

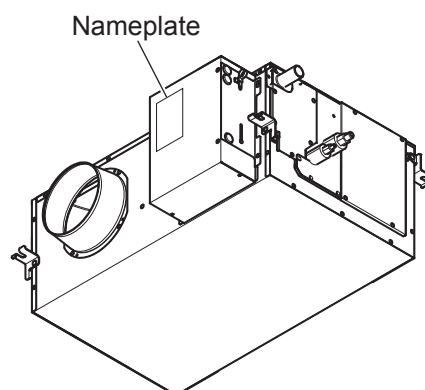
DIRECT EXPANSION COIL UNIT FOR LOSSNAY HANDBOOK

MODELS

GUG-01SL-E

GUG-02SL-E

GUG-03SL-E



Note: "Direct expansion coil unit" is abbreviated as "Dx-coil unit."

Warning:











Repair work must be performed by the manufacturer, its service agent or a similarly qualified person in order to avoid hazards.

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1. Safety precautions

- Read the following precautions thoroughly before the maintenance, and then inspect and repair the product in a safe manner.
- The types and levels of danger that may arise if the product is handled incorrectly are described with the warning symbols shown below.

 Warning		Incorrect handling of the product may result in serious injury or death.
<p>◇ Electric shock If you must inspect the circuitry while the power is on, do not touch the live parts.</p> <p>(Failure to heed this warning may result in electric shock.)</p> <div style="text-align: right;">  <small>Caution against electric shock</small> </div>	<p>◇ Turn off the power supply Be sure to shut off the power supply isolator before disassembling the unit for repair.</p> <p>(Failure to heed this warning may result in electric shock.)</p> <div style="text-align: right;">  <small>Be sure to follow this instruction.</small> </div>	
<p>◇ Modification is prohibited Do not modify the unit.</p> <p>(Failure to heed this warning may result in electric shock, fire and/or injury.)</p> <div style="text-align: right;">  <small>Prohibited</small> </div>	<p>◇ Use proper parts and tools For repair, be sure to use the parts listed in the service parts catalog of the applicable model and use the proper tools.</p> <p>(Failure to heed this warning may result in electric shock, fire and/or injury.)</p> <div style="text-align: right;">  <small>Be sure to follow this instruction.</small> </div>	
<p>◇ Use only the specified refrigerant (R410A) to charge the refrigerant lines.</p> <ul style="list-style-type: none"> • Do not mix it with any other refrigerant and do not allow air to remain in the lines. (If air is mixed with the refrigerant, then it can cause abnormal high pressure in the refrigerant line, and may result in an explosion and other hazards.) (The use of any refrigerant other than that specified for the system will cause mechanical failure or system malfunction or unit breakdown. In the worst case, this could seriously damage product safety.) 	<p>◇ Proper electric work Use the electric wires designated for electric work, and conduct electric work in accordance with your local "Electric Installation Engineering Standard", the "Indoor Wiring Regulations" and the installation instructions.</p> <p>(Improper connection or wiring installation may result in electric shock and/or fire.)</p> <div style="text-align: right;">  <small>Be sure to follow this instruction.</small> </div>	
<ul style="list-style-type: none"> • Tighten all flare nuts as specified using a torque wrench. (If tightened too much, the flare nut can break after an extended period.) <div style="text-align: right;">  <small>Be sure to follow this instruction.</small> </div>	<p>◇ Replace damaged and/or degraded parts Be sure to replace the power cord and lead wires if they are damaged and/or degraded.</p> <p>(Failure to heed this warning may result in electric shock and/or fire.)</p> <div style="text-align: right;">  <small>Be sure to follow this instruction.</small> </div>	
<p>◇ Toxic gas generation</p> <ul style="list-style-type: none"> • Be careful that the refrigerant (R410A) does not leak in a flammable environment. • Conduct welding operation in an open room. • If the refrigerant gas leaks, open the windows while servicing. • Be sure to completely repair the leak. Close the service valve if the repair work is temporarily suspended. <p>(If the refrigerant gas comes into contact with flames such as open fire, sparks and a heater, it may generate toxic gas.)</p> <div style="text-align: right;">  <small>Be sure to follow this instruction.</small> </div>	<p>◇ Check insulation Upon completing repair work, always measure the insulation resistance. Verify that it is at least 10 MΩ (with a 500-V DC insulation resistance tester), and then turn on the power.</p> <p>(Inadequate insulation may result in electric shock.)</p> <div style="text-align: right;">  <small>Be sure to follow this instruction.</small> </div>	



Caution

Incorrect handling of the product may result in injury or damage to properties including buildings and equipment.

◇ Caution for injury

Do not work at a location where you do not have a sure footing.

(Failure to heed this caution may result in a fall.)



Prohibited

◇ Wear gloves

Wear gloves when servicing.

(Failure to heed this caution may result in injury to your hands from sharp metal or other edges.)



Be sure to follow this instruction.

◇ Prevent water leakage

- Before removing any of the water-related parts, completely drain the residual water from the piping.
- Upon completing repair work, be sure to check the drainage of the unit and that no water leaks from any of the piping connections.

(Water leakage may cause buildings to soil, leading to secondary failure of other parts.)

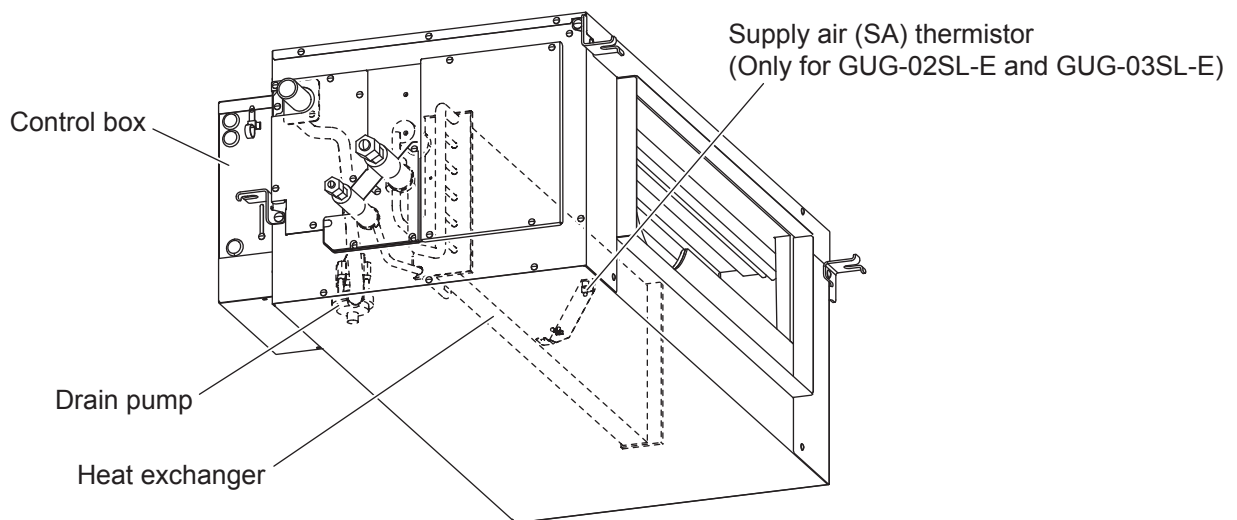


Be sure to follow this instruction.

Notes for servicing

- Inspect the earth condition, and repair it if it is incomplete. Make sure that a power supply isolator or an over-load protection device is installed, if it is not installed, recommend the customer to install one.
- Make sure that the product operates properly upon completion of repair. Clean the product and the surrounding area, and then notify the customer of the completion of repair.

2. Names and functions of components



Note

- The drain pump always runs in the cooling mode and continues to run for six minutes after the unit stops.

3. Specifications

Model name	Running current (A)	Input power (W)	Dimension (mm)			Weight (kg)
			Width	Depth	Height	
GUG-01SL-E	Less than 0.1 A	2.5 W (Heating / Fan) 12.4 W (Cooling)	492	812	330	21
GUG-02SL-E			492	1034	394	26
GUG-03SL-E			461	1130	404	28

*The running current and the input power are based on 230 V/50 Hz.

■ Operation ranges

	Lossnay unit	Dx-coil unit	Remote controller PZ-01RC
Outdoor air	-15°C to +40°C (*1)	-	-
Return air (*2)	+40°C, 80%RH or less	-	-
Ambient condition	0°C to +40°C, 80%RH or less	0°C to +40°C, 80%RH or less	0°C to +40°C

(*1) -15°C to -10°C : Intermittent operation takes 60 min. for ON and 10 min. for OFF.

-15°C or lower : Intermittent operation takes 55 min. for OFF and 5 min. for ON.

(*2) Air conditioned room air.

Guaranteed operation ranges [Outdoor air]

Operation mode	Outdoor unit	
	PUHZ-ZRP35, PUHZ-ZRP50	PUHZ-ZRP71, PUHZ-ZRP100, PUHZ-ZRP125
Cooling (*3)	-15°C to +46°C	-15°C to +46°C
Heating	-11°C to +21°C	-20°C to +21°C

(*3) The optional air protection guide is required where the ambient temperature is lower than -5°C.

■ Connectable Lossnay unit and outdoor unit for each function

[RA (Return Air) temperature control]

Dx-coil unit	GUG-01SL-E		GUG-02SL-E		GUG-03SL-E		
Connectable Lossnay unit	LGH-50RVX-E	LGH-65RVX-E	LGH-80RVX-E	LGH-100RVX-E	LGH-150RVX-E LGH-150RVXT-E	LGH-200RVX-E LGH-200RVXT-E	LGH-250RVXT-E
Connectable outdoor unit	PUHZ-ZRP35	PUHZ-ZRP35	PUHZ-ZRP50	PUHZ-ZRP71	PUHZ-ZRP100	PUHZ-ZRP100	PUHZ-ZRP125

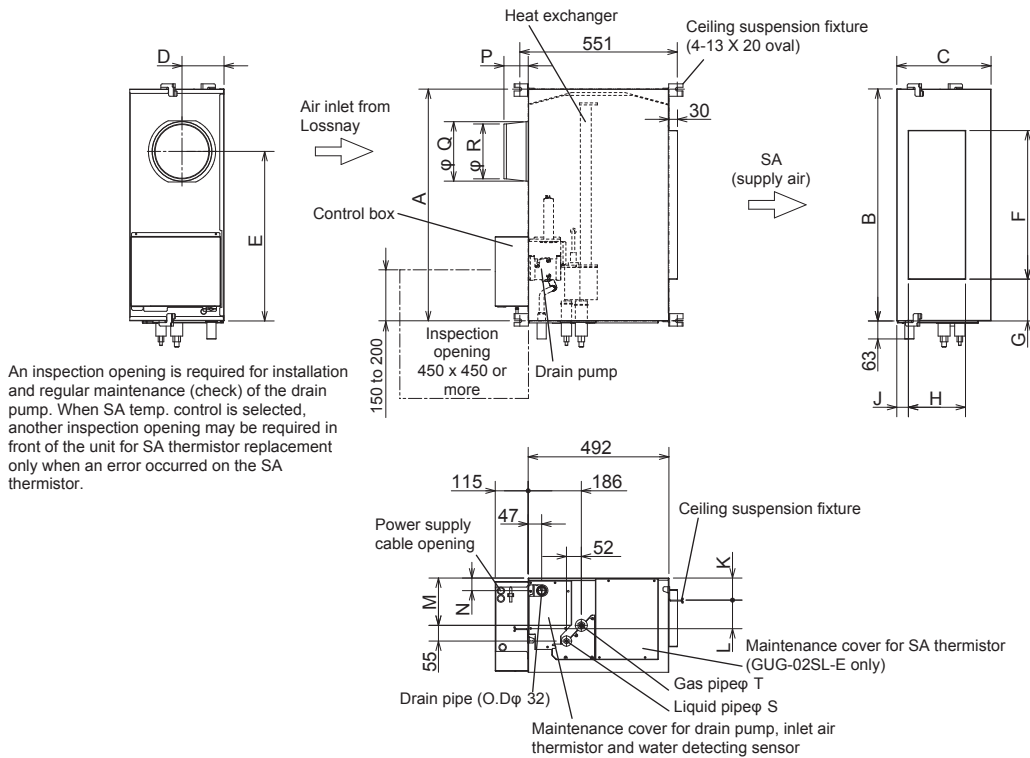
[SA (Supply Air) temperature control]

Dx-coil unit	GUG-02SL-E		GUG-03SL-E		
Connectable Lossnay unit	LGH-80RVX-E	LGH-100RVX-E	LGH-150RVX-E LGH-150RVXT-E	LGH-200RVX-E LGH-200RVXT-E	LGH-250RVXT-E
Connectable outdoor unit	PUHZ-ZRP50	PUHZ-ZRP50	PUHZ-ZRP71	PUHZ-ZRP71	PUHZ-ZRP71

Note: GUG-01SL-E cannot be used for the SA temperature control function.

