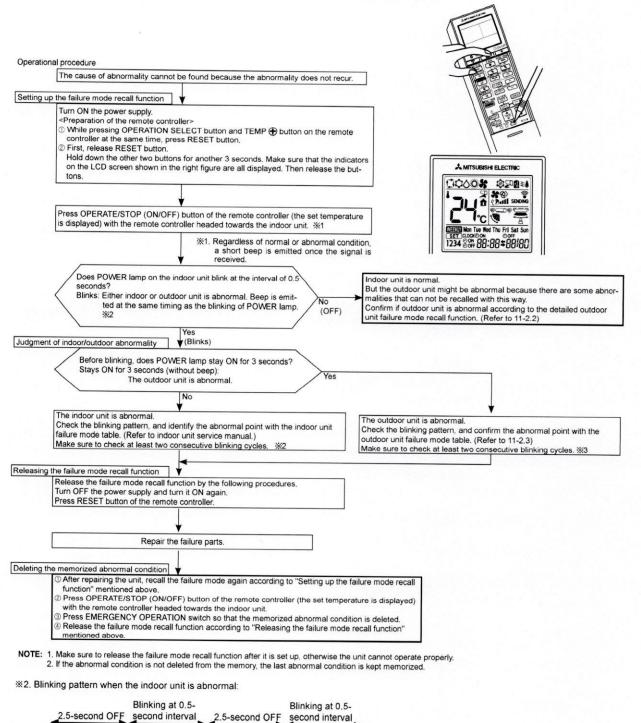
### 11-2. FAILURE MODE RECALL FUNCTION

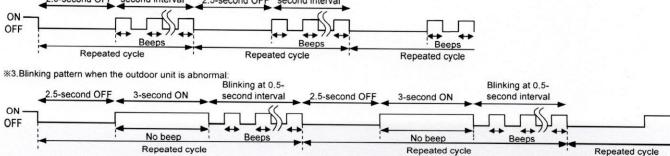
Outline of the function

This air conditioner can memorize the abnormal condition which has occurred once.

Even though LED indication listed on the troubleshooting check table (11-3.) disappears, the memorized failure details can be recalled.

### 1. Flow chart of failure mode recall function for the indoor/outdoor unit





## 2. Flow chart of the detailed outdoor unit failure mode recall function

#### Operational procedure The outdoor unit might be abnormal. Confirm if outdoor unit is abnormal according to the following procedures. Confirm that the remote controller is in the failure mode recall function. With the remote controller headed towards the indoor unit, press TEMP ※1. Regardless of normal or abnormal condition, 2 short button to adjust the set temperature to 25°C. \*\*1 beeps are emitted as the signal is received. NOTE: It takes up to 1 minute to indicate the outdoor unit abnormality. Even if POWER lamp is not lighting, keep checking at least 1 minute or longer. Does POWER lamp on the indoor unit blink at the interval of 0.5 seconds? Blinks: The outdoor unit is abnormal. Beep is emitted No at the same timing as the blinking of POWER (OFF) lamp. ×2 (Blinks) The outdoor unit is abnormal. Check the blinking pattern, and identify the abnormal point with the out-The outdoor unit is normal. door unit failure mode table (11-2.3.). Make sure to check at least two consecutive blinking cycles. %2 Releasing the failure mode recall function Release the failure mode recall function by the following procedures. Release the failure mode recall function accord-Turn OFF the power supply and turn it ON again. ing to the left mentioned procedure. Press RESET button of the remote controller Repair the failure parts. Deleting the memorized abnormal condition ① After repairing the unit, recall the failure mode again according to "Setting up the failure mode recall \*4 The information regarding whether the connected outdoor unit is a low-standby-② Press OPERATE/STOP (ON/OFF) button of the remote controller (the set temperature is displayed) with power model or a non-low-standby-power the remote controller headed towards the indoor unit. model will also be initialized. Press EMERGENCY OPERATION switch so that the memorized abnormal condition is deleted. \*4 (Default= compatible with a low-standby-(4) Release the failure mode recall function according to "Releasing the failure mode recall function" menpower model) tioned above. NOTE: 1. Make sure to release the failure mode recall function after it is set up, otherwise the unit cannot operate properly. 2. If the abnormal condition is not deleted from the memory, the last abnormal condition is kept memorized. ※2.Blinking pattern when outdoor unit is abnormal: Blinking at 0.5-Blinking at 0.5-3-second ON second interval 5-second OFF 3-second ON econd interval ON OFF No beep Beeps No beep Repeated cycle

