

December 2010
No. OCH493

TECHNICAL & SERVICE MANUAL

Series SLZ Ceiling Cassettes R410A

Indoor unit
[Model names]

SLZ-KA25VAQ

SLZ-KA35VAQ

SLZ-KA50VAQ

[Service Ref.]

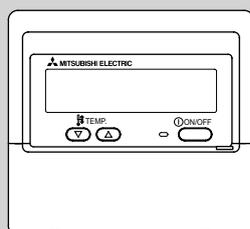
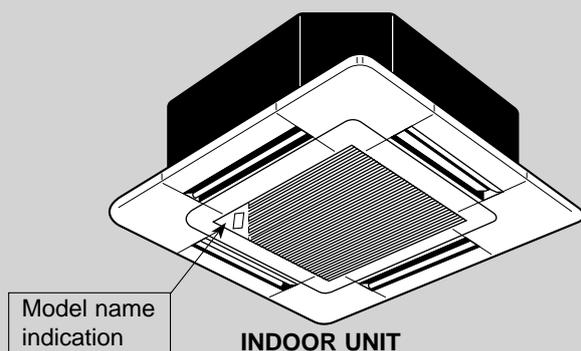
SLZ-KA25VAQ.TH

SLZ-KA35VAQ.TH

SLZ-KA50VAQ.TH

Note:

- This manual describes only service data of the indoor units.
- RoHS compliant products have <G> mark on the spec name plate.
- For servicing RoHS compliant products, refer to the RoHS Parts List.



WIRED REMOTE CONTROLLER
(Option)

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PARTS CATALOG (OCB493)

Mr. SLIM™

Note:

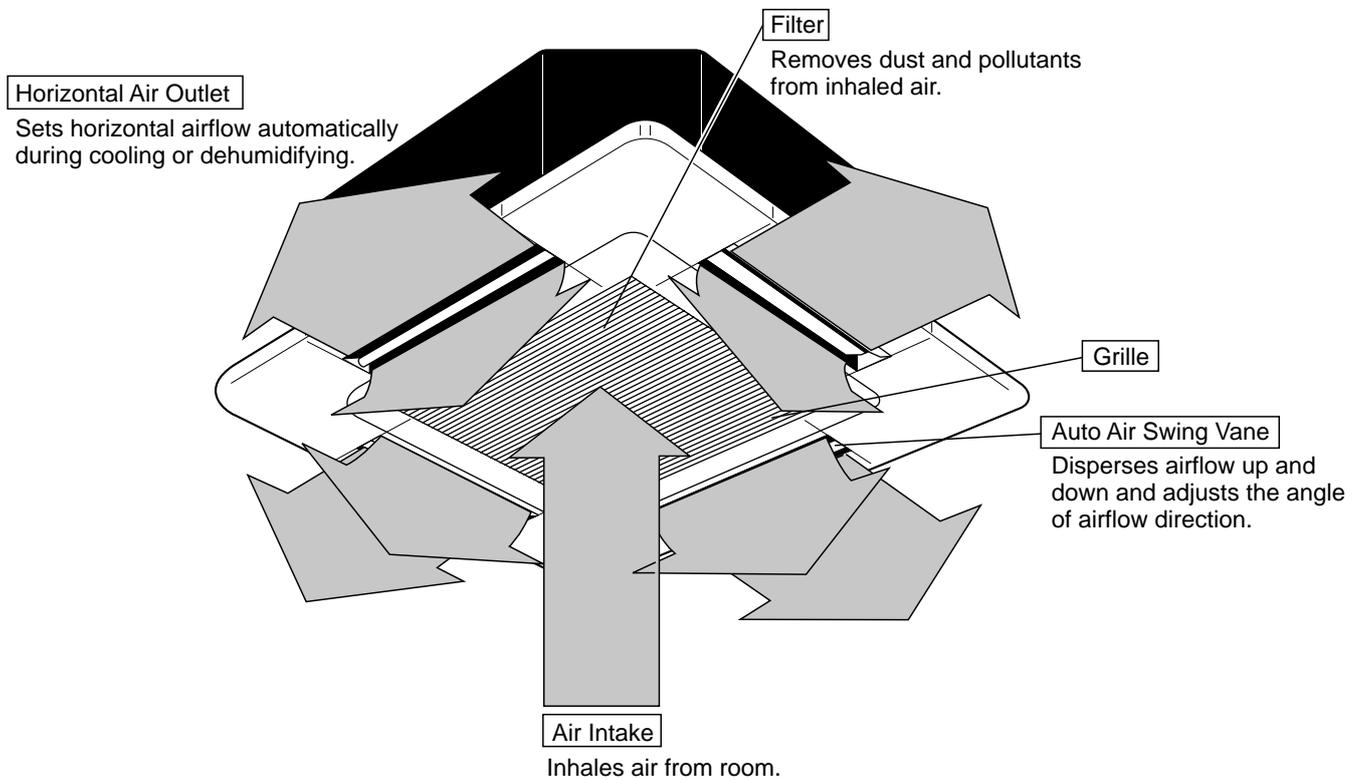
The phrase “Wired remote controller” in this service manual refers only to the PAR-21MAA.

If you need any information for the PAR-30MAA, please refer to the instruction book included in PAR-30MAA box.

1 PART NAMES AND FUNCTIONS

Indoor Unit

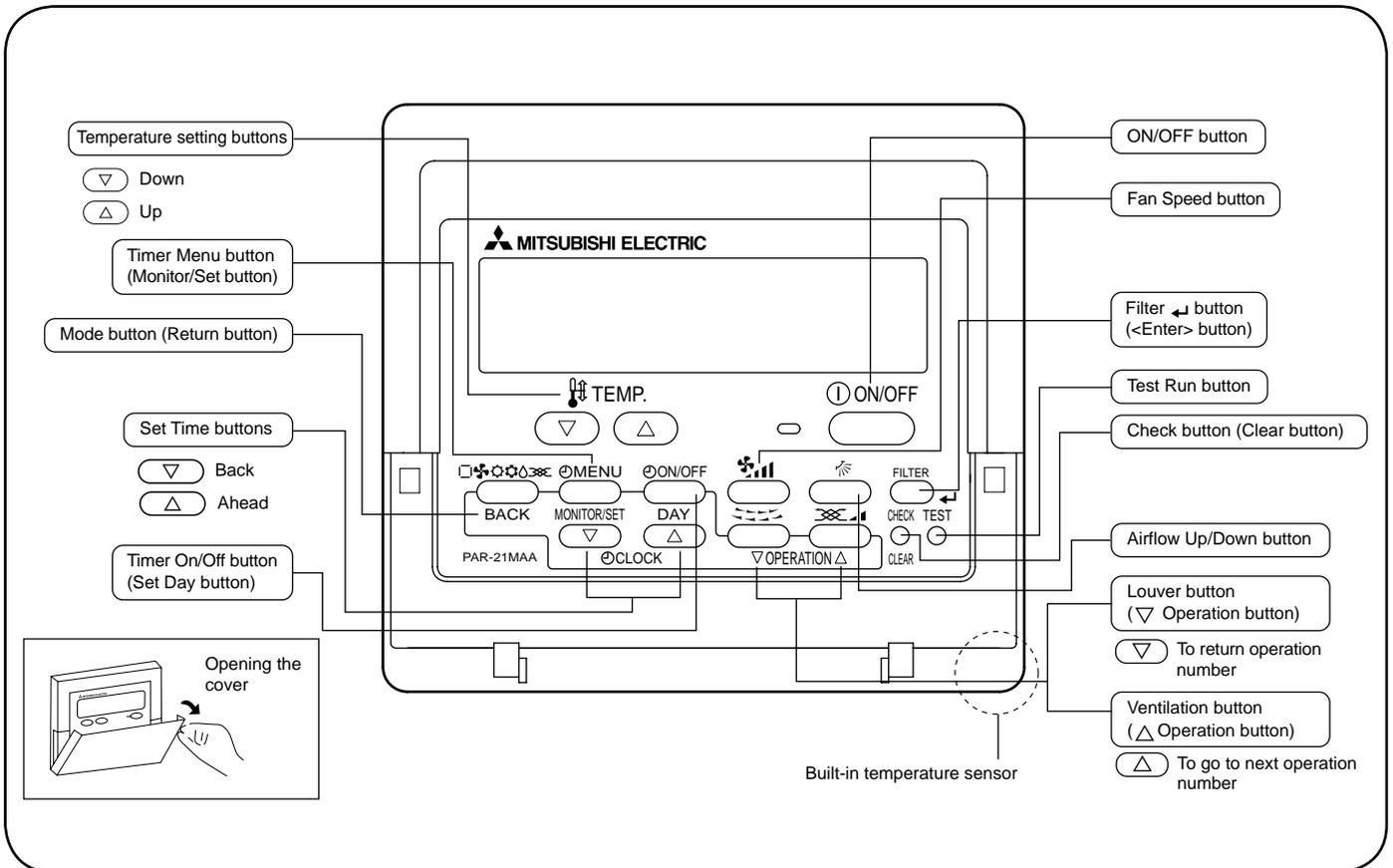
SLZ-KA25VAQ.TH SLZ-KA35VAQ.TH SLZ-KA50VAQ.TH



Wired remote controller (Option)

Once the controllers are set, the same operation mode can be repeated by simply pressing the ON/OFF button.

SLZ-KA25VAQ.TH SLZ-KA35VAQ.TH SLZ-KA50VAQ.TH



Wired remote controller (Option)

Display Section

For purposes of this explanation, all parts of the display are shown. During actual operation, only the relevant items will be lit.

Identifies the current operation
Shows the operating mode, etc.
*Multilanguage display is available.

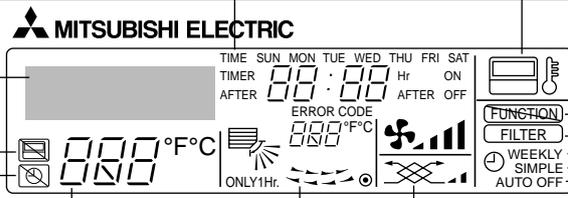
"Centrally Controlled" indicator
Indicates that operation from the remote controller has been prohibited by a master controller.

"Timer is Off" indicator
Indicates that the timer is off.

Temperature Setting
Shows the target temperature.

Day-of-Week
Shows the current day of the week.

Time/Timer Display
Shows the current time, unless the simple or Auto Off timer is set.
If the simple or Auto Off timer is set, the time to be switched off is shown.



Up/Down Air Direction indicator
Shows the direction of the outgoing airflow.

"One Hour Only" indicator
Displays if the airflow is set to low or downward during COOL or DRY mode. (Operation varies according to model.)
The indicator goes off in one hour, when the airflow direction also changes.

Room Temperature display
Shows the room temperature. The room temperature display range is 8 - 39°C. The display blinks if the temperature is less than 8°C or 39°C or more.

Louver display
Indicates the action of the swing louver. Does not appear if the louver is not running.

● (Power On indicator)
Indicates that the power is on.

"Sensor" indication
Displays when the remote controller sensor is used.

"Locked" indicator
Indicates that remote controller buttons have been locked.

"Clean The Filter" indicator
To be displayed on when it is time to clean the filter.

Timer indicators
The indicator comes on if the corresponding timer is set.

Fan Speed indicator
Shows the selected fan speed.

Ventilation indicator
Appears when the unit is running in Ventilation mode.

Note:

- "PLEASE WAIT" message
This message is displayed for approximately 3 minutes when power is supplied to the indoor unit or when the unit is recovering from a power failure.
- "NOT AVAILABLE" message
This message is displayed if an invalid button is pressed (to operate a function that the indoor unit does not have).
If a single remote controller is used to operate multiple indoor units simultaneously that are different types, this message will not be displayed as far as any of the indoor units is equipped with the function.