4. Outside dimensions

GUG-01SL-E, GUG-02SL-E

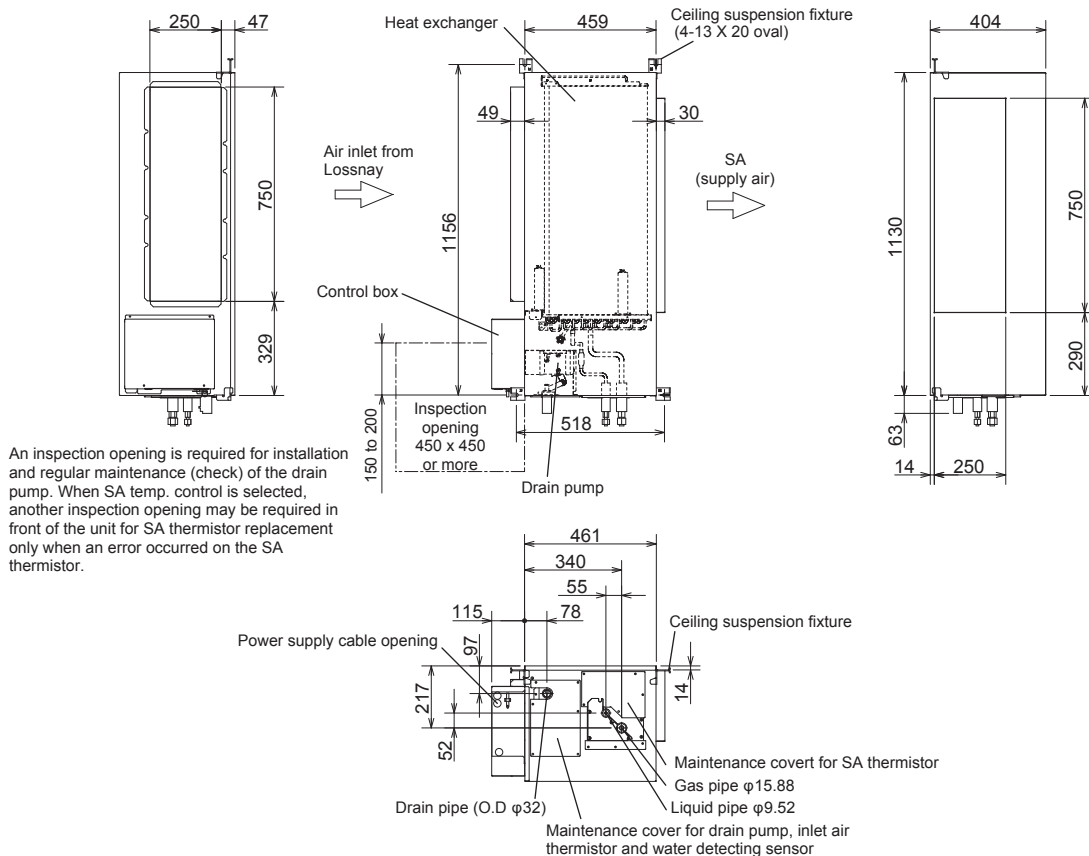


An inspection opening is required for installation and regular maintenance (check) of the drain pump. When SA temp. control is selected, another inspection opening may be required in front of the unit for SA thermistor replacement only when an error occurred on the SA thermistor.

Model	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
GUG-01SL-E	811	812	330	147	593	520	146	200	41	77	100	166	44	85	208	192	6.35	12.7
GUG-02SL-E	1033	1034	394	170	600	750	132	250	59	56	165	207	86	84	258	242	9.52	15.88

Unit (mm)

GUG-03SL-E



An inspection opening is required for installation and regular maintenance (check) of the drain pump. When SA temp. control is selected, another inspection opening may be required in front of the unit for SA thermistor replacement only when an error occurred on the SA thermistor.

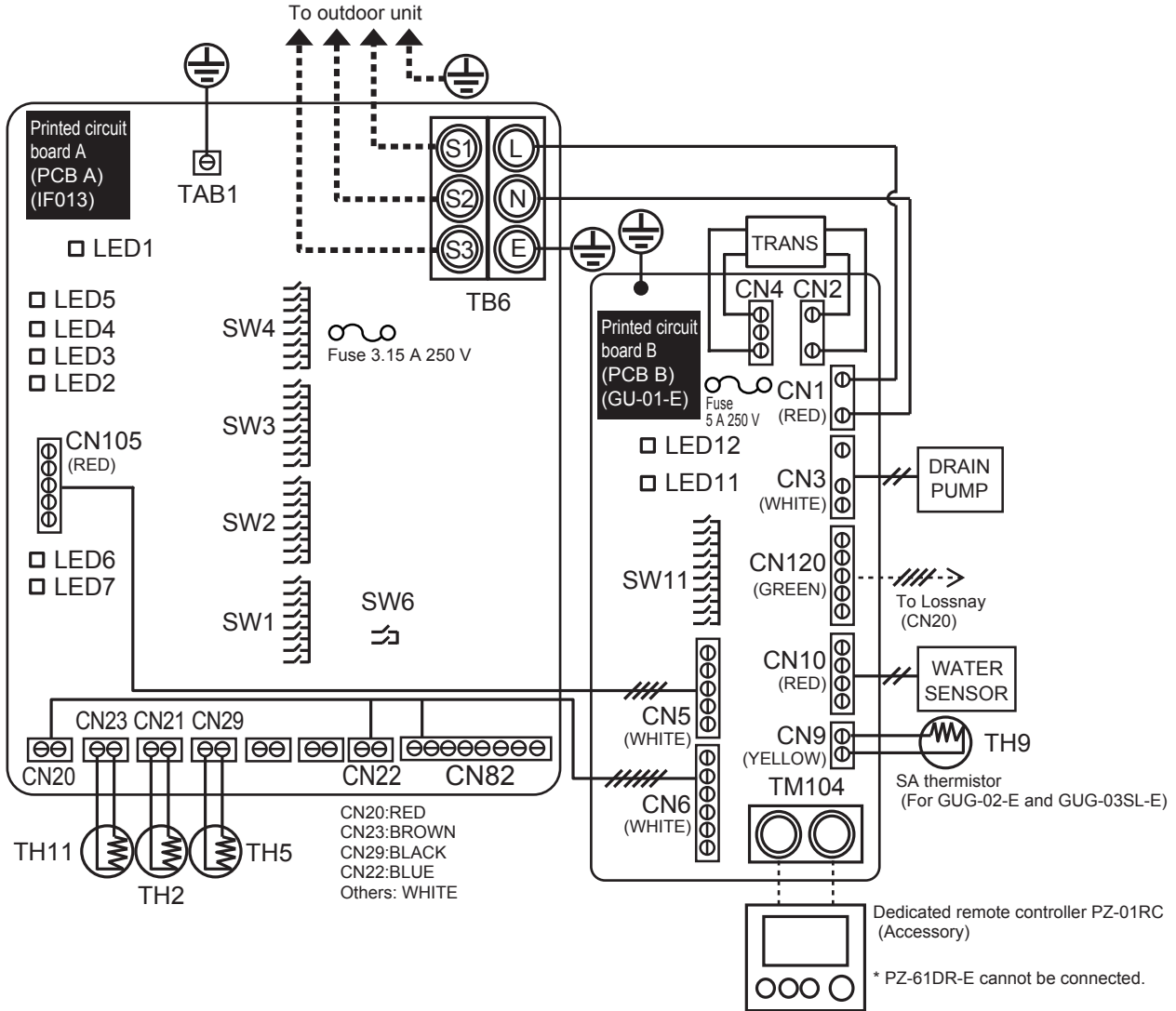
Unit (mm)

5. Electrical wiring diagram

GUG-01SL-E, GUG-02SL-E, GUG-03SL-E

Notes:

1. TB6, TM104 and CN120 shown in dotted lines are field work.
2. Make sure to connect the earth wire.
3. Cut off the power supply (all to the Dx-coil unit, Lossnay unit and outdoor unit) more than five minutes prior to access the electrical parts.
4. The product shall be installed in accordance with national wiring regulations.

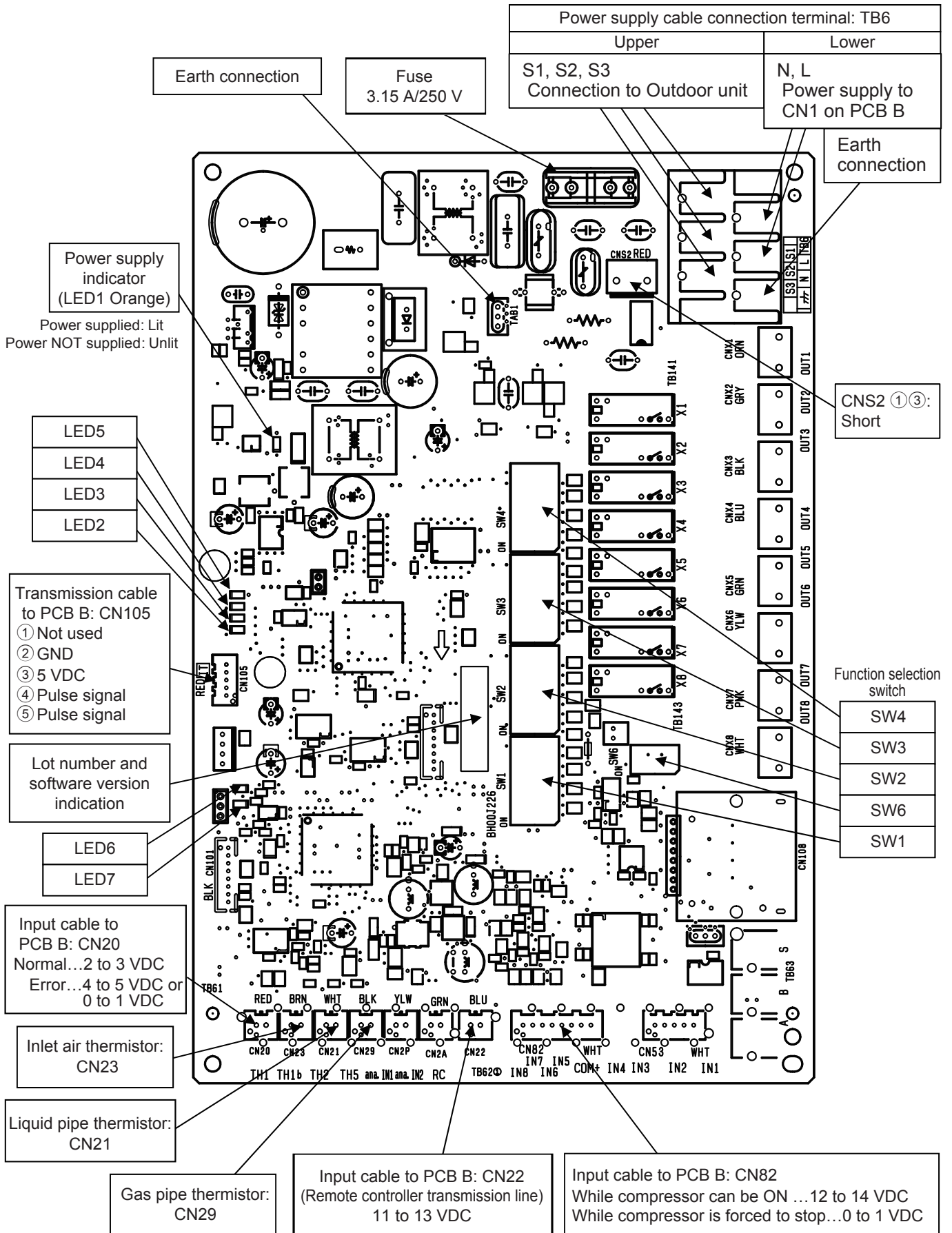


Definition of symbols

Printed circuit board A		Printed circuit board B	
TB6	: Terminal for power supply from the outdoor unit	TM104	: Terminal for remote controller PZ-01RC
TAB1	: Connector (Ground)	SW11	: Switch (Function selection)
SW1 to SW4	: Switch (Function selection)	LED11	: Inspection indicator lamp
SW6	: Switch (Function selection)	LED12	: Power supply indicator lamp
LED1	: Power supply indicator lamp	CN1	: Connector (Power supply)
LED2 to 5	: Operation status	CN2	: Connector (Transformer primary)
LED6 and 7	: Reading/Writing data from/to SD card	CN3	: Connector (Drain pump)
CN105	: Connector (Communication to PCB B)	CN4	: Connector (Transformer secondary)
CN20	: Connector (TH1, software use)	CN5	: Connector (Communication to PCB A)
CN21	: Connector (TH2, liquid pipe temp.)	CN6	: Connector (Output to PCB A)
CN22	: Connector (Remote controller)	CN9	: Connector (TH9, supply air temp.)
CN23	: Connector (TH11, inlet air temp.)	CN10	: Connector (Water sensor)
CN29	: Connector (TH5, gas pipe temp.)	CN120	: Connector (Communication to Lossnay)
CN82	: Connector (Forced comp. OFF)	⊙	: Terminal block
⊙	: Terminal block	⊖	: Connector on PCB
⊖	: Connector on PCB		

