

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 5 Hz and it will beep for 10 seconds (Beep, Beep, Beep ...). The timer lamp usually flashes (5 Hz) during self-diagnosis.

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

1 Push [CHECK] 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 Push [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 ... 1d → 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.
- Push [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 Push [CLR] button.

After service finish for clear service code in memory.

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

4 Push [⏻] 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.

S is 5.	b is 6.
R is A.	b is B.
[is C.	d is D.

Fig. 11-4-1

11-4-2 Caution at Servicing

1. After using the service mode of remote controller finished, press the [⏻] button to reset the remote controller to normal function.
2. After finished the diagnosis by the remote controller, turn OFF power supply and turn its ON again to reset the air conditioner to normal operation. However, the check codes are not deleted from memory of the microcomputer.
3. After servicing finished, press [CLR] button of remote controller under service mode status to send code "7F" to the indoor unit. The check code stored in memory is cleared.

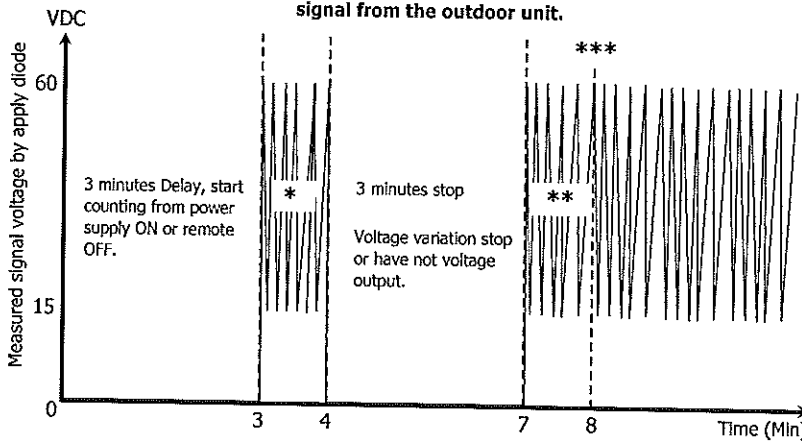
Table 11-4-1

Block distinction		Operation of diagnosis function				Action and Judgment
Check code	Block	Check code	Cause of operation	Air conditioner status	Display flashing error	
00	Indoor P.C. board.	0C	TA sensor ; The room temperature sensor is short-circuit or disconnection.	Operation continues.	Flashes when error is detected.	1. Check the sensor TA and connection. 2. In case of the sensor and its connection is normal, check the P.C. board.
		0d	TC sensor ; The heat exchanger temperature sensor of the indoor unit is out of place, disconnection, short-circuit or migration.	Operation continues.	Flashes when error is detected.	1. Check the sensor TC and connection. 2. In case of the sensor and its connection is normal, check the P.C. board.
		11	Fan motor of the indoor unit is failure, lock-rotor, short-circuit, disconnection, etc. Or its circuit on P.C. board has problem.	All OFF	Flashes when error is detected.	1. Check the fan motor and connection. 2. In case of the motor and its connection is normal, check the P.C. board.
		12	Other trouble on the Indoor P.C. board.	Depend on cause of failure.	Depend on cause of failure.	Replace P.C. board.

Block distinction		Operation of diagnosis function			Action and Judgment
Check code	Block	Check code	Cause of operation	Air conditioner status	
01	Serial signal and connecting cable.	04	1) Defective wiring of the connecting cable or miss-wiring. 2) Operation signal has not send from the indoor unit when operation start. 3) Outdoor unit has not send return signal to the Indoor unit when operation started. 4) Return signal from the outdoor unit is stop during operation. <ul style="list-style-type: none"> • Some protector (hardware, If exist) of the outdoor unit open circuit of signal. • Signal circuit of indoor P.C. board or outdoor P.C. board is failure in some period. 	Indoor unit operates continue. Outdoor unit stop.	Flashes when error is detected. Flashing stop and outdoor unit start to operate when the return signal from the outdoor unit is normal.

Note : Operation signal of the indoor unit shall be measured in the sending period as picture below.

Sending signal of the indoor unit when have not return signal from the outdoor unit.



- * Signal send only 1 minute and stop. Because of return signal from outdoor unit has not received.
- ** Signal resend again after 3 minutes stop. And the signal will send continuously.
- *** 1 minute after resending, the Indoor unit display flashes error.

1) to 3) The outdoor unit never operate.

- Check connecting cable and correct If defective wiring.
- Check 25A fuse of inverter P.C. board.
- Check 3.15A fuse of inverter P.C. board.
- Check operation signal of the Indoor unit by using diode. Measure voltage at terminal block of the indoor unit between No.2 and No.3 (or L2 and S) If signal is varied 15-60V continuously, replace inverter P.C. board. If signal is not varied, replace indoor P.C. board.

4) The outdoor unit abnormal stop at some time.

- If the other check codes are found concurrently, check them together.
- Check protector (hardware) such as Hi-Pressure switch, Thermal-Relay, etc.
- Check refrigerant amount or any possibility case which may caused high temperature or high pressure.
- Check operation signal of the Indoor unit by using diode. Measure voltage at terminal block of the indoor unit between No.2 and No.3 (or L2 and S) If signal is varied 15-60V continuously, replace inverter P.C. board. If signal is not varied, 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 shortcircuit 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 shortcircuit 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	1D	Outdoor heat exchanger temp. sensor error	Operation continues	—	1. Check outdoor temp. sensor (TO). 2. Check P.C. board.
Outdoor P.C. board	1E	Compressor drive output error, Compressor error (lock, missing, etc.)	All off	Displayed when error is detected.	When 20 seconds passed after start-up, position-detect circuit error occurred. : Replace compressor. Trouble on PMV	
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 PMV
		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.