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SPECIFICATIONS

Indoor service ref.			SLZ-KA25VAQ.TH		SLZ-KA35VAQ.TH		SLZ-KA50VAQ.TH	
Function			Cooling	Heating	Cooling	Heating	Cooling	Heating
Power supply			Single phase 230V, 50Hz		Single phase 230V, 50Hz		Single phase 230V, 50Hz	
Capacity	Air flow (High/Medium/Low)	m ³ /h	600/540/480		660/540/480		660/540/480	
Electrical data	Power outlet	A	10		10		20	
	Running current *1	A	0.35		0.40		0.65	
	Power input Rated frequency	W	75		85		85	
	Dew prevention heater	(kW)	0.014		0.014		0.014	
	Power factor *1	%	90	93	94	94	97	97
	Fan motor current *1	A	0.19		0.26		0.27	
Fan motor	Model		PK6V15-LD		PK6V20-LL		PK6V20-LM	
	Winding resistance (at 26°C)	Ω	WHT-BLK : 407 BLU-YLW : 30	BLK-BLU : 86 BRN-RED : 165	WHT-BLK : 393 BLU-YLW : 47	BLK-BLU : 164 BRN-RED : 319	WHT-BLK : 325 BLU-YLW : 47	BLK-BLU : 143 BRN-RED : 309
Dimensions	Width	mm(in)	UNIT : 570(22-7/16)		PANEL : 650(25-9/16)			
	Height	mm(in)	UNIT : 235(9-1/4)		PANEL : 20(13/16)			
	Depth	mm(in)	UNIT : 570(22-7/16)		PANEL : 650(25-9/16)			
Weight		kg	UNIT : 16.5		PANEL : 3			
Special remarks	Air direction		4		4		4	
	Sound level(High/Medium/Low)	dB(A)	37/31/28		38/33/29		39/34/30	
	Fan speed(High/Medium/Low)	rpm	650/530/480		690/570/510		710/590/530	
	Fan speed regulator		3		3		3	
	Thermistor TH1(at 25°C)	kΩ	10		10		10	
	Thermistor TH2(at 25°C)	kΩ	10		10		10	
	Thermistor TH5(at 25°C)	kΩ	10		10		10	

NOTE : Test conditions are based on ISO 5151.
 Cooling : Indoor D.B. 27°C W.B. 19°C
 Outdoor D.B. 35°C W.B. 24°C
 Heating : Indoor D.B. 20°C W.B. 15°C
 Outdoor D.B. 7°C W.B. 6°C
 Refrigerant piping length (one way): 5 m
 *1 Measured under rated operating frequency

Specifications and rating conditions of main electric parts

INDOOR UNIT

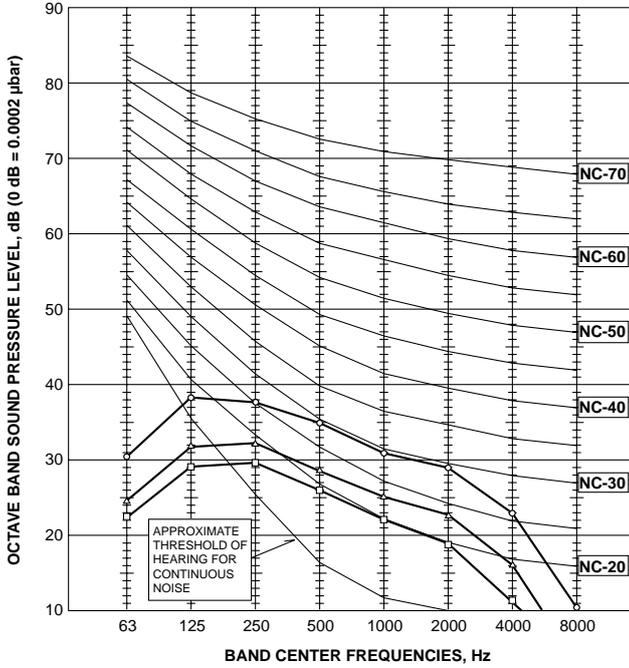
Item	Service ref.	SLZ-KA25VAQ.TH	SLZ-KA35VAQ.TH	SLZ-KA50VAQ.TH
Indoor fan capacitor	(C1)	1.5μF 440V		
Fuse	(FUSE)	250V 6.3A		
Vane motor	(MV)	MSBPC20 12V 250Ω		
Terminal block	(TB)	TO OUTDOOR UNIT : 3P TO WIRED REMOTE CONTROLLER : 2P		
Indoor fan motor thermal fuse		141°C ± 3°C		
Cord Heater	(H2)	240V AC 15W		

NOISE CRITERION CURVES

SLZ-KA25VAQ.TH

<50Hz>

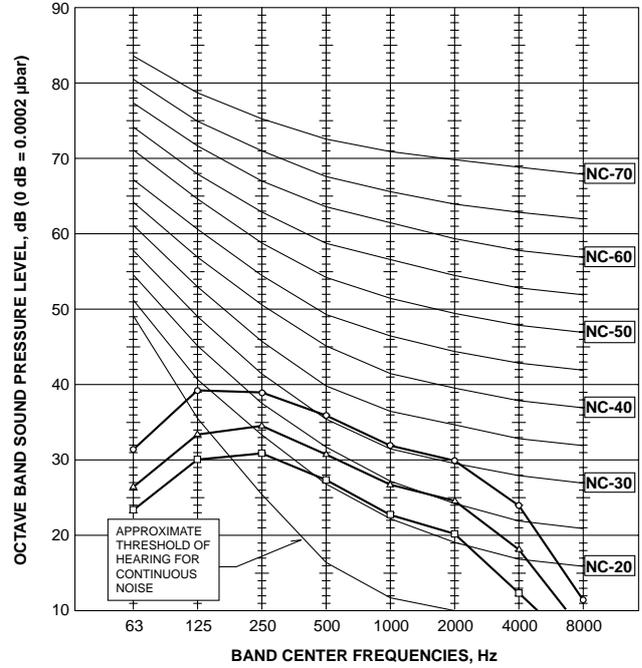
NOTCH	SPL(dB)	LINE
High	37	○—○
Medium	31	△—△
Low	28	□—□



SLZ-KA35VAQ.TH

<50Hz>

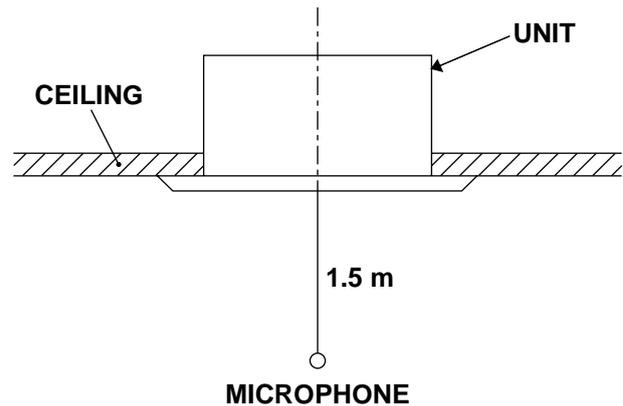
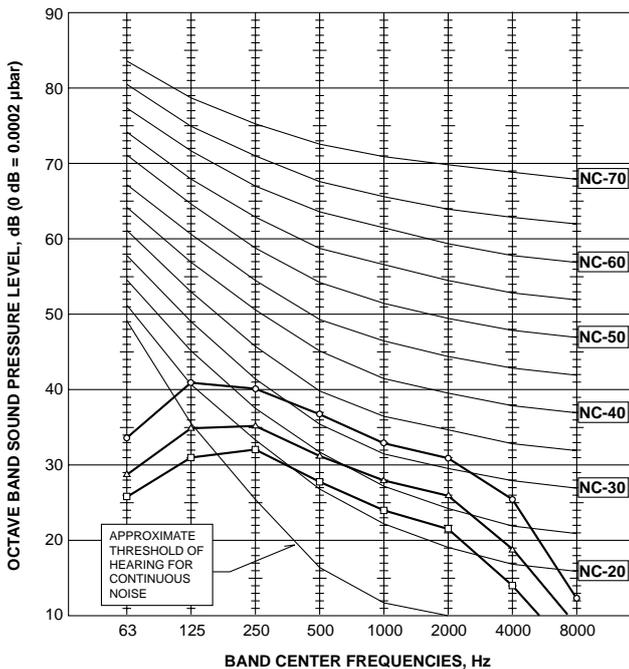
NOTCH	SPL(dB)	LINE
High	38	○—○
Medium	33	△—△
Low	29	□—□



SLZ-KA50VAQ.TH

<50Hz>

NOTCH	SPL(dB)	LINE
High	39	○—○
Medium	34	△—△
Low	30	□—□



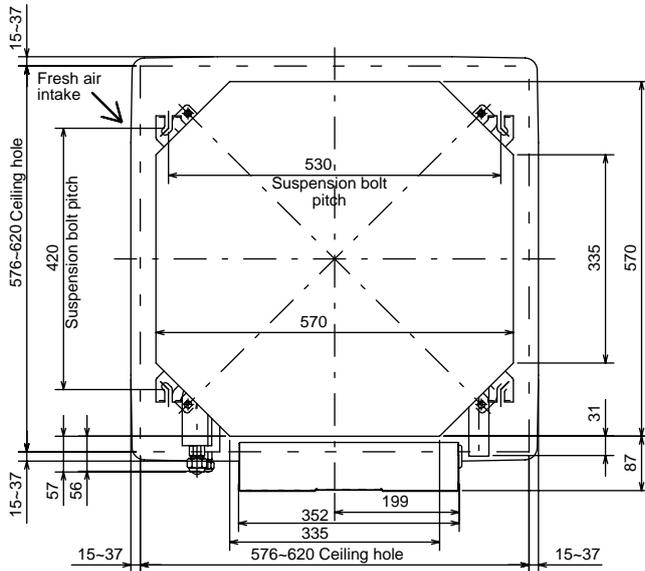
NOTE: The sound level is measured in an anechoic room where echoes are few, when compressor stops. The sound may be bigger than the indicated level in actual use due to surrounding echoes. The sound level can be higher by about 2 dB than the indicated level during cooling and heating operation.

3

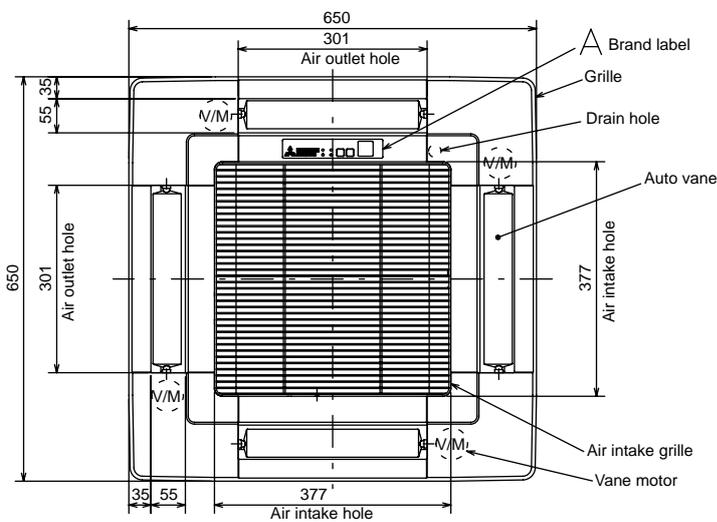
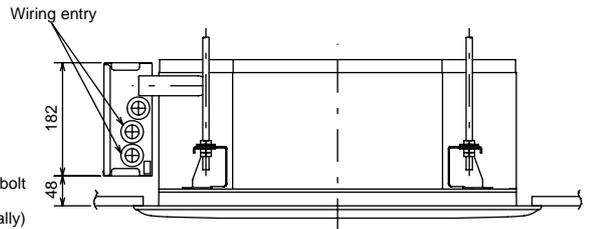
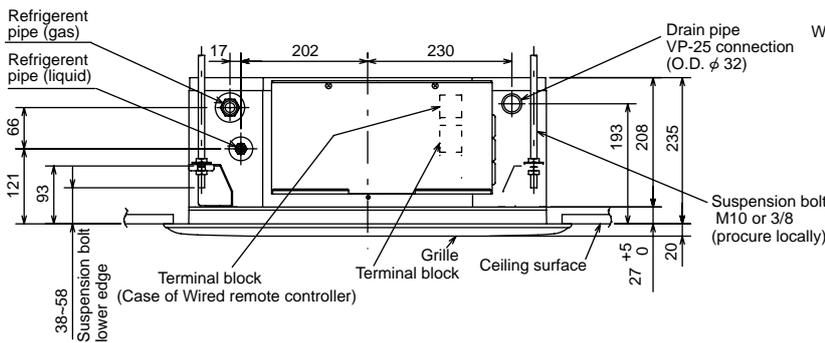
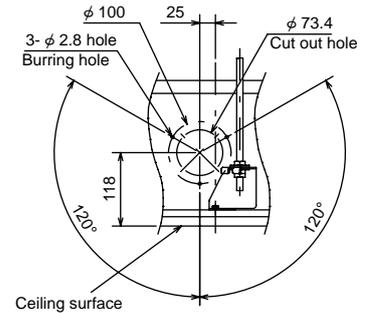
OUTLINES AND DIMENSIONS