6. Circuit board diagrams

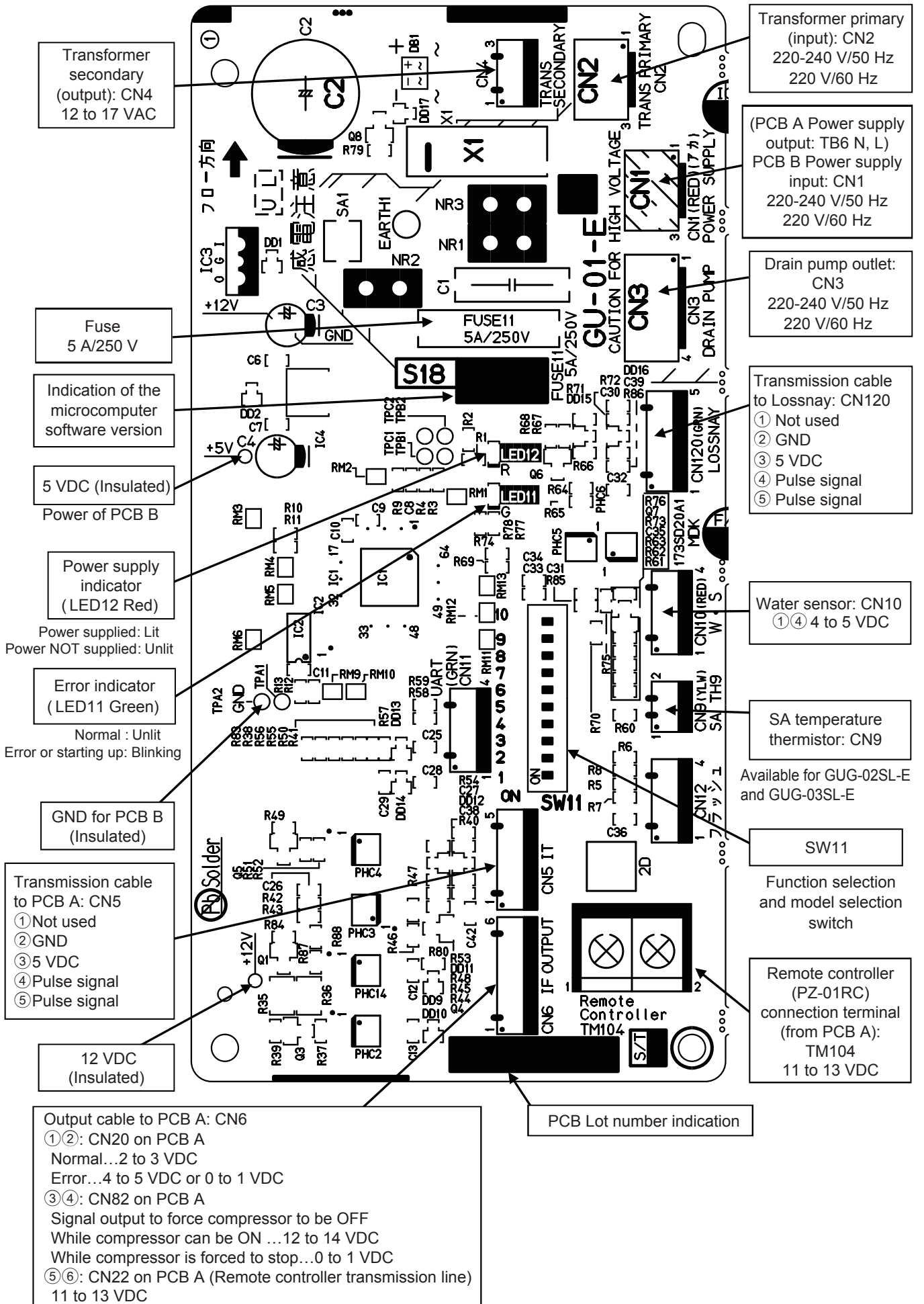
- Circuit board diagram and check points
- (1) Printed circuit board A (PCB A): IF013



[Note] The following connectors and terminals are not used.

(CN2P, CN2A, CNX1 to CNX8, CN100, CN101, CN28, CN53, CN108 (SD card slot), and TB63)

(2) Printed circuit board B (PCB B): GU-01-E



7. Troubleshooting

■ Work precautions

- Before starting the service, the power supply isolator must be turned off. Pay sufficient attention to avoid electric shock or injury.
 - When removing or touching the cables, circuit boards or other parts, make sure to turn off the power supply isolator.
 - Even after the power supply isolator is turned off, the capacitor on the circuit board retains high voltage for a while. Therefore, before servicing, wait for at least five minutes, and then use a tester to check that the voltage has dropped.
 - Terminals of a large electrolytic capacitor in the power circuit section continues to generate low-voltage for approximately one hour after the power shutdown. Therefore, handle the circuit board very carefully when replacing it.
 - Once the power supply is turned off, be sure to wait for at least five minutes before turning the power back on again.
 - When servicing, be sure to reproduce the malfunction two or three times before starting repairs.
 - When servicing, always take care to keep proper footing.
 - When removing the circuit board, always hold it at both ends and remove carefully so as not to apply force to the surface mounted parts.
 - When removing the circuit board, be careful of the metal edges on the board.
 - When removing or inserting the connectors for the circuit board, hold the entire housing section. Never pull on the lead wires.
 - If it is thought that there is a circuit board malfunction, check for disconnected wires in the print pattern, burnt parts or discoloration.
 - If the circuit board is replaced, make sure that the switch settings on the new board are the same as the old board.
 - Make sure to connect the power supply wires correctly.
- * The part names in the texts are standardized with the part names in the parts catalog. (There are some exceptions.)

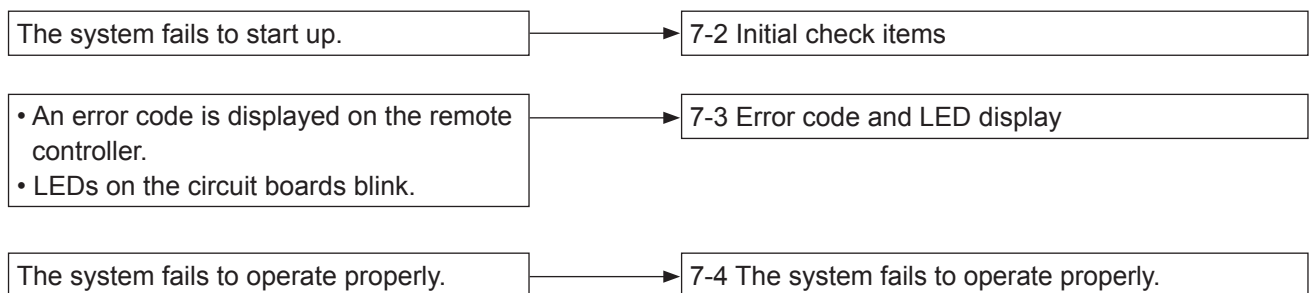
7-1 Service flowchart

After checking the check items below, follow the troubleshooting for servicing.

See the Lossnay service handbook for individual failures of the Lossnay units, and the outdoor unit service handbook for failures of the outdoor units.

Applicable Device	Applicable Model			Remote controller
Dx-coil unit	GUG-01SL-E	GUG-02SL-E	GUG-03SL-E	PZ-01RC
Connectable Lossnay unit	LGH-50RVX-E LGH-65RVX-E	LGH-80RVX-E LGH-100RVX-E	LGH-150RVX-E, LGH-200RVX-E LGH-150RVXT-E, LGH-200RVXT-E LGH-250RVXT-E	PZ-61DR-E

No.	Preliminary check item	Details
1	Product information	<ul style="list-style-type: none"> • Model name of the product • Serial number of the product, manufacturing lot number of the circuit board • Microcomputer software version marked on the circuit board
2	Fault status	<ul style="list-style-type: none"> • Fault status (For example, the Dx-coil unit does not perform temperature control.) • Error code display on the remote controller • Function setting of the remote controller (operation mode setting, fan speed setting, etc.)
3	Frequency of fault occurrence	<ul style="list-style-type: none"> • Frequency of fault occurrence (frequency of date and time of occurrence, regularity of occurrence, etc.) • Operating time up to fault occurrence • Date of start of use, date of fault occurrence
4	Timing of fault occurrence	<ul style="list-style-type: none"> • Remote controller operation performed before fault occurrence • Operating status, etc.
5	System settings	<ul style="list-style-type: none"> • Function selection switch settings of the product • Model name and address setting of the remote controllers (PZ-01RC, PZ-61DR-E, or system controllers). • Function settings on PZ-61DR-E when PZ-61DR-E is used
6	System drawings	<ul style="list-style-type: none"> • System Configuration • Wiring • Record of the function setting statuses



7-2 Initial check items

Check the following details if the system fails to operate properly after installation is completed.

(1) Power supply

No.	Check Item	Corrective action
1	Is the main power supply of the outdoor unit and Lossnay unit on?	Turn the main power supply on.
2	Is the current capacity of the power supply isolator appropriate?	Use an appropriate power supply isolator.
3	Is the designated cable used for the power supply cable?	Use the designated cable.
4	Are the cables correctly wired between the outdoor unit and Dx-coil unit?	Carry out wiring correctly.
5	Is the specified power supply supplied to the power supply terminal of the outdoor unit and Lossnay unit?	Supply the designated power supply.
6	Is the power supply cable incorrectly wired, is there a faulty connection or are screws loose?	Connect the cable securely and correctly, and tighten the screws firmly.
7	Is there a faulty connection on the power supply terminals (TB6: L and N) on PCB A?	Connect the lead wires securely.
8	Is there a faulty connection on the power supply terminal (CN1) on PCB B?	Connect the lead wires securely.
9	Is there a faulty connection on the transformer terminals (CN2 and CN4) on PCB B?	Connect the lead wires securely.
10	Are the following power supply indicator LEDs on the circuit boards lit? LED1 on PCB A (Dx-coil unit) LED12 on PCB B (Dx-coil unit) LED4 on the control circuit board (Lossnay unit)	Check the above items.

Table 1

Wiring specifications between the Dx-coil unit and outdoor unit

Cable diameter	0.75 mm ²
Max. extension	45 m
Terminal block	TB6 [S1] [S2] [S3] on PCB A of the Dx-coil unit

(2) Transmission cables (Remote controller transmission cable, Lossnay connecting cable)

No.	Check Item	Corrective action
1	Are the designated cables used for the remote controller transmission cable? (See Table 2.)	Use the designated transmission cables.
2	Is the Lossnay connecting cable securely connected?	Connect the cable securely.
3	Are the remote controller transmission cables wired using other than 2-core cables?	Use the designated transmission cables.
4	Are multiple transmission cables wired in the same cable duct?	Wire the transmission cable away from one another.
5	Is the power supply cable wired at least 5 cm away from transmission cables?	Wire the power supply cable at least 5 cm away from the transmission cables.
6	Are the transmission cables connected to the designated terminal block? (See Table 2.)	Connect the transmission cables to the designated terminal blocks.
7	Are the transmission cables incorrectly wired, is there a faulty connection or are screws loose?	Connect the cable securely and correctly, and tighten the screws firmly.
8	Is the wiring length of the transmission cable within the regulations? (See Table 2.)	Wire the cables within the regulations.

Table 2

Remote controller transmission cable specifications

Remote controller	PZ-01RC	PZ-61DR-E
Type	Sheathed cable	Sheathed cable
Number of cores	2-core cable	2-core cable
Cable diameter	0.3 mm ² (AWG22)	0.3 mm ² (AWG22)
Total extension	200 m	200 m
Terminal block	TM104 on PCB B of the Dx-coil unit	TM4 ①② on the control circuit board of the Lossnay unit

(3) Function setting

No.	Check Item	Corrective action
1	Is the function selection switch (SW7-1: Setting whether or not the Dx-coil unit is connected) on the control circuit board set correctly?	Check the function selection switch (SW7-1) on the control circuit board of the Lossnay unit, or the function setting (No. 71) of Lossnay remote controller (PZ-61DR-E).
2	Are the function selection switches on the circuit boards set correctly to suit the required application?	Set the following function selection switches (DIP switches) on the circuit boards correctly. <Dx-coil unit> SW1, SW2, SW3, SW4, SW6 on PCB A SW11 on PCB B <Lossnay unit> SW2, SW5, SW6, SW7 on the control circuit board
3	Has a switch or a function been set although it is not allowed to be set?	See the technical manual or installation instructions, or (6) on page 14 to check if the setting is prohibited.

(4) System restrictions

Refer to the technical manual.

(5) LED Indications on PCB A of the Dx-coil unit

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

LED1 (Power for microcomputer)	Indicates whether control power is supplied to PCB A. Make sure that this LED is always lit.
LED2 (Power for remote controller PZ-01RC)	Indicates whether power is supplied to the remote controller.
LED3 (Communication between PCB A and outdoor unit)	Indicates state of communication between PCB A and outdoor unit. Make sure that this LED is always blinking.

If the lighting status of the above LEDs is improper, see (1) and (2).

(6) Setting of the DIP switches (function selection switches) on the circuit boards

The setting of the following DIP switches shall be as shown below (factory setting) and must not be changed. Change of the setting inhibits the system from operating properly. When replacing the circuit boards, make sure that the switch settings on the new board are the same as the old board. (All the switches on the service circuit boards are set to OFF.)

Circuit board	Switch No.	Setting
PCB A of the Dx-coil unit	SW1-2, SW1-3, SW1-6	Must be ON
	SW1-1, SW1-4, SW1-5, SW1-8 SW2-6 to SW2-8 SW3-1 to SW3-3, and SW3-6 to SW3-8 SW4-1 to SW4-8 SW6-1, SW6-2	Must be OFF
PCB B of the Dx-coil unit	SW11-4 to SW11-8	Must be OFF
Control circuit board of the Lossnay unit	SW7-3 to SW7-10	Must be OFF

7-3 Error code and LED display

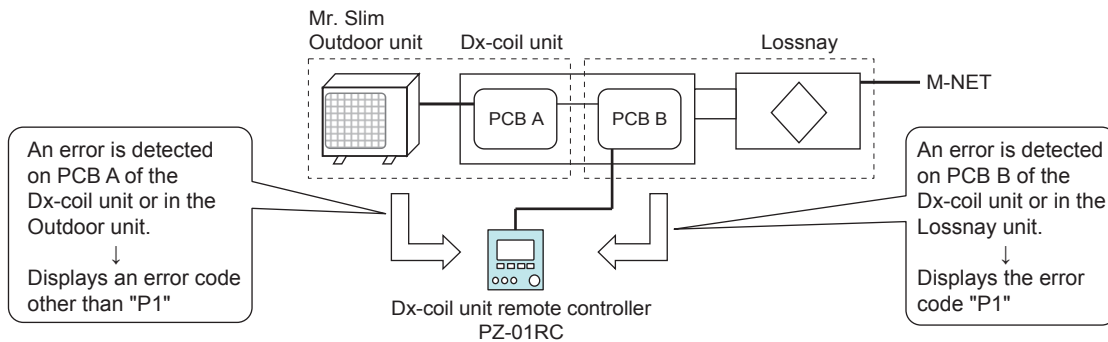
An error code displayed on the remote controller (PZ-01RC or PZ-61DR-E) or the M-NET system controllers, and blinking or illumination of LED11 (green) on PCB B of the Dx-coil unit show the type of an error. This system is comprised of each control circuit of the Dx-coil unit (PCB A and PCB B), Lossnay unit, and outdoor unit. If an error occurs, an error code is displayed on the connected remote controller. However, error codes to be displayed differ depending on error locations and the connected remote controllers.