Repeated cycle

Repeated cycle

### 3. Outdoor unit failure mode table

POWER lamp (Indoor unit)	Abnormal point (Failure mode/protection)	LED indication (Outdoor P.C. board)	Condition	Remedy	Indoor/outdoor unit failure mode recall function	Outdoor uni failure mode recall functio
OFF	None (Normal)	_	_	_	- Iunction	_
1-time flash 2.5 seconds OFF	Indoor/outdoor communication, receiving error	_	Any signals from the inverter P.C. board cannot be received normally for 3 minutes.	•Refer to 11-5. W How to check miswiring and serial signal error.	0	0
	Indoor/outdoor communication, receiving error	-	Although the inverter P.C. board sends signal "0", signal "1" has been received 30 consecutive times.	•Refer to 11-5. M How		
2-time flash 2.5 seconds OFF	Outdoor power system	-	Overcurrent protection cut-out operates 3 consecutive times within 1 minute after the compressor gets started.  *Reconnect connectors. *Refer to 11-5. @"How to check inverter/ compressor". *Check stop valve.		0	0
3-time flash 2.5 seconds OFF	Discharge temperature thermistor  Defrost thermistor	1-time flash every 2.5 seconds	Thermistor shorts or opens during compressor running.	•Refer to 11-5.© "Check of outdoor thermistors".  Defective outdoor thermistors can be identified by checking the blinking pattern of LED.	0	0
	Fin temperature thermistor	3-time flash 2.5 seconds OFF				
	P.C. board temperature thermistor	4-time flash 2.5 seconds OFF				
	Ambient temperature thermistor	2-time flash 2.5 seconds OFF	17,004			
	Outdoor heat exchanger temperature thermistor	<u> </u>				
4-time flash 2.5 seconds OFF	Overcurrent	11-time flash 2.5 seconds OFF	Large current flows into power module (IC700) (FH25/35)/ IGBT module (IC700) (FH50).	Reconnect compressor connector. Refer to 11-5.@"How to check inverter/ compressor". Check stop valve.	_	0
	Compressor synchronous abnormality (Compressor start-up failure protection)	12-time flash 2.5 seconds OFF	Waveform of compressor current is distorted.	•Reconnect compressor connector. •Refer to 11-5.@"How to check inverter/ compressor".	_	0
5-time flash 2.5 seconds OFF	Discharge temperature	-	Temperature of discharge temperature thermistor exceeds 116°C, compressor stops.  Compressor can restart if discharge temperature thermistor reads 100°C or less 3 minutes later.	Check refrigerant circuit and refrigerant amount. Refer to 11-5.©"Check of LEV".	_	0
6-time flash 2.5 seconds OFF	High pressure	_	Temperature indoor coil thermistor exceeds 70°C in HEAT mode. Temperature defrost thermistor exceeds 70°C in COOL mode.	Check refrigerant circuit and refrigerant amount. Check stop valve.	_	0
7-time flash 2.5 seconds DFF	Fin temperature/ P.C. board temperature	7-time flash 2.5 seconds OFF	Temperature of fin temperature thermistor on the inverter P.C. board exceeds 75 ~ 86°C (FH25/35)/75 ~ 80°C (FH50), or temperature of P.C. board temperature thermistor on the inverter P.C. board exceeds 72 ~ 85°C (FH25/35)/70 ~ 75°C (FH50).	Check around outdoor unit. Check outdoor unit air passage. Refer to 11-5.0"Check of outdoor fan motor".	-	0
3-time flash 2.5 seconds DFF	Outdoor fan motor	-	Outdoor fan has stopped 3 times in a row within 30 seconds after outdoor fan start-up.	•Refer to 11-5. "Check of outdoor fan motor". Refer to 11-5. "Check of inverter P.C. board".	-	0
9-time flash 2.5 seconds DFF	Nonvolatile memory data	5-time flash 2.5 seconds OFF	Nonvolatile memory data cannot be read properly.	Replace the inverter P.C. board.		
	Power module (IC700) (FH25/35) IGBT module (IC700) (FH50)	6-time flash 2.5 seconds OFF	The interface short circuit occurs in the output of the power module (IC700) (FH25/35)/IGBT module (IC700) (FH50). The compressor winding shorts circuit.	Refer to 11-5. (a)"How to check inverter/ compressor".	0	0
0-time flash 2.5 seconds DFF	Discharge temperature	-	Temperature of discharge temperature thermistor has been 50°C or less for 20 minutes.  • Refer to 11-5.®"Check of LEV". • Check refrigerant circuit and refrigerant amount.		_	0
1-time flash 2.5 seconds OFF	Bus-bar voltage (DC)  Each phase current of	2.5 seconds OFF	Bus-bar voltage of inverter cannot be detected normally.	Refer to 11-5.@"How to check inverter/ compressor".  Check stop valve.	_	0
4-time flash	compressor  Stop valve (Closed valve)	2.5 seconds OFF 14-time flash			3	
2.5 seconds OFF		2.5 seconds OFF	compressor current.		0	0