SLZ-KA25VAQ.TH SLZ-KA35VAQ.TH SLZ-KA50VAQ.TH

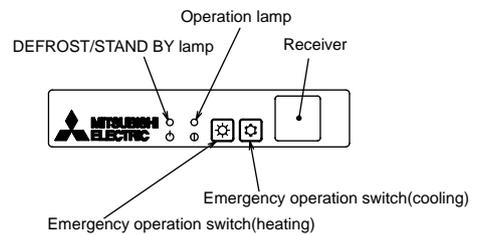
Unit : mm



Detail drawing of fresh air intake



(WIRELESS PANEL)



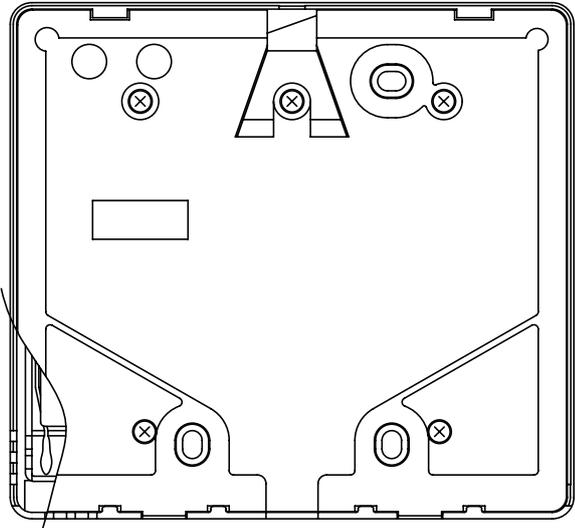
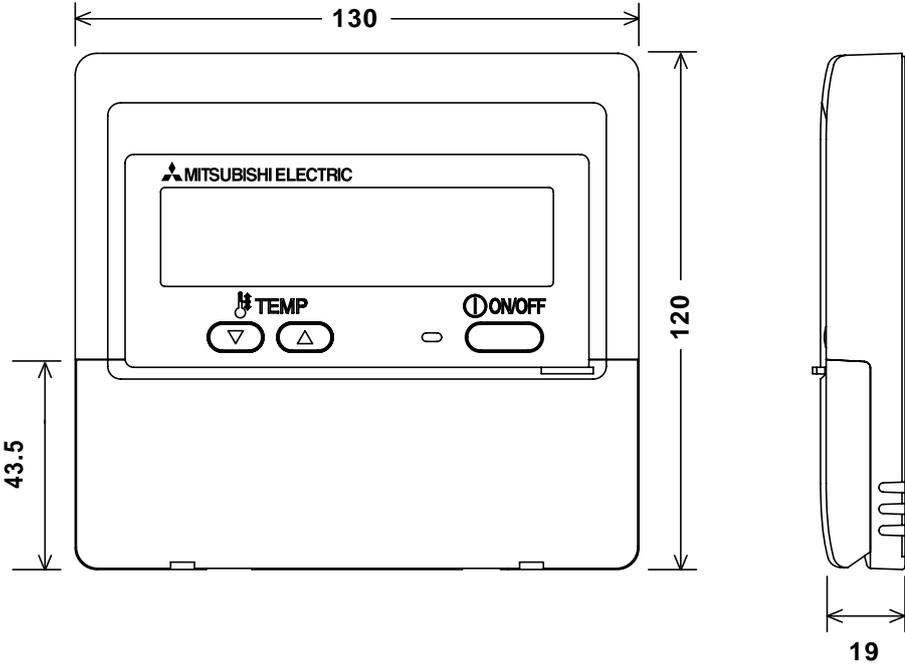
Models	Refrigerant pipe (liquid)	Refrigerant pipe (gas)
SLZ-KA25VAQ	φ 6.35mm flared connection 1/4 F	φ 9.52mm flared connection 3/8 F
SLZ-KA35VAQ	φ 6.35mm flared connection 1/4 F	φ 9.52mm flared connection 3/8 F
SLZ-KA50VAQ	φ 6.35mm flared connection 1/4 F	φ 12.7mm flared connection 1/2 F



WIRED REMOTE CONTROLLER

(Option)

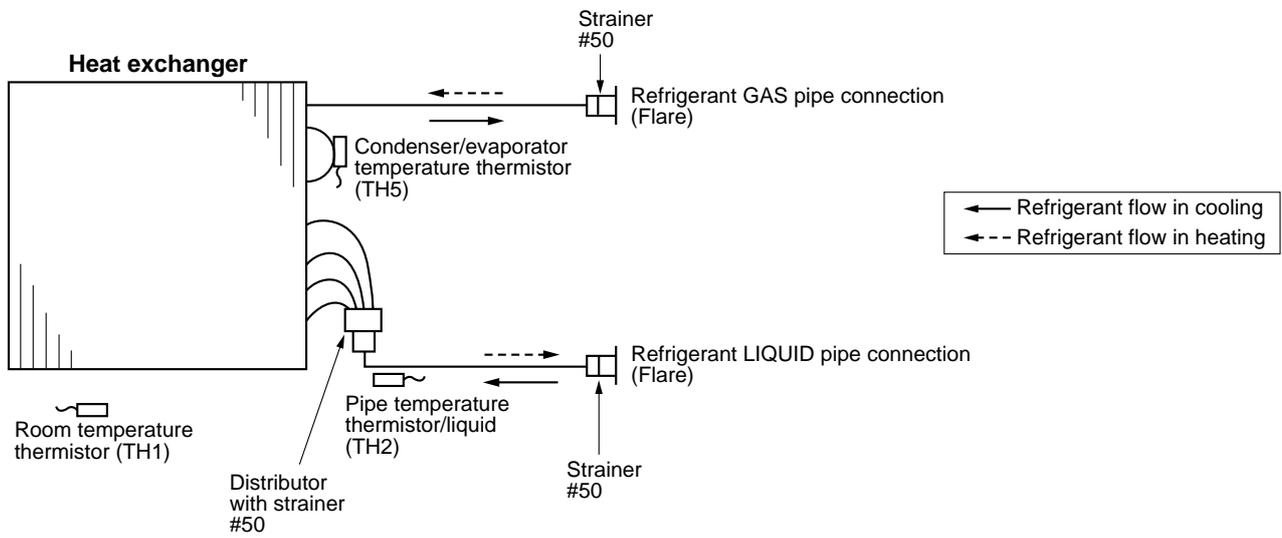
Unit : mm



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REFRIGERANT SYSTEM DIAGRAM

SLZ-KA25VAQ.TH SLZ-KA35VAQ.TH SLZ-KA50VAQ.TH



6

TROUBLESHOOTING

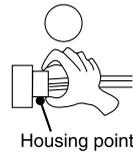
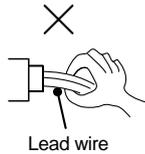
6-1. CAUTIONS ON TROUBLESHOOTING

(1) Before troubleshooting, check the followings:

- ① Check the power supply voltage.
- ② Check that the indoor/outdoor connecting wire is correct.

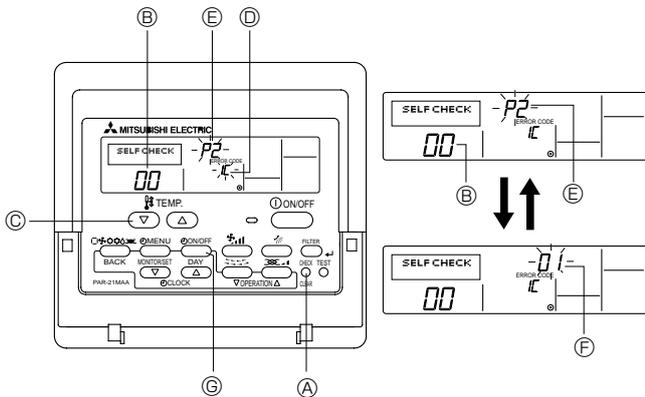
(2) Take care of the followings during servicing:

- ① Before servicing the air conditioner, be sure to turn off the remote controller first to stop the main unit, and then turn off the breaker.
- ② When removing the indoor controller board, hold the edge of the board with care NOT to apply stress on the components.
- ③ When connecting or disconnecting the connectors, hold the housing of the connector. DO NOT pull the lead wires.



6-2. SELF-CHECK

Wired remote controller (Option)



- ① Turn on the power.
- ② Press the [CHECK] button twice.
- ③ Set address with [TEMP] button if system control is used.
- ④ Press the [ON/OFF] button to stop the self-check.

Ⓐ CHECK button

Ⓑ Address

Ⓒ TEMP. button

Ⓓ IC : Indoor unit

OC: Outdoor unit

Ⓔ Check code (---- : No trouble generated in the past.)
 F F F F : No corresponding unit.)

Ⓕ Unit No.

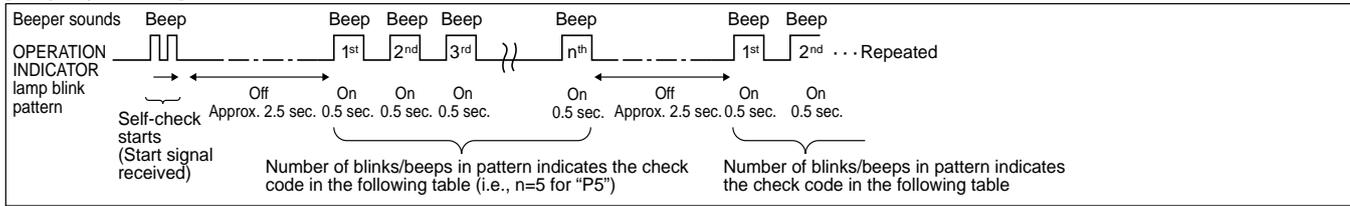
Ⓖ Timer ON/OFF button

<To delete check code>

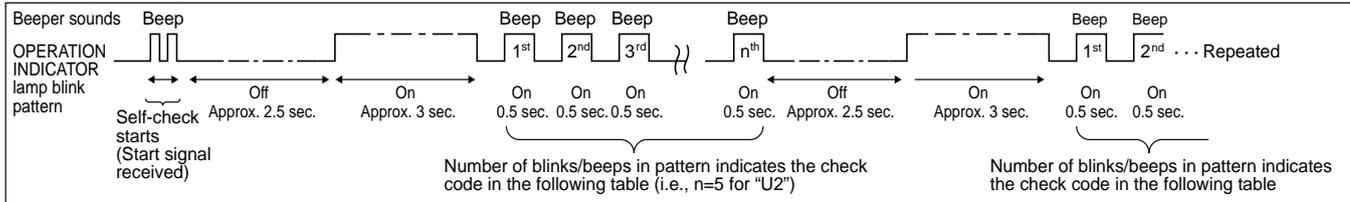
- ① Display the error code on the self-check result display screen.
- ② The address for self-check will blink when the Ⓒ ⌚ ON/OFF button is pressed twice within 3 seconds.

- Refer to the following tables for details on the check codes.

[Output pattern A]



[Output pattern B]



[Output pattern A] Errors detected by indoor unit

Wireless remote controller Beeper sounds/OPERATION INDICATOR lamp blinks (Number of times)	Wired remote controller ① Check code	Symptom	Remark
1	P1	Intake sensor error	—
2	P2	Pipe (TH2) sensor error	
	P9	Pipe (TH5) sensor error	
3	E6, E7	Indoor/outdoor unit communication error	
4	P4	Drain sensor error	
5	P5	Drain pump error	
6	P6	Freezing/Overheating protection operation	
7	EE	Communication error between indoor and outdoor units	
8	P8	Pipe temperature error	
9	E4, E5	Remote controller signal receiving error	
10	—	—	
11	—	—	
12	Fb	Indoor unit control system error (memory error, etc.)	
—	E0, E3	Remote controller transmission error	
—	E1, E2	Remote controller control board error	

[Output pattern B] Errors detected by unit other than indoor unit (outdoor unit, etc.)

Wireless remote controller Beeper sounds/OPERATION INDICATOR lamp blinks (Number of times)	Wired remote controller ① Check code	Symptom	Remark
1	E9	Indoor/outdoor unit communication error (Transmitting error) (Outdoor unit)	For details, check the LED display of the outdoor controller board. As for outdoor unit, refer to outdoor unit's service manual.
2	UP	Compressor overcurrent interruption	
3	U3, U4	Open/short of outdoor unit thermistors	
4	UF	Compressor overcurrent interruption (When compressor locked)	
5	U2	Abnormal high discharging temperature/49C operated/insufficient refrigerant	
6	U1, Ud	Abnormal high pressure (63H operated)/Overheating protection operation	
7	U5	Abnormal temperature of heatsink	
8	U8	Outdoor unit fan protection stop	
9	U6	Compressor overcurrent interruption/Abnormal of power module	
10	U7	Abnormality of superheat due to low discharge temperature	
11	U9, UH	Abnormality such as overvoltage or voltage shortage and abnormal synchronous signal to main circuit/Current sensor error	
12	—	—	
13	—	—	
14	Others	Other errors (Refer to the technical manual for the outdoor unit.)	