- Dx-coil unit remote controller (PZ-01RC) uses two-digit codes to indicate errors detected on PCB A of the Dx-coil unit or in the outdoor unit. Whatever error detected on PCB B of the Dx-coil unit or in the Lossnay unit is displayed by the error code "P1."
- Lossnay remote controller (PZ-61DR-E) or M-NET system controllers use four-digit codes to indicate errors detected on PCB B of the Dx-coil unit or in the Lossnay unit. Whatever error detected on PCB A of the Dx-coil unit or in the outdoor unit is displayed by the error code "0206."

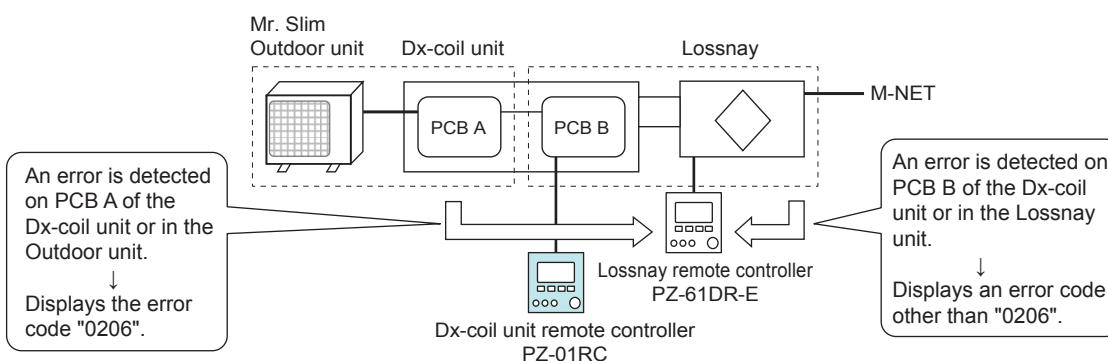
When Lossnay remote controller (PZ-61DR-E) or M-NET system controllers are not connected, error details can be checked by LED11 (green) on PCB B of the Dx-coil unit.

No.	Remote controller	Error code	Cause	Corrective action
1	Error display on PZ-01RC	Other than "P1"	An error is detected on PCB A of the Dx-coil unit or in the Outdoor unit.	See (1).
		"P1"	An error is detected on PCB B of the Dx-coil unit or in the Lossnay unit.	When Lossnay remote controller (PZ-61DR-E) or M-NET system controllers are used, check an error code displayed on them. → See (3). If none of them are used, check LED11 on PCB B of the Dx-coil unit. → See (2).
2	Error display on PZ-61DR-E and M-NET system controllers	"0206"	An error is detected on PCB A of the Dx-coil unit or in the Outdoor unit.	Check an error code displayed on Dx-coil unit remote controller (PZ-01RC). If the error code "P1" is displayed, check cable connection or power supply referring to the error code "0206" troubleshooting. → See (3).
		Other than "0206"	An error is detected on PCB B of the Dx-coil unit or in the Lossnay unit.	See (3).

No. 1. Error code displayed on Dx-coil unit remote controller (PZ-01RC)

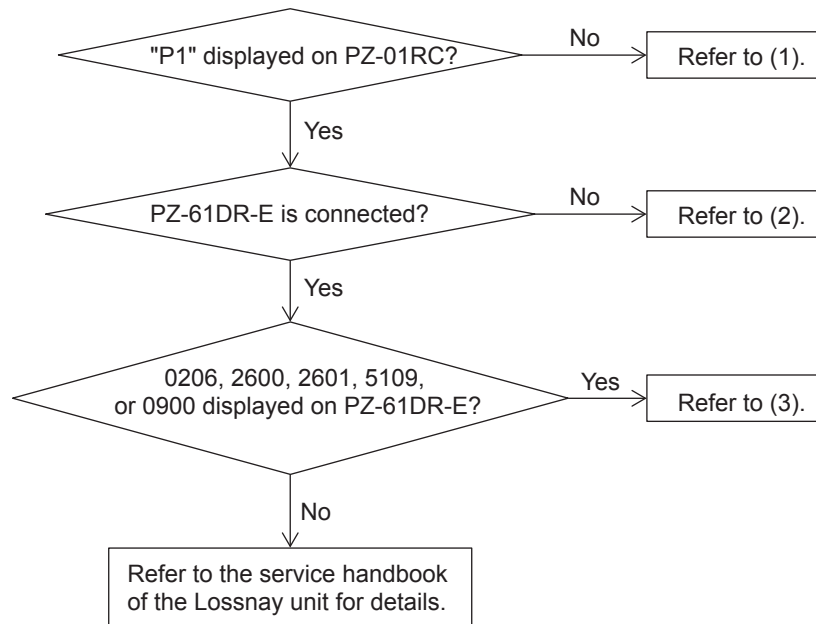


No. 2. Error code displayed on Lossnay remote controller (PZ-61DR-E) or the M-NET system controllers



Note: Dx-coil unit remote controller (PZ-01RC) displays an error code as well as the case of No. 1.

If an error code is displayed on Dx-coil unit remote controller (PZ-01RC), follow the flowchart below.



(1) Error codes displayed on Dx-coil unit remote controller (PZ-01RC)

Error code	Symptom	Cause	Corrective action
P1	Errors detected on PCB B of the Dx-coil unit	Some error has occurred on PCB B of the Dx-coil unit. (LED11 on PCB B blinks.)	See (2).
	Errors detected in the Lossnay unit	Some error has occurred in the Lossnay unit. (LED11 on PCB B blinks nine times.)	See the Lossnay service handbook.
	Faulty connection of CN20 on PCB A of the Dx-coil unit	Faulty connection of connector CN20 on PCB A of the Dx-coil unit	Check the connector connection of CN20 on PCB A.
		A break or short in a lead wire for connector CN20	Check the lead wires for connector CN20.
	PCB B of the Dx-coil unit is not functioning.	Power is not supplied to PCB B of the Dx-coil unit. (LED12 on PCB B is unlit.)	<ul style="list-style-type: none"> • Check the connection of power terminal TB6 (L and N) on PCB A. • Check the connection of power supply connector CN1 on PCB B. • Check the connection of transformer connectors CN2 and CN4 on PCB B.
		Failure of the transformer for PCB B of the Dx-coil unit. (LED12 on PCB B is unlit.)	Measure the coil resistance of the transformer with a tester. If the breaking of the coil is detected, replace the transformer.
		Failure of PCB B of the Dx-coil unit.	If no error is detected after checking the above items, replace PCB B (GU-01-E).
Malfunction of PCB A of the Dx-coil unit	Failure of PCB A of the Dx-coil unit.	When the lighting status of the LEDs on PCB B is normal, and no error is detected on CN20 connection and lead wires, replace PCB A (IF013).	

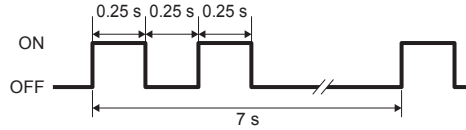
Error code	Symptom	Cause	Corrective action
P2	Liquid pipe thermistor (TH2) failure	Faulty connection of thermistor connector CN21 on PCB A of the Dx-coil unit	Check the connector connection of CN21 on PCB A.
		A break or short in a lead wire for thermistor (TH2)	Check the lead wires for thermistor (TH2).
		Failure of thermistor (TH2)	Measure the resistance of the thermistor with a tester. If it differs significantly from the following values, replace the thermistor (TH2, TH5). <Reference resistance values> 0°C: 15.0 kΩ, 10°C: 9.6 kΩ 20°C: 6.3 kΩ, 30°C: 4.3 kΩ
		Refrigerant circuit defect or the like is causing the rise or fall of a sensed temperature of the thermistor to 90°C or higher, or -40°C or lower respectively.	Check the refrigerant circuit. (For details, see the outdoor unit service handbook.)
		Failure of PCB A of the Dx-coil unit.	If no error is detected after checking the above items, replace PCB A (IF013).
P6	Freezing protection Overheating protection	No air is blown from the Lossnay unit to the Dx-coil unit. (Air volume is low).	Check that air is properly blown from the Lossnay unit to the Dx-coil unit.
		The air filter or Lossnay core of the Lossnay unit is clogged.	Clean the air filter or Lossnay core.
		The supply fan of the Lossnay unit is not operating.	Check that the Lossnay unit is operating properly. (For details, see the Lossnay service handbook.)
		Connector CN82 on PCB A of the Dx-coil unit is disconnected.	Check the connector connection of CN82 on PCB A.
		Connectors on PCB B of the Dx-coil unit are disconnected.	Check all the connector connections on PCB B.
		PCB B of the Dx-coil unit is not functioning properly.	<ul style="list-style-type: none"> • Check the lighting status of the LEDs on PCB B. (LED11: unlit, LED12: lit) • Check LEDs on the control circuit board of the Lossnay unit, or for any error code displayed on the remote controllers including PZ-61DR-E.
		Outdoor unit is not operating properly.	Check that the outdoor unit is operating properly. (For details, see the outdoor unit service handbook.)
		Overload operation of the outdoor unit	Check if the outdoor unit is operating under overload. (For details, see the outdoor unit service handbook.)
		Refrigerant piping defect	Make sure that there is no problem in refrigerant piping. (For details, see the outdoor unit service handbook.)

Error code	Symptom	Cause	Corrective action
P9	Gas pipe thermistor (TH5) failure	Faulty connection of thermistor connector CN29 on PCB A of the Dx-coil unit	Check the connector connection of CN29 on PCB A.
		A break or short in a lead wire for thermistor (TH5)	Check the lead wires for thermistor (TH5).
		Failure of thermistor (TH5)	Measure the resistance of the thermistor with a tester. If it differs significantly from the following values, replace the thermistor (TH2, TH5). <Reference resistance values> 0°C: 15.0 kΩ, 10°C: 9.6 kΩ 20°C: 6.3 kΩ, 30°C: 4.3 kΩ
		Refrigerant circuit defect or the like is causing the rise or fall of a sensed temperature of the thermistor to 90°C or higher, or -40°C or lower respectively.	Check the refrigerant circuit. (For details, see the outdoor unit service handbook.)
		Failure of PCB A of the Dx-coil unit	If no error is detected after checking the above items, replace PCB A (IF013).
E0 to E5	Communication error between the Dx-coil unit and remote controller (PZ-01RC)	Faulty connection of the remote controller transmission cable	Check the connection of terminal block TM104 on PCB B of the Dx-coil unit.
		Faulty connection of connector CN22 on PCB A or CN6 on PCB B of the Dx-coil unit	Check the connector connection of CN22 on PCB A, or CN6 on PCB B.
		Defective wiring of the remote controller transmission cable	<ul style="list-style-type: none"> • Check the items described in 7-2 (2). • If the error code display does not disappear, investigate noise on the remote controller transmission cable. • If the problem cannot be solved after checking the above items, replace PCB A (IF013) of the Dx-coil unit, or the remote controller (PZ-01RC).
		Failure of remote controller (PZ-01RC) (When the error code E1 or E2 is displayed)	Replace the remote controller (PZ-01RC).
E6 and E7	Communication error between the Dx-coil unit and outdoor unit	<ul style="list-style-type: none"> • Faulty connection of the outdoor unit connecting cable • Wrong wiring of the outdoor unit connecting cable 	Check the connection of power terminal TB6 (S1, S2, and S3) on PCB A.
		Defective wiring of the outdoor unit connecting cable	<ul style="list-style-type: none"> • Check the items described in 7-2 (1). • See the outdoor unit service handbook. • If the problem cannot be solved after checking the above items, replace PCB A (IF013) of the Dx-coil unit, or the control circuit board of the outdoor unit.
Fb	Malfunction of the circuit board of the Dx-coil unit	Failure of PCB A of the Dx-coil unit.	Replace PCB A (IF013) of the Dx-coil unit.
PL	Refrigerant piping defect	An error has occurred in the refrigerant piping.	<ul style="list-style-type: none"> • Check the refrigerant piping. • See the outdoor unit service handbook.

