5. TROUBLE DIAGNOSIS

5-1. Contents of Remote Controller Switch Alarm Display

5-1-1. U-25PZ3E5, U-36PZ3E5, U-50PZ3E5, U-60PZ3E5A, U-71PZ3E5A U-36PZH3E5, U-50PZH3E5, U-60PZH3E5

ON: ○ Blinking: ☼ OFF: ●

Possible cause of malfunction			Wired remote control display	Wireless remote controller receiver display (Operation / Timer / Standby)
Serial communication errors Missetting	Failure in receiving serial signal from remote controller's indoor unit	Faulty remote controller	E01	Operating lamp blinking ☼ ● ●
		Disconnection / Contact failure of remote controller wiring		
		CHK(check) pins on the indoor unit control PCB are short circuited		
	Settings of system address, indoor unit address and group control are not made	In the case of non-group control: ・Power supply OFF of outdoor unit ・Disconnection / Contact failure of indoor / outdoor control line* In the case of group control: Auto address operation was not carried out.		
	Setting failure of nonvolatile memory IC	Faulty setting of EEPROM (IC010) on indoor unit		
	Failure in indoor unit serial signal from remote controller	Faulty remote controller	E02	
		Wrong wiring of remote controller		
	Error in indoor unit receiving signal from remote controller (central)		E03	
	Failure in indoor unit receiving serial signal from outdoor unit	Disconnection / Contact failure of indoor / outdoor control line*	E04	Standby lamp blinking ● ● ☼
		・Faulty indoor unit control PCB ・Faulty outdoor unit control PCB ・Communication circuit fuse (F302) on indoor unit control PCB opened		
		・Fuse on outdoor unit control PCB opened Since failure of an outdoor fan motor is considered as a cause, both outdoor unit control PCB and outdoor unit fan motor are exchanged simultaneously.		
		・Setting error of indoor unit address ・Capacity of indoor / outdoor units is mismatched.		
	Duplication of indoor unit address	Duplication of indoor unit address setting	E08	Operating lamp blinking ☼ ● ●
	Duplication of main remote controller setting	Error because of more than one remote controller setting to main	E09	
	Improper setting	Duplication of main unit in group control	E14	
	Communication error between main and sub indoor units	・Disconnection of wiring between main unit and additional units ・Contact failure of wiring ・Faulty indoor unit control PCB (Main or Addition)	E18	
	Auto address alarm	The total capacity of indoor units is too low.	E15	Standby lamp blinking ● ● ☼
		・The total capacity of indoor units is too high ・The numbers of indoor units is too many	E16	
	Indoor & outdoor unit type mismatched	Setting error, indoor / outdoor unit type / model mismatched	L02	Operating and Standby lamps blinking simultaneously ☼ ● ☼
	Duplication of group control's main indoor unit	Duplication of main indoor unit address in group control	L03	
	Group control wiring is connected to individual control indoor unit	Group control wiring is connected to individual control indoor unit	L07	
	Indoor unit address is not set		L08	
	Indoor unit capacity is not set		L09	
	4-way valve locked trouble / operation failure		L18	Operating and Standby lamps blinking simultaneously ☼ ○ ☼

Continued

* indoor / outdoor control line* : Connection cable between outdoor and indoor unit

ON: ○ Blinking: ☼ OFF: ●

Possible cause of malfunction			Wired remote control display	Wireless remote controller receiver display (Operation / Timer / Standby)
Activation of protective device	Indoor unit fan motor trouble	Indoor unit fan motor locked	P01	Timer and standby lamp blinking alternately ● ☼ ☼
		Indoor unit fan motor layer short		
		Contact failure in thermostat protector circuit		
	Faulty wiring connections of (ceiling) indoor unit panel		P09	
	Activation of float switch wiring	Faulty drain pump	P10	
		Drainage failure		
		Contact failure of float switch wiring		
		High water alarm for the case of Middle static pressure duct (PF) model installed vertically		
	Faulty drain pump	Faulty drain pump	P11	
		Drain pump locked		
	Indoor unit fan motor trouble	Indoor unit fan motor locked Faulty wiring connections of indoor unit fan motor	P12	
	Valve error	Valve error Refrigerant circuit error Wrong installation for refrigerant piping and wiring	P13	
	Discharge temperature protective alarm	Compressor discharge temperature trouble	P03	Operating and standby lamp blinking alternately ☼ ● ☼
	Activation of high pressure switch	Condensing pressure trouble	P04	
	Power supply failure	Open phase detected AC power supply trouble	P05	
	HIC sensor trouble	HIC(IPM) temperature trouble	P07	
	Insufficient gas	Insufficient gas level detected	P15	
	Compressor overcurrent trouble		P16	
	Fan motor locked / reversed airflow detected	Outdoor unit fan motor trouble Outdoor unit fan trouble	P22	
	Inverter compressor trouble		P29	
	Group control trouble	Indoor unit in group control trouble	P31	
	Activation of current control compressor's protective device	Primary (input) overcurrent detected	H01	Timer lamp blinking ● ☼ ●
	PAM trouble (overcurrent / over-voltage), Activation of compressor's protective device	PAM trouble	H02	
	Primary current control, Activation of compressor's protective device	Primary current CT sensor failure	H03	
Thermistor fault	Indoor unit thermistor open / short	Indoor heat exchanger temperature sensor (E1) trouble	F01	Operating and timer lamp blinking alternately ☼ ☼ ●
		Indoor heat exchanger temperature sensor (E2) trouble	F02	
		Indoor air temperature sensor (TA) trouble	F10	
	Outdoor unit thermistor open / short	Compressor discharge temperature sensor (TD) trouble	F04	Operating and timer lamp blinking alternately ☼ ☼ ○
		Outdoor heat exchanger temperature sensor (C1) trouble	F06	
		Outdoor air temperature sensor (TO) trouble	F08	
Nonvolatile memory failure		Indoor unit EEPROM trouble	F29	Operating and timer lamp blinking simultaneously ☼ ☼ ●

5

5-1-2. U-100PZ3E5, U-125PZ3E5, U-140PZ3E5
U-100PZ3E8, U-125PZ3E8, U-140PZ3E8

ON: ○ Blinking: ☼ OFF: ●

Possible cause of malfunction			Wired remote control display	Wireless remote controller receiver display (Operation / Timer / Standby)
Serial communication errors Missetting	Failure in receiving serial signal from remote controller's indoor unit	Faulty remote controller	E01	Operating lamp blinking ☼ ● ●
		Disconnection / Contact failure of remote controller wiring		
		CHK(check) pins on the indoor unit control PCB are short circuited		
	Settings of system address, indoor unit address and group control are not made	In the case of non-group control: ・Power supply OFF of outdoor unit ・Disconnection / Contact failure of indoor / outdoor control line* In the case of group control: Auto address operation was not carried out		
	Setting failure of nonvolatile memory IC	Faulty setting of EEPROM (IC010) on indoor unit		
	Failure in indoor unit serial signal from remote controller	Faulty remote controller	E02	
		Wrong wiring of remote controller		
	Error in indoor unit receiving signal from remote controller (central)		E03	
	Failure in indoor unit receiving serial signal from outdoor unit	Disconnection / Contact failure of indoor / outdoor control line*	E04	Standby lamp blinking ● ● ☼
		・Faulty indoor unit control PCB ・Faulty outdoor unit control PCB ・Communication circuit fuse (F302) on indoor unit control PCB opened		
		・Fuse on outdoor unit control PCB opened Since failure of an outdoor fan motor is considered as a cause, both outdoor unit control PCB(CR/HIC) and outdoor unit fan motor are exchanged simultaneously.		
		・Setting error of indoor unit address ・Capacity of indoor / outdoor units is mismatched.		
	Failure in outdoor unit receiving serial signal from indoor unit	・Disconnection / Contact failure of indoor / outdoor control line*	E06	
		・Disconnection of indoor / outdoor control line* ・Communication circuit fuse (F302) on indoor unit control PCB opened		
		Indoor unit control PCB address setting error		
	Duplication of indoor unit address	Duplication of indoor unit address setting	E08	Operating lamp blinking ☼ ● ●
	Duplication of main remote controller setting	Error because of more than one remote controller setting to main	E09	
	Improper setting	Duplication of main unit in group control	E14	
	Communication error between main and sub indoor units	・Disconnection of wiring between main unit and additional units ・Contact failure of wiring ・Faulty indoor unit control PCB (Main or Addition)	E18	
	Auto address alarm	The total capacity of indoor units is too low.	E15	Standby lamp blinking ● ● ☼
		・The total capacity of indoor units is too high ・The numbers of indoor units is too many	E16	
		No indoor unit connected	E20	
	Indoor & outdoor unit type mismatched	Setting error, indoor / outdoor unit type / model mismatched	L02	Operating and Standby lamps blinking simultaneously ☼ ● ☼
	Duplication of group control's main indoor unit	Duplication of main indoor unit address in group control	L03	
	Group control wiring is connected to individual control indoor unit	Group control wiring is connected to individual control indoor unit	L07	
	Indoor unit address is not set		L08	
	Indoor unit capacity is not set		L09	
	Outdoor unit capacity is not set or setting error		L10	Operating and Standby lamps blinking simultaneously ☼ ○ ☼
	Indoor unit type setting error Type of indoor / outdoor units is different		L13	
	4-way valve locked trouble / operation failure		L18	

* indoor / outdoor control line* : Connection cable between outdoor and indoor unit

Continued

ON: ○ Blinking: ☼ OFF: ●

Possible cause of malfunction			Wired remote control display	Wireless remote controller receiver display (Operation / Timer / Standby)
Activation of protective device	Indoor unit fan motor trouble	Indoor unit fan motor locked	P01	Timer and standby lamp blinking alternately ● ☼ ☼
		Indoor unit fan motor layer short		
		Contact failure in thermostat protector circuit		
	Faulty wiring connections of (ceiling) indoor unit panel		P09	
	Activation of float switch wiring	Faulty drain pump	P10	
		Drainage failure		
		Contact failure of float switch wiring		
		High water alarm for the case of Middle static pressure duct (PF) model installed vertically		
	Faulty drain pump	Faulty drain pump	P11	
		Drain pump locked		
	Indoor unit fan motor trouble	Indoor unit fan motor locked Faulty wiring connections of indoor unit fan motor	P12	
	Valve error	Valve error Refrigerant circuit error Wrong installation for refrigerant piping and wiring	P13	
	Discharge temperature protective alarm	Compressor discharge temperature trouble	P03	Operating and standby lamp blinking alternately ☼ ● ☼
	Activation of high pressure switch	Compressor discharge pressure trouble	P04	
	Power supply failure	Open phase detected AC power supply trouble	P05	
	Insufficient gas	Insufficient gas level detected	P15	
	Compressor overcurrent trouble		P16	
	Fan motor locked / reversed airflow detected	Outdoor unit fan motor trouble Outdoor unit fan trouble	P22	
	Inverter compressor trouble		P29	
	Group control trouble	Indoor unit in group control trouble	P31	
	Activation of current control compressor's protective device	Primary (input) overcurrent detected	H01	Timer lamp blinking ● ☼ ●
	PAM trouble (overcurrent / over-voltage), Activation of compressor's protective device	PAM trouble	H02	
	Primary current control, Activation of compressor's protective device	Primary current CT sensor failure	H03	
	HIC trouble	HIC trouble DC voltage not detected	H31	
Thermistor fault	Indoor unit thermistor open / short	Indoor heat exchanger temperature sensor (E1) trouble	F01	Operating and timer lamp blinking alternately
		Indoor heat exchanger temperature sensor (E2) trouble	F02	
		Indoor air temperature sensor (TA) trouble	F10	☼ ☼ ●
	Outdoor unit thermistor open / short	Compressor discharge temperature sensor (TD) trouble	F04	Operating and timer lamp blinking alternately ☼ ☼ ○
		Outdoor heat exchanger temperature sensor (C1) trouble	F06	
		Outdoor heat exchanger temperature sensor (C2) trouble	F07	
		Outdoor air temperature sensor (TO) trouble	F08	
		Compressor suction temperature sensor (TS) trouble	F12	
Nonvolatile memory failure		Indoor unit EEPROM trouble	F29	Operating and timer lamp blinking simultaneously ☼ ☼ ●
		Outdoor unit EEPROM trouble	F31	Operating and timer lamp blinking simultaneously ☼ ☼ ○

5

5-1-3. U-71PZH3E5, U-100PZH3E5, U-125PZH3E5, U-140PZH3E5
U-71PZH3E8, U-100PZH3E8, U-125PZH3E8, U-140PZH3E8

ON: ○ Blinking: ☼ OFF: ●

Possible cause of malfunction			Wired remote control display	Wireless remote controller receiver display: Operation / Timer / Standby
Serial communication errors Missetting	Failure in receiving serial signal from remote controller's indoor unit	Faulty remote controller	E01	Operating lamp blinking ☼ ● ●
		Disconnection / Contact failure of remote controller wiring		
		CHK(check) pins on the indoor unit control PCB are short circuited		
	Settings of system address, indoor unit address and group control are not made	In the case of non-group control: ・Power supply OFF of outdoor unit ・Disconnection / Contact failure of indoor / outdoor control line* In the case of group control: Auto address operation was not carried out		
	Setting failure of nonvolatile memory IC	Faulty setting of EEPROM (IC010) on indoor unit		
	Failure in indoor unit serial signal from remote controller	Faulty remote controller	E02	
		Wrong wiring of remote controller		
	Error in indoor unit receiving signal from remote controller (central)		E03	
	Failure in indoor unit receiving serial signal from outdoor unit	Disconnection / Contact failure of indoor / outdoor control line*	E04	Standby lamp blinking ● ● ☼
		・Faulty indoor unit control PCB ・Faulty outdoor unit control PCB ・Communication circuit fuse (F302) on indoor unit control PCB opened		
		・Fuse on outdoor unit control PCB opened Since failure of an outdoor fan motor is considered as a cause, both outdoor unit control PCB(CR/HIC) and outdoor unit fan motor are exchanged simultaneously.		
		・Setting error of indoor unit address ・Capacity of indoor / outdoor units is mismatched.		
	Failure in outdoor unit receiving serial signal from indoor unit	・Disconnection / Contact failure of indoor / outdoor control line*	E06	
		・Disconnection of indoor / outdoor control line* ・Communication circuit fuse (F302) on indoor unit control PCB opened		
		Indoor unit control PCB address setting error		
	Duplication of indoor unit address	Duplication of indoor unit address setting	E08	Operating lamp blinking ☼ ● ●
	Duplication of main remote controller setting	Error because of more than one remote controller setting to main	E09	
	Improper setting	Duplication of main unit in group control	E14	
	Communication error between main and sub indoor units	・Disconnection of wiring between main unit and additional units ・Contact failure of wiring ・Faulty indoor unit control PCB (Main or Addition)	E18	
	Auto address alarm	The total capacity of indoor units is too low.	E15	Standby lamp blinking ● ● ☼
		・The total capacity of indoor units is too high ・The numbers of indoor units is too many	E16	
		No indoor unit connected	E20	
	Indoor & outdoor unit type mismatched	Setting error, indoor / outdoor unit type / model mismatched	L02	Operating and Standby lamps blinking simultaneously ☼ ● ☼
	Duplication of group control's main indoor unit	Duplication of main indoor unit address in group control	L03	
	Group control wiring is connected to individual control indoor unit	Group control wiring is connected to individual control indoor unit	L07	
	Indoor unit address is not set		L08	
	Indoor unit capacity is not set		L09	
	Outdoor unit capacity is not set or setting error		L10	Operating and Standby lamps blinking simultaneously ☼ ○ ☼
	Indoor unit type setting error Type of indoor / outdoor units is different		L13	
	4-way valve locked trouble / operation failure		L18	

* indoor / outdoor control line* : Connection cable between outdoor and indoor unit

Continued

ON: ○ Blinking: ☼ OFF: ●

Possible cause of malfunction			Wired remote control display	Wireless remote controller receiver display (Operation / Timer / Standby)
Activation of protective device	Indoor unit fan motor trouble	Indoor unit fan motor locked	P01	Timer and standby lamp blinking alternately ● ☼ ☼
		Indoor unit fan motor layer short		
		Contact failure in thermostat protector circuit		
	Faulty wiring connections of (ceiling) indoor unit panel		P09	
	Activation of float switch wiring	Faulty drain pump	P10	
		Drainage failure		
		Contact failure of float switch wiring		
		High water alarm for the case of Middle static pressure duct (PF) model installed vertically		
	Faulty drain pump	Faulty drain pump	P11	
		Drain pump locked		
	Indoor unit fan motor trouble	Indoor unit fan motor locked Faulty wiring connections of indoor unit fan motor	P12	
	Valve error	Valve error Refrigerant circuit error Wrong installation for refrigerant piping and wiring	P13	
	Discharge temperature protective alarm	Compressor discharge temperature trouble	P03	Operating and standby lamp blinking alternately ☼ ● ☼
	Activation of high pressure switch	Compressor discharge pressure trouble	P04	
	Power supply failure	Open phase detected AC power supply trouble	P05	
	Insufficient gas	Insufficient gas level detected	P15	
	Compressor overcurrent trouble		P16	
	Fan motor locked / reversed airflow detected	Outdoor unit fan motor trouble Outdoor unit fan trouble	P22	
	Inverter compressor trouble		P29	
	Group control trouble	Indoor unit in group control trouble	P31	
	Activation of current control compressor's protective device	Primary (input) overcurrent detected	H01	Timer lamp blinking ● ☼ ●
	PAM trouble (overcurrent / over-voltage), Activation of compressor's protective device	PAM trouble	H02	
	Primary current control, Activation of compressor's protective device	Primary current CT sensor failure	H03	
	HIC trouble	HIC trouble DC voltage not detected	H31	
Thermistor fault	Indoor unit thermistor open / short	Indoor heat exchanger temperature sensor (E1) trouble	F01	Operating and timer lamp blinking alternately ☼ ☼ ●
		Indoor heat exchanger temperature sensor (E2) trouble	F02	
		Indoor air temperature sensor (TA) trouble	F10	
	Outdoor unit thermistor open / short	Compressor discharge temperature sensor (TD) trouble	F04	Operating and timer lamp blinking alternately ☼ ☼ ○
		Outdoor heat exchanger temperature sensor (C1) trouble	F06	
		Outdoor heat exchanger temperature sensor (C2) trouble	F07	
		Outdoor air temperature sensor (TO) trouble	F08	
		Compressor suction temperature sensor (TS) trouble	F12	
Nonvolatile memory failure		Indoor unit EEPROM trouble	F29	Operating and timer lamp blinking simultaneously ☼ ☼ ●
		Outdoor unit EEPROM trouble	F31	Operating and timer lamp blinking simultaneously ☼ ☼ ○

5

5-2. PAC System Alarm Codes

5-2-1. Indoor

Alarms for indoor units

Alarm Code	Alarm Meaning
E01	Remote Controller Reception Error
E02	Remote Controller Transmission Error
E03	Error in Indoor Unit Receiving Signal from Remote Controller (central)
E04	Error in Indoor Unit Receiving Signal from the Outdoor Unit
E08	Duplicate Indoor Unit Address Settings Error
E09	More Than One Remote Controller Set to Main Error
E14	Main Unit duplication in Simultaneous-operation Multi Control (detected outdoor unit)
E15	Auto Address Alarm (The total capacity of indoor units is too low.)
E16	Auto Address Alarm (The total capacity of indoor units is too high or the total number of indoor units is too many.)
E18	Faulty Communication in Group Control Wiring

P09	Faulty wiring connections of (ceiling) indoor unit panel
P31	Group Control Error

Check Prior to Auto Address Setting

In the case of below, conduct this process after diagnosing the problem.

- The remote controller or the outdoor unit displays an alarm
- The “Assigning” screen appears on the LCD display for more than 10 minutes

1 Auto Address	1-1	Is the power of the indoor unit(s) and outdoor unit(s) on?	Yes	2-1
			No	Power on
2 Indoor / outdoor wiring	2-1	Has the wiring of the indoor / outdoor been completed? Is it all connected correctly?	Yes	3-1
			No	Connect the wiring correctly
3 Installation or setting related	3-1	Be sure that the indoor and outdoor units are connected with correct combination written in catalog.	Yes	3-2
			No	Correct the connection
	3-2	Is the remote control wiring connected with two indoor / outdoor combinations or more for group control?	Yes	3-3
			No	3-4
	3-3	Turn on the power of only one system and run auto address setting again. Upon completion of the auto address setting, turn on the power for the next system and run auto address setting while still power switched on, units whose auto address setting have completed. (In the case of multiple systems, run the auto address setting respectively in due order for each system.)		
	3-4	Run the auto address setting.		
4 Relocation and resetting of address [U3, F3, K3, T3]	4-1	Be sure that the indoor and outdoor units are connected with correct combination described in the catalog.	Yes	4-2
			No	Correct the connection
	4-2	Be sure that the detailed setting items are made at factory setting.	Yes	4-3
			No	Correct the setting
	4-3	Run the auto address setting.		

- For information on the remote control’s detailed settings, see 7-3 and 7-4.

- **Factory setting**

Item code	Item	Value
11	Indoor unit capacity	0
12	System address	99
13	Indoor unit address	99
14	Group control address	99

NOTE

The Item code numbers 11, 12, 13 and 14 can automatically be changed to the appropriate settings from factory settings listed above by making the auto address settings according to the connected outdoor unit capacity and the number of indoor units.
If needed to reset the settings after once changed, return all the item codes to the factory shipment-time settings.
It is necessary to set the auto address settings once again.

E01 Remote Controller Reception Error (When indoor unit(s) are connected)

1. Error Detection Method

It is judged an error if no self-addressed communication is sent to the remote controller in a 3-minute period.

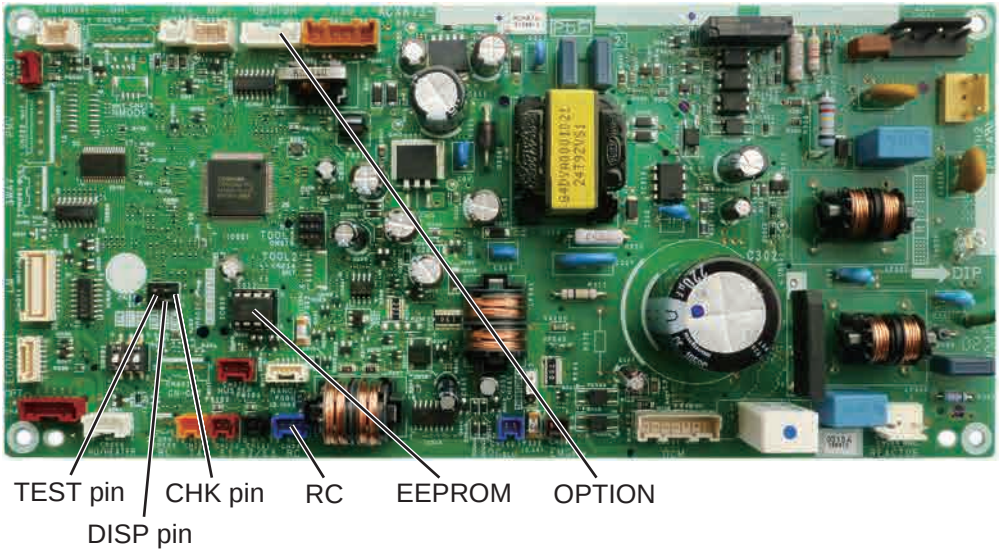
- When a remote controller is set to sub remote controller.
- When there are nine or more indoor units in a remote control group's wiring.
- When the CHK (check pin) and / or TEST (test pin) on the indoor unit control PC board are short circuited.
- The nonvolatile memory (EEPROM) is not installed or faulty when turning on the power.
- Indoor unit control PC board error.
- Remote controller check mode.
- Malfunctions of the remote controller itself (reception circuit error).

2. Error Diagnosis

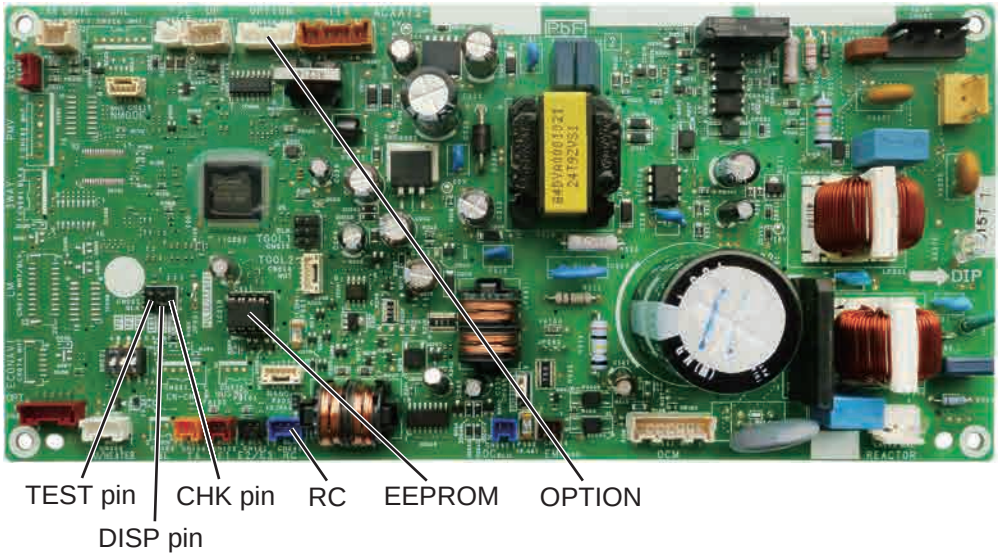
1 Auto Address	1-1	Is auto address setting complete?	Yes	1-2
			No	1-3
	1-2	Is there an auto address setting error (Is the outdoor unit showing an alarm)?	Yes	1-3
			No	2-1
	1-3	Conduct checks prior to auto address setting.		
2 Group Control Wiring	2-1	Is that indoor unit under group control?	Yes	2-2
			No	3-1
	2-2	Are there any indoor units with their power off in the remote control group's wiring?	Yes	Power on
			No	2-3
	2-3	Are nine or more indoor units connected in one remote control group's wiring?	Yes	Correct the wiring
			No	2-4
	2-4	Was the remote control group's wiring changed after auto address setting was complete? Alternatively, were group settings changed in the remote control detailed settings mode?	Yes	2-5
			No	3-1
	2-5	No main unit in the remote control group's wiring? Re-execute auto address setting.		
3 Installation or setting related	3-1	Are the CHK pin and TEST pin on the indoor unit control board short-circuited?	Yes	Remove the short
			No	3-2
	3-2	Is the wireless remote controller connected to on the indoor unit's control PC board?	Yes	3-3
			No	3-5
	3-3	Disconnect the connector mentioned above on the PC board of the indoor unit control PC board, and see whether the E01 goes off after several minutes. (When doing so, if two remote controllers are being used and the wireless remote controller is the main remote controller, set the other remote controller as the main.)	Yes	3-4
			No	3-5
	3-4	Replace wireless remote control parts including wiring.		
	3-5	Is the LED blinking on the indoor unit's control PC board?	Yes	3-6
			No	3-7
	3-6	The nonvolatile memory (EEPROM) on the indoor unit's control PC board is either not installed, improperly installed or the nonvolatile memory is faulty. Correct this or after replacing the nonvolatile memory, write model data to it in the remote control detailed settings mode.		
	3-7	Is there a short, miswiring, disconnection, wrong contact or grounding in the remote control's wiring?	Yes	Correct the wiring
			No	Replace the indoor unit's control board.

- Regarding the remote controller check, refer to the Reference Materials.
- For information on the procedures for replacing the nonvolatile memory (EEPROM) of the indoor unit and / or replacing the indoor unit's control board, refer to the manual that is packaged with the indoor unit service board.

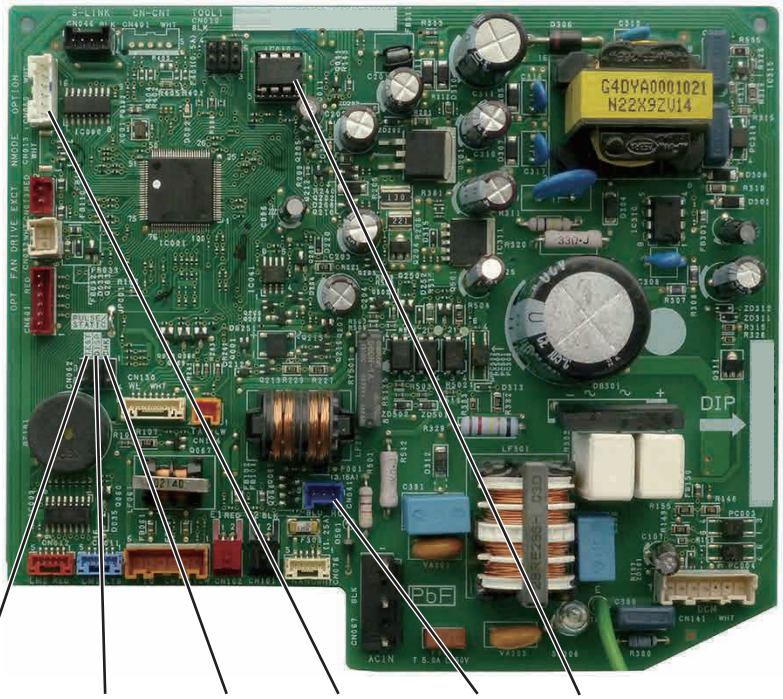
■ **ACXA73-3129* : 4-Way Cassette Type Indoor Unit Control Board**



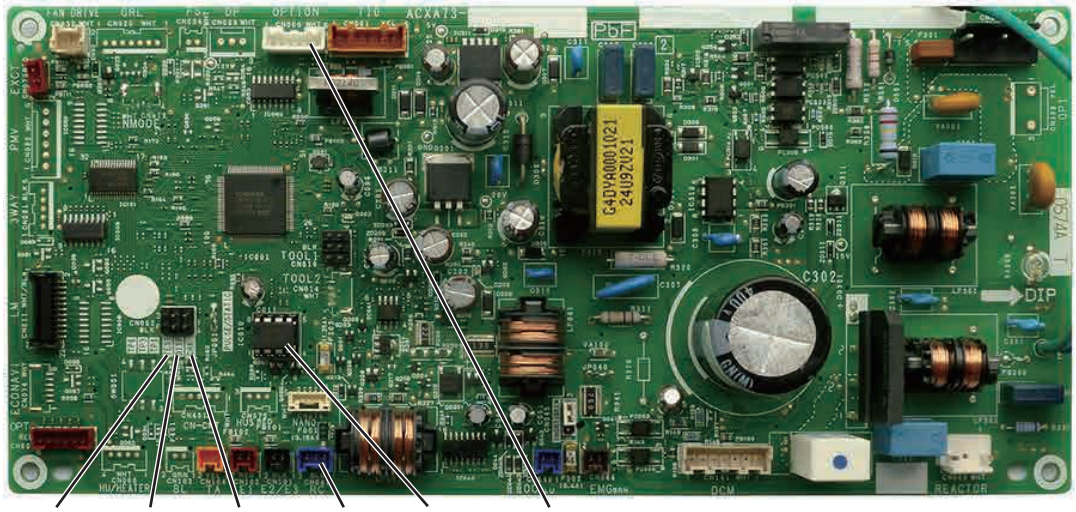
■ **ACXA73-3440* : Middle Static Pressure Duct Type Indoor Unit Control Board**



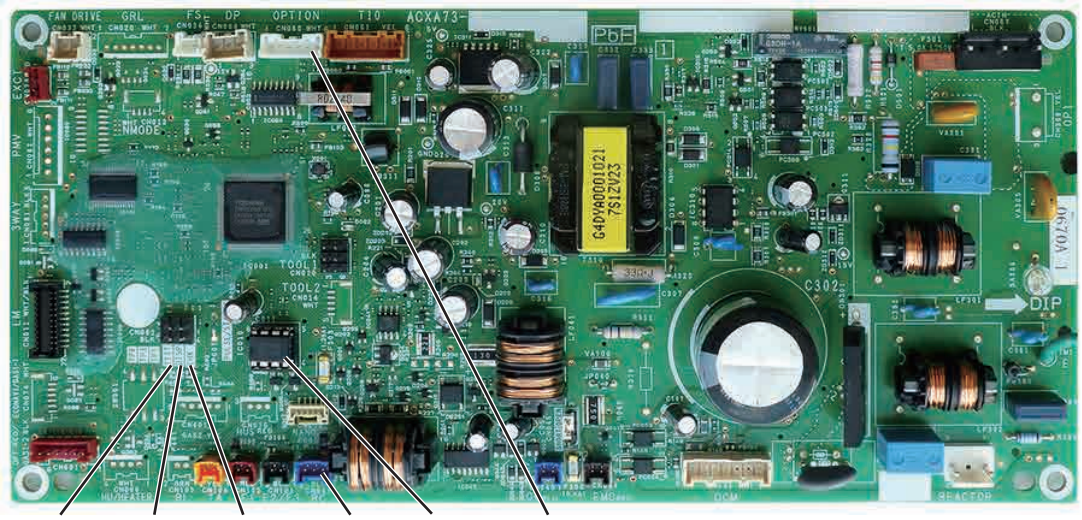
■ **ACXA73-3671* : Wall Mounted Type Indoor Unit Control Board**



■ **ACXA73-3611* : Ceiling Type Indoor Unit Control Board**



■ **ACXA73-3565* : 4-Way Cassette 60 × 60 Type Indoor Unit Control Board**



E02 Remote Controller Transmission Error

1. Error Detection Method

When the remote controller itself cannot transmit. Or when it cannot receive the signal it transmitted itself, or when they are different and judged an error.

- Malfunction of the remote controller itself (transmit circuit error).

2. Error Diagnosis

1 Remote Control Group Wiring	1-1	Is the indoor unit under group control?	Yes	1-2
			No	2-1
	1-2	Are the wires 1 (white) & 2 (black) to the remote control group shorted or opened?	Yes	Correct the wiring
			No	2-1
2 Group Control Wiring	2-1	Is the wireless remote controller connected to on the indoor unit's control PC board?	Yes	2-2
			No	2-4
	2-2	Disconnect the connector mentioned above on the board of the indoor unit control PC board, and see whether the E02 goes off after several minutes. (When doing so, if two remote controllers are being used and the wireless remote controller is the main remote controller, set the other remote controller as the main.)	Yes	2-3
			No	2-4
	2-3	Replace wireless remote control parts including wiring.		
	2-4	Is there a short, miswiring, open, wrong contact or grounding in the remote control's wiring?	Yes	Correct the wiring
			No	Replace the indoor unit's control PC board

- Regarding the remote controller check, refer to the Reference Materials.
- For information on the procedures for replacing the nonvolatile memory (EEPROM) of the indoor unit and / or replacing the indoor unit's control board, refer to the manual that is packaged with the indoor unit service board.

E03 Error in Indoor Unit Receiving Signal from Remote Controller (central)

(When indoor unit(s) are connected)

1. Error Detection Method

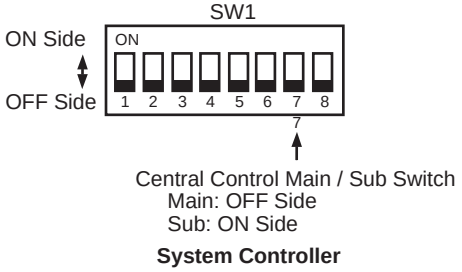
It is judged an error when there is no communication from any remote controller (collectively) in a 3-minute period or if there is no communication from the central device in a 15-minute period.

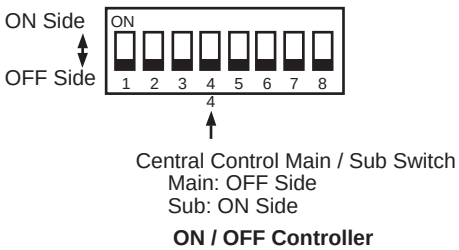
- When there was once communication, but during use the remote control wiring is opened or miswired.
- The line to the central control unit for indoor / outdoor operations is opened.
- Settings are made only for sub remote controller.
- The power to the central control unit is not on and remote controllers are not being used (or the inter-unit control wiring to the central control unit is opened).
- When remote controller are not being used, only the sub remote controller is set up.

2. Error Diagnosis

1 Central control unit	1-1	Is the central control unit connected?	Yes	1-2
			No	2-1
	1-2	Is the central control unit's powered off?	Yes	Power on
			No	1-3
	1-3	Are all the Main / Sub switches on the connected central control unit set to Sub?	Yes	1-4
			No	1-5
	1-4	Of the central control units that are connected, set only the uppermost central control unit to Main and the others to Sub. The order from top to bottom is communication adaptor → system controller → ON / OFF controller.		
	1-5	Is the inter-unit control wiring connected to the central control unit opened?	Yes	Correct the setting
			No	2-1
2 Remote controller	2-1	Is the indoor unit under group control?	Yes	2-2
			No	3-1
	2-2	Are the wires 1 (white) & 2 (black) to the remote control group opened, have wrong contact or grounded?	Yes	Correct the setting
			No	3-1
3 Indoor unit control PC board	3-1	Is the wireless remote controller connected to on the indoor unit's control PC board?	Yes	3-2
			No	3-4
	3-2	Disconnect the connector mentioned above on the control PC board of the indoor unit control PC board, and see whether the E03 goes off after several minutes. (When doing so, if two remote controllers are being used and the wireless remote controller is the main remote controller, set the other remote controller as the main.)	Yes	3-3
			No	3-4
	3-3	Replace wireless remote control parts including wiring.		
	3-4	Is there a short, miswiring, open, wrong contact or grounding in the remote control's wiring?	Yes	Correct the wiring
			No	Replace the indoor unit control board

- Regarding the remote controller check, refer to the Reference Materials.
- For information on the procedures for replacing the nonvolatile memory (EEPROM) of the indoor unit and / or replacing the indoor unit's control board, refer to the manual that is packaged with the indoor unit service board.

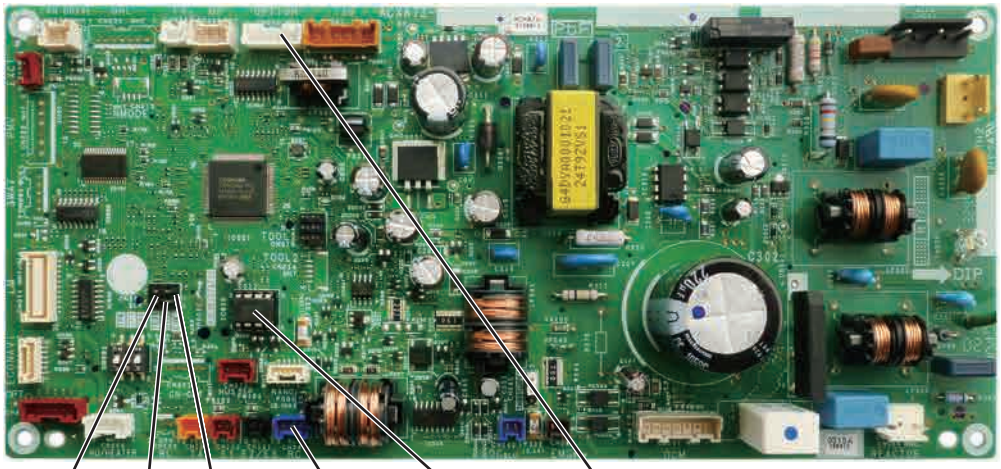




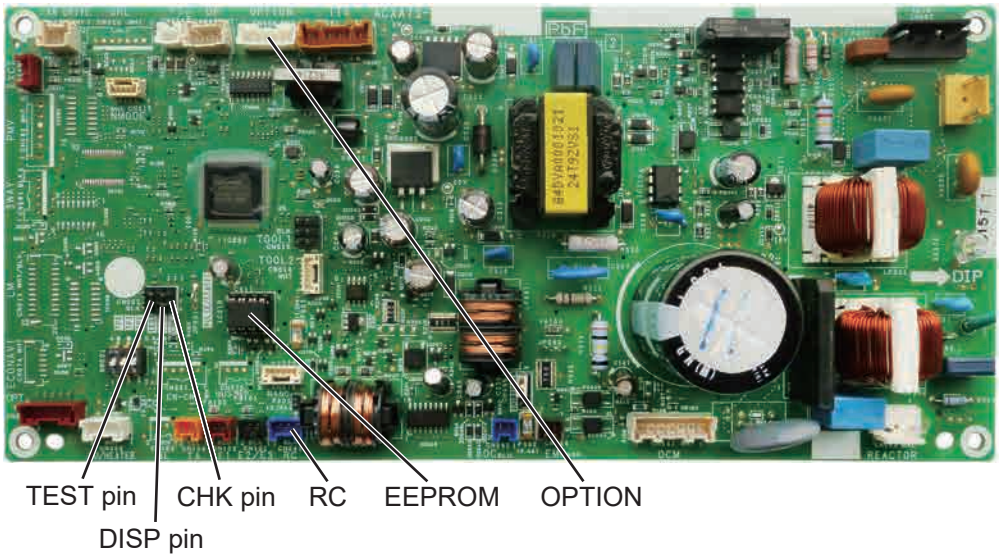
- For information on the procedures for replacing the nonvolatile memory (EEPROM) of the indoor unit, refer to the manual that is packaged with the indoor unit service board.
- For information on the remote control's detailed settings, see 7-3 and 7-4.
- The alarm also occurs when the indoor unit cannot be recognized (indoor unit only blackout, disconnection of indoor / outdoor control line*, etc.) during auto address setting.

  * indoor / outdoor control line* : Connection cable between outdoor and indoor unit

■ **ACXA73-3129* : 4-Way Cassette Type Indoor Unit Control Board**



■ **ACXA73-3440* : Middle Static Pressure Duct Type Indoor Unit Control Board**



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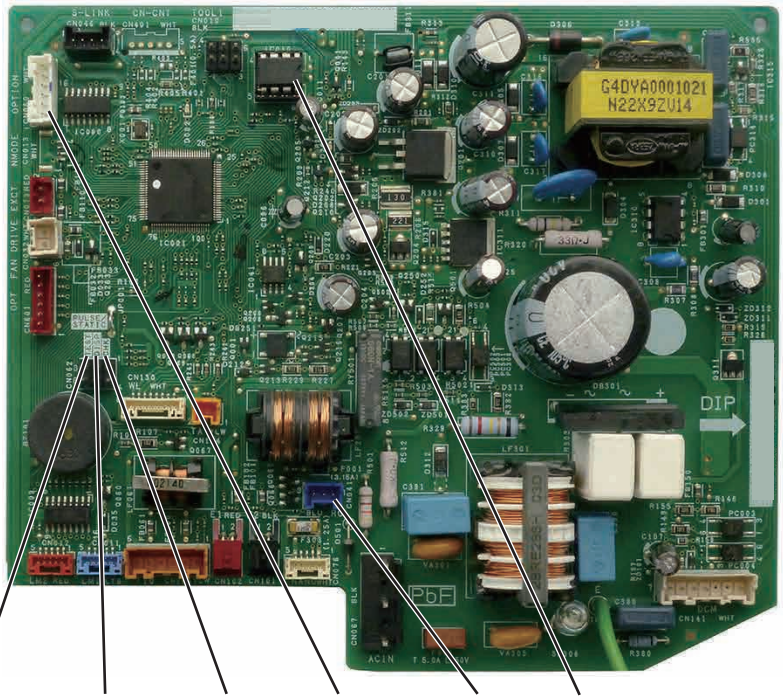
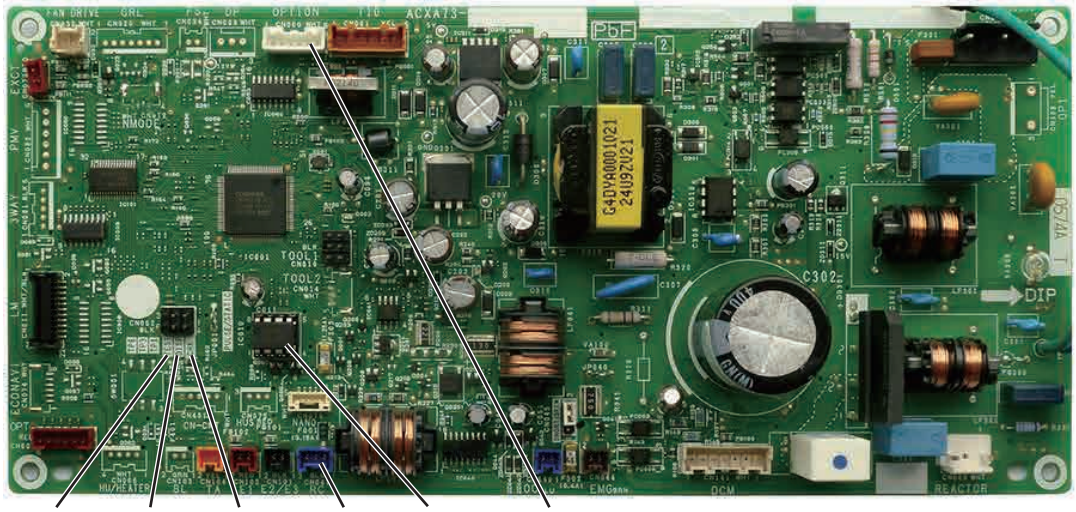
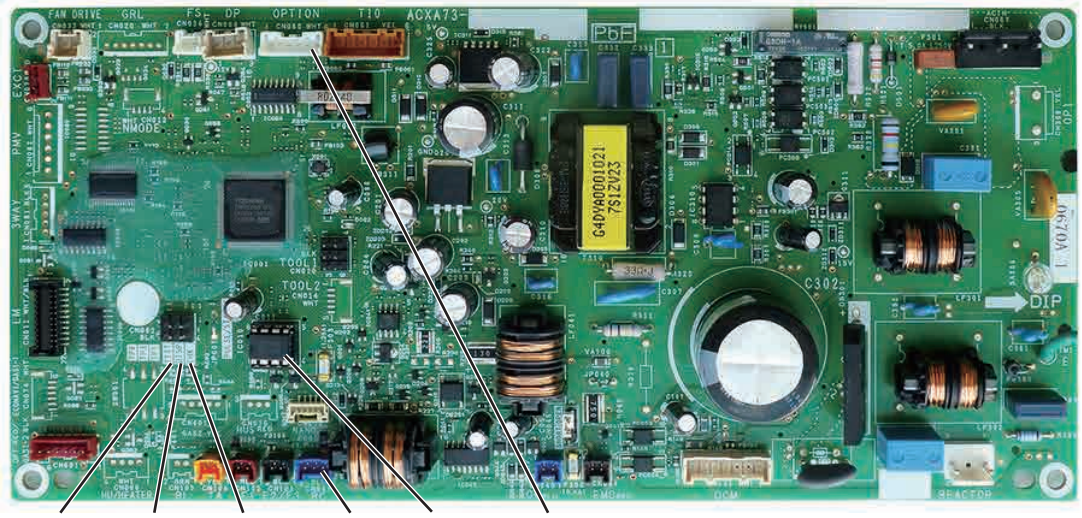
■ **ACXA73-3671* : Wall Mounted Type Indoor Unit Control Board**



■ **ACXA73-3611* : Ceiling Type Indoor Unit Control Board**



■ **ACXA73-3565* : 4-Way Cassette 60 × 60 Type Indoor Unit Control Board**



E04 Error in Indoor Unit Receiving Signal from the Outdoor unit

1. Error Detection Method

When there is no communication within a 3-minute period from the outdoor unit. Or, judged an error when no reply comes from the outdoor unit.

- The outdoor unit is not turned on.
- When the power was turned on after auto address setting was completed, the number of indoor units had been changed.
- Forgot to turn on the indoor unit.
- The CHK pin and / or TEST pin on the indoor unit's control PC board are shorted.
- Forgot to install the nonvolatile memory (EEPROM) when replacing the indoor unit control PC board.
- Mistakenly set the indoor unit address to Not Set in the remote control's detailed setting mode.
- When indoor unit addresses are duplicated.
- There is a short, open, wrong contact or grounding of the indoor / outdoor control line*.
- There is an error in the receiving circuit on the signal output PC board (optional control PC board).
- Malfunctions of the outdoor unit
- The thermistor inside the indoor unit is grounded.
- The capacity setting is mismatched between indoor units and the outdoor unit.

2. Error Diagnosis

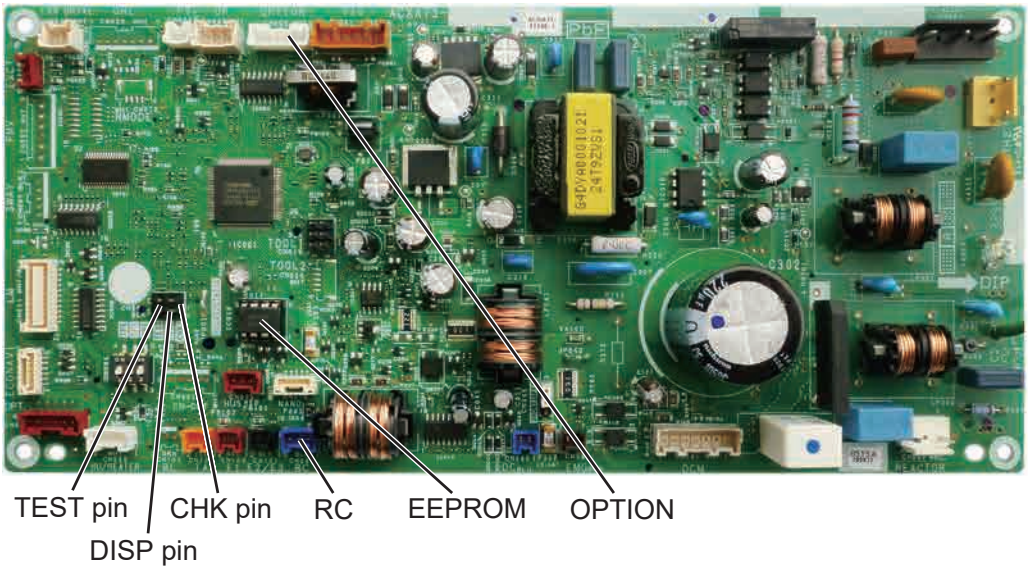
1 Power Source	1-1	Is / was the power to the outdoor unit cut off?	Yes	After turning the power on, wait three minutes
			No	1-2
	1-2	Is the indoor unit powered off?	Yes	Power on
			No	2-1
2 Indoor / outdoor wiring	2-1	Is the indoor / outdoor wiring connected correctly?	Yes	3-1
			No	Correct the wiring
3 Number and setting of indoor units	3-1	Was the number of indoor units increased or decreased after auto address setting was complete?	Yes	3-2
			No	3-3
	3-2	Conduct checks prior to auto address setting.		
	3-3	Check the indoor unit addresses from the remote control's detailed settings mode. Is it Not Set (99), or is the indoor unit's address duplicated?	Yes	3-2
			No	3-4
	3-4	Check the indoor unit capacity from the remote control's detailed settings mode. Does it match the capacity of outdoor unit?	Yes	4-1
			No	3-2
4 Indoor unit control PC board	4-1	Are the CHK pin and / or TEST pin on the indoor unit control PC board short-circuited?	Yes	Remove the short
			No	4-2
	4-2	Is the wireless remote controller connected to on the indoor unit's control PC board?	Yes	4-3
			No	4-5
	4-3	Disconnect the connector mentioned above on the control PC board of the indoor unit control PC board, and see whether the E04 goes off after several minutes. (When doing so, if two remote controllers are being used and the wireless remote controller is the main remote controller, set the other remote controller as the main.)	Yes	4-4
			No	4-5
	4-4	Replace wireless remote control parts including wiring.		
	4-5	Is the LED on the indoor unit control PC board blinking?	Yes	4-6
			No	4-7
	4-6	The nonvolatile memory (EEPROM) on the indoor unit's control PC board is either not installed, improperly installed or the nonvolatile memory is faulty. Correct this or after replacing the nonvolatile memory, write model data to it in the remote control detailed settings mode.		
	4-7	Are all the remote controllers of the other indoor units connected to that outdoor unit displaying E04?	Yes	Replace the outdoor unit control board
			No	Replace the indoor unit control board

* indoor / outdoor control line* : Connection cable between outdoor and indoor unit

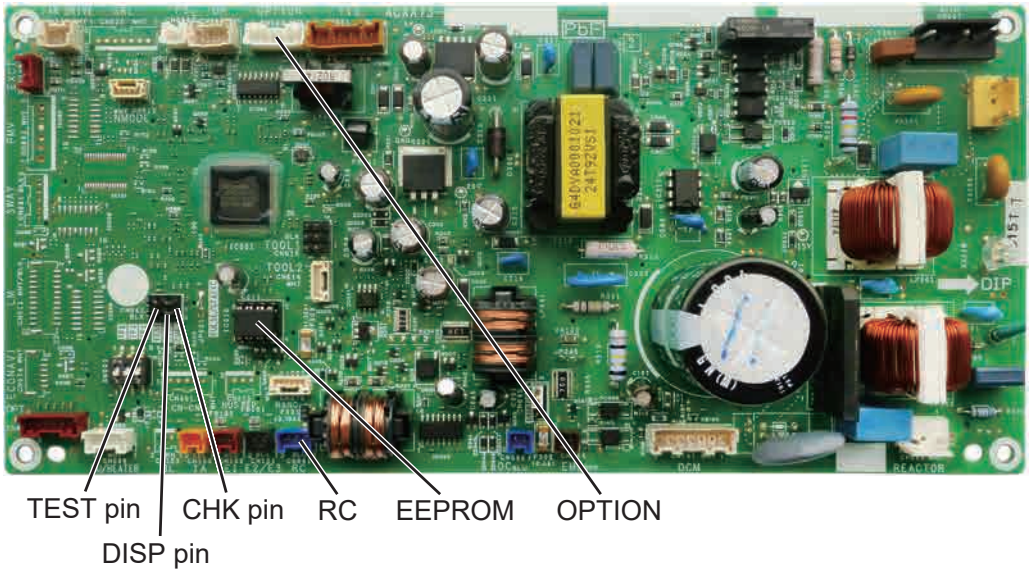
- Regarding the remote controller check, refer to the Reference Materials.
- For information on the procedures for replacing the nonvolatile memory (EEPROM) of the indoor unit and / or replacing the indoor unit's control board, refer to the manual that is packaged with the indoor unit service board.