*1 If the beeper does not sound again after the initial 2 beeps to confirm the self-check start signal was received and the OPERATION INDICATOR lamp does not come on, there are no error records.

*2 If the beeper sounds 3 times continuously "beep, beep, beep (0.4 + 0.4 + 0.4 sec.," after the initial 2 beeps to confirm the self-check start signal was received, the specified refrigerant address is incorrect.

continued to the next page.

- On wireless remote controller
- ② The continuous buzzer sounds from receiving section of indoor unit.
- ③ Blink of operation lamp
- On wired remote controller
- ① Check code displayed on the LCD.

• If the unit cannot be operated properly after the test run, refer to the following table to find out the cause.

Symptom		Cause
Wired remote controller		
PLEASE WAIT	For about 2 minutes after power-on	• For about 2 minutes after power-on, operation of the remote controller is not possible due to system start-up. (Correct operation)
PLEASE WAIT → Error code	Subsequent to about 2 minutes after power-on	• Connector for the outdoor unit's protection device is not connected. • Reverse or open phase wiring for the outdoor unit's power terminal block
No messages appear even when operation switch is turned ON (operation lamp does not light up).		• Incorrect wiring between indoor and outdoor units. (incorrect polarity of S1, S2, S3) • Remote controller wire short

On the wireless remote controller with condition above, following phenomena take place.

- No signals from the remote controller can be received.
- Operation lamp is blinking.
- The buzzer makes a short ping sound.

Note:

Operation is not possible for about 30 seconds after cancellation of function selection. (Correct operation)

For description of each LED (LED1, 2, 3) provided on the indoor controller, refer to the following table.

LED1 (power for microprocessor)	Indicates whether control power is supplied. Make sure that this LED is always lit.
LED2 (power for wired remote controller)	Indicates whether power is supplied to the wired remote controller. This LED lights only in the case of the indoor unit which is connected to the outdoor unit refrigerant address "0".
LED3 (communication between indoor and outdoor units)	Indicates state of communication between the indoor and outdoor units. Make sure that this LED is always blinking.

6-3. SELF-DIAGNOSIS ACTION TABLE

Note: Refer to the manual of outdoor unit for the details of display such as F, U, and other E.

Error Code	Abnormal point and detection method	Cause	Countermeasure
P1	<p>Room temperature thermistor (TH1)</p> <p>① The unit is in 3-minute resume prevention mode if short/open of thermistor is detected. Abnormal if the unit does not reset normally after 3 minutes. (The unit returns to normal operation, if it has been reset normally.)</p> <p>② Constantly detected during cooling, drying and heating operation Short: 90°C or more Open: -40°C or less</p>	<p>① Defective thermistor characteristics</p> <p>② Contact failure of connector (CN20) on the indoor controller board (Insert failure)</p> <p>③ Breaking of wire or contact failure of thermistor wiring</p> <p>④ Defective indoor controller board</p>	<p>①-③ Check resistance value of thermistor. 0°C.....15.0kΩ 10°C.....9.6kΩ 20°C.....6.3kΩ 30°C.....4.3kΩ 40°C.....3.0kΩ</p> <p>If you put force on (draw or bend) the lead wire with measuring resistance value of thermistor, breaking of wire or contact failure can be detected.</p> <p>② Check contact failure of connector (CN20) on the indoor controller board. Refer to 6-5. Turn the power back on and check restart after inserting connector again.</p> <p>④ Check room temperature display on remote controller. Replace indoor controller board if there is abnormal difference with actual room temperature.</p> <p>Turn the power off, and on again to operate after checking.</p>
P2	<p>Pipe temperature thermistor/Liquid (TH2)</p> <p>① The unit is in 3-minute resume prevention mode if short/open of thermistor is detected. Abnormal if the unit does not reset normally after 3 minutes. (The unit returns to normal operation, if it has been reset normally.)</p> <p>② Constantly detected during cooling, drying, and heating (except defrosting) operation. Short: 90°C or more Open: -40°C or less</p>	<p>① Defective thermistor characteristics</p> <p>② Contact failure of connector (CN21) on the indoor controller board (Insert failure)</p> <p>③ Breaking of wire or contact failure of thermistor wiring</p> <p>④ Defective refrigerant circuit is causing thermistor temperature of 90°C or more or -40°C or less.</p> <p>⑤ Defective indoor controller board</p>	<p>①-③ Check resistance value of thermistor. For characteristics, refer to (P1) above.</p> <p>② Check contact failure of connector (CN21) on the indoor controller board. Refer to 6-5. Turn the power on and check restart after inserting connector again.</p> <p>④ Check pipe <liquid> temperature with remote controller in test run mode. If pipe <liquid> temperature is extremely low (in cooling mode) or high (in heating mode), refrigerant circuit may have defect.</p> <p>⑤ Check pipe <liquid> temperature with remote controller in test run mode. If there is extreme difference with actual pipe <liquid> temperature, replace indoor controller board.</p> <p>Turn the power off, and on again to operate after checking.</p>
P4	<p>Drain sensor (DS)</p> <p>① Suspensive abnormality, if short/open of thermistor is detected for 30 seconds continuously. Turn off compressor and indoor fan.</p> <p>② Short/open is detected for 30 seconds continuously during suspensive abnormality. (The unit returns to normal operation, if it has been reset normally.)</p> <p>③ Detect the following condition.</p> <ul style="list-style-type: none"> • During cooling and drying operation • In case that pipe <liquid> temperature - room temperature < -10 deg (Except defrosting) • When pipe <liquid> temperature or room temperature is short/open temperature. • During drain pump operation 	<p>① Defective thermistor characteristics</p> <p>② Contact failure of connector (CN31) on the indoor controller board (Insert failure)</p> <p>③ Breaking of wire or contact failure of drain sensor wiring</p> <p>④ Defective indoor controller board</p>	<p>①-③ Check resistance value of thermistor. 0°C.....6.0kΩ 10°C.....3.9kΩ 20°C.....2.6kΩ 30°C.....1.8kΩ 40°C.....1.3kΩ</p> <p>② Check contact failure of connector (CN31) on the indoor controller board. Refer to 6-5. Turn the power back on and check restart after inserting connector again.</p> <p>④ Replace indoor controller board if drain pump operates with the line of drain sensor connector CN31-① and ② is short-circuited, and abnormality reappears.</p> <p>Turn the power off, and on again to operate after checking.</p>
P5	<p>Malfunction of drain pump (DP)</p> <p>① Suspensive abnormality, if thermistor of drain sensor heats itself and temperature rises slightly. Turn off compressor and indoor fan.</p> <p>② Drain pump is abnormal if the condition above is detected during suspensive abnormality.</p> <p>③ Constantly detected during drain pump operation</p>	<p>① Malfunction of drain pump</p> <p>② Defective drain Clogged drain pump Clogged drain pipe</p> <p>③ Attached drop of water at the drain sensor</p> <ul style="list-style-type: none"> • Drops of drain trickles from lead wire • Clogged filter is causing wave of drain. <p>④ Defective indoor controller board</p>	<p>① Check if drain pump works.</p> <p>② Check drain function.</p> <p>③ Check the setting of lead wire of drain sensor and check clogs of the filter.</p> <p>④ Replace indoor controller board if drain pump operates with the line of drain sensor connector CN31-① and ② is short-circuited and abnormality reappears. Refer to 6-5.</p> <p>Turn the power off, and on again to operate after checking.</p>



Error Code	Abnormal point and detection method	Cause	Countermeasure
P6	<p>Freezing/overheating protection is operating</p> <p>① Freezing protection (Cooling mode) The unit is in 6-minute resume prevention mode if pipe <liquid or condenser/evaporator> temperature stays under -15°C for 3 minutes after the compressor started. Abnormal if it stays under 15°C for 3 minutes again within 16 minutes after 6-minute resume prevention mode.</p> <p>② Overheating protection (Heating mode) The units is in 6-minute resume prevention mode if pipe <condenser / evaporator> temperature is detected as over 70°C after the compressor started. Abnormal if the temperature of over 70°C is detected again within 10 minutes after 6-minute resume prevention mode.</p>	<p>(Cooling or drying mode)</p> <p>① Clogged filter (reduced airflow) ② Short cycle of air path ③ Low-load (low temperature) operation out of the tolerance range ④ Defective indoor fan motor</p> <ul style="list-style-type: none"> • Fan motor is defective. • Indoor controller board is defective. <p>⑤ Defective outdoor fan control ⑥ Overcharge of refrigerant ⑦ Defective refrigerant circuit (clogging)</p> <p>(Heating mode)</p> <p>① Clogged filter (reduced airflow) ② Short cycle of air path ③ Overload (high temperature) operation out of the tolerance range ④ Defective indoor fan motor</p> <ul style="list-style-type: none"> • Fan motor is defective. • Indoor controller board is defective. <p>⑤ Defective outdoor fan control ⑥ Overcharge of refrigerant ⑦ Defective refrigerant circuit (clogging) ⑧ Bypass circuit of outdoor unit is defective.</p>	<p>(Cooling or drying mode)</p> <p>① Check clogging of the filter. ② Remove blockage.</p> <p>④ Measure the resistance of fan motor's winding. Measure the output voltage of fan's connector (FAN) on the indoor controller board. *The indoor controller board should be normal when voltage of AC 220 - 240V is detected while fan motor is connected. Refer to 6-5. ⑤ Check outdoor fan motor. ⑥⑦ Check operating condition of refrigerant circuit.</p> <p>(Heating mode)</p> <p>① Check clogs of the filter. ② Remove blockage.</p> <p>④ Measure the resistance of fan motor's winding. Measure the output voltage of fan's connector (FAN) on the indoor controller board. *The indoor controller board should be normal when voltage of AC 220 - 240V is detected while fan motor is connected. Refer to 6-5. ⑤ Check outdoor fan motor. ⑥-⑧ Check operating condition of refrigerant circuit.</p>
P8	<p>Pipe temperature</p> <p><Cooling mode> Detected as abnormal when the pipe temperature is not in the cooling range 3 minutes after compressor start and 6 minutes after the liquid or condenser/evaporator pipe is out of cooling range. Note 1) It takes at least 9 min. to detect. Note 2) Abnormality P8 is not detected in drying mode. Cooling range : -3 deg \geq (TH-TH1) TH: Lower temperature between liquid pipe temperature (TH2) and condenser/evaporator temperature (TH5) TH1: Intake temperature</p> <p><Heating mode> When 10 seconds have passed after the compressor starts operation and the hot adjustment mode has finished, the unit is detected as abnormal when condenser/evaporator pipe temperature is not in heating range within 20 minutes. Note 3) It takes at least 27 minutes to detect abnormality. Note 4) It excludes the period of defrosting (Detection restarts when defrosting mode is over) Heating range : 3 deg \leq (TH5-TH1)</p>	<p>① Slight temperature difference between indoor room temperature and pipe <liquid or condenser / evaporator> temperature thermistor</p> <ul style="list-style-type: none"> • Shortage of refrigerant • Disconnected holder of pipe <liquid or condenser / evaporator> thermistor • Defective refrigerant circuit <p>② Converse connection of extension pipe (on plural units connection) ③ Converse wiring of indoor/outdoor unit connecting wire (on plural units connection) ④ Defective detection of indoor room temperature and pipe <condenser / evaporator> temperature thermistor ⑤ Stop valve is not opened completely.</p>	<p>①~④ Check pipe <liquid or condenser / evaporator> temperature with room temperature display on remote controller and outdoor controller circuit board. Pipe <liquid or condenser / evaporator> temperature display is indicated by setting SW2 of outdoor controller circuit board as follows.</p> <p>(Conduct temperature check with outdoor controller circuit board after connecting 'A-Control Service Tool(PAC-SK52ST)')</p> <p>②③ Check converse connection of extension pipe or converse wiring of indoor/outdoor unit connecting wire.</p>