Error code	Symptom	Cause	Corrective action
PU	Inlet air thermistor (TH11) failure	Faulty connection of thermistor connector CN23 on PCB A of the Dx-coil unit	Check the connector connection of CN23 on PCB A.
		A break or short in a lead wire for thermistor (TH11)	Check the lead wires for thermistor (TH11).
		Failure of thermistor (TH11)	Measure the resistance of the thermistor with a tester. If it differs significantly from the following values, replace the thermistor (TH11). <Reference resistance values> 0°C: 15.0 kΩ, 10°C: 9.6 kΩ 20°C: 6.3 kΩ, 30°C: 4.3 kΩ
		Refrigerant circuit defect or the like is causing the rise or fall of a sensed temperature of the thermistor to 90°C or higher, or -40°C or lower respectively.	Check the refrigerant circuit. (For details, see the outdoor unit service handbook.)
		Failure of PCB A of the Dx-coil unit	If no error is detected after checking the above items, replace PCB A (IF013).
Other than the above	System failure	Some error has occurred on PCB A of the Dx-coil unit, remote controller (PZ-01RC), or in the outdoor unit.	See the outdoor unit service handbook.

(2) LED display on PCB B of the Dx-coil unit

The LED blink interval is 0.25 seconds for both on and off. The display duration is approximately 7 seconds.



Error display example of LED11: Two blinks

LED11 (green)	Symptom	Cause	Corrective action
1 blink	Temperature control setting error (Only for GUG-01SL-E)	The function selection switch (SW1-7: Selecting of RA temp. control or SA temp. control) on PCB A of the Dx-coil unit is set to OFF "SA temperature control."	Dx-coil unit GUG-01SL-E cannot be used for SA temperature control. Set the switch (SW1-7) to ON "RA temperature control."
		Model selection switches (SW11-9 and SW11-10) on PCB B are set incorrectly after a replacement of the circuit board.	Check the model selection switches (SW11-9 and SW11-10) on PCB B of the Dx-coil unit. Dx-coil unit GUG-01SL-E cannot be used for SA temperature control.
2 blinks	Drain water overflow	Drain pump drainage defect	Check the operation of the drain pump by using the drain pump test run switch (SW11-1) on PCB B of the Dx-coil unit. (Refer to "Test run" on page 10 of the Dx-coil unit installation instructions.)
			<p><If the drain pump fails to operate></p> <ul style="list-style-type: none"> • Check the connector connection of CN3 on PCB B of the Dx-coil unit. • Check an output voltage of the connector CN3 on PCB B. When the output voltage is normal, replace the drain pump assembly. If it is abnormal, check the power supply voltage. <p>If the power supply voltage is abnormal, correct the voltage. When the voltage is normal, replace PCB B (GU-01-E).</p> <p><If drainage of drain pump is poor></p> <ul style="list-style-type: none"> • Check if the drain pump and drain piping are clogged. • Check that raising of drain piping and its gradient are correctly constructed.
			If the problem cannot be solved after checking the above items, replace the drain pump assembly.
		Water sensor detection defect	<ul style="list-style-type: none"> • Stop and then operate the Dx-coil unit, with the water sensor not submerged. If the error occurs, replace the water sensor. • If the error still occurs even after the replacement of the water sensor, replace PCB B (GU-01-E) of the Dx-coil unit.

LED11 (green)	Symptom	Cause	Corrective action
2 blinks	Drain water overflow	<p>Follow the flowchart when "2600" is displayed on Lossnay remote controller (PZ-61DR-E) or M-NET system controllers.</p>	
3 blinks	Disconnection of the water sensor connector	Faulty connection of connector CN10 on PCB B of the Dx-coil unit	Check the connector connection of CN10 on PCB B.
4 blinks	Test run of the drain pump	Test run switch (SW11-1) on PCB B is set to ON.	Check the test run switch (SW11-1) on PCB B of the Dx-coil unit.
5 blinks	Errors detected on PCB A of the Dx-coil unit	Some error has occurred on PCB A of the Dx-coil unit.	See (1).
6 blinks	Communication error between PCB A and PCB B	Faulty connection of connector CN105 on PCB A of the Dx-coil unit	Check the connector connection of CN105 on PCB A.
		Faulty connection of connector CN5 on PCB B of the Dx-coil unit	Check the connector connection of CN5 on PCB B.
		Communication error between PCB A of the Dx-coil unit and outdoor unit at system startup	Check the error display on Dx-coil unit remote controller (PZ-01RC). See (1).
		Failure of PCB A of the Dx-coil unit.	<ul style="list-style-type: none"> Check the display on Dx-coil unit remote controller (PZ-01RC). If the problem cannot be solved after checking the above items, replace PCB A (IF013) or PCB B (GU-01-E) of the Dx-coil unit.

LED11 (green)	Symptom	Cause	Corrective action
7 blinks	Communication error between the Dx-coil unit and Lossnay unit	Faulty connection of connector CN120 (for connecting the Lossnay unit) on PCB B	Check the connector connection of CN120 on PCB B of the Dx-coil unit.
		Faulty connection of connector CN20 (for connecting the Dx-coil unit) on the control circuit board of the Lossnay unit	Check the connector connection of CN20 on the control circuit board of the Lossnay unit.
		Wrong connection of the Lossnay connecting cable on the control circuit board (The cable is connected to CN17 or CN26.)	Check that the Lossnay connecting cable is connected to CN20 on the control circuit board of the Lossnay unit.
		The power of the Lossnay unit is not ON.	Check the power of the Lossnay unit.
		The function selection switch (SW7-1: Setting whether or not the Dx-coil unit is connected) is set to OFF.	Check the function selection switch (SW7-1) on the control circuit board of the Lossnay unit, or the function setting (No. 71) of Lossnay remote controller (PZ-61DR-E).
		Microcomputer software version of the Lossnay circuit board is old.	Check the microcomputer software version marked on the control circuit board of the Lossnay unit (Dx-coil units are connectable only to Lossnay units equipped with the software version No. 05 and later.)
		A break or short in a Lossnay connecting cable	Replace the Lossnay connecting cable.
		Defective wiring of the Lossnay connecting cable	<ul style="list-style-type: none"> • Check if the Lossnay connecting cable is wired close to cables including the power supply cable prone to emit noise. • If the problem cannot be solved after checking the above items, replace PCB B (GU-01-E) of the Dx-coil unit, or the control circuit board of the Lossnay unit.
8 blinks	SA temperature thermistor (TH9) failure (Only for GUG-02SL-E and GUG-03SL-E)	Faulty connection of thermistor connector CN9 on PCB B of the Dx-coil unit	Check the connector connection of CN9 on PCB B.
		A break or short in a lead wire for thermistor (TH9)	Check the lead wires for thermistor (TH9).
		Failure of thermistor (TH9)	Measure the resistance of the thermistor with a tester. If it differs significantly from the following values, replace the thermistor (TH9). <Reference resistance values> 0°C: 13.3 kΩ, 10°C: 8.8 kΩ 20°C: 6.0 kΩ, 30°C: 4.2 kΩ
		Refrigerant circuit defect or the like is causing the rise or fall of a sensed temperature of the thermistor to 90°C or higher, or -30°C or lower respectively.	Check the refrigerant circuit. (For details, see the outdoor unit service handbook.)
		Failure of PCB B of the Dx-coil unit	Replace PCB B (GU-01-E) of the Dx-coil unit.
		Model selection switches (SW11-9 and SW11-10) on PCB B are set incorrectly after a replacement of the circuit board.	Check the model selection switches (SW11-9 and SW11-10) on PCB B of the Dx-coil unit.

LED11 (green)	Symptom	Cause	Corrective action
9 blinks	Errors detected on Lossnay control circuit	Some error has occurred in the Lossnay unit.	See the Lossnay service handbook.
10 blinks	Drain pump maintenance sign	Cumulative operation time of the drain pump has reached 2100 hours.	Check the operation of the drain pump, and if defects including poor drainage are detected, replace the drain pump assembly. Reset the cumulative operation time after the replacement of the drain pump assembly. (See the technical manual.)
Continuous blinking (At intervals of 1 sec.)	System is starting up.	The LED blinks for approx. five minutes at the maximum during startup.	After the system startup, LED11 goes off when no error is detected.
Lit for 3 sec.	Resetting the cumulative operation time of the drain pump is completed.	When the cumulative operation time of the drain pump is reset properly (by setting the switch SW11-2 to ON, and then to OFF), the LED11 lights up for three sec.	After resetting, LED11 goes off when no error is detected.

(3) Error codes displayed on Lossnay remote controller PZ-61DR-E and M-NET system controllers

Details about some of the errors that detected on circuit boards of the Dx-coil unit can be checked by LED1 (green) on the control circuit board of the Lossnay unit.

When error codes or LED blinking other than the following are shown, refer to the Lossnay service handbook.

Error code	LED1* (green)	Symptom	Cause	Corrective action
0206	3 blinks	Errors detected on circuit boards of the Dx-coil unit	Some error has occurred in the Dx-coil unit.	See (1) and (2).
		Communication error between the Dx-coil unit and Lossnay unit	Faulty connection of connector CN120 (for connecting the Lossnay unit) on PCB B	Check the connector connection of CN120 on PCB B of the Dx-coil unit.
			Faulty connection of connector CN20 (for connecting the Dx-coil unit) on the control circuit board	Check the connector connection of CN20 on the control circuit board of the Lossnay unit.
			Wrong connection of the Lossnay connecting cable on the control circuit board (The cable is connected to CN17 or CN26.)	Check that the Lossnay connecting cable is connected to CN20 on the control circuit board of the Lossnay unit.
			The power of the outdoor unit that is connected to the Dx-coil unit is not turned ON. (LED12 on PCB B is unlit.)	<ul style="list-style-type: none"> • Check the power of the outdoor unit. • Check the connection of power terminal TB6 (L and N) on PCB A of the Dx-coil unit. • Check the connection of power supply connector CN1 on PCB B of the Dx-coil unit. • Check the connection of transformer connectors CN2 and CN4 on PCB B.
			Failure of the transformer for PCB B of the Dx-coil unit. (LED12 on PCB B is unlit.)	Measure the coil resistance of the transformer with a tester. If the breaking of the coil is detected, replace the transformer.
			A break or short in a Lossnay connecting cable	Replace the Lossnay connecting cable.
			Defective wiring of the Lossnay connecting cable	Check if the Lossnay connecting cable is wired close to cables including the power supply cable prone to emit noise.
			Failure of PCB B of the Dx-coil unit, or the control circuit board of the Lossnay unit	If the problem cannot be solved after checking the above items, replace PCB B (GU-01-E) of the Dx-coil unit, or the control circuit board of the Lossnay unit.

*Note: LED1 on the control circuit board of the Lossnay unit

Error code	LED1* (green)	Symptom	Cause	Corrective action										
0206	12 blinks	Model mismatch between Lossnay unit and Dx-coil unit	Unconnectable Dx-coil unit is connected to the Lossnay unit.	See the table below to check the correct combinations of the Lossnay unit and Dx-coil unit. <table border="1" data-bbox="1015 304 1436 779"> <thead> <tr> <th>Lossnay unit</th> <th>Dx-coil unit</th> </tr> </thead> <tbody> <tr> <td>LGH-15RVX-E LGH-25RVX-E LGH-35RVX-E</td> <td>Unconnectable</td> </tr> <tr> <td>LGH-50RVX-E LGH-65RVX-E</td> <td>GUG-01SL-E</td> </tr> <tr> <td>LGH-80RVX-E LGH-100RVX-E</td> <td>GUG-02SL-E</td> </tr> <tr> <td>LGH-150RVX-E LGH-200RVX-E LGH-150RVXT-E LGH-200RVXT-E LGH-250RVXT-E</td> <td>GUG-03SL-E</td> </tr> </tbody> </table>	Lossnay unit	Dx-coil unit	LGH-15RVX-E LGH-25RVX-E LGH-35RVX-E	Unconnectable	LGH-50RVX-E LGH-65RVX-E	GUG-01SL-E	LGH-80RVX-E LGH-100RVX-E	GUG-02SL-E	LGH-150RVX-E LGH-200RVX-E LGH-150RVXT-E LGH-200RVXT-E LGH-250RVXT-E	GUG-03SL-E
			Lossnay unit	Dx-coil unit										
LGH-15RVX-E LGH-25RVX-E LGH-35RVX-E	Unconnectable													
LGH-50RVX-E LGH-65RVX-E	GUG-01SL-E													
LGH-80RVX-E LGH-100RVX-E	GUG-02SL-E													
LGH-150RVX-E LGH-200RVX-E LGH-150RVXT-E LGH-200RVXT-E LGH-250RVXT-E	GUG-03SL-E													
Model selection switches (Dx-coil unit: SW11-9 and SW11-10, Lossnay unit: SW6) are set incorrectly after a replacement of the circuit board.	For model selection of the Dx-coil unit, see page 45. For model selection of the Lossnay unit, see page 46.													
0900	3 blinks	Dx-coil unit: Drain pump is during test run.	Test run switch (SW11-1) on PCB B of the Dx-coil unit is set to ON. Note: Also when the trial operation switch (SW2-1) on the control circuit board of the Lossnay unit is set to ON, the error code "0900" is displayed, but LED1 does not blink in this case.	See (2).										
2600	3 blinks	Dx-coil unit: Failure of water sensor for the drain pan	Drain pump drainage defect of the Dx-coil unit	See (2).										
2601	3 blinks	Dx-coil unit: Disconnection of the water sensor connector	Faulty connection of connector CN10 on PCB B of the Dx-coil unit	See (2).										
5109	3 blinks	Dx-coil unit: SA temperature thermistor (TH9) failure (Only for GUG-02SL-E and GUG-03SL-E)	Failure of thermistor (TH9)	See (2).										

*Note: LED1 on the control circuit board of the Lossnay unit

7-4 The system fails to operate properly.

(1) If Dx-coil unit remote controller (PZ-01RC) fails to operate properly

No.	Symptom	Cause	Corrective action
1	Nothing is displayed on remote controller (PZ-01RC).	The power of the outdoor unit that is connected to the Dx-coil unit is not turned ON.	See 7-2 (1).
		Faulty connection of the remote controller transmission cable	See 7-2 (2).
		Faulty connection of connector CN22 on PCB A of the Dx-coil unit	Check the connector connection of CN22 on PCB A.
		Faulty connection of connector CN6 on PCB B of the Dx-coil unit	Check the connector connection of CN6 on PCB B.
		The wiring length of the remote controller exceeds 200 m.	The wiring length of the remote controller shall be within 200 m.
		Defective wiring of the remote controller	Check for any defect including disconnection, a contact failure and a short-circuit in the remote controller transmission cable.
		Failure of the remote controller or PCB A of the Dx-coil unit	Replace the remote controller (PZ-01RC) or PCB A (IF013).
2	Remote controller (PZ-01RC) continues to display "Please Wait."	The remote controller is starting up.	The remote controller displays "Please Wait" during start-up for maximum four minutes.
		Faulty connection of the remote controller transmission cable	See 7-2 (2).
		Communication error between the Dx-coil unit and outdoor unit	Check the connecting cable for the outdoor unit.
		Failure of the outdoor unit	See the outdoor unit service handbook.
3	Error code "6831" is displayed, or "Please wait" remains displayed on the remote controller.	Lossnay remote controller (PZ-61DR-E) is connected to the Dx-coil unit.	Check the model name of the remote controller, and make sure to connect the Dx-coil unit remote controller (PZ-01RC: BH00J360).
4	The screen display of remote controller (PZ-01RC) changes by itself.	The Dx-coil unit was operated by remote controller (PZ-61DR-E) connected to the Lossnay unit.	Check if the Dx-coil unit is operated by Lossnay remote controller (PZ-61DR-E). Dx-coil unit must be operated by Dx-coil unit remote controller (PZ-01RC).
		Since the Lossnay unit was interlocked with other devices including an air conditioner, operating conditions of the Lossnay unit and Dx-coil unit have changed.	Check if the Lossnay unit is performing the interlock operation with other devices including an air conditioner.
		The Lossnay unit is connected to M-NET and operated by the system controller.	Check if the Lossnay is operated by the system controller.
		When the operation mode of the Dx-coil unit is "Fan," an error occurred in the Dx-coil unit or Lossnay unit.	If an error occurs in the Dx-coil unit or Lossnay unit during the "Fan" mode of the Dx-coil unit, the operation mode turns to "Heating." See the technical manual.
		Lossnay is performing the night-purge operation.	Check the screen display on Lossnay remote controller (PZ-61DR-E) or centralized controller (AE-200E).

No.	Symptom	Cause	Corrective action
5	Even if you press ON/OFF button of remote controller (PZ-01RC) to operate or stop the Dx-coil unit, the screen or Dx-coil unit returns to its original condition.	Lossnay remote controller (PZ-61DR-E) was operated almost simultaneously with the operation of Dx-coil unit remote controller (PZ-01RC).	Check if Lossnay remote controller (PZ-61DR-E) was operated simultaneously.
		The remote controller was operated immediately after the startup of the Dx-coil unit (before the Lossnay unit started up).	Operate Dx-coil unit remote controller (PZ-01RC) after the startup of the Lossnay unit (at least five minutes after the startup).
		Lossnay is performing the night-purge operation.	Check the screen display on Lossnay remote controller (PZ-61DR-E) or centralized controller (AE-200E).
6	ON/OFF button of remote controller (PZ-01RC) is disabled. "🔒" is displayed on the remote controller.	The Remote/Local switching (CN32) of the Lossnay unit is set to "Remote."	Check the external signal input (CN32) of the Lossnay unit.
		The operation of local remote controllers (PZ-01RC, PZ-61DR-E) is prohibited by M-NET system controller.	Check the prohibition setting of the system controller.
7	"Auto mode" cannot be selected by remote controller (PZ-01RC).	The function selection switch (SW1-7: Selecting of RA temp. control or SA temp. control) on PCB A of the Dx-coil unit is set to OFF "SA temperature control."	When the Dx-coil unit is set to "SA temperature control," the "Auto mode" is not selectable.
8	Room temperature display of remote controller (PZ-01RC) is improper.	The function selection switch (SW1-7: Selecting of RA temp. control or SA temp. control) on PCB A of the Dx-coil unit is set to OFF "SA temperature control."	When the Dx-coil unit is set to "SA temperature control," the room temperature display should disappear. See the installation instructions or operating instructions.
		The remote controller was operated immediately after the startup of the Dx-coil unit.	Immediately after the system startup, proper room temperature may not be displayed. (It takes approx. five minutes to display proper room temperature.)
		Communication error between PCB A and PCB B of the Dx-coil unit	See 7-3 (3).
		Communication error between the Dx-coil unit and Lossnay unit	See 7-3 (3).
9	Room temperature display is blinking.	The indoor temperature is outside the measurement range.	When the indoor temperature is 8°C or lower, or 38°C or higher, the temperature display blinks.
10	Even when the fan speed of the Lossnay unit is set to Fan speed 1, 2, or 3, the fan speed icon on remote controller (PZ-01RC) indicates Fan speed 4.	The fan speed icon on remote controller (PZ-01RC) is always fixed at Fan speed 4.	It is not a failure.
11	Even when the fan speed button (Function button F4) of remote controller (PZ-01RC) is pressed, the fan speed of the Lossnay unit does not change.	Fan speed of the Lossnay unit cannot be switched by remote controller (PZ-01RC).	Switch the fan speed of the Lossnay unit by remote controller (PZ-61DR-E) or the system controllers. (Fan speed of the Lossnay unit cannot be switched without remote controller (PZ-61DR-E) or system controllers.)

No.	Symptom	Cause	Corrective action
12	Even when the target temperature of remote controller (PZ-01RC) is changed, the temperature display returns to the previous temperature right away.	Temperature range that can be set differs depending on control types (RA temp. control or SA temp. control) or operation modes of the Dx-coil unit.	For details, see the operating instructions of the Dx-coil unit.
		Target temperature is fixed by the function selection switches (SW2-3, SW2-4, SW2-5: Setting of fixed temperature) on PCB A of the Dx-coil unit.	Check the setting of the function selection switches (SW2-3, SW2-4, SW2-5) on PCB A.
13	Even when the operation mode of the Dx-coil unit is changed by remote controller (PZ-01RC), it returns to the previous mode right away.	Operation mode is fixed by the function selection switches (SW2-1, SW2-2: Setting of fixed operation mode) on PCB A of the Dx-coil unit.	Check the setting of the function selection switches (SW2-1, SW2-2) on PCB A.
14	Test run of the drain pump cannot be operated from the remote controller.	Drain pump test run cannot be operated from the remote controller.	It is not a failure. Operate the test run by using the function selection switch (SW11-1) on PCB B.
15	Even though LED11 on PCB B is unlit or no error code is displayed on Lossnay remote controller (PZ-61DR-E), an error code is displayed on Dx-coil unit remote controller (PZ-01RC).	The error code "P1" may be displayed on Dx-coil unit remote controller (PZ-01RC), even though no error code is displayed on Lossnay remote controller (PZ-61DR-E).	See 7-3 (1).
16	Even though LED11 on PCB B is blinking or an error code is displayed on Lossnay remote controller (PZ-61DR-E), no error code is displayed on Dx-coil unit remote controller (PZ-01RC).	The Dx-coil unit is stopping.	Remote controller (PZ-01RC) displays no error code when the Dx-coil unit is stopped.
		The function selection switch (SW11-3: Selecting of the pattern when an error occurs) on PCB B is set to ON "Pattern B."	When the switch (SW11-3) is ON, remote controller (PZ-01RC) displays no error code during the "Fan" mode of the Dx-coil unit.
		Setting of the function selection switches on circuit boards of the Dx-coil unit, for which any setting change is prohibited, is changed.	See 7-2 (6).
		Communication error between PCB A and PCB B of the Dx-coil unit	See 7-3 (1).
17	In the case of interlocking with the City Multi indoor unit, even when its operation mode or target temperature is changed, operation mode or temperature display on remote controller (PZ-01RC) does not change.	Operation mode or target temperature of the City Multi indoor unit does not affect the Dx-coil unit.	It is not a failure.

(2) If the Dx-coil unit fails to operate properly

No.	Symptom	Cause	Corrective action
1	Air blowing through the Dx-coil unit cannot be cooled or warmed.	Operation mode of the Dx-coil unit is set to "Fan."	Check the operation mode by Dx-coil unit remote controller (PZ-01RC).
		Target temperature of the Dx-coil unit is high or low.	Check the temperature setting by Dx-coil unit remote controller (PZ-01RC).
		Fan speed of the Lossnay unit is set to "Fan speed 1" or "Fan speed 2."	Check the fan speed of the Lossnay unit.
		Lossnay is performing the night-purge operation.	Check the screen display on Lossnay remote controller (PZ-61DR-E) or centralized controller (AE-200E).
		The outdoor unit is in defrosting operation.	Check the screen display on Dx-coil unit remote controller (PZ-01RC).
		The outdoor unit is operating in heating standby mode.	Check the screen display on Dx-coil unit remote controller (PZ-01RC).
		The Lossnay unit is operating in the protective mode (intermittent operation). (When outside air is -15°C or lower)	<ul style="list-style-type: none"> • Check the outdoor temperature. • When Lossnay remote controller (PZ-61DR-E) is used, it displays the icon "⊞" that indicates the protective operation is in-progress.
		When operation mode of the Dx-coil unit is "Heating," an outdoor temperature detected by the outdoor unit is 19°C or higher. (Only for GUG-03SL-E with a setting of SA temp. control)	Check the outdoor temperature.
		Temperature control selection of the Dx-coil unit is wrong.	Check the setting of the function selection switch (SW1-7: Selecting of RA temp. control or SA temp. control) on PCB A of the Dx-coil unit.
		Water is accumulating in the drain pan of the Dx-coil unit.	Check the condition of the drain pan.
		An outdoor unit other than those connectable to the Dx-coil unit is connected.	Check that the model combination of the outdoor unit and Dx-coil unit is correct. See the table of "Connectable Lossnay unit and outdoor unit for each function" in Chapter 3 (page 5).
		Temperature control selection of the Dx-coil unit is wrong for the connected Outdoor unit.	Check the model name of the outdoor unit. Make sure the proper outdoor unit is connected for each temperature control (RA temp. control, SA temp. control) of the Dx-coil unit. See the table of "Connectable Lossnay unit and outdoor unit for each function" in Chapter 3 (page 5).

No.	Symptom	Cause	Corrective action
1	Air blowing through the Dx-coil unit cannot be cooled or warmed.	DIP switches (function selection switches) on PCB A of the Dx-coil unit are not set according to specifications.	Check the setting of the function selection switches on PCB A of the Dx-coil unit.
		Wrong connection of thermistor connectors on PCB A of the Dx-coil unit	Check the connector connections of CN23, CN21, and CN29 on PCB A.
		Ductwork defect between the Lossnay unit and Dx-coil unit	<ul style="list-style-type: none"> • Check for any defect including air leakage from the duct between the Lossnay unit and Dx-coil unit. • Check for any problem including clogging of the duct.
		Communication error between PCB A and PCB B of the Dx-coil unit	See 7-3 (3).
		PCB B of the Dx-coil unit is not functioning.	See 7-3 (1).
		Function settings of Dx-coil unit remote controller (PZ-01RC) are set to values other than "factory setting" values. (Except function setting No. 01)	Check the function setting details of the remote controller (PZ-01RC).
		In the case of interlocking with the City Multi indoor unit, operation mode or target temperature is set by the remote controller for the City Multi indoor unit. (Operation mode or target temperature of the City Multi indoor unit remote controller does not affect the Dx-coil unit.)	<ul style="list-style-type: none"> • Set the operation mode and target temperature of the Dx-coil unit by using the Dx-coil unit remote controller (PZ-01RC) even when interlocking with the City Multi indoor unit. • Check the model name of the remote controller before operating it. (PZ-01RC: BH00J360).
		With a pre-heater connected to the Lossnay unit, conditions for turning ON the pre-heater is satisfied while the Dx-coil unit is operating in the cooling mode.	Check the operation of the pre-heater.
		Communication error between the Dx-coil unit and Lossnay unit	See 7-3 (3).
		Setting of the function selection switches on circuit boards of the Dx-coil unit, for which any setting change is prohibited, is changed.	See 7-2 (6).
2	The room is too cool or too warm.	Defects related to the outdoor unit	See the outdoor unit service handbook.
		Target temperature of the Dx-coil unit is too low or too high.	Check the temperature setting by Dx-coil unit remote controller (PZ-01RC).
		Temperature control selection of the Dx-coil unit is wrong.	Check the setting of the function selection switch (SW1-7: Selecting of RA temp. control or SA temp. control) on PCB A of the Dx-coil unit.
		Processing capacity of the Dx-coil unit is not sufficient for a room space.	Install an adequate Dx-coil unit.
		DIP switches (function selection switches) on PCB A of the Dx-coil unit are not set according to specifications.	Check the setting of the function selection switches on PCB A of the Dx-coil unit.
		Wrong connection of thermistor connectors on PCB A of the Dx-coil unit	Check the connector connections of CN23, CN21, and CN29 on PCB A.

No.	Symptom	Cause	Corrective action
2	The room is too cool or too warm.	In the case of interlocking with the City Multi indoor unit, operation mode or target temperature is set by the remote controller for the City Multi indoor unit. (Operation mode or target temperature of the City Multi indoor unit remote controller does not affect the Dx-coil unit.)	<ul style="list-style-type: none"> Set the operation mode and target temperature of the Dx-coil unit by using the Dx-coil unit remote controller (PZ-01RC) even when interlocking with the City Multi indoor unit. Check the model name of the remote controller before operating it. (PZ-01RC: BH00J360).
		With a pre-heater connected to the Lossnay unit, conditions for turning ON the pre-heater is satisfied while the Dx-coil unit is operating in the heating mode.	Check the operation of the pre-heater.
		Setting of the function selection switches on circuit boards of the Dx-coil unit, for which any setting change is prohibited, is changed.	See 7-2 (6).
		Defects related to the outdoor unit	See the outdoor unit service handbook.
3	Cool air comes out while the Dx-coil unit is operating in the heating mode.	The trial operation switch (SW2-1) is set to ON.	Check the trial operation switch (SW2-1) on the control circuit board of the Lossnay unit.
		Communication error between PCB A and PCB B of the Dx-coil unit	See 7-3 (3).
		Communication error between the Dx-coil unit and Lossnay unit	See 7-3 (3).
		The outdoor unit is in defrosting operation.	It is not a failure.
4	Water leaks from the Dx-coil unit.	The Dx-coil unit is installed in an inclined state.	See the installation instructions of the Dx-coil unit.
		Drain piping defect (including faulty connection, improper piping length, or improper head height)	See the installation instructions of the Dx-coil unit.
		Refrigerant piping defect (including faulty connection and insufficient heat insulation)	See the installation instructions of the Dx-coil unit.
		Drain pump drainage defect	See 7-3 (3).
5	Drain pump fails to operate.	Failure of PCB B of the Dx-coil unit.	See 7-3 (3).
		Faulty connection of connector CN3 on PCB B of the Dx-coil unit	Check the connector connection of CN3 on PCB B.
		Wrong connection of the drain pump connector.	Check that the drain pump connector is connected to CN3 on PCB B.
		Drain pump defect	Replace the drain pump assembly.
6	Drainage water quantity of the drain pump is less.	Drain piping work defect	See the installation instructions of the Dx-coil unit.
		Drain pump defect	Replace the drain pump assembly.
7	The drain pump fails to stop.	The residual operation is being processed.	Drain pump continues operation for approximately six minutes after the Dx-coil unit stops.
		The test run switch (SW11-1) is set to ON.	Check the test run switch (SW11-1) on PCB B of the Dx-coil unit.
		Water is accumulating in the drain pan of the Dx-coil unit.	Check the condition of the drain pan.
8	Even when the setting of DIP switches (function selection switches) are changed, functions cannot be switched.	function selection switches were switched while power is supplying to the Dx-coil unit.	Set the function selection switches while power supply to the outdoor unit is shut off.

(3) If the Lossnay unit to which the Dx-coil unit is connected fails to operate properly

*For symptoms other than the following, see the Lossnay service handbook.

No.	Symptom	Cause	Corrective action
1	The Lossnay unit does not operate even when trying to operate it by Dx-coil unit remote controller (PZ-01RC).	The function selection switch (SW7-1: Setting whether or not the Dx-coil unit is connected) on the control circuit board is set to OFF.	Check the function selection switch (SW7-1) on the control circuit board of the Lossnay unit, or the function setting (No. 71) of Lossnay remote controller (PZ-61DR-E).
		The power of the Lossnay unit is not ON.	Check the power of the Lossnay unit.
		Communication error between PCB A and PCB B of the Dx-coil unit	See 7-3 (3).
		Communication error between the Lossnay unit and Dx-coil unit	See 7-3 (3).
2	The Lossnay unit does not stop even when trying to stop it by Dx-coil unit remote controller (PZ-01RC).	The function selection switch (SW7-1: Setting whether or not the Dx-coil unit is connected) on the control circuit board is set to OFF.	Check the function selection switch (SW7-1) on the control circuit board of the Lossnay unit, or the function setting (No. 71) of Lossnay remote controller (PZ-61DR-E).
		Lossnay is performing the night-purge operation.	Check the screen display on Lossnay remote controller (PZ-61DR-E) or centralized controller (AE-200E).
		The pre-heater is connected to the Lossnay unit.	Lossnay stops three minutes later to cool the pre-heater.
		Communication error between PCB A and PCB B of the Dx-coil unit	See 7-3 (3).
		Communication error between the Lossnay unit and Dx-coil unit	See 7-3 (3).
		The trial operation switch (SW2-1) is set to ON.	Check the trial operation switch (SW2-1) on the control circuit board of the Lossnay unit.
3	Air supply fan of the Lossnay unit stops occasionally.	The outdoor unit is in defrosting operation.	Check the screen display on Dx-coil unit remote controller (PZ-01RC).
		The outdoor unit is operating in heating standby mode.	Check the screen display on Dx-coil unit remote controller (PZ-01RC).
		The Lossnay unit is operating in the protective mode (intermittent operation).	See the Lossnay service handbook.
4	The air volume of the air supply fan decreases.	Water is accumulating in the drain pan of the Dx-coil unit. (In the case that water is detected by the water sensor, even when the fan speed of the Lossnay unit is set to Fan speed 3 or 4, the supply fan runs at Fan speed 2.)	Check the condition of the drain pan.
5	Even when the external signal is input to change the fan speed to 1 or 2, the Lossnay unit operates at Fan speed 3.	The function selection switch (SW7-2 (and SW7-3): Selection of the operation mode from "Temp. priority mode" or "Fan speed priority mode" (or "Fan priority mode after temp. priority mode")) on the control circuit board of the Lossnay unit, or the function setting (No. 72) of Lossnay remote controller (PZ-61DR-E) is set to "Temp. priority mode" or "Fan priority mode after temp. priority mode."	When the Lossnay unit is in the "Temp. priority mode," and while the Dx-coil unit is operating in the cooling or heating mode, the Lossnay unit operates at Fan speed 3, regardless of the external fan speed input of Fan speed 1 or 2.

No.	Symptom	Cause	Corrective action
6	When the Indoor negative pressure setting of the Lossnay unit is enabled, if the external signal of Fan speed 1 or 2 is input, indoor negative pressure setting cannot be executed.	The function selection switch (SW7-2 (and SW7-3): Selection of the operation mode from "Temp. priority mode" or "Fan speed priority mode" (or "Fan priority mode after temp. priority mode")) on the control circuit board of the Lossnay unit, or the function setting (No. 72) of Lossnay remote controller (PZ-61DR-E) is set to "Temp. priority mode" or "Fan priority mode after temp. priority mode."	When the Indoor negative pressure setting is enabled, set to "Fan speed priority mode," by the function selection switch (SW7-2) on the control circuit board or function setting (No. 72) of Lossnay remote controller (PZ-61DR-E).
7	In the case of interlocking with the City Multi indoor unit, and when the Lossnay unit is operating in Automatic mode, the ventilation mode switches regardless of operation mode or target temperature of the City Multi indoor unit.	Operation mode or target temperature of the City Multi indoor unit does not affect the Lossnay unit.	It is not a failure.
8	Even when the interlock mode of the Lossnay unit is set to "ON/OFF interlock," the setting cannot be executed.	Lossnay remote controller (PZ-61DR-E) or a system controller is not connected to the Lossnay unit.	When setting the interlock mode to "ON/OFF interlock," connect Lossnay remote controller (PZ-61DR-E) or the system controller to the Lossnay unit.

(4) If Lossnay remote controller (PZ-61DR-E) or M-NET system controllers fail to operate properly

*For symptoms other than the following, see the Lossnay service handbook.

No.	Symptom	Cause	Corrective action
1	The screen display of the remote controller changes by itself.	Dx-coil unit remote controller (PZ-01RC) was operated.	Check if Dx-coil unit remote controller (PZ-01RC) was operated.
2	Even if you press the ON/OFF button of the remote controllers, the screen or devices return to its original condition.	Dx-coil unit remote controller (PZ-01RC) was operated almost simultaneously with the operation of Lossnay remote controller (PZ-61DR-E).	Check if Dx-coil unit remote controller (PZ-01RC) was operated simultaneously.
3	When ON/OFF button of Dx-coil unit remote controller (PZ-01RC) is pressed to operate or stop the system, it takes time for display on Lossnay remote controller (PZ-61DR-E) to turn.	After Dx-coil unit remote controller (PZ-01RC) is operated, it takes a maximum of 30 seconds for Lossnay remote controller (PZ-61DR-E) to indicate the operation change of the system. It depends on communications timing.	It is not a failure.
4	Even when the external signal is input to the Lossnay unit to change the fan speed to 1 or 2, the fan speed icon on Lossnay remote controller (PZ-61DR-E) indicates Fan speed 3.	When the Lossnay unit is in the "Temp. priority mode," the Lossnay unit operates at fan speed 3, regardless of the external fan speed input of Fan speed 1 or 2.	It is not a failure.

No.	Symptom	Cause	Corrective action
5	When the system is operated, an error code is displayed on the remote controllers.	Some error, which can be detected only during operation, has occurred.	See 7-3 (3).
6	Even though no error code is displayed on Lossnay remote controller (PZ-61DR-E), an error code is displayed on Dx-coil unit remote controller (PZ-01RC).	The error code "P1" may be displayed on Dx-coil unit remote controller (PZ-01RC), even though no error code is displayed on Lossnay remote controller (PZ-61DR-E).	See 7-3 (1).
7	Even though an error code is displayed on Lossnay remote controller (PZ-61DR-E), no error code is displayed on Dx-coil unit remote controller (PZ-01RC).	The Dx-coil unit is stopping.	Remote controller (PZ-01RC) does not display the error code when the Dx-coil unit is stopped.
		The function selection switch (SW11-3: Selecting of the pattern when an error occurs) on PCB B is set to ON "Pattern B."	When the switch (SW11-3) is set to ON, remote controller (PZ-01RC) does not display the error code during the "Fan" mode of the Dx-coil unit.
		Communication error between PCB A and PCB B of the Dx-coil unit	See 7-3 (1).
8	Lossnay remote controller (PZ-61DR-E) displays a supply air temperature that is different from actual temperature.	Calculated supply air temperature display is not available.	Set the function setting (No. 38) of Lossnay remote controller (PZ-61DR-E) to 0: No use of calculated supply air temperature display.
9	"System error 2" is displayed on Dx-coil unit remote controller (PZ-01RC).	Dx-coil unit remote controller (PZ-01RC) is connected to the Lossnay unit.	Check the model name of the remote controller, and make sure to connect Lossnay remote controller (PZ-61DR-E) to the Lossnay unit.
10	Operation mode and target temperature are not displayed on the system controllers.	The system controllers do not display operation mode and target temperature of the Dx-coil unit.	It is not a failure.
11	Even when operation mode or target temperature is set by schedule setting of the system controllers, the operation mode or target temperature of the Dx-coil unit is not changed.	Schedule setting of the system controllers cannot be used to change the operation mode or target temperature of the Dx-coil unit.	It is not a failure.
12	Lossnay remote controller (PZ-61DR-E) does not start and continues to display "Please Wait." Error code "6831" is displayed.	Lossnay remote controller (PZ-61DR-E) is connected to the Dx-coil unit.	Check the model name of the remote controller, and make sure to connect Dx-coil unit remote controller (PZ-01RC) to the Dx-coil unit.

8. Overhauling procedures

■ Work precautions

- When touching the electric components such as circuit boards, do not touch the components for more than five minutes after power-off, and then start working. When shut down the power of the Dx-coil unit for repair working, make sure to turn off the power to the Lossnay unit as well.
 - Terminals of a large electrolytic capacitor in the power circuit section continues to generate low-voltage for approximately one hour after the power shutdown. Therefore, handle the circuit board very carefully when replacing it.
 - Before replacing parts, repair troubled sections according to the instructions described in the troubleshooting.
 - When servicing, always keep proper footing.
 - When servicing, the power supply isolator must be turned off. Pay sufficient attention to avoid electrical shock or injury.
 - Always connect the power wire properly.
 - After completing repairs, check that the unit operates properly.
 - Always wear gloves when servicing.
- * The part names in the texts are standardized with the part names in the parts catalog. (There are some exceptions.)

(1) Turn off the power

- ① Shut down the system.
- ② Turn off the power supply isolator on the distribution board.

Control parts

Before servicing, make sure all LEDs on the circuit boards of the Dx-coil unit and Lossnay unit are unlit.

Note

Record the setting status of the function selection switches on the circuit boards (PCB A and PCB B of the Dx-coil unit, and control circuit board of the Lossnay unit) using the check sheet on the pages 45 and 46. If Lossnay remote controller (PZ-61DR-E) is connected, also record its setting status.

(2) Remove PCB A (IF013)

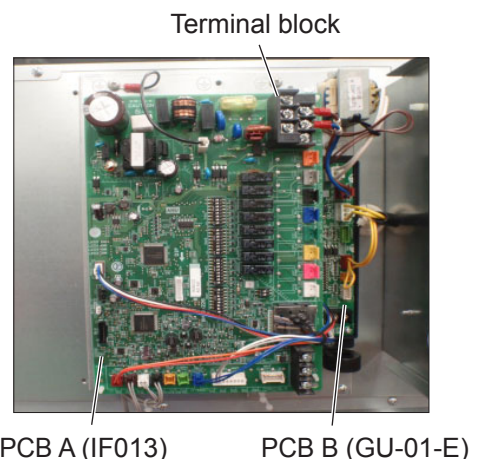
- ① Unscrew the black screws (four special screws 4×8, indicated by ○ and shown in the photo below) to remove the control cover.



(Black)



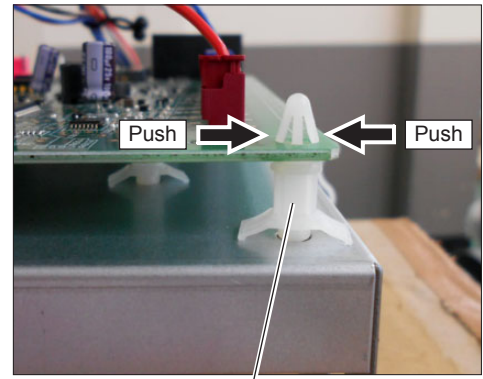
- ② Disconnect all lead wire connectors from PCB A and PCB B.
- ③ Disconnect all lead wires from the terminal block.



- ④ Remove PCB A from the support pieces (four locations) on each corner. (Pinch the support pieces as shown in the right picture.)

Note

Refer to section (9) for installing the circuit board.



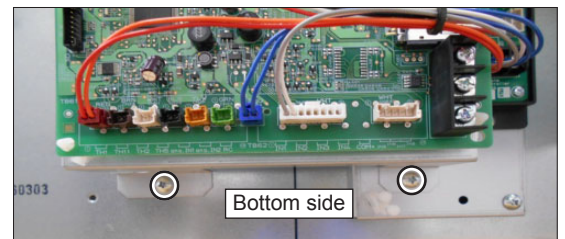
Support piece

(3) Remove PCB B (GU-01-E), transformer, and ferrite core

- ① Remove the control cover. → See (2) ①.
 ② Disconnect all lead wire connectors, earth lead wire, and the remote controller transmission cable from PCB A and PCB B.
 ③ Unscrew the topside and bottom screws (four PTT screws 4×8, indicated by ○ and shown in the photo below) to disengage the base plate of PCB A.



Base plate of PCB A

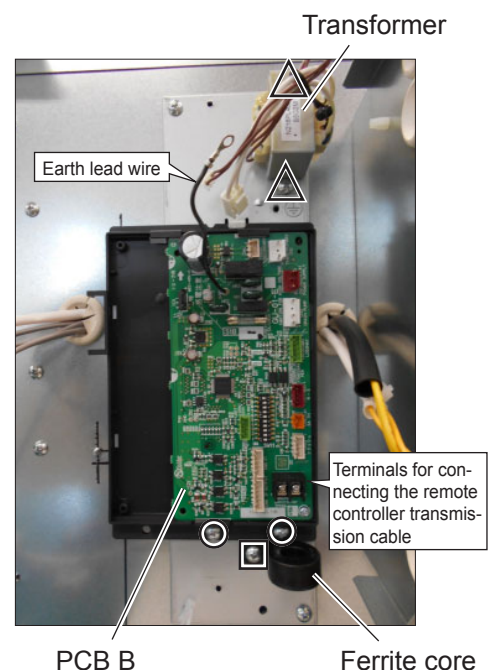


- ④ Unscrew the screws (two PTT screws 4×8, indicated by ○ and shown in the photo below) to remove the PCB B.

Note

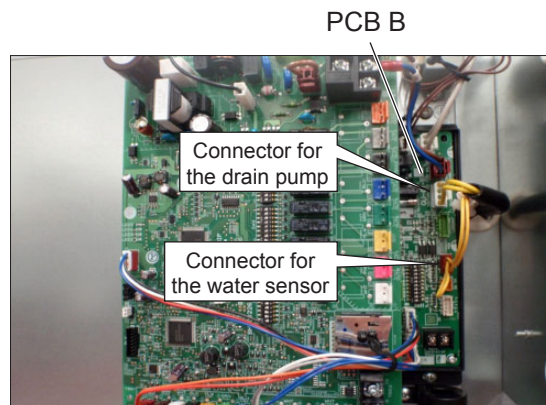
Refer to section (9) for installing the circuit board.

- ⑤ Unscrew the screws (two PTT screws 4×8, indicated by △ and shown in the photo below) to remove the transformer.
 ⑥ Unscrew the screw (one PTT screw 4×8, indicated by □ and shown in the photo below) to remove the ferrite core.



Drain pump and water sensor parts

Before disassembling, remove the connector of each lead wire from PCB B.



(4) Remove the drain pump assembly

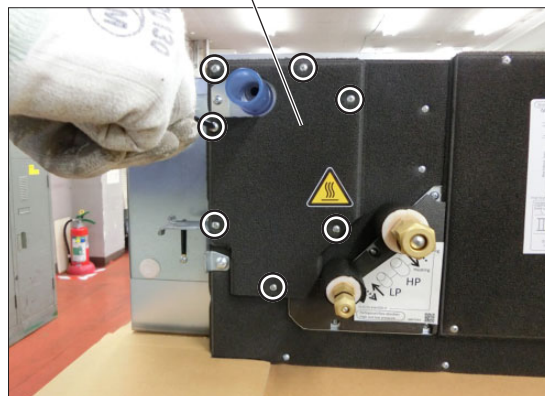
- ① Remove the drain piping from the socket of the drain pump assembly.
- ② Unscrew the screws to remove the drain socket cover.

For GUG-01SL-E and GUG-02SL-E

(Seven special screws 4×14, indicated by ○)
(See the photo below.)



Drain socket cover

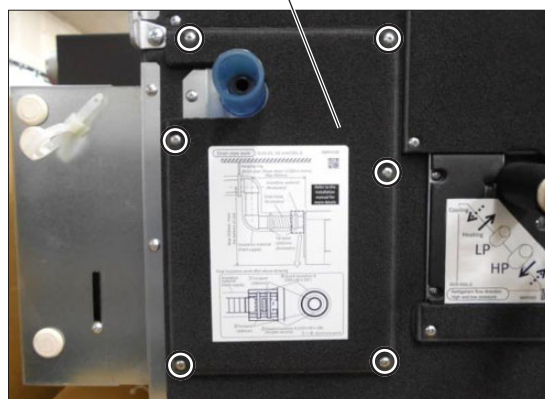


For GUG-03SL-E

(Six special screws 4×14, indicated by ○)
(See the photo below.)



Drain socket cover



- ③ Unscrew the screws (four PTT screws 4×8, indicated by ○ and shown in the photo below) to remove the drain pump fixing plate.

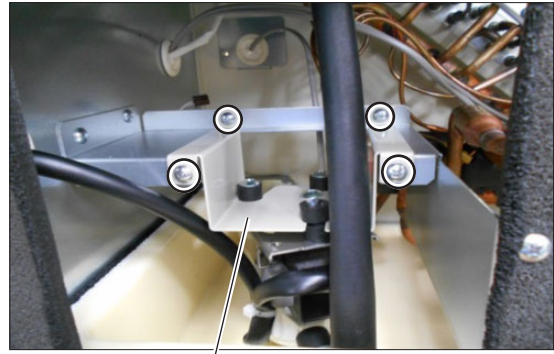
For GUG-01SL-E and GUG-02SL-E



Drain pump fixing plate



For GUG-03SL-E



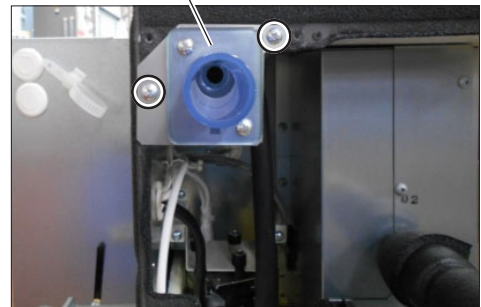
Drain pump fixing plate



- ④ Unscrew the screws (two PT screws 4×8, indicated by ○ and shown in the photo below), and remove the drain pump assembly.



Drain pump assembly



Assembly precaution

When installing the drain piping after the replacement of the drain pump assembly, make sure to wrap insulation materials around the pipe in accordance with the installation instructions.

(5) Remove the water sensor

For GUG-01SL-E and GUG-02SL-E

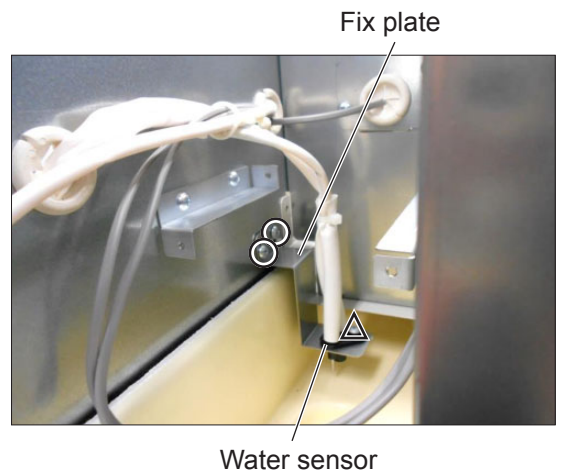
- ① Remove the drain pump assembly. → See (4).
 ② Unscrew the screws (two PTT screws 4×8, indicated by ○ and shown in the photo below) with a short length screwdriver, and remove the fix plate for the water sensor.



- ③ Unscrew the screw (one spl screw 4×12, indicated by △ and shown in the photo below) to remove the water sensor.



(Non-shiny)



Fix plate

Water sensor

For GUG-03SL-E

- ① Remove the drain pump assembly. → See (4).
- ② Unscrew the screws (two PTT screws 4×8, indicated by ○ and shown in the photo below), and remove the fix plate for the water sensor.

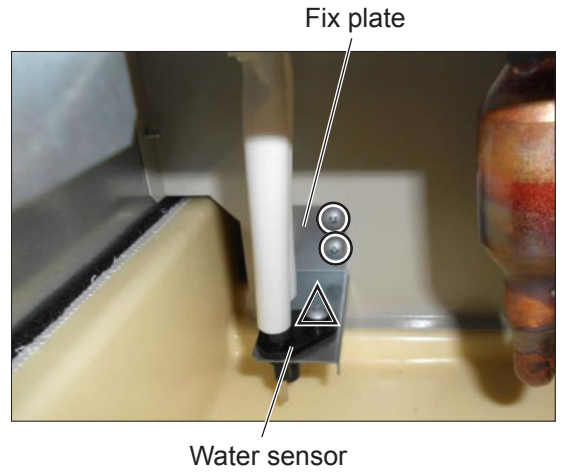


(Non-shiny)

- ③ Unscrew the screw (one spl screw 4×12, indicated by △ and shown in the photo below) to remove the water sensor.



(Non-shiny)



Thermistor parts

Before disassembling, remove the connector of each lead wire from PCB B.

(6) Remove the thermistor (TH11: Inlet air temperature thermistor)

- ① Remove the drain socket cover. → See (4) ②.
- ② Unscrew the screws (two PTT screws 4×8, indicated by ○ and shown in the photo below), and pull out the thermistor fixing plate.

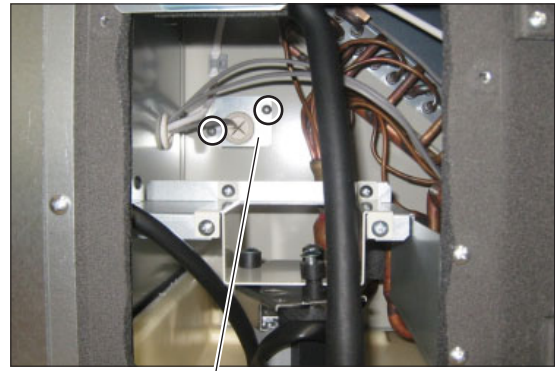
For GUG-01SL-E and GUG-02SL-E



Thermistor fixing plate



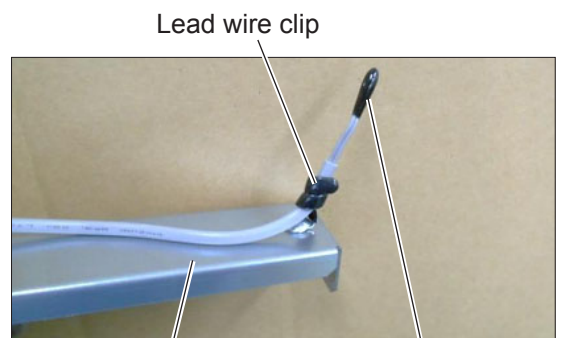
For GUG-03SL-E



Thermistor fixing plate



- ③ Loosen the lead wire clip, and remove the thermistor (TH11).



Thermistor fixing plate

Thermistor (TH11)

(7) Remove the thermistor (TH9: Supply air temperature thermistor)

Note
GUG-01SL-E is not equipped with the thermistor (TH9).

For GUG-02SL-E

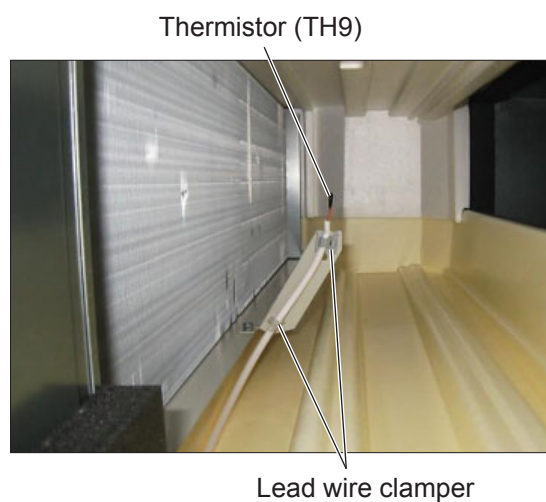
- ① Unscrew the screws (four special screws 4×14, indicated by ○ and shown in the photo below) to remove the maintenance cover E.



- ② Remove the inside styrofoam cover.

