

11-2. Primary Judgment

To diagnose the troubles, use the following methods.

- 1) Judgment by flashing LED of indoor unit
- 2) Self-diagnosis by service check remote controller
- 3) Judgment of trouble by every symptom

Firstly use the method 1) for diagnosis. Then, use the method 2) or 3) to diagnose the details of troubles.

11-3. Judgment by Flashing LED of Indoor Unit

While the indoor unit monitors the operation status of the air conditioner, if the protective circuit operates, the contents of self-diagnosis are displayed with block on the indoor unit indication section.

Table 11-3-1

	Item	Check code	Block display	Description for self-diagnosis
<div style="border: 1px solid black; padding: 5px; width: fit-content;">Indoor indication lamp flashes.</div> <div style="margin-left: 20px;">↓</div> <div style="border: 1px solid black; padding: 5px; width: fit-content;">Which lamp does flash?</div> <div style="margin-left: 20px;">↓</div> <div style="margin-left: 20px;">→</div>	A	—	OPERATION (Green) Flashing display (1 Hz)	Power failure (when power is ON)
	B	00	OPERATION (Green) Flashing display (5 Hz)	Protective circuit operation for indoor P.C. board
	C	01	OPERATION (Green) TIMER (Yellow) Flashing display (5 Hz)	Protective circuit operation for connecting cable and serial signal system
	D	02	OPERATION (Green) FILTER (Orange) Flashing display (5 Hz)	Protective circuit operation for outdoor P.C. board
	E	03	OPERATION (Green) TIMER (Yellow) FILTER (Orange) Flashing display (5 Hz)	Protective circuit operation for others (including compressor)

NOTES :

1. The contents of items B and C and a part of item E are displayed when air conditioner operates.
2. When item B and C, and item B and a part of item E occur concurrently, priority is given to the block of item B.
3. The check codes can be confirmed on the remote controller for servicing.

11-4. Self-Diagnosis by Remote Controller (Check Code)

1. If the lamps are indicated as shown B to E in Table 11-3-1, execute the self-diagnosis by the remote controller.
2. When the remote controller is set to the service mode, the indoor controller diagnoses the operation condition and indicates the information of the self-diagnosis on the display of the remote controller with the check codes. If a fault is detected, all lamps on the indoor unit will flash at 5Hz and it will beep for 10 seconds (Beep, Beep, Beep ...). The timer lamp usually flashes (5Hz) during self-diagnosis.

11-4-1. How to Use Remote Controller in Service Mode

1 Press [] button with a tip of pencil to set the remote controller to the service mode.

- "00" is indicated on the display of the remote controller.

2 Press [ON] or [OFF] button

If there is no fault with a code, the indoor unit will beep once (Beep) and the display of the remote controller will change as follows :

→ 00 → 01 → 02 ... 18 → 1E → 33 →

- The TIMER indicator of the indoor unit flashes continuously. (5 times per 1 sec.)
- Check the unit with all 52 check codes (00 to 33) as shown in Table-11-4-1.
- Press [ON] or [OFF] button to change the check code backward.

If there is a fault, the indoor unit will beep for 10 seconds (Beep, Beep, Beep...).

Note the check code on the display of the remote controller.

- 2-digits alphanumeric will be indicated on the display.
- All indicators on the indoor unit will flash. (5 times per 1 sec.)

3 Press [CLR] button. After service finish for clear service code in memory.

- "7F" is indicated on the display of the remote control.

4 Press [] button to release the service mode.

- The display of the remote controller returns to as it was before service mode was engaged.

Alphanumeric characters are used for the check codes.

is 5.	is 6.
is A.	is B.
is C.	is D.

Fig. 11-4-1

11-4-2. Caution at Servicing

1. After servicing, press the START/STOP button to return to the normal mode.
2. After servicing by the check code, turn off breaker of the power supply, and turn on breaker of the power supply again so that memory in the microcomputer returns the initial status.
However, the check codes are not deleted even if the power supply is turned off because they are stored in the fixed memory.
3. After servicing, press [CLR] button under check mode status and then send the check code "7F" to the indoor unit. The error code stored in memory is cleared.

