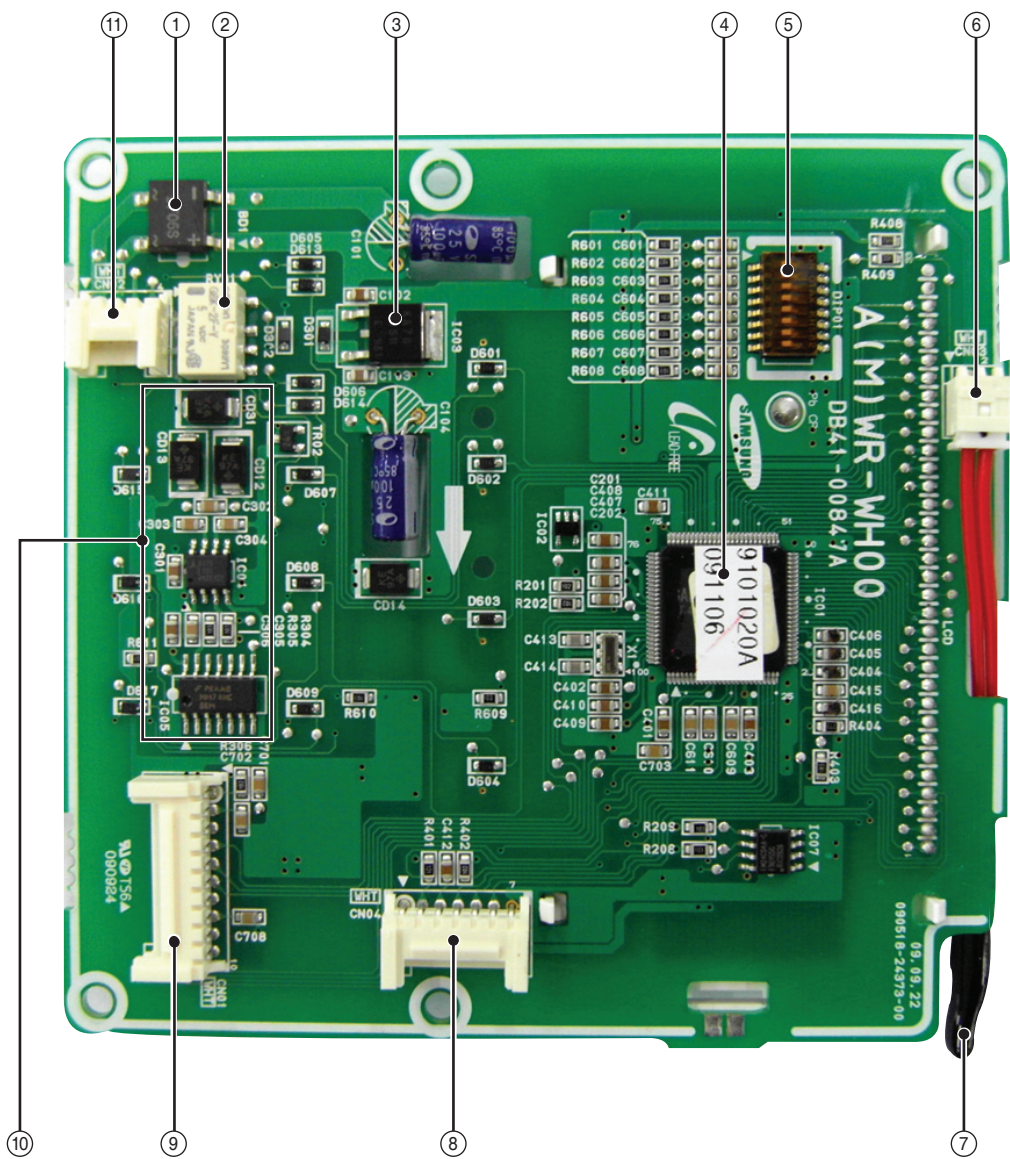
5. Exploded Views and Parts List



■ Parts list

No.	Code	Name	Specification	Q'TY	Remark
1	DB64-01522A	DOOR REMOCON	ABS, 1.5T, 120mm, 50mm	1	SA
2	DB64-01525A	WINDOW DISPLAY	PC, 0.5T, 55mm, 95mm, color no	1	SNA
3	DB64-01528F	INLAY_BUTTON	PC, T0.5, W38.2, H112.2, Silver	1	SNA
4	DB63-01457A	COVER CASE TOP	ABS, 2.0T, W112, H120, Cream white	1	SNA
5	DB64-01526A	KNOB BUTTON	ABS, 2.0T, 20mm, 90mm	1	SNA
6	DB73-00537A	RUBBER BUTTON	Silicon, W109.91, H59, 50, D5.3, White	1	SNA
7	DB93-08787A	ASS'Y PCB MAIN-SOLUTION	MWR-WH00, Wired remote controller, PBA	1	SA
8	DB63-02291A	COVER CASE BOTTOM	ABS, T2, W120, L114	1	SA
9	DB93-04023D	ASS'Y CONNECTOR WIRE	wire, Wired remote controller	1	SNA