Indoor Unit Control PCB

■ **ACXA73-3129* : 4-Way Cassette Type Indoor Unit Control Board**



■ **ACXA73-3440* : Middle Static Pressure Duct Type Indoor Unit Control Board**



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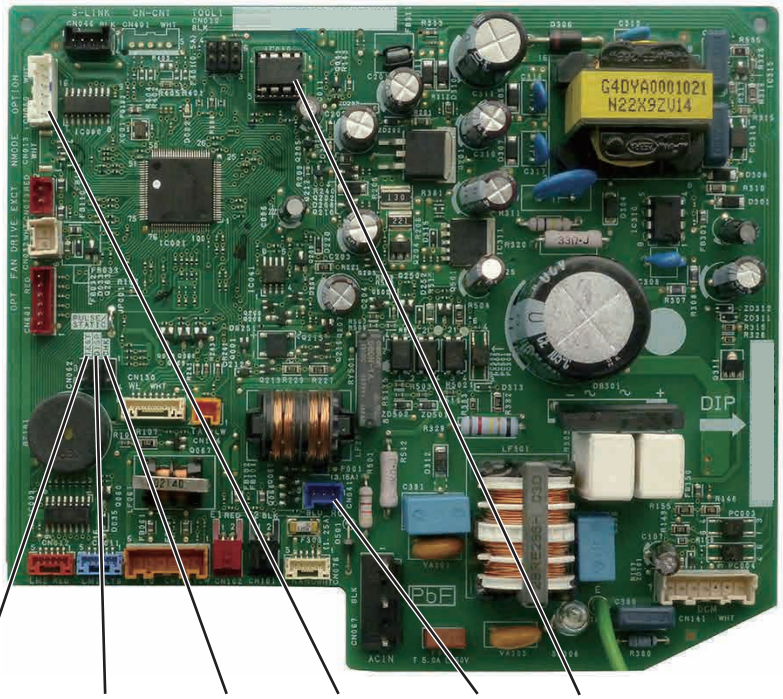
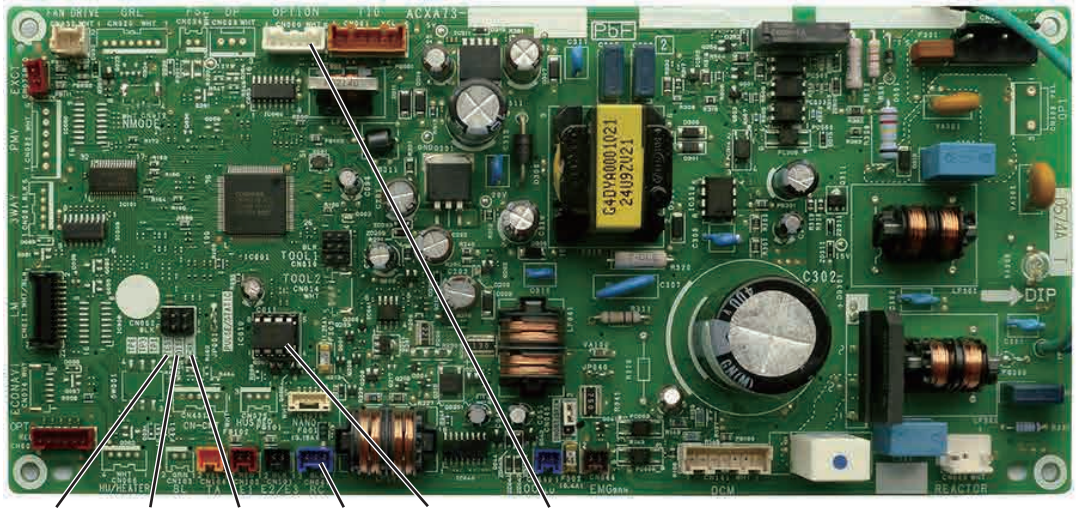
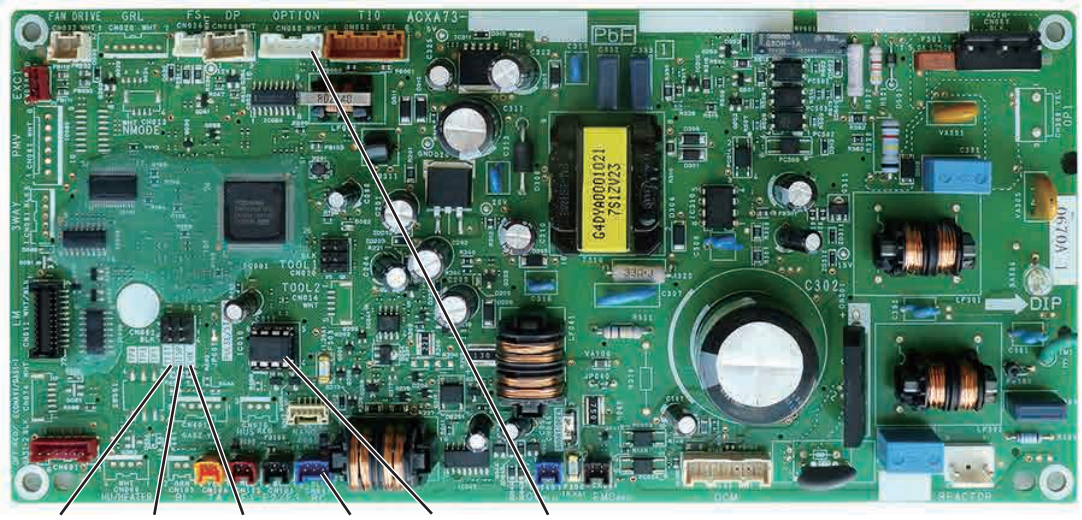
■ **ACXA73-3671* : Wall Mounted Type Indoor Unit Control Board**



■ **ACXA73-3611* : Ceiling Type Indoor Unit Control Board**



■ **ACXA73-3565* : 4-Way Cassette 60 × 60 Type Indoor Unit Control Board**



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E08 Duplicate Indoor Unit Address Settings Error

1. Error Detection Method

It is judged an error if the addresses of indoor units are duplicated.

- The indoor unit address settings are duplicated in the remote control detailed settings mode.
- The multiple unit DISP pin is shorted across the indoor unit whose address is Not Set.

2. Error Diagnosis

1 Indoor unit control PC board	1-1	Is the DISP pin on the indoor unit control PC board shorted?	Yes	Remove the short
			No	1-2
	1-2	Conduct checks prior to auto address setting. Does E08 fail to go off even after running auto address setting again?	Yes	1-3
			No	1-4
	1-3	The nonvolatile memory (EEPROM) on the indoor unit board has failed. ↓ Replace the EEPROM.		
	1-4	Do not make changes to indoor unit addresses with the detailed settings of the remote controller. Make them in the remote control address change mode.		

- For information on the procedures for replacing the nonvolatile memory (EEPROM) of the indoor unit, refer to the manual that is packaged with the indoor unit service board.
  - For information on the procedures for replacing the nonvolatile memory (EEPROM) of the indoor unit, refer to the manual that is packaged with the indoor unit service board.
  - For information on the remote control's detailed settings, see 7-3 and 7-4.
  - The alarm also occurs when the indoor unit cannot be recognized (indoor unit only blackout, disconnection of indoor / outdoor control line*, etc.) during auto address setting.

    * indoor / outdoor control line* : Connection cable between outdoor and indoor unit

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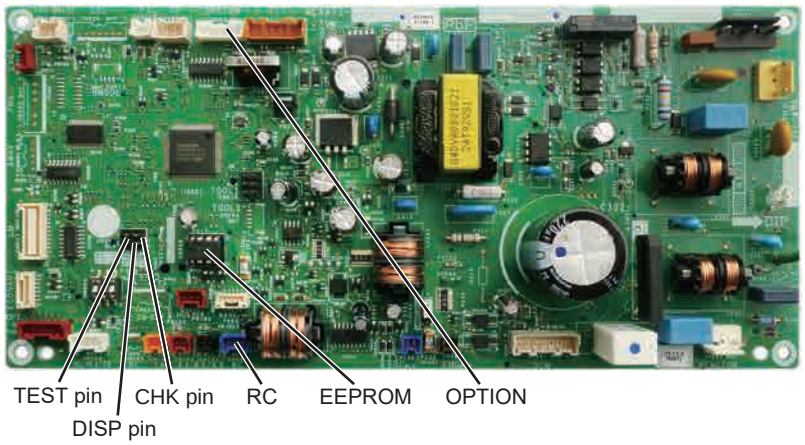
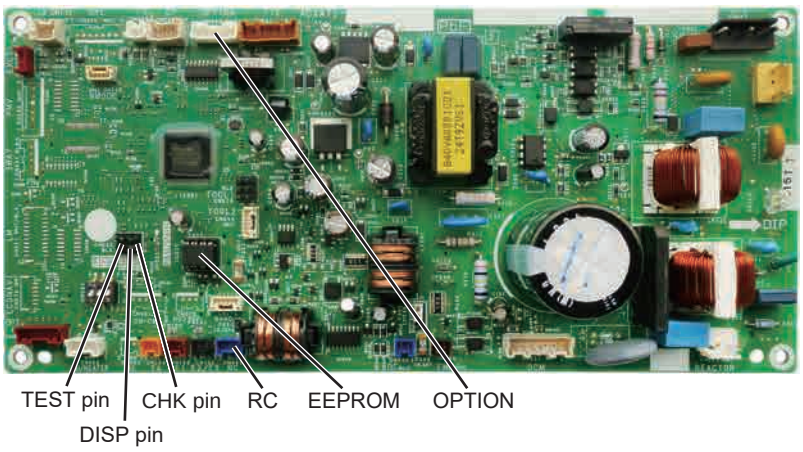
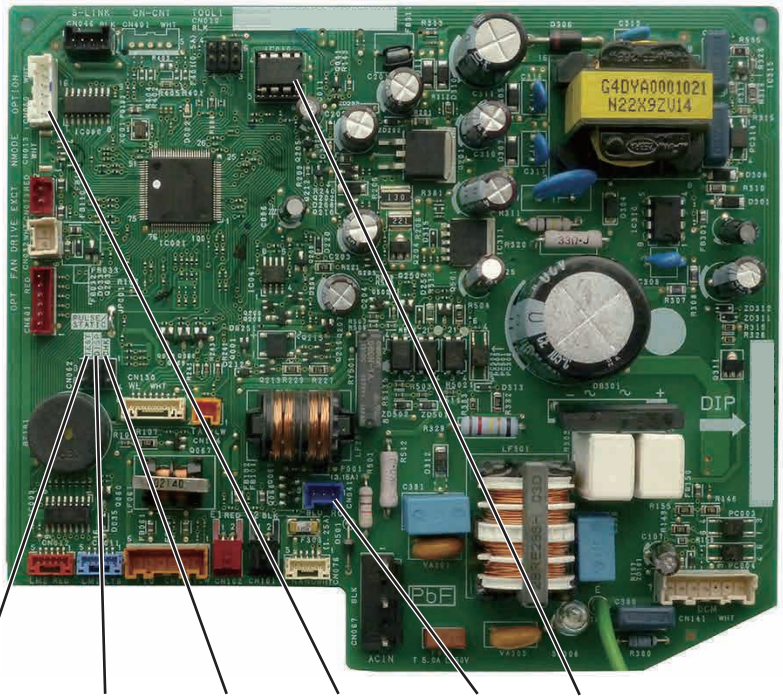
■ **ACXA73-3129* : 4-Way Cassette Type Indoor Unit Control Board**



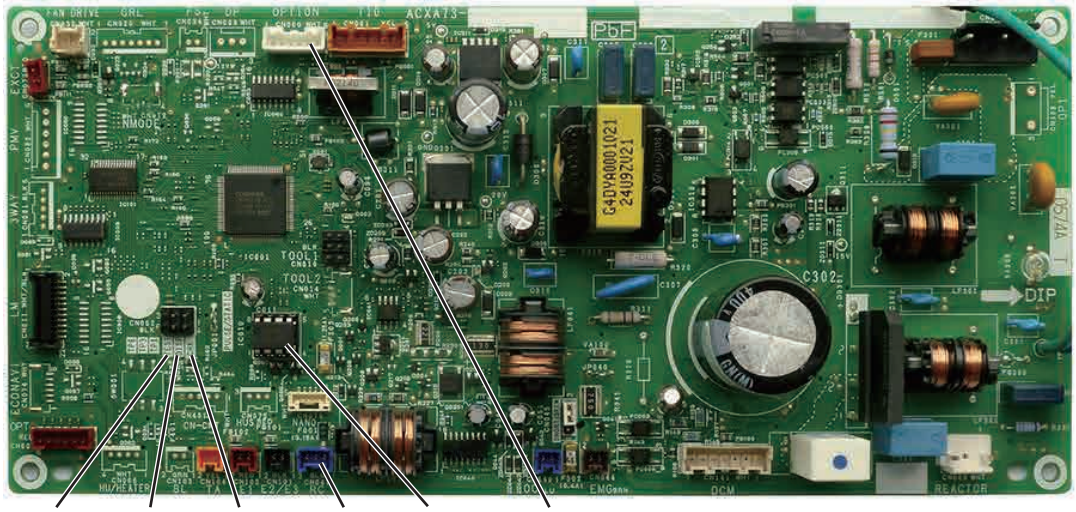
■ **ACXA73-3440* : Middle Static Pressure Duct Type Indoor Unit Control Board**



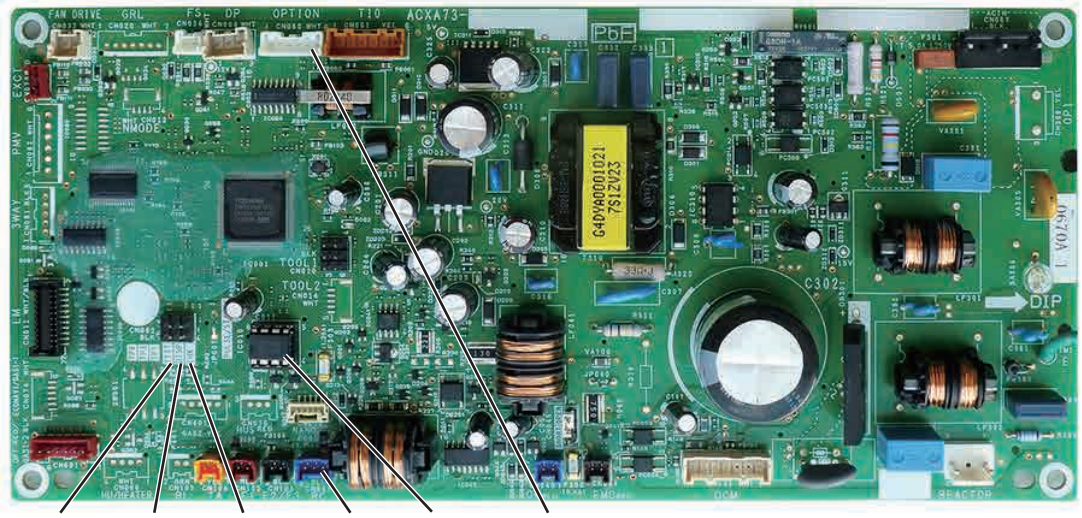
■ **ACXA73-3671* : Wall Mounted Type Indoor Unit Control Board**



■ **ACXA73-3611* : Ceiling Type Indoor Unit Control Board**



■ **ACXA73-3565* : 4-Way Cassette 60 × 60 Type Indoor Unit Control Board**



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E09 More Than One Remote Controller Set to Main Error

1. Error Detection Method

It is judged an error when more than one remote controller in a remote control group is set as the main remote controller.

- Forgot to set one remote controller to sub in a 2-remote control group.
- When using one wireless and one wired remote controller in a control group, forgot to set one of them to sub.

2. Error Diagnosis

1 Remote controller	1-1	Set one of the 2 remote controllers to sub.

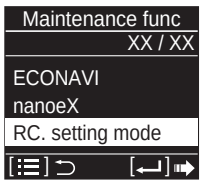
- Method for setting a remote controller to sub

<CZ-RTC6 series>

(1) Press and hold the ☰, ∧ and ↵ for 4 seconds or more simultaneously.

(2) Select “RC. setting mode”.

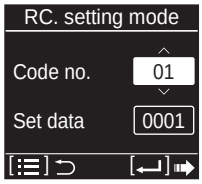
▽ ∧ → ↵

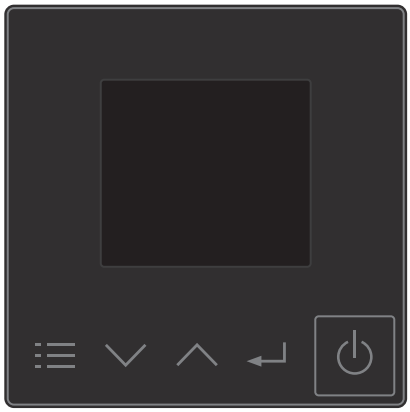


(3) Select the “Code no.” and “ Set data”.

▽ ∧ → ↵

(Repeat)





CZ-RTC6 series

Code no.	Item	Set data	
		0000	0001
01	Main/Sub	Sub	Main

(4) Press ☰ .

- After selecting “YES”, the unit restarts.

<CZ-RTC5B>

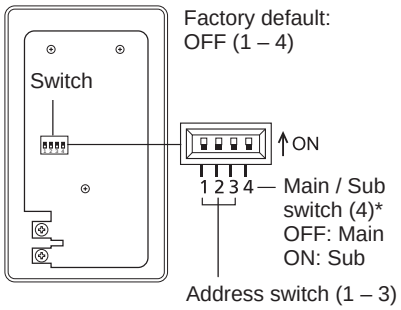
1. Press and hold ⮌ + ↵ + ► buttons for 4 seconds or more simultaneously.
2. Press ▼ / ▲ buttons to select the “3. RC. setting mode” and press the ↵ button.
3. The Code no. “01” and the Set data “0001” or the like on the remote controller’s display.
4. Press ▼ / ▲ buttons to select the Code no. to “01” and press the ► button.
5. Press ▼ / ▲ buttons to select the Set data to “0000” (0000: Sub 0001: Main) and press the ↵ button.
6. Press ⮌ button. After selecting [YES], the unit restarts.

<CZ-RTC4>

1. Press and hold Ⓐ + SET buttons for several seconds simultaneously.
2. This will display SETTING, the CODE No. “01” and the SET DATA “0001” or the like on the remote controller’s display.
3. Press ▽ / △ buttons to select the CODE No. to “01”.
4. Press DAY / TIMER buttons to select the SET DATA to “0000”. (0000: Sub 0001: Main)
5. Press SET button (Once the display changes from flashing to steady, the setting is complete).
6. Once you press button, the remote controller returns to its normal display.

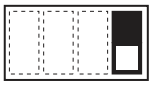
Wireless remote controller

CZ-RWRC3

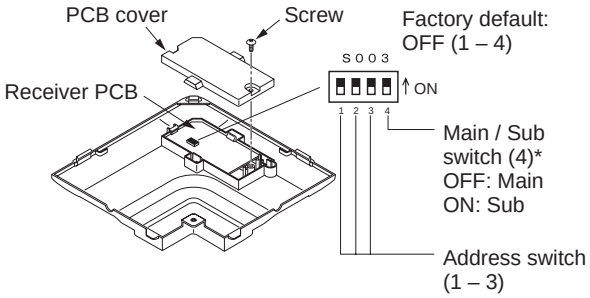


Main / Sub setting

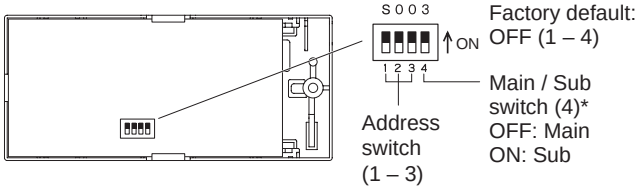
- **Use this to set Main / Sub for the remote controller and the receiver.**
- **Set one to [Main] and the other to [Sub].**
- **Factory default: [Main]**
- **It is recommended to set the wired remote controller to [Main].**

Main / Sub	MAIN	SUB
Main / Sub switch position	 1 2 3 4	 1 2 3 4

CZ-RWRU3, CZ-RWRU3W

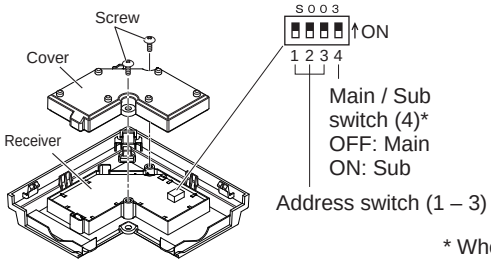


CZ-RWRT3



* When using the infrared remote controller and the wired remote controller in combination, set the wired remote controller to [Main].

CZ-RWRY3

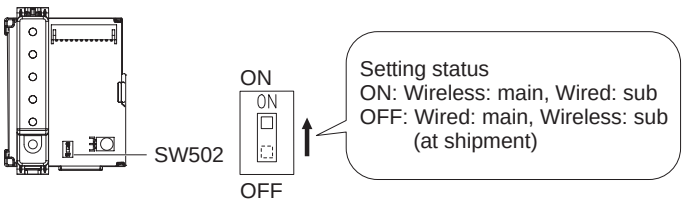


* When using the receiver and wired remote controller in combination, set the receiver to [Sub].

Wall Mounted Type

<When Using Wireless Remote Controller Instead of Wired Remote Controller>
When the wireless remote controller is to be used, slide the switch (SW502) to the ON position.

- If this setting is not made, an alarm will occur
  (The operation lamp on the display blinks.)
  See “8-3-2-1. <Optional parts setting and wiring>”.



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E14 Main Unit duplication in Simultaneous-operation Multi Control (detected outdoor unit)

1. Error Detection Method

It is judged an error that the main units are duplicated in the indoor unit group.

- Main unit setting was made in the indoor unit group control setting of the remote control detailed settings mode.

2. Failure Diagnosis

1 Group Control Address	1-1	Are multiple indoor units set up as the main unit?	Yes	2-1
			No	2-2
2 Installation & Setting	2-1	Set up only one indoor unit as the main unit and other indoor units to the sub-unit.		
	2-2	Carry out the auto address setting.		

E15 Auto Address Alarm (The total capacity of indoor units is too low.)

1. Error Detection Method

Connecting indoor unit

It is judged an error the total capacity of indoor units replied by communication is lower than that of outdoor unit.

- The total capacity of indoor units is lower than that of outdoor unit.
- Some indoor unit(s) are connected but power is not turned on.
- The CHK pin (CN062 / CN071) and / or TEST pin (CN064) of the indoor unit is shorted when its power is turned on.

2. Error Diagnosis

1 Power Source	1-1	Is the indoor unit powered off?	Yes	Power on
			No	2-1
2 Indoor / outdoor wiring	2-1	Is the indoor / outdoor wiring connected correctly?	Yes	3-1
			No	Correct the wiring
3 Number of Indoor Units	3-1	Was the number of indoor units changed after auto address setting finished?	Yes	3-2
			No	4-1
	3-2	Conduct checks prior to auto address setting.		
4 Indoor unit control PC board	4-1	Be sure that the detailed setting items are made at factory setting. [U3, F3, K3, T3]	Yes	4-2
			No	Correct the setting Run the auto address
	4-2	Are the CHK pin and TEST pin on the indoor unit control board short-circuited?	Yes	Remove the short
			No	4-3
	4-3	Is the wireless remote controller connected to on the indoor unit's control PC board?	Yes	4-4
			No	4-6
	4-4	Disconnect the connector mentioned above on the control PC board of the indoor unit control PC board and see whether the E15 goes off after several minutes. (When doing so, if two remote controllers are being used and the wireless remote controller is the main remote controller, set the other remote controller as the main.)	Yes	4-5
			No	4-6
	4-5	Replace wireless remote control parts including wiring.		
	4-6	Is the LED blinking on the indoor unit's control PC board?	Yes	4-7
			No	5-1
	4-7	The nonvolatile memory (EEPROM) on the indoor unit's control board is either not installed, improperly installed or the nonvolatile memory is faulty. Correct this or after replacing the nonvolatile memory, write model data to it in the remote control detailed settings mode.		
5 Outdoor unit control PC board	5-1	Check all items under the section "Check Prior to Auto Address Setting".		

- **Factory setting**

Item code	Item	Value
11	Indoor unit capacity	0
12	System address	99
13	Indoor unit address	99
14	Group control address	99

NOTE

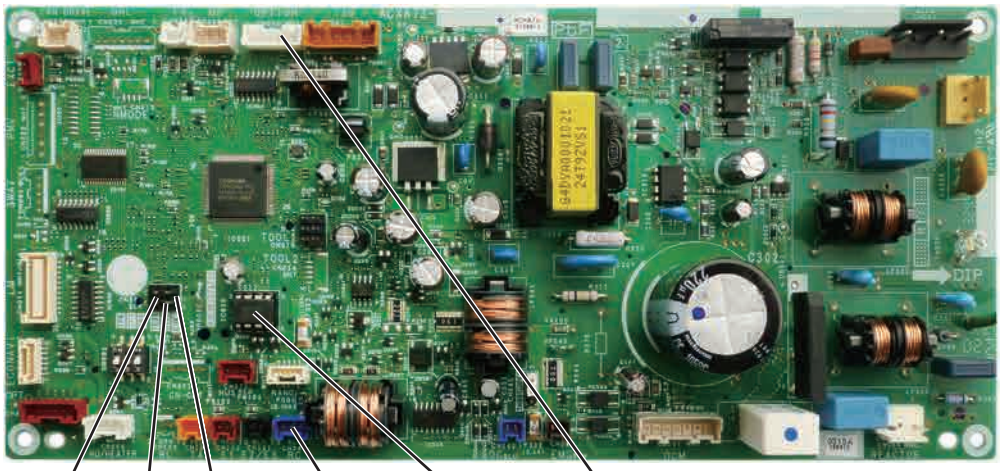
The Item code numbers 11, 12, 13 and 14 can automatically be changed to the appropriate settings from factory settings listed above by making the auto address settings according to the connected outdoor unit capacity and the number of indoor units.

If needed to reset the settings after once changed, return all the item codes to the factory shipment-time settings. It is necessary to set the auto address settings once again.

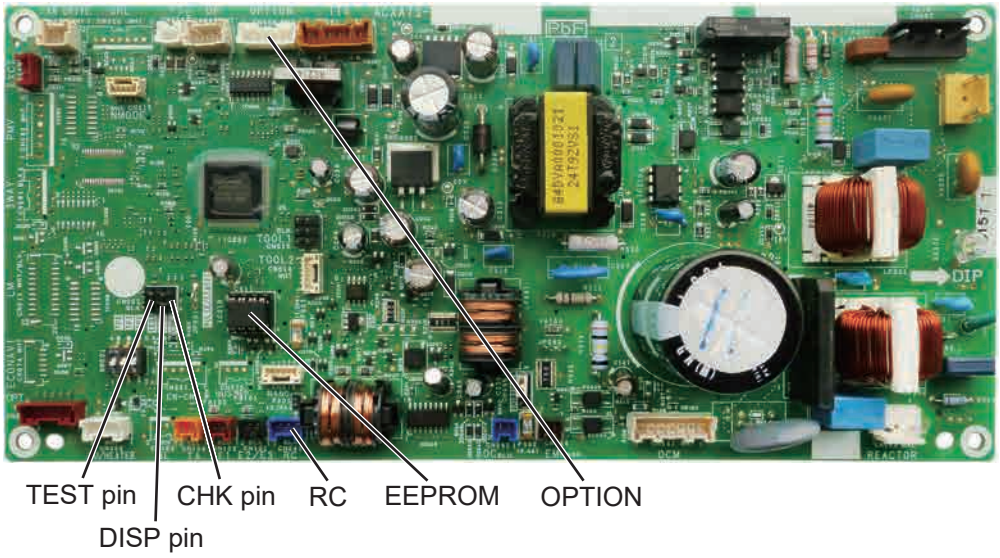
- For information on the procedures for replacing the nonvolatile memory (EEPROM) of the indoor unit, refer to the manual that is packaged with the indoor unit service board.
- For information on the remote control's detailed settings, see 7-3 and 7-4.
- The alarm also occurs when the indoor unit cannot be recognized (indoor unit only blackout, disconnection of indoor / outdoor control line*, etc.) during auto address setting.

  * indoor / outdoor control line* : Connection cable between outdoor and indoor unit

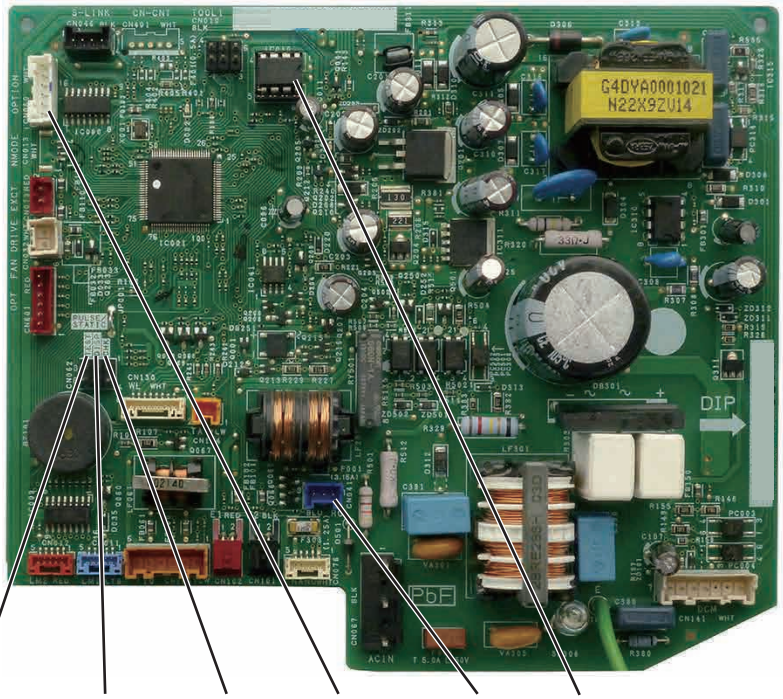
■ **ACXA73-3129* : 4-Way Cassette Type Indoor Unit Control Board**



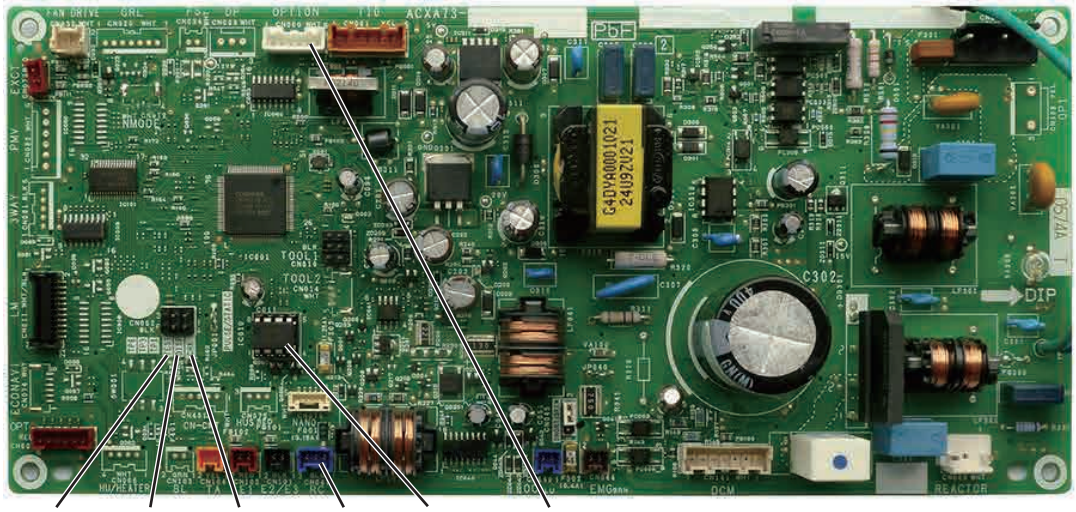
■ **ACXA73-3440* : Middle Static Pressure Duct Type Indoor Unit Control Board**



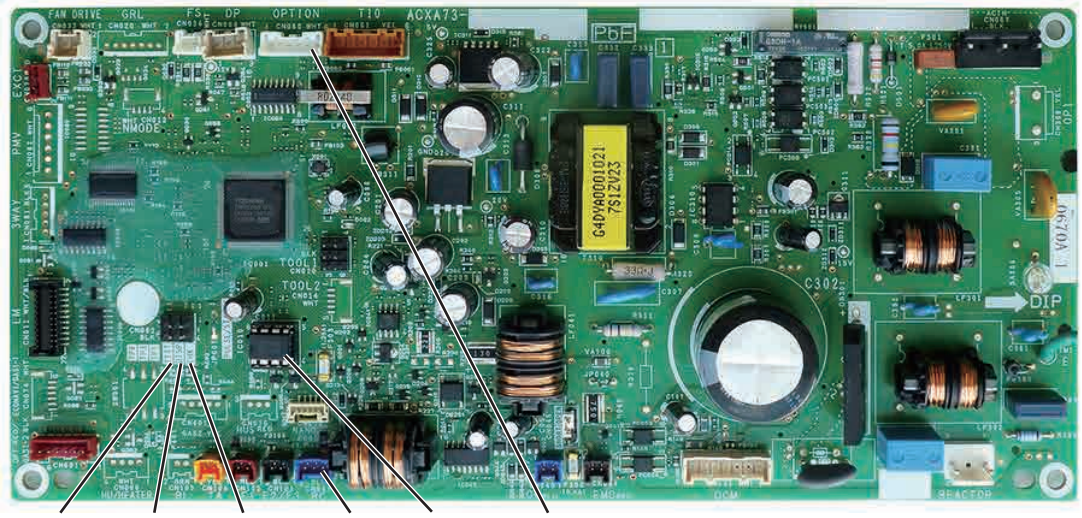
■ **ACXA73-3671* : Wall Mounted Type Indoor Unit Control Board**



■ **ACXA73-3611* : Ceiling Type Indoor Unit Control Board**



■ **ACXA73-3565* : 4-Way Cassette 60 × 60 Type Indoor Unit Control Board**



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E16 Auto Address Alarm (The total capacity of indoor units is too high.)

1. Error Detection Method

It is judged an error the total capacity of indoor units is too high or the total number of indoor units is too many.

- The total capacity of indoor units is too high.
- The total number of indoor units is too many.
- When making group control of the different refrigerant system, the steps to turn on the systems one at a time have not been performed.

2. Error Diagnosis

1 Auto Address	1-1	Conduct checks prior to auto address setting.

E18 Faulty Communication in Group Control Wiring

1. Error Detection Method

When the main remote controller cannot communicate with a sub remote controller in the remote control group.
It is judged an error if a sub remote controller in a remote control group fails to communicate with the main remote controller for a period of three minutes.

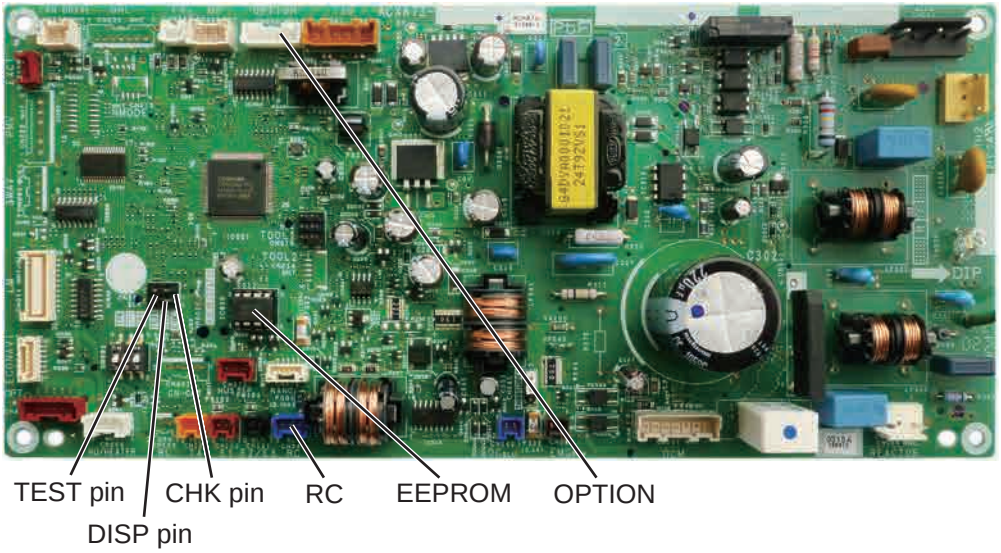
- An indoor unit within the control group does not have its power on.
- The CHK pin and TEXT pin on the indoor unit in the control group are shorted.
- The DISP pin of an indoor unit sub remote controller in the control group is shorted.
- Remote control group wiring is opened.
- More than one indoor unit in the control group is set to Main.
- An indoor unit in the control group is set to Separate.

2. Error Diagnosis

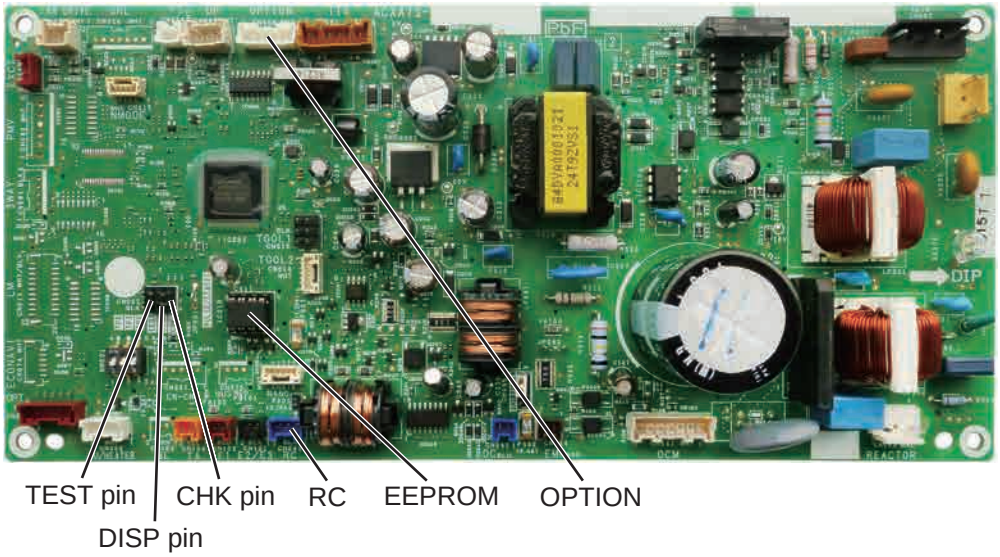
1 Indoor Unit	1-1	Is the indoor unit powered off?	Yes	Power on
			No	1-2
	1-2	Are the CHK pin, TEST pin and DISP pin on the indoor unit control PC board short-circuited?	Yes	Remove the short
			No	2-1
2 Substitute Sub Remote Controller	2-1	Is the remote control group's wiring opened?	Yes	Correct the wiring
			No	2-2
	2-2	Check the group settings (Item Code 14) from the remote control's detailed settings mode. Is the main remote controller (1) set to more than one remote controller or to separate (0)?	Yes	2-3
			No	3-1
	2-3	Is the wiring of the remote control group wired according to the wiring diagram?	Yes	2-4
			No	2-5
	2-4	Run the auto address setting again.		
	2-5	Run the auto address setting again after correcting the wiring of the remote control group.		
3 Indoor unit control PCB	3-1	Is the wireless remote controller connected to on the indoor unit's control PC board?	Yes	3-2
			No	3-4
	3-2	Disconnect the connector mentioned above on the control PC board of the indoor unit control PC board, and see whether the E18 goes off after several minutes. (When doing so, if two remote controllers are being used and the wireless remote controller is the main remote controller, set the other remote controller as the main.)	Yes	3-3
			No	3-4
	3-3	Replace wireless remote control parts including wiring.		
	3-4	Replace the indoor unit control PC board.		

- For information on the remote control's detailed settings, see 7-3 and 7-4.
- For information on the procedures for replacing the Indoor unit control PCB, refer to the manual that is packaged with the indoor unit service board.

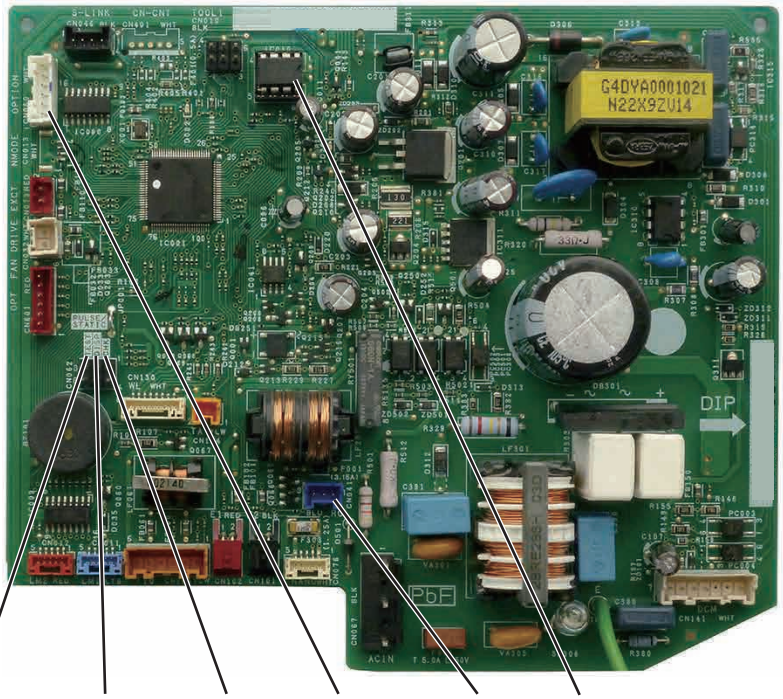
■ **ACXA73-3129* : 4-Way Cassette Type Indoor Unit Control Board**



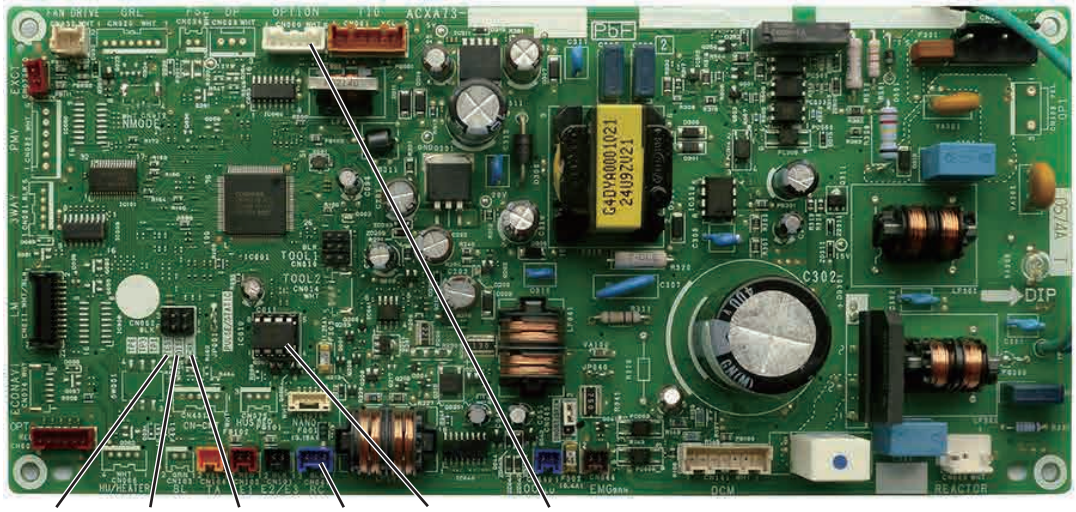
■ **ACXA73-3440* : Middle Static Pressure Duct Type Indoor Unit Control Board**



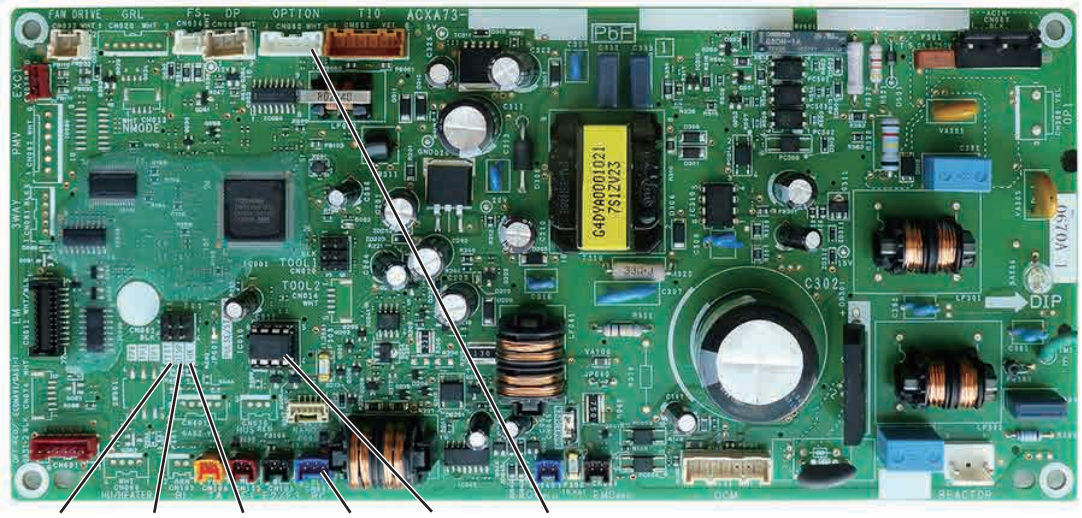
■ **ACXA73-3671* : Wall Mounted Type Indoor Unit Control Board**



■ **ACXA73-3611* : Ceiling Type Indoor Unit Control Board**



■ **ACXA73-3565* : 4-Way Cassette 60 × 60 Type Indoor Unit Control Board**



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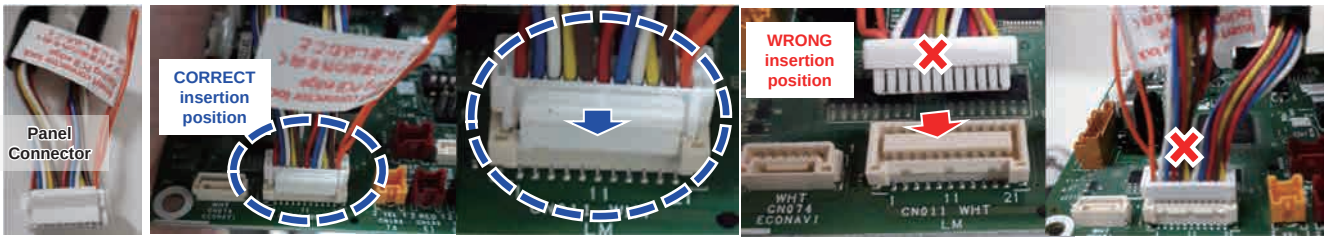
P09 Error description : Indoor unit ceiling cassette air swing motor do not operate

Error was judged as no connection between the ceiling cassette panel into Indoor PCB communication (feedback signal).

Possible Causes

1. Indoor unit ceiling cassette panel connector was not properly / wrongly connected into the PCB connector

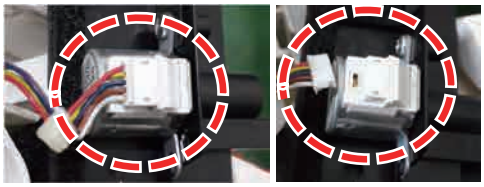


2. Air swing motor (inside the panel) was locked (jammed) or no operation

=> Check the air swing motor shaft can be rotate with hand

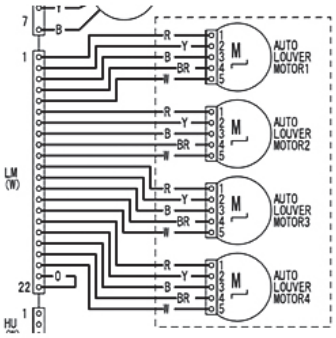
3. Air swing motor (inside the panel) wiring connector loosen or wire broken

=> Check the air swing motor wire connector connection



4. Indoor PCB for air swing control was malfunction

=> Check with multi meter at pin 1(red)-2, 1-3, 1-4 & 1-5 : 12Vdc
=> Check with multi meter at pin 6 (red)-7, 6-8, 6-9 & 6-10 : 12Vdc
=> Check with multi meter at pin 11 (red)-12, 11-13, 11-14 & 1 1-15 : 12Vdc
=> Check with multi meter at pin 16 (red)-17, 16-18, 16-19 & 1 6-20 : 12Vdc



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P31 Group Control Error

1. Error Detection Method

- Other indoor unit alarms within the group.

1 Other indoor unit	1-1	Survey the indoor unit that alarms other than “P31” in the indoor unit group and specify the causes of failure.

5-2-2. Outdoor

5-2-2-1. U-25PZ3E5, U-36PZ3E5, U-50PZ3E5, U-60PZ3E5A, U-71PZ3E5A U-36PZH3E5, U-50PZH3E5, U-60PZH3E5

Alarms for outdoor units

Alarm Code	Alarm Meaning
E04	Error in Indoor Unit Receiving Signal from the Outdoor Unit
F04	Compressor Discharge Temperature Sensor (TD) Trouble
F06	Inlet Temperature Sensor (C1) in Heat Exchanger Trouble
F08	Outdoor Air Temperature Sensor (TO) Trouble
H01	Primary (input) Overcurrent Detected
H02	PAM Trouble
H03	Primary Current CT Sensor (current sensor) Failure
L18	4-Way Valve Operation Failure
P03	Compressor Discharge Temperature Trouble
P04	High Pressure Trouble
P05	AC Power Supply Trouble
P07	HIC (IPM) Temperature Trouble
P13	Alarm Valve Open
P15	Insufficient Gas Level Detected
P16	Compressor Overcurrent Trouble
P22	Outdoor Unit Fan Motor Trouble
P29	Lack of INV compressor wiring, INV compressor actuation failure (including locked), DCCT failure

Error Codes Table

Diagnosis display	Abnormality / Protection control	Abnormality Judgment	Protection Operation	Problem	Check location
E04	Indoor / outdoor abnormal communication	After operation for 1 minute	Indoor fan only operation can start by entering into force cooling operation	Indoor / outdoor communication not establish	● Indoor / outdoor wire terminal ● Indoor / outdoor PCB ● Indoor / outdoor connection wire
F04	Compressor temperature sensor abnormality	Continuous for 5s	—	Compressor temperature sensor open or short circuit	● Compressor temperature sensor lead wire and connector
F06	Outdoor heat exchanger temperature sensor 1 abnormality	Continuous for 5s	—	Outdoor heat exchanger temperature sensor 1 open or short circuit	● Outdoor heat exchanger temperature sensor 1 lead wire and connector
F08	Outdoor air temperature sensor abnormality	Continuous for 5s	—	Outdoor air temperature sensor open or short circuit	● Outdoor air temperature sensor lead wire and connector
H01	Indoor high pressure protection	—	—	Indoor high pressure protection (Heating)	● Check indoor heat exchanger ● Air filter dirty ● Air circulation short circuit
H02	Power factor correction (PFC) circuit protection	4 times happen within 20 minutes	—	Power factor correction circuit abnormal	● Outdoor PCB faulty
H03	Outdoor current transformer (CT) abnormality	—	—	Current transformer faulty or compressor faulty	● Outdoor PCB faulty or compressor faulty
L18	4-way valve switching abnormality	4 times happen within 30 minutes	—	4-way valve switching abnormal	● 4-way valve ● Lead wire and connector
P03	Compressor overheating protection	4 times happen within 20 minutes	—	Compressor overheat	● Insufficient refrigerant
P04	Outdoor cooling high pressure protection	4 times happen within 20 minutes	—	Cooling high pressure protection	● Check refrigeration system ● Outdoor air circuit
P05	Indoor / outdoor misconnection abnormality	—	—	Indoor and outdoor rated voltage different	● Indoor and outdoor units check
P07	Power transistor module overheating protection	4 times happen within 30 minutes	—	Power transistor module overheat	● PCB faulty ● Outdoor air circuit (fan motor)
P15	Refrigeration cycle abnormality	2 times happen within 20 minutes	—	Refrigeration cycle abnormal	● Insufficient refrigerant or valve close
P16	Outdoor direct current (DC) peak detection	Continuous happen for 7 times	—	Power transistor module current protection	● Power transistor module faulty or compressor lock
P22	Outdoor fan motor mechanism lock	2 times happen within 20 minutes	—	Outdoor fan motor lock or feedback abnormal	● Outdoor fan motor lead wire and connector ● Fan motor lock or block
P29	Compressor abnormal revolution	4 times happen within 20 minutes	—	Compressor abnormal revolution	● Power transistor module faulty or compressor lock

E04 Indoor / Outdoor Abnormal Communication

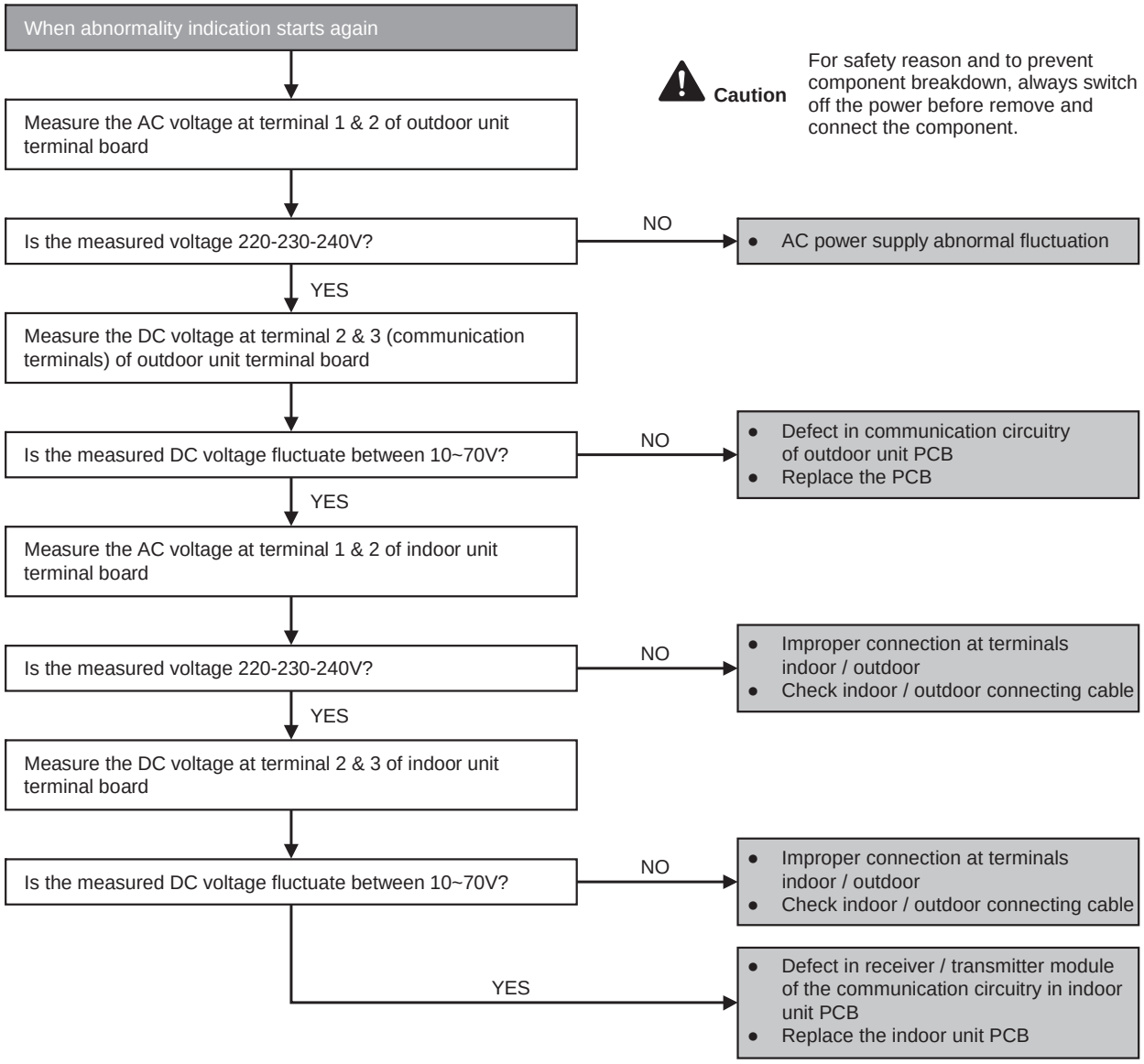
Malfunction Decision Conditions

- During startup and operation of cooling and heating, the data received from outdoor unit in indoor unit signal transmission is checked whether it is normal.