NOTE: Blinking patterns of this mode differ from the ones of TROUBLESHOOTING CHECK TABLE (11-3.).

29

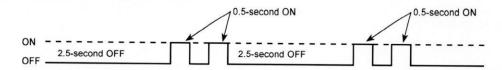
# 11-3. TROUBLESHOOTING CHECK TABLE

No.	Symptom	LED indication	Abnormal point/ Condition	Condition		Remedy	
1	Outdoor unit does not operate.	1-time flash every 2.5 seconds	Outdoor power system	within 1 minute after the compressor gets started.		Reconnect connector of compressor. Refer to 11-5. (a) "How to check inverter/compressor". Check stop valve.	
2			Outdoor thermistors	Discharge temperature thermistor, fin temperature thermistor, defrost thermistor, P.C. board temperature thermistor, outdoor heat exchanger temperature thermistor or ambient temperature thermistor shorts or opens during compressor running.		•Refer to 11-5. <sup>©</sup> "Check of outdoor thermistors".	
3			Outdoor control system	ys- Nonvolatile memory data cannot be read properly.  (POWER lamp of the indoor unit lights up or flashes 7-time.)		•Replace inverter P.C. board.	
4		6-time flash 2.5 seconds OFF	Serial signal	The communication fails between the indoor and outdoor unit for 3 minutes.		*Check connection between the inverter P.C. board and the relay P.C board. (FH50)     *Refer to 11-5.₩ "How to check miswiring and serial signal error.	
5		11-time flash 2.5 seconds OFF	Stop valve/ Closed valve	Closed valve is detected by compressor current.		Check stop valve.	
6		14-time flash 2.5 seconds OFF	Outdoor unit (Other abnormality)	Outdoor unit is defective.		Refer to 11-2.2. "Flow chart of the detailed outdoor unit failure mode recall function".	
7	'Outdoor unit stops and restarts 3 minutes later'	2-time flash 2.5 seconds OFF	Overcurrent protection	Large current flows into power module (IC700) (FH25/35)/ IGBT module (IC700) (FH50).		Reconnect connector of compressor Refer to 11-5.@ "How to check inverter/compressor". Check stop valve.	
8	is repeated.	3-time flash 2.5 seconds OFF	Discharge tempera- ture overheat pro- tection	Temperature of discharge temperature thermistor exceeds 116°C, compressor stops. Compressor can restart if discharge temperature thermistor reads 100°C or less 3 minutes later.		Check refrigerant circuit and refrigerant amount.     Refer to 11-5.® "Check of LEV".	
9		4-time flash 2.5 seconds OFF	Fin temperature /P.C. board tem- perature thermistor overheat protection	Temperature of fin temperature thermistor on the heat sink exceeds $75 \sim 86^{\circ}\text{C}$ (FH25/35)/75 $\sim 80^{\circ}\text{C}$ (FH50) or temperature of P.C. board temperature thermistor on the inverter P.C. board exceeds $72 \sim 85^{\circ}\text{C}$ (FH25/35)/70 $\sim 75^{\circ}\text{C}$ (FH50).		Check around outdoor unit. Check outdoor unit air passage. Refer to 11-5. "Check of outdoor fan motor".	
10		5-time flash 2.5 seconds OFF	High pressure pro- tection	Indoor coil thermistor exceeds 70°C in HEAT mode. Defrost thermistor exceeds 70°C in COOL mode.		Check refrigerant circuit and refrigerant amount.     Check stop valve.	
11		8-time flash 2.5 seconds OFF	Compressor syn- chronous abnormal- ity	The waveform of compressor current is distorted.		*Reconnect connector of compressor *Refer to 11-5.\( \exists \) "How to check inverter/compressor".	
12		10-time flash 2.5 seconds OFF	Outdoor fan motor	Outdoor fan has stopped 3 times in a row within 30 seconds after outdoor fan start-up.		•Refer to 11-5.① "Check of outdoor fan motor. •Refer to 11-5.② "Check of inverter P.C. board.	
13		12-time flash 2.5 seconds OFF	Each phase current of compressor	Each phase current of compressor cannot be detected normally.		•Refer to 11-5. (a) "How to check inverter/compressor".	
14		13-time flash 2.5 seconds OFF	Bus-bar voltage (DC)			•It occurs with following case. Instantaneous power voltage drop. (Short time power failure) (FH50) •Refer to 11-5. ① "Check of power supply". (FH50) •Refer to 11-5. ⑥ "How to check inverter/compressor".	
	Outdoor unit operates.	1-time flash 2.5 seconds OFF	Frequency drop by current protection	FH25/35	When the input current exceeds approximately 10A (FH25)/10.5A (FH35), compressor frequency lowers.	The unit is normal, but check the following. •Check if indoor filters are clogge •Check if refrigerant is short. •Check if indoor/outdoor unit air	
				FH50	Current from power outlet is nearing breaker capacity.		
16		3-time flash 2.5 seconds OFF	Frequency drop by high pressure pro- tection	Temperature of indoor coil thermistor exceeds 55°C in HEAT mode, compressor frequency lowers.  Indoor coil thermistor reads 8°C or less in COOL mode, compressor frequency lowers.		circulation is short cycled.	
, 5			Frequency drop by defrosting in COOL mode				
17			Frequency drop by discharge temperature protection	111°C, compressor frequency lowers.		•Check refrigerant circuit and refrigerant amount. •Refer to 11-5.® "Check of LEV". •Refer to 11-5.® "Check of outdoor thermistors".	
18			Outside temperature thermistor protection	When the outside temperature thermistor shorts or opens,		•Refer to 11-5.   Check of outdoor thermistors.	

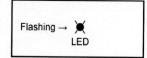
No.	Symptom	LED indication	Abnormal point/ Condition	Condition	Remedy	
19	20	7-time flash 2.5 seconds OFF	Low discharge tem- perature protection	Temperature of discharge temperature thermistor has been 50°C or less for 20 minutes.	Refer to 11-5.® "Check of LEV".     Check refrigerant circuit and refrigerant amount.	
20		8-time flash 2.5 seconds OFF	MUZ-FH25/35 PAM protection PAM: Pulse Ampli- tude Modulation	The overcurrent flows into PFC (Power factor correction: IC820) or the bus-bar voltage reaches 394 V or more, PAM stops and restarts.	This is not malfunction. PAM protection will be activated in the following cases:  1 Instantaneous power voltage drop. (Short time power failure)  2 When the power supply voltage is high.	
21			MUZ-FH50 Zero cross detecting circuit	Zero cross signal cannot be detected.	<ul> <li>It occurs with following cases.</li> <li>Instantaneous power voltage drop. (Short time power failure)</li> <li>Distortion of primary voltage</li> <li>Refer to 11-5. () "Check of power supply".</li> </ul>	
		9-time flash 2.5 seconds OFF	Inverter check mode	The connector of compressor is disconnected, inverter check mode starts.	Check if the connector of the compressor is correctly connected.  Refer to 11-5.® "How to check inverter/compressor".	

NOTE: 1. The location of LED is illustrated at the right figure. Refer to 11-6.1. 2. LED is lighted during normal operation.

The flashing frequency shows the number of times the LED blinks after every 2.5-second OFF. (Example) When the flashing frequency is "2".



Inverter P.C. board MUZ-FH25/35VE



MUZ-FH50VE