Error Code	Abnormal point and detection method	Cause	Countermeasure
P9	<p>Pipe temperature thermistor / Condenser / Evaporator (TH5)</p> <p>① The unit is in 3-minute resume protection mode if short/open of thermistor is detected. Abnormal if the unit does not get back to normal within 3 minutes. (The unit returns to normal operation, if it has been reset normally.)</p> <p>② Constantly detected during cooling, drying, and heating operation (except defrosting) Short: 90°C or more Open: -40°C or less</p>	<p>① Defective thermistor characteristics</p> <p>② Contact failure of connector (CN29) on the indoor controller board (Insert failure)</p> <p>③ Breaking of wire or contact failure of thermistor wiring</p> <p>④ Temperature of thermistor is 90°C or more or -40°C or less caused by defective refrigerant circuit.</p> <p>⑤ Defective indoor controller board</p>	<p>①-③ Check resistance value of thermistor. For characteristics, refer to (P1) above.</p> <p>② Check contact failure of connector (CN29) on the indoor controller board. Refer to 6-5.</p> <p>Turn the power on and check restart after inserting connector again.</p> <p>④ Operate in test run mode and check pipe <condenser/evaporator> temperature with outdoor controller circuit board. If pipe <condenser/evaporator> temperature is extremely low (in cooling mode) or high (in heating mode), refrigerant circuit may have defect.</p> <p>⑤ Operate in test run mode and check pipe <condenser/evaporator> temperature with outdoor control circuit board. If there is extreme difference with actual pipe <condenser/evaporator> temperature replace indoor controller board.</p> <p>There is no abnormality if none of above comes within the unit.</p> <p>Turn the power off and on again to operate.</p> <p style="text-align: center;">(In case of checking pipe temperature with outdoor controller circuit board, be sure to connect A-control service tool (PAC-SK52ST).)</p>
E0 or E4	<p>Remote controller transmission error(E0)/signal receiving error(E4)</p> <p>① Abnormal if main or sub remote controller cannot receive any transmission normally from indoor unit of refrigerant address "0" for 3 minutes. (Error code : E0)</p> <p>② Abnormal if sub-remote controller could not receive for any signal for 2 minutes. (Error code: E0)</p> <p>① Abnormal if indoor controller board cannot receive normally any data from remote controller board or from other indoor controller board for 3 minutes. (Error code: E4)</p> <p>② Indoor controller board cannot receive any signal from remote controller for 2 minutes. (Error code: E4)</p>	<p>① Contact failure at transmission wire of remote controller</p> <p>② All remote controllers are set as "sub" remote controller. In this case, E0 is displayed on remote controller, and E4 is displayed at LED (LED1, LED2) on the outdoor controller circuit board.</p> <p>③ Miswiring of remote controller</p> <p>④ Defective transmitting/receiving circuit of remote controller</p> <p>⑤ Defective transmitting/receiving circuit of indoor controller board of refrigerant address "0"</p> <p>⑥ Noise has entered into the transmission wire of remote controller.</p>	<p>① Check disconnection or looseness of indoor unit or transmission wire of remote controller.</p> <p>② Set one of the remote controllers "main", if there is no problem with the action above.</p> <p>③ Check wiring of remote controller.</p> <ul style="list-style-type: none"> • Total wiring length: max. 500 m (Do not use cable x 3 or more) • The number of connecting indoor units: max. 16 units • The number of connecting remote controller: max. 2 units <p>When the above-mentioned problem of ①-③ are not seen.</p> <p>④ Diagnose remote controllers.</p> <p>a) When "RC OK" is displayed, remote controllers have no problem. Turn the power off, and on again to check. If abnormality generates again, replace indoor controller board.</p> <p>b) When "RC NG" is displayed, replace remote controller.</p> <p>c) When "RC E3" or "ERC 00-66" is displayed, noise may be causing abnormality.</p>
E3 or E5	<p>Remote controller transmission error(E3)/signal receiving error(E5)</p> <p>① Abnormal if remote controller could not find blank of transmission path for 6 seconds and could not transmit. (Error code: E3)</p> <p>② Remote controller receives transmitted data at the same time, compares the data, and when detecting it, judges different data to be abnormal 30 continuous times. (Error code: E3)</p> <p>① Abnormal if indoor controller board could not find blank of transmission path. (Error code: E5)</p> <p>② Indoor controller board receives transmitted data at the same time, compares the data, and when detecting it, judges different data to be abnormal 30 continuous times. (Error code: E5)</p>	<p>① 2 remote controllers are set as "main." (In case of 2 remote controllers)</p> <p>② Remote controller is connected with 2 indoor units or more.</p> <p>③ Repetition of refrigerant address</p> <p>④ Defective transmitting/receiving circuit of remote controller</p> <p>⑤ Defective transmitting/receiving circuit of indoor controller board</p> <p>⑥ Noise has entered into transmission wire of remote controller.</p>	<p>① Set a remote controller to main, and the other to sub.</p> <p>② Remote controller is connected with only one indoor unit.</p> <p>③ The address changes to a separate setting.</p> <p>④-⑥ Diagnose remote controller.</p> <p>a) When "RC OK" is displayed, remote controllers have no problem. Turn the power off, and on again to check. When becoming abnormal again, replace indoor controller board.</p> <p>b) When "RC NG" is displayed, replace remote controller.</p> <p>c) When "RC E3" or "ERC 00-66" is displayed, noise may be causing abnormality.</p>



Error Code	Abnormal point and detection method	Cause	Countermeasure
E6	<p>Indoor/outdoor unit communication error (Signal receiving error)</p> <p>① Abnormal if indoor controller board cannot receive any signal normally for 6 minutes after turning the power on.</p> <p>② Abnormal if indoor controller board cannot receive any signal normally for 3 minutes.</p> <p>③ Consider the unit abnormal under the following condition: When 2 or more indoor units are connected to one outdoor unit, indoor controller board cannot receive a signal for 3 minutes from outdoor controller circuit board, a signal which allows outdoor controller circuit board to transmit signals.</p>	<p>① Contact failure, short circuit or, miswiring (converse wiring) of indoor/outdoor unit connecting wire</p> <p>② Defective transmitting/receiving circuit of indoor controller board</p> <p>③ Defective transmitting/receiving circuit of indoor controller board</p> <p>④ Noise has entered into indoor/outdoor unit connecting wire.</p>	<p>① Check disconnection or looseness of indoor/outdoor unit connecting wire of indoor unit or outdoor unit. Check all the units in case of twin indoor unit system.</p> <p>②-④ Turn the power off, and on again to check. If abnormality generates again, replace indoor controller board or outdoor controller circuit board.</p> <p>* Other indoor controller board may have defect in case of twin indoor unit system.</p>
E7	<p>Indoor/outdoor unit communication error (Transmitting error)</p> <p>Abnormal if "1" receiving is detected 30 times continuously though indoor controller board has transmitted "0".</p>	<p>① Defective transmitting receiving circuit of indoor controller board</p> <p>② Noise has entered into power supply.</p> <p>③ Noise has entered into outdoor control wire.</p>	<p>①-③ Turn the power off, and on again to check. If abnormality generates again, replace indoor controller board.</p>
Fb	<p>Indoor controller board</p> <p>Abnormal if data cannot be normally read from the nonvolatile memory of the indoor controller board.</p>	<p>① Defective indoor controller board</p>	<p>① Replace indoor controller board.</p>
E1 or E2	<p>Remote controller control board</p> <p>① Abnormal if data cannot be normally read from the nonvolatile memory of the remote controller control board. (Error code: E1)</p> <p>② Abnormal if the clock function of remote controller cannot be normally operated. (Error code: E2)</p>	<p>① Defective remote controller</p>	<p>① Replace remote controller.</p>
PA (2502) (2500)	<p>Forced compressor stop (due to water leakage abnormality)</p> <p>① When the intake temperature subtracted with liquid pipe temperature is less than -10°C, drain sensor detects whether it is soaked in the water or not at the interval of 90 seconds. (Drain pump will start operating when the drain sensor detects to be soaked in the water.)</p> <p>② The unit has a water leakage abnormality when the following conditions, a) and b), are satisfied while the above-mentioned detection is performed.</p> <p>a) The drain sensor detects to be soaked in the water 10 times in a row.</p> <p>b) The intake temperature subtracted with liquid pipe temperature is detected to be less than -10°C for a total of 30 minutes. (When the drain sensor detects to be NOT soaked in the water, the detection record of a) and b) will be cleared.)</p> <p>③ The drain sensor detection is performed in operations other than cooling. (When the unit stops operating, during heating or fan operation, when the unit stops because of some abnormality)</p> <p>*Once the water leakage abnormality is detected, abnormality state will not be released until the main power is reset.</p>	<p>① Drain pump trouble</p> <p>② Drain defective · Drain pump clogging · Drain pipe clogging</p> <p>③ Open circuit of drain sensor side heater</p> <p>④ Contact failure of drain sensor connector</p> <p>⑤ Dew condensation on drain sensor · Drain water trickles along lead wire. · Drain water waving due to filter clogging</p> <p>⑥ Extension piping connection difference at twin, triple, quadruple system</p> <p>⑦ Miswiring of indoor/outdoor connecting at twin, triple, quadruple system</p> <p>⑧ Room temperature thermistor/liquid pipe temperature thermistor detection is defective.</p>	<p>① Check the drain pump. Performance</p> <p>② Please check whether water can be drained.</p> <p>③ Check the resistance of the drain sensor side heater.</p> <p>④ Check the connector contact failure.</p> <p>⑤ Check the drain sensor lead wire mounted. Check the filter clogging.</p> <p>⑥ Check the piping connection.</p> <p>⑦ Check the indoor/outdoor connecting wires.</p> <p>⑧ Check the room temperature display of remote controller. Check the indoor liquid pipe temperature display of outdoor controller board.</p>

6-4. TROUBLESHOOTING BY INFERIOR PHENOMENA

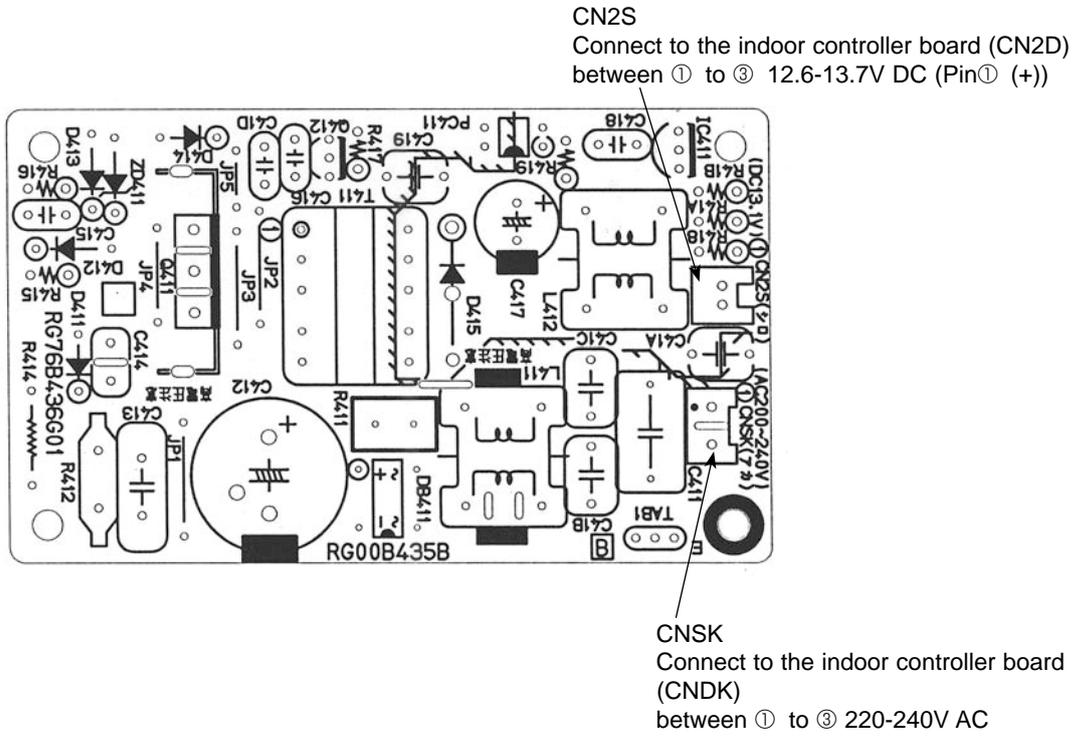
Note: Refer to the manual of outdoor unit for the detail of remote controller.