Malfunction Caused

- Faulty indoor unit PCB.
- Faulty outdoor unit PCB.
- Indoor unit-outdoor unit signal transmission error due to wiring error.
- Indoor unit-outdoor unit signal transmission error due to breaking of wire in the connection wires between the indoor and outdoor units.

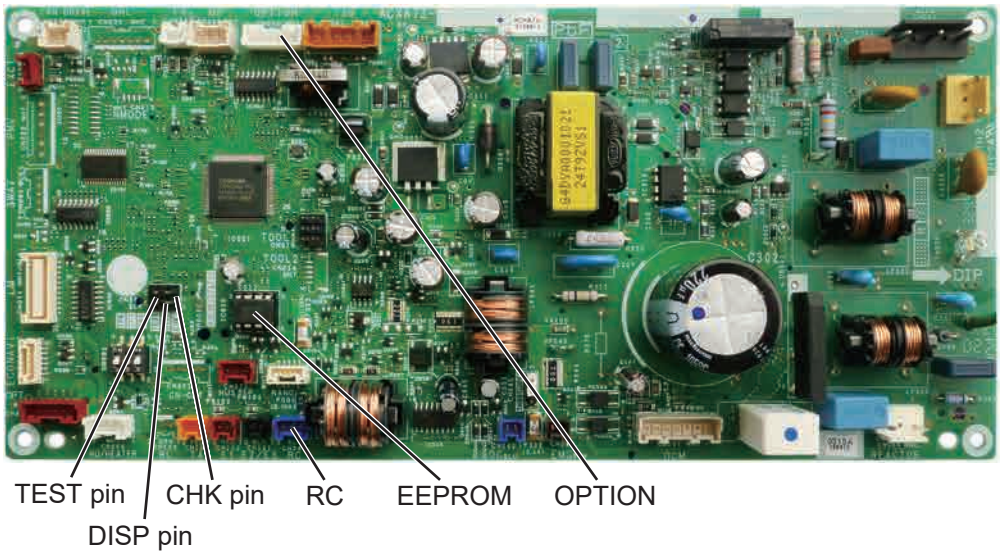
Troubleshooting



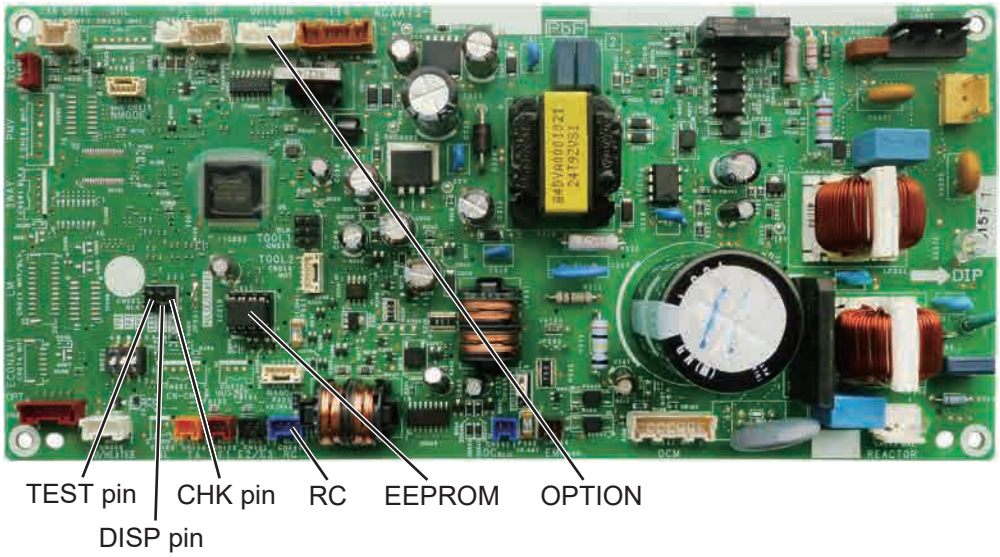
- Regarding the remote controller check, refer to the Reference Materials.
- For information on the procedures for replacing the nonvolatile memory (EEPROM) of the indoor unit and / or replacing the indoor unit's control board, refer to the manual that is packaged with the indoor unit service board.

Indoor Unit Control PCB

■ **ACXA73-3129* : 4-Way Cassette Type Indoor Unit Control Board**



■ **ACXA73-3440* : Middle Static Pressure Duct Type Indoor Unit Control Board**



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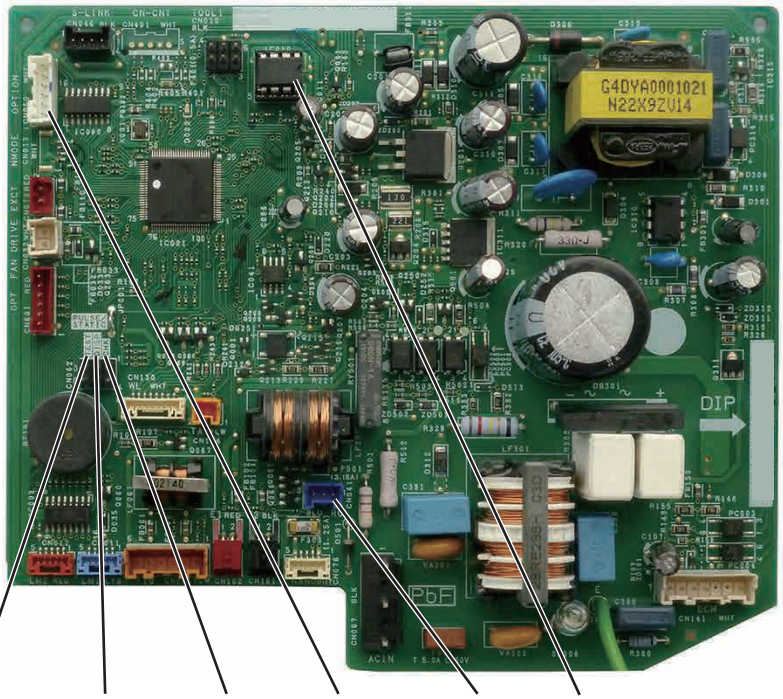
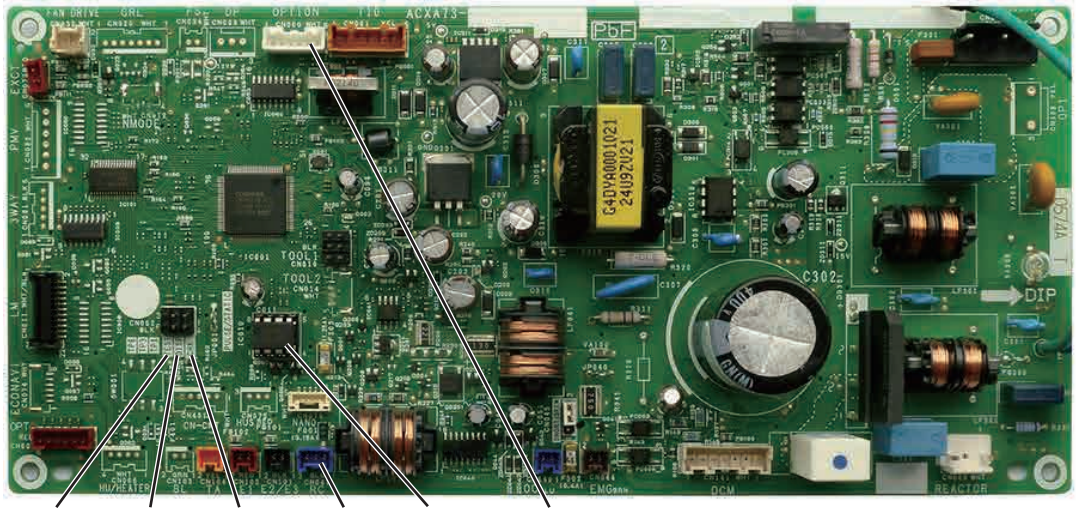
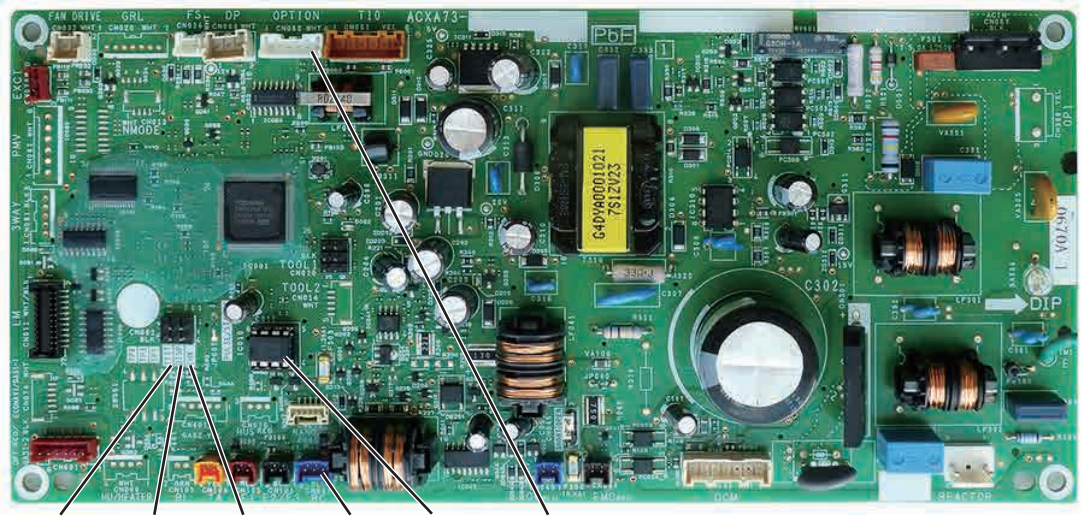
■ **ACXA73-3671* : Wall Mounted Type Indoor Unit Control Board**



■ **ACXA73-3611* : Ceiling Type Indoor Unit Control Board**



■ **ACXA73-3565* : 4-Way Cassette 60 × 60 Type Indoor Unit Control Board**



F04 Compressor Temperature Sensor Abnormality

Malfunction Decision Conditions

- During startup and operation of cooling and heating, the temperatures detected by the outdoor compressor temperature sensor are used to determine sensor errors.

Malfunction Caused

- Faulty connector connection.
- Faulty sensor.
- Faulty PCB.

Troubleshooting

When abnormality indication starts again

Check the connector connection:
- Turn off the power
- Check the connector connection

Caution For safety reason and to prevent component breakdown, always switch off the power before remove and connect the component.

Is the connector connection normal?

NO
- Connector poor contact
- Correct the connection

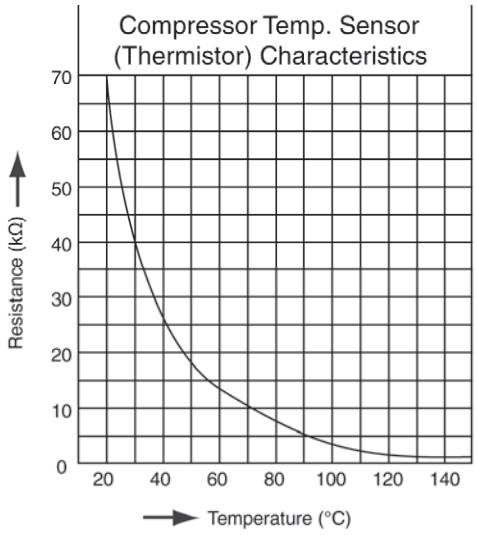
YES

Check the outdoor compressor temperature sensor:
- Plug out connector from the outdoor unit PCB
- Measure the resistance of the outdoor compressor temperature sensor

Is the measured resistance of the outdoor compressor temperature sensor matches the value specified in its characteristic chart?

NO
- Defect in outdoor compressor temperature sensor
- Replace the outdoor compressor temperature sensor

YES
- Defect in outdoor unit PCB
- Replace the outdoor unit PCB



F06 Outdoor Pipe Temperature Sensor Abnormality

Malfunction Decision Conditions

- During startup and operation of cooling and heating, the temperatures detected by the outdoor pipe temperature sensor are used to determine sensor errors.

Malfunction Caused

- Faulty connector connection.
- Faulty sensor.
- Faulty PCB.

Troubleshooting

When abnormality indication starts again

Check the connector connection:
- Turn off the power
- Check the connector connection

Caution For safety reason and to prevent component breakdown, always switch off the power before remove and connect the component.

Is the connector connection normal?

No
- Connector poor contact
- Correct the connection

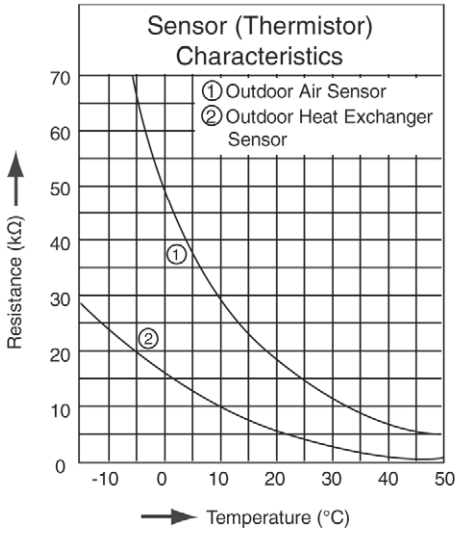
YES

Check the outdoor heat exchanger temperature sensor:
- Plug out connector from the outdoor unit PCB
- Measure the resistance of the outdoor heat exchanger temperature sensor

Is the measured resistance of the outdoor heat exchanger temperature sensor matches the value specified in its characteristic chart?

No
- Defect in outdoor heat exchanger temperature sensor
- Replace the outdoor heat exchanger temperature sensor

YES
- Defect in outdoor unit PCB
- Replace the outdoor unit PCB



F08 Outdoor Air Temperature Sensor Abnormality

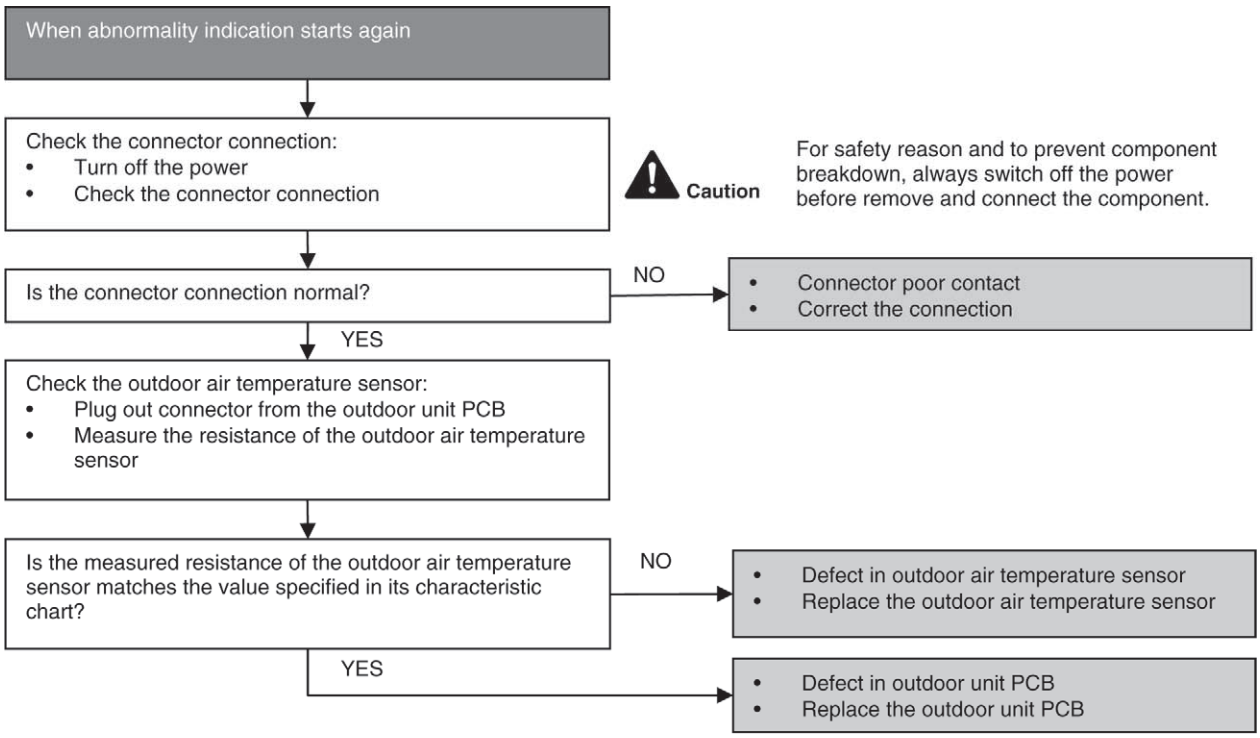
Malfunction Decision Conditions

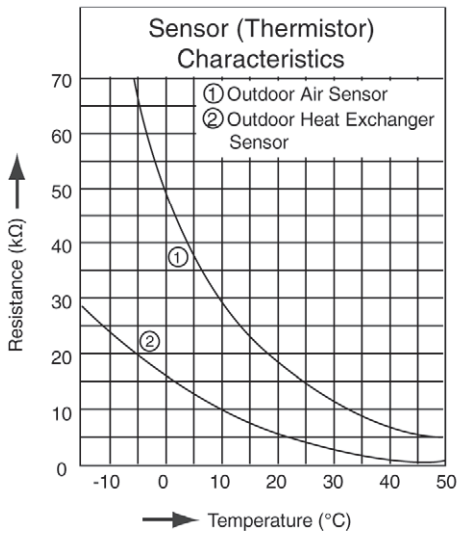
- During startup and operation of cooling and heating, the temperatures detected by the outdoor air temperature sensor are used to determine sensor errors.

Malfunction Caused

- Faulty connector connection.
- Faulty sensor.
- Faulty PCB.

Troubleshooting





H01 Error Code Stored in Memory and no alarm is triggered / no TIMER LED flashing

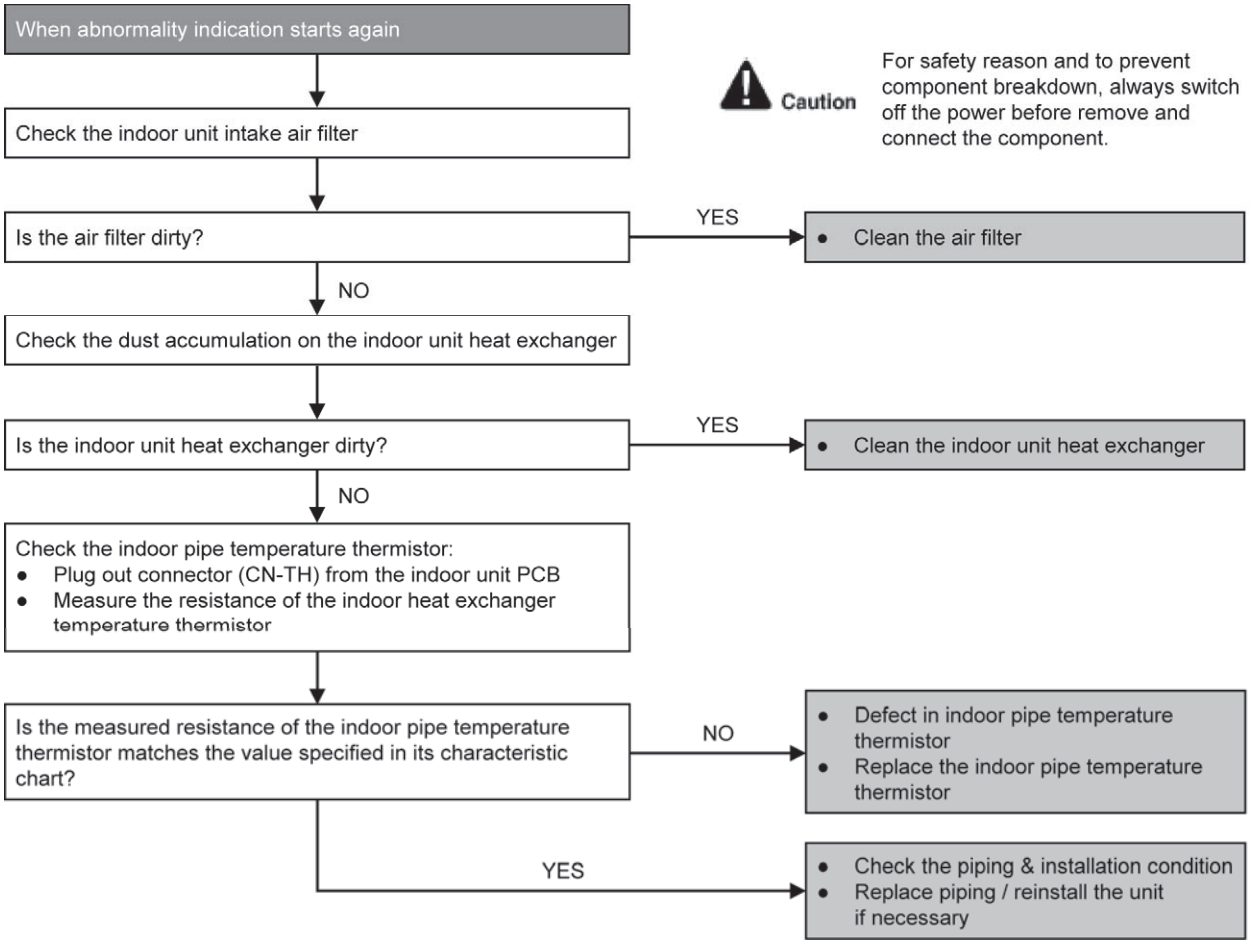
Malfunction Decision Conditions

- Indoor high pressure is detected when indoor heat exchanger is detecting very high temperature when the unit is operating in heating operation.
- Phenomena: unit is stopping and re-starting very often in heating mode

Malfunction Caused

- Indoor heat exchanger thermistor
- Clogged air filter or heat exchanger
- Over-bent pipe (liquid side)

Troubleshooting



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H02 Power Factor Correction Protection

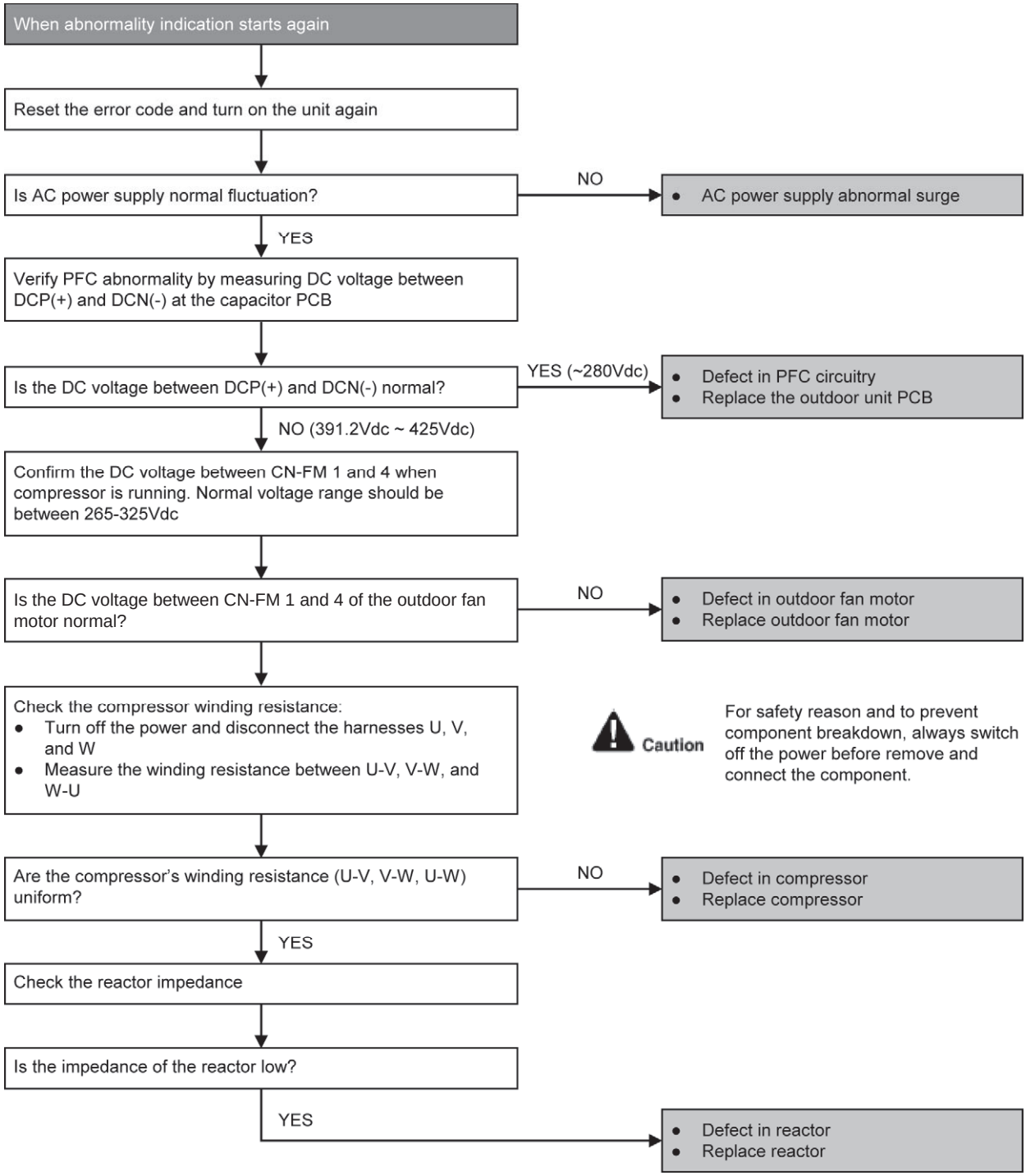
Malfunction Decision Conditions

- To maintain DC voltage level supply to power transistor.
- To detect high DC voltage level after rectification.

Malfunction Caused

- During startup and operation of cooling and heating, when Power Factor Correction (PFC) protection circuitry at the outdoor unit main PCB senses abnormal DC voltage level for power transistors.
- When DC voltage detected is LOW, transistor switching will turn ON by controller to push-up the DC level.
- When DC voltage detected is HIGH (391Vdc – 425Vdc), active LOW signal will send by the controller to turn OFF relay RY-C.

Troubleshooting



H03 Outdoor Current Transformer

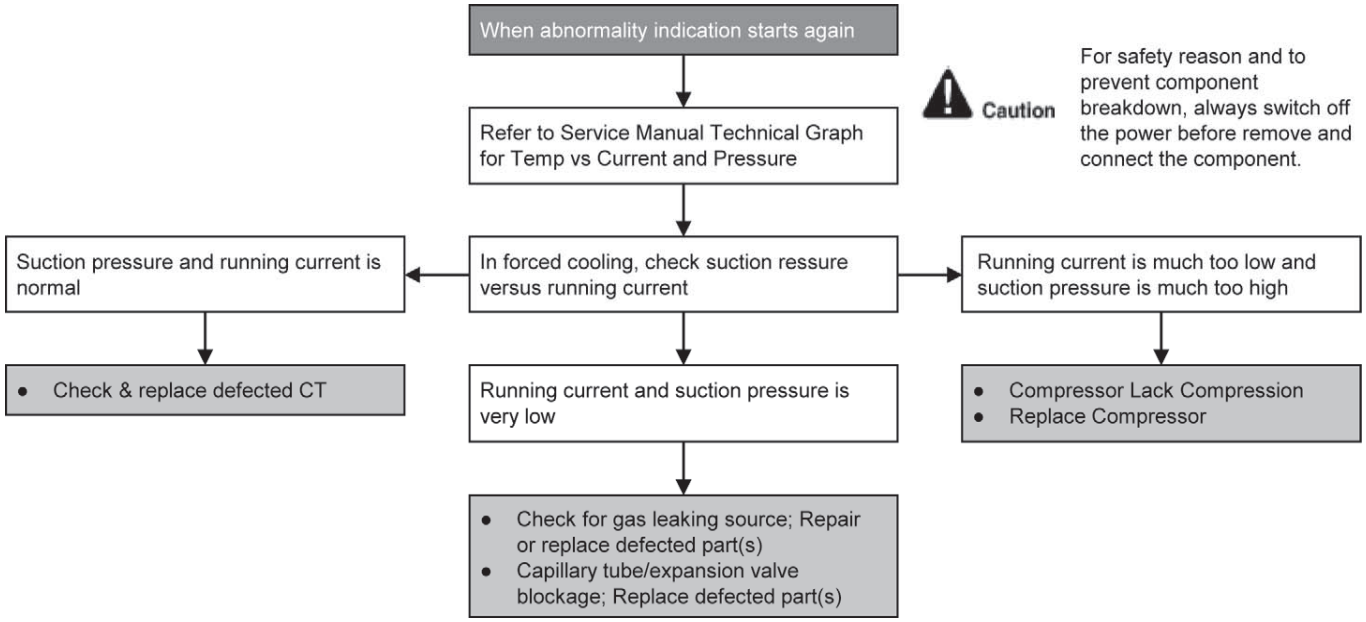
Malfunction Decision Conditions

- An input current, detected by Current Transformer CT, is below threshold value when the compressor is operating at certain frequency value for 3 minutes.

Malfunction Caused

- Lack of gas
- Broken CT (current transformer)
- Broken Outdoor PCB

Troubleshooting



L18 4-way Valve Switching Failure

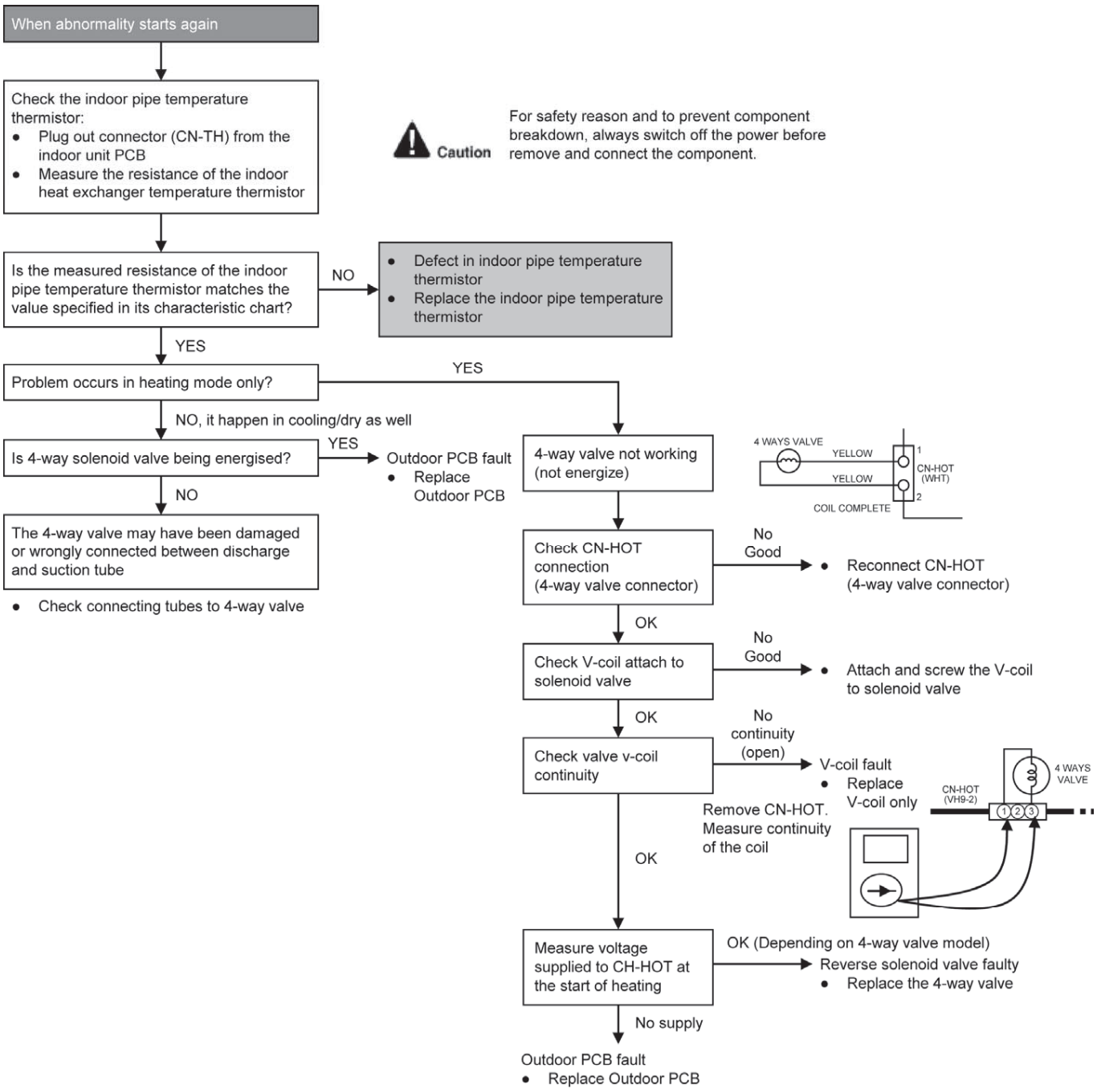
Malfunction Decision Conditions

- When indoor heat exchanger is cold during heating (except deice) or when indoor heat exchanger is hot during cooling and compressor operating, the 4-way valve is detected as malfunction.

Malfunction Caused

- Indoor heat exchanger (pipe) thermistor
- 4-way valve malfunction

Troubleshooting



* Check gas side pipe – for hot gas flow in cooling mode

P03 Compressor Overheating

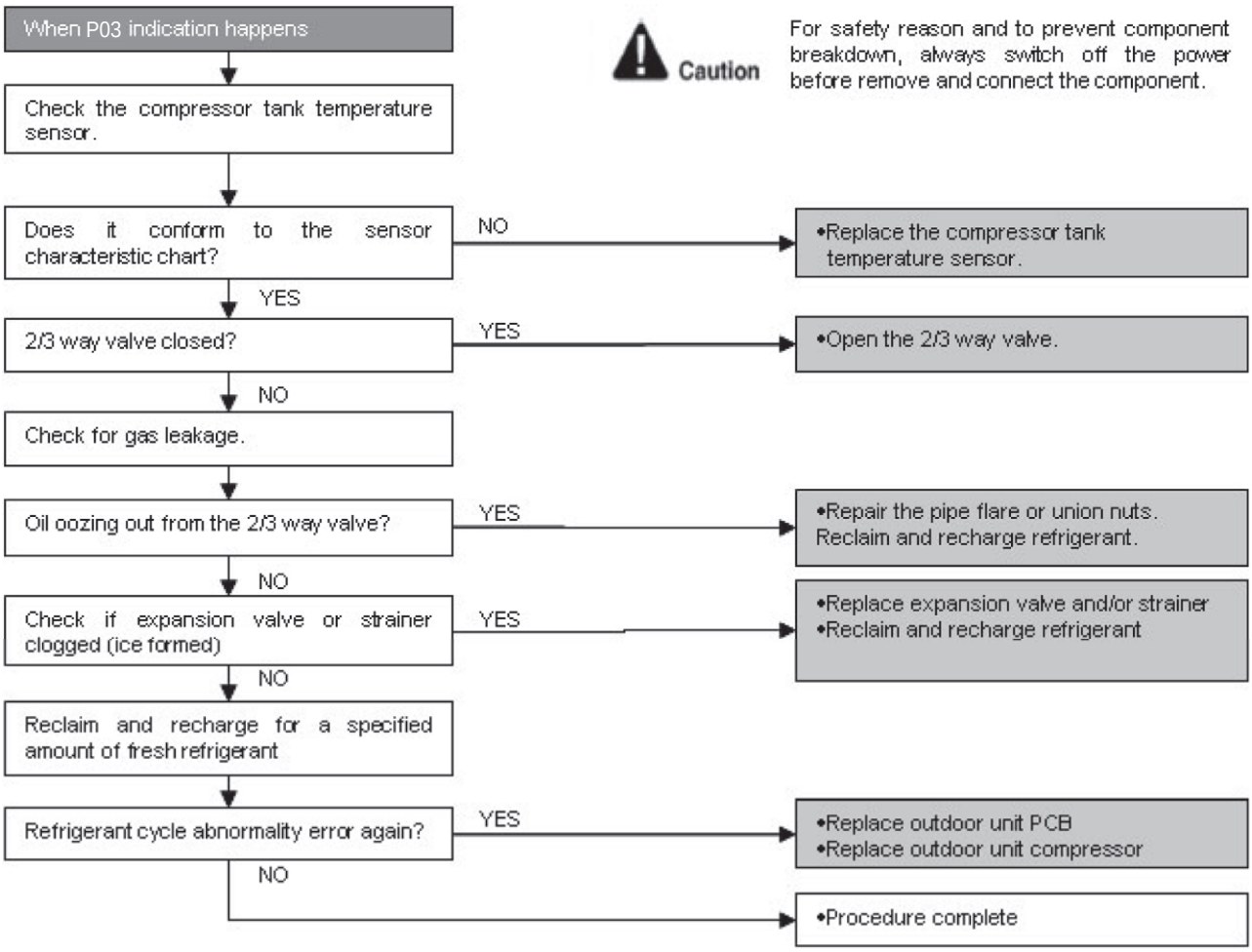
Malfunction Decision Conditions

- During operation of cooling and heating, when compressor tank temperature data (103°C) is detected by the compressor tank temperature sensor.

Malfunction Caused

- Faulty compressor tank temperature sensor
- 2 / 3 way valve closed
- Refrigerant shortage (refrigerant leakage)
- Faulty outdoor unit PCB
- Faulty compressor

Troubleshooting



P04 Outdoor High Pressure Protection: Cooling or Soft Dry

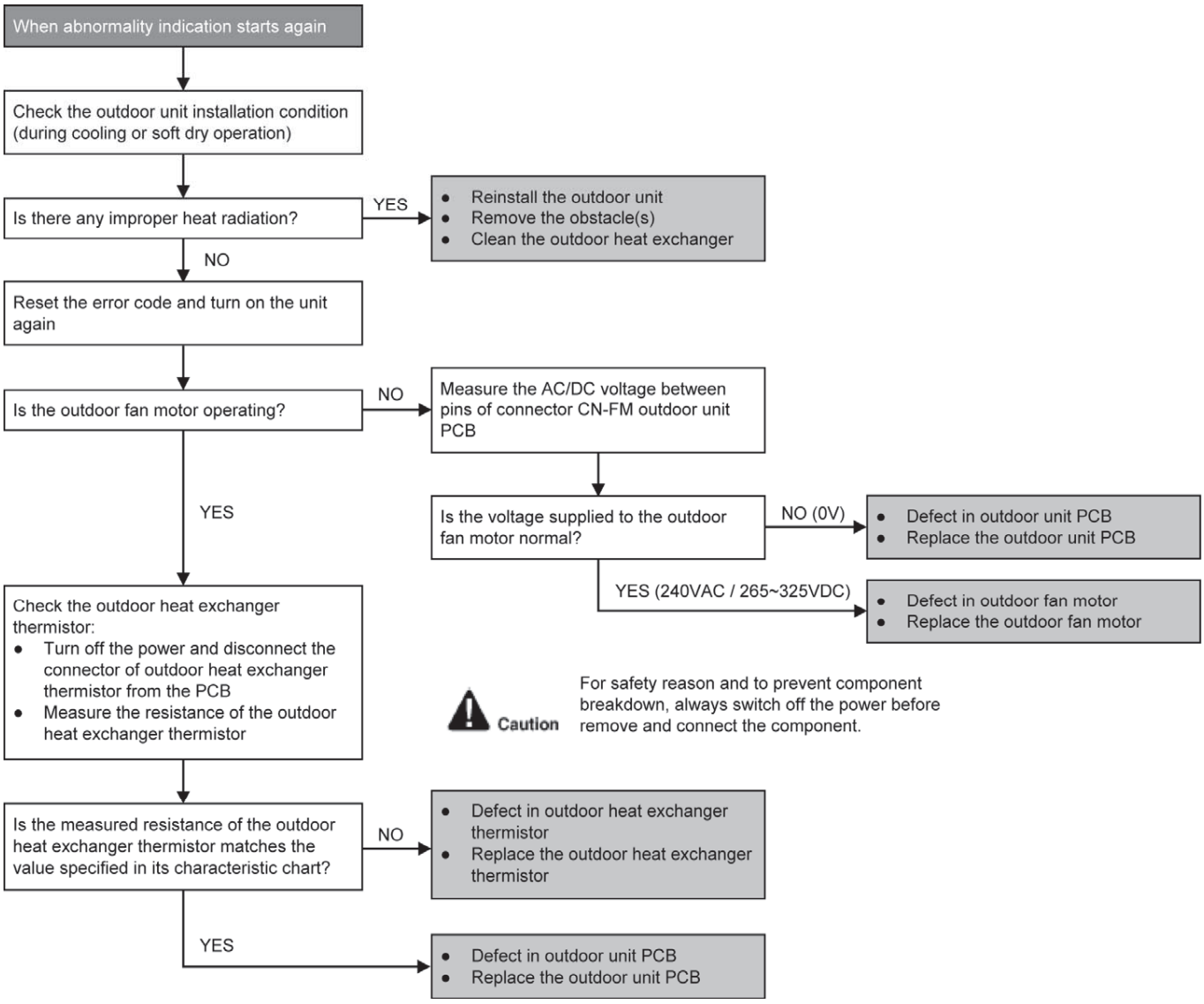
Malfunction Decision Conditions

- During operation of cooling or soft dry, when outdoor unit heat exchanger high temperature data is detected by the outdoor unit heat exchanger thermistor.

Malfunction Caused

- Outdoor heat exchanger temperature rise due to short-circuit of hot discharge air flow.
- Outdoor heat exchanger temperature rise due to defective of outdoor fan motor.
- Outdoor heat exchange temperature rise due to defective outdoor heat exchanger thermistor.
- Outdoor heat exchanger temperature rise due to defective of outdoor unit PCB.

Troubleshooting



P05 Unspecified Voltage between Indoor and Outdoor

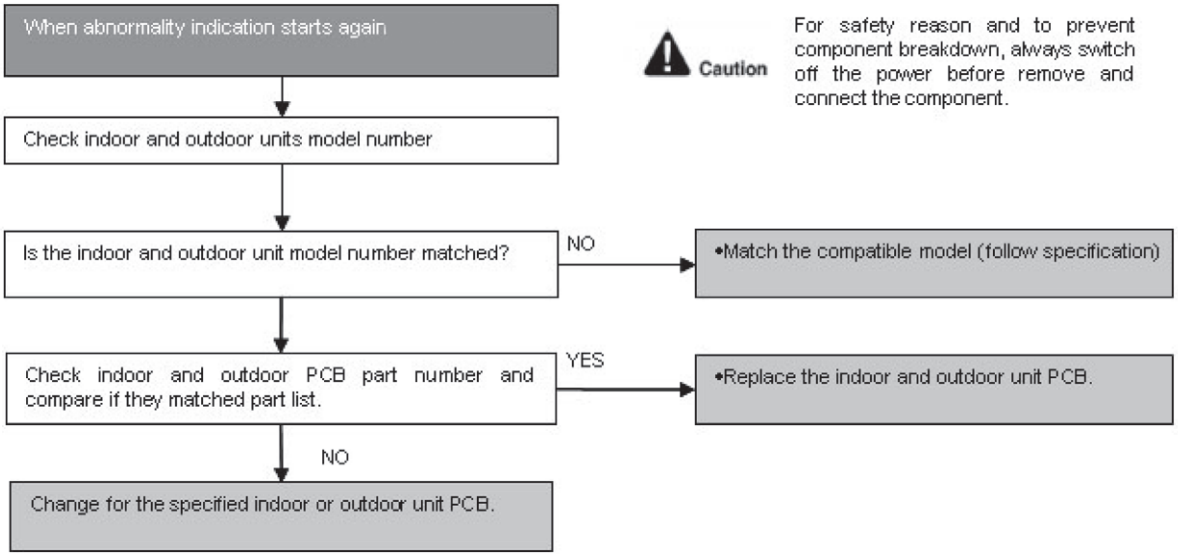
Malfunction Decision Conditions

- The supply power is detected for its requirement by the indoor / outdoor transmission.

Malfunction Caused

- Wrong models interconnected.
- Wrong indoor unit and outdoor unit PCBs used.
- Indoor unit or outdoor unit PCB defective.

Troubleshooting



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P15 Refrigeration Cycle Abnormality

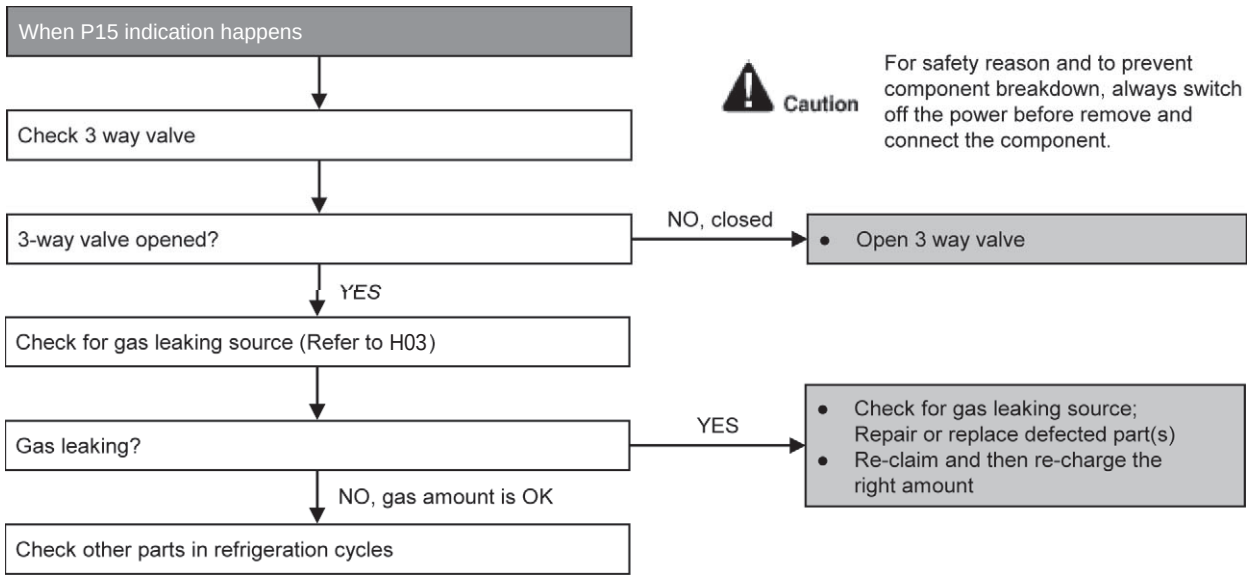
Malfunction Decision Conditions

- The input current is low while the compressor is running at higher than the setting frequency.

Malfunction Caused

- Lack of gas.
- 3-way valve close.

Troubleshooting



P16 DC Peak Detection

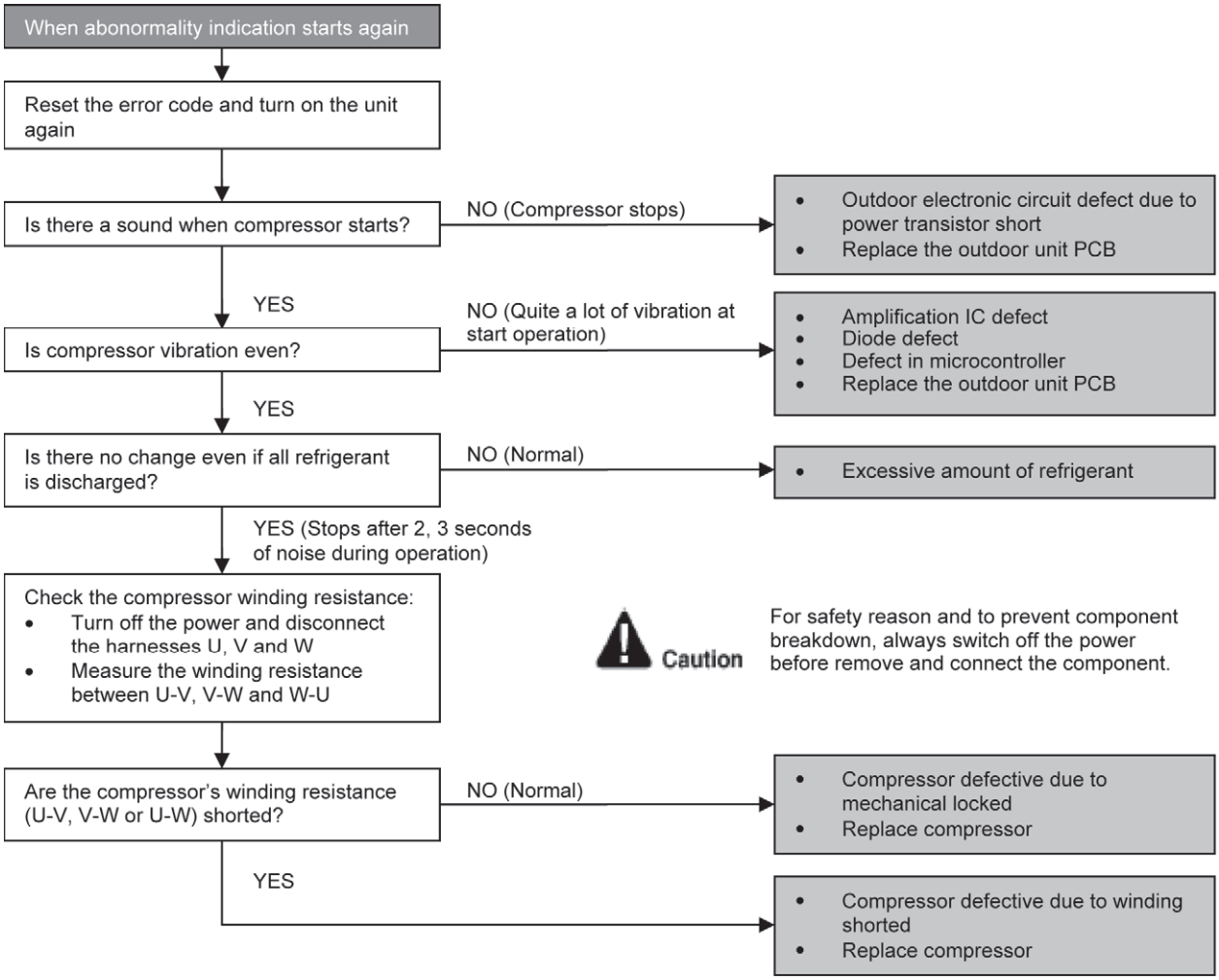
Malfunction Decision Conditions

During startup and operation of cooling and heating, when inverter DC peak data is received by the outdoor internal DC Peak sensing circuitry.

Malfunction Caused

- DC current peak due to compressor failure.
- DC current peak due to defective power transistor(s).
- DC current peak due to defective outdoor unit PCB.
- DC current peak due to short circuit.

Troubleshooting



P22 Outdoor Fan Motor – DC Motor Mechanism Locked

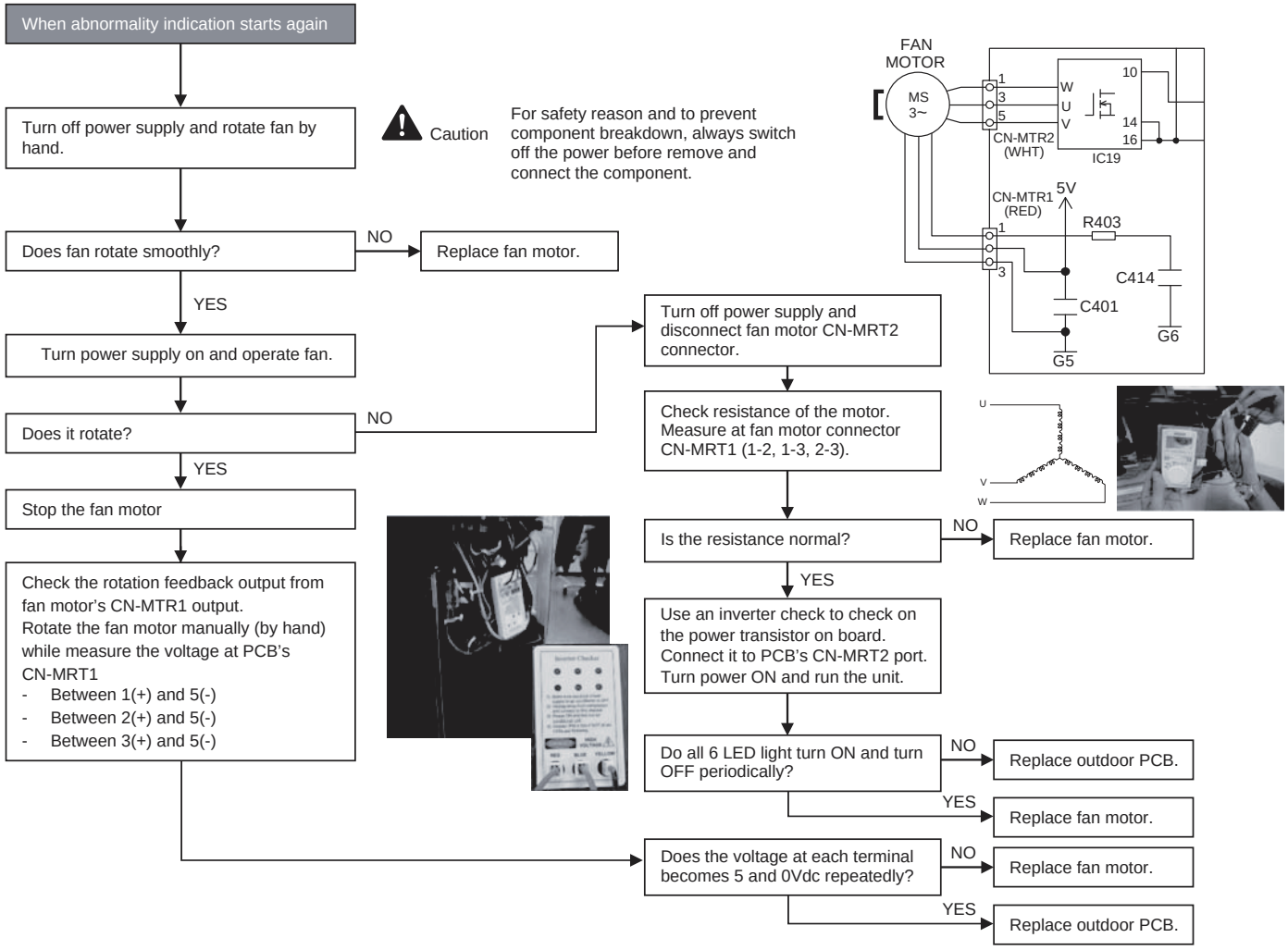
Malfunction Decision Conditions

- The rotation speed detected by the Hall IC during fan motor operation is used to determine abnormal fan motor.

Malfunction Caused

- Operation stops due to short circuit inside the fan motor winding.
- Operation stops due to breaking of wire inside the fan motor.
- Operation stops due to breaking of fan motor lead wires.
- Operation stops due to Hall IC malfunction.
- Operation error due to faulty outdoor unit PCB.

Troubleshooting



P29 Compressor Rotation Failure

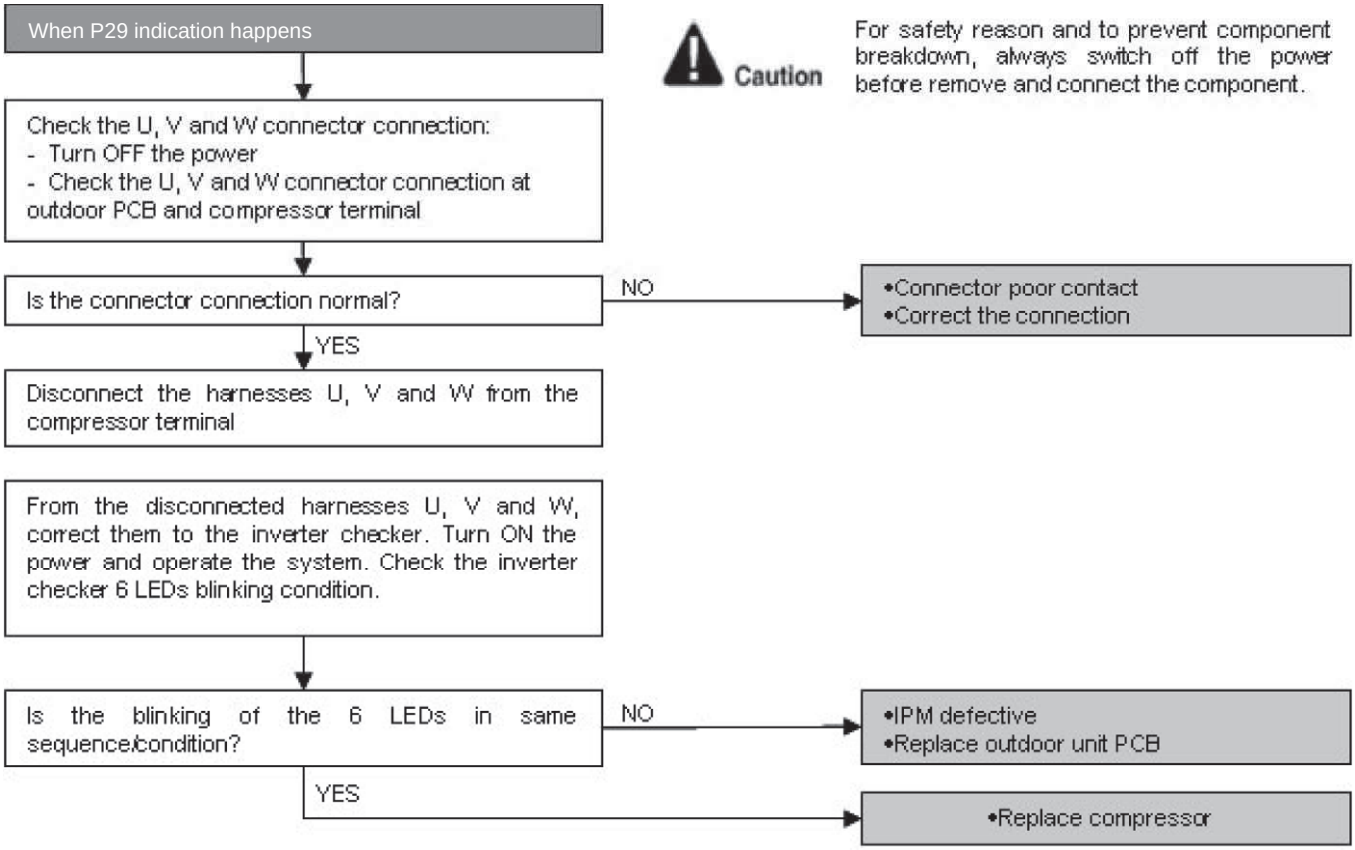
Malfunction Decision Conditions

- A compressor rotation failure is detected by checking the compressor running condition through the position detection circuit.

Malfunction Caused

- Compressor terminal disconnect
- Faulty Outdoor PCB
- Faulty compressor

Troubleshooting



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5-2-2-2. U-100PZ3E5, U-125PZ3E5, U-140PZ3E5
U-100PZ3E8, U-125PZ3E8, U-140PZ3E8

Alarms for outdoor units

Alarm Code	Alarm Meaning
E04	Error in Indoor Unit Receiving Signal from the Outdoor Unit
E06	Outdoor Unit Failed to Receive Serial Communication Signals from Indoor Unit
E15	Auto Address Alarm (The total capacity of indoor units is too low.)
E16	Auto Address Alarm (The total capacity of indoor units is too high or the total number of indoor units is too many.)
E20	Connection Problem of Indoor / Outdoor Units.

F04	Compressor Discharge Temperature Sensor (TD) Trouble
F06	Inlet Temperature Sensor (C1) in Heat Exchanger Trouble
F07	Intermediate Temperature Sensor (C2) in Heat Exchanger Trouble
F08	Outdoor Air Temperature Sensor (TO) Trouble
F12	Compressor Inlet Suction Temperature Sensor (TS) Trouble
F31	Outdoor Unit Nonvolatile Memory (EEPROM) Trouble

H01	Primary (input) Overcurrent Detected
H02	PAM Trouble
H03	Primary Current CT Sensor (current sensor) Failure
H31	HIC Trouble

L10	Outdoor Unit Capacity not Set or Invalid
L13	Indoor Unit Type Setting Error
L18	4-Way Valve Operation Failure

P03	Compressor Discharge Temperature Trouble
P04	High Pressure Trouble
P05	AC Power Supply Trouble
P13	Alarm Valve Open
P15	Insufficient Gas Level Detected
P16	Compressor Overcurrent Trouble
P22	Outdoor Unit Fan Motor Trouble
P29	Lack of INV compressor wiring, INV compressor actuation failure (including locked), DCCT failure
P31	Group Control Error

Symptoms and Parts to Inspect

Remote controller alarm display	Alarm contents	Judgement conditions	Eliminating condition of alarm	Judgement and correction
P03	Abnormal discharge temperature error • Discharge temp. detected at or above the specified value	Stops when temp. exceeds 103°C. Alarm output on 5 pre-trips	Recovery at restart	1. Check refrigerant cycle (gas leak). 2.Trouble with electronic expansion valve 3.Check discharge temperature sensor (TD).
P05	CT disconnected or AC power supply error DC voltage charge failure	The current value transmitted from the microcomputer on the outdoor unit control substrate is low. When no AC power input for more than 30 seconds to 5 minutes : Single alarm	Recovery at restart	1. Check outdoor unit control PCB. 2. Lack of reactor wire 3. Check power frequency.
P15	Insufficient gas level detected.	• Discharge temperature is 95°C or higher. • Electronic expansion valve is at Step 480. When the above has continued for 1 minute. Indoor air sucking due to body thermostat max (E1 or E2) - TA ≤ 4°C • Secondary current ≤ Current value of gas shortage determination	Recovery at restart	1.Check refrigerant cycle (gas leak). 2.Trouble with electronic expansion valve 3.Check outdoor unit valve opening.
L18	4-way valve operation failure • Judged after heating operating for 5 minutes consecutively.	The indoor unit heat exchanger temperature drops even though the compressor is switched on during the heating mode: To +20°C ≤ C1 Pre-trip 1 time	Recovery at restart	1. Check 4-way valve. 2. Check 4-way valve wiring. 3. Check outdoor unit control PCB.
P04	High-pressure protection error	High pressure switched ON →OFF (Alarm is output when switch opened.) Pre-trip 4 times.	Recovery at restart	Overload operation of refrigerant cycle
P22	Outdoor unit fan motor trouble • Inverter protection circuit was activated, or lock was detected at outdoor unit fan motor.	Inverter stops after alarm is detected. Pre-trip 10 times	Recovery at restart	1.Position detection trouble. 2.Outdoor unit fan motor over-current Protection circuit is activated. • Check outdoor unit control PCB. • See outdoor unit fan judgement methods.
P29	Lack of INV compressor wiring, INV compressor actuation failure, DCCT failure	Inverter stops after alarm is detected. Alarm is output when inverter stops (pre-trip) consecutively 10 times.	Recovery at restart	1.Stops immediately even when operations restarted. • Layer short on the compressor 2.Check HIC circuit. • Wiring trouble
H31	HIC trouble	Pre-trip consecutively 10 times	Temperature dropped	Heat sink and PCB (HIC) • Contact trouble

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E04 Error in Indoor Unit Receiving Signal from the Outdoor unit

1. Error Detection Method

When there is no communication within a 3-minute period from the outdoor unit. Or, judged an error when no reply comes from the outdoor unit.

- The outdoor unit is not turned on.
- When the power was turned on after auto address setting was completed, the number of indoor units had been changed.
- Forgot to turn on the indoor unit.
- The CHK pin and / or TEST pin on the indoor unit's control PC board are shorted.
- Forgot to install the nonvolatile memory (EEPROM) when replacing the indoor unit control PC board.
- Mistakenly set the indoor unit address to Not Set in the remote control's detailed setting mode.
- When indoor unit addresses are duplicated.
- There is a short, open, wrong contact or grounding of the indoor / outdoor control line*.
- There is an error in the receiving circuit on the signal output PC board (optional control PC board).
- Malfunctions of the outdoor unit
- The thermistor inside the indoor unit is grounded.
- The capacity setting is mismatched between indoor units and the outdoor unit.

2. Error Diagnosis

1 Power Source	1-1	Is / was the power to the outdoor unit cut off?	Yes	After turning the power on, wait three minutes
			No	1-2
	1-2	Is the indoor unit powered off?	Yes	Power on
			No	2-1
2 Indoor / outdoor wiring	2-1	Is the indoor / outdoor wiring connected correctly?	Yes	3-1
			No	Correct the wiring
3 Number and setting of indoor units	3-1	Was the number of indoor units increased or decreased after auto address setting was complete?	Yes	3-2
			No	3-3
	3-2	Conduct checks prior to auto address setting.		
	3-3	Check the indoor unit addresses from the remote control's detailed settings mode. Is it Not Set (99), or is the indoor unit's address duplicated?	Yes	3-2
			No	3-4
	3-4	Check the indoor unit capacity from the remote control's detailed settings mode. Does it match the capacity of outdoor unit?	Yes	4-1
			No	3-2
4 Indoor unit control PC board	4-1	Are the CHK pin and / or TEST pin on the indoor unit control PC board short-circuited?	Yes	Remove the short
			No	4-2
	4-2	Is the wireless remote controller connected to on the indoor unit's control PC board?	Yes	4-3
			No	4-5
	4-3	Disconnect the connector mentioned above on the control PC board of the indoor unit control PC board, and see whether the E04 goes off after several minutes. (When doing so, if two remote controllers are being used and the wireless remote controller is the main remote controller, set the other remote controller as the main.)	Yes	4-4
			No	4-5
	4-4	Replace wireless remote control parts including wiring.		
	4-5	Is the LED on the indoor unit control PC board blinking?	Yes	4-6
			No	4-7
	4-6	The nonvolatile memory (EEPROM) on the indoor unit's control PC board is either not installed, improperly installed or the nonvolatile memory is faulty. Correct this or after replacing the nonvolatile memory, write model data to it in the remote control detailed settings mode.		
	4-7	Are all the remote controllers of the other indoor units connected to that outdoor unit displaying E04?	Yes	Replace the outdoor unit both control board (CR/HIC)
			No	Replace the indoor unit control board

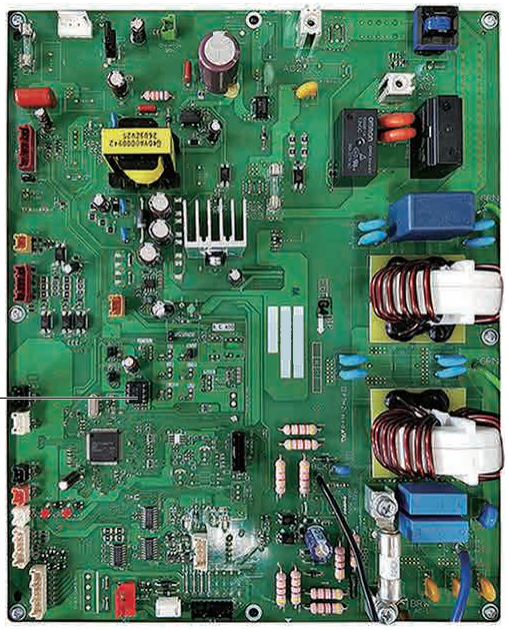
* indoor / outdoor control line* : Connection cable between outdoor and indoor unit

- Regarding the remote controller check, refer to the Reference Materials.
- For information on the procedures for replacing the nonvolatile memory (EEPROM) of the indoor unit and / or replacing the indoor unit's control board, refer to the manual that is packaged with the indoor unit service board.

Outdoor Unit Control PCB (CR/HIC)

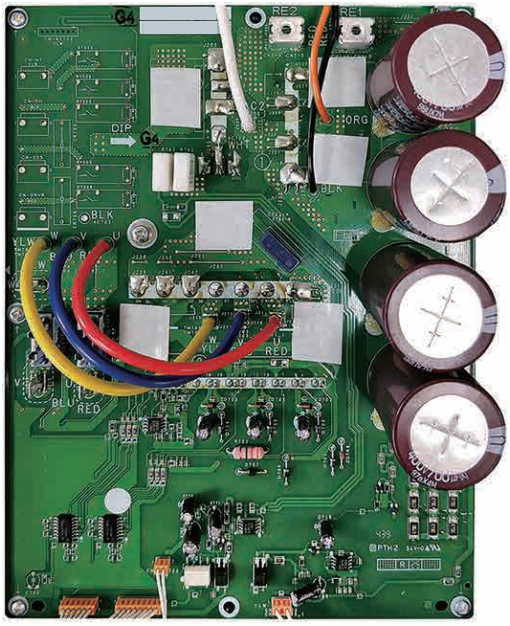
■ **CR-PCB : ACXA73-33930 (U-100PZ3E5)**

■ **CR-PCB : ACXA73-33950 (U-125PZ3E5, U-140PZ3E5)**

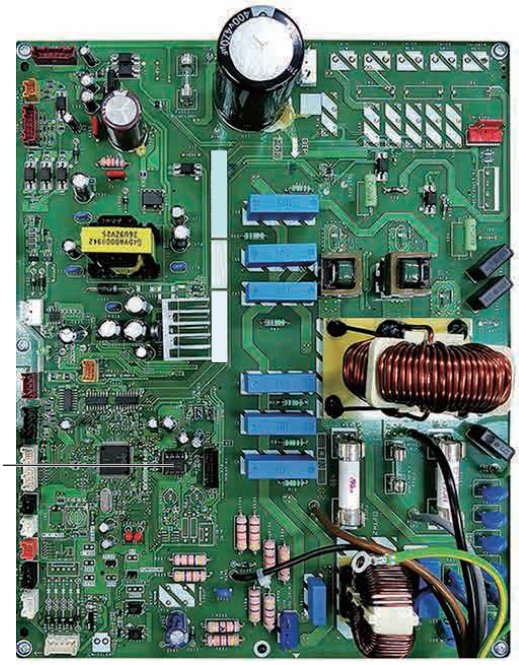


■ **HIC-PCB : ACXA73-33940 (U-100PZ3E5)**

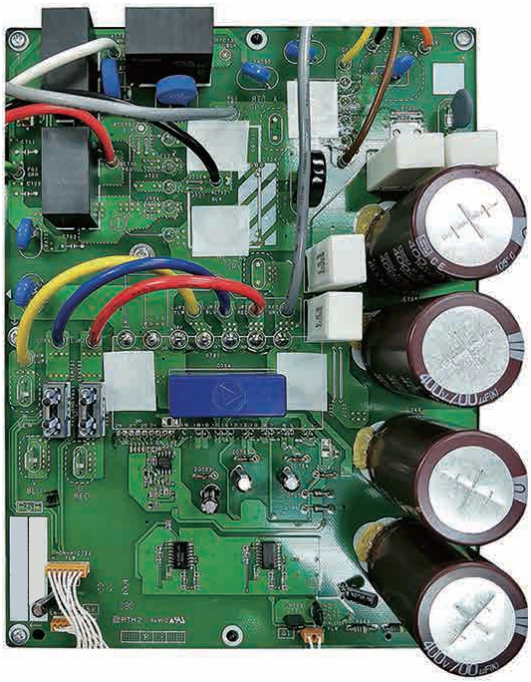
■ **HIC-PCB : ACXA73-33960 (U-125PZ3E5, U-140PZ3E5)**



■ **CR-PCB : ACXA73-33970 (U-100PZ3E8, U-125PZ3E8, U-140PZ3E8)**

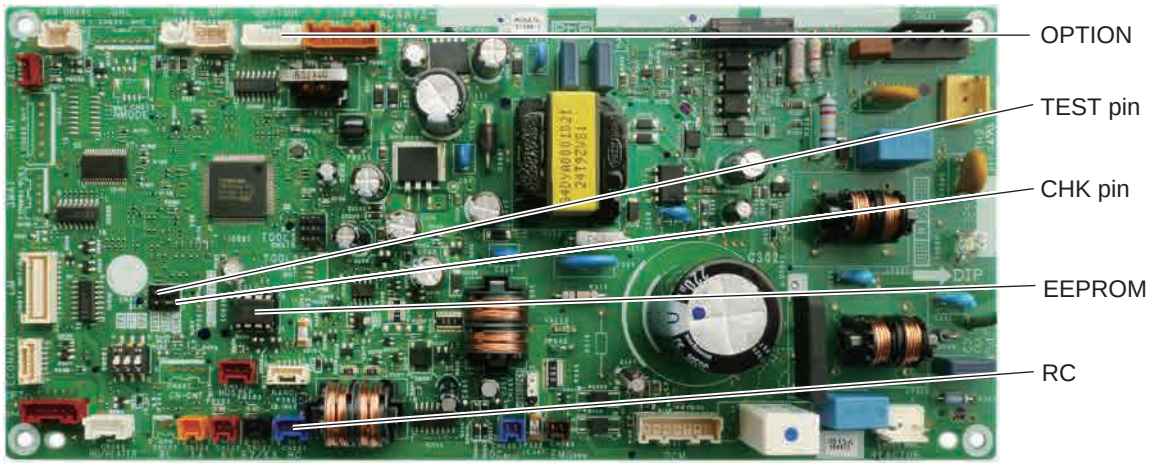


■ **HIC-PCB : ACXA73-33980 (U-100PZ3E8, U-125PZ3E8, U-140PZ3E8)**

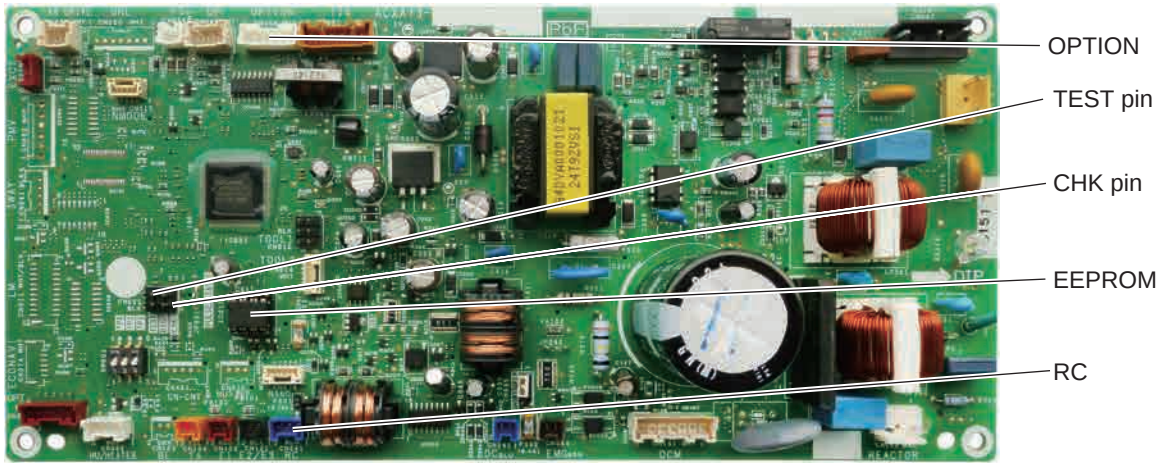


Indoor Unit Control PCB

■ **ACXA73-3129* : 4-Way Cassette Type**



■ **ACXA73-3440* : Middle Static Pressure Duct Type**



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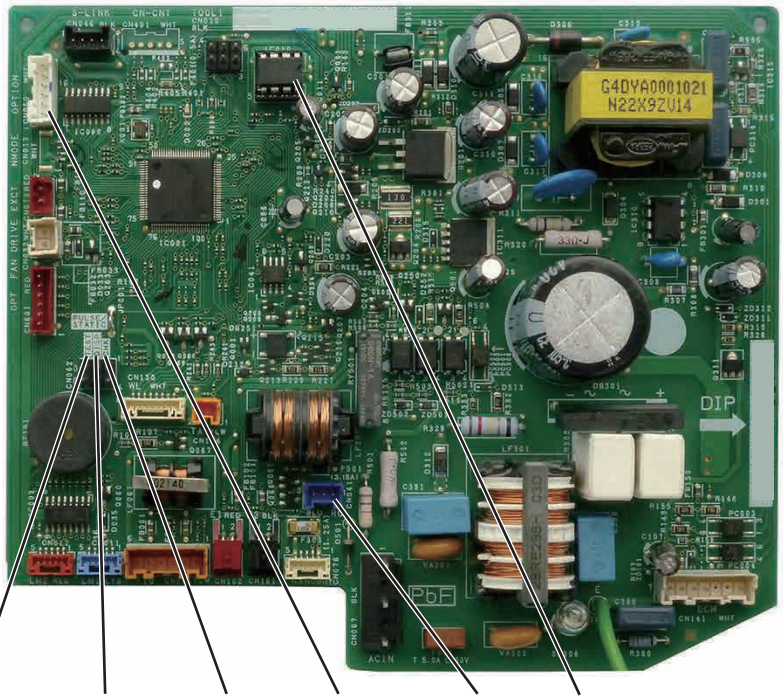
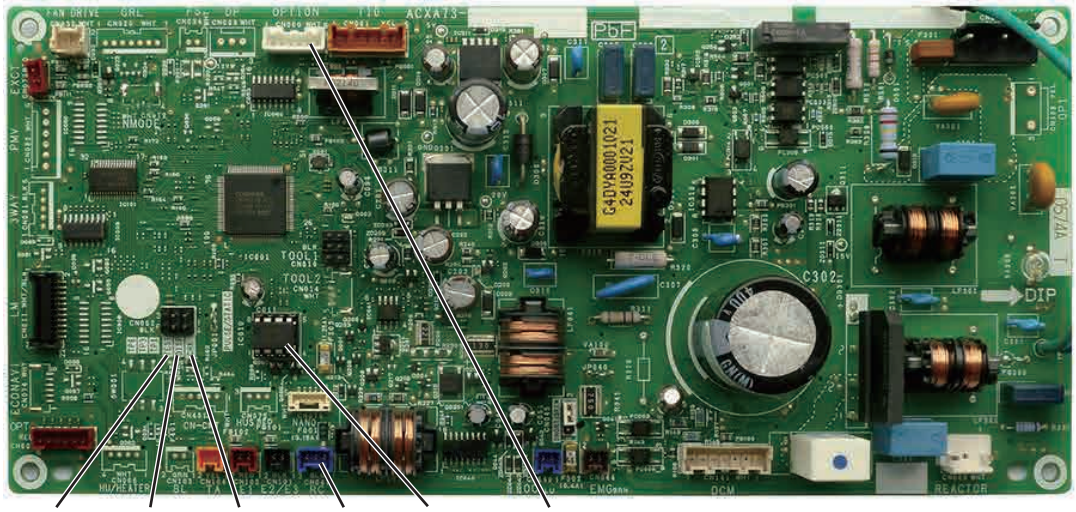
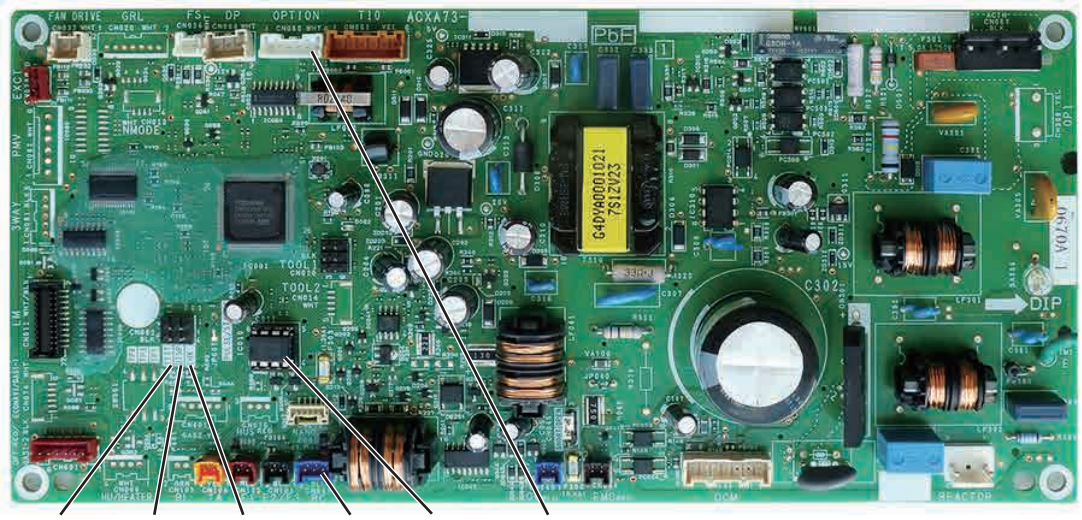
■ **ACXA73-3671* : Wall Mounted Type Indoor Unit Control Board**



■ **ACXA73-3611* : Ceiling Type Indoor Unit Control Board**



■ **ACXA73-3565* : 4-Way Cassette 60 × 60 Type Indoor Unit Control Board**



E06 Outdoor Unit Failed to Receive Serial Communication Signals from Indoor Unit

(When indoor unit(s) are connected)

1. Error Detection Method

It is judged an error when there is no transmission (reply) from the indoor unit to the outdoor unit for a period of three minutes.

- The indoor unit is not turned on.
- The DISP pin of the indoor unit is shorted.
- There is a short, open, wrong contact or grounding of the indoor / outdoor control line*.
- The signal output control PC board (optional control PC board) inside the indoor unit has failed.
- The thermistor inside the indoor unit is grounded.

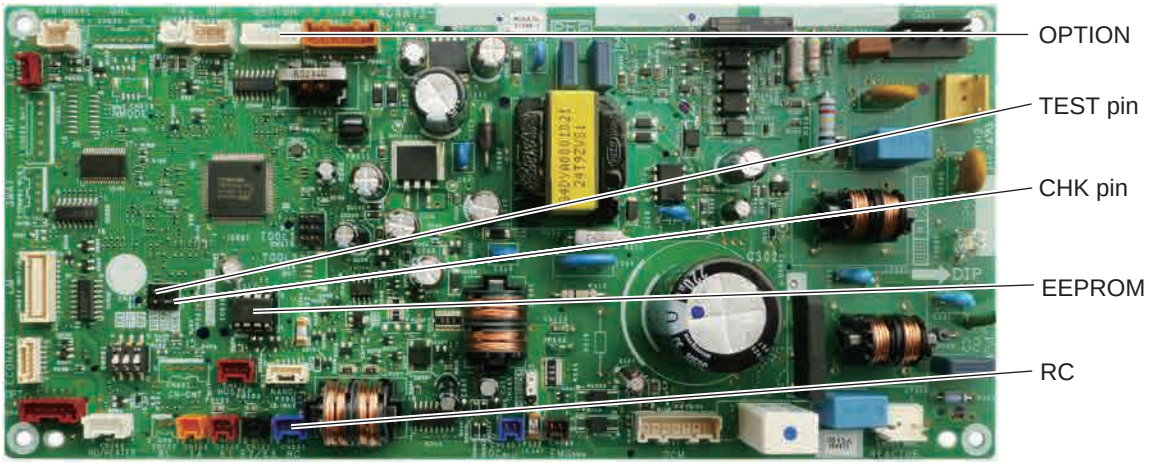
2. Error Diagnosis

1 Indoor unit power	1-1	Is the indoor unit powered off?	Yes	Power on
			No	2-1
2 Indoor / outdoor wiring	2-1	Is the indoor / outdoor control line* shorted, opened, grounded or has a wrong contact?	Yes	Correct the wiring
			No	3-1
3 Indoor units control PC board	3-1	Are the DISP pin and CHK pin on the indoor unit control PC board short-circuited?	Yes	Remove the short
			No	3-2
	3-2	Is the wireless remote controller connected to on the indoor unit's control PC board?	Yes	3-3
			No	3-5
	3-3	Disconnect the connector mentioned above on the control PC board of the indoor unit control PC board, and see whether the E06 goes off after several minutes. (When doing so, if two remote controllers are being used and the wireless remote controller is the main remote controller, set the other remote controller as the main.)	Yes	3-4
			No	3-5
	3-4	Replace wireless remote control parts including wiring.		
	3-5	Indoor unit control PC board failure → Replace board.		

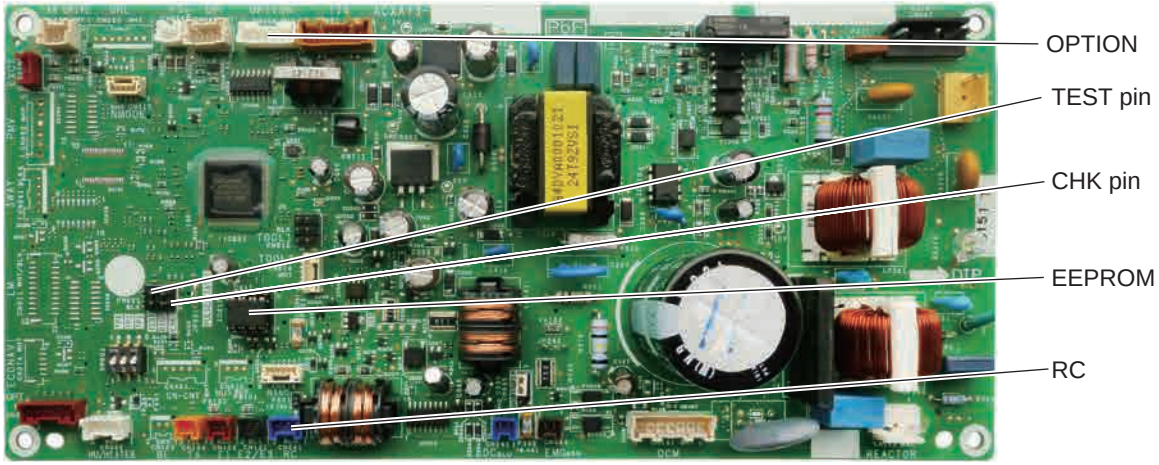
- For information on the procedures for replacing the indoor unit's control board, refer to the manual that is packaged with the indoor unit control PCB.

* indoor / outdoor control line* : Connection cable between outdoor and indoor unit

■ **ACXA73-3129* : 4-Way Cassette Type**



■ **ACXA73-3440* : Middle Static Pressure Duct Type**



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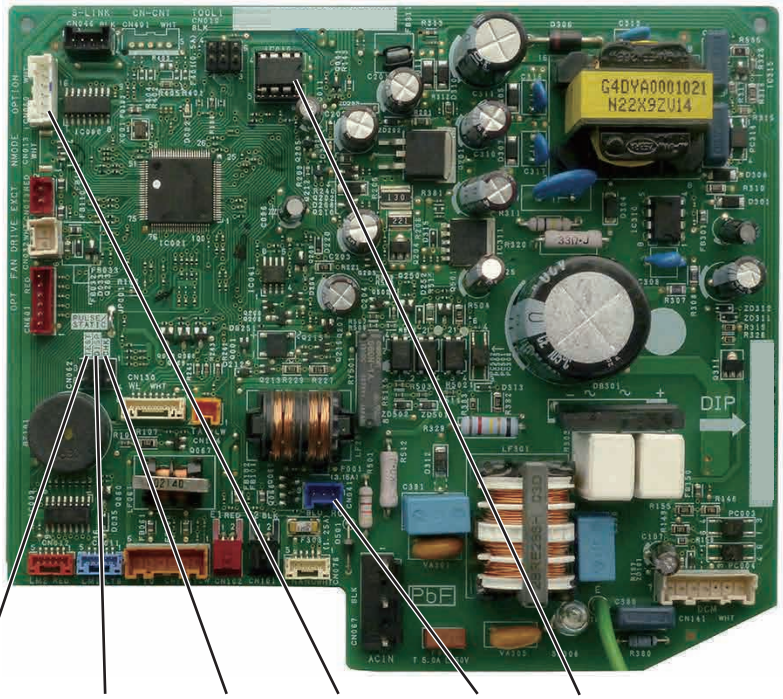
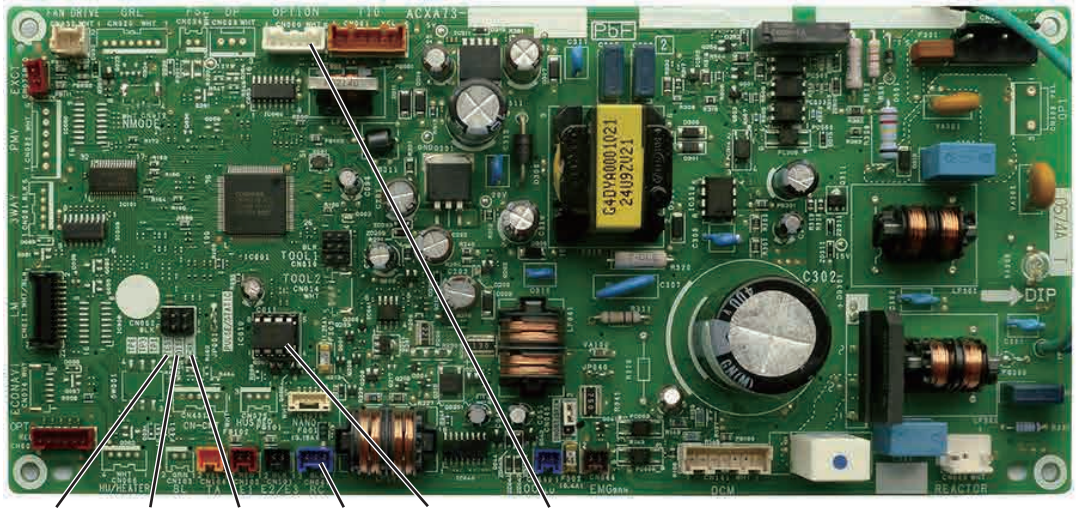
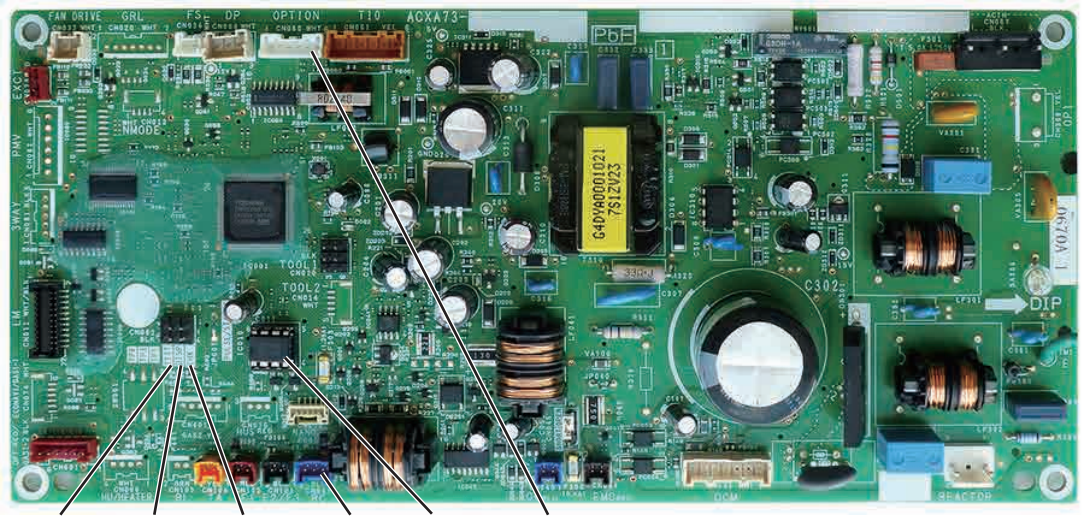
■ **ACXA73-3671* : Wall Mounted Type Indoor Unit Control Board**



■ **ACXA73-3611* : Ceiling Type Indoor Unit Control Board**



■ **ACXA73-3565* : 4-Way Cassette 60 × 60 Type Indoor Unit Control Board**



E15 Auto Address Alarm (The total capacity of indoor units is too low.)

1. Error Detection Method

Connecting indoor unit

It is judged an error the total capacity of indoor units replied by communication is lower than that of outdoor unit.

- The total capacity of indoor units is lower than that of outdoor unit
- Some indoor unit(s) are connected but power is not turned on
- The CHK pin (CN062 / CN071) and / or TEST pin (CN064) of the indoor unit is shorted when its power is turned on.

2. Error Diagnosis

1 Power Source	1-1	Is the indoor unit powered off?	Yes	Power on
			No	2-1
2 Indoor / outdoor wiring	2-1	Is the indoor / outdoor wiring connected correctly?	Yes	3-1
			No	Correct the wiring
3 Number of Indoor Units	3-1	Was the number of indoor units changed after auto address setting finished?	Yes	3-2
			No	4-1
	3-2	Conduct checks prior to auto address setting.		
4 Indoor unit control PC board	4-1	Be sure that the detailed setting items are made at factory setting. [U3, F3, K3, T3]	Yes	4-2
			No	Correct the setting Run the auto address
	4-2	Are the CHK pin and TEST pin on the indoor unit control board short-circuited?	Yes	Remove the short
			No	4-3
	4-3	Is the wireless remote controller connected to on the indoor unit's control PC board?	Yes	4-4
			No	4-6
	4-4	Disconnect the connector mentioned above on the control PC board of the indoor unit control PC board and see whether the E15 goes off after several minutes. (When doing so, if two remote controllers are being used and the wireless remote controller is the main remote controller, set the other remote controller as the main.)	Yes	4-5
			No	4-6
	4-5	Replace wireless remote control parts including wiring.		
	4-6	Is the LED blinking on the indoor unit's control PC board?	Yes	4-7
			No	5-1
	4-7	The nonvolatile memory (EEPROM) on the indoor unit's control board is either not installed, improperly installed or the nonvolatile memory is faulty. Correct this or after replacing the nonvolatile memory, write model data to it in the remote control detailed settings mode.		
5 Outdoor unit control PC board	5-1	Check all items under the section "Check Prior to Auto Address Setting".		

- **Factory setting**

Item code	Item	Value
11	Indoor unit capacity	0
12	System address	99
13	Indoor unit address	99
14	Group control address	99

NOTE

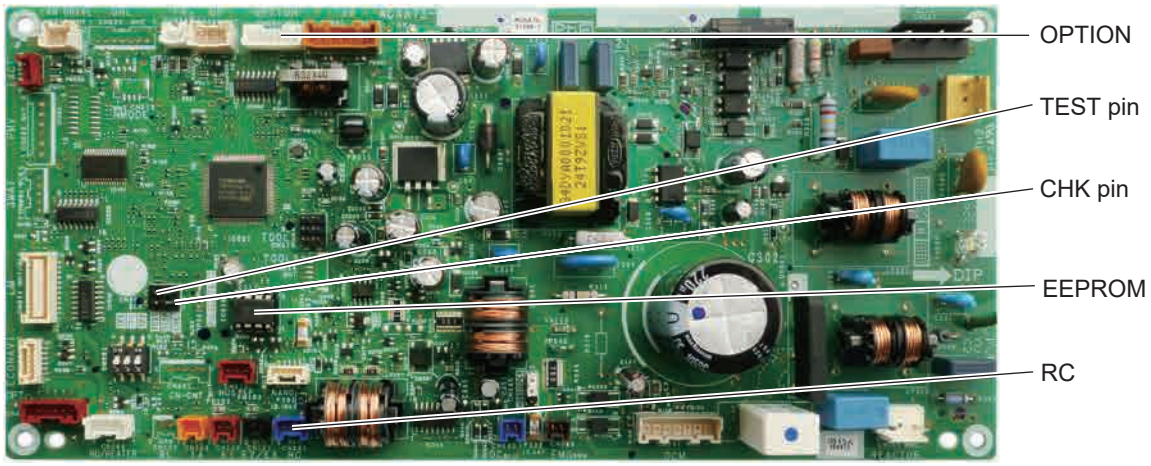
The Item code numbers 11, 12, 13 and 14 can automatically be changed to the appropriate settings from factory settings listed above by making the auto address settings according to the connected outdoor unit capacity and the number of indoor units.

If needed to reset the settings after once changed, return all the item codes to the factory shipment-time settings. It is necessary to set the auto address settings once again.

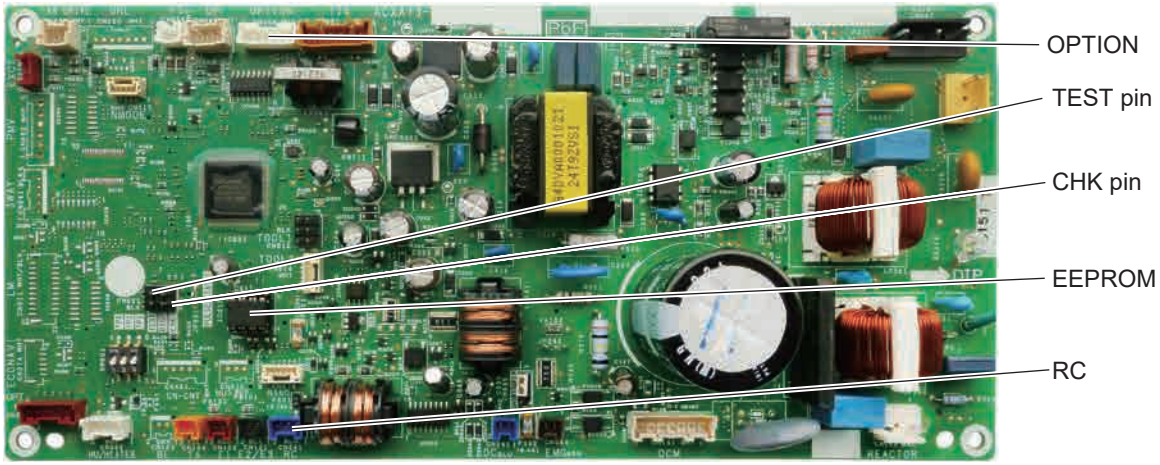
- For information on the procedures for replacing the nonvolatile memory (EEPROM) of the indoor unit, refer to the manual that is packaged with the indoor unit service board.
- For information on the remote control's detailed settings, see 7-3 and 7-4.
- The alarm also occurs when the indoor unit cannot be recognized (indoor unit only blackout, disconnection of indoor / outdoor control line*, etc.) during auto address setting.

  * indoor / outdoor control line* : Connection cable between outdoor and indoor unit

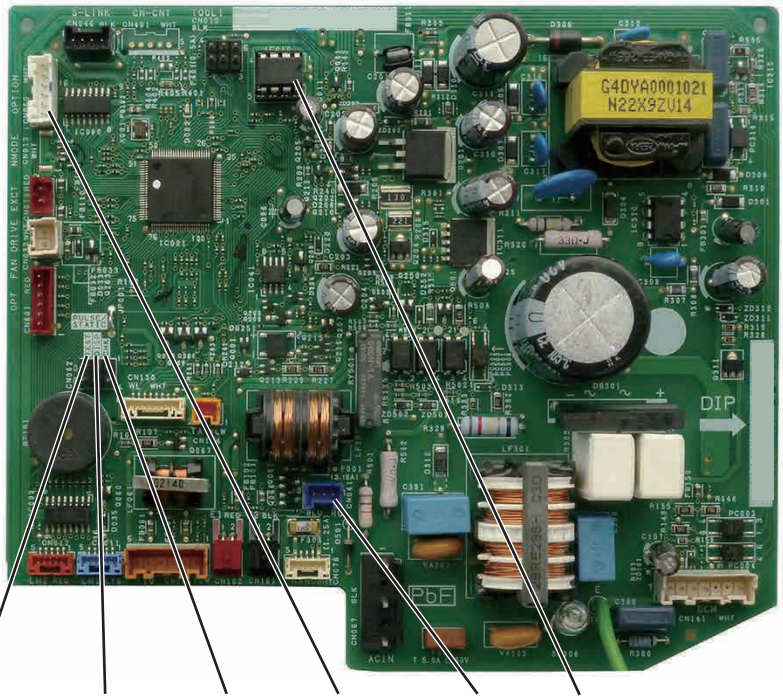
■ **ACXA73-3129* : 4-Way Cassette Type**



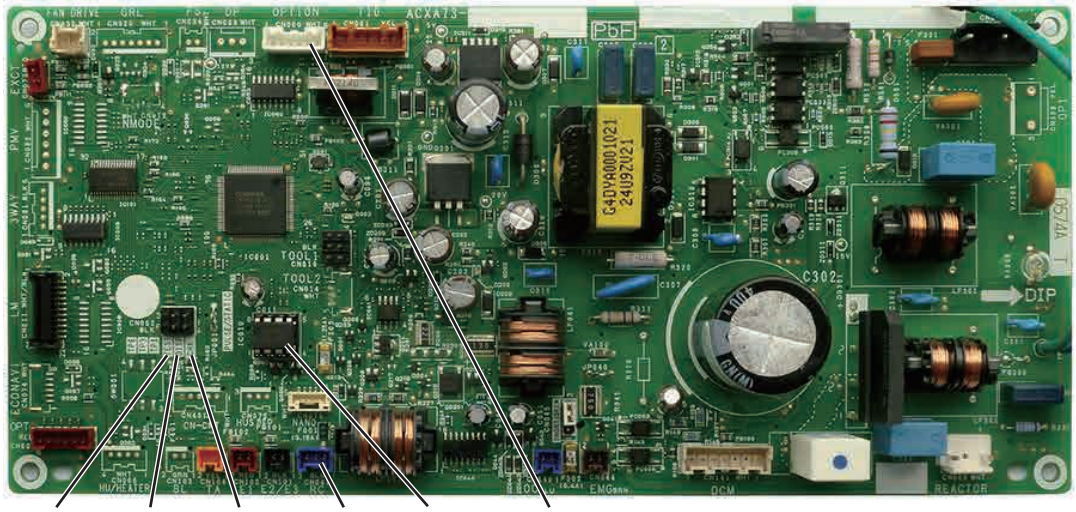
■ **ACXA73-3440* : Middle Static Pressure Duct Type**



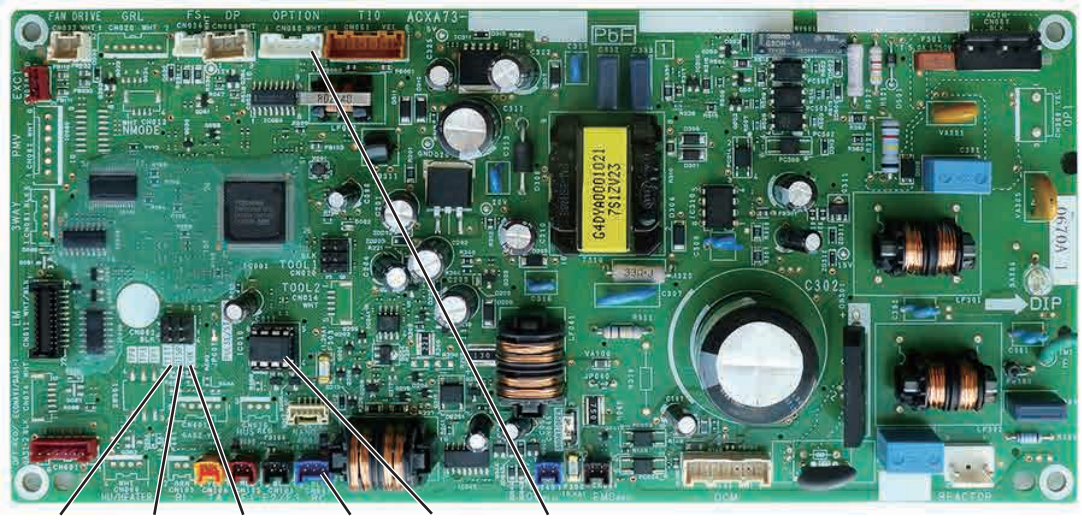
■ **ACXA73-3671* : Wall Mounted Type Indoor Unit Control Board**



■ **ACXA73-3611* : Ceiling Type Indoor Unit Control Board**



■ **ACXA73-3565* : 4-Way Cassette 60 × 60 Type Indoor Unit Control Board**



E16 Auto Address Alarm (The total capacity of indoor units is too high.)

1. Error Detection Method

It is judged an error the total capacity of indoor units is too high or the total number of indoor units is too many.

- The total capacity of indoor units is too high.
- The total number of indoor units is too many.
- When making group control of the different refrigerant system, the steps to turn on the systems one at a time have not been performed.

2. Error Diagnosis

1 Auto Address	1-1	Conduct checks prior to auto address setting.

E20 Auto Address Alarm (No indoor unit connected)

1. Error Detection Method

The outdoor unit detects an error at following cases during auto address setting.

- Indoor unit is not turned on.
- Indoor / outdoor control line* is disconnected and also detects an error in the following cases when the outdoor unit is turned on.
- Address(es) of indoor unit(s) are not assigned correctly.
- Capacity of indoor / outdoor units is mismatched.
- Total number of indoor units is too many.

2. Error Diagnosis

1 Indoor Unit	1-1	Are the address(es) of indoor unit(s) assigned correctly?		Yes	1-2
				No	Set its address
	1-2	Are the indoor units turned on?		Yes	1-3
				No	Power on
	1-3	Be sure that the indoor and outdoor units are connected with correct combination written in catalog.	Yes	1-4	
			No	Correct the connection	
	1-4	The indoor / outdoor control line* may be disconnected somewhere between the indoor unit(s) and the outdoor unit. Make sure the indoor / outdoor control line* is connected.			

* indoor / outdoor control line* : Connection cable between outdoor and indoor unit

F04 Compressor Discharge Temperature Sensor (TD) Trouble

1. Error Detection Method

It is judged an error based on the criteria listed below.

- Open circuit or Short circuit

2. Error Diagnosis

1 Sensor	1-1	Sensor connector is connected to PC board properly.	Yes	1-2
			No	Reconnect and check
	1-2	Sensor is correctly installed at holder side.	Yes	Replace sensor
			No	Correct and see what happens.
				1-3
	1-3	Abnormal temperature exists even after replacing sensor.	Yes	2-1
			No	See what happens.
2 PC board	2-1	Resistance between connector pins on PC board is less than 1 k ohm	Yes	Replace PC board
			No	2-2
	2-2	Abnormal temperature exists even after replacing PC board.	Yes	3-1
			No	See what happens.
3 Operating status	3-1	Peripheral temperature of outdoor unit is over 43°C.	Yes	Correct
			No	3-2
	3-2	Tends to have insufficient refrigerant charge in the system.	Yes	Adjust the amount of refrigerant
			No	3-3
	3-3	Check noise.		

F06 Inlet Temperature Sensor (C1) in Heat Exchanger Trouble

1. Error Detection Method

- In case of open or short

2. Error Diagnosis

1 Sensor Trouble	1-1	Is the connector properly connected to PCB?	Yes	1-2
			No	Reconnect & check
	1-2	Is the resistor between the sockets infinity or 0Ω?	Yes	Replace sensor.
			No	2-1
2 Control PCB Failure	2-1	Outdoor unit control PCB failure Replace PCB with a new one.		

F07 Intermediate Temperature (C2) in Heat Exchanger Trouble

1. Error Detection Method

It is judged an error when open circuit or short circuit.

2. Error Diagnosis

1 Sensor	1-1	Sensor connector is connected to PC board properly.	Yes	1-2
			No	Reconnect and check
	1-2	Resistance between sockets is infinity or 0 ohm.	Yes	Replace sensor
			No	2-1
2 PC board	2-1	Replace PC board because of outdoor control PC board failure.		

F08 Outdoor Air Temperature Sensor (TO) Trouble

1. Error Detection Method

It is judged an error when open circuit or short circuit.

2. Error Diagnosis

1 Sensor	1-1	Sensor connector is connected to PC board properly.	Yes	1-2
			No	Reconnect and check
	1-2	Resistance between sockets is infinity or 0 ohm.	Yes	Replace sensor
			No	2-1
2 PC board	2-1	Replace PC board because of outdoor control PC board failure.		

F12 Compressor Inlet Suction Temperature Sensor (TS) Trouble

1. Error Detection Method

It is judged an error when open circuit or short circuit.