Table 11-4-1

Block distinction		Operation of diagnosis function				Judgment and action
Check code	Block	Check code	Cause of operation	Air conditioner status	Remarks	
00	Indoor P.C. board etc.	01	Short-circuit or disconnection of the room temperature sensor (TA sensor).	Operation continues.	Displayed when error is detected.	1. Check the room temp. sensor. 2. When the room temp. sensor is normal, check P.C. board.
		02	Being out of place, disconnection, short-circuit, or migration of heat exchanger sensor (TC sensor)	Operation continues.	Displayed when error is detected.	1. Check heat exchanger sensor. 2. When heat exchanger sensor is normal, check P.C. board.
		11	Lock of indoor fan or trouble on the indoor fan circuit	All off	Displayed when error is detected.	1. Check the motor. 2. When the motor is normal, check P.C. board.
	Not displayed	12	Trouble on other indoor P.C. boards	Operation continues.	Displayed when error is detected.	Replace P.C. board.
01	Connecting cable and serial signal	04	Return serial signal is not sent to indoor side from operation started. 1) Defective wiring of connecting cable 2) Operation of compressor thermo Gas shortage Gas leak	Operation continues.	Flashes when trouble is detected on Return serial signal, and normal status when signal is reset.	1. When the outdoor unit never operate: 1) Check connecting cable, and correct if defective wiring. 2) Check 25A fuse of inverter P.C. board. 3) Check 3.15A of inverter P.C. board. 2. To display [Other] block during operation, check compressor thermo. operation and supply gas (check gas leak also). 3. Unit operates normally during check. If return serial signal does not stop between indoor terminal board 2 and 3, replace inverter P.C. board. If signal stops between indoor terminal board 2 and 3, replace indoor P.C. board.

Block distinction		Operation of diagnosis function				Judgment and action
Check code	Block	Check code	Cause of operation	Air conditioner status	Remarks	
02	Outdoor P.C. board	14	Inverter over-current protective circuit operates. (Short time)	All off	Displayed when error is detected.	Even if trying operation again, all operations stop immediately. : Replace P.C. board.
		16	Position-detect circuit error or short-circuit between windings of compressor	All off	Displayed when error is detected.	1. Even if connecting lead wire of compressor is removed, position-detect circuit error occurred. : Replace P.C. board. 2. Measure resistance between wires of compressor, and perform short-circuit. : Replace compressor.
		17	Current-detect circuit error	All off	Displayed when error is detected.	Even if trying operation again, all operations stop immediately. : Replace P.C. board.
		18	Being out of place, disconnection or short-circuit of the outdoor heat exchanger sensor (TE) or suction temp. sensor (Ts)	All off	Displayed when error is detected.	1. Check sensors (TE, TS). 2. Check P.C. board.
		19	Disconnection or short-circuit of discharge temp. sensor	All off	Displayed when error is detected.	1. Check discharge temp. sensor (TD). 2. Check P.C. board
		1A	Outdoor fan drive system error	All off	Displayed when error is detected.	Position-detect error, over-current protective operation of outdoor fan drive system, fan lock, etc. : Replace P.C. board or fan motor.
	Not displayed	1B	Outdoor heat exchanger temp. sensor error	Operation continues	—	1. Check outdoor temp. sensor (TO). 2. Check P.C. board.
Outdoor P.C. board	1C	Compressor drive output error, Compressor error (lock, missing, etc.), Break down	All off	Displayed when error is detected.	When 20 seconds passed after start-up, position-detect circuit error occurred. : Replace compressor. Trouble on P.M.V.	
03	Others (including compressor)	07	Return serial signal has been sent when operation started, but it is not sent from halfway. 1) Compressor thermo. operation Gas shortage Gas leak 2) Instantaneous power failure	Operation continues	Flashes when trouble is detected on return serial signal, and normal status when signal is reset.	1. Repeat Start and Stop with interval of approx. 10 to 40 minutes. (Code is not displayed during operation.) Supply gas. (Check also gas leak). 2. Unit operates normally during check. If return serial signal does not stop between indoor terminal block 2 and 3, replace inverter P.C. board. If signal stops between indoor terminal block 2 and 3, replace indoor P.C. board.
		1D	Compressor does not rotate. (Current protective circuit does not operate when a specified time passed after compressor had been activated.)	All off	Displayed when error is detected.	1. Trouble on compressor 2. Trouble on wiring of compressor (Missed phase)
		1E	Discharge temp. exceeded 117°C	All off	Displayed when error is detected.	1. Check discharge temp. sensor (TD). 2. Gas leakage 3. Trouble on P.M.V.
		1F	Break down of compressor	All off	Displayed when error is detected.	1. Check power voltage. (220-230-240 V +10%) 2. Overload operation of refrigeration cycle Check installation condition (Short-circuit of outdoor diffuser).
		08	4-way valve inverse error (TC sensor value lowered during heating operation.)	Operation continues	—	1. Check 4-way valve operation.