Phenomena	Cause	Countermeasure
(1) LED2 on indoor controller board is off.	<ul style="list-style-type: none"> • When LED1 on indoor controller board is also off. <p>① Power supply of rated voltage is not supplied to outdoor unit.</p> <p>② Defective outdoor controller circuit board</p> <p>③ Power supply of 220~240V is not supplied to indoor unit.</p> <p>④ Defective indoor power board</p> <p>⑤ Defective indoor controller board</p>	<p>① Check the voltage of outdoor power supply terminal block (L, N) or (L₃, N).</p> <ul style="list-style-type: none"> • When AC 220-240V is not detected, check the power wiring to outdoor unit and the breaker. • When AC 220-240V is detected, check ② (below). <p>② Check the voltage between outdoor terminal block S1 and S2.</p> <ul style="list-style-type: none"> • When AC 220-240V is not detected, —check the fuse on outdoor controller circuit board. —check the wiring connection. • When AC 220-240V is detected, check ③ (below). <p>③ Check the voltage between indoor terminal block S1 and S2.</p> <ul style="list-style-type: none"> • When AC 220-240V is not detected, check indoor/outdoor unit connecting wire for miswiring. • When AC 220-240V is detected, check ④ (below). <p>④ Check voltage output from CN2S on indoor power board (DC13.1V). Refer to 6-5.</p> <ul style="list-style-type: none"> • When no voltage is output, check the wiring connection. • When output voltage is between DC12.5V and DC13.7V, check ⑤ (below). <p>⑤ Check the wiring connection between indoor controller board and indoor power board. Check the fuse on indoor controller board. If no problems are found, indoor controller board is defective.</p>
	<ul style="list-style-type: none"> • When LED1 on indoor controller board is lit. <p>① Mis-setting of refrigerant address for outdoor unit (There is no unit corresponding to refrigerant address "0".)</p>	<p>① Check the setting of refrigerant address for outdoor unit.</p> <p>Set the refrigerant address to "0". (For grouping control system under which 2 or more outdoor units are connected, set one of the units to "0".) Set refrigerant address using SW1 (3-6) on outdoor controller circuit board.</p>
(2) LED2 on indoor controller board is blinking.	<ul style="list-style-type: none"> • When LED1 on indoor controller board is also blinking. Connection failure of indoor/outdoor unit connecting wire • When LED1 is lit <p>① Miswiring of remote controller wires Under twin indoor unit system, 2 or more indoor units</p> <p>② Refrigerant address for outdoor unit is wrong or not set. Under grouping control system, there are some units whose refrigerant address is 0.</p> <p>③ Short-cut of remote controller wires</p> <p>④ Defective remote controller</p>	<p>Check indoor/outdoor unit connecting wire for connection failure.</p> <p>① Check the connection of remote controller wires in case of twin triple indoor unit system. When 2 or more indoor units are wired in one refrigerant system, connect remote controller wires to one of those units.</p> <p>② Check the setting of refrigerant address in case of grouping control system. If there are some units whose refrigerant addresses are 0 in one group, set one of the units to 0 using SW1 (3-6) on outdoor controller circuit board.</p> <p>③④ Remove remote controller wires and check LED2 on indoor controller board.</p> <ul style="list-style-type: none"> • When LED2 is blinking, check the short-cut of remote controller wires. • When LED2 is lit, connect remote controller wires again and: if LED2 is blinking, remote controller is defective; if LED2 is lit, connection failure of remote controller terminal block etc. has returned to normal.

6-5. TEST POINT DIAGRAM

6-5-1. Indoor power board

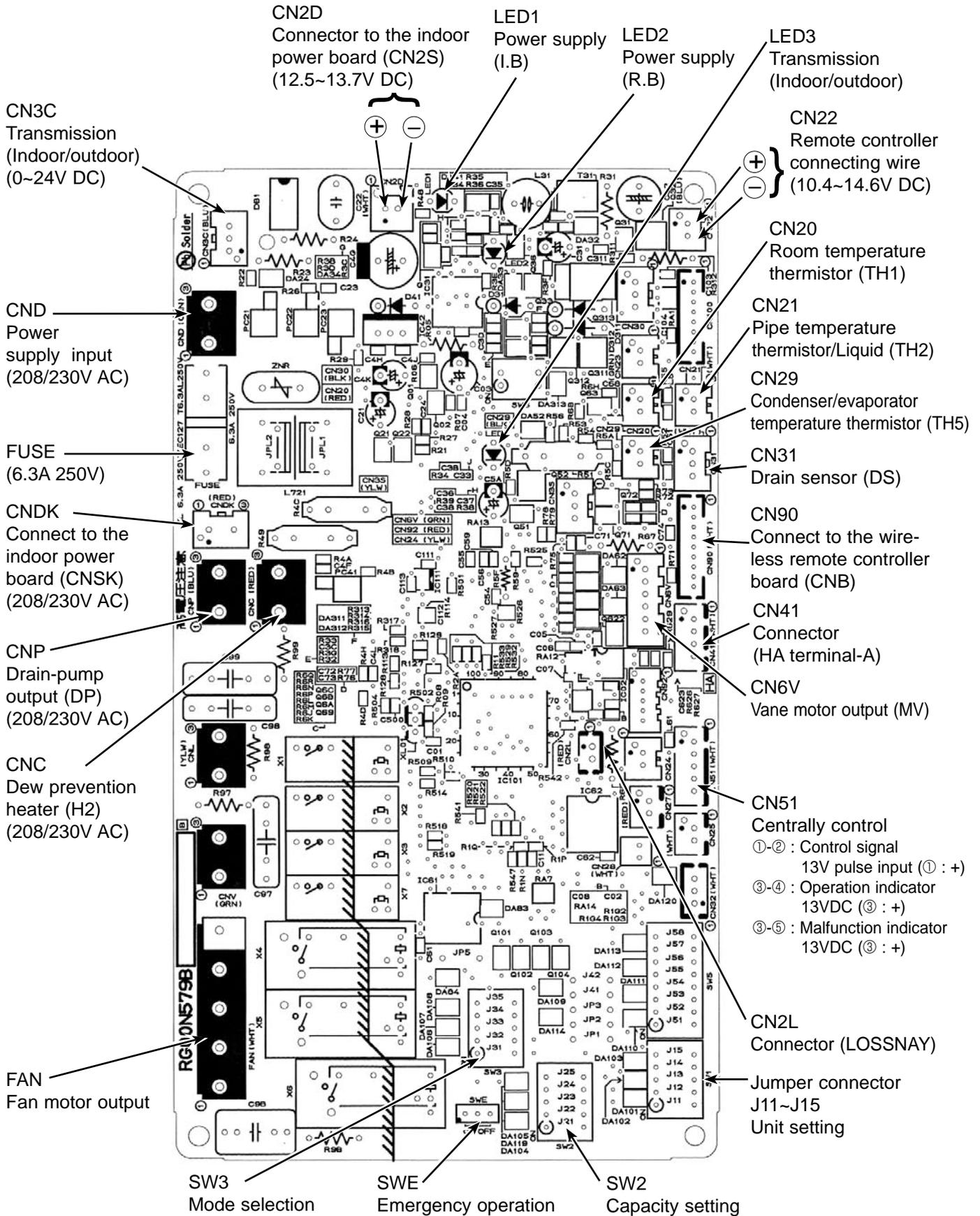
SLZ-KA25VAQ.TH SLZ-KA35VAQ.TH SLZ-KA50VAQ.TH



**6-5-2. Indoor controller board
SLZ-KA25VAQ.TH**

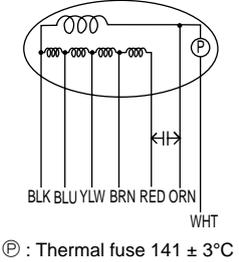
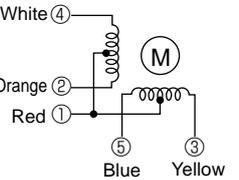
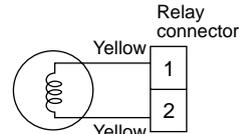
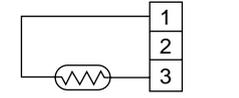
SLZ-KA35VAQ.TH

SLZ-KA50VAQ.TH



6-6. TROUBLE CRITERION OF MAIN PARTS
SLZ-KA25VAQ.TH SLZ-KA35VAQ.TH

SLZ-KA50VAQ.TH

Part name	Check method and criterion																											
Room temperature thermistor (TH1) Pipe temperature thermistor/liquid (TH2) Condenser/evaporator temperature thermistor (TH5)	Measure the resistance with a tester. (Part temperature 10 °C ~ 30 °C) <table border="1" data-bbox="497 456 1107 533" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Normal</th> <th>Abnormal</th> </tr> </thead> <tbody> <tr> <td>4.3kΩ ~ 9.6kΩ</td> <td>Opened or short-circuited</td> </tr> </tbody> </table>			Normal	Abnormal	4.3kΩ ~ 9.6kΩ	Opened or short-circuited																					
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Indoor fan motor (MF) <div style="text-align: center;">  </div>	Measure the resistance between the terminals with a tester. (Coil wiring temperature 10 °C ~ 30 °C) <table border="1" data-bbox="497 734 1417 967" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th rowspan="2"></th> <th colspan="3">Normal</th> <th rowspan="2">Abnormal</th> </tr> <tr> <th>KA25VAQ</th> <th>KA35VAQ</th> <th>KA50VAQ</th> </tr> </thead> <tbody> <tr> <td>WHT-BLK</td> <td>386~428Ω</td> <td>373~413Ω</td> <td>308~341Ω</td> <td rowspan="4">Opened or short-circuited</td> </tr> <tr> <td>BLK-BLU</td> <td>81~91Ω</td> <td>155~172Ω</td> <td>135~151Ω</td> </tr> <tr> <td>BLU-YLW</td> <td>28~32Ω</td> <td>44~49Ω</td> <td>44~49Ω</td> </tr> <tr> <td>BRN-RED</td> <td>157~174Ω</td> <td>302~335Ω</td> <td>293~324Ω</td> </tr> </tbody> </table>				Normal			Abnormal	KA25VAQ	KA35VAQ	KA50VAQ	WHT-BLK	386~428Ω	373~413Ω	308~341Ω	Opened or short-circuited	BLK-BLU	81~91Ω	155~172Ω	135~151Ω	BLU-YLW	28~32Ω	44~49Ω	44~49Ω	BRN-RED	157~174Ω	302~335Ω	293~324Ω
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Drain pump (DP) <div style="text-align: center;">  </div>	Measure the resistance between the terminals with a tester. (At the ambient temperature 20 °C ~ 30 °C) <table border="1" data-bbox="497 1433 1008 1509" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Normal</th> <th>Abnormal</th> </tr> </thead> <tbody> <tr> <td>290Ω</td> <td>Open or short</td> </tr> </tbody> </table>			Normal	Abnormal	290Ω	Open or short																					
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Drain sensor (DS) <div style="text-align: center;">  </div>	Measure the resistance between the terminals with a tester. Measure the resistance after 3 minutes have passed since the power supply was intercepted. (At the ambient temperature 0 °C ~ 60 °C) <table border="1" data-bbox="497 1639 1008 1715" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Normal</th> <th>Abnormal</th> </tr> </thead> <tbody> <tr> <td>0.6kΩ ~ 6.0kΩ</td> <td>Open or short</td> </tr> </tbody> </table> (Refer to the next page for a detail.)			Normal	Abnormal	0.6kΩ ~ 6.0kΩ	Open or short																					
Normal	Abnormal																											
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<Thermistor Characteristic graph>

Thermistor for lower temperature

- Room temperature thermistor (TH1)
- Pipe temperature thermistor/liquid (TH2)
- Condenser/evaporator temperature thermistor (TH5)

Thermistor $R_0=15k\Omega \pm 3\%$
 Fixed number of $B=3480 \pm 2\%$

$$R_t = 15 \exp \left\{ 3480 \left(\frac{1}{273+t} - \frac{1}{273} \right) \right\}$$

0°C	15kΩ
10°C	9.6kΩ
20°C	6.3kΩ
25°C	5.2kΩ
30°C	4.3kΩ
40°C	3.0kΩ

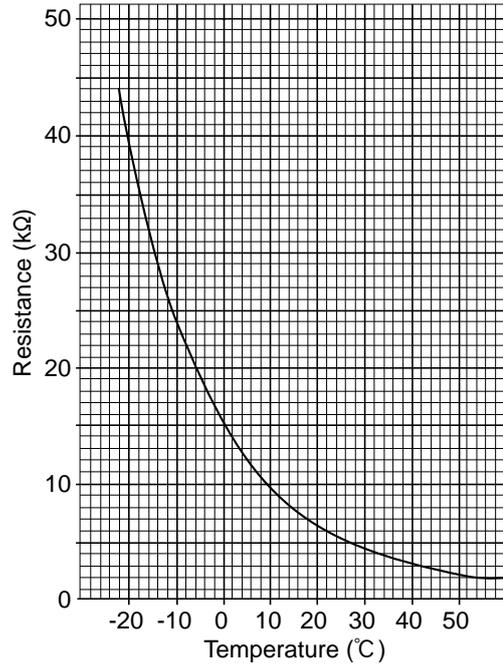
Thermistor for drain sensor

Thermistor $R_0=6.0k\Omega \pm 5\%$
 Fixed number of $B=3390 \pm 2\%$

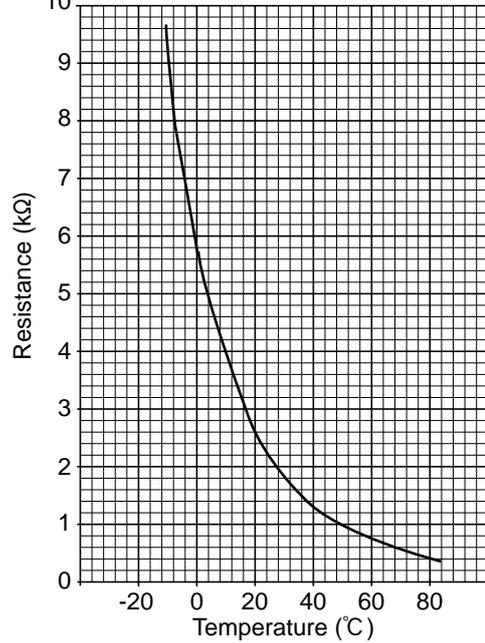
$$R_t = 6 \exp \left\{ 3390 \left(\frac{1}{273+t} - \frac{1}{273} \right) \right\}$$

0°C	6.0kΩ
10°C	3.9kΩ
20°C	2.6kΩ
25°C	2.2kΩ
30°C	1.8kΩ
40°C	1.3kΩ
60°C	0.6kΩ

< Thermistor for lower temperature >

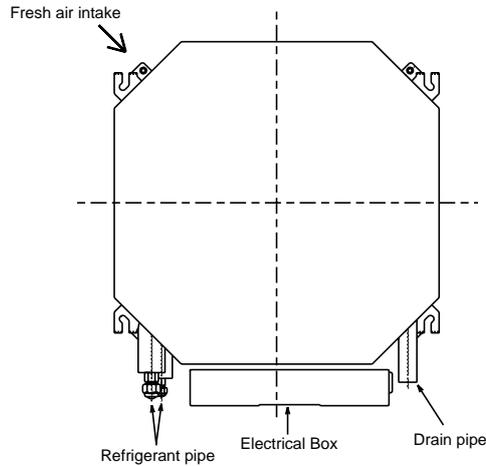


< Thermistor for drain sensor >

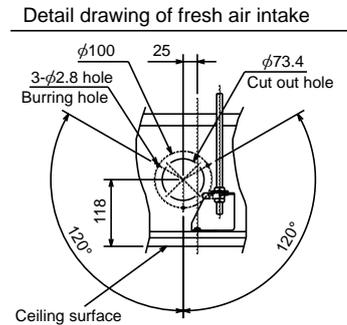


7-1. FRESH AIR INTAKE (LOCATION FOR INSTALLATION)

At the time of installation, use the duct holes (cut out) located at the positions shown in following diagram, as and when required.

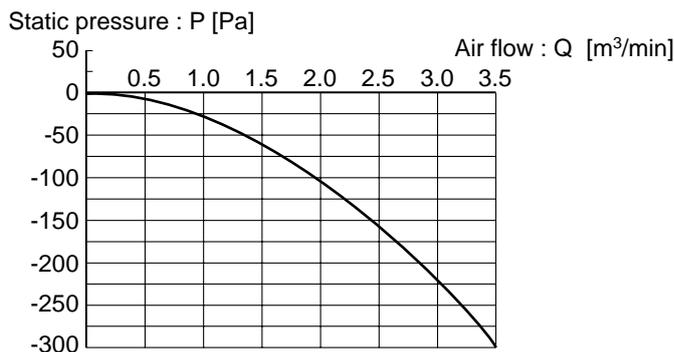


Unit : mm



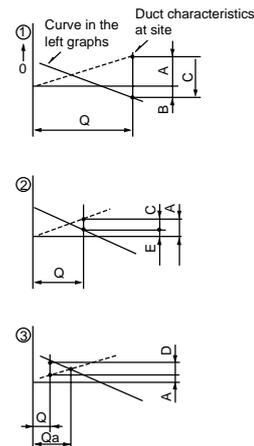
7-2. FRESH AIR INTAKE AMOUNT & STATIC PRESSURE CHARACTERISTICS SLZ-KA25VAQ.TH SLZ-KA35VAQ.TH SLZ-KA50VAQ.TH

Taking air into the unit



NOTE: Fresh air intake amount should be 20% or less of whole air amount to prevent dew dripping.

How to read curves



- Q...Designed amount of fresh air intake $\lt; m^3/min >$
- A...Static pressure loss of fresh air intake duct system with air flow amount Q $\lt; Pa >$
- B...Forced static pressure at air conditioner inlet with air flow amount Q $\lt; Pa >$
- C...Static pressure of booster fan with air flow amount Q $\lt; Pa >$
- D...Static pressure loss increase amount of fresh air intake duct system for air flow amount Q $\lt; Pa >$
- E...Static pressure of indoor unit with air flow amount Q $\lt; Pa >$
- Qa...Estimated amount of fresh air intake without D $\lt; m^3/min >$

7-3. OPERATION IN CONJUNCTION WITH DUCT FAN (BOOSTER FAN)

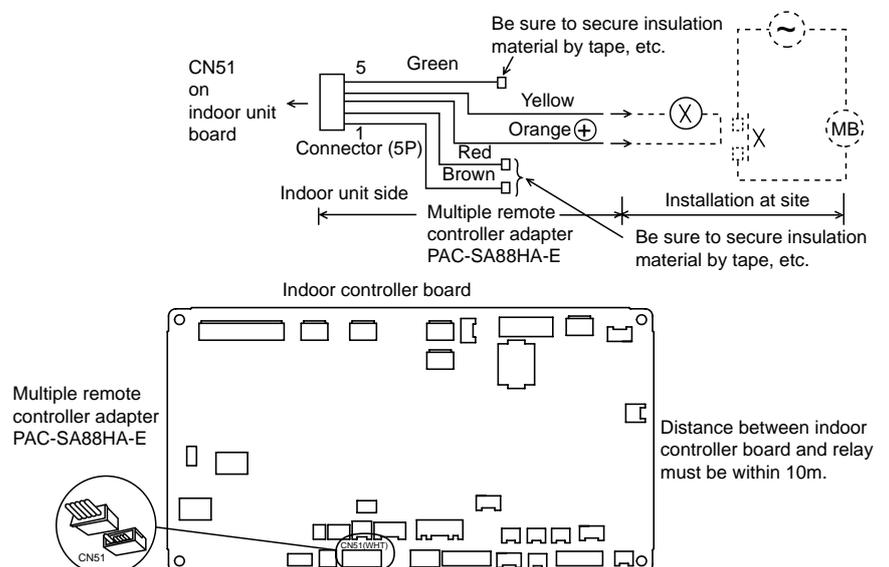
- Whenever the indoor unit operates, the duct fan operates.

(1) Connect the optional multiple remote controller adapter (PAC-SA88HA-E) to the connector CN51 on the indoor controller board.

(2) Drive the relay after connecting the 12V DC relay between the Yellow and Orange connector wires.

Use a nonpolar relay of 1W or smaller.
MB: Electromagnetic switch power relay for duct fan.

X: Auxiliary relay (12V DC LY-1F)



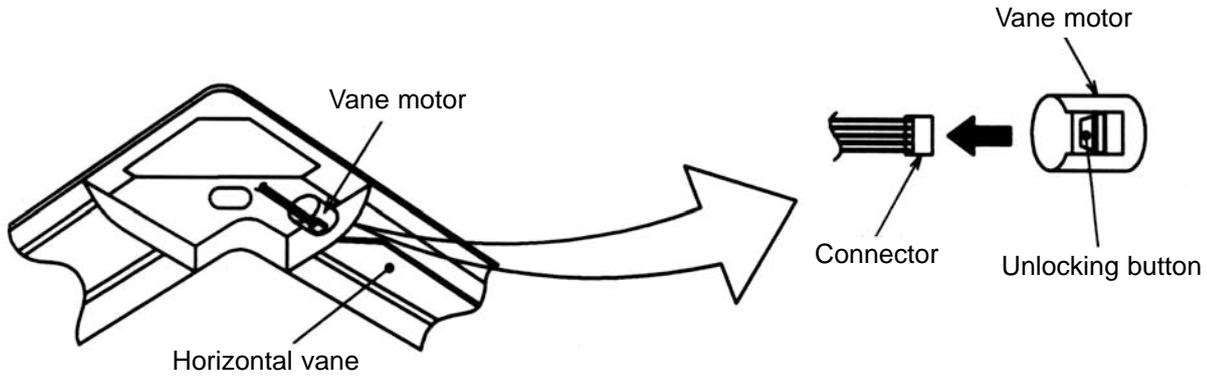
7-4. FIXING HORIZONTAL VANE

Horizontal vane of each air outlet can be fixed according to the environment where it is installed.

Setting procedure

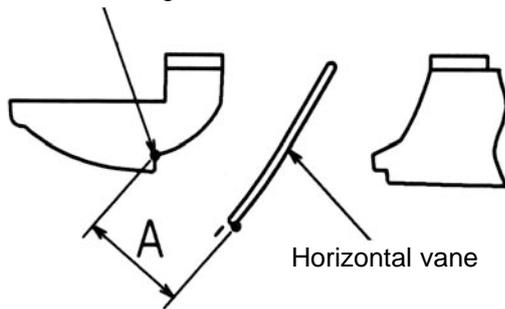
- 1) Turn off a main power supply (Turn off a breaker).
- 2) Remove the vane motor connector in the direction of the arrow shown below with pressing the unlocking button as in the figure below.

Insulate the disconnected connector with the plastic tape.



- 3) Set the vertical vane of the air outlet by hand slowly within the range in the table below.

Measured standard position of the grille



< Specified range >

Up/down airflow direction	Horizontal 30°	Downward 45°	Downward 55°	Downward 70°
A	21 mm	25 mm	28 mm	30 mm

The vanes can be set between 21mm and 30 mm.



Caution:

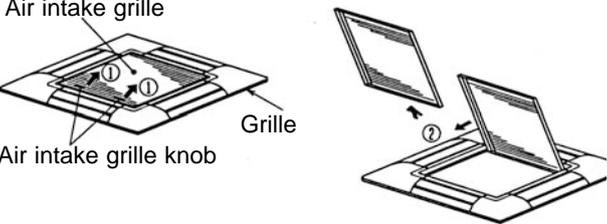
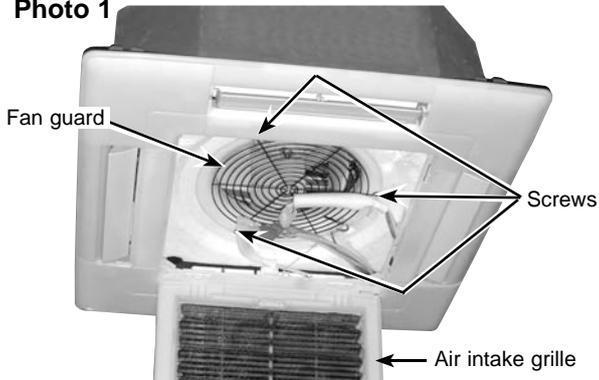
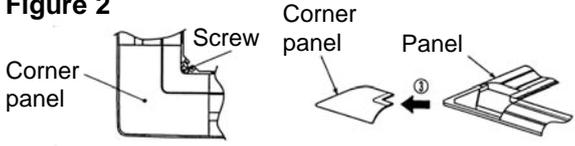
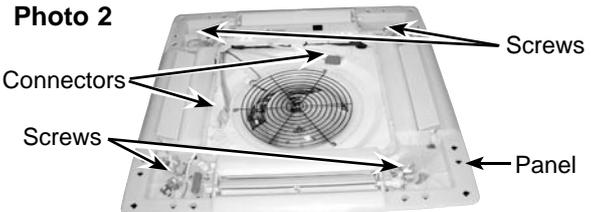
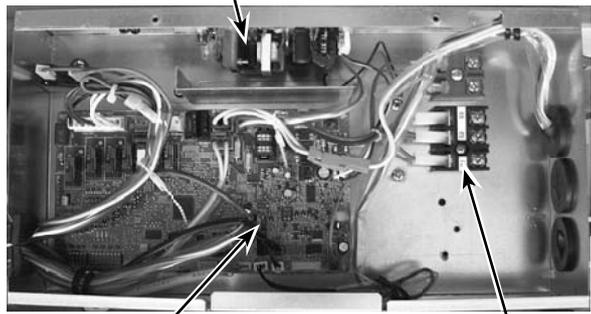
Do not set the up/down vanes passed the specified range. Condensation could form and drop from the ceiling, or the unit could malfunction.