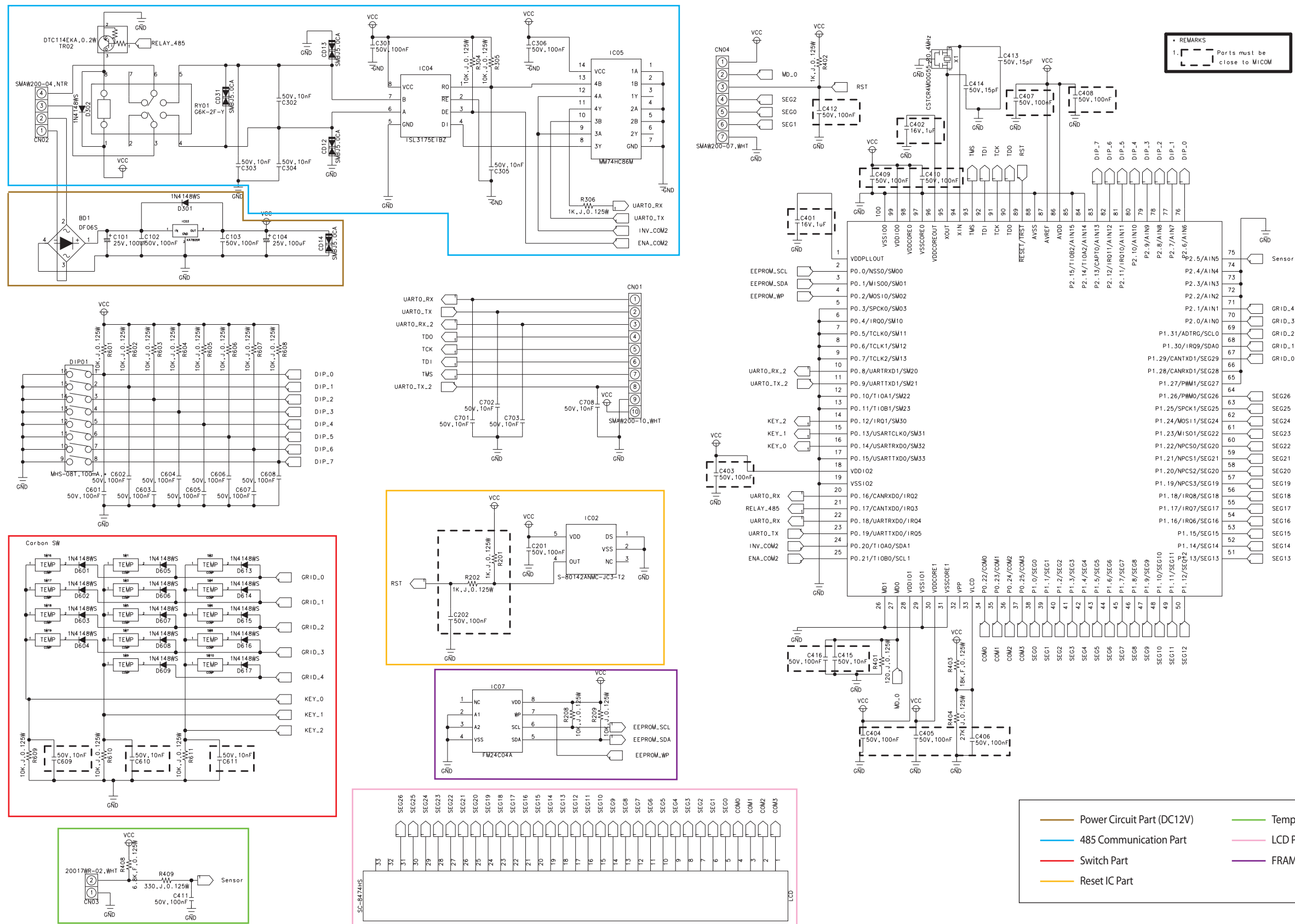
6. PCB Diagram



① Diode Non-polar power	② Relay Prevent wrong wiring between communication and Power cable	③ 5V Regulator 5V Power supply	④ MICOM S3F4A1H Micro controller
⑤ Switch Select various service options of remote controller	⑥ Temperature sensor connector	⑦ Temperature sensor	⑧ Program download connector for development
⑨ Program download connector for service	⑩ 485 Communication part 485 Communication with the indoor unit	⑪ Power and communication connector	

MEMO

7. Schematic Diagram



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