2. Error Diagnosis

1 Sensor	1-1	Sensor connector is connected to PC board properly.	Yes	1-2
			No	Reconnect and check
	1-2	Resistance between sockets is infinity or 0 ohm.	Yes	Replace sensor
			No	2-1
2 Outdoor control PC board	2-1	Replace PC board because of outdoor control PC board failure.		

F31 Outdoor Unit Nonvolatile Memory (EEPROM) Trouble

1. Error Detection Method

It is judged an error based on the criteria listed below.

- When power initially turned ON for the first time, nonvolatile memory (EEPROM) is not installed.
- Read values after writing onto nonvolatile memory (EEPROM) is inconsistent.

2. Error Diagnosis

1 PC board	1-1	Does EEPROM exist on the control PC board?	Yes	1-2
			No	Install EEPROM
	1-2	Is EEPROM installed properly? (Check: Bent IC pin or incorrect installation, etc.)	Yes	1-3
			No	Correct
	1-3	Incorrect EEPROM Replace with correct EEPROM.		

H01 Primary (input) Overcurrent Detected

1. Error Detection Method

- Primary current effective value detected overcurrent (trip current value).

Type		PZ3					
Model name (U-)		100PZ3E5	125PZ3E5	140PZ3E5	100PZ3E8	125PZ3E8	140PZ3E8
Trip current value	Heating	27.6A	33.0A	33.5A	13.5A	14.5A	15.0A
	Cooling	27.6A	32.0A	32.5A	13.2A	14.2A	14.5A

2. Error Diagnosis

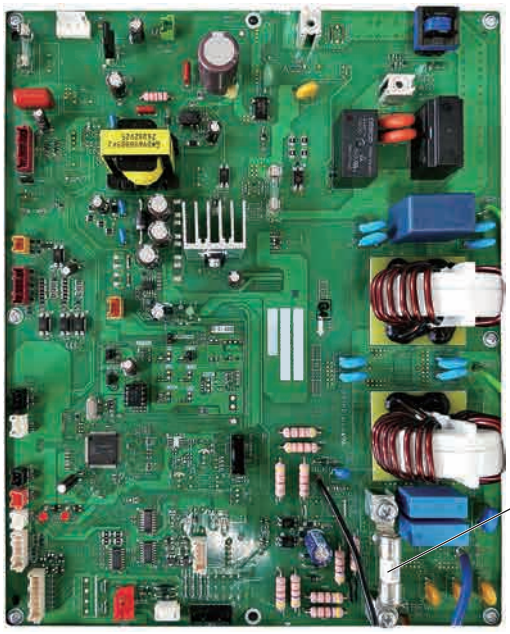
1 Power supply*	1-1	Not satisfied with ±10% rated supply voltage	Yes	Check power supply
			No	1-2
	1-2	Extreme voltage fluctuations	Yes	Check power supply
			No	1-3
	1-3	Extreme distortion of voltage waveform	Yes	Check power supply
			No	1-4
	1-4	Instantaneous blackout may sometimes occur.	Yes	Check power supply
			No	2-1
2 PC board wiring	2-1	Has FUSE 1-A / FUSE 2 and FUSE 3 blown? Check the electrical conduction with tester.	Yes	2-3
			No	2-2
	2-2	Loose electrical wire connection	Yes	Correct wiring
			No	2-3
	2-3	Replace CR board.		

* Check not only in the outdoor unit stop mode but in the drive mode.

For Single-Phase Outdoor Unit PCB

■ **CR-PCB : ACXA73-33930 (U-100PZ3E5)**

■ **CR-PCB : ACXA73-33950 (U-125PZ3E5, U-140PZ3E5)**



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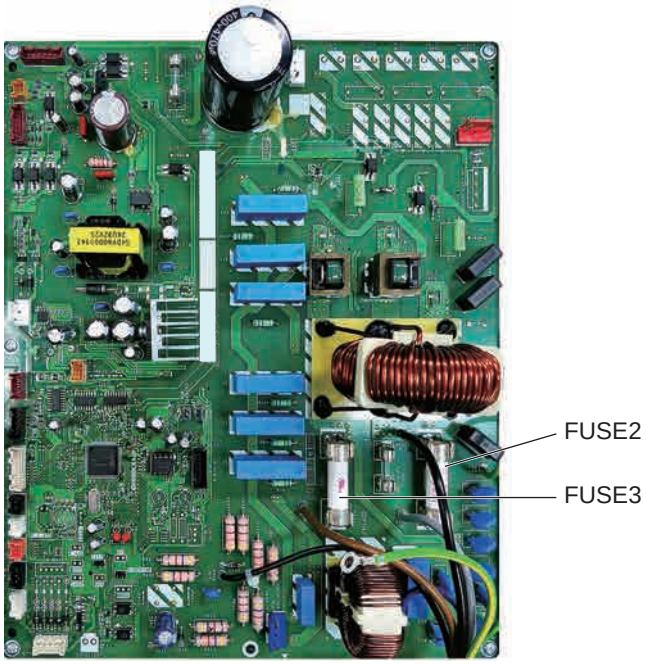
For 3-Phase Outdoor Unit PCB

■ **CR-PCB : ACXA73-33970 (U-100PZ3E8, U-125PZ3E8, U-140PZ3E8)**



H02 PAM Trouble (Single-phase only)

1. Error Detection Method

- Error is detected by over-voltage and overcurrent of DC side.

2. Error Diagnosis

1 Power supply*	1-1	Not satisfied with ±10% rated supply voltage	Yes	Check power supply
			No	1-2
	1-2	Extreme voltage fluctuations	Yes	Check power supply
			No	1-3
	1-3	Extreme distortion of voltage waveform	Yes	Check power supply
			No	2-1
2 PC board wiring	2-1	Loose electrical wire connection	Yes	Correct connection
			No	2-2
	2-2	Replace HIC PC board.		

* Check not only in the outdoor unit stop mode but in the drive mode.

H03 Primary Current CT Sensor (current sensor) Failure

1. Error Detection Method

It is judged an error based on the criteria listed below.

- If 18A or greater is detected when the compressor is stopped (alarm triggered even if the connector is unplugged).
- If no current is detected even though a compressor is running.

2. Error Diagnosis

1 Check the control PC board	1-1	Turn the power on again and run the outdoor unit. Is alarm occurred after operation?	Yes	Replace CR board.
			No	See what happens.

- Check also the power supply.

H31 HIC Trouble

1. Error Detection Method

It is judged an error if the computer detects an error signal from the HIC.
An error signal is issued by the HIC if abnormal heat occurs inside the HIC or if there is an overcurrent.
However, it is judged an error in the same way if the signal line from the HIC is not connected properly or opened.

- HIC overcurrent due to HIC fault
- HIC abnormal heat caused by defective HIC or HIC radiation error
- Signal line is not connected properly or opened between the HIC and the outdoor CR board.

2. Error Diagnosis

1 Wiring between HIC & outdoor control PC board	1-1	The wiring (power cord and signal line) between the HIC and the outdoor CR board is connected properly.	Yes	1-2
			No	Correct wiring (connector)
	1-2	Everything is normal in the wiring (power cord & signal line) between the HIC and the outdoor CR board. Check the wiring one by one with a tester if there is opened and grounding.	Yes	2-1
			No	Replace wiring
2 HIC poor radiation	2-1	The heat dissipating surface on the back of the HIC is in good contact with the heat sink (heat dissipating fins) of the electrical box. Check for looseness in the fastening screws and the condition of the heat-conducting putty.	Yes	2-2
			No	Tighten screw(s), add putty
	2-2	A good flow of cooling air passes through the heat sink (heat dissipating fins) of the electrical box. Check for debris blocking the fins.	Yes	3-1
			No	Remove foreign matter
3 HIC overcurrent	3-1	The results of the pass / fail tests for the following HIC board IPM show it to be outside the range of the resistance of a conforming part.	Yes	Replace the HIC PC board
			No	3-2
	3-2	The inverter compressor was stopped / started more than 10 times and it triggered H31 at a high rate. If alarm code P16 occurs at times, refer to the alarm code P16.	Yes	Replace the HIC PC board
			No	Refer to alarm code P16

- **HIC board IPM Pass / Fail Tests**
  - Measure with an analog tester. (Set to the k ohm range)
  - Measure the board by itself. (Remove wires connected from other parts.)
  - Measure using IPM terminals.

★ Conforming part resistance value (measure with an analog tester)

Tester terminals								
+	P				NU			
-	U	V	W	NU	U	V	W	P
Resistance value (ohm)	1 k to 5 k	1 k to 5 k	1 k to 5 k	5 k to 10 k	100 k to ∞	100 k to ∞	100 k to ∞	100 k to ∞

Tester terminals								
-	P				NU			
+	U	V	W		U	V	W	
Resistance value (ohm)	100 k to ∞	100 k to ∞	100 k to ∞		1 k to 5 k	1 k to 5 k	1 k to 5 k	

- Excepting the parts of “100 k to ∞”, it is acceptable if a small resistance value appears as a reference value unless the value is “0 = short-circuit”.

Tester terminals								
+	HIC+				HIC-			
-	U	V	W	HIC-	U	V	W	HIC+
Resistance value (ohm)	1 k to 10 k	1 k to 10 k	1 k to 10 k	5 k to 20 k	20 k to ∞	20 k to ∞	20 k to ∞	20 k to ∞

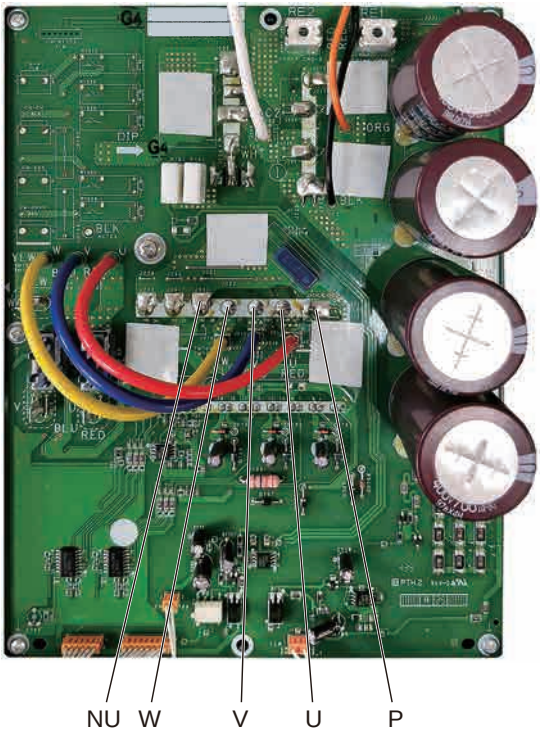
Tester terminals								
-	HIC+				HIC-			
+	U	V	W		U	V	W	
Resistance value (ohm)	20 k to ∞	20 k to ∞	20 k to ∞		1 k to 10 k	1 k to 10 k	1 k to 10 k	

- Excepting the parts of “20 k to ∞ ”, it is acceptable if a small resistance value appears as a reference value unless the value is “0 = short-circuit”.

For Single-Phase Outdoor Unit HIC PCB

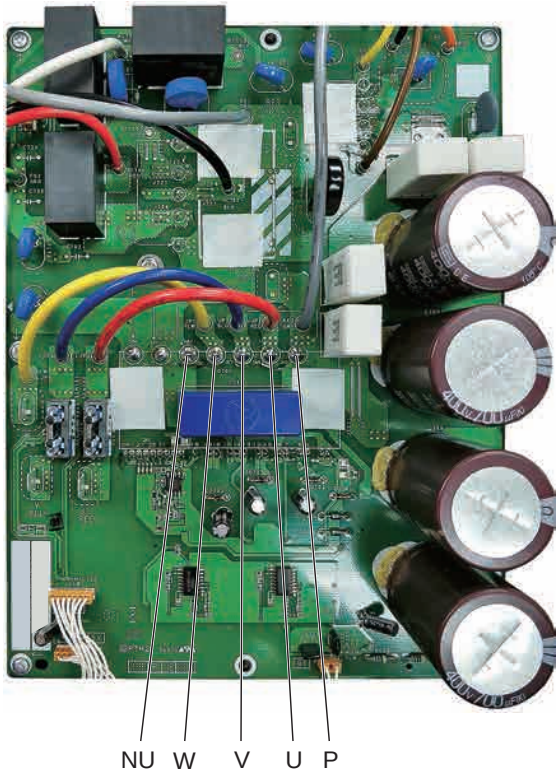
■ **HIC-PCB : ACXA73-33940 (U-100PZ3E5)**

■ **HIC-PCB : ACXA73-33960 (U-125PZ3E5, U-140PZ3E5)**



For 3-Phase Outdoor Unit HIC PCB

■ **HIC-PCB : ACXA73-33980 (U-100PZ3E8, U-125PZ3E8, U-140PZ3E8)**



L10 Outdoor Unit Capacity not Set or Invalid

1. Error Detection Method

It is judged an error when outdoor unit capacity not yet setup or systematically unauthorized setting.

2. Error Diagnosis

1 Check the control PC board	1-1	Was EEPROM replaced when PC board was replaced?

L13 Indoor Unit Type Setting Error

1. Error Detection method

- Discordance model(s) between outdoor and indoor units are detected.

1 Discordance Unit	1-1	Are models for outdoor and indoor units matched respectively? (Ex: Are multiple indoor units connected to commercial outdoor units?)	Yes	2-1
			No	Replace indoor units.
2 Installation Failure	2-1	Check the indoor unit's motor valve with the remote control detailed settings mode (2C code) and commercial indoor unit is set to "2" and multiple indoor unit is "0".	Yes	3-1
			No	Change installation.
3 Operating Wires for Indoor & Outdoor Units	3-1	Check whether or not indoor and outdoor unit operating wires are short circuit, disconnection, loose connection or earth fault.		

L18 4-Way Valve Operation Failure

1. Error Detection method

It is judged an error when during heating operation (Comp. ON), the highest detected temperature at an outdoor unit heat exchanger (C1) was 20°C or more above the outdoor air temperature (Air Temp.) continuously for 5 minutes or longer.

2. Error Diagnosis

1 PC board wiring	1-1	Is the connector wired from the 4-Way valve plugged in the CN-HOT or CN-HOT2 connector on the CR PC board properly?	Yes	1-2
			No	Correct connector
	1-2	Has the 4-Way valve wiring become opened?	Yes	Correct wiring
			No	1-3
	1-3	Is the wire from the coil for controlling the 4-Way valve firmly connected to the 4-Way valve?	Yes	2-1
			No	Correct connector
2 4-Way valve	2-1	During heating mode (Comp. ON), insert and remove the connector wired from the 4-Way valve into or from CN-HOT or CN-HOT2 connector on the CR PC board. At the same time, does the ON & OFF sounds occur from the 4-Way valve?	Yes	2-2
			No	Replace CR PC board
	2-2	During heating mode (Comp. ON), does the alarm code L18 reproduce for 5 minutes or longer after insertion and removal of CN-HOT or CN-HOT2 connector wired from the 4-Way valve connector on the CR PC board?	Yes	2-3
			No	See what happens
	2-3	The parts inside the 4-Way valve might have fixed at the cooling side. Replace the 4-Way valve		

P03 Compressor Discharge Temperature Trouble

1. Error Detection method

- When the discharge temperature is over 103°C.

2. Error Diagnosis

1 Adjustment to refrigerant charge	1-1	Not additional refrigerant charged	Yes	Additional refrigerant charge
			No	2-2
	1-2	Tends to have insufficient refrigerant charge in the system.	Yes	Adjust the refrigerant amount
			No	Replace CR board
2 Blockage in refrigerant circuit	2-1	Service valve inside the outdoor unit closed	Yes	Open service valve
			No	2-2
	2-2	Are the tubes clogged?	Yes	Avoid clogging
			No	2-3
	2-3	Is the outdoor unit's electronic control valve operating correctly? (Check for debris clogging the electronic control valve, a problem with the electronical coil and / or the control PC board.)	Yes	2-4
			No	Replace the electronic control valve
	2-4	Is it observable difference in status of the dew or frost between the strainer's primary and secondary sides?	Yes	Replace the strainer
			No	Replace CR board

P04 High Pressure Trouble

1. Error Detection Method

It is judged an error if the internal circuit of the high pressure switch is dead.
The electronic circuitry of the high pressure switch is cut off if the pressure at the pressure sensor port of the high pressure switch reaches 4.15 MPa. Once it is cut off, it remains cut off until the pressure drops to 3.05 MPa.

- The high pressure switch is malfunctioning.
- Service valve inside the outdoor unit closed
- There is a short air circuit through the outdoor unit's heat exchanger. (when cooling)
- The outdoor unit's fan is broken. (when cooling)
- The outdoor unit's heat exchanger is clogged. (when cooling)
- There is a short air circuit at the indoor unit. (when heating)
- The filter of the indoor unit is clogged. (when heating)
- The fan of the indoor unit is broken or the fan motor is malfunctioning. (when heating)
- The refrigerant circuit is closed and the high pressure is increasing abnormally high. (solenoid valve or expansion valve not activated, a stuck check valve, etc.)
- Refrigerant overcharged.
- Nitrogen or air contaminated in the refrigerant system

2. Error Diagnosis

1 High pressure switch	1-1	The socket of the high pressure switch is securely inserted in the PC board. The wiring is not opened.	Yes	1-2
			No	Correct connection and / or wiring
	1-2	Even if parts near the high pressure switch are shaken quite a lot, the high pressure cut off will be activated. Even if the covering is in good condition, in several cases vibration has caused wiring inside to open.	Yes	Replace the high pressure switch (wiring)
			No	2-1
2 Service valve	2-1	Service valve inside the outdoor unit closed	Yes	Open the service valve
			No	2-2
	2-2	There is an extreme difference in temperature in / out of the service valve.	Yes	2-3
			No	3-1
	2-3	Check the flare connection, someone may have forgotten to remove the bonnet. If there is a problem within the service valve, replace the valve.		
3 Problem around the heat exchanger	3-1	While cooling is operating an alarm is occurred.	Yes	3-2
			No	3-5
	3-2	The intake temperature (ambient temperature) of the outdoor unit's heat exchanger is above 43°C.	Yes	Prevent air short circuit
			No	3-3
	3-3	The outdoor unit's heat exchanger is clogged.	Yes	Clean the heat exchanger
			No	3-4
	3-4	Check whether the outdoor unit fan is normal or if the sockets are firmly pressed onto the plugs on the outdoor PC board, as well as if any wiring is opened. Are these checking finished without fail?	Yes	4-1
			No	Replace the outdoor unit fan. Correct connection and / or wiring
	3-5	While heating is operating an alarm is occurred.	Yes	3-6
			No	4-1

3 Problem around the heat exchanger	3-6	The intake temperature (ambient temperature) of the indoor unit is above 36°C.	Yes	Prevent air short circuit
			No	3-7
	3-7	The filter of the indoor unit is clogged.	Yes	Clean the filter
			No	3-8
	3-8	The fan of the indoor unit is broken or the fan motor is faulty.	Yes	Replace the indoor fan (motor)
			No	4-1
4 Blockage in the refrigerant circuit	4-1	Is the outdoor unit's electronic control valve operating correctly? (Check for debris clogging the electronic control valve, a problem with the electronical coil and / or the control PC board.)	Yes	4-3
			No	Repair the electronic control valve of the outdoor unit
	4-2	The indoor unit's expansion valve is operating correctly. (check for debris clogging the valve, a problem with the electronical coil and / or the control PC board)	Yes	4-3
			No	Repair the expansion valve of the indoor unit
	4-3	If an alarm is occurred with the high pressure below 4.15 MPa, with the pressure measured as displayed by the manifold gauge, check the check valve in the compressor discharge line. Are these checking finished without fail?	Yes	4-4
			No	Replace the check valve in the compressor discharge line
	4-4	The electronic control valve is faulty. In systems where the solenoid valve kits and the ice thermal storage tank are connected, check these solenoid valves.	Yes	Replace the electronic control valve and / or solenoid valve.
			No	5-1
5 Overcharging	5-1	Error occurs when the system is operating in cooling mode.	Yes	5-3
			No	5-2
	5-2	Error occurs when the system is operating in heating mode.	Yes	5-4
			No	5-5
	5-3	An alarm is occurred with the high pressure at 4.15 MPa, with the pressure measured either as displayed by the monitoring software or with a manifold gauge, at which time the temperature of liquid in the outdoor unit's heat exchanger is detected to be at the temperature of the outside air.	Yes	5-5
			No	Contact the service representative
	5-4	An alarm is occurred with the high pressure at 4.15 MPa, with the pressure measured either as displayed by the monitoring software or with a manifold gauge, at which time the temperature of liquid in the indoor heat exchanger is detected to be at room temperature (intake temperature).	Yes	5-5
			No	Contact the service representative
	5-5	The system may be overcharged. Check how much refrigerant was added during installation. When a system is inspected for airtightness, it is seldom that enough nitrogen has been expelled, so some remains in the circuit. In this case, it is necessary to collect the refrigerant and then recharge the system.		

P05 AC Power Supply Trouble

1. Error Detection Method

- Instantaneous blackout
- Zero-cross (waveform input of power supply) error
- DC voltage charge failure

2. Error Diagnosis

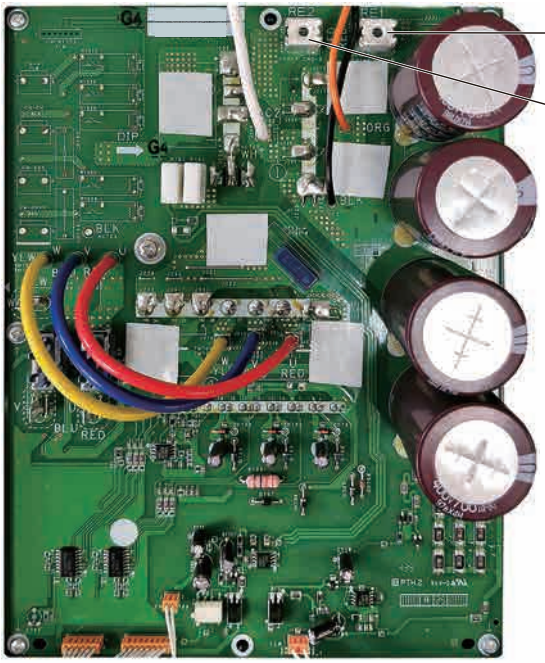
Note : The work involved in diagnosing each of the items is extremely dangerous, so turn the power off at the breaker before performing the tests.

1 Check the power supply & the wiring	1-1	Is the voltage on each of the terminal boards within ±10% of the rated voltage?	Yes	1-3 : Single-phase model 1-2 : 3-phase model	
			No	Check for open circuit and the voltage at the breaker. If a problem is found, fix it and check again.	
	1-2	Power wiring L1 and L3 are connected.		Yes	Correct wiring
				No	1-3
	1-3	Turn the power back on and check again. Is the alarm triggered again?		Yes	2-1
				No	3-1
2 Check the outdoor unit HIC PC board	2-1	Are the wires (RE1, RE2) from the reactor firmly installed? Are the wires also connected to the side of the reactor?		Yes	2-2
				No	Correct wiring
	2-2	Turn the power back on and check again. Is the alarm triggered again?		Yes	Replace the outdoor unit HIC PC board.
				No	3-1
3 Final check	3-1	There may be a instantaneous blackout failure. If there is nothing abnormal, see what happens.			

For Single-Phase Outdoor Unit HIC PCB

■ **HIC-PCB : ACXA73-33940 (U-100PZ3E5)**

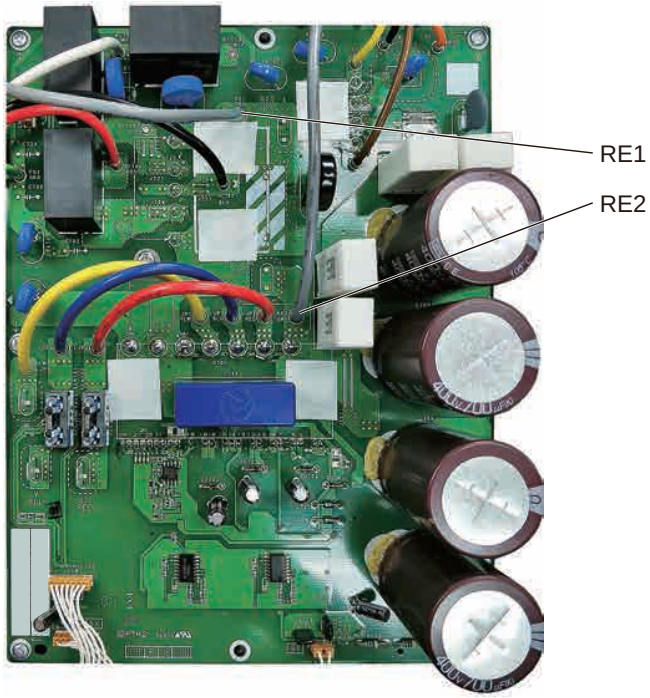
■ **HIC-PCB : ACXA73-33960 (U-125PZ3E5, U-140PZ3E5)**



Common in RE1 and RE2
U-100PZ3E5 : Plug-in type
U-125PZ3E5, U-140PZ3E5 : Fastening screw type

For 3-Phase Outdoor Unit HIC PCB

■ **HIC-PCB : ACXA73-33980 (U-100PZ3E8, U-125PZ3E8, U-140PZ3E8)**



P13 Alarm Valve Open

1. Error Detection Method

Detection is performed only in the test run. When once detected or the test run finished without any error, the second detection will not be done.

In case of forgetting to open a valve, P04 (high-pressure switch operational alarm) is occasionally preceded due to the following conditions.

- The status of small temperature change of the operating indoor unit continues for the first 7 minutes since the cooling test run has started.

2. Error Diagnosis

1 Service valve	1-1	Service valve inside the outdoor unit closed	Yes	Open the service valve
			No	2-1
2 Adjustment to refrigerant change	2-1	Not additional refrigerant charged	Yes	Additional refrigerant charge
			No	3-1
3 Blockage in refrigerant circuit	3-1	Are the tubes clogged?	Yes	Avoid clogging
			No	3-2
	3-2	Is the outdoor unit's electronic control valve operating correctly? (Check for debris clogging the electronic control valve, a problem with the electronical coil and / or the control PC board.)	Yes	3-3
			No	Replace the electronic control valve
	3-3	As the second detection is not done, restart and see what happens if there is no error.		

P15 Insufficient Gas Level Detected

1. Abnormal Detection Method

Alarm occurs in the following cases:

- Compressor's current value shows lower than a certain value.
- Compressor's discharge temperature exceeds 95°C.
- Electronic expansion valve is fully opened.
- The difference between indoor unit heat exchanger temperature and intake temperature is less than 4K.

2. Error Diagnosis

1 Adjustment of refrigerant amount	1-1	Insufficient gas level (Check whether or not pressure level is normal.)	Yes	Recharge with additional refrigerant.
			No	1-2
	1-2	Check leakage of refrigeration (leak test)	Yes	Replace leaking part with a new one.
			No	See what happens.

P16 Compressor Overcurrent Trouble

1. Meaning of Alarm

- Secondary current effective value detected the overcurrent (trip current value).

Type		PZ3					
Model name (U-)		100PZ3E5	125PZ3E5	140PZ3E5	100PZ3E8	125PZ3E8	140PZ3E8
Trip current value	Cooling	17.5A	19.5A	19.5A	11.5A	13.0A	13.0A
	Heating	17.5A	19.5A	19.5A	11.5A	13.0A	13.0A

2. Check of content

0 Multiple factors	0-1	Replaced the compressor (added oil, if it was necessary) but it occurred again immediately.	Yes	7-1
			No	-
	0-2	Replaced the board, but it occurred again immediately.	Yes	Replace compressor along with adding oil, then recheck from 1-1
			No	-
1 Power Source	1-1	Power cord connections are loose.	Yes	Correct the wiring
			No	1-2
	1-2	Rated power voltage is not within ±10%.	Yes	Test the power supply
			No	1-3
	1-3	Extreme fluctuations in voltage.	Yes	Test the power supply
			No	1-4
	1-4	An open phase state is observed.	Yes	Test the power supply
			No	2-1
2 Board wiring	2-1	Disconnected parts, miswiring and / or poor connections (loose) are observed in the connections on the CR board and / or in the connections of components that are connected by wiring from the CR board.	Yes	Correct
			No	2-2
	2-2	Disconnected parts, miswiring and / or poor connections (loose) are observed in the connections of outdoor board(s) that are connected by wiring from the CR board.	Yes	Correct
			No	2-3
	2-3	Disconnected parts, miswiring and / or poor connections (loose) are observed in the connections of outdoor board(s) that are connected by wiring from the HIC board.	Yes	Correct
			No	2-4
	2-4	Disconnected parts, miswiring and / or poor connections (loose) are observed in the connections of HIC boards connected by wiring from the CR board.	Yes	Correct
			No	2-5
	2-5	Disconnected parts, miswiring and / or poor connections (loose) are observed in the connections of HIC board(s) that are connected by wiring from the outdoor board.	Yes	Correct
			No	2-6
	2-6	Disconnected parts, miswiring and / or poor connections (loose) are observed in the connections of HIC board(s) that are connected by wiring to a compressor.	Yes	Correct
			No	3-1

3 Compressor wiring	3-1	Disconnections and / or miswiring are observed in the connecting location of the compressor terminals.	Yes	Correct
			No	3-2
	3-2	Conditions such as burned terminal covers and / or discolored terminals are observed in the connecting location of the compressor terminals.	Yes	Eliminate looseness by changing the terminals, or crimping the terminals again.
			No	4-1
4 Check the situation	4-1	Outdoor air intake temperature is high.	Yes	Take measures
			No	4-2
	4-2	May be caused by poor outdoor unit air flow (dirty or clogged heat exchanger, blocked discharge port, etc.)	Yes	Correct
			No	4-3
	4-3	Air short circuit has occurred. This is a phenomenon when discharged air (exhaust heat) from the outdoor unit is drawn back into the suction vent.	Yes	Prevent air short circuit
			No	4-4
	4-4	Indoor air intake temperature is high.	Yes	Take measures
			No	4-5
	4-5	The filter of the indoor unit is clogged.	Yes	Clean the filter
			No	4-6
	4-6	Air short circuit has occurred. This is a phenomenon when discharged air (exhaust heat) from the indoor unit is drawn back into the suction vent.	Yes	Prevent air short circuit
			No	5-1
5 Check operation	5-1	Possible to operate.	Yes	5-2
			No	6-1
	5-2	Operating pressure is affected by pressure overload.	Yes	5-3
			No	5-4
	5-3	Tends to have an overcharge of refrigerant in the system.	Yes	Adjust the amount of refrigerant
			No	5-4
	5-4	Tends to operate for a long time turning gas back into liquid.	Yes	Check the operation of functional parts
			No	5-5
	5-5	Tends to have insufficient refrigerant charge in the system.	Yes	Adjust the amount of refrigerant
			No	5-6
	5-6	Even though the high pressure saturation temperature is 43°C or less, the secondary current of the inverter is high. (The frequency (Hz) ends up dropping due to the current.)	Yes	Replace the compressor
			No	See what happens.
6 Check history	6-1	Dividing the outdoor EEPROM INV operation time by the number of times oil was supplied to the system yields 3 hours or less.	Yes	6-2
			No	6-2
	6-2	There is a history of H31 in the pre-trip counter of the outdoor EEPROM alarm history.	Yes	Replace the compressor and add oil. However, if 6-1 was “no”, it is not necessary to add oil.
			No	7-1
7 Check the HIC boards	7-1	The results of HIC board IPM Pass / Fail Tests show the outside the range of the resistance of a conforming part listed in the next page.	Yes	Replace HIC board
			No	8-1

8 Check the compressor	8-1	The compressor is causing a failure in the insulation.	Yes	Replace the compressor
			No	8-2
	8-2	The winding resistance of the compressor is abnormal. See “5-3. (3) Coil Resistance of Compressor ”.	Yes	Replace the compressor
			No	9-1
9 Check the HIC PC boards	9-1	Replace the HIC PC board and operate the unit. (Apply putty and screws must not be loose) Does it operate normally?	Yes	See what happens.
			No	10-1
10 Check the outdoor unit main PC board	10-1	Replace the control PC board and operate the unit.	See what happens.	

- (Check content of 7) The test check of the HIC board is only a check on the output level, so the input stage may not be working.
- With the filter board broken, alarm P16 may not be triggered.
- **HIC board IPM Pass / Fail Tests**
  - Measure with an analog tester. (Set to the k ohm range.)
  - Measure the board by itself. (Remove wires connected from other parts.)
  - Measure using IPM terminals.

★ Conforming part resistance value (measure with an analog tester)

Tester terminals								
+	P				NU			
-	U	V	W	NU	U	V	W	P
Resistance value (ohm)	1 k to 5 k	1 k to 5 k	1 k to 5 k	5 k to 10 k	100 k to ∞	100 k to ∞	100 k to ∞	100 k to ∞

Tester terminals								
-	P				NU			
+	U	V	W		U	V	W	
Resistance value (ohm)	100 k to ∞	100 k to ∞	100 k to ∞		1 k to 5 k	1 k to 5 k	1 k to 5 k	

- Excepting the parts of “100 k to ∞”, it is acceptable if a small resistance value appears as a reference value unless the value is “0 = short-circuit”.

Tester terminals								
+	HIC+				HIC-			
-	U	V	W	HIC-	U	V	W	HIC+
Resistance value (ohm)	1 k to 10 k	1 k to 10 k	1 k to 10 k	5 k to 20 k	20 k to ∞	20 k to ∞	20 k to ∞	20 k to ∞

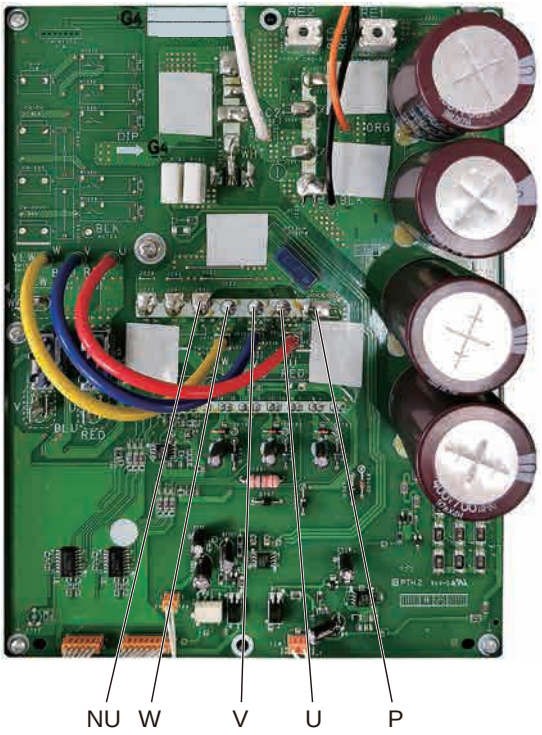
Tester terminals								
-	HIC+				HIC-			
+	U	V	W		U	V	W	
Resistance value (ohm)	20 k to ∞	20 k to ∞	20 k to ∞		1 k to 10 k	1 k to 10 k	1 k to 10 k	

- Excepting the parts of “20 k to ∞”, it is acceptable if a small resistance value appears as a reference value unless the value is “0 = short-circuit”.

For Single-Phase Outdoor Unit HIC PCB

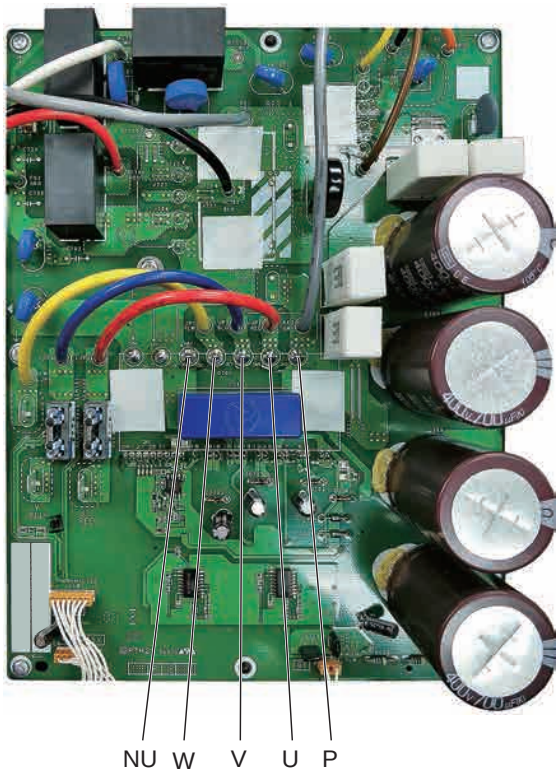
■ **HIC-PCB : ACXA73-33940 (U-100PZ3E5)**

■ **HIC-PCB : ACXA73-33960 (U-125PZ3E5, U-140PZ3E5)**



For 3-Phase Outdoor Unit HIC PCB

■ **HIC-PCB : ACXA73-33980 (U-100PZ3E8, U-125PZ3E8, U-140PZ3E8)**



P22 Outdoor Unit Fan Motor Trouble

1. Error Detection Method

- It is judged an error when the outdoor fan motor's rotating signal cannot be detected normally.

2. Error Diagnosis

1 Wiring	1-1	Is the connector "CN-FM" firmly connected to the outdoor control PC board (lock engaged)?	Yes	2-1
			No	Correct the connector connections
2 Outdoor fan motor	2-1	Disconnect the connector "CN-FM" from the outdoor control PC board and rotate the outdoor fan by hand; does it rotate freely? (Check the outdoor fan motor lock)	Yes	3-1
			No	Replace the outdoor fan motor
3 Outdoor control PC board	3-1	Turn the power on and run the unit again; is P22 triggered again? Or can you see or hear anything that is obviously wrong in its rotation?	Yes	3-2
			No	3-3
	3-2	Replace the outdoor control PC board. (If it fails to operate normally even after replacing the outdoor control PC board, replace the outdoor fan motor.)		
	3-3	If there is nothing particularly out of the ordinary, see what happens.		

P29 Lack of INV compressor wiring, INV compressor actuation failure (including locked), DCCT failure

1. Error Detection Method

- Abnormal current is detected at DCCT before start-up.
- Start-up failed during overcurrent and / or step-out detected.
- Open-wire of compressor and / or backspin detected.
- Secondary current is not detected during INV compressor is running.

2. Error Diagnosis

1 Wiring	1-1	Disconnected parts, miswiring and / or poor connections (loose) are observed in the connections of HIC PC board(s) that are connected by wiring to a compressor. *1	Yes	Correct wiring connections
			No	1-2
	1-2	Disconnected parts, miswiring and / or poor connections (loose) are observed in the connections of outdoor board(s) that are connected by wiring from the HIC PC board. *1	Yes	Correct wiring connections
			No	2-1
2 Compressor wiring	2-1	Disconnections and / or miswiring is observed in the connections of the compressor terminals. *1	Yes	Correct
			No	2-2
	2-2	Conditions such as burned terminal covers and / or discolored terminals are observed at the connectors of the compressor terminals. *1	Yes	Eliminate looseness by changing the terminals, or crimping the terminals again.
			No	3-1
3 Check the HIC PC boards	3-1	The results of the pass / fail tests for the following HIC PC board IPM show it to be outside the range of the resistance of a conforming part.	Yes	Replace the HIC board
			No	3-2
	3-2	Replace the HIC PC board and operate the unit. (Apply putty and screws must not be loose) Does it operate normally?	Yes	See what happens.
			No	4-1
4 Check the outdoor control PC board	4-1	Replace the control PC board and operate the unit.	See what happens.	

*1 Checking for looseness of compressor terminals by wiggling them has the adverse effect of loosening them, so do not do it.
Evaluate them by discoloration of wire insulation near the terminal.

- **HIC board IPM Pass / Fail Tests**
  - Measure with an analog tester. (Set to the k ohm range.)
  - Measure the board by itself. (Remove wires connected from other parts.)
  - Measure using IPM terminals.

★ Conforming part resistance value (measure with an analog tester)

Tester terminals								
+	P				NU			
-	U	V	W	NU	U	V	W	P
Resistance value (ohm)	1 k to 5 k	1 k to 5 k	1 k to 5 k	5 k to 10 k	100 k to ∞	100 k to ∞	100 k to ∞	100 k to ∞

Tester terminals							
-	P			NU			
+	U	V	W	U	V	W	
Resistance value (ohm)	100 k to ∞	100 k to ∞	100 k to ∞	1 k to 5 k	1 k to 5 k	1 k to 5 k	

- Excepting the parts of "100 k to ∞", it is acceptable if a small resistance value appears as a reference value unless the value is "0 = short-circuit".

Tester terminals								
+	HIC+				HIC-			
-	U	V	W	HIC-	U	V	W	HIC+
Resistance value (ohm)	1 k to 10 k	1 k to 10 k	1 k to 10 k	5 k to 20 k	20 k to ∞	20 k to ∞	20 k to ∞	20 k to ∞

Tester terminals							
-	HIC+			HIC-			
+	U	V	W	U	V	W	
Resistance value (ohm)	20 k to ∞	20 k to ∞	20 k to ∞	1 k to 10 k	1 k to 10 k	1 k to 10 k	

- Excepting the parts of "20 k to ∞", it is acceptable if a small resistance value appears as a reference value unless the value is "0 = short-circuit".

P31 Group Control Error

1. Error Detection Method

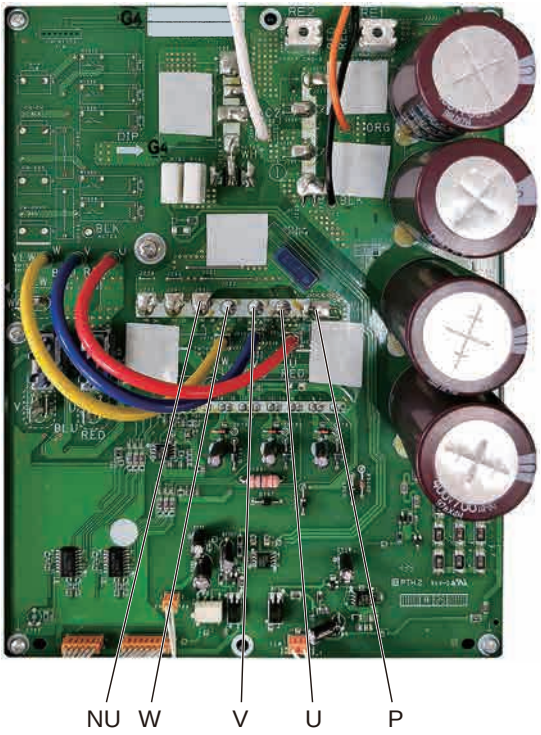
- Other indoor unit alarms within the group.

1 Other indoor unit	1-1	Survey the indoor unit that alarms other than “P31” in the indoor unit group and specify the causes of failure.

For Single-Phase Outdoor Unit HIC PCB

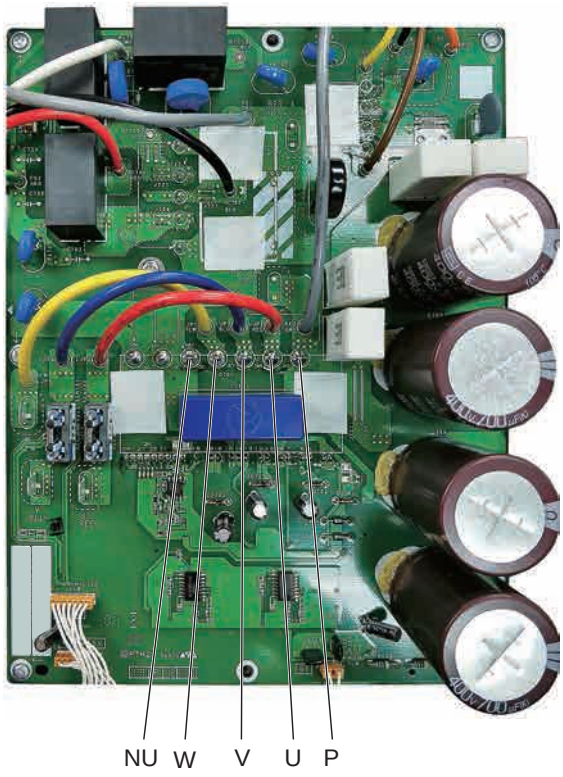
■ **HIC-PCB : ACXA73-33940 (U-100PZ3E5)**

■ **HIC-PCB : ACXA73-33960 (U-125PZ3E5, U-140PZ3E5)**



For 3-Phase Outdoor Unit HIC PCB

■ **HIC-PCB : ACXA73-33980 (U-100PZ3E8, U-125PZ3E8, U-140PZ3E8)**



5-2-2-3. U-71PZH3E5, U-100PZH3E5, U-125PZH3E5, U-140PZH3E5
U-71PZH3E8, U-100PZH3E8, U-125PZH3E8, U-140PZH3E8

Alarms for outdoor units

Alarm Code	Alarm Meaning
E04	Error in Indoor Unit Receiving Signal from the Outdoor Unit
E06	Outdoor Unit Failed to Receive Serial Communication Signals from Indoor Unit
E15	Auto Address Alarm (The total capacity of indoor units is too low.)
E16	Auto Address Alarm (The total capacity of indoor units is too high or the total number of indoor units is too many.)
E20	Connection Problem of Indoor / Outdoor Units.

F04	Compressor Discharge Temperature Sensor (TD) Trouble
F06	Inlet Temperature Sensor (C1) in Heat Exchanger Trouble
F07	Intermediate Temperature Sensor (C2) in Heat Exchanger Trouble
F08	Outdoor Air Temperature Sensor (TO) Trouble
F12	Compressor Inlet Suction Temperature Sensor (TS) Trouble
F31	Outdoor Unit Nonvolatile Memory (EEPROM) Trouble

H01	Primary (input) Overcurrent Detected
H02	PAM Trouble
H03	Primary Current CT Sensor (current sensor) Failure
H31	HIC Trouble

L10	Outdoor Unit Capacity not Set or Invalid
L13	Indoor Unit Type Setting Error
L18	4-Way Valve Operation Failure

P03	Compressor Discharge Temperature Trouble
P04	High Pressure Trouble
P05	AC Power Supply Trouble
P13	Alarm Valve Open
P15	Insufficient Gas Level Detected
P16	Compressor Overcurrent Trouble
P22	Outdoor Unit Fan Motor Trouble
P29	Lack of INV compressor wiring, INV compressor actuation failure (including locked), DCCT failure
P31	Group Control Error

Symptoms and Parts to Inspect

Remote controller alarm display	Alarm contents	Judgement conditions	Eliminating condition of alarm	Judgement and correction
P03	Abnormal discharge temperature error • Discharge temp. detected at or above the specified value	Stops when temp. exceeds 103 °C. Alarm output on 5 pre-trips	Recovery at restart	1. Check refrigerant cycle (gas leak). 2.Trouble with electronic expansion valve 3.Check discharge temperature sensor (TD).
P05	CT disconnected or AC power supply error DC voltage charge failure	The current value transmitted from the microcomputer on the outdoor unit control substrate is low. When no AC power input for more than 30 seconds to 5 minutes : Single alarm	Recovery at restart	1. Check outdoor unit control PCB. 2. Lack of reactor wire 3. Check power frequency.
P15	Insufficient gas level detected.	• Discharge temperature is 95 °C or higher. • Electronic expansion valve is at Step 480. When the above has continued for 1 minute. Indoor air sucking due to body thermostat max (E1 or E2) - TA ≤ 4°C • Secondary current ≤ Current value of gas shortage determination	Recovery at restart	1.Check refrigerant cycle (gas leak). 2.Trouble with electronic expansion valve 3.Check outdoor unit valve opening.
L18	4-way valve operation failure • Judged after heating operating for 5 minutes consecutively.	The indoor unit heat exchanger temperature drops even though the compressor is switched on during the heating mode: To +20 °C ≤ C1 Pre-trip 1 time	Recovery at restart	1. Check 4-way valve. 2. Check 4-way valve wiring. 3. Check outdoor unit control PCB.
P04	High-pressure protection error	High pressure switched ON → OFF (Alarm is output when switch opened.) Pre-trip 4 times.	Recovery at restart	Overload operation of refrigerant cycle
P22	Outdoor unit fan motor trouble • Inverter protection circuit was activated, or lock was detected at outdoor unit fan motor.	Inverter stops after alarm is detected. Pre-trip 10 times	Recovery at restart	1.Position detection trouble. 2.Outdoor unit fan motor over-current Protection circuit is activated. • Check outdoor unit control PCB. • See outdoor unit fan judgement methods.
P29	Lack of INV compressor wiring, INV compressor actuation failure, DCCT failure	Inverter stops after alarm is detected. Alarm is output when inverter stops (pre-trip) consecutively 10 times.	Recovery at restart	1.Stops immediately even when operations restarted. • Layer short on the compressor 2.Check HIC circuit. • Wiring trouble
H31	HIC trouble	Pre-trip consecutively 10 times	Temperature dropped	Heat sink and PCB (HIC) • Contact trouble

E04 Error in Indoor Unit Receiving Signal from the Outdoor unit

1. Error Detection Method

When there is no communication within a 3-minute period from the outdoor unit. Or, judged an error when no reply comes from the outdoor unit.

- The outdoor unit is not turned on.
- When the power was turned on after auto address setting was completed, the number of indoor units had been changed.
- Forgot to turn on the indoor unit.
- The CHK pin and / or TEST pin on the indoor unit's control PC board are shorted.
- Forgot to install the nonvolatile memory (EEPROM) when replacing the indoor unit control PC board.
- Mistakenly set the indoor unit address to Not Set in the remote control's detailed setting mode.
- When indoor unit addresses are duplicated.
- There is a short, open, wrong contact or grounding of the indoor / outdoor control line*.
- There is an error in the receiving circuit on the signal output PC board (optional control PC board).
- Malfunctions of the outdoor unit
- The thermistor inside the indoor unit is grounded.
- The capacity setting is mismatched between indoor units and the outdoor unit.

2. Error Diagnosis

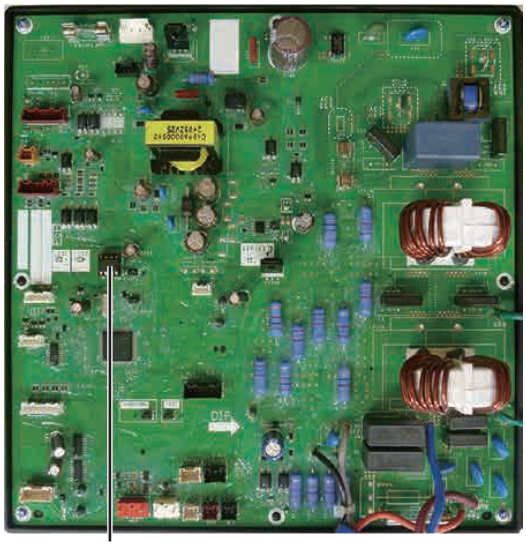
1 Power Source	1-1	Is / was the power to the outdoor unit cut off?	Yes	After turning the power on, wait three minutes
			No	1-2
	1-2	Is the indoor unit powered off?	Yes	Power on
			No	2-1
2 Indoor / outdoor wiring	2-1	Is the indoor / outdoor wiring connected correctly?	Yes	3-1
			No	Correct the wiring
3 Number and setting of indoor units	3-1	Was the number of indoor units increased or decreased after auto address setting was complete?	Yes	3-2
			No	3-3
	3-2	Conduct checks prior to auto address setting.		
	3-3	Check the indoor unit addresses from the remote control's detailed settings mode. Is it Not Set (99), or is the indoor unit's address duplicated?	Yes	3-2
			No	3-4
	3-4	Check the indoor unit capacity from the remote control's detailed settings mode. Does it match the capacity of outdoor unit?	Yes	4-1
			No	3-2
4 Indoor unit control PC board	4-1	Are the CHK pin and / or TEST pin on the indoor unit control PC board short-circuited?	Yes	Remove the short
			No	4-2
	4-2	Is the wireless remote controller connected to on the indoor unit's control PC board?	Yes	4-3
			No	4-5
	4-3	Disconnect the connector mentioned above on the control PC board of the indoor unit control PC board, and see whether the E04 goes off after several minutes. (When doing so, if two remote controllers are being used and the wireless remote controller is the main remote controller, set the other remote controller as the main.)	Yes	4-4
			No	4-5
	4-4	Replace wireless remote control parts including wiring.		
	4-5	Is the LED on the indoor unit control PC board blinking?	Yes	4-6
			No	4-7
	4-6	The nonvolatile memory (EEPROM) on the indoor unit's control PC board is either not installed, improperly installed or the nonvolatile memory is faulty. Correct this or after replacing the nonvolatile memory, write model data to it in the remote control detailed settings mode.		
	4-7	Are all the remote controllers of the other indoor units connected to that outdoor unit displaying E04?	Yes	Replace the outdoor unit both control board (CR/HIC)
			No	Replace the indoor unit control board

* indoor / outdoor control line* : Connection cable between outdoor and indoor unit

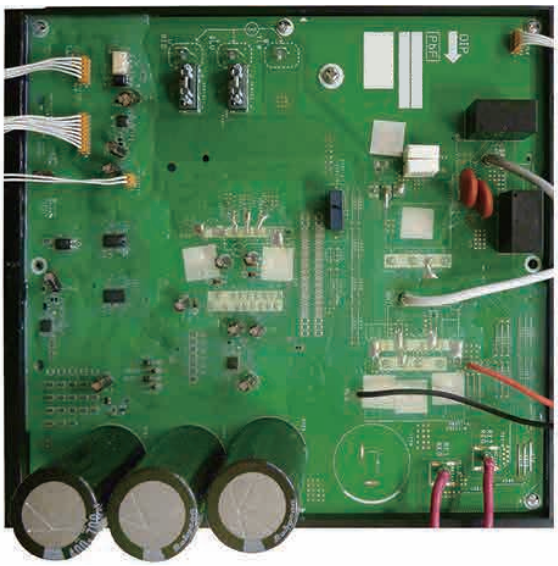
- Regarding the remote controller check, refer to the Reference Materials.
- For information on the procedures for replacing the nonvolatile memory (EEPROM) of the indoor unit and / or replacing the indoor unit's control board, refer to the manual that is packaged with the indoor unit service board.

Outdoor Unit Control PCB (CR/HIC)

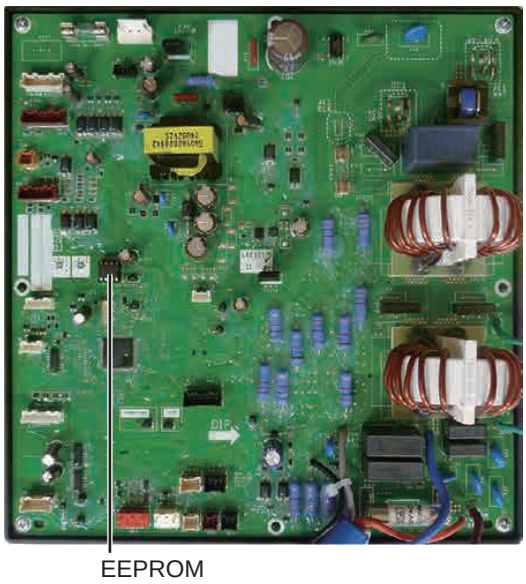
■ **CR-PCB : ACXA73-3552* (U-71PZH3E5)**



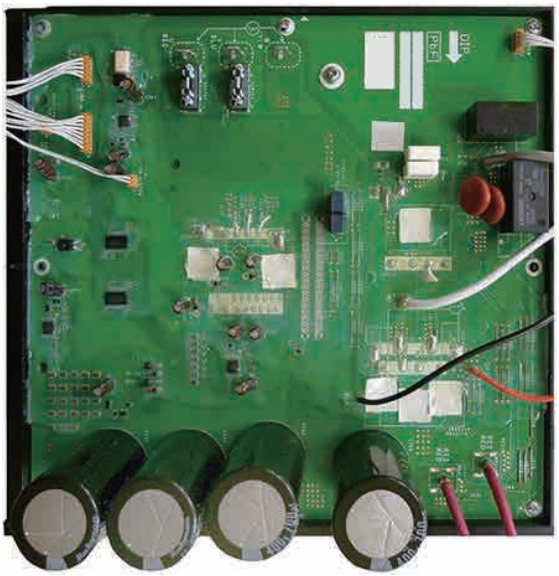
■ **HIC-PCB : ACXA73-3555* (U-71PZH3E5)**



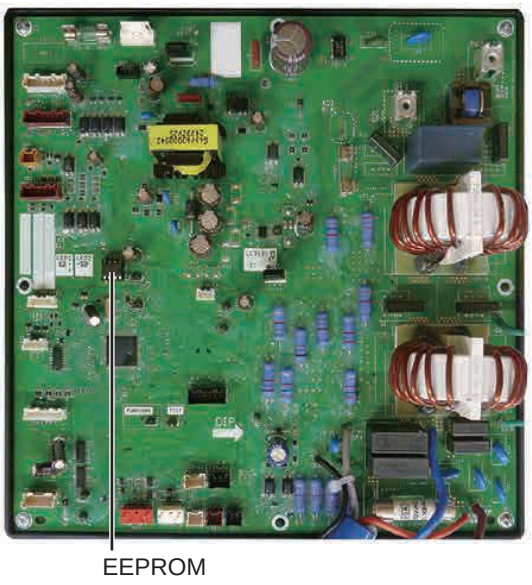
■ **CR-PCB : ACXA73-3551* (U-100PZH3E5)**



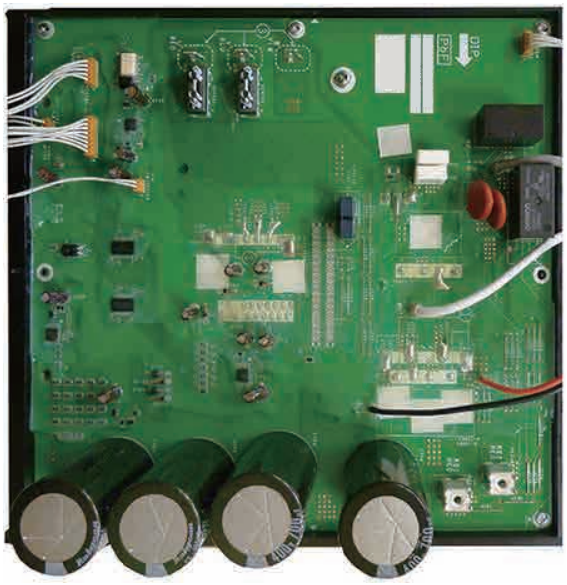
■ **HIC-PCB : ACXA73-3554* (U-100PZH3E5)**



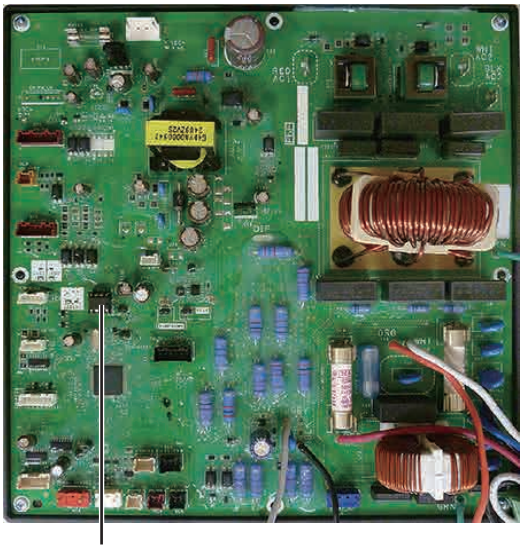
■ **CR-PCB : ACXA73-3550* (U-125PZH3E5, U-140PZH3E5)**



■ **HIC-PCB : ACXA73-3553* (U-125PZH3E5, U-140PZH3E5)**

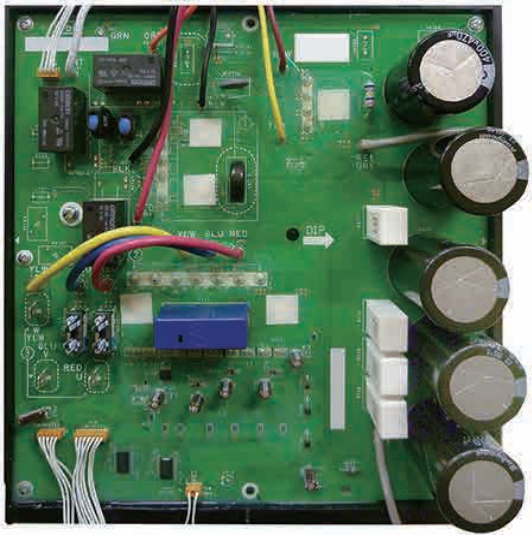


■ **CR-PCB : ACXA73-3557* (U-71PZH3E8)**

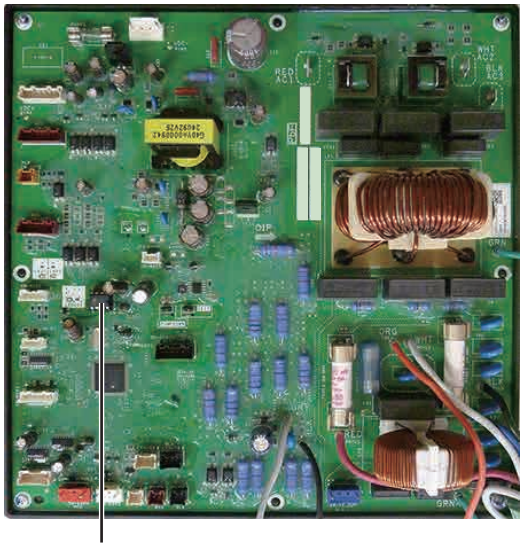


EEPROM

■ **HIC-PCB : ACXA73-3559* (U-71PZH3E8)**

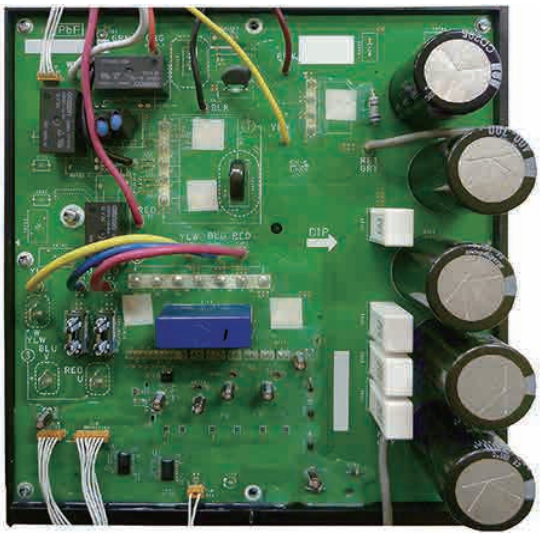


■ **CR-PCB : ACXA73-3556* (U-100PZH3E8, U-125PZH3E8, U-140PZH3E8)**



EEPROM

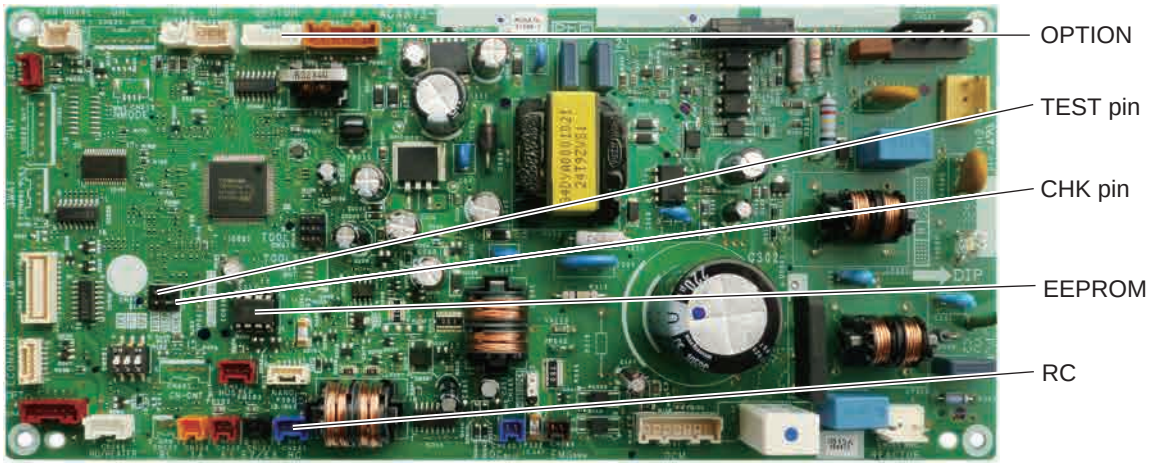
■ **HIC-PCB : ACXA73-3558* (U-100PZH3E8, U-125PZH3E8, U-140PZH3E8)**



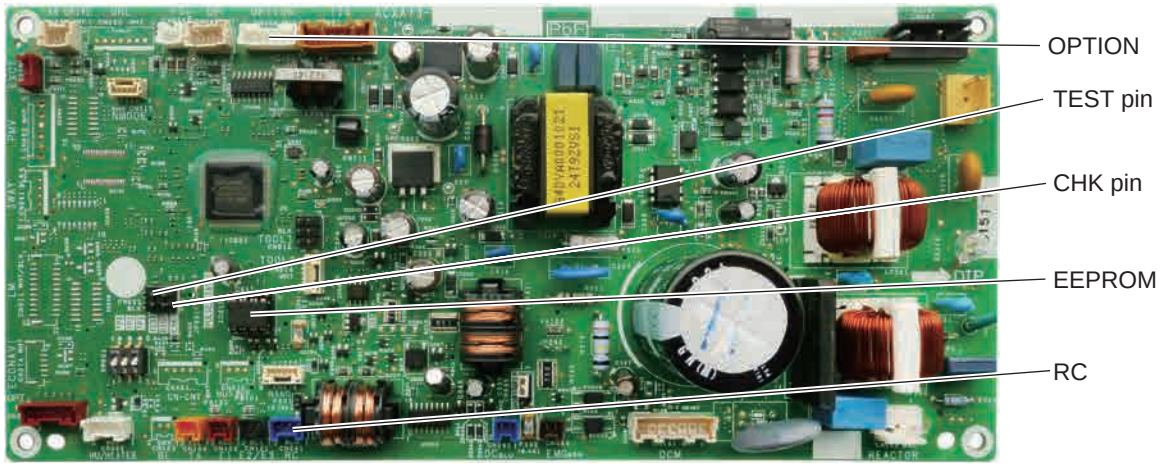
5

Indoor Unit Control PCB

■ **ACXA73-3129* : 4-Way Cassette Type**

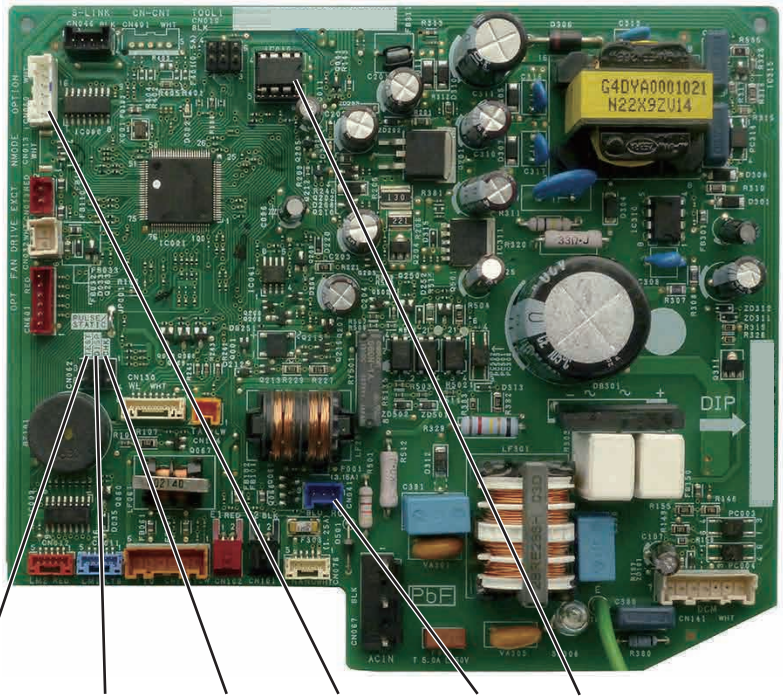


■ **ACXA73-3440* : Middle Static Pressure Duct Type**

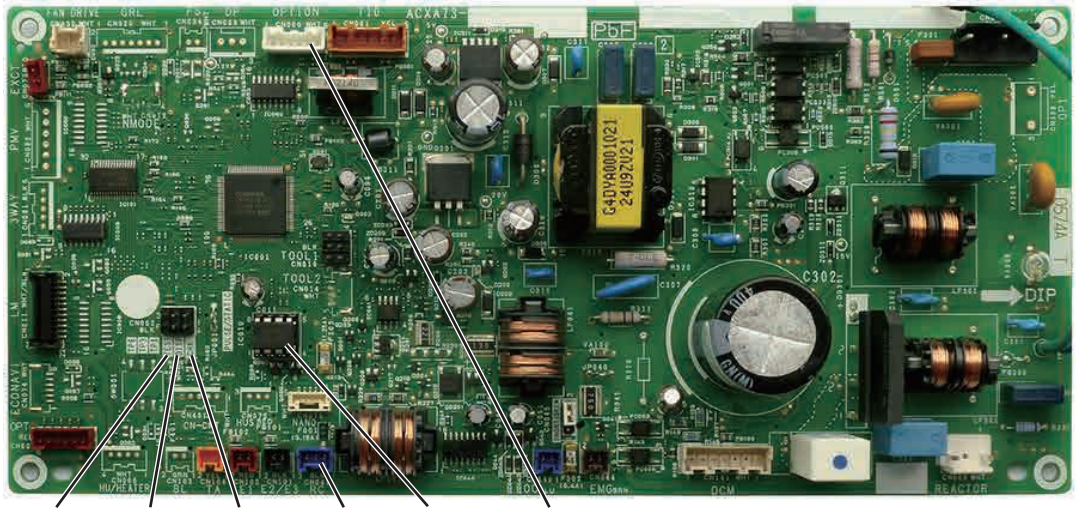


5

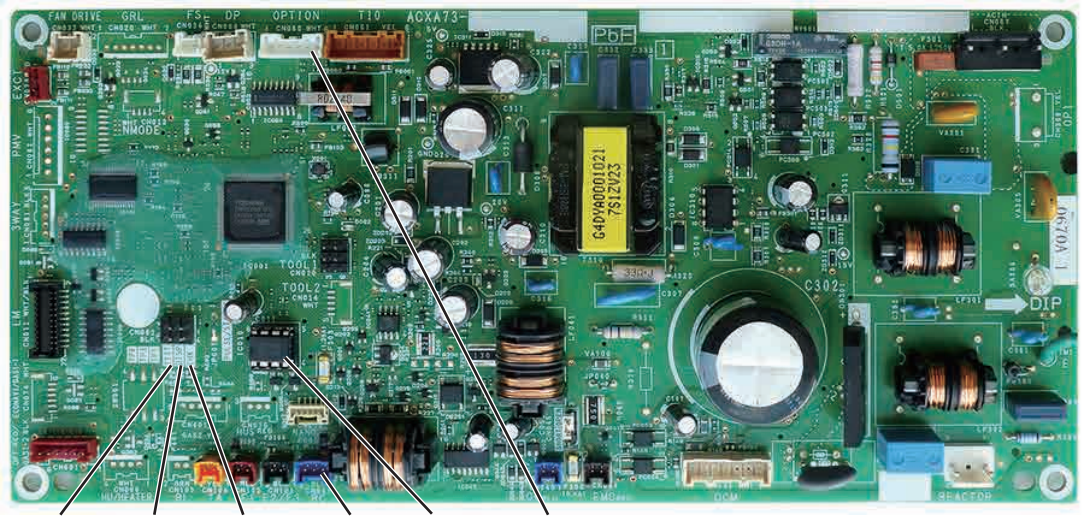
■ **ACXA73-3671* : Wall Mounted Type Indoor Unit Control Board**



■ **ACXA73-3611* : Ceiling Type Indoor Unit Control Board**



■ **ACXA73-3565* : 4-Way Cassette 60 × 60 Type Indoor Unit Control Board**



E06 Outdoor Unit Failed to Receive Serial Communication Signals from Indoor Unit

(When indoor unit(s) are connected)

1. Error Detection Method

It is judged an error when there is no transmission (reply) from the indoor unit to the outdoor unit for a period of three minutes.

- The indoor unit is not turned on.
- The DISP pin of the indoor unit is shorted.
- There is a short, open, wrong contact or grounding of the indoor / outdoor control line*.
- The signal output control PC board (optional control PC board) inside the indoor unit has failed.
- The thermistor inside the indoor unit is grounded.

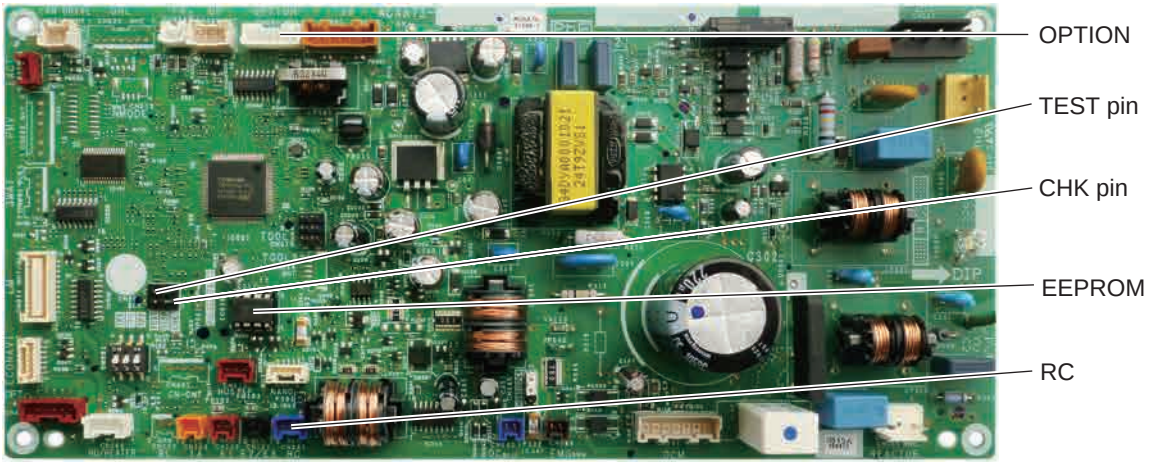
2. Error Diagnosis

1 Indoor unit power	1-1	Is the indoor unit powered off?	Yes	Power on
			No	2-1
2 Indoor / outdoor wiring	2-1	Is the indoor / outdoor control line* shorted, opened, grounded or has a wrong contact?	Yes	Correct the wiring
			No	3-1
3 Indoor units control PC board	3-1	Are the DISP pin and CHK pin on the indoor unit control PC board short-circuited?	Yes	Remove the short
			No	3-2
	3-2	Is the wireless remote controller connected to on the indoor unit's control PC board?	Yes	3-3
			No	3-5
	3-3	Disconnect the connector mentioned above on the control PC board of the indoor unit control PC board, and see whether the E06 goes off after several minutes. (When doing so, if two remote controllers are being used and the wireless remote controller is the main remote controller, set the other remote controller as the main.)	Yes	3-4
			No	3-5
	3-4	Replace wireless remote control parts including wiring.		
	3-5	Indoor unit control PC board failure → Replace board.		

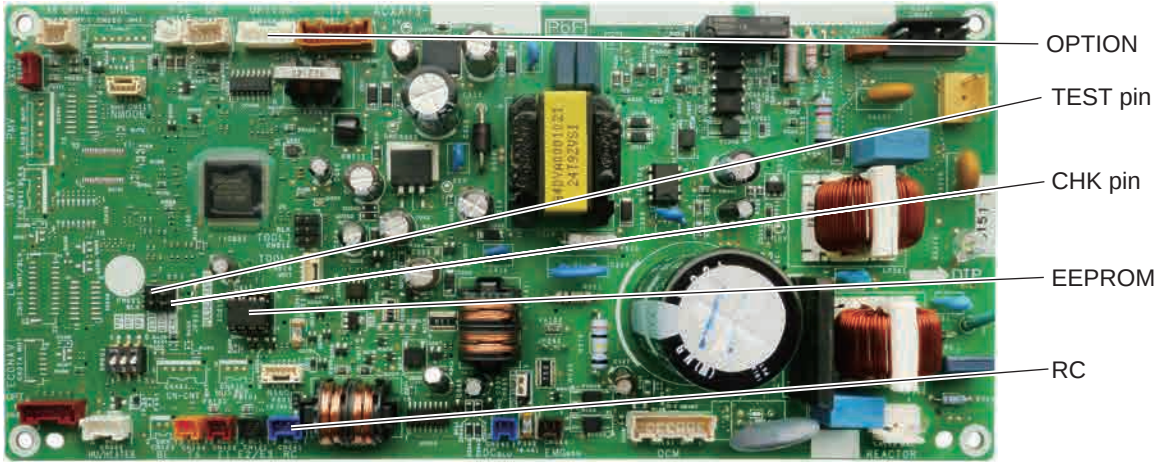
- For information on the procedures for replacing the indoor unit's control board, refer to the manual that is packaged with the indoor unit control PCB.

* indoor / outdoor control line* : Connection cable between outdoor and indoor unit

■ ACXA73-3129* : 4-Way Cassette Type

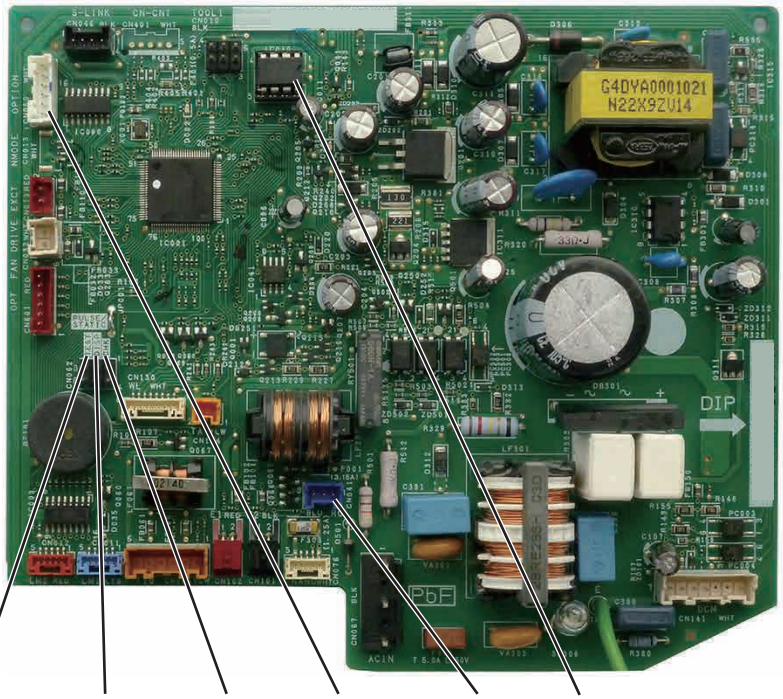


■ ACXA73-3440* : Middle Static Pressure Duct Type

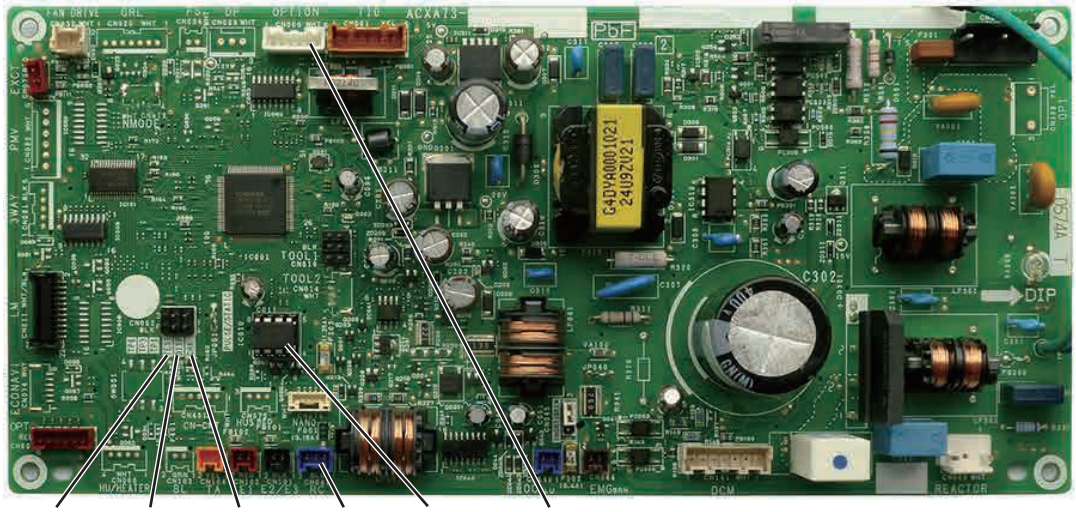


5

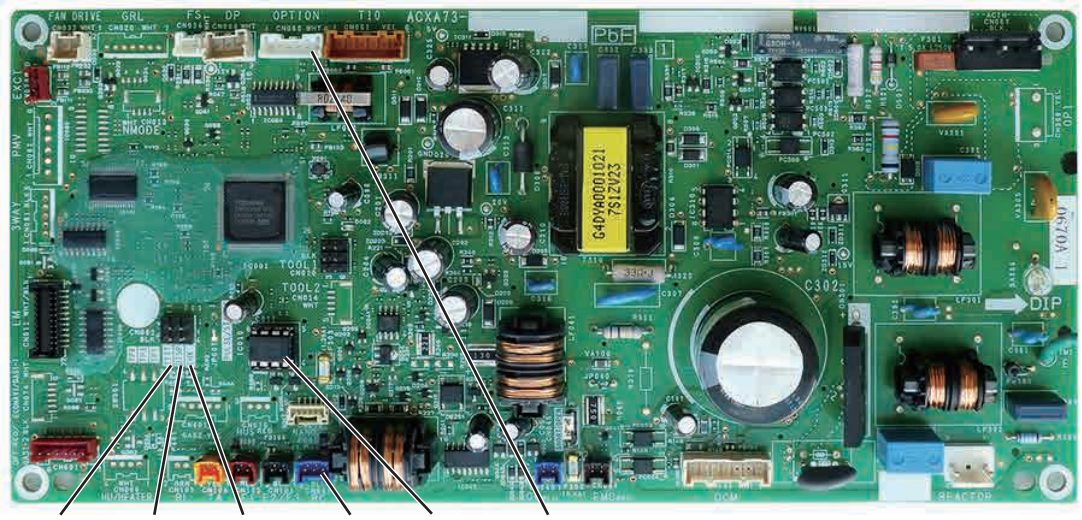
■ **ACXA73-3671* : Wall Mounted Type Indoor Unit Control Board**



■ **ACXA73-3611* : Ceiling Type Indoor Unit Control Board**



■ **ACXA73-3565* : 4-Way Cassette 60 × 60 Type Indoor Unit Control Board**



E15 Auto Address Alarm (The total capacity of indoor units is too low.)

1. Error Detection Method

Connecting indoor unit

It is judged an error the total capacity of indoor units replied by communication is lower than that of outdoor unit.

- The total capacity of indoor units is lower than that of outdoor unit
- Some indoor unit(s) are connected but power is not turned on
- The CHK pin (CN062 / CN071) and / or TEST pin (CN064) of the indoor unit is shorted when its power is turned on.

2. Error Diagnosis

1 Power Source	1-1	Is the indoor unit powered off?	Yes	Power on
			No	2-1
2 Indoor / outdoor wiring	2-1	Is the indoor / outdoor wiring connected correctly?	Yes	3-1
			No	Correct the wiring
3 Number of Indoor Units	3-1	Was the number of indoor units changed after auto address setting finished?	Yes	3-2
			No	4-1
	3-2	Conduct checks prior to auto address setting.		
4 Indoor unit control PC board	4-1	Be sure that the detailed setting items are made at factory setting. [U3, F3, K3, T3]	Yes	4-2
			No	Correct the setting Run the auto address
	4-2	Are the CHK pin and TEST pin on the indoor unit control board short-circuited?	Yes	Remove the short
			No	4-3
	4-3	Is the wireless remote controller connected to on the indoor unit's control PC board?	Yes	4-4
			No	4-6
	4-4	Disconnect the connector mentioned above on the control PC board of the indoor unit control PC board and see whether the E15 goes off after several minutes. (When doing so, if two remote controllers are being used and the wireless remote controller is the main remote controller, set the other remote controller as the main.)	Yes	4-5
			No	4-6
	4-5	Replace wireless remote control parts including wiring.		
	4-6	Is the LED blinking on the indoor unit's control PC board?	Yes	4-7
			No	5-1
	4-7	The nonvolatile memory (EEPROM) on the indoor unit's control board is either not installed, improperly installed or the nonvolatile memory is faulty. Correct this or after replacing the nonvolatile memory, write model data to it in the remote control detailed settings mode.		
5 Outdoor unit control PC board	5-1	Check all items under the section "Check Prior to Auto Address Setting".		

- **Factory setting**

Item code	Item	Value
11	Indoor unit capacity	0
12	System address	99
13	Indoor unit address	99
14	Group control address	99

NOTE

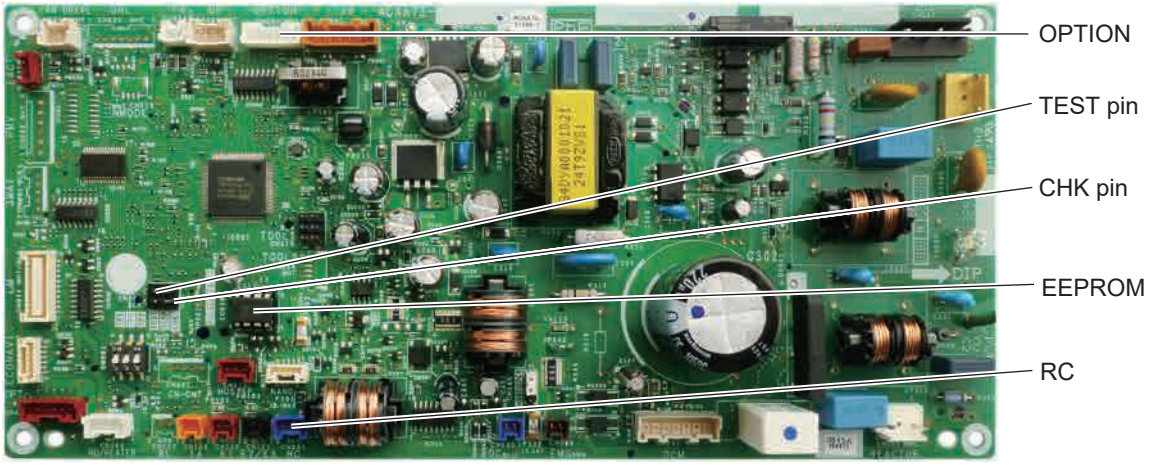
The Item code numbers 11, 12, 13 and 14 can automatically be changed to the appropriate settings from factory settings listed above by making the auto address settings according to the connected outdoor unit capacity and the number of indoor units.

If needed to reset the settings after once changed, return all the item codes to the factory shipment-time settings. It is necessary to set the auto address settings once again.

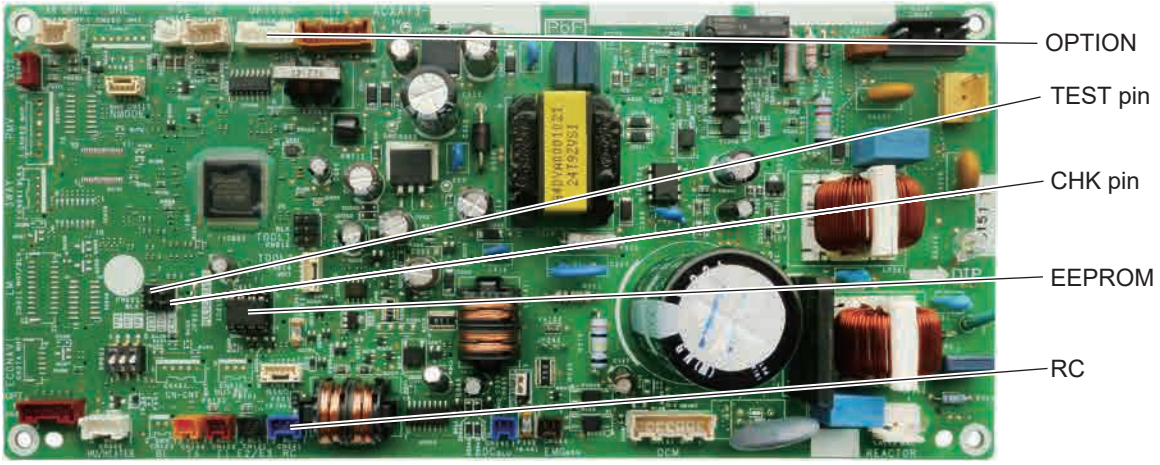
- For information on the procedures for replacing the nonvolatile memory (EEPROM) of the indoor unit, refer to the manual that is packaged with the indoor unit service board.
- For information on the remote control's detailed settings, see 7-3 and 7-4.
- The alarm also occurs when the indoor unit cannot be recognized (indoor unit only blackout, disconnection of indoor / outdoor control line*, etc.) during auto address setting.

  * indoor / outdoor control line* : Connection cable between outdoor and indoor unit

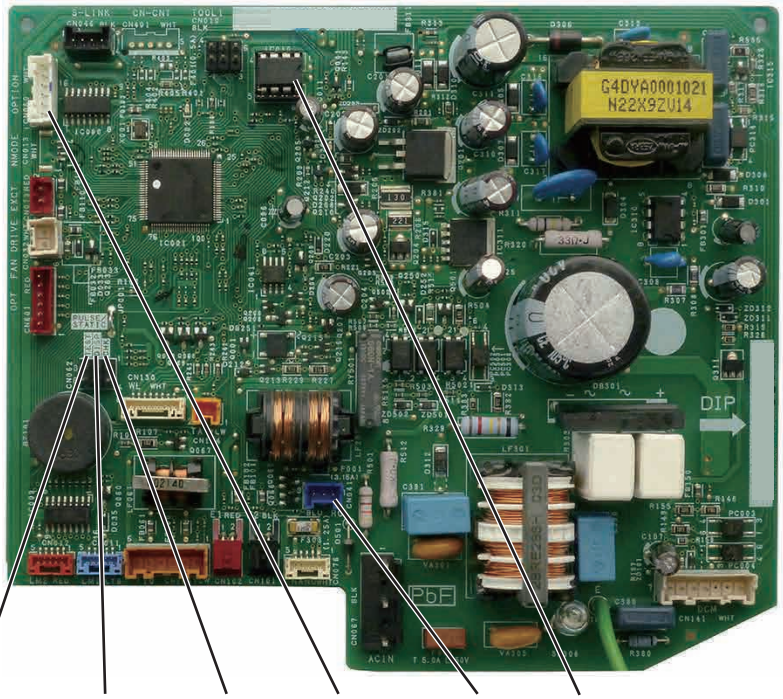
■ **ACXA73-3129* : 4-Way Cassette Type**



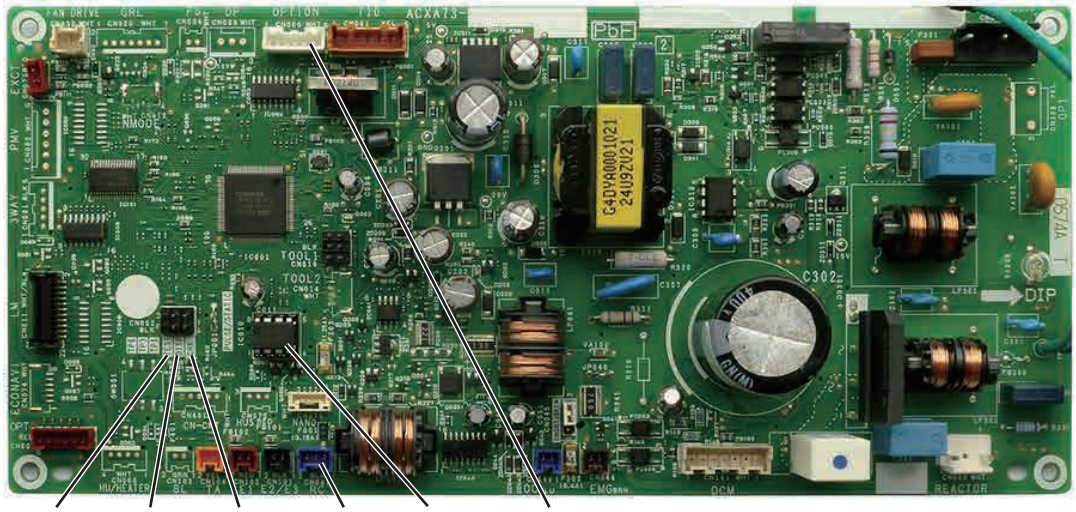
■ **ACXA73-3440* : Middle Static Pressure Duct Type**



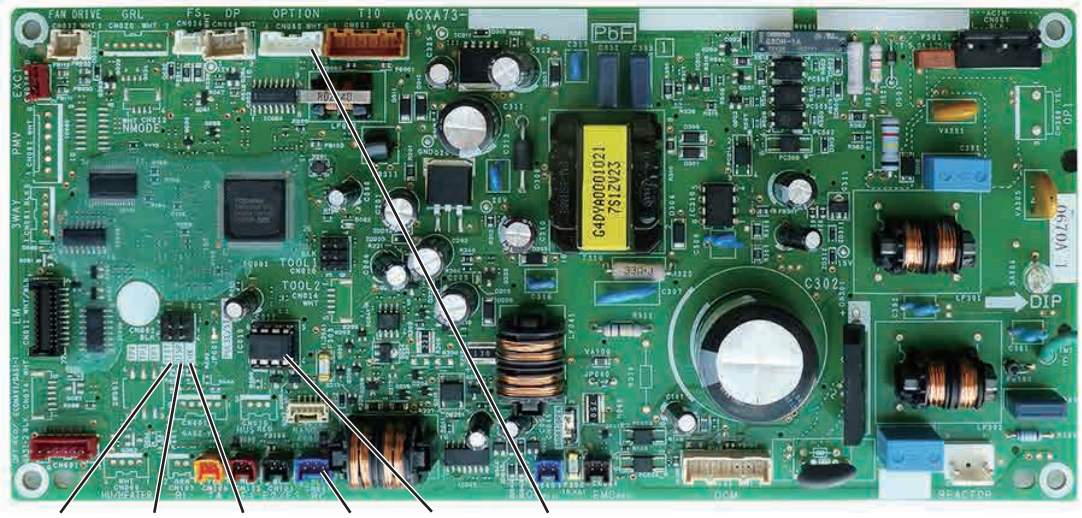
■ **ACXA73-3671* : Wall Mounted Type Indoor Unit Control Board**



■ **ACXA73-3611* : Ceiling Type Indoor Unit Control Board**



■ **ACXA73-3565* : 4-Way Cassette 60 × 60 Type Indoor Unit Control Board**



E16 Auto Address Alarm (The total capacity of indoor units is too high.)

1. Error Detection Method

It is judged an error the total capacity of indoor units is too high or the total number of indoor units is too many.

- The total capacity of indoor units is too high.
- The total number of indoor units is too many.
- When making group control of the different refrigerant system, the steps to turn on the systems one at a time have not been performed.

2. Error Diagnosis

1 Auto Address	1-1	Conduct checks prior to auto address setting.

E20 Auto Address Alarm (No indoor unit connected)

1. Error Detection Method

The outdoor unit detects an error at following cases during auto address setting.

- Indoor unit is not turned on.
- Indoor / outdoor control line* is disconnected and also detects an error in the following cases when the outdoor unit is turned on.
- Address(es) of indoor unit(s) are not assigned correctly.
- Capacity of indoor / outdoor units is mismatched.
- Total number of indoor units is too many.

2. Error Diagnosis

1 Indoor Unit	1-1	Are the address(es) of indoor unit(s) assigned correctly?		Yes	1-2
				No	Set its address
	1-2	Are the indoor units turned on?		Yes	1-3
				No	Power on
	1-3	Be sure that the indoor and outdoor units are connected with correct combination written in catalog.	Yes	1-4	
			No	Correct the connection	
	1-4	The indoor / outdoor control line* may be disconnected somewhere between the indoor unit(s) and the outdoor unit. Make sure the indoor / outdoor control line* is connected.			

* indoor / outdoor control line* : Connection cable between outdoor and indoor unit

F04 Compressor Discharge Temperature Sensor (TD) Trouble

1. Error Detection Method

It is judged an error based on the criteria listed below.

- Open circuit or Short circuit

2. Error Diagnosis

1 Sensor	1-1	Sensor connector is connected to PC board properly.	Yes	1-2
			No	Reconnect and check
	1-2	Sensor is correctly installed at holder side.	Yes	Replace sensor
			No	Correct and see what happens.
				1-3
	1-3	Abnormal temperature exists even after replacing sensor.	Yes	2-1
			No	See what happens.
2 PC board	2-1	Resistance between connector pins on PC board is less than 1 k ohm	Yes	Replace PC board
			No	2-2
	2-2	Abnormal temperature exists even after replacing PC board.	Yes	3-1
			No	See what happens.
3 Operating status	3-1	Peripheral temperature of outdoor unit is over 48°C.	Yes	Correct
			No	3-2
	3-2	Tends to have insufficient refrigerant charge in the system.	Yes	Adjust the amount of refrigerant
			No	3-3
	3-3	Check noise.		

F06 Inlet Temperature Sensor (C1) in Heat Exchanger Trouble

1. Error Detection Method

- In case of open or short

2. Error Diagnosis

1 Sensor Trouble	1-1	Is the connector properly connected to PCB?	Yes	1-2
			No	Reconnect & check
	1-2	Is the resistor between the sockets infinity or 0Ω?	Yes	Replace sensor.
			No	2-1
2 Control PCB Failure	2-1	Outdoor unit control PCB failure Replace PCB with a new one.		

F07 Intermediate Temperature (C2) in Heat Exchanger Trouble

1. Error Detection Method

It is judged an error when open circuit or short circuit.

2. Error Diagnosis

1 Sensor	1-1	Sensor connector is connected to PC board properly.	Yes	1-2
			No	Reconnect and check
	1-2	Resistance between sockets is infinity or 0 ohm.	Yes	Replace sensor
			No	2-1
2 PC board	2-1	Replace PC board because of outdoor control PC board failure.		

F08 Outdoor Air Temperature Sensor (TO) Trouble

1. Error Detection Method

It is judged an error when open circuit or short circuit.

2. Error Diagnosis

1 Sensor	1-1	Sensor connector is connected to PC board properly.	Yes	1-2
			No	Reconnect and check
	1-2	Resistance between sockets is infinity or 0 ohm.	Yes	Replace sensor
			No	2-1
2 PC board	2-1	Replace PC board because of outdoor control PC board failure.		

F12 Compressor Inlet Suction Temperature Sensor (TS) Trouble

1. Error Detection Method

It is judged an error when open circuit or short circuit.

2. Error Diagnosis

1 Sensor	1-1	Sensor connector is connected to PC board properly.	Yes	1-2
			No	Reconnect and check
	1-2	Resistance between sockets is infinity or 0 ohm.	Yes	Replace sensor
			No	2-1
2 Outdoor control PC board	2-1	Replace PC board because of outdoor control PC board failure.		

F31 Outdoor Unit Nonvolatile Memory (EEPROM) Trouble

1. Error Detection Method

It is judged an error based on the criteria listed below.

- When power initially turned ON for the first time, nonvolatile memory (EEPROM) is not installed.
- Read values after writing onto nonvolatile memory (EEPROM) is inconsistent.

2. Error Diagnosis

1 PC board	1-1	Does EEPROM exist on the control PC board?	Yes	1-2
			No	Install EEPROM
	1-2	Is EEPROM installed properly? (Check: Bent IC pin or incorrect installation, etc.)	Yes	1-3
			No	Correct
	1-3	Incorrect EEPROM Replace with correct EEPROM.		

H01 Primary (input) Overcurrent Detected

1. Error Detection Method

- Primary current effective value detected overcurrent (trip current value).

Type		PZH3							
Model name (U-)		71PZH3E5	100PZH3E5	125PZH3E5	140PZH3E5	71PZH3E8	100PZH3E8	125PZH3E8	140PZH3E8
Trip current value	Heating	21.5A	28.0A	31.0A	32.0A	10.5A	13.0A	14.0A	14.5A
	Cooling	21.5A	28.0A	31.0A	32.0A	10.5A	13.0A	14.0A	14.5A

2. Error Diagnosis

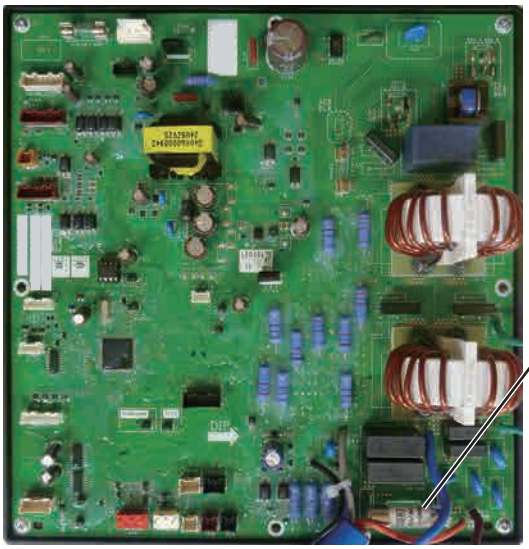
1 Power supply*	1-1	Not satisfied with ±10% rated supply voltage	Yes	Check power supply
			No	1-2
	1-2	Extreme voltage fluctuations	Yes	Check power supply
			No	1-3
	1-3	Extreme distortion of voltage waveform	Yes	Check power supply
			No	1-4
	1-4	Instantaneous blackout may sometimes occur.	Yes	Check power supply
			No	2-1
2 PC board wiring	2-1	Has FUSE 1-A / FUSE 2 and FUSE 3 blown? Check the electrical conduction with tester.	Yes	2-3
			No	2-2
	2-2	Loose electrical wire connection	Yes	Correct wiring
			No	2-3
	2-3	Replace CR board.		

* Check not only in the outdoor unit stop mode but in the drive mode.

For Single-Phase Outdoor Unit PCB

■ **CR-PCB : ACXA73-3552* (U-71PZH3E5)**

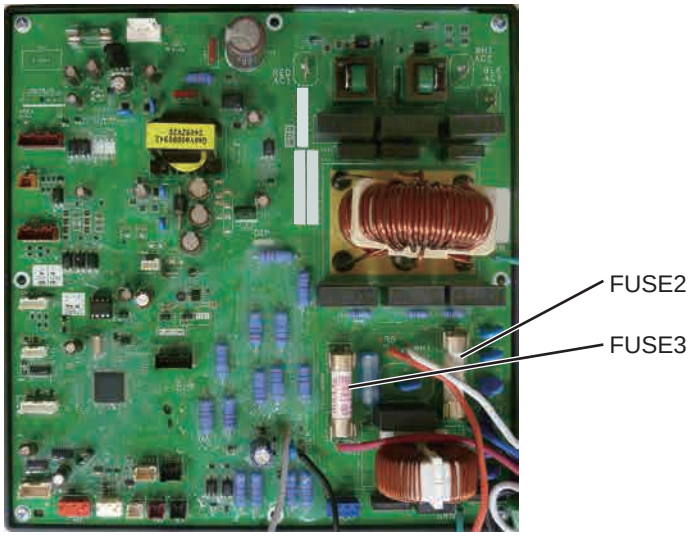
■ **CR-PCB : ACXA73-3551* (U-100PZH3E5)**



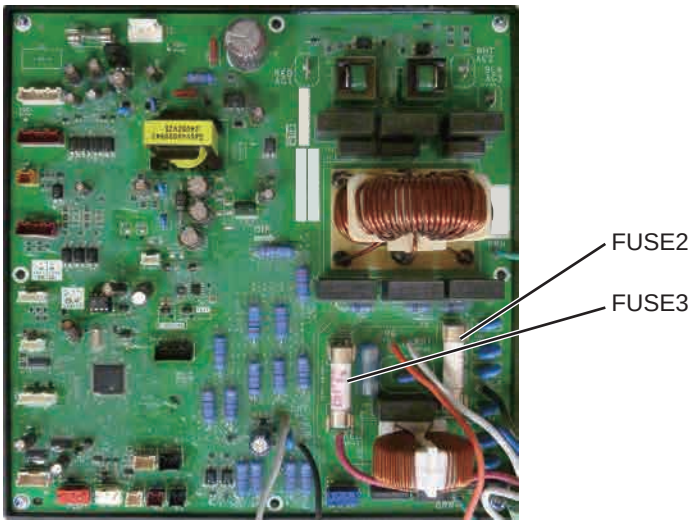
■ **CR-PCB : ACXA73-3550* (U-125PZH3E5, U-140PZH3E5)**

For 3-Phase Outdoor Unit PCB

■ **CR-PCB : ACXA73-3557* (U-71PZH3E8)**



■ **CR-PCB : ACXA73-3556* (U-100PZH3E8, U-125PZH3E8, U-140PZH3E8)**



H02 PAM Trouble (Single-phase only)

1. Error Detection Method

- Error is detected by over-voltage and overcurrent of DC side.

2. Error Diagnosis

1 Power supply*	1-1	Not satisfied with ±10% rated supply voltage	Yes	Check power supply
			No	1-2
	1-2	Extreme voltage fluctuations	Yes	Check power supply
			No	1-3
	1-3	Extreme distortion of voltage waveform	Yes	Check power supply
			No	2-1
2 PC board wiring	2-1	Loose electrical wire connection	Yes	Correct connection
			No	2-2
	2-2	Replace HIC PC board.		

* Check not only in the outdoor unit stop mode but in the drive mode.

H03 Primary Current CT Sensor (current sensor) Failure

1. Error Detection Method

It is judged an error based on the criteria listed below.

- If 18A or greater is detected when the compressor is stopped (alarm triggered even if the connector is unplugged).
- If no current is detected even though a compressor is running.

2. Error Diagnosis

1 Check the control PC board	1-1	Turn the power on again and run the outdoor unit. Is alarm occurred after operation?	Yes	Replace CR board.
			No	See what happens.

- Check also the power supply.

H31 HIC Trouble

1. Error Detection Method

It is judged an error if the computer detects an error signal from the HIC.
An error signal is issued by the HIC if abnormal heat occurs inside the HIC or if there is an overcurrent.
However, it is judged an error in the same way if the signal line from the HIC is not connected properly or opened.

- HIC overcurrent due to HIC fault
- HIC abnormal heat caused by defective HIC or HIC radiation error
- Signal line is not connected properly or opened between the HIC and the outdoor CR board.

2. Error Diagnosis

1 Wiring between HIC & outdoor control PC board	1-1	The wiring (power cord and signal line) between the HIC and the outdoor CR board is connected properly.	Yes	1-2
			No	Correct wiring (connector)
	1-2	Everything is normal in the wiring (power cord & signal line) between the HIC and the outdoor CR board. Check the wiring one by one with a tester if there is opened and grounding.	Yes	2-1
			No	Replace wiring
2 HIC poor radiation	2-1	The heat dissipating surface on the back of the HIC is in good contact with the heat sink (heat dissipating fins) of the electrical box. Check for looseness in the fastening screws and the condition of the heat-conducting putty.	Yes	2-2
			No	Tighten screw(s), add putty
	2-2	A good flow of cooling air passes through the heat sink (heat dissipating fins) of the electrical box. Check for debris blocking the fins.	Yes	3-1
			No	Remove foreign matter
3 HIC overcurrent	3-1	The results of the pass / fail tests for the following HIC board IPM show it to be outside the range of the resistance of a conforming part.	Yes	Replace the HIC PC board
			No	3-2
	3-2	The inverter compressor was stopped / started more than 10 times and it triggered H31 at a high rate. If alarm code P16 occurs at times, refer to the alarm code P16.	Yes	Replace the HIC PC board
			No	Refer to alarm code P16

- **HIC board IPM Pass / Fail Tests**
  - Measure with an analog tester. (Set to the k ohm range)
  - Measure the board by itself. (Remove wires connected from other parts.)
  - Measure using IPM terminals.

★ Conforming part resistance value (measure with an analog tester)

Tester terminals								
+	P				NU			
-	U	V	W	NU	U	V	W	P
Resistance value (ohm)	1 k to 5 k	1 k to 5 k	1 k to 5 k	5 k to 10 k	100 k to ∞	100 k to ∞	100 k to ∞	100 k to ∞

Tester terminals								
-	P				NU			
+	U	V	W		U	V	W	
Resistance value (ohm)	100 k to ∞	100 k to ∞	100 k to ∞		1 k to 5 k	1 k to 5 k	1 k to 5 k	

- Excepting the parts of “100 k to ∞”, it is acceptable if a small resistance value appears as a reference value unless the value is “0 = short-circuit”.

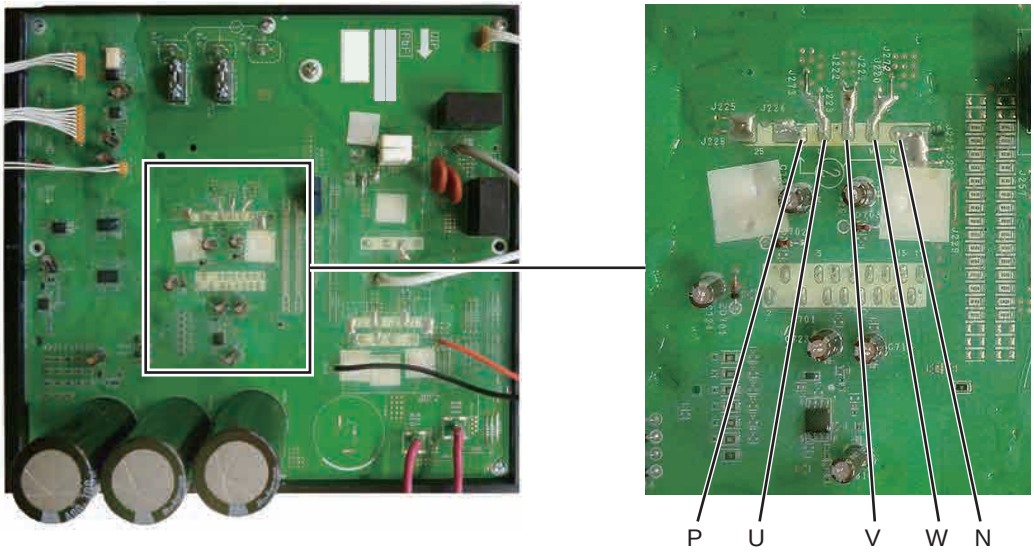
Tester terminals								
+	HIC+				HIC-			
-	U	V	W	HIC-	U	V	W	HIC+
Resistance value (ohm)	1 k to 10 k	1 k to 10 k	1 k to 10 k	5 k to 20 k	20 k to ∞	20 k to ∞	20 k to ∞	20 k to ∞

Tester terminals								
-	HIC+				HIC-			
+	U	V	W		U	V	W	
Resistance value (ohm)	20 k to ∞	20 k to ∞	20 k to ∞		1 k to 10 k	1 k to 10 k	1 k to 10 k	

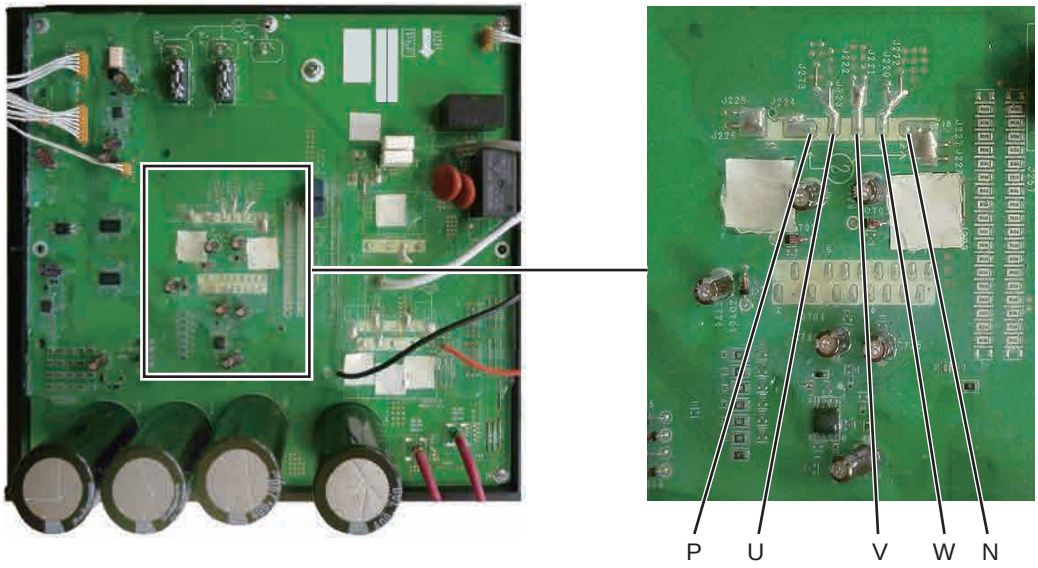
- Excepting the parts of “20 k to ∞ ”, it is acceptable if a small resistance value appears as a reference value unless the value is “0 = short-circuit”.

For Single-Phase Outdoor Unit HIC PCB

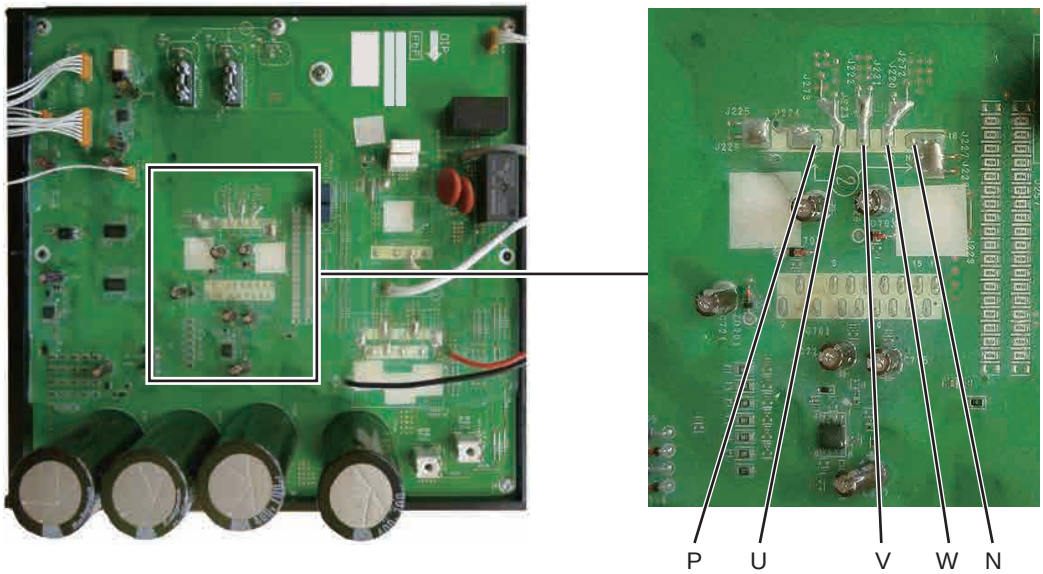
■ **HIC-PCB : ACXA73-3555* (U-71PZH3E5)**



■ **HIC-PCB : ACXA73-3554* (U-100PZH3E5)**

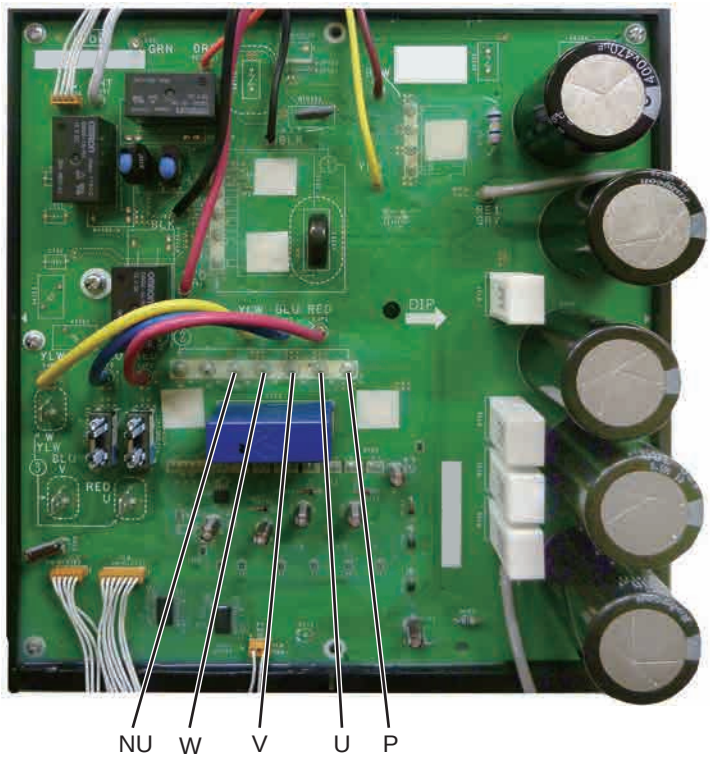


■ **HIC-PCB : ACXA73-3553* (U-125PZH3E5, U-140PZH3E5)**

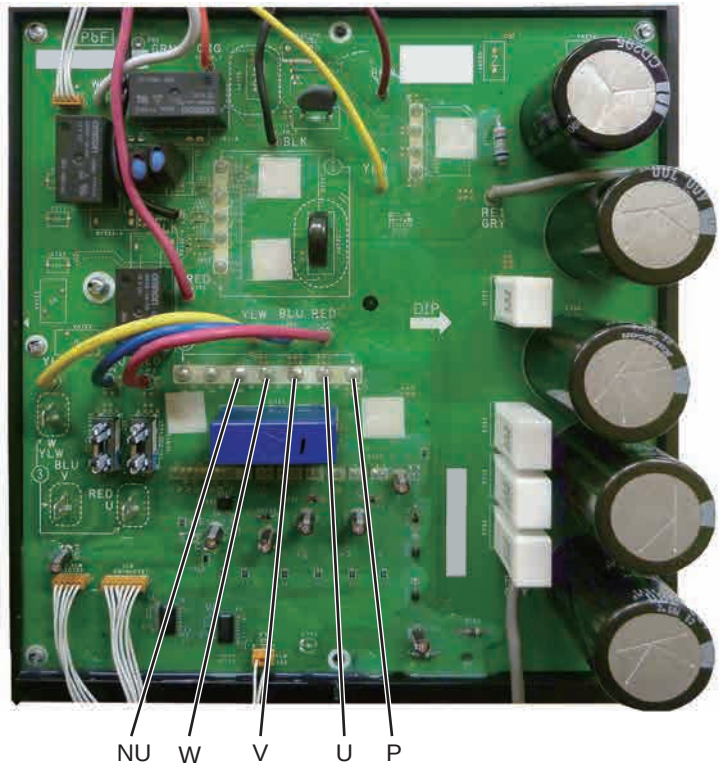


For 3-Phase Outdoor Unit HIC PCB

■ **HIC-PCB : ACXA73-3559* (U-71PZH3E8)**



■ **HIC-PCB : ACXA73-3558* (U-100PZH3E8, U-125PZH3E8, U-140PZH3E8)**



L10 Outdoor Unit Capacity not Set or Invalid

1. Error Detection Method

It is judged an error when outdoor unit capacity not yet setup or systematically unauthorized setting.

2. Error Diagnosis

1 Check the control PC board	1-1	Was EEPROM replaced when PC board was replaced?

L13 Indoor Unit Type Setting Error

1. Error Detection method

- Discordance model(s) between outdoor and indoor units are detected.

1 Discordance Unit	1-1	Are models for outdoor and indoor units matched respectively? (Ex: Are multiple indoor units connected to commercial outdoor units?)	Yes	2-1
			No	Replace indoor units.
2 Installation Failure	2-1	Check the indoor unit's motor valve with the remote control detailed settings mode (2C code) and commercial indoor unit is set to "2" and multiple indoor unit is "0".	Yes	3-1
			No	Change installation.
3 Operating Wires for Indoor & Outdoor Units	3-1	Check whether or not indoor and outdoor unit operating wires are short circuit, disconnection, loose connection or earth fault.		

L18 4-Way Valve Operation Failure

1. Error Detection method

It is judged an error when during heating operation (Comp. ON), the highest detected temperature at an outdoor unit heat exchanger (C1) was 20°C or more above the outdoor air temperature (Air Temp.) continuously for 5 minutes or longer.

2. Error Diagnosis

1 PC board wiring	1-1	Is the connector wired from the 4-Way valve plugged in the CN-HOT or CN-HOT2 connector on the CR PC board properly?	Yes	1-2
			No	Correct connector
	1-2	Has the 4-Way valve wiring become opened?	Yes	Correct wiring
			No	1-3
	1-3	Is the wire from the coil for controlling the 4-Way valve firmly connected to the 4-Way valve?	Yes	2-1
			No	Correct connector
2 4-Way valve	2-1	During heating mode (Comp. ON), insert and remove the connector wired from the 4-Way valve into or from CN-HOT or CN-HOT2 connector on the CR PC board. At the same time, does the ON & OFF sounds occur from the 4-Way valve?	Yes	2-2
			No	Replace CR PC board
	2-2	During heating mode (Comp. ON), does the alarm code L18 reproduce for 5 minutes or longer after insertion and removal of CN-HOT or CN-HOT2 connector wired from the 4-Way valve connector on the CR PC board?	Yes	2-3
			No	See what happens
	2-3	The parts inside the 4-Way valve might have fixed at the cooling side. Replace the 4-Way valve		

P03 Compressor Discharge Temperature Trouble

1. Error Detection method

- When the discharge temperature is over 103°C.

2. Error Diagnosis

1 Adjustment to refrigerant charge	1-1	Not additional refrigerant charged	Yes	Additional refrigerant charge
			No	2-2
	1-2	Tends to have insufficient refrigerant charge in the system.	Yes	Adjust the refrigerant amount
			No	Replace CR board
2 Blockage in refrigerant circuit	2-1	Service valve inside the outdoor unit closed	Yes	Open service valve
			No	2-2
	2-2	Are the tubes clogged?	Yes	Avoid clogging
			No	2-3
	2-3	Is the outdoor unit's electronic control valve operating correctly? (Check for debris clogging the electronic control valve, a problem with the electronical coil and / or the control PC board.)	Yes	2-4
			No	Replace the electronic control valve
	2-4	Is it observable difference in status of the dew or frost between the strainer's primary and secondary sides?	Yes	Replace the strainer
			No	Replace CR board

P04 High Pressure Trouble

1. Error Detection Method

It is judged an error if the internal circuit of the high pressure switch is dead.
The electronic circuitry of the high pressure switch is cut off if the pressure at the pressure sensor port of the high pressure switch reaches 4.15 MPa. Once it is cut off, it remains cut off until the pressure drops to 3.05 MPa.

- The high pressure switch is malfunctioning.
- Service valve inside the outdoor unit closed
- There is a short air circuit through the outdoor unit's heat exchanger. (when cooling)
- The outdoor unit's fan is broken. (when cooling)
- The outdoor unit's heat exchanger is clogged. (when cooling)
- There is a short air circuit at the indoor unit. (when heating)
- The filter of the indoor unit is clogged. (when heating)
- The fan of the indoor unit is broken or the fan motor is malfunctioning. (when heating)
- The refrigerant circuit is closed and the high pressure is increasing abnormally high. (solenoid valve or expansion valve not activated, a stuck check valve, etc.)
- Refrigerant overcharged.
- Nitrogen or air contaminated in the refrigerant system

2. Error Diagnosis

1 High pressure switch	1-1	The socket of the high pressure switch is securely inserted in the PC board. The wiring is not opened.	Yes	1-2
			No	Correct connection and / or wiring
	1-2	Even if parts near the high pressure switch are shaken quite a lot, the high pressure cut off will be activated. Even if the covering is in good condition, in several cases vibration has caused wiring inside to open.	Yes	Replace the high pressure switch (wiring)
			No	2-1
2 Service valve	2-1	Service valve inside the outdoor unit closed	Yes	Open the service valve
			No	2-2
	2-2	There is an extreme difference in temperature in / out of the service valve.	Yes	2-3
			No	3-1
	2-3	Check the flare connection, someone may have forgotten to remove the bonnet. If there is a problem within the service valve, replace the valve.		
3 Problem around the heat exchanger	3-1	While cooling is operating an alarm is occurred.	Yes	3-2
			No	3-5
	3-2	The intake temperature (ambient temperature) of the outdoor unit's heat exchanger is above 48°C.	Yes	Prevent air short circuit
			No	3-3
	3-3	The outdoor unit's heat exchanger is clogged.	Yes	Clean the heat exchanger
			No	3-4
	3-4	Check whether the outdoor unit fan is normal or if the sockets are firmly pressed onto the plugs on the outdoor PC board, as well as if any wiring is opened. Are these checking finished without fail?	Yes	4-1
			No	Replace the outdoor unit fan. Correct connection and / or wiring
	3-5	While heating is operating an alarm is occurred.	Yes	3-6
			No	4-1

3 Problem around the heat exchanger	3-6	The intake temperature (ambient temperature) of the indoor unit is above 36°C.	Yes	Prevent air short circuit
			No	3-7
	3-7	The filter of the indoor unit is clogged.	Yes	Clean the filter
			No	3-8
	3-8	The fan of the indoor unit is broken or the fan motor is faulty.	Yes	Replace the indoor fan (motor)
			No	4-1
4 Blockage in the refrigerant circuit	4-1	Is the outdoor unit's electronic control valve operating correctly? (Check for debris clogging the electronic control valve, a problem with the electronical coil and / or the control PC board.)	Yes	4-3
			No	Repair the electronic control valve of the outdoor unit
	4-2	The indoor unit's expansion valve is operating correctly. (check for debris clogging the valve, a problem with the electronical coil and / or the control PC board)	Yes	4-3
			No	Repair the expansion valve of the indoor unit
	4-3	If an alarm is occurred with the high pressure below 4.15 MPa, with the pressure measured as displayed by the manifold gauge, check the check valve in the compressor discharge line. Are these checking finished without fail?	Yes	4-4
			No	Replace the check valve in the compressor discharge line
	4-4	The electronic control valve is faulty. In systems where the solenoid valve kits and the ice thermal storage tank are connected, check these solenoid valves.	Yes	Replace the electronic control valve and / or solenoid valve.
			No	5-1
5 Overcharging	5-1	Error occurs when the system is operating in cooling mode.	Yes	5-3
			No	5-2
	5-2	Error occurs when the system is operating in heating mode.	Yes	5-4
			No	5-5
	5-3	An alarm is occurred with the high pressure at 4.15 MPa, with the pressure measured either as displayed by the monitoring software or with a manifold gauge, at which time the temperature of liquid in the outdoor unit's heat exchanger is detected to be at the temperature of the outside air.	Yes	5-5
			No	Contact the service representative
	5-4	An alarm is occurred with the high pressure at 4.15 MPa, with the pressure measured either as displayed by the monitoring software or with a manifold gauge, at which time the temperature of liquid in the indoor heat exchanger is detected to be at room temperature (intake temperature).	Yes	5-5
			No	Contact the service representative
	5-5	The system may be overcharged. Check how much refrigerant was added during installation. When a system is inspected for airtightness, it is seldom that enough nitrogen has been expelled, so some remains in the circuit. In this case, it is necessary to collect the refrigerant and then recharge the system.		

P05 AC Power Supply Trouble

1. Error Detection Method

- Instantaneous blackout
- Zero-cross (waveform input of power supply) error
- DC voltage charge failure

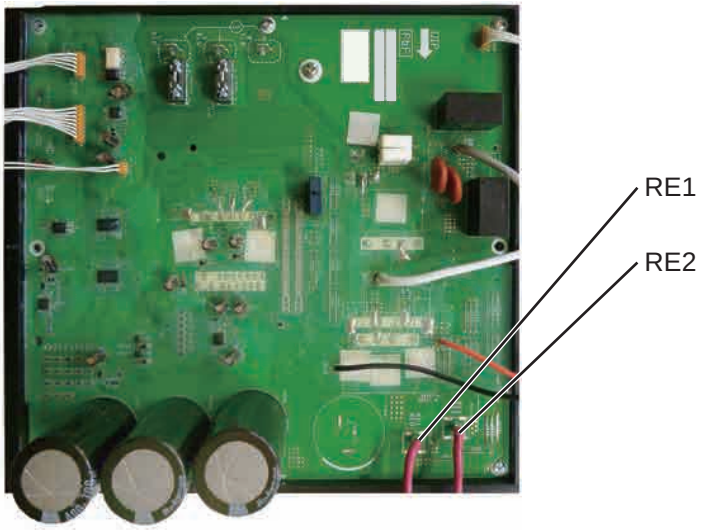
2. Error Diagnosis

Note : The work involved in diagnosing each of the items is extremely dangerous, so turn the power off at the breaker before performing the tests.

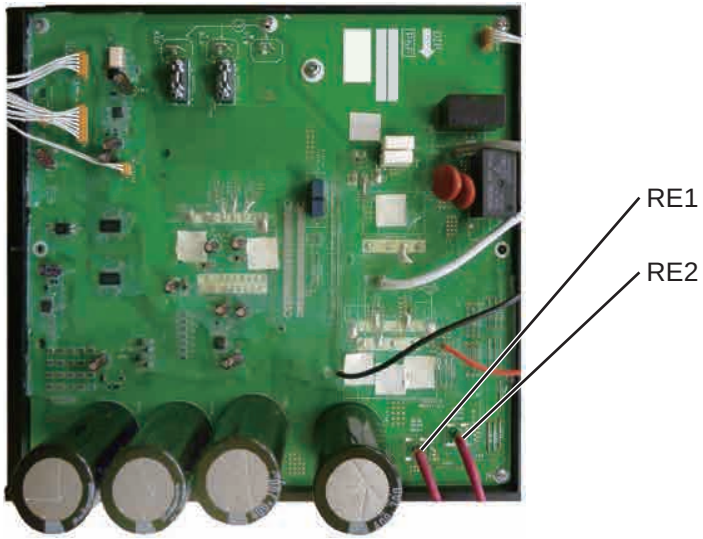
1 Check the power supply & the wiring	1-1	Is the voltage on each of the terminal boards within ±10% of the rated voltage?	Yes	1-3 : Single-phase model 1-2 : 3-phase model	
			No	Check for open circuit and the voltage at the breaker. If a problem is found, fix it and check again.	
	1-2	Power wiring L1 and L3 are connected.		Yes	Correct wiring
				No	1-3
	1-3	Turn the power back on and check again. Is the alarm triggered again?		Yes	2-1
				No	3-1
2 Check the outdoor unit HIC PC board	2-1	Are the wires (RE1, RE2) from the reactor firmly installed? Are the wires also connected to the side of the reactor?		Yes	2-2
				No	Correct wiring
	2-2	Turn the power back on and check again. Is the alarm triggered again?		Yes	Replace the outdoor unit HIC PC board.
				No	3-1
3 Final check	3-1	There may be a instantaneous blackout failure. If there is nothing abnormal, see what happens.			

For Single-Phase Outdoor Unit HIC PCB

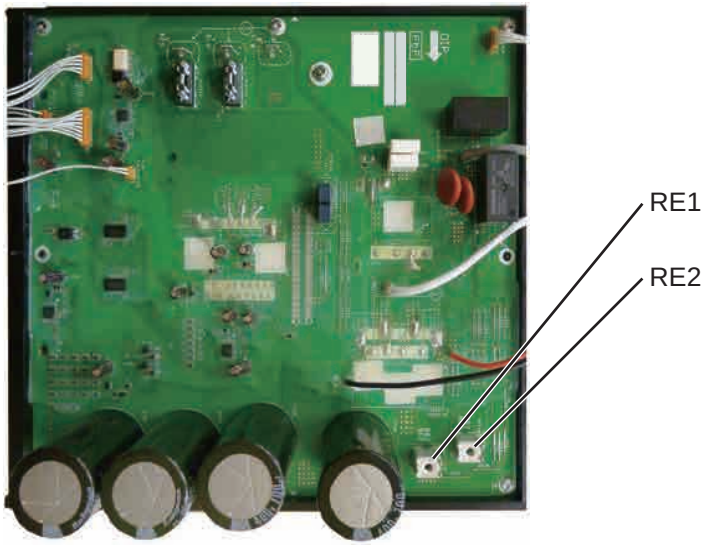
■ **HIC-PCB : ACXA73-3555* (U-71PZH3E5)**



■ **HIC-PCB : ACXA73-3554* (U-100PZH3E5)**

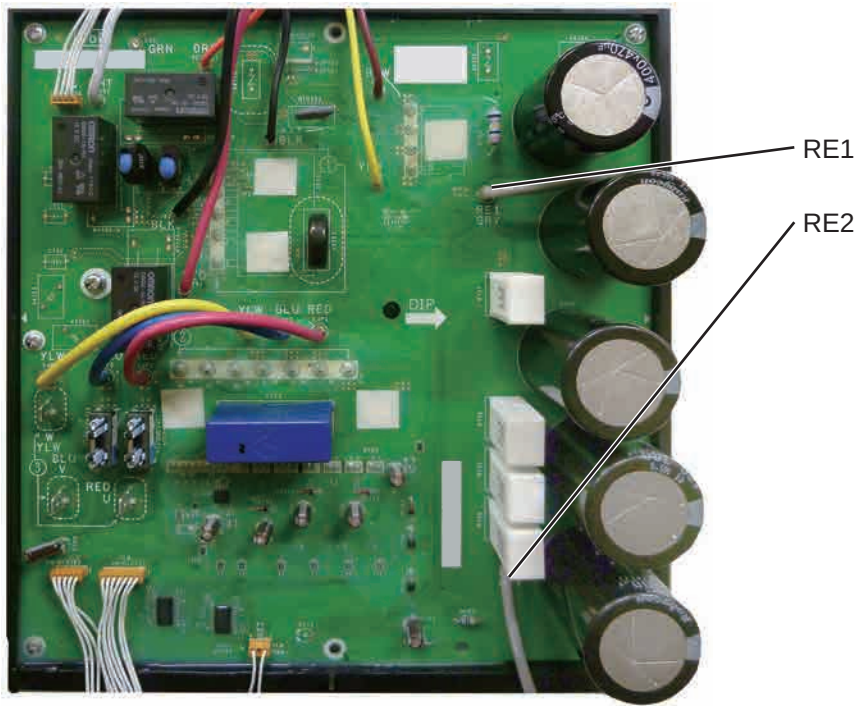


■ **HIC-PCB : ACXA73-3553* (U-125PZH3E5, U-140PZH3E5)**



For 3-Phase Outdoor Unit HIC PCB

■ **HIC-PCB : ACXA73-3559* (U-71PZH3E8)**



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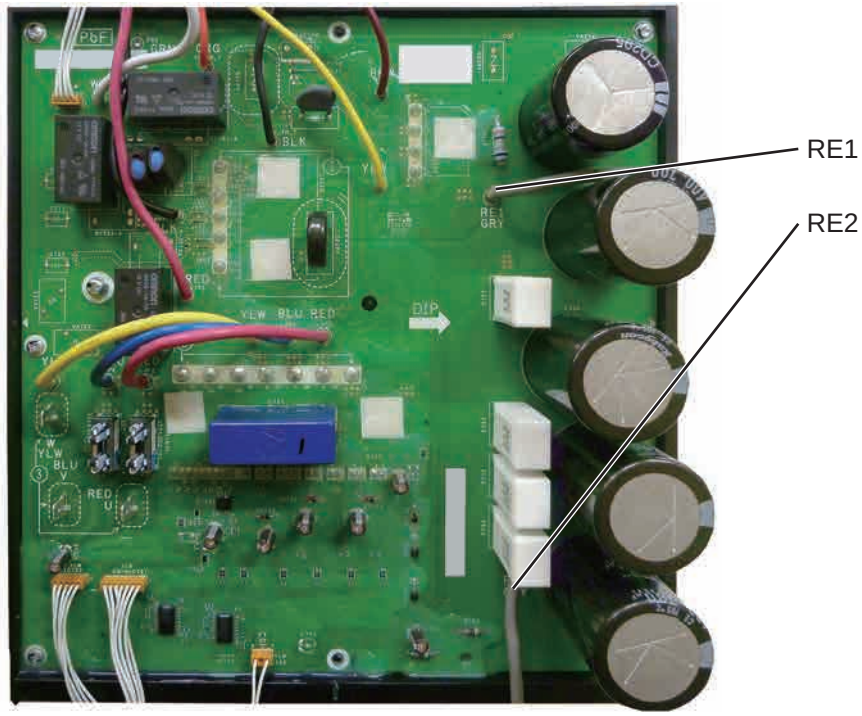
■ **HIC-PCB : ACXA73-3558* (U-100PZH3E8, U-125PZH3E8, U-140PZH3E8)**



P13 Alarm Valve Open

1. Error Detection Method

Detection is performed only in the test run. When once detected or the test run finished without any error, the second detection will not be done.

In case of forgetting to open a valve, P04 (high-pressure switch operational alarm) is occasionally preceded due to the following conditions.

- The status of small temperature change of the operating indoor unit continues for the first 7 minutes since the cooling test run has started.

2. Error Diagnosis

1 Service valve	1-1	Service valve inside the outdoor unit closed	Yes	Open the service valve
			No	2-1
2 Adjustment to refrigerant change	2-1	Not additional refrigerant charged	Yes	Additional refrigerant charge
			No	3-1
3 Blockage in refrigerant circuit	3-1	Are the tubes clogged?	Yes	Avoid clogging
			No	3-2
	3-2	Is the outdoor unit's electronic control valve operating correctly? (Check for debris clogging the electronic control valve, a problem with the electronical coil and / or the control PC board.)	Yes	3-3
			No	Replace the electronic control valve
	3-3	As the second detection is not done, restart and see what happens if there is no error.		

P15 Insufficient Gas Level Detected

1. Abnormal Detection Method

Alarm occurs in the following cases:

- Compressor's current value shows lower than a certain value.
- Compressor's discharge temperature exceeds 95°C.
- Electronic expansion valve is fully opened.
- The difference between indoor unit heat exchanger temperature and intake temperature is less than 4K.

2. Error Diagnosis

1 Adjustment of refrigerant amount	1-1	Insufficient gas level (Check whether or not pressure level is normal.)	Yes	Recharge with additional refrigerant.
			No	1-2
	1-2	Check leakage of refrigeration (leak test)	Yes	Replace leaking part with a new one.
			No	See what happens.

P16 Compressor Overcurrent Trouble

1. Meaning of Alarm

- Secondary current effective value detected the overcurrent (trip current value).

Type		PZH3							
Model name (U-)		71PZH3E5	100PZH3E5	125PZH3E5	140PZH3E5	71PZH3E8	100PZH3E8	125PZH3E8	140PZH3E8
Trip current value	Heating	13.0A	18.0A	19.0A	19.5A	9.0A	11.5A	12.5A	13.0A
	Cooling	13.0A	18.0A	19.0A	19.5A	9.0A	11.5A	12.5A	13.0A

2. Check of content

0 Multiple factors	0-1	Replaced the compressor (added oil, if it was necessary) but it occurred again immediately.	Yes	7-1
			No	-
	0-2	Replaced the board, but it occurred again immediately.	Yes	Replace compressor along with adding oil, then recheck from 1-1
			No	-
1 Power Source	1-1	Power cord connections are loose.	Yes	Correct the wiring
			No	1-2
	1-2	Rated power voltage is not within ±10%.	Yes	Test the power supply
			No	1-3
	1-3	Extreme fluctuations in voltage.	Yes	Test the power supply
			No	1-4
	1-4	An open phase state is observed.	Yes	Test the power supply
			No	2-1
2 Board wiring	2-1	Disconnected parts, miswiring and / or poor connections (loose) are observed in the connections on the CR board and / or in the connections of components that are connected by wiring from the CR board.	Yes	Correct
			No	2-2
	2-2	Disconnected parts, miswiring and / or poor connections (loose) are observed in the connections of outdoor board(s) that are connected by wiring from the CR board.	Yes	Correct
			No	2-3
	2-3	Disconnected parts, miswiring and / or poor connections (loose) are observed in the connections of outdoor board(s) that are connected by wiring from the HIC board.	Yes	Correct
			No	2-4
	2-4	Disconnected parts, miswiring and / or poor connections (loose) are observed in the connections of HIC boards connected by wiring from the CR board.	Yes	Correct
			No	2-5
	2-5	Disconnected parts, miswiring and / or poor connections (loose) are observed in the connections of HIC board(s) that are connected by wiring from the outdoor board.	Yes	Correct
			No	2-6
	2-6	Disconnected parts, miswiring and / or poor connections (loose) are observed in the connections of HIC board(s) that are connected by wiring to a compressor.	Yes	Correct
			No	3-1

3 Compressor wiring	3-1	Disconnections and / or miswiring are observed in the connecting location of the compressor terminals.	Yes	Correct
			No	3-2
	3-2	Conditions such as burned terminal covers and / or discolored terminals are observed in the connecting location of the compressor terminals.	Yes	Eliminate looseness by changing the terminals, or crimping the terminals again.
			No	4-1
4 Check the situation	4-1	Outdoor air intake temperature is high.	Yes	Take measures
			No	4-2
	4-2	May be caused by poor outdoor unit air flow (dirty or clogged heat exchanger, blocked discharge port, etc.)	Yes	Correct
			No	4-3
	4-3	Air short circuit has occurred. This is a phenomenon when discharged air (exhaust heat) from the outdoor unit is drawn back into the suction vent.	Yes	Prevent air short circuit
			No	4-4
	4-4	Indoor air intake temperature is high.	Yes	Take measures
			No	4-5
	4-5	The filter of the indoor unit is clogged.	Yes	Clean the filter
			No	4-6
	4-6	Air short circuit has occurred. This is a phenomenon when discharged air (exhaust heat) from the indoor unit is drawn back into the suction vent.	Yes	Prevent air short circuit
			No	5-1
5 Check operation	5-1	Possible to operate.	Yes	5-2
			No	6-1
	5-2	Operating pressure is affected by pressure overload.	Yes	5-3
			No	5-4
	5-3	Tends to have an overcharge of refrigerant in the system.	Yes	Adjust the amount of refrigerant
			No	5-4
	5-4	Tends to operate for a long time turning gas back into liquid.	Yes	Check the operation of functional parts
			No	5-5
	5-5	Tends to have insufficient refrigerant charge in the system.	Yes	Adjust the amount of refrigerant
			No	5-6
	5-6	Even though the high pressure saturation temperature is 48°C or less, the secondary current of the inverter is high. (The frequency (Hz) ends up dropping due to the current.)	Yes	Replace the compressor
			No	See what happens.
6 Check history	6-1	Dividing the outdoor EEPROM INV operation time by the number of times oil was supplied to the system yields 3 hours or less.	Yes	6-2
			No	6-2
	6-2	There is a history of H31 in the pre-trip counter of the outdoor EEPROM alarm history.	Yes	Replace the compressor and add oil. However, if 6-1 was “no”, it is not necessary to add oil.
			No	7-1
7 Check the HIC boards	7-1	The results of HIC board IPM Pass / Fail Tests show the outside the range of the resistance of a conforming part listed in the next page.	Yes	Replace HIC board
			No	8-1

8 Check the compressor	8-1	The compressor is causing a failure in the insulation.	Yes	Replace the compressor
			No	8-2
	8-2	The winding resistance of the compressor is abnormal. See “5-3. (3) Coil Resistance of Compressor ”.	Yes	Replace the compressor
			No	9-1
9 Check the HIC PC boards	9-1	Replace the HIC PC board and operate the unit. (Apply putty and screws must not be loose) Does it operate normally?	Yes	See what happens.
			No	10-1
10 Check the outdoor unit main PC board	10-1	Replace the control PC board and operate the unit.	See what happens.	

- (Check content of 7) The test check of the HIC board is only a check on the output level, so the input stage may not be working.
- With the filter board broken, alarm P16 may not be triggered.
- **HIC board IPM Pass / Fail Tests**
  - Measure with an analog tester. (Set to the k ohm range.)
  - Measure the board by itself. (Remove wires connected from other parts.)
  - Measure using IPM terminals.

★ Conforming part resistance value (measure with an analog tester)

Tester terminals								
+	P				NU			
-	U	V	W	NU	U	V	W	P
Resistance value (ohm)	1 k to 5 k	1 k to 5 k	1 k to 5 k	5 k to 10 k	100 k to ∞	100 k to ∞	100 k to ∞	100 k to ∞

Tester terminals								
-	P				NU			
+	U	V	W		U	V	W	
Resistance value (ohm)	100 k to ∞	100 k to ∞	100 k to ∞		1 k to 5 k	1 k to 5 k	1 k to 5 k	

- Excepting the parts of “100 k to ∞”, it is acceptable if a small resistance value appears as a reference value unless the value is “0 = short-circuit”.

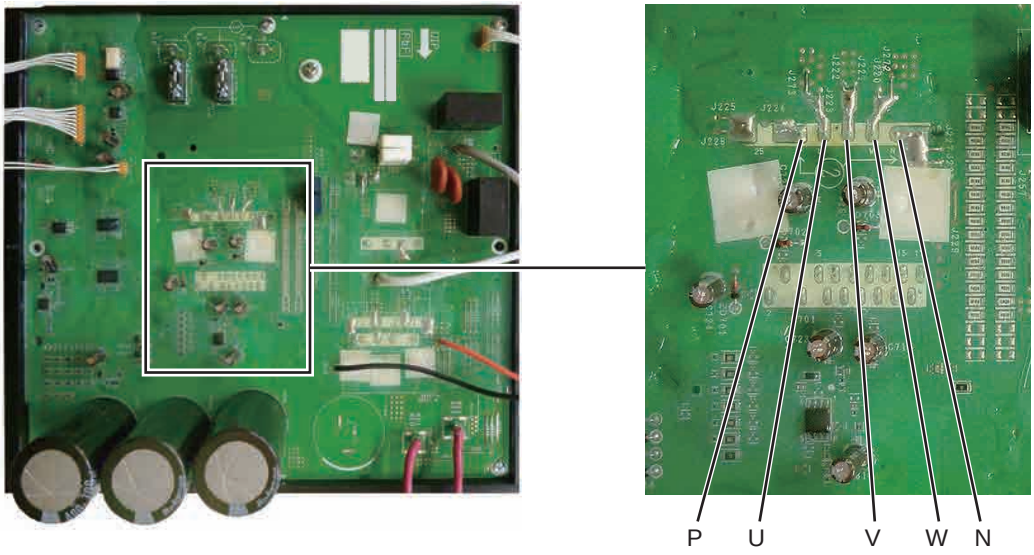
Tester terminals								
+	HIC+				HIC-			
-	U	V	W	HIC-	U	V	W	HIC+
Resistance value (ohm)	1 k to 10 k	1 k to 10 k	1 k to 10 k	5 k to 20 k	20 k to ∞	20 k to ∞	20 k to ∞	20 k to ∞

Tester terminals								
-	HIC+				HIC-			
+	U	V	W		U	V	W	
Resistance value (ohm)	20 k to ∞	20 k to ∞	20 k to ∞		1 k to 10 k	1 k to 10 k	1 k to 10 k	

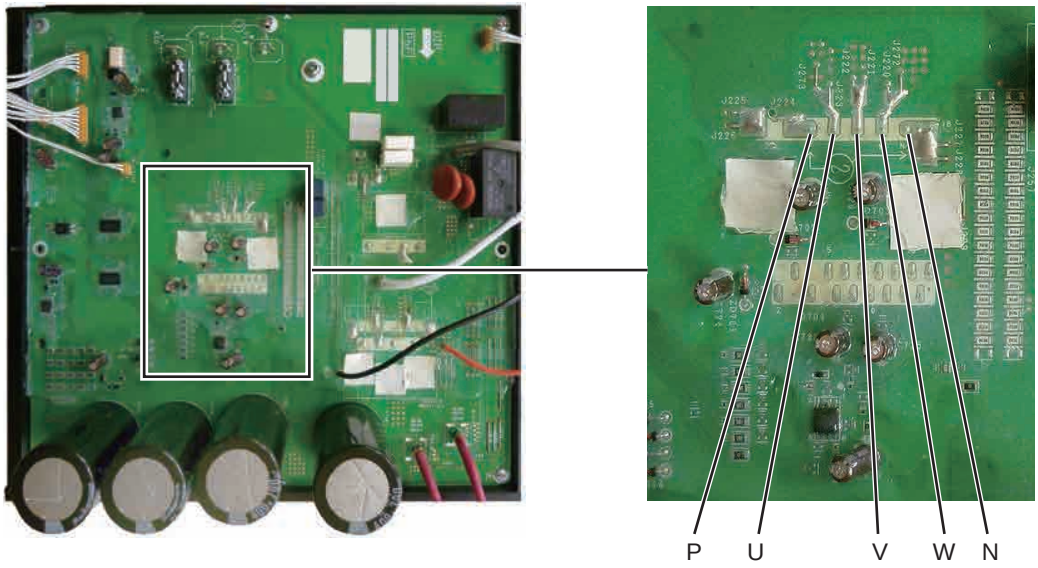
- Excepting the parts of “20 k to ∞”, it is acceptable if a small resistance value appears as a reference value unless the value is “0 = short-circuit”.

For Single-Phase Outdoor Unit HIC PCB

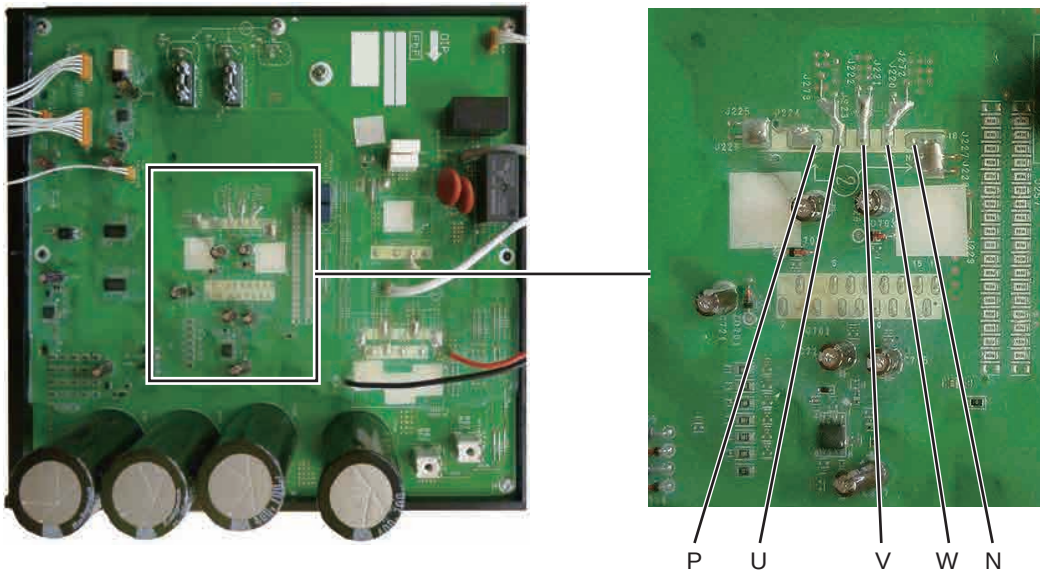
■ **HIC-PCB : ACXA73-3555* (U-71PZH3E5)**



■ **HIC-PCB : ACXA73-3554* (U-100PZH3E5)**

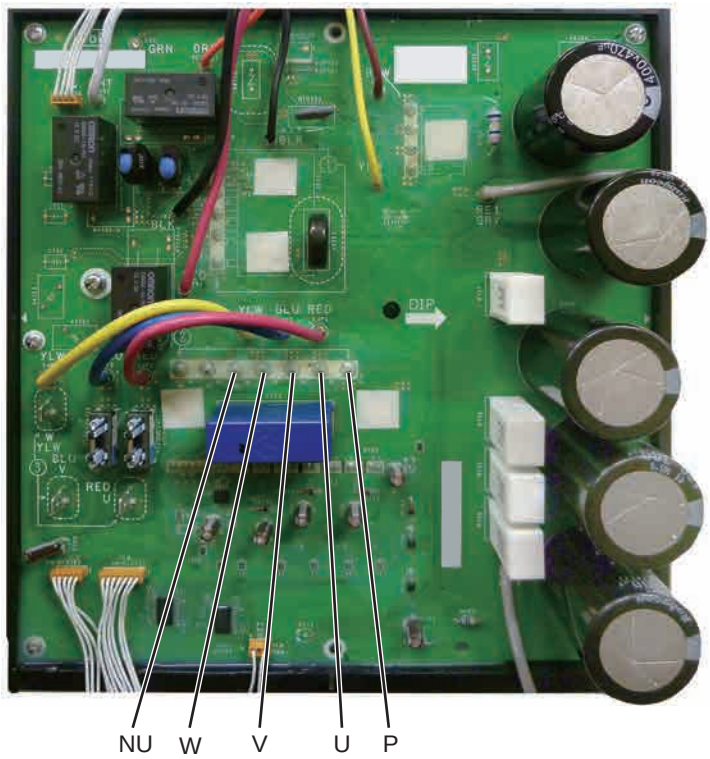


■ **HIC-PCB : ACXA73-3553* (U-125PZH3E5, U-140PZH3E5)**

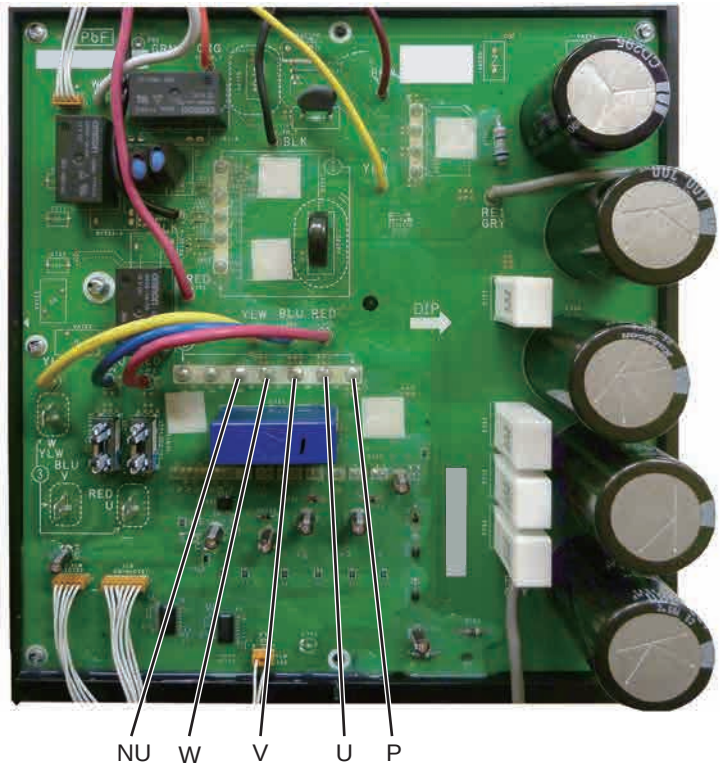


For 3-Phase Outdoor Unit HIC PCB

■ **HIC-PCB : ACXA73-3559* (U-71PZH3E8)**



■ **HIC-PCB : ACXA73-3558* (U-100PZH3E8, U-125PZH3E8, U-140PZH3E8)**



P22 Outdoor Unit Fan Motor Trouble

1. Error Detection Method

- It is judged an error when the outdoor fan motor's rotating signal cannot be detected normally.

2. Error Diagnosis

1 Wiring	1-1	Is the connector "CN-FM" firmly connected to the outdoor control PC board (lock engaged)?	Yes	2-1
			No	Correct the connector connections
2 Outdoor fan motor	2-1	Disconnect the connector "CN-FM" from the outdoor control PC board and rotate the outdoor fan by hand; does it rotate freely? (Check the outdoor fan motor lock)	Yes	3-1
			No	Replace the outdoor fan motor
3 Outdoor control PC board	3-1	Turn the power on and run the unit again; is P22 triggered again? Or can you see or hear anything that is obviously wrong in its rotation?	Yes	3-2
			No	3-3
	3-2	Replace the outdoor control PC board. (If it fails to operate normally even after replacing the outdoor control PC board, replace the outdoor fan motor.)		
	3-3	If there is nothing particularly out of the ordinary, see what happens.		

P29 Lack of INV compressor wiring, INV compressor actuation failure (including locked), DCCT failure

1. Error Detection Method

- Abnormal current is detected at DCCT before start-up.
- Start-up failed during overcurrent and / or step-out detected.
- Open-wire of compressor and / or backspin detected.
- Secondary current is not detected during INV compressor is running.

2. Error Diagnosis

1 Wiring	1-1	Disconnected parts, miswiring and / or poor connections (loose) are observed in the connections of HIC PC board(s) that are connected by wiring to a compressor. *1	Yes	Correct wiring connections
			No	1-2
	1-2	Disconnected parts, miswiring and / or poor connections (loose) are observed in the connections of outdoor board(s) that are connected by wiring from the HIC PC board. *1	Yes	Correct wiring connections
			No	2-1
2 Compressor wiring	2-1	Disconnections and / or miswiring is observed in the connections of the compressor terminals. *1	Yes	Correct
			No	2-2
	2-2	Conditions such as burned terminal covers and / or discolored terminals are observed at the connectors of the compressor terminals. *1	Yes	Eliminate looseness by changing the terminals, or crimping the terminals again.
			No	3-1
3 Check the HIC PC boards	3-1	The results of the pass / fail tests for the following HIC PC board IPM show it to be outside the range of the resistance of a conforming part.	Yes	Replace the HIC board
			No	3-2
	3-2	Replace the HIC PC board and operate the unit. (Apply putty and screws must not be loose) Does it operate normally?	Yes	See what happens.
			No	4-1
4 Check the outdoor control PC board	4-1	Replace the control PC board and operate the unit.	See what happens.	

*1 Checking for looseness of compressor terminals by wiggling them has the adverse effect of loosening them, so do not do it.
Evaluate them by discoloration of wire insulation near the terminal.

- **HIC board IPM Pass / Fail Tests**
  - Measure with an analog tester. (Set to the k ohm range.)
  - Measure the board by itself. (Remove wires connected from other parts.)
  - Measure using IPM terminals.

★ Conforming part resistance value (measure with an analog tester)

Tester terminals								
+	P				NU			
-	U	V	W	NU	U	V	W	P
Resistance value (ohm)	1 k to 5 k	1 k to 5 k	1 k to 5 k	5 k to 10 k	100 k to	100 k to	100 k to	100 k to

Tester terminals								
-	P				NU			
+	U	V	W		U	V	W	
Resistance value (ohm)	100 k to	100 k to	100 k to		1 k to 5 k	1 k to 5 k	1 k to 5 k	

- Excepting the parts of “100 k to ∞”, it is acceptable if a small resistance value appears as a reference value unless the value is “0 = short-circuit”.

Tester terminals								
+	HIC+				HIC-			
-	U	V	W	HIC-	U	V	W	HIC+
Resistance value (ohm)	1 k to 10 k	1 k to 10 k	1 k to 10 k	5 k to 20 k	20 k to	20 k to	20 k to	20 k to

Tester terminals								
-	HIC+				HIC-			
+	U	V	W		U	V	W	
Resistance value (ohm)	20 k to	20 k to	20 k to		1 k to 10 k	1 k to 10 k	1 k to 10 k	

- Excepting the parts of “20 k to ∞”, it is acceptable if a small resistance value appears as a reference value unless the value is “0 = short-circuit”.

P31 Group Control Error

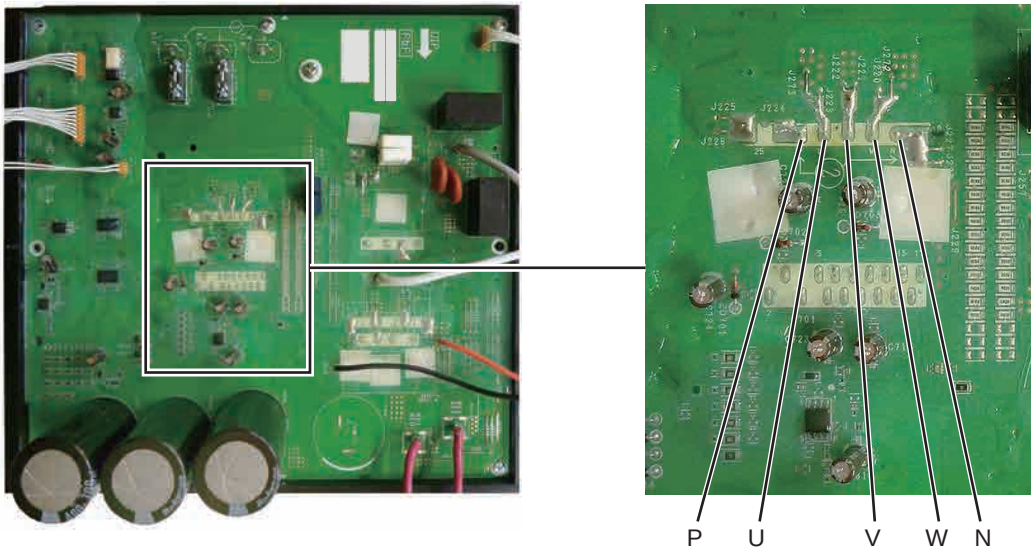
1. Error Detection Method

- Other indoor unit alarms within the group.

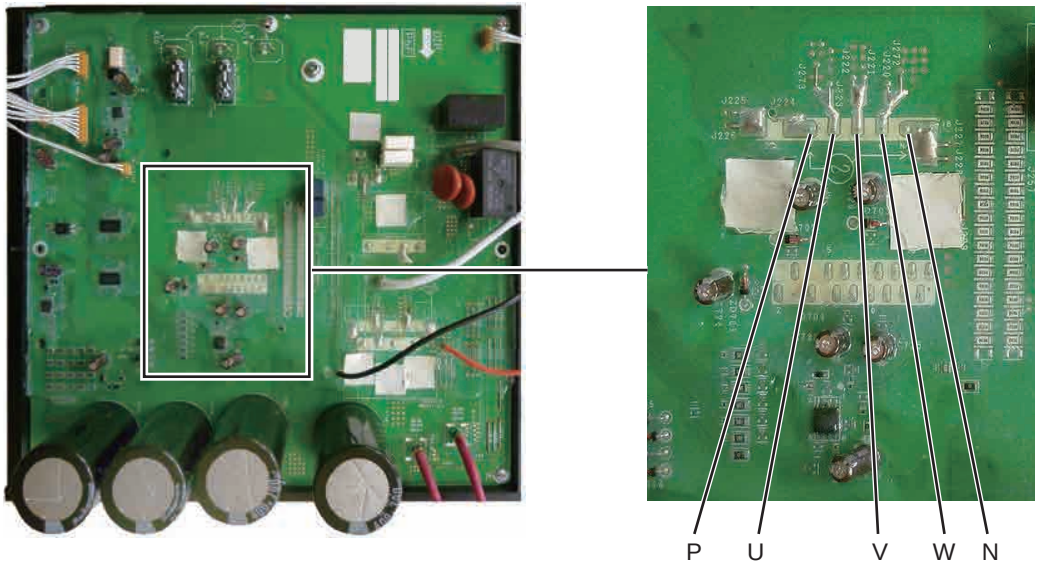
1 Other indoor unit	1-1	Survey the indoor unit that alarms other than “P31” in the indoor unit group and specify the causes of failure.

For Single-Phase Outdoor Unit HIC PCB

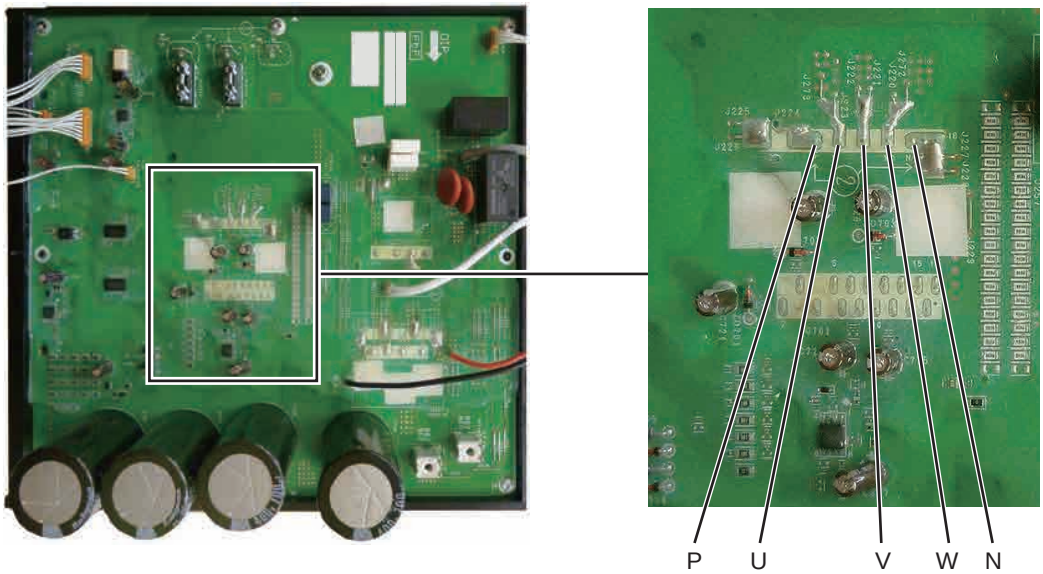
■ **HIC-PCB : ACXA73-3555* (U-71PZH3E5)**



■ **HIC-PCB : ACXA73-3554* (U-100PZH3E5)**



■ **HIC-PCB : ACXA73-3553* (U-125PZH3E5, U-140PZH3E5)**



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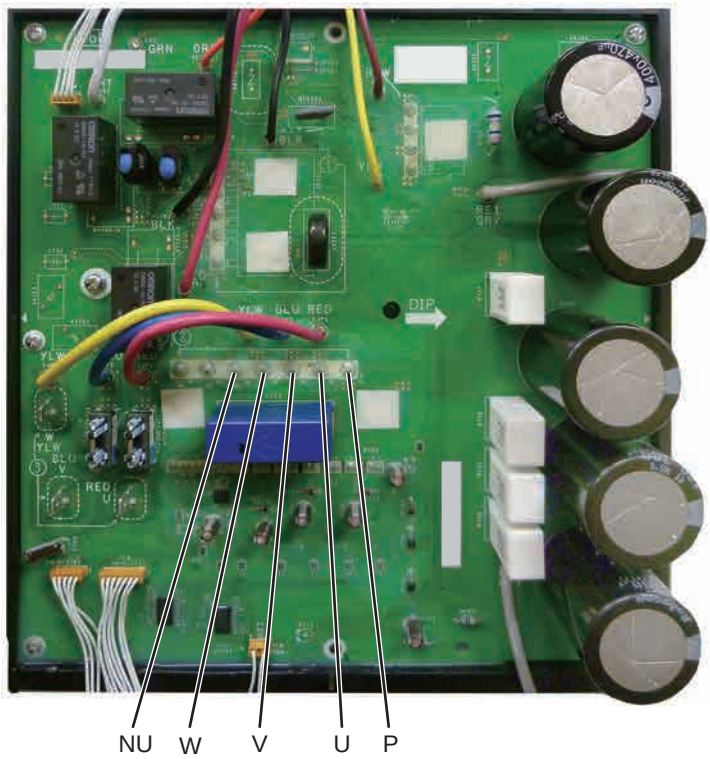
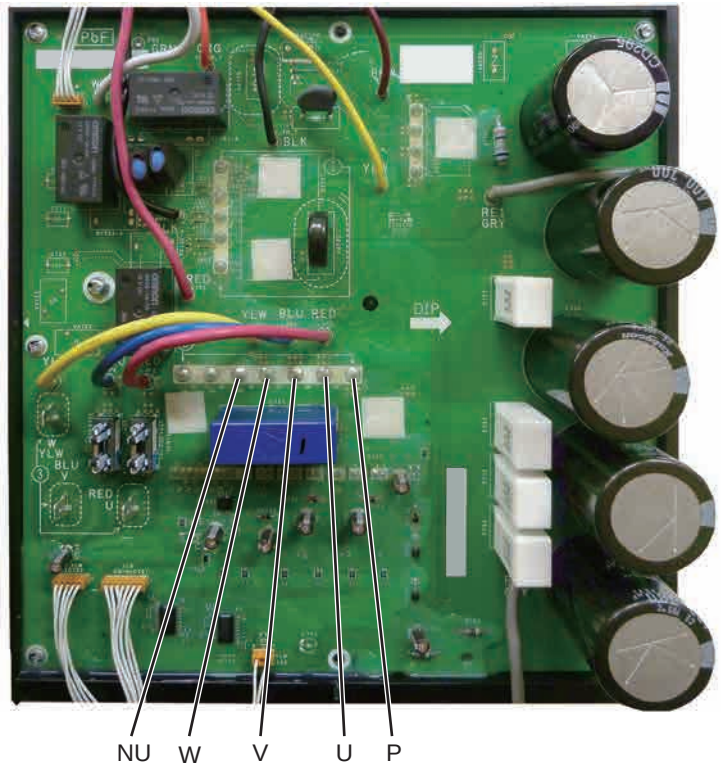
For 3-Phase Outdoor Unit HIC PCB

■ **HIC-PCB : ACXA73-3559* (U-71PZH3E8)**



■ **HIC-PCB : ACXA73-3558* (U-100PZH3E8, U-125PZH3E8, U-140PZH3E8)**



5-3. Inspection of Parts (Outdoor Unit)

(1) Electronic control valve (MOV1)

U-25PZ3E5, U-36PZ3E5, U-50PZ3E5, U-60PZ3E5A, U-71PZ3E5A
U-36PZH3E5, U-50PZH3E5, U-60PZH3E5

- STM / STM1: Measure the voltage between plug pin 5 and pins 1 through 4 at the CN-STM / CN-STM1 connector (white) on the outdoor unit control PCB. (Because of the pulse output, a simplified measurement method is used.
  Set the tester to the 12 V range; if the value displayed is approximately 4 V, then the voltage is normal.)
  If the voltage is normal, measure the resistance between connector pin 5 and pins 1 through 4.
  Resistance between pin 5 and pins 1 through 4 should be approximately 46 Ω for all. (If the result is 0 Ω or, ∞ then replace the coil.)

U-100PZ3E5, U-125PZ3E5, U-140PZ3E5
U-100PZ3E8, U-125PZ3E8, U-140PZ3E8

- MOV1: Measure the voltage between plug pin 5 and pins 1 through 4 at the CN-MOV1 connector (5P, white) on the outdoor unit control PCB. (Because of the pulse output, a simplified measurement method is used.
  Set the tester to the 12 V range; if the value displayed is approximately 4 V, then the voltage is normal.)
  If the voltage is normal, measure the resistance between connector pin 5 and pins 1 through 4.
  Resistance between pin 5 and pins 1 through 4 should be approximately 46 Ω for all. (If the result is 0 Ω or, ∞ then replace the coil.)

U-71PZH3E5, U-100PZH3E5, U-125PZH3E5, U-140PZH3E5
U-71PZH3E8, U-100PZH3E8, U-125PZH3E8, U-140PZH3E8

- MOV1: Measure the voltage between plug pin 5 and pins 1 through 4 at the CN-MOV1 connector (5P, white) on the outdoor unit control PCB. (Because of the pulse output, a simplified measurement method is used.
  Set the tester to the 12 V range; if the value displayed is approximately 4 V, then the voltage is normal.)
  If the voltage is normal, measure the resistance between connector pin 5 and pins 1 through 4.
  Resistance between pin 5 and pins 1 through 4 should be approximately 46 Ω for all. (If the result is 0 Ω or, ∞ then replace the coil.)

(2) Outdoor Unit Fan Motor

Model No.	Part No. (Panasonic)	Part No.
U-25PZ3E5	L6CAYYYL0064	NFD-52FV-D840-16
U-36PZ3E5	L6CAYYYL0064	NFD-52FV-D840-16
U-50PZ3E5	L6CAYYYL0064	NFD-52FV-D840-16
U-60PZ3E5	L6CAYYYL0076	NFD-62FV-D840-6
U-71PZ3E5	L6CAYYYL0076	NFD-62FV-D840-6
U-100PZ3E5	L6CBYYYL0302	ZKSP-160-8-1
U-125PZ3E5	L6CBYYYL0302	ZKSP-160-8-1
U-140PZ3E5	L6CBYYYL0302	ZKSP-160-8-1
U-100PZ3E8	L6CBYYYL0302	ZKSP-160-8-1
U-125PZ3E8	L6CBYYYL0302	ZKSP-160-8-1
U-140PZ3E8	L6CBYYYL0302	ZKSP-160-8-1
U-36PZH3E5	L6CAYYYL0076	NFD-62FV-D840-6
U-50PZH3E5	L6CAYYYL0076	NFD-62FV-D840-6
U-60PZH3E5	L6CAYYYL0076	NFD-62FV-D840-6
U-71PZH3E5	L6CBYYYL0283	NFD-71FW-D890-5
U-100PZH3E5	L6CBYYYL0283 L6CBYYYL0284	NFD-71FW-D890-5 NFD-71FW-D890-6
U-125PZH3E5	L6CBYYYL0283 L6CBYYYL0284	NFD-71FW-D890-5 NFD-71FW-D890-6
U-140PZH3E5	L6CBYYYL0283 L6CBYYYL0284	NFD-71FW-D890-5 NFD-71FW-D890-6
U-71PZH3E8	L6CBYYYL0283	NFD-71FW-D890-5
U-100PZH3E8	L6CBYYYL0283 L6CBYYYL0284	NFD-71FW-D890-5 NFD-71FW-D890-6
U-125PZH3E8	L6CBYYYL0283 L6CBYYYL0284	NFD-71FW-D890-5 NFD-71FW-D890-6
U-140PZH3E8	L6CBYYYL0283 L6CBYYYL0284	NFD-71FW-D890-5 NFD-71FW-D890-6

(3) Coil Resistance of Compressor

Model No.	Part No. (Panasonic)	Part No.	Inverter compressor (at 20°C)		
			U - V	V - W	U - W
U-25PZ3E5	ACXB09-03470	9RS102XFA21	1.211	1.211	1.211
U-36PZ3E5	ACXB09-03470	9RS102XFA21	1.211	1.211	1.211
U-50PZ3E5	ACXB09-04960	9RD132XAB21	1.897	1.882	1.907
U-60PZ3E5	ACXB09-04940	9RD132XAA21	1.897	1.882	1.907
U-71PZ3E5	ACXB09-04950	9KD240XBA21	0.720	0.708	0.726
U-100PZ3E5	ACXB09-05130	9VD330XAB21	0.872	0.884	0.859
U-125PZ3E5	ACXB09-05140	9VD420XAB21	0.659	0.670	0.650
U-140PZ3E5	ACXB09-05140	9VD420XAB21	0.659	0.670	0.650
U-100PZ3E8	ACXB09-05180	9VD330XBA21	3.071	3.125	3.031
U-125PZ3E8	ACXB09-05190	9VD420XBA21	2.510	2.561	2.475
U-140PZ3E8	ACXB09-05190	9VD420XBA21	2.510	2.561	2.475
U-36PZH3E5	ACXB09-04940	9RD132XAA21	1.897	1.882	1.907
U-50PZH3E5	ACXB09-04940	9RD132XAA21	1.897	1.882	1.907
U-60PZH3E5	ACXB09-04940	9RD132XAA21	1.897	1.882	1.907
U-71PZH3E5	ACXB09-08270	9RD198XAE21	1.313	1.298	1.308
U-100PZH3E5	ACXB09-06840	9VD420XAC21	0.659	0.670	0.650
U-125PZH3E5	ACXB09-06840	9VD420XAC21	0.659	0.670	0.650
U-140PZH3E5	ACXB09-06840	9VD420XAC21	0.659	0.670	0.650
U-71PZH3E8	ACXB09-08280	9RD198XBB21	5.176	5.185	5.176
U-100PZH3E8	ACXB09-06850	9VD420XBB21	2.510	2.561	2.475
U-125PZH3E8	ACXB09-06850	9VD420XBB21	2.510	2.561	2.475
U-140PZH3E8	ACXB09-06850	9VD420XBB21	2.510	2.561	2.475

5-4. How to Replace Fan Motor
Middle Static Pressure Duct Type
Removing Fan Motor

1. Turn off the power supply.

WARNING

ELECTRICAL SHOCK CAN CAUSE SEVERE PERSONAL INJURY OR DEATH.

2. Remove the Lid of electrical component box and the wiring cover. (Screws × 5 locations: Fig. 1)
   Make sure the PC board should not be electrified.
   Power supply LED should be lit off on PC board. (Fig. 2)

Fig. 1

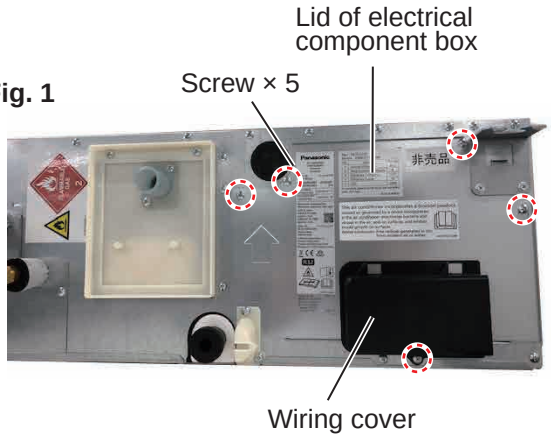
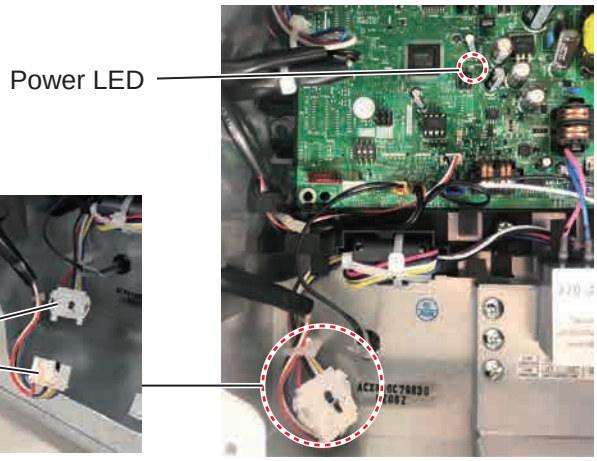


Fig. 2



3. Disconnect the interconnector in the middle of the wiring to the fan motor. (Fig. 2)

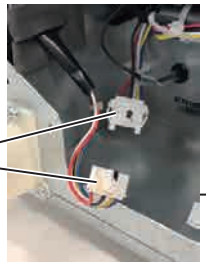
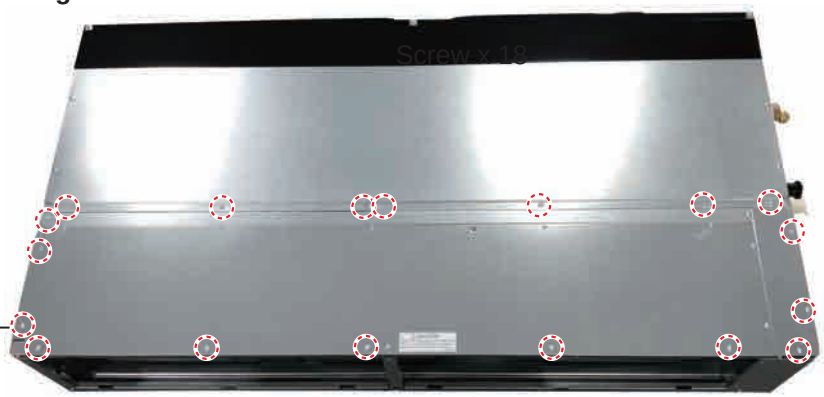
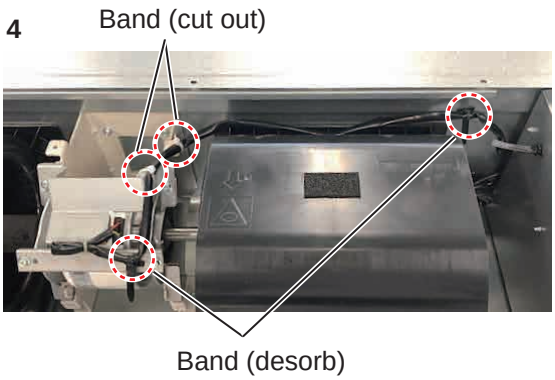


Fig. 3



4. Remove the bottom plate. (Fig. 3)

Fig. 4



5. Disconnect the wires. (Fig. 4)

6. Peel off the tape on the fan casing and remove two screws. (Fig. 6, Fig. 7, Fig. 8)
   Disconnect four (4) clutches (Fig. 7, Fig. 8) fixing the lower side of the fan casing.
   Then pull off the fan casing.

Fig. 5

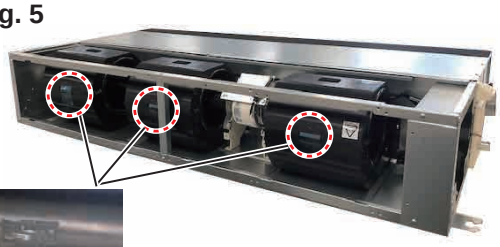


Fig. 6

Fig. 7

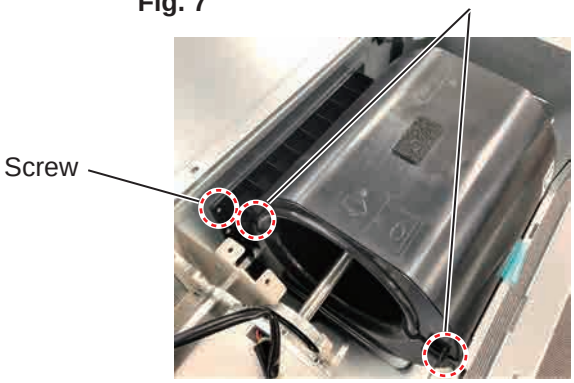
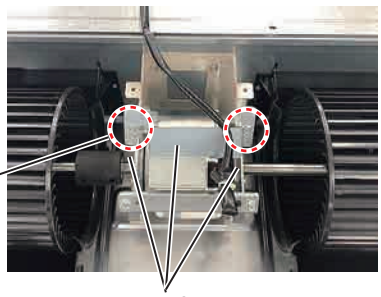


Fig. 8

7. Remove the screws (M5 × 2 locations: Fig. 9) fixing the fan motor. It is recommended that a nutdriver (8mm) be used.

8. Remove the bracket and then remove the fan and fan motor (Fig. 9).

Fig. 9



9. Loosen the fixed screw with a hexagon wrench (3mm, over 100mm in length) and remove the fan (Fig. 10).

Fig. 10

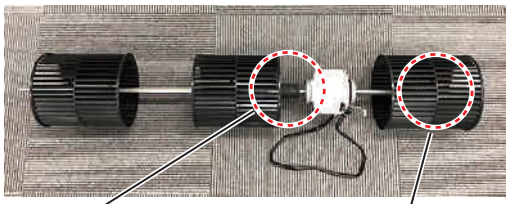
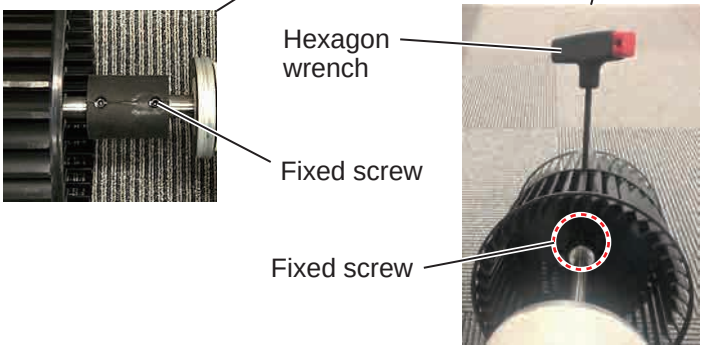


Fig. 11

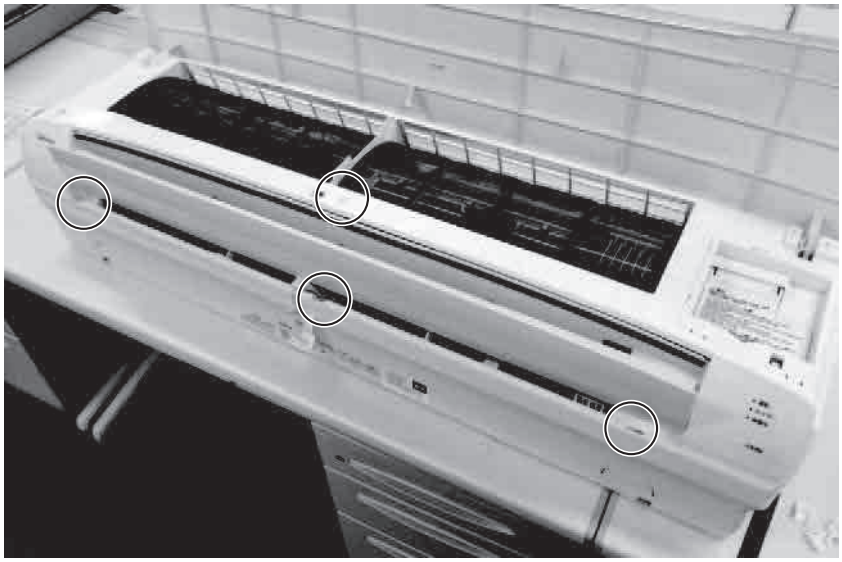


Installing Fan Motor

1. For installation, reverse the procedure above.
2. Fine tune so that the fan can be positioned in the center of the fan casing.

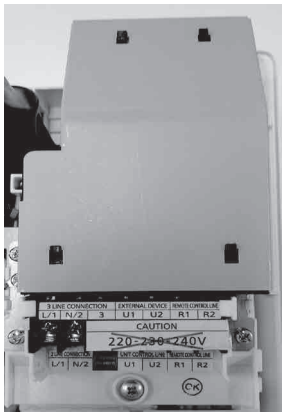
Fig. 12

Wall Mounted Type
Removing Fan Motor

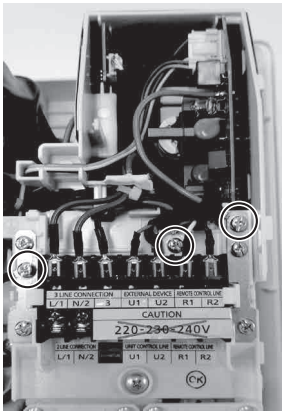


1. Remove 4 screws (4×16) and detach the front grille.

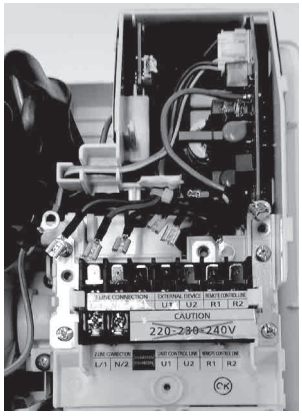
2. Remove the electrical cover.



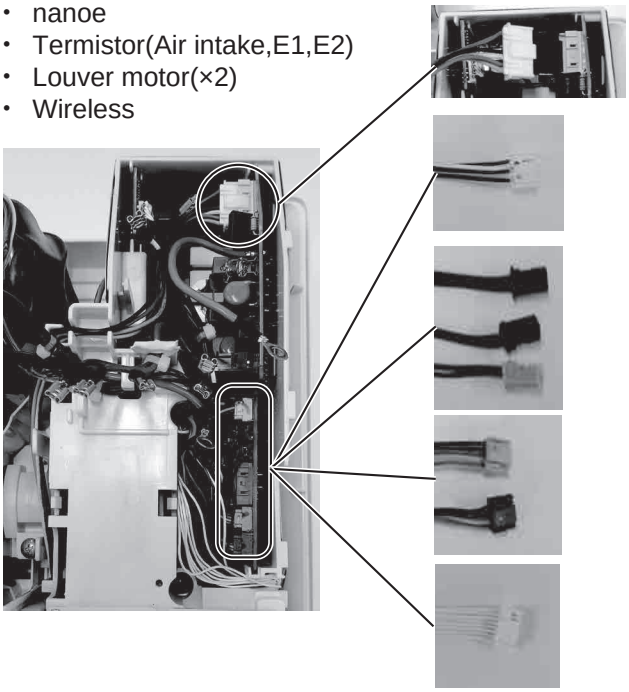
3. Remove 3 fixing screws from the terminal and ground wires.



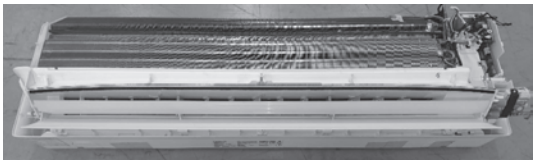
4. Remove 1 screw (4×10) and lift the terminal cover.

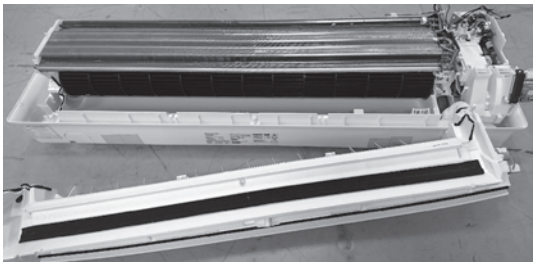


5. Remove the connector.
   - FAN motor
   - nanoe
   - Termistor(Air intake,E1,E2)
   - Louver motor(×2)
   - Wireless



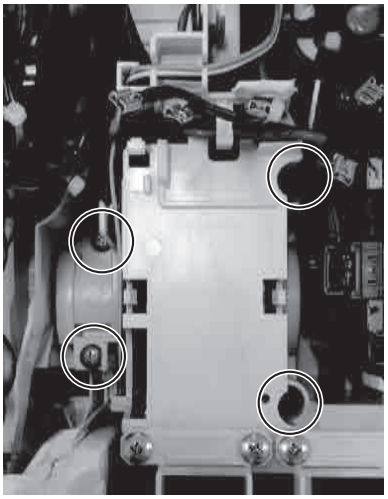
6. Remove the air discharge grille.



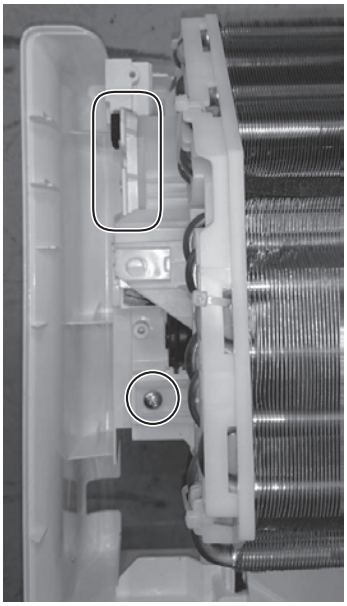


* Photo shows the right-hand drain.

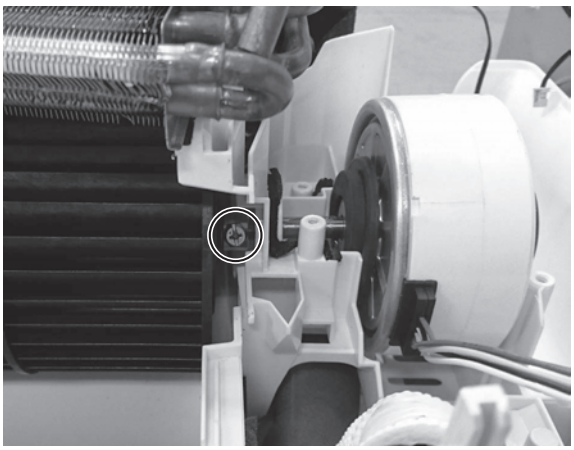
7. Remove 4 screws (4×16) and detach the electrical component box.



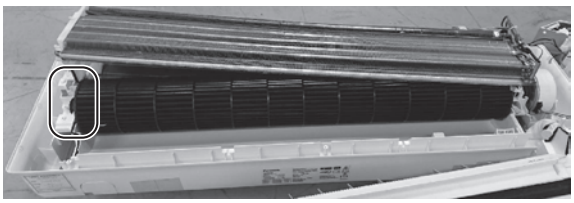
8. Remove 1 screw (4×12).
Disengage the tabs and lift the heat exchanger.



9. Remove the fixing screw of the fan.

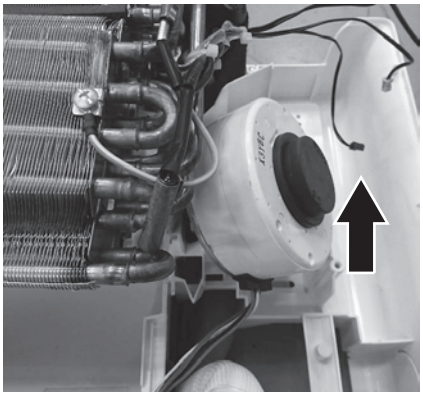


10. Disengage the fan shaft.

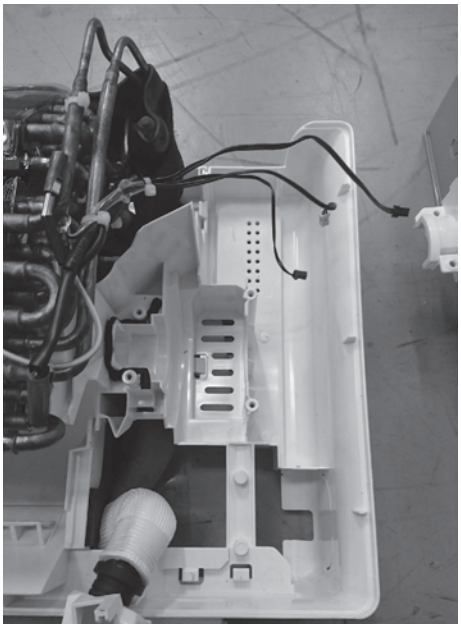


11. Pull the fan toward the front left side and remove it.

12. Lift the fan motor and remove it.

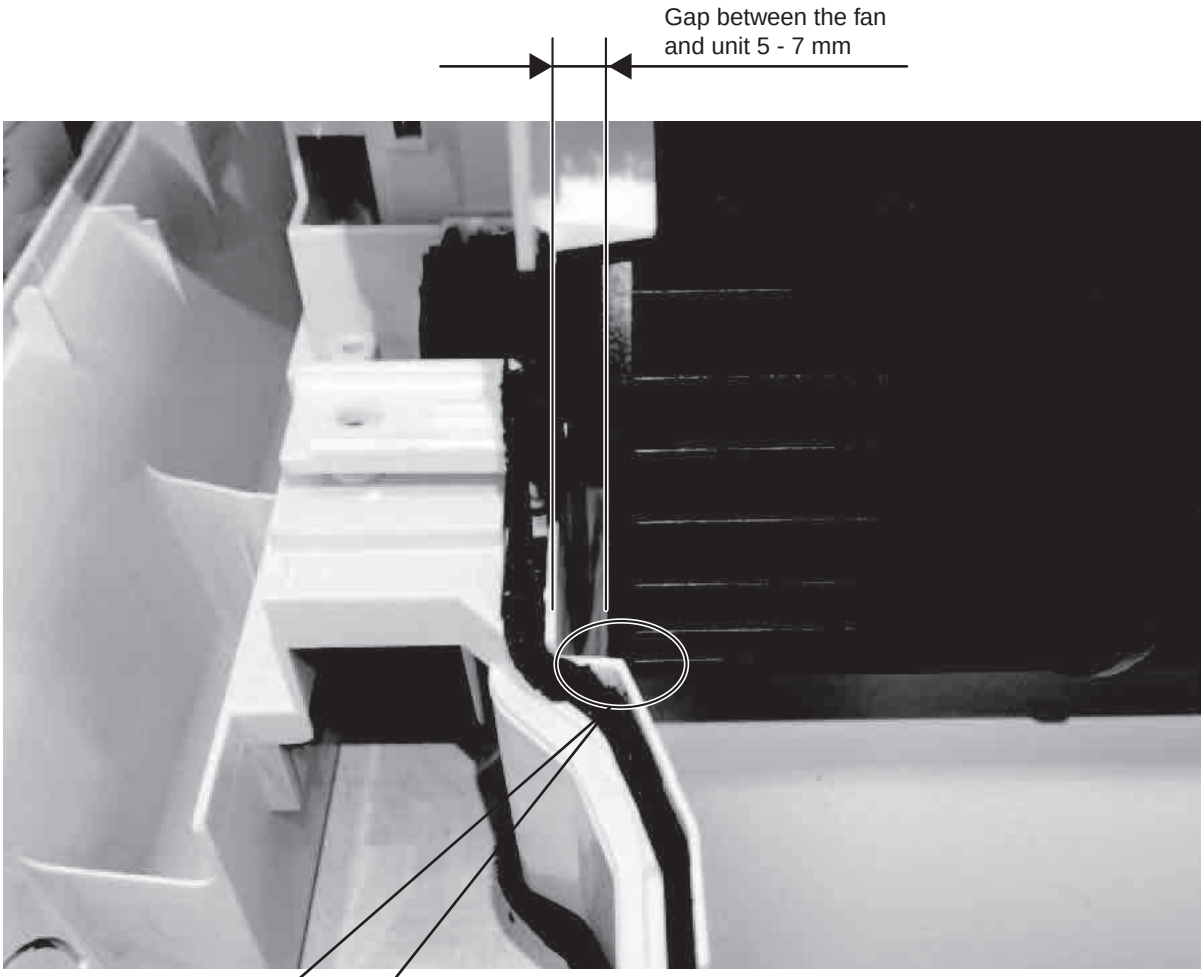


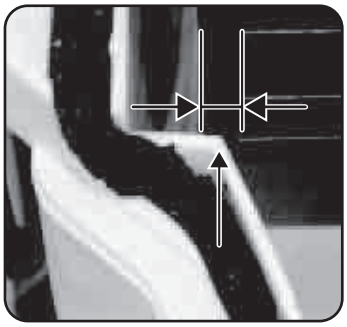
13. Uninstallation is completed.



Installing Fan Motor

Carry out installation in reverse order to assemble.
Fan installation should be made following the figure below while confirming the position.





Reference
Fan plate and corner of the wall of unit should be in the same position.

NOTE
Noise or damage to the fan can be caused by misalignment of the motor due to its mounting position.

4-Way Cassette 60 × 60 Type
Removing Fan Motor

Turn off the power supply.

WARNING

ELECTRICAL SHOCK CAN CAUSE
SEVERE PERSONAL INJURY OR DEATH.

■ Removing ceiling panel

(1) Disconnect the ceiling panel wiring from the terminal board of indoor unit.

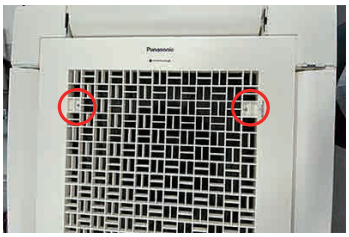
① Remove the 4 screws on the power supply board and remove the cover of the power supply board.

② Remove the motor connector on the panel.

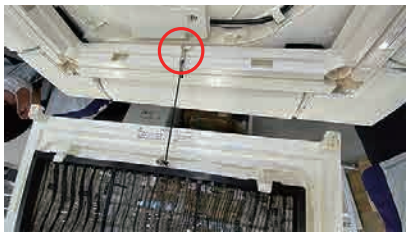
③ Remove the motor wire from the wiring band.

(2) Removing ceiling panel from the indoor unit.

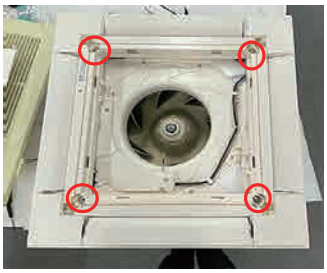
④ Remove the 2 screws on the latch of the air intake grille.



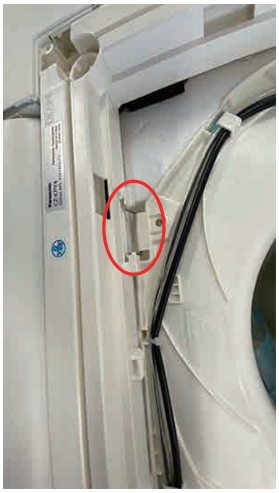
⑤ Remove the air intake grille fall prevention string.



⑥ Remove the 4 screws.



⑦ Remove the two temporary fixing latches of the panel and remove the panel.

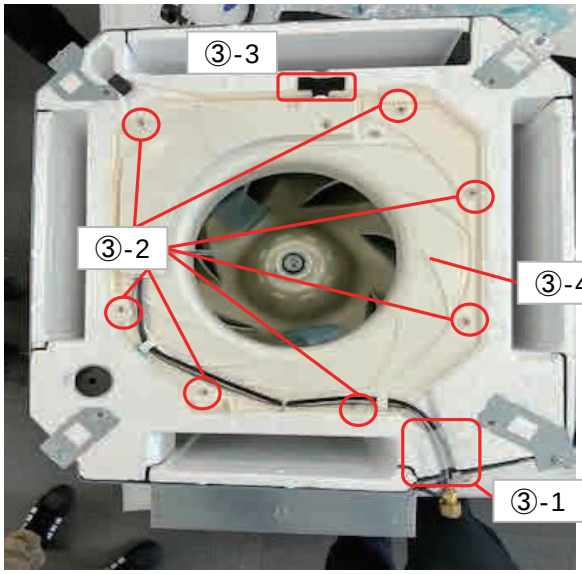


5

■ Removing Air guider

① Remove the air intake sensor and nanoe connector.

② Remove the wiring band on the side of the electrical box and remove the wiring. Use a tool such as a flat-blade screwdriver to loosen the wiring band.



③-1 Remove the tape that secures the wiring.

③-2 Remove 7 screws.

③-3 Remove the sealing material from the “nanoe” air outlet.
Do not dispose of the sealing material as it needs to be reused during installation. If it is damaged, use service parts described below.
(Service parts: Parts code / ACXG32-05500)

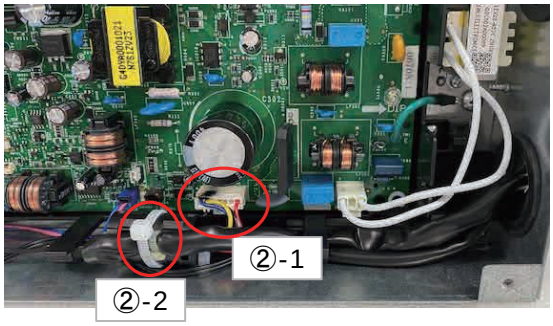
③-4 Remove the air guider.

■ Removing Fan Motor

① With the air guider removed,
remove the nut and remove the fan.

②-1 Remove the motor connector.

②-2 Cut the band that fixes the core.

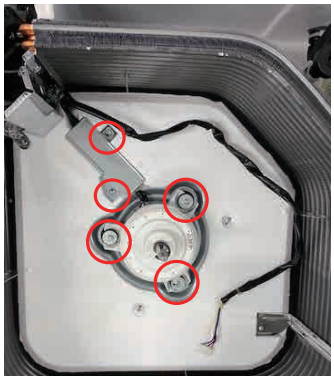


③ Cut the band that fixes the core and remove the core.
Do not dispose the core as it will be reused.
If you disposed of it, be sure to arrange service parts.
(Service parts: Parts code / J0KF00000067)

④ Remove the two screws and two claws,
and remove the piping fixing parts.
∗When installing, to confirm that the two
claws are fixed.

⑤ Remove the motor wiring. Since the sealing
material wrapped around the wiring cannot be
reused, be sure to arrange service parts and
attach them to the replaced motor.
(Service parts: Parts code / ACXG32-0570)

⑥ Remove the wiring band.
Remove the 2 screws and 3 nuts and remove the motor.



5-5. Removing Drain Pan
4-Way Cassette 60 × 60 Type

Turn off the power supply.

WARNING

ELECTRICAL SHOCK CAN CAUSE
SEVERE PERSONAL INJURY OR DEATH.

■ Removing ceiling panel

(1) Disconnect the ceiling panel wiring from the terminal board of indoor unit.

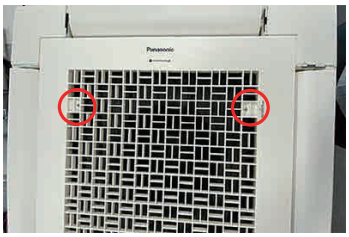
① Remove the 4 screws on the power supply board and remove the cover of the power supply board.

② Remove the motor connector on the panel.

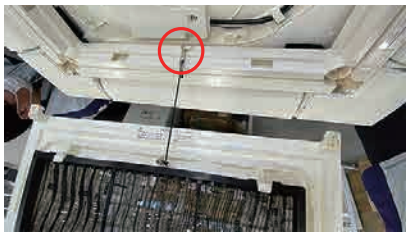
③ Remove the motor wire from the wiring band.

(2) Removing ceiling panel from the indoor unit.

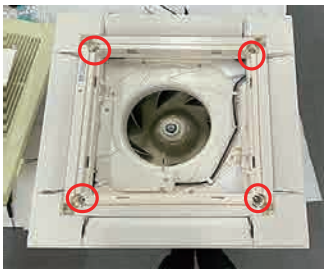
④ Remove the 2 screws on the latch of the air intake grille.



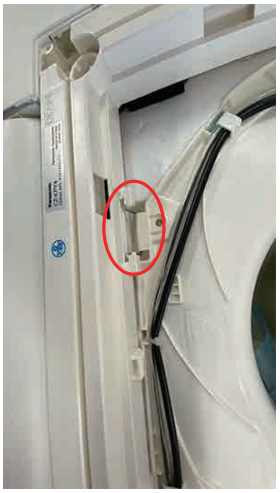
⑤ Remove the air intake grille fall prevention string.



⑥ Remove the 4 screws.



⑦ Remove the two temporary fixing latches of the panel and remove the panel.

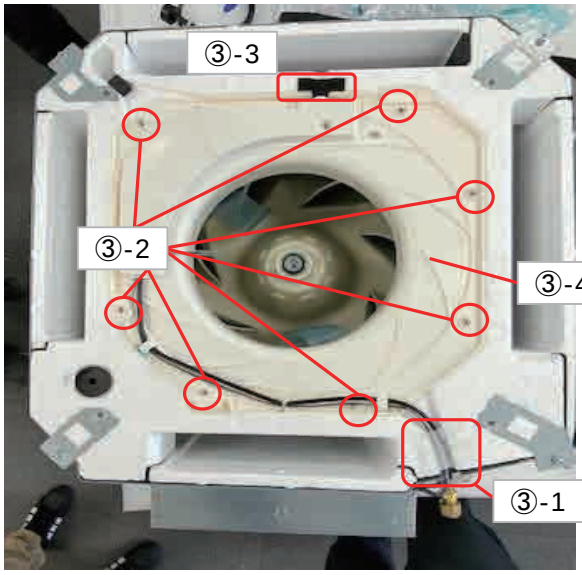


5

■ Removing Air guider

① Remove the air intake sensor and nanoe connector.

② Remove the wiring band on the side of the electrical box and remove the wiring. Use a tool such as a flat-blade screwdriver to loosen the wiring band.



③-1 Remove the tape that secures the wiring.

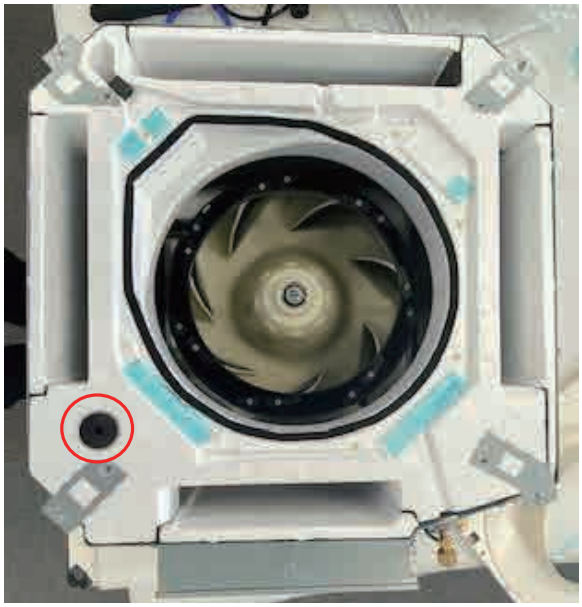
③-2 Remove 7 screws.

③-3 Remove the sealing material from the “nanoe” air outlet.
Do not dispose of the sealing material as it needs to be reused during installation. If it is damaged, use service parts described below.
(Service parts: Parts code / ACXG32-05500)

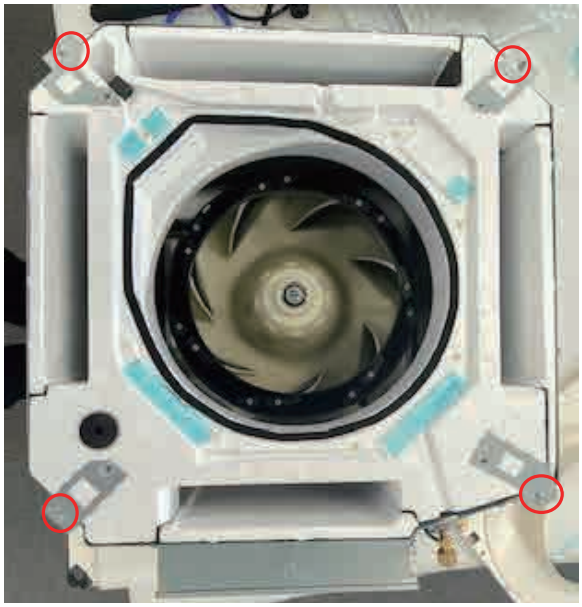
③-4 Remove the air guider.

■ Removing Drain Pan

① Remove the rubber cap and drain the drain water.



② Remove the 4 screws and remove the Drain Pan.



5-6. Replacing nanoe unit
4-Way Cassette 60 × 60 Type

Turn off the power supply.

WARNING

ELECTRICAL SHOCK CAN CAUSE
SEVERE PERSONAL INJURY OR DEATH.

■ Removing ceiling panel

(1) Disconnect the ceiling panel wiring from the terminal board of indoor unit.

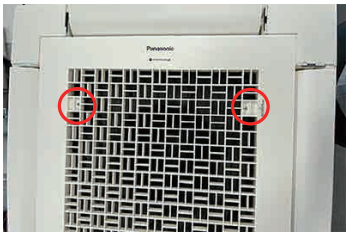
① Remove the 4 screws on the power supply board and remove the cover of the power supply board.

② Remove the motor connector on the panel.

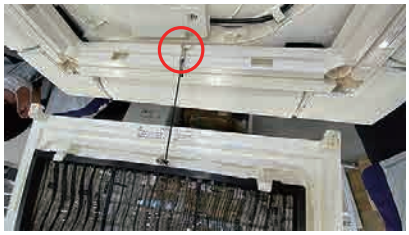
③ Remove the motor wire from the wiring band.

(2) Removing ceiling panel from the indoor unit.

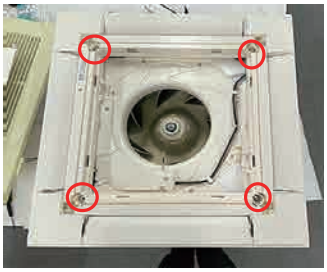
④ Remove the 2 screws on the latch of the air intake grille.



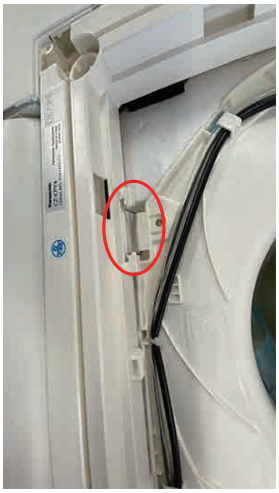
⑤ Remove the air intake grille fall prevention string.



⑥ Remove the 4 screws.



⑦ Remove the two temporary fixing latches of the panel and remove the panel.

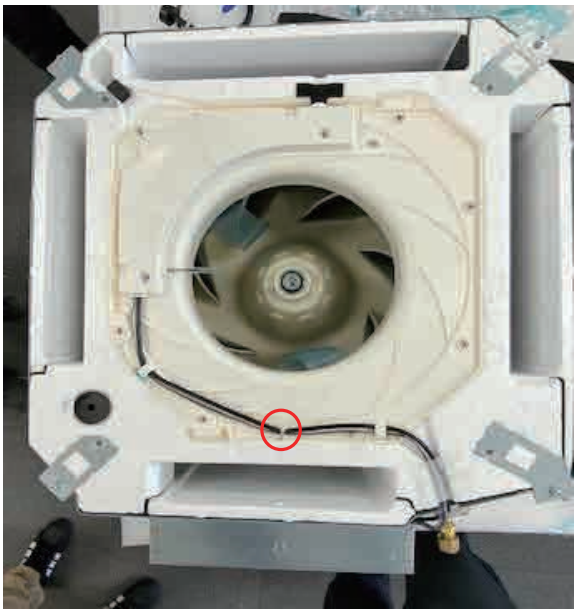


■ Replacing nanoe unit

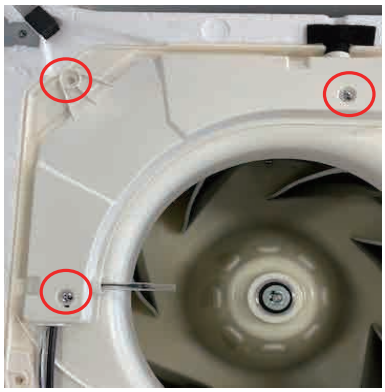
① Remove the air intake sensor and nanoe connector.

② Remove the wiring band on the side of the electrical box and remove the wiring. Use a tool such as a flat-blade screwdriver to loosen the wiring band.

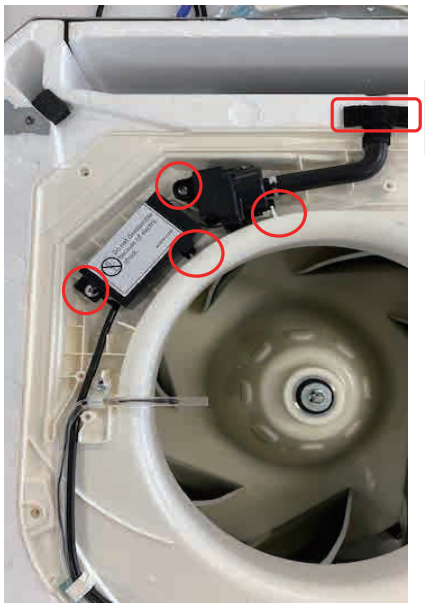
③ Cut the wiring band.



④ Remove the 3 screws and remove the cover.



⑤ Remove the two claws, two screws and the sealing material, and remove nanoe unit.
* When installing, to confirm that the two claws are fixed.
** Do not dispose of the sealing material as it needs to be reused during installation.
If it is damaged, use service parts described below.
(Service parts: Parts code / ACXG32-05500)



5-7. How to Replace Receiver PCB of Wireless remote controller CZ-RWRY3
Removing Receiver PCB

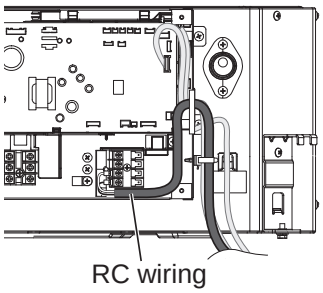
1. Turn off the power supply.

WARNING

ELECTRICAL SHOCK CAN CAUSE
SEVERE PERSONAL INJURY OR DEATH.

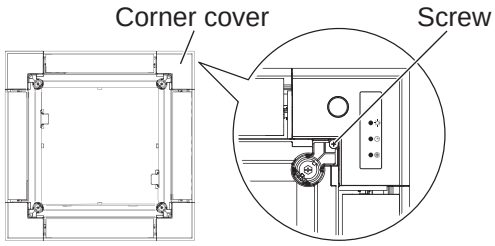
2. Disconnect the RC wiring from the terminal board of indoor unit. (Fig. 5-7-1)

Fig. 5-7-1



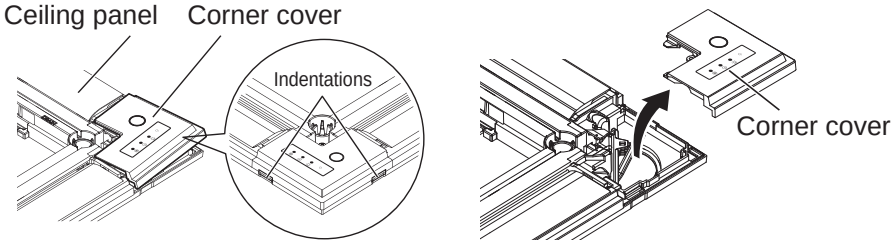
3. Remove the screw fixing the corner cover. (Fig. 5-7-2)

Fig. 5-7-2



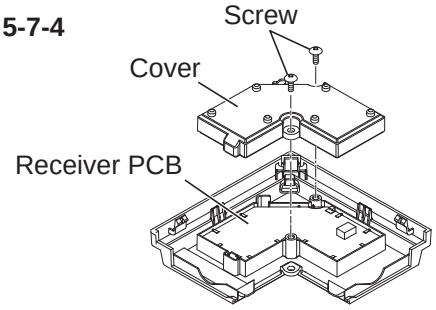
4. Put your hands into the indentations on the left and right of the ceiling panel and remove the corner cover. (Fig. 5-7-3)

Fig. 5-7-3



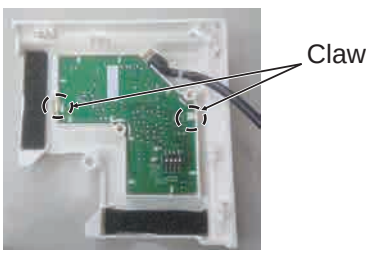
5. Remove the cover from the receiver. (Fig. 5-7-4)

Fig. 5-7-4



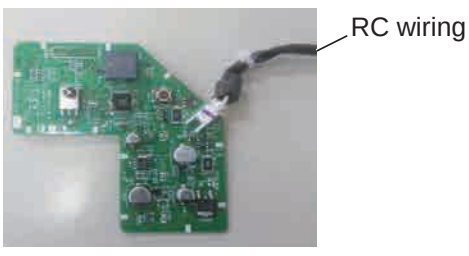
6. Remove from the claws and take out the Receiver PCB. (Fig. 5-7-5)

Fig. 5-7-5



7. Disconnect the RC wiring and replace the Receiver PCB. (Fig. 5-7-6)

Fig. 5-7-6



8. Return to the installed state by reversing the procedure.