SLZ-KA25VAQ.TH

SLZ-KA35VAQ.TH

SLZ-KA50VAQ.TH

Be careful when removing heavy parts.

OPERATING PROCEDURE	PHOTOS & ILLUSTRATIONS
<p>1. Removing the air intake grille</p> <ol style="list-style-type: none"> (1) Slide the knob of air intake grille to the direction of the arrow ① to open the air intake grille. (2) Remove the string hook from the panel to prevent the grille from dropping. (3) Slide the hinge of the intake grille to the direction of the arrow ② and remove the air intake grille. 	<p>Figure 1</p> 
<p>2. Removing the fan guard</p> <ol style="list-style-type: none"> (1) Open the air intake grille. (2) Remove the 3 screws of fan guard. 	<p>Photo 1</p> 
<p>3. Removing the panel</p> <p>(1) Remove the air intake grille. (Refer to step 1)</p> <p>Corner panel (See Figure 2)</p> <ol style="list-style-type: none"> (1) Remove the screw of the corner. (2) Slide the corner panel to the direction of the arrow ③, and remove the corner panel. <p>Panel (See Photo 2)</p> <ol style="list-style-type: none"> (1) Disconnect the connector that connects with the unit. (2) Remove the 2 screws from the panel and loose another 2 screws, which are fixed to the oval hole, have different diameter. (3) Rotate the panel a little to remove the screws. (Slide the panel so that the screw comes to a larger diameter of the oval hole, which has 2 different diameters.) 	<p>Figure 2</p>  <p>Photo 2</p> 
<p>4. Removing the electrical parts</p> <ol style="list-style-type: none"> (1) Remove the 2 screws and the control box cover. <p><Electrical parts in the control box></p> <ul style="list-style-type: none"> • Indoor controller board (I.B) • Terminal block (TB4) • Indoor power board (P.B) 	<p>Photo 3</p> 



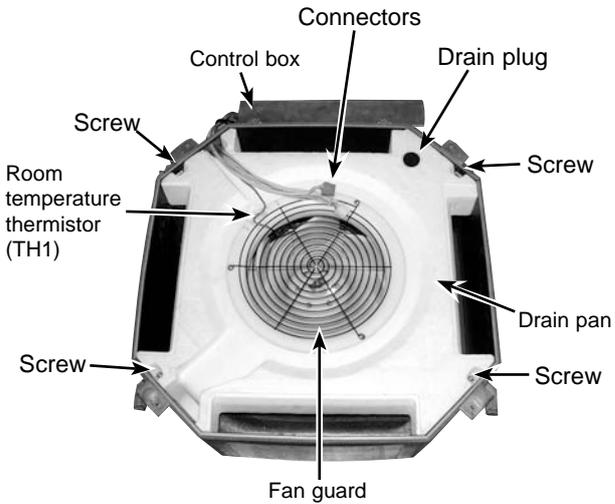
OPERATING PROCEDURE

PHOTOS & ILLUSTRATIONS

5. Removing the room temperature thermistor (TH1)

- (1) Remove the panel. (Refer to step 3)
- (2) Pull out the room temperature thermistor from the drain pan.
- (3) Remove the 2 screws fixed to the control box cover, and remove the control box cover.
- (4) Remove the connector (CN20) from the indoor controller board, and disconnect the room temperature thermistor.

Photo 4



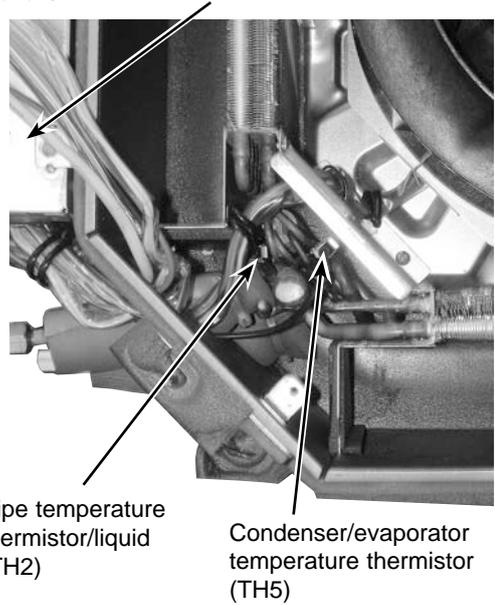
6. Removing the drain pan

- (1) Remove the panel. (Refer to step 3)
- (2) Remove the room temperature thermistor and the 2 lead wires held with fastener; wireless controller board relay connector (9P red) and panel relay connector (10P white).
- (3) Remove the 4 screws fixed to the drain pan, and remove the drain pan.
- (4) Remove the fan guard. (Refer to step 2)

7. Removing the pipe temperature thermistor/liquid (TH2) and condenser/evaporator temperature thermistor (TH5)

- (1) Remove the panel. (Refer to step 3)
- (2) Remove the drain pan. (Refer to step 6)
- (3) Disconnect the indoor coil thermistor from the holder.
- (4) Remove the 3 screws fixed to the piping cover, and remove the piping cover. (See Photo 9)
- (5) Remove the 2 screws fixed to the control box cover, and remove the control box cover.

Photo 5



Pipe temperature thermistor/liquid (TH2)

- (6) Remove the connector (CN21) from the indoor controller board, and disconnect the pipe temperature thermistor/liquid.

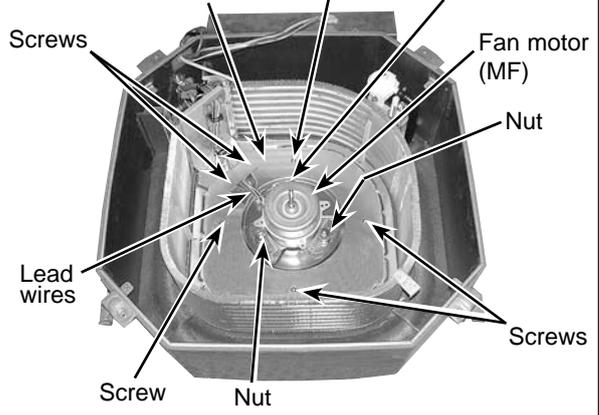
Condenser/evaporator temperature thermistor (TH5)

- (6) Remove the connector (CN29) from the indoor controller board, and disconnect the condenser/evaporator temperature thermistor.

8. Removing the fan motor (MF)

- (1) Remove the panel. (Refer to step 3)
- (2) Remove the drain pan. (Refer to step 6)
- (3) Remove the nut and the washer from the turbo fan, and remove the turbo fan.
- (4) Remove the 2 screws fixed to the control box cover, and remove the control box cover.
- (5) Disconnect the connectors of the (fan 1) and the (fan 2) from the indoor controller board.
- (6) Remove the 3 screws fixed to the piping cover, and remove the piping cover. (See Photo 9)
- (7) Remove the 6 screws fixed to the flat plate, and remove the flat plate.
- (8) Disconnect the lead wires to the direction of the fan motor, and remove the 3 nuts of the fan motor.

Photo 6





OPERATING PROCEDURE

PHOTOS & ILLUSTRATIONS

9. Removing the drain pump (DP) and drain sensor (DS)

- (1) Remove the panel. (Refer to step 3)
- (2) Remove the drain pan. (Refer to step 6)
- (3) Remove the 2 screws fixed to the control box cover, and remove the control box cover.
- (4) Remove the connectors of the (CNP) and the (CN31) from the indoor controller board.
- (5) Remove the 1 screw fixed to the cover, and remove the cover.
- (6) Disconnect the lead wires to the direction of the drain pump. (See Photo 7)
- (7) Remove the 3 screws of the drain pump.
- (8) Cut the drain hose band, pull out the drain hose from the drain pump.
- (9) Pull out the drain pump.
- (10) Remove the drain sensor and the holder.

Photo 7

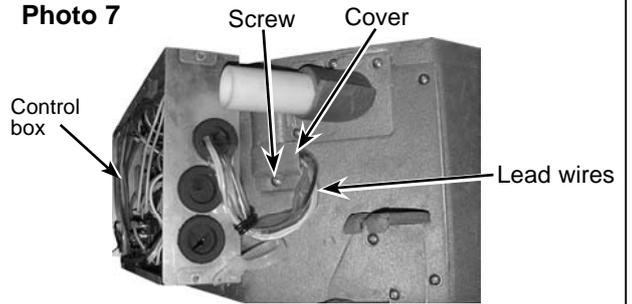
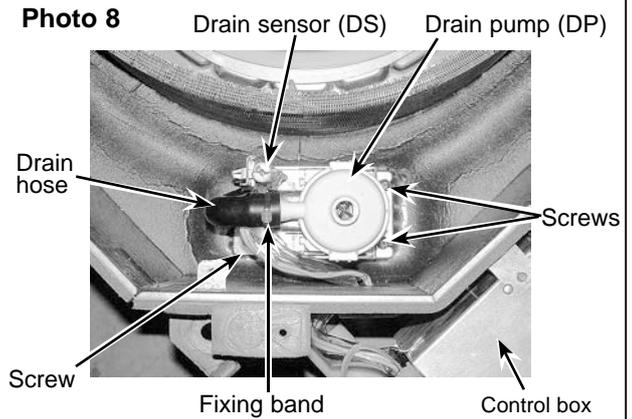


Photo 8



10. Removing the heat exchanger

- (1) Remove the panel. (Refer to step 3)
- (2) Remove the drain pan. (Refer to step 6)
- (3) Remove the nut and the washer from the turbo fan, and remove the turbo fan.
- (4) Remove the 2 screws fixed to the control box cover, and remove the control box cover.
- (5) Disconnect the connector of the (fan) from the indoor controller board.
- (6) Remove the 3 screws fixed to the piping cover, and remove the piping cover. (See Photo 9)
- (7) Remove the pipe temperature thermistor/liquid and condenser/evaporator temperature thermistor. (Refer to step 7)
- (8) Disconnect the lead wires to the direction of the fan motor.
- (9) Remove the 1 coil support screw, the 2 inside coil screws (See Photo 10), and the 4 outside coil screws (See Photo 9) from the heat exchanger, and remove the heat exchanger.

Photo 9

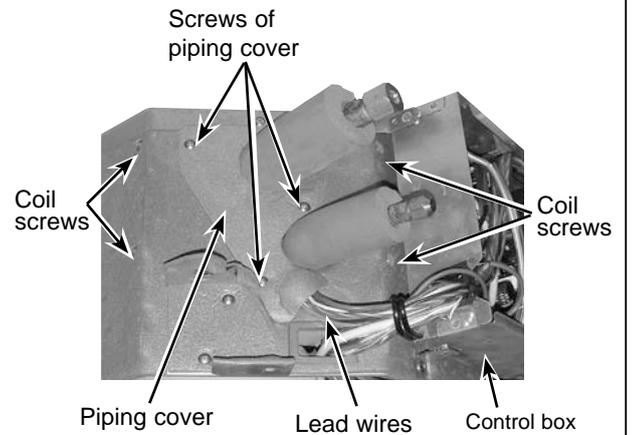
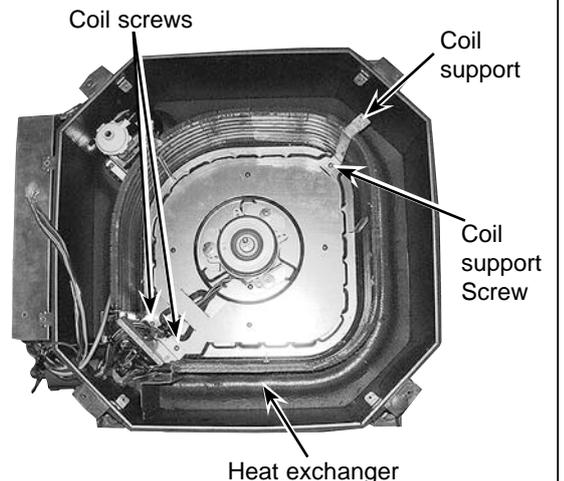


Photo 10



Mr. SLIM™

 **mitsubishi electric corporation**

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