



2009

TRAINING MANUAL – FAULT CODES



SAMSUNG *air*



SAMSUNG MODELS:

WINDOW WALL	-	AW09P1B, AW12P1B, AW18P1B AW09P1HEA, AW12P1HEA, AW18P1HEA, AW24P1HEA AZ09PHB, AZ12PHA AZ09PHHEA, AZ12PHHEA
5 WAY	-	SC09ZAB/7/8, SC12ZAB/7/8, SC18ZA(B)9, SC24TA(B)5 SH09ZAB/7/8, SH12ZAB/7/8, SH18ZA(B), SH24TA(B)5
DELUX	-	SC09ZK8, SC12ZKG, SC18ZKO, SC24TK6, SC30OZC1/2 SC09ZS2, SC12ZS4, SC18ZS0A, SC24ZS6A SH09ZK8, SH12ZKG, SH18ZKO, SH24TK6, SH30ZC1/2 SH09ZS2, SH12ZS4, SH18ZS0, SH24TS6
PREMIUM	-	SH09ZP2/A, SH12ZP4/A, SH18ZP0(A), SH24TP6(A)
CLASSIC	-	SC09ZWH, SC12ZWH, SC18ZWJ, SC24ZW6 SH09ZWH, SH12ZWH, SH18ZWJ, SH24ZW6
PRESTIGE	-	AS12HM3, AS18HM3, AS24HM3
FORTE	-	AS09FAXFA, AS12FAXFA, AS18FAMID, AS24FAMID, AS30WB AQ09FAXFA, AQ12FAXFA, AQ18FAMID, AQ24FAMID, AQ30WB AQ09NAMID, AQ12NAMID, AQ18NAMID, AQ24NAMID AQ09FCMID, AQ12FCMID, AQ18FEMID, AQ24FCMID
FORTE INVERTER	-	AQV09NSAN, AQV12NSAN, AQV18NSAN, AQV24NSAN AQV09FCN, AQV12FCN, AQV18FCN, AQV24FCN
MODERATO	-	AQ09MWBNSER, AQ12MWBNSER, AQ18MWBNSER, AQ24WBNSER AQ09MWBAND, AQ12MWBAND, AQ18MWBAND, AQ24MWBAND AQ09MWBNMID, AQ12MWBNMID, AQ18MWBNMID, AQ24MWBNMID AQ09MSBNSEU, AQ12MSBNSEU, AQ18MSBNSEU, AQ24MSBNSEU
VIVACE	-	AQ09VB(W)AN, AQ12VB(W)AN, AQ18VB(W)AN, AQ24VB(W)AN
CASSETTE	-	CH052EZMC, CH070EZMC, CH105EZMC, CH140EZMC CH070EZM, CH105EZM1, CH140EZM1
DUCTED	-	DH105GZM, DH140GZM, DH175GZM HH105EZM, HH140EZM, HH175EZM DH070EZM,

VE / QE Range

1. **COMPULSORY OPERATION:**
For operating the air conditioner without the remote controller.
*AUTO: The operating is the same function that AUTO MODE in the remote controller.
2. **SWING: BLADE-H** is rotated vertically by the stepping motor.
*Memory louver: When ON/OFF button is pressed at stop state, the BLADE-H returns to its original location which is operating state before stop
*Swing Set: Press the button under the remote control is displayed on LCD the and the blades move up and down, about 43°. If the one more time press the button, blades location is stop.
3. **Quick OFF TIMER:** OFF timer (quick timer) allows reservation or cancel the timer on and timer off quickly When OFF timer button is pressed at operating state, LCD displays the polling state sequentially. The LCD also displays the time remaining.
4. **24-Hour ON/OFF Real Setting Timer:** The air conditioner is turned ON at a specified time using ON TIMER
OFF TIMER: The air Conditioner is turned OFF at a specified time using ON TIMER
*ON TIMER: Only timer LED lights on.
*OFF TIMER: Both timer and operation LED lights on.
*3 minutes delay timer.

5. **SELF Diagnosis**

LED DISPLAY				Check Point
operation	TIMER	FAN	Turbo	
■	○	○	○	Interruption of electric power and Power on.
○	■	○	○	Abnormal condition of the room sensor.
■	■	○	○	Abnormal condition of the indoor unit's heat exchanger sensor.
○	○	■	○	Indoor unit fan motor lock.

LED blinking
 : LED off

6. **BUZZER SOUND:** Whenever the ON/OFF button is pressed or whenever change occurs to the condition which is set up or select, the compulsory operation mode buzzer is sounded "beep"

5 Way Mode Range

- COMPULSORY OPERATION:**
For operating the air conditioner without the remote controller.

*AUTO: The operating is the same function that AUTO MODE in the remote controller. And each time you press the button the 5WAY function is changed as follow. STD → NATURE → POWER → SAVING → SILENCE → POWER OFF

Each time you press This button, 5WAY function is changed in the following order STD (standard) → NATURE → POWER (High-speed) → Saving (Power-Saving) → Quite

- * STD(standard) () : General operation Mode
- * NATURE () : The unit is operated according to health pattern control
- * POWER () : The unit is operated in powerful state
- * SAVING () : The unit is operated in power saving state
- * SILENCE () : The unit is operated quietly

Each mode has Auto, Cool and SLEEP operation designed in advance.

- SWING: BLADE-H** is rotated vertically by the stepping motor:

* Memory louver: When ON/OFF button is pressed at stop state, the BLADE-H returns to its original location which is operating state before stop

* Swing Set: Press the button under the remote control is displayed on LCD the and the blades move up and down. If the one more time press the button, blades location is stop.

- 24-Hour ON/OFF Real Setting Timer:** The air conditioner is turned ON at a specified time using OFF TIMER: The air Conditioner is turned OFF at a specified time using .

*ON TIMER: Only timer LED lights on.

*OFF TIMER: Both timer and operation LED lights on.

- SELF Diagnosis**

Check Point	LED DISPLAY					
	TIMER	STD	NATURE	POWER	SAVING	SILENCE
Indoor unit room temperature sensor error(open or short)	●	○	○	○	○	○
Indoor unit heat exchanger temperature sensor error(open or short)	●	●	○	○	○	○
Indoor fan mal function	○	○	●	○	○	○
EEPROM error	●	●	●	○	○	○
Option error(option wasn't set up or option data error)	●	●	●	●	●	●

: LED blinking : LED off

- BUZZER SOUND:** Whenever the ON/OFF button is pressed or whenever change occurs to the conditioning which is set up or select, the compulsory operation mode, buzzer is sounded "beep"

De Lux Range

1. **COMPULSORY OPERATION:**
For operating the air conditioner without the remote control
*The air conditioner starts up in the most suitable mode for the room temperature:

Room Temperature	Operating Mode	Temperature setting
Less than 21°C	Heat	22°C approx.
21°C or above	Cool	24°C approx.

2. **SWING:** BLADE-H is rotated vertically by the stepping motor.
*Swing Set: Press the button under the remote control is displayed on LCD the and the blades move up and down. If the one more time press the button, blades location is stop.
3. **SETTING THE ON/OFF TIMER:**
*ON TIMER: The On Timer enables you to switch on the air conditioner automatically after a given period of time. You can set the period of time from 30 minutes to 24 hours.
*OFF TIMER: The Off Timer enables you to switch off the air conditioner automatically after a given period of time. You can set the period of timer from 30 minutes to 24 hours.
4. **SELF DIAGNOSIS:**

Description	LAMP of DISPLAY Monitor			
	TURBO	OPERATION	TIMER	ENERGY SAVING
Indoor unit room temperature sensor error(open or short)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Indoor unit heat exchanger temperature sensor error(open or short)	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Indoor fan motor malfunction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
EEPROM error	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Option error(option wasn't set up or option data error)	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>

: Lamp off : Lamp flickering

5. **BUZZER SOUND:** Whenever the On/Off button is pressed or whenever change occurs to the condition which is set up or select, the compulsory operation mode, buzzer is sounded "beep".

Premium Range

Alignment and Adjustment:- Error mode and check method:

Indoor unit observes operation condition of the air conditioner, and displays self diagnosis details on the display panel.

Error Mode	LAMP			7-segment Display
	OPERATION	TIMER	TURBO	
Indoor unit room temperature sensor error (open or short)	○	●	○	E1
Indoor unit heat exchanger temperature sensor error (open or short)	●	●	○	E2
Indoor fan motor malfunction	●	○	●	E3
EEPROM error	○	●	●	E6
Option error (option wasn't set up or option data error)	●	●	●	Display Flickering

○ : Lamp off ● : Lamp flickering

Operation with abnormal motion

No	Abnormal condition	Inspection	Initial Diagnosis
1	No response from the remote control operation signal.	<ul style="list-style-type: none"> Plug out and plug in 5 seconds later. 	Able to operate the remote control.
			<ul style="list-style-type: none"> Unable to operate the remote control. Press the (ON/OFF) button in the indoor unit. <ul style="list-style-type: none"> If it operates, the remote control and indoor unit receiver are in trouble. If not, the indoor unit is in trouble.
2	Unable to operate the outdoor unit	<ul style="list-style-type: none"> Press the TURBO button with the remote control. In 3 minutes, check the voltage between the indoor unit terminal block N(1) and 1. 	AC198V ~ AC242V
			No power source displayed.

Classic Range

Diagnosis and marking of the part in trouble:-

Please check the air conditioner status and write the check result in the chart in the room.

Description	LAMP of Display Monitor		
	TURBO	OPERATION	TIMER
Indoor unit room temperature sensor error(open or short)	○	○	●
Indoor unit heat exchanger temperature sensor error(open or short)	○	●	●
Indoor fan motor malfunction	●	●	○
EEPROM error	●	○	●
Option error(option wasn't set up or option data error)	●	●	●


○ : Lamp off ● : Lamp flickering

Operation with abnormal motion:-

No	Abnormal condition	Inspection	Initial Diagnosis	
1	No response from the remote control operation signal.	*Plug out and plug in 5 seconds later	Able to operate the remote control	OK
			Unable to operate the remote control	Press the button in the indoor unit. *If it operates, the remote control and indoor unit receiver are in trouble *If not, the indoor unit is in trouble
2	Unable to operate the outdoor unit	*Press the TURBO button with the remote control	AC200V - AC240V	Problem with the outdoor unit or PCB
		*In 3 minutes, check the voltage between the indoor unit terminal block N(1) and 1.	No power source displayed	Problem with the relay (RY71) or PCB

Prestige Range

Alignment and Adjustments:-
Error mode and check method:-

Error Mode	LAMP	7-segment Display
Indoor unit room temperature sensor error (open or short)		<i>E 1</i>
Indoor unit heat exchanger temperature sensor error (open or short)		<i>E 2</i>
Indoor fan motor malfunction		<i>E 3</i>
EEPROM error		<i>E 6</i>
Option error (option wasn't set up or option data error)		Display Flickering

Vivace Range
Indoor Display Error and Check Method:-

No	LED Display	Explanation	Explanation
1	E464	IPM Over Current(O.C)	
2	E461	Compressor Starting Error	
3	E473	Compressor Lock Error	
4	E466	DC-Link voltage under/over Error	
5	E221	Outdoor temperature sensor Error	
6	E416	Discharge over temperature	
7	E251	Discharge temperature sensor Error	
8	E468	Current sensor Error	
9	E465	Compressor Vlimit Error	
10	E237	Coil temperature sensor Error	
11	E202	1min. Time out Communication	
12	E458	Fan Error	
13	E471	OTP Error	
14	E467	Compressor Rotation Error	
15	E440/E441(Low/High)	Operation condition secession	
16	E469	DC-Link valtage sensor Error	
17	E462	I_Trip error / PFC Over current	
18	E554	Gas Leak Error	
19	E472	AC Line Zero Cross Signal out	
20	E556	Capacity Miss-match	
21	E121	Room sensor Error	Open/Short
22	E122	In-coil sensor Error	Open/Short
23	E154	FAN Error	Indoor Fan Motor Abnormal Operation Holding for 15 sec. at less than 450rpm
24	E101	1min. Time out Communication	
25	All Lamps Blink	EEPROM Error	
26	All Lamps Blink	Option Error	Option Not Set up, Option Data Error

Moderato Range

**Trouble check in the initial status:-
Diagnosis and marking of the part in trouble:**




Error Mode	LAMP	7-segment Display
Indoor unit room temperature sensor error (open or short)		E1→21→E1
Indoor unit heat exchanger temperature sensor error (open or short)		E1→22→E1
Indoor fan motor malfunction		E1→54→E1
EEPROM error		E1→62→E1
Option error (option wasn't set up or option data error)		Display Flickering

Operation with abnormal motion:

No	Abnormal condition	Inspection	Initial Diagnosis
1	No response from the remote control operation signal.	* Plug out and plug in 5 seconds later	Able to operate the remote control.
			Unable to operate the remote control.
2	Unable to operate the outdoor unit	* Press the TURBO button with the remote control.	OK
		* In 3 minutes, check the voltage between the indoor unit terminal block N1 and 1.	Press the button in the indoor unit. *If it operates, the remote control and indoor unit receiver are in trouble. * If not, the indoor unit is in trouble.
		AC200V - AC240V	Problem with the outdoor unit or PCB
		No power source displayed	Problem with the relay (RY71) or PCB

Inverter

Indoor Display Error and Check Method:-

Description	LAMP			Main Checking Point
	OPERATION	TIMER	TURBO	
				
Indoor unit room temperature sensor error (open or short)	○	●	○	3-2P
Indoor unit heat exchanger temperature sensor error (open or short)	●	●	○	3-3P
Indoor fan motor malfunction	○	○	●	3-4P
EEPROM error	●	●	●	Option Setting
Option error (option wasn't set up or option data error)	●	●	●	Option Setting
Outdoor unit error	●	○	●	Remote Control on/off Outdoor Unit Power Reset

● : Lamp on, ○ : Lamp off, ◐ : Lamp blink

Inverter (continue)
Outdoor LED Error Display and Check Method:-

No.	LED Display			Explanation
	Yellow	Green	Red	
1	○	○	○	Power off/ VDD NG
2	○	○	⊙	IPM Over Current(O.C)
3	○	○	●	Abnormal Serial communication
	○	●	●	
4	○	⊙	○	Compressor Starting error
5	○	⊙	●	Normal Operation
6	○	●	○	Compressor Lock error
7	○	●	⊙	DC-Link voltage under/over error
8	⊙	○	⊙	Outdoor temperature sensor error
9	⊙	○	●	Discharge over temperature
10	⊙	⊙	○	Discharge temperature sensor error
11	⊙	⊙	●	Current sensor error
12	⊙	●	○	Compressor limit error
13	⊙	●	⊙	Coil temperature sensor error
14	⊙	●	●	1min. Time out Communication
15	●	○	○	Fan error
16	●	○	⊙	OTP error
17	●	○	●	Compressor rotation error
18	●	⊙	○	Operation condition secession(Dual only)
19	●	⊙	⊙	DC-Link voltage sensor error
20	●	⊙	●	I_Trip error / PFC Over current
21	●	●	○	GAS Leak error
22	●	●	⊙	AC Line Zero Cross Signal out
23	●	●	●	Power ON reset(1sec)
24	⊙	○	○	Capacity miss match
25	○	⊙	⊙	Test Operation at Cooling Mode
26	⊙	⊙	⊙	Test Operation at Heating Mode




● : LED ON, ○ : LED OFF, ⊙ : LED BLINK

Multi Split

Troubleshooting:-

Items to be checked first:

- 1) The input voltage should be rating voltage $\pm 10\%$ range.
The airconditioner may not operate properly if the voltage is out of this range.
- 2) Is the link cable linking the indoor unit and the outdoor unit linked properly?
The indoor unit and the outdoor unit shall be linked by 5 cables.
Check the terminals if the indoor unit and outdoor unit are properly linked by the same number of cables.
Otherwise the airconditioner may not operate properly.
- 3) When a problem occurs due to the contents illustrated in the table below it is a symptom not related to the malfunction of the airconditioner.

NO	Operation of air conditioner	Explanation
1	The STD operation indication LED blinks when a power plug of the indoor unit is plugged in for the first time.	It indicates power is on. The LED stops blinking if the operation ON/OFF button on the remote control unit is pushed.
2	In a COOL operation mode, the compressor does not operate at a room temperature higher than the setting temperature that the IN DOOR FAN should operate. In a HEAT operation mode, the compressor does not operate at a room temperature lower than the setting temperature that indoor fan should operate.	In happens after a delay of 3 minutes when the compressor is reoperated. The same phenomenon occurs when a power is on. As a phenomenon that the compressor is reoperated after a delay of 3 minutes, the indoor fan is adjusted automatically with reference to a temperature of the air blow
3	Fan speed setting is not allowed in AUTO or DRY mode.  	The speed of the indoor fan is set to LL in DRY mode. Fan speed is 5 steps is selected automatically in AUTO mode.
4	Compressor stops operation intermittently in DRY mode. 	Compressor operation is controlled automatically in DRY mode depending on the room temperature and humidity.
5	Compressor of the outdoor unit is operating although it is turned off in a HEAT mode.	When the unit is turned off while de-ice is activated, the compressor continues operation for up to 9 minutes (maximum) until the deice is completed.
6	Timer LED only of the indoor unit lights up and the air conditioner does not operate.	Timer is being activated and the unit is in ready mode. The unit operates normally if the timer operation is cancelled.
7	The compressor and indoor fan stop intermittently in HEAT mode.	The compressor and indoor fan stop intermittently if room temperature exceeds a setting temperature in order to protect the compressor from overheated air in a HEAT mode.
8	Indoor fan and outdoor fan stop operation intermittently in a HEAT mode.	The compressor operates in a reverse cycle to remove exterior ice in a HEAT mode, and indoor fan and outdoor fan do not operate intermittently for within 20% of the total heater operation
9	The compressor stops intermittently in a COOL mode or DRY mode, and fan speed of the indoor unit decreases.	The compressor stops intermittently or the fan speed of the indoor unit decreases to prevent inside/outside air frozen depending on the inside/outside air temperature.

- 4) Indoor unit observes operation condition of the air conditioner, and displays self diagnosis details on the display panel.

NO	Display				Self Diagnosis
	Standard	Timer	Nature	Power	
1	● (GREEN)	X	X	X	Restore from power failure (input initial power)
2	X	●	X	X	Indoor unit Room sensor Error (open or short)
3	● (GREEN)	●	X	X	Indoor unit heat exchanger temperature sensor Error (open or short)
4	X	X	●	X	Indoor fan malfunctioning (for speed is below 450rpm)
5	X	●	●	X	In case that the communication between the indoor unit and outdoor unit is not made for 60 seconds
6	● (GREEN)	X	●	X	Outdoor sensor Error (open or short) - Outdoor sensor - Pipe sensor A, B
7	● (GREEN)	X	●	●	The malfunction of 4way valve in heat mode operation.

MULTI SPLIT (continues):-

1. **COMPULSORY OPERATION:**
For operating the air conditioner without the remote controller.
*AUTO: The operating is the same function that AUTO MODE in the remote controller.
2. **SWING: BLADE-H is rotated vertically by the stepping motor.**
*Memory louver: When ON/OFF button is pressed at stop state, the BLADE-H returns to its original location which is operating state before stop.
*Swing Set: Press the button under the remote control is displayed on LCD the and the blades move up and down, about 43°. If the one more time press the button, blades location is stop.
3. **Quick OFF TIMER: OFF timer (quick timer) allows reservation or cancel the timer off quickly.**
When OFF timer button is pressed at operating state, LCD displays the polling state sequentially. The LCD also displays the time remaining.
4. **24-Hour ON/OFF Real Setting Timer: The air conditioner is turned ON at time using OFF TIMER: The air conditioner is turned OFF at a specified time using**
*ON TIMER: Only timer LED lights on.
*OFF TIMER: Both timer and operation LED lights on.
*3 Minutes delay timer.
5. **SELF Diagnosis**

LED DISPLAY				CHECK POINT
OPERATION	TIMER	FAN	TURBO	
				Interruption of electric power and Power on
				Abnormal condition of the room sensor
				Abnormal condition of the indoor units heat exchanger sensor
				Indoor nit fan motor lock

: LED blinking : LED off

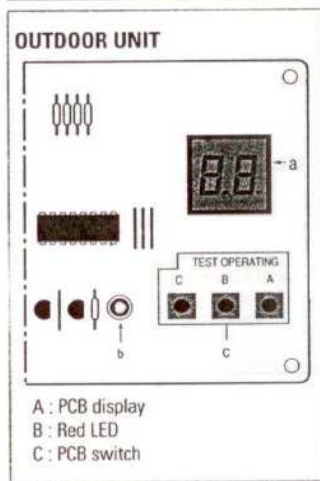
6. **BUZZER SOUND:** Whenever the ON/OFF button is pressed or whenever change occurs to the condition which is set up or select, the compulsory operation mode, buzzer is sounded "beep".

**MULTI SPLIT (continues):-
Check and Test Operations (Outdoor Unit):**

To complete the installation, perform the following checks and tests to ensure that the air conditioner is operating correctly.

1. Review all the following elements in the installation:
 - Installation site strength
 - Piping connection tightness to detect any gas leakages
 - Connection wiring
 - Heat-resistant insulation of the piping
 - Drainage
 - Earthing wire connection
 - Correct operations (follow the steps below)
 - Room select switch in the indoor unit

2. Apply the power to the outdoor unit.
 - Check the fuse (250V~, 5A) : The fuse is open when the power line (L, N) is short.



3. Check the connection of PCB communication of outdoor unit. (Check whether the red LED of outdoor unit PCB is flickering.)

- The communication lamp is flickering after the display of each unit on the outdoor PCB display part. (every one second).
LED is not flickering, if the connection is bad or the room select switch is located in the wrong position.
 - LED lamp (red) flickering after display of A (0.5 sec)
 - LED lamp (red) flickering after display of b (0.5 sec)
 - LED lamp (red) flickering after display of C (0.5 sec)
- Note : PCB switch "C" is used for triple split multi air conditioner.

Result : If all of three units display lamps are flickering, the connection wires and the room option connections are good.

If the lamp is not flickering, check as follows:

- A. Check the display part of indoor unit of each unit (A,B) after outdoor unit PCB switch S/W-A is on. (Adjust the select switch suitable to the unit A, B.)
 - A unit : STANDARD LED on, TIMER LED flickering
 - B unit : STANDARD LED on, TIMER and NATURE LED flickering
 - C unit : STANDARD LED on, TIMER and NATURE, POWER LED flickering (In case of triple split multi air conditioner)

UNIT	STANDARD	TIMER	NATURE	POWER
A	○	◐	●	●
B	○	◐	◐	●
C	○	◐	◐	◐

○ Lamp ON ● Lamp OFF ◐ Lamp Flasher

- B. Check the communication connection of outdoor unit PCB (Check whether the red LED of outdoor unit PCB is flickering).
The communication lamp is flickering after the display of each unit on the outdoor unit PCB. (every one second)
 - LED lamp (red) is flickering after display of A (0.5 sec)
 - LED lamp (red) is flickering after display of b (0.5 sec)
 - LED lamp (red) is flickering after display of C (0.5 sec)

Result : If all of three units display lamps are flickering, the connection wires and the room option connections are good.

4. Check the test operation status by pressing the PCB switch S/W-A and S/W-B of outdoor unit.
 - Check the operation status by pushing the switch one at time.
 - Perform the test operation only for the unit selected last.
 - Check the pipe pressure and the other operation status during the test operation.
 - Check items when the error occurs during the test operation (each unit)
 - Check there is enough refrigerant.
 - Check pipe connections.


MULTI SPLIT (continues):-

DISPLAY	EXPLANATION	REMARK
Er→t0	Outdoor sensor error (Short/Open)	Be sure to check after applying the power to the outdoor unit.
Er→tA	Outdoor A cond pipe sensor error (Short/Open)	
Er→tb	Outdoor B cond pipe sensor error (Short/Open)	
Er→tC	Outdoor C cond pipe sensor error (Short/Open)	
Er→ A	A unit test operation error	Display when the test operation finishes. • When the pipe temperature difference of indoor unit (pipe temperature 4 minutes before - Actual pipe temperature) is less than 5°C.
Er→ b	B unit test operation error	
Er→ C	C unit test operation error	
Er→[A	A unit test communication error	Be sure to check during the test operation.
Er→[b	B unit test communication error	
Er→[C	C unit test communication error	
Er→[0	A,B,C unit all communication error	Display of power application.
Ed→ A	A room test operation OK	Display 4 minutes after the COMP is on.
Ed→ b	B room test operation OK	
Ed→ C	C room test operation OK	
A	Communication unit number display : A unit	<ul style="list-style-type: none"> • Normal operation Unit A,B and C are changed every one second. [A→b→C] The communication lamp is flickering after display of each unit. (possibility to check the communication status) • During the test operation the unit under test is on and off every 0.25s.
b	Communication unit number display : B unit	
C	Communication unit number display : C unit (In case of triple split multi air conditioner)	
Er→ 6	Refrigerant leaks	
Er→AC	High temperature of the A cond	
Er→BC	High temperature of the B cond	

Cassette Old Series

Troubleshooting:-

Wired Remote Controller

If the error occurs,  and the error code are displayed on the wired remote controller.

The error code blinks for 5 seconds and it disappears. If you would like to see the error code after disappearing it, press the Test button.

Meaning of Error Code

The error code is composed of two-digit figures or letters. The first means (*) an indoor unit address and the second means an error code.

<u>Error Code</u>	<u>Meaning</u>	<u>Checking area</u>
* 1	Indoor unit thermistor sensor error	<ul style="list-style-type: none"> ◆ Indoor unit thermistor sensor ◆ PCB of the indoor unit
* 5	Indoor unit pipe sensor error	<ul style="list-style-type: none"> ◆ Indoor unit pipe sensor ◆ PCB of the indoor unit
* 6	Outdoor unit thermistor sensor error	<ul style="list-style-type: none"> ◆ Outdoor unit thermistor sensor ◆ PCB of the outdoor unit
* 9	Float switch error	<ul style="list-style-type: none"> ◆ Drain pump, Float switch ◆ Drain system ◆ DIP switch(SW2) of the indoor unit (The No.2 and No.4 switches must be at "ON" position.)
* A	A Indoor and Outdoor communication error	<ul style="list-style-type: none"> ◆ Communication cables of indoor and outdoor units ◆ PCB of indoor and outdoor units
* C	Wired remote controller communication error	<ul style="list-style-type: none"> ◆ Wired remote controller cables, Wired remote controller ◆ Main/Sub PCB of the indoor unit
* D	Outdoor pipe sensor error	<ul style="list-style-type: none"> ◆ Outdoor pipe sensor ◆ PCB of the outdoor unit
* L	Three phase power incorrect connecting error(In case of three phase power models)	<ul style="list-style-type: none"> ◆ Three phase power connecting ◆ PCB of the outdoor unit

Example : "39" means the address "3" indoor unit has a trouble with a float switch.

Cassette Old Series (continue):-
■ Trouble shooting by outdoor unit error code

ERROR CODE	ERROR DESCRIPTION	REFERENCE PART
E1	Indoor unit room thermistor error	EC01
E5	Indoor unit pipe thermistor error	EC02
E6	Outdoor unit thermistor error	EC03
E9	Float switch open error	EC04
EA	Communication error between indoor unit and outdoor unit	EC05
EC	Communication error between wired remote controller and indoor unit	EC06
ED	Outdoor unit pipe thermistor error	EC07
EL	Reverse power of 3 phase power source detected (3 phase model)	EC08

■ Trouble shooting by indoor unit receive board

ERROR CODE	ERROR CODE	REFERENCE PART
Reservation LED flickering(1Hz period)	Indoor temperature sensor abnormal	EC01
Operation LED and reservation LED flickering (1Hz period)	Indoor pipe temperature sensor abnormal	EC02
Operation LED and filter LED flickering (1Hz period)	Outdoor temperature sensor abnormal	EC03
Reservation LED filter LED alternating flickering (1Hz period)	Float switch open abnormal	EC04
Reservation LED and filter LED flickering (1Hz period)	Indoor and outdoor communication abnormal	EC05
Operation LED and reservation LED alternating flickering (1Hz period)	Wired remote controller communication abnormal	EC06
Filter LED flickering (1Hz period)	Outdoor pipe temperature sensor abnormal	EC07

■ Trouble shooting by outdoor unit error code

ERROR CODE	ERROR DESCRIPTION	REFERENCE PART
*1	Indoor unit room thermistor error	EC01
*5	Indoor unit pipe thermistor error	EC02
*6	Outdoor unit thermistor error	EC03
*9	Float switch open error	EC04
*A	Communication error between indoor unit and outdoor unit	EC05
*C	Communication error between wired remote controller and indoor unit	EC06
*D	Outdoor unit pipe thermistor error	EC07
*L	Three phase power incorrect connecting error (In case of three phase power models)	EC08

* The asterisk mark "*" + "ERROR" CODE of wired remote controller stands for the set number.
 ex) ERROR CODE "39" is the FLOAT SWITCH OPEN ERROR of SET no.3.

■ Trouble shooting by outdoor unit error code

ERROR CODE	ERROR DESCRIPTION	REFERENCE PART
LED flickering	Communication error between indoor unit and centralized controller	EC20

**Cassette Old Series (continue):-
Startup method by wired remote controller**

Startup in case of the "A" chamber single operation

- Put on the set power.
- Adjust the address of digital switch of indoor unit PCB to "0".
- Put ON the option switch(DS01) N02 of wired remote controller PCB.
- Put on the set power.
- Press the test button of wired remote controller

for more than 3 seconds.

- The set is operated for 3 minutes by the forced cooling operation and the set is off after 3 minutes.
- The error occurring during the test operation is displayed on the wired remote controller windows and it shall be referred to the following table.

Error Code	Meaning	Checking Area
01	Indoor unit room thermistor error	<ul style="list-style-type: none"> • Indoor unit thermistor available or not and disconnected • Indoor unit PCB
05	Indoor unit pipe thermistor error	<ul style="list-style-type: none"> • Indoor unit pipe thermistor • Indoor unit PCB
06	Outdoor unit thermistor error	<ul style="list-style-type: none"> • Outdoor unit thermistor • Outdoor unit PCB
09	Float switch open error	<ul style="list-style-type: none"> • Drain pump, float switch • Drain system • Dip SW2 of indoor unit main PCB (If the drain pump is not installed, SW2 and SW4 shall be at the Off position.)
0A	Indoor unit ↔ outdoor unit communicating error	<ul style="list-style-type: none"> • Indoor unit ↔ outdoor unit communicating error • Indoor unit ↔ outdoor unit communicating cable • Indoor unit PCB, Outdoor unit PCB
0C	Wired remote controller ↔ indoor unit communication error	<ul style="list-style-type: none"> • Wired remote controller ↔ indoor unit communication cable • Indoor unit main PCB
0D	Outdoor unit pipe thermistor error	<ul style="list-style-type: none"> • Outdoor unit pipe thermistor • Outdoor unit PCB

Caution :

- Unless the address of digital switch of indoor unit PCB is set to "0" in case of "A" chamber single operation, the control by the wired remote controller is disabled.
- The power of SET shall be put on again after the resetting of wired remote controller option so that the the set option can be applied. Be sure to keep the power on/off of SET before and after the setting.
- The first digit of error code displayed during the single operation and group operation may be different. The first digit(MSB) stands for the address of the set where the error occurs. Since it is the single operation, the address of SET is "0".

Cassette / Ducted Indoor

Alignment and Adjustment:- Error mode and check method:

■ Error detection and reoperation

- If error occurs during the operation, badness is indicated by LED flickering and all operation is stopped except LED.
- When reoperating by remote control and switch determine the error mode after normal operation.


■ Indoor unit LED lamp display at error detecting

Error type	LED lamp display					Remarks
	Operation	Defrost	Timer	Air flow	Filter	
	⏻	*❄️	🕒	🌀	📏	
Power reset	●	×	×	×	×	
Error of temperature sensor in the indoor unit (Open/Short)	×	×	●	×	×	
Error of heat exchanger sensor in the indoor unit	●	×	●	×	×	
Error of the outdoor temperature sensor Error of the condensor temperature sensor Error of the discharge temperature sensor	●	×	×	●	×	
1. No communication for 2 minutes between indoor units (Communication error for more than 2 minutes) 2. Indoor unit receiving the communication error from outdoor unit 3. Outdoor unit tracking 3 minutes error 4. When sending the communication error from the outdoor unit, the mismatching of the communication numbers and installed numbers after completion of tracking (Communication error for more than 2 minutes)	×	×	●	●	×	1. Indoor unit error (Display is unrelated with operation) 2. Outdoor unit error (Display is unrelated with operation)
Communication error between indoor units	●	×	×	×	●	
1. Error of electronic expansion valve close 2. Error of electronic expansion valve open 3. 2'nd detection of high temperature cond 4. 2'nd detection of high temperature discharge 5. Error of reverse phase 6. Compressor down due to 6'th detection of freezing	×	×	●	●	●	
Detection of the float switch	×	×	×	●	●	
Error of setting option switches for optional accessories	×	×	●	×	●	
EEPROM error	●	×	●	●	×	
EEPROM option error	●	●	●	●	●	

● : On ● : Flickering × : Off

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

**Cassette/Ducted Indoor (continues):-
Wired remote controller:-**

- If an error occurs,  is displayed on the wired remote controller.
If you would like to see an error code, press the Test button.

Display	Description	Remarks
488	Compressor down due to protection control of the discharge temperature sensor	Error about protection control of the outdoor unit
450	Control due to the condenser temperature sensor when cooling mode	
458	Error of the low pressure switch (Protection control)	
425	Reverse phase error (Protection control)	
558	In removing frost	
228	Error of the outdoor temperature sensor (Open/Short)	Error about the outdoor unit sensor (Open/Short) Detection during the operation of the indoor unit (sensing and sending errors into the communication data)
238	Error of condenser temperature sensor (Open/Short)	
258	Error of discharge temperature sensor (Open/Short)	
208	- System down caused by communication error after completion of tracking - Mismatching of the indoor unit numbers set with those communication after completion of 5 times tracking	Communication and the indoor unit errors
828	Error of temperature sensor in the indoor unit (Open/Short)	Self-diagnosis of the indoor and outdoor unit
822	Error of the heat exchanger sensor in the indoor unit (Open/Short)	
489	Error of electronic expansion valve open in the outdoor unit (when it is detected more than once)	
422	Error of electronic expansion valve close in the outdoor unit (when it is detected more than once)	
608	Error of communication between the indoor unit and the wired remote controller	Wired remote controller errors
602	Master wired remote controller ↔ Slave wired remote controller	
606	COM1/COM2 Cross-installed error	
8EA	Error of setting option for wired remote controller COM2	

163	-	NO PROGRAM
153	-	DRAIN PUMP
154	-	INDOOR FAN

Cassette / Ducted Outdoor

Outdoor Unit:-

Display	Explanation	Remark
<i>Er</i> → <i>P0</i>	High temperature of Discharge (Protection control)	Error about protection control of outdoor unit
<i>Er</i> → <i>P1</i>	High temperature of outdoor heat exchanger (Protection control)	
<i>Er</i> → <i>P4</i>	Reverse phase error (Protection control)	
<i>Er</i> → <i>P5</i>	COMP DOWN to protect being frozen	
<i>Er</i> → <i>P9</i>	In removing frost	
<i>Er</i> → <i>t1</i>	Error of OUT TEMP sensor (OPEN/SHORT)	Errors about outdoor unit sensor (OPEN/SHORT) Detection during the operation of indoor unit (Sensing and sending errors into the communication data)
<i>Er</i> → <i>t2</i>	Error of temperature sensor in outdoor heat exchanger (OPEN/SHORT)	
<i>Er</i> → <i>t3</i>	Error of Discharge TEMP sensor (OPEN/SHORT)	
<i>Er</i> → <i>E1</i>	System Down caused by communication error after completion of tracking	Communication and indoor unit errors
<i>Er</i> → <i>E2</i>	Mismatching of the indoor unit numbers set with those communicated after completion of tracking	
<i>Er</i> → <i>E3</i>	Error of float switch in indoor unit	Self-diagnosis of indoor and outdoor unit (x:indoor unit address)
<i>Er</i> → <i>E5</i>	Error of setting option switches for optional accessories	
<i>Er</i> → <i>9x</i>	OPEN/SHORT error of room sensor in indoor unit	
<i>Er</i> → <i>rx</i>	OPEN/SHORT error of eva in sensor in indoor unit	
<i>Er</i> → <i>Ux</i>	EEPROM option error	Displays of operating status
<i>Er</i> → <i>ux</i>	Error of fan starting	
<i>Er</i> → <i>G4</i>	Open error of electronic expansion valve in outdoor unit (Detected once or more times)	
<i>Er</i> → <i>G5</i>	Close error of electronic expansion valve in outdoor unit (Detected once or more times)	
<i>tU</i> Flicker	Below -5°C when cooling (Outdoor temperature)	
<i>tD</i> Flicker	Over 30°C when heating (Outdoor temperature)	
K1, K2, K3, K4, K5 Flicker		

The order of priority : E1 → E2 → E3 → E5 → P0 → P1 → P4 → P5 → P9 → 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.

P3 – SHORT OF GAS
P4 – PHASE ROTATION

**Cassette / Ducted Outdoor (continue):-
Reading data indicated on the display:-**

KEY	Number of press	Item	Example	
			Display	Meaning
K1	1	Adding refrigerant for heat pump models	88F1	
	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	Discharge temperature of compressor	31.10	110 °C
	2	Temperature of outdoor heat exchanger	48.38	38 °C
	3	Outdoor temperature	58.34	34 °C
	4	Step of electronic expansion valve (0 step : all closed, 480 step : all open)	68.42	120STEP (12 x 10)
	5	Temperature of evaporator	7.82	-2 °C
			78.12	12 °C
	6	Indoor temperature	88.22	22 °C
7	Stopping view mode & display communication data	8888		

Window Wall:- Troubleshooting:

Check the basic checkpoints first to determine whether it is machine trouble or a problem in the operation method. When it is not related to the basic checkpoints, perform checking in accordance with the procedures of troubleshooting by symptom.

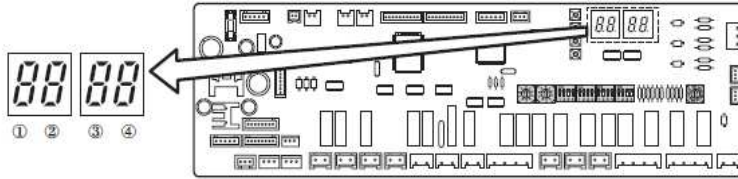
Basic Checkpoints for Troubleshooting:

- 1) Is the voltage of the power source appropriate?
 - (1) It should be within the range of AC 198V ~ 264V.
 - (2) The air conditioner may not operate properly when the voltage is out of this range.
- 2) Is the connection with the fan motor, compressor wire, and starting condenser appropriately made?
- 3) The symptoms listed in the table below are not indicative of machine trouble.

No	Trouble	Checkpoints	Possible cause
①	Compressor does not run.	1. check the thermostat position. 2. check the connection of the lead wire. 3. check the over load protector. 4. check the compressor. 5. check the position of the select switch.	1. Setting temp is lower than room temp. 2. Disconnection of the lead wire. 3. O.L.P is faulty 4. Compressor is faulty
②	Motor does not run.	1. check the connection of the lead wire & switch. 2. check the motor 3. check whether the unit is deicing.	1. disconnection of the lead wire 2. switch is faulty. 3. motor is faulty. 4. The unit is operating on the deice mode.
③	Low cooling capacity	1. check the refrigerant leakage. 2. check the evaporator condition. (freezing, blocked with dusts, etc.) * Difference of temp. exists between the suction side and the discharge side at least 12°C. * Standard condition Indoor : 27°C outdoor : 35°C	1. Caused by the pipe crack. 2. shortage of refrigerant. 3. clean the evaporator & air filter.
④	Noise	1. check vibration of the pipe. 2. check the propeller fan and blower (not loose or broken). 3. check bearing noise of the motor. 4. check the compressor noise against.	1. pipes are contact with the other parts. 2. the hex. nut is loose 3. the parts are broken 4. motor is faulty 5. compressor is faulty that of other compressors.

DVM PLUS III, DVM PLUS III HR

Error codes:



Display alphabet at ①	Description
E	It displays from error 101 to error 700.
P	It displays from error 701 to error 800.
U	It displays the address of outdoor unit. Ex) U200 : Outdoor unit 1, U201: Outdoor unit 2, U202: Outdoor unit 3, U203 : Outdoor unit 4
A	It displays the address of indoor unit. Ex) A000 : Indoor address 1, A001: Indoor address 1, A002 : Indoor address 2

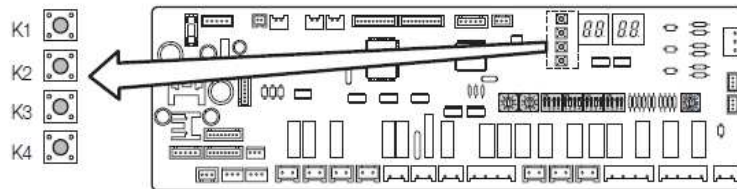
No.	Error code	Description
1	E-101	Communication error in indoor unit. It displays when the indoor unit receives no data from the outdoor unit.
2	E-102	Communication error between indoor and outdoor unit. It displays in indoor unit.
3	E-121	Room temperature sensor of indoor unit. (Open or Short)
4	E-122	Eva_in temperature sensor of indoor unit. (Open or Short)
5	E-123	Eva_out temperature sensor of indoor unit. (Open or Short)
6	E-124	Communication error between indoor and outdoor unit. It displays in outdoor unit.
7	E-125	Mtd 2 temperature sensor of indoor unit. (Open or Short)
8	E-128	Eva_in temperature sensor is detached from eva_in pipe of indoor unit.
9	E-129	Eva_out temperature sensor is detached from eva_out pipe of indoor unit.
10	E-130	Eva_in and eva_out temperature sensors are detached from eva_in and out pipes of indoor unit at the same time.
11	E-137	VOC sensor of ERV product. (Open or Short)
12	E-138	Gas sensor of ERV product. (Open or Short)
13	E-139	CO ₂ sensor of ERV product. (Open or Short)
14	E-151	EEV opening error of indoor unit (2 nd detection)
15	E-152	EEV closing error of indoor unit (2 nd detection)
16	E-153	Floating switch error of indoor unit (2 nd detection)
17	E-154	RPM feed back error of indoor unit.
18	E-155	RPM feed back error of indoor unit. (The second motor of indoor unit)
19	E-161	Mixed operation mode of indoor units. It occurs when outdoor unit is operating or going to operate in cooling mode (or heating mode) and then other indoor unit is going to operate in heating mode (or cooling mode).
20	E-162	EEPROM error of MICOM. (Physical damage)
21	E-163	Option code error of indoor unit's EEPROM.
22	E-167	Option setting error of indoor unit's dip switch.
23	E-170	Temperature display setting error for USA market product. (Mixed setting with Celsius and Fahrenheit temperature)
24	E-180	Opening error of cooling and heating solenoid valve simultaneously in MCU (1 st detection)
25	E-181	Opening error of cooling and heating solenoid valve simultaneously in MCU (2 nd detection)
26	E-185	Cross wiring error between communication and power of indoor unit.
27	E-190	No matching between indoor unit's address and eva_in sensor in pipe checking operation.
28	E-191	No matching between indoor unit's address and eva_out sensor in pipe checking operation.
29	E-199	It displays when pipe checking operation is not operated.

No.	Error code	Description
30	E-201	Communication error between indoor and outdoor unit (Tracking failure or the setting quantity of indoor unit on outdoor unit's PCB differs from the quantity of installed indoor unit.)
31	E-202	Communication error between indoor and outdoor unit. (After tracking is completed, and then no response from indoor unit)
32	E-203	Communication error between main and sub outdoor unit
33	E-204	The setting quantity of MCU on outdoor unit's PCB differs from the quantity of installed MCU.
34	E-210	Communication error between MCU and outdoor unit.
35	E-211	Indoor unit's address overlapped on the MCU.
35	E-213	No matching between installed indoor unit's address and indoor unit's address on the MCU.
35	E-214	Setting error of MCU's quantity in outdoor unit's PCB
36	E-215	Indoor unit's address setting error on the MCU. (There is same address among the MCUs)
37	E-216	Setting error of indoor unit activating dip switch on MCU's PCB. (The indoor unit is not connected with the MCU's port but indoor unit activating dip switch on MCU's PCB turns on.)
38	E-217	Setting error of indoor unit activating dip switch on MCU's PCB. (The indoor unit is connected with the MCU's port but indoor unit activating dip switch on MCU's PCB turns off.)
39	E-218	Setting error of indoor unit's quantity on MCU's PCB. (The quantity of installed indoor units exceeds the setting number of the MCU's PCB.)
40	E-221	Ambient air temperature sensor of outdoor unit. (Open or Short)
41	E-226	Ambient air temperature sensor is detached from outdoor unit.
42	E-231	Cond_out temperature sensor of main outdoor unit. (Open or Short)
43	E-236	Cond_out temperature sensor of the outdoor unit. (Open or Short)
44	E-237	Cond temperature sensor of outdoor unit. (Open or Short)
45	E-241	Cond_mid temperature sensor is detached from sensor hold of the pipe.
46	E-246	Cond_out 1 temperature sensor is detached from sensor hold of the pipe.
47	E-251	Discharge temperature sensor of compressor 1. (Open or Short)
48	E-256	Discharge temperature sensor of compressor 1. (Open or Short)
49	E-257	Discharge temperature sensor of compressor 2. (Open or Short)
50	E-258	Discharge temperature sensor of compressor 3. (Open or Short)
51	E-261	Discharge temperature sensor of compressor 1 is detached from the sensor hold of the pipe.
52	E-262	Discharge temperature sensor of compressor 1 is detached from the sensor hold of the pipe.
53	E-263	Discharge temperature sensor of compressor 2 is detached from the sensor hold of the pipe.
54	E-264	Discharge temperature sensor of compressor 3 compressor is detached from the sensor hold of the pipe.
55	E-265	Sump(Base) temperature sensor of main unit's compressor is detached from the base of the compressor.
56	E-266	Sump(Base) temperature sensor of sub1 unit's compressor is detached from the base of the compressor.
57	E-267	Sump(Base) temperature sensor of sub2 unit's compressor is detached from the base of the compressor.
58	E-268	Sump(Base) temperature sensor of sub3 unit's compressor is detached from the base of the compressor.
58	E-269	Suction temperature sensor is detached from the sensor hold of the pipe.
59	E-271	Sump(Base) temperature sensor of compressor 1. (Open or Short)
60	E-276	Sump(Base) temperature sensor of compressor 1. (Open or Short)
61	E-277	Sump(Base) temperature sensor of compressor 2. (Open or Short)
62	E-278	Sump(Base) temperature sensor of compressor 3. (Open or Short)
63	E-291	High pressure sensor. (Open or Short)
64	E-296	Low pressure sensor. (Open or Short)
65	E-307	Oil balance temperature sensor. (Open or Short)
66	E-308	Suction temperature sensor. (Open or Short)
67	E-311	Double tube / Liquid temperature sensor. (Open or Short)
68	E-312	Main cooling solenoid valve opening error.
69	E-321	EVI_in temperature sensor. (Open or Short)
70	E-322	EVI_out temperature sensor. (Open or Short)

No.	Error code	Description
71	E-407	Compressor stop by high pressure's protection control.
72	E-410	Compressor stop by low pressure's protection control.
73	E-413	Protection control by sump sensor.
74	E-416	Compressor stop by discharge temperature's protection control.
75	E-425	Reverse phase or phase open. (3ø Wiring of outdoor unit, R-S-T-N)
76	E-428	Compressor stop by abnormal compression ratio.
77	E-431	Self-diagnosis of oil solenoid valve. (Open and Close error)
78	E-438	EVI EEV opening error.
79	E-440	Prohibition of heating operation when the ambient air temperature is over 30°C
80	E-442	Prohibition of refrigerant charging with heating operation when outdoor ambient air temperature is over 15°C.
81	E-443	Prohibition of operating when the high pressure of system is too low.
82	E-452	Power failure temporarily or zero crossing error.
83	E-453	Overload error of outdoor unit's motor (by temperature).
84	E-454	RPM error of outdoor unit's motor
85	E-455	IPM overload error of outdoor unit's motor (by temperature)
86	E-456	Over Current error of outdoor unit's motor
87	E-457	Backlash error of outdoor unit's motor
88	E-458	Over current of CT sensor. (Or outdoor's motor locking of inverter system.)
89	E-461	Low current of CT sensor. (Or compressor starting failure of inverter system.)
90	E-477	Liquid refrigerant incoming protection error in digital / 1st fixed scroll compressor with sump temperature sensor.
91	E-559	Indoor unit stop by unidentified error from outdoor units.
92	E-560	Option switch setting error of outdoor unit. (inapplicable option switch turns on.)
93	E-561	Fan RPM error of ERV SA (Supply air).
94	E-562	Fan RPM error of ERV RA (Return air).
95	E-563	Model mismatching of Indoor unit.
96	E-601	Communication error between remote controller and indoor unit.
97	E-602	Communication error between master and slave wired remote controller.
98	E-603	Communication packet error (Baud rate error)
99	E-604	Tracking failure error between wired remote controller and indoor unit.
100	E-605	Communication error. (7-day scheduler ↔ Wired remote controller or 7-day scheduler ↔ Centralized controller)
101	E-606	COM1/COM2 communication setting error. (Wired remote controller)
102	E-607	Two masters of wired remote controllers were installed in one COM2 communication line.
103	E-608	Can't detect ERV controller.
104	E-609	Indoor unit is not detected for synchronous control.
105	E-610	Communication error between centralized controller and interface module.
106	E-611	Communication error between DMS and centralized controller.
107	E-613	Communication error between DMS and SIM interface module.
108	E-614	Communication error between SIM and power meter.
109	E-615	Communication error between interface module and indoor unit.
110	E-616	Communication error between interface module and outdoor unit.
111	E-618	The connected indoor units to ERV exceeded 16 units.
112	E-619	Mixed temperature display setting of indoor units which was connected to MWR-WS00 (Celsius/Fahrenheit)
113	E-620	Temperature display setting error of MWR-WS00 (Celsius/Fahrenheit)
114	E-621	Option switch setting error of wired remote controller (Master / Slave)
115	E-652	Two wired remote controllers were set to the master mode. (COM 1 wiring)
116	E-653	Room temperature sensor in the wired remote controller. (Open or Short)
117	E-654	Memory data error in the wired remote controller. (MWR-WS00)
118	P-701	Floating switch error of indoor unit. (1 st detection)
119	P-702	EEV closing error of indoor unit. (1 st detection)
120	P-703	EEV opening error of indoor unit. (1 st detection)

DVM PLUS III, DVM PLUS III HR (continues)
Option switches & function keys:

2) Function keys



K1	Key function	Display LED
Push 1 st time	Refrigerant charging in heating operation	"K" "1" "BLANK" "BLANK"
Push 2 nd time	Test run in heating mode	"K" "2" "BLANK" "BLANK"
Push 3 rd time	Pump out operation in heating mode (Outdoor unit's address : NO 1)	"K" "3" "BLANK" "1"
Push 4 th time	Pump out operation in heating mode (Outdoor unit's address : NO 2)	"K" "3" "BLANK" "2"
Push 5 th time	Pump out operation in heating mode (Outdoor unit's address : NO 3)	"K" "3" "BLANK" "3"
Push 6 th time	Pump out operation in heating mode (Outdoor unit's address : NO 4)	"K" "3" "BLANK" "4"
Push 7 th time	Open all valve of outdoor unit for vacuum preparation (Outdoor unit's address : NO 1)	"K" "4" "BLANK" "1"
Push 8 th time	Open all valve of outdoor unit for vacuum preparation (Outdoor unit's address : NO 2)	"K" "4" "BLANK" "2"
Push 9 th time	Open all valve of outdoor unit for vacuum preparation (Outdoor unit's address : NO 3)	"K" "4" "BLANK" "3"
Push 10 th time	Open all valve of outdoor unit for vacuum preparation (Outdoor unit's address : NO 4)	"K" "4" "BLANK" "4"
Push 11 th time	Open all valve for vacuum preparation (Total outdoor units, indoor unit and MCU units)	"K" "4" "BLANK" "A"
Push 12 th time	Return to normal view mode	-
K2	Key function	Display LED
Push 1 st time	Refrigerant charging in cooling operation	"K" "5" "BLANK" "BLANK"
Push 2 nd time	Test run in cooling mode	"K" "6" "BLANK" "BLANK"
Push 3 rd time	Pump down operation in cooling mode (All outdoor units)	"K" "7" "BLANK" "BLANK"
Push 4 th time	Pipe checking (Check whether the pipe connection of MCU correspond with indoor unit's address in HR system.)	"K" "8" "BLANK" "BLANK"
Push 5 th time	Judgment system of refrigerant amount	"K" "9" "BLANK" "BLANK"
Push 6 th time	Return to normal view mode	-
K3	Key function	Display LED
Push 1 st time	Reset	

Note : LED display alphabet



0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	G	H
0	1	2	3	4	5	6	7	8	9	a	b	c	d	e	f	g	h
I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z

K4	Key function	Display LED	
		SEG 1	SEG 2, 3, 4
Push 1 st time	Outdoor capacity	1	Ex) 16 HP → Off, 1, 6
Push 2 nd time	Digital comp loading time	2	Ex) Loading 13 sec → Off, 1, 3
Push 3 rd time	High pressure (kg/cm ²)	3	Ex) High pressure 15.2 (kg/cm ²) → 1, 5, 2
Push 4 th time	Low pressure (kg/cm ²)	4	Ex) Low pressure 4.3 (kg/cm ²) → 0, 4, 3
Push 5 th time	Discharge temperature of compressor 1	5	Ex) 87°C → 0, 8, 7
Push 6 th time	Discharge temperature of compressor 2	6	Ex) 87°C → 0, 8, 7
Push 7 th time	Discharge temperature of compressor 3	7	Ex) 87°C → 0, 8, 7
Push 8 th time	CT sensor value of compressor 1	8	Ex) 2A → 0, 0, 2
Push 9 th time	CT sensor value of compressor 2	9	Ex) 2A → 0, 0, 2
Push 10 th time	CT sensor value of compressor 3	A	Ex) 2A → 0, 0, 2
Push 11 th time	Suction temperature	B	Ex) -5 °C → -, 0, 5
Push 12 th time	Cond_out temperature	C	Ex) 35°C → 0, 3, 5
Push 13 th time	Liquid tube temperature	D	Ex) 35°C → 0, 3, 5
Push 14 th time	Oil temperature sensor on oil balancing pipe	E	Ex) 35°C → 0, 3, 5
Push 15 th time	Sump temperature of compressor 1	F	Ex) 35°C → 0, 3, 5
Push 16 th time	Ambient air temperature	G	Ex) 35°C → 0, 3, 5
Push 17 th time	EVI_in temperature	H	Ex) 35°C → 0, 3, 5
Push 18 th time	EVI_out temperature	I	Ex) 35°C → 0, 3, 5
Push 19 th time	Main EEV1 step	J	Ex) 2000 steps → 2, 0, 0
Push 20 th time	Main EEV2 step	K	Ex) 2000 steps → 2, 0, 0
Push 21 th time	EVI EEV step	L	Ex) 300 steps → 3, 0, 0
Push 22 th time	HR EEV step	M	Ex) 300 steps → 3, 0, 0
Push 23 th time	Fan step (SSR or BLDC)	N	Ex) 13 steps → Off, 1, 3
Push 24 th time	Version		

**DVM PLUS III, DVM PLUS III HR (continues)
Wired Remote Controller – Install MWR-TH01:**
Error codes:

Display a type of error occurred in indoor units, outdoor units and, wired remote controller.
(The following is errors related to a wired remote controller)

Error code	Description	Remark
601	Wired remote controller ↔ Indoor unit communication error	When communication with indoor units is blocked for 3 minutes.
602	Wired remote controller communication error between Master ↔ Slave	When two wired remote controllers are used for one indoor unit, communication between has been blocked.
603	Communication packet error	-
604	Wired remote controller ↔ Indoor unit tracking failure error	Occurs when an indoor unit is not installed.
605	Wired remote controller ↔ 7-day scheduler communication error	When communication with 7-day scheduler is blocked for 3 minutes.
606	COM1, COM2 cross installation error	When the wired remote controller is installed onto indoor unit COM1 (F1/F2).
607	2 Master wired remote controllers	When two Master wired remote controllers are installed in one COM2 communication line.
618	Excessive number of indoor units installation error	When more than 16 indoor units are connected to wired remote controller.
619	Multiple Celsius / Fahrenheit indoor unit error	When indoor units set in Celsius or Fahrenheit are together connected to the wired remote controller.
620	Celsius / Fahrenheit setting error	When indoor unit is set in Celsius, its wired remote controller is set to Fahrenheit, or vice versa.
621	Option switch setting error of the Master/Slave wired remote controller	-
626	Connect ERV to MWR-WE00 without indoor unit	-
653	Wired remote controller (MWR- WS00)temperature sensor error (Short/Open)	-
654	EEPROM error	-

DVM PLUS II, DVM PLUS II HR

Troubleshooting:- LED Display

Abnormal conditions	Indicators					Operating
	Green	Red				
Self-diagnostic error (including the indoor unit not detected) 1. Error of electronic expansion valve close 2. Error of electronic expansion valve open 3. Breakaway of EVA OUT sensor 4. Breakaway of EVA IN sensor	X	X	●	●	●	Displayed on appropriate indoor unit which is operating Displayed on outdoor unit
5. Breakaway of COND MID sensor 6. 2nd detection of refrigerant completely leak 7. 2nd detection of high temperature COND 8. 2nd detection of high temperature DISCHARGE 9. COMP DOWN due to 2nd detection of low pressure switch 10. Error of reverse phase 11. Compressor down due to 6th detection of freezing 12. Self-diagnosis of condensation sensor (G8, G9) 13. Compressor down due to condensation ratio control	X	X	●	●	●	Displayed on appropriate indoor unit which is operating Displayed on outdoor unit
Error of float switch	X	X	X	●	●	
Error of setting option switches for optional accessories	X	X	●	X	●	
EEPROM error	●	X	●	●	X	
EEPROM option error	●	●	●	●	●	

● On ● Flickering X Off

- ◆ 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.

FJM Free Joint Multi

Alignment and Adjustment:-

Error mode and check method: Indoor Unit

■ MH***FPEA*/MH***FWEA/MH**VP2-*/MH**VW2-*/MH***FVEA/MH**VV1-*

Display	Explanation	Main checking Point / Remark
<i>E 1 ↔ 0 1</i>	Communication error (unable to receive data)	Communication cable connection
<i>E 1 ↔ 0 2</i>	Communication error (outdoor cannot communicate)	Another indoor unit or indoor PCB
<i>E 1 ↔ 2 1</i>	Indoor unit room temperature sensor error (Open/Short)	Room temperature sensor, indoor PCB
<i>E 1 ↔ 2 2</i>	Indoor unit heat exchanger in temperature sensor error (Open/Short)	Heat exchanger in sensor, indoor PCB
<i>E 1 ↔ 2 3</i>	Indoor unit heat exchanger out temperature sensor error (Open/Short)	Heat exchanger out sensor, indoor PCB
<i>E 1 ↔ 2 8</i>	Indoor unit heat exchanger in temperature sensor detached	Heat exchanger in sensor
<i>E 1 ↔ 2 9</i>	Indoor unit heat exchanger out temperature sensor detached	Heat exchanger out sensor
<i>E 1 ↔ 3 0</i>	Indoor unit heat exchanger in & out temperature sensor detached	Heat exchanger in & out sensor
<i>E 1 ↔ 5 4</i>	Indoor unit fan motor malfunction	Fan motor and cable
<i>E 1 ↔ 6 1</i>	More than 2 indoor units cool and heat simultaneously	Another indoor unit operation mode
<i>E 1 ↔ 6 2</i>	EEPROM error	Indoor PCB
<i>E 1 ↔ 6 3</i>	Option code setting error	Option code
<i>E 1 ↔ 8 5</i>	Cable miss-wiring	Cable connection (Indoor & Outdoor unit)
<i>E 1 ↔ 8 6</i>	MPI error malfunction	MPI
<i>E 2 ↔ 0 1</i>	The number of indoor unit mismatched	Cable connection (another indoor unit & outdoor unit), SW01(outdoor)
<i>E 2 ↔ 5 1</i>	Compressor discharge sensor error(Short/Open)	Outdoor unit
<i>E 5 ↔ 5 9</i>	Outdoor unit error	Outdoor unit (Error code)

FJM Free Joint Multi - Error mode and check method: Indoor Unit (continue)
■ MH*FKEA/MH***FMEA**

Abnormal conditions	MH***FKEA	Indicators					Operating
		Green	Red	Yellow	Green	Orange	
	MH***FMEA						
Power reset			×	×	×	×	
Error of temperature sensor in indoor unit (OPEN/SHORT)		×	×		×	×	
Error of heat exchanger sensor in indoor unit Error of heat exchanger OUT sensor in indoor unit Error of outlet temperature sensor in indoor unit (OPEN/SHORT): For heat pump models only			×		×	×	
Error of mixed operation		×		×		×	
Error of indoor fan motor : Below 450RPM for 15 minutes		×	×	×		×	
Error of outdoor temperature sensor Error of CONDENSER sensor Error of DISCHARGE sensor			×	×		×	
1. No communication for 2 minutes between indoor unit and outdoor unit (communication error for more than 2 minutes) 2. Indoor unit receiving the communication error from outdoor unit 3. Outdoor unit tracking 3 minutes error 4. When sending the communication error from outdoor unit due to the mismatching of the communication numbers and installed numbers after completion of tracking (communication error for more than 2 minutes)		×	×			×	Error of indoor unit: Displayed on the indoor unit regardless of operation
1. 2 nd detection of refrigerant completely leak 2. 2 nd detection of high temperature CONDENSER 3. 2 nd detection of high temperature DISCHARGE 4. Compressor down due to 6th detection of freezing		×	×				Displayed on appropriate indoor unit which is operating Displayed on outdoor unit
Error of float switch		×	×	×			
Error of setting option switches for optional accessories		×	×		×		
EEPROM error			×			×	
EEPROM option error							

● : On ○ : Flickering × : Off

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

FJM Free Joint Multi - Error mode and check method: Indoor Unit (continue)
■ MH*FDEA/MH***FEEA**

The error indicated on the LED display of Indoor unit

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 Error of heat exchanger OUT sensor in indoor unit Error of outlet temperature sensor in indoor unit (OPEN/SHORT): For heat pump models only	●	×	●	×	×	Displayed on appropriate indoor unit which is operating
Error of mixed operation	×	●	×	●	×	
Error of outdoor temperature sensor Error of COND sensor Error of DISCHARGE sensor	●	×	×	●	×	Displayed on appropriate indoor unit which is operating Displayed on outdoor unit
1. No communication for 2 minutes between indoor unit and outdoor unit (communication error for more than 2 minutes) 2. Indoor unit receiving the communication error from outdoor unit 3. Outdoor unit tracking 3 minutes error 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 2. Error of outdoor unit : Displayed on the indoor unit which is operating
Self-diagnostic error (including the indoor unit not detected) 1. Error of electronic expansion valve close 2. Error of electronic expansion valve open 3. Breakaway of EVA OUT sensor 4. Breakaway of EVA IN sensor	×	×	●	●	●	Displayed on appropriate indoor unit which is operating Displayed on outdoor unit

● : On ○ : Flickering × : Off

◆ 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.

FJM Free Joint Multi - Error mode and check method: Indoor Unit (continue)

■ MH***FDEA/MH***FEEA(cont.)

The error indicated on the LED display of Indoor unit

Abnormal conditions	Indicators					Operating
	Concealed Type		●	●	●	
	Blue	Red				
	Standard Type		●	●	●	
●	●					
5. Breakaway of COND MID sensor 6. 2 nd detection of refrigerant completely leak 7. 2 nd detection of high temperature COND 8. 2 nd detection of high temperature DISCHARGE 9. COMP DOWN due to 2nd detection of low pressure switch 10. Error of reverse phase 11. Compressor down due to 6th detection of freezing 12. Self-diagnosis of condensation sensor (G8, G9) 13. Compressor down due to condensation ratio control	×	×	●	●	●	Displayed on appropriate indoor unit which is operating Displayed on outdoor unit
Error of float switch	×	×	×	●	●	
Error of setting option switches for optional accessories	×	×	●	×	●	
EEPROM error	●	×	●	●	×	
EEPROM option error	●	●	●	●	●	

● : On ● : Flickering × : Off

◆ 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.

FJM Free Joint Multi - Error mode and check method:
Alignment and Adjustment:-
Error mode and check method: Indoor Unit

Display		Explanation	Main checking Point
E1	01	Communication error (indoor unable to receive data)	Communication cable connection
E1	02	Communication error (outdoor unable to communicate)	Indoor unit
E1	21	Indoor unit room temperature sensor error (Open/Short)	Indoor unit
E1	22	Indoor unit heat exchanger in temperature sensor error (Open/Short)	Indoor unit
E1	23	Indoor unit heat exchanger out temperature sensor error (Open/Short)	Indoor unit
E1	28	Indoor unit sensor error - Evaporator pipe in sensor detached	Indoor unit
E1	29	Indoor unit sensor error - Evaporator pipe out sensor detached	Indoor unit
E1	30	Indoor unit heat exchanger in & out temperature sensor detached	Indoor unit
E1	61	More than 2 indoor units cool and heat simultaneously	Indoor unit operation mode
E1	90	Piping check operation error - Auto Addressing Mode : Number of checked indoor unit is unmatched with it's assigned - Manual Addressing Mode : Detected indoor unit's Address is unmatch with assigned address.	Outdoor(Number of indoor) Indoor (Address)
E2	01	The number of indoor unit mismatched	Communication wiring
E2	02	Communication error (outdoor unable to receive data)	Communication wiring
E2	03	Communication error between 2 microcontroller on the outdoor PCB	Outdoor unit PCB
E2	21	Outdoor temperature sensor error (Short/Open) - Error level : over 4.9V(-50°C) under 0.4V(93°C)	Temperature sensor
E2	37	Condenser temperature sensor error (Short/Open) - Error level : over 4.9V(-50°C) under 0.4V(93°C)	Temperature sensor
E2	46	Condenser temperature sensor detached	Temperature sensor
E2	60	Compressor discharge sensor error (Short/Open) - Error check condition : outdoor temperature over -20°C - Error level : over 4.95V(-30°C) under 0.5V(151°C)	Temperature sensor
E2	61	Compressor discharge sensor detached	Temperature sensor
E3	20	Compressor OLP sensor error (Short/Open) - Error check condition : outdoor temperature over -20°C - Error level : over 4.95V(-30°C) under 0.5V(151°C)	Temperature sensor
E4	01	Indoor unit heat exchanger freezing and compressor stop (cooling mode)	Check pipe matching also(indoor-outdoor)

FJM Free Joint Multi - Error mode and check method: Outdoor Unit (continue)

Display		Explanation	Main checking Point
E4	04	Outdoor unit overload and compressor stop (protection control in heating mode)	Check pipe matching also(indoor-outdoor)
E4	16	Outdoor unit high discharge temperature and compressor stop (protection control in heating mode)	Check pipe matching also(indoor-outdoor)
E4	19	Outdoor unit EEV open error (self diagnosis)	EEV
E4	22	Outdoor unit EEV close error (self diagnosis)	EEV
E4	40	High temperature (over 30°C) of outdoor as heating mode	Operation mode
E4	41	Low temperature (under -5°C) of indoor as cooling mode	Operation mode
E4	60	Wrong connection between communication and power cable	Wiring indoor and outdoor
E4	61	Inverter Compressor starting failure (5 times)	Service valve, EEV, Compressor terminal, Compressor wire, Outdoor controller
E4	62	Compressor trip by input current limit control	EEV, Gas over charge, Outdoor controller
E4	63	Compressor trip by OLP temperature limit control	Outdoor fan, Compressor, Outdoor controller
E4	64	Compressor peak current protection	Outdoor fan, Compressor, Compressor wire, Outdoor controller
E4	65	Compressor overload protection by current	Outdoor fan, EEV, Service valve, Outdoor controller
E4	66	DC-link voltage error (under 150V or over 410V) (This error might display for a few seconds after power cut)	Power voltage, Outdoor controller
E4	67	Compressor rotation error	Compressor terminal, Compressor wire, Outdoor controller
E4	68	Current sensor error	Outdoor controller
E4	69	DC-link voltage sensor error	Outdoor controller
E4	70	Compressor overload protection	Outdoor fan, EEV, Service valve, Outdoor controller
E4	71	EEPROM error	Outdoor controller
E4	72	AC line zero-crossing detection circuit error	Outdoor controller, Terminal Block
E5	54	NO GAS error (self diagnosis)	Piping (gas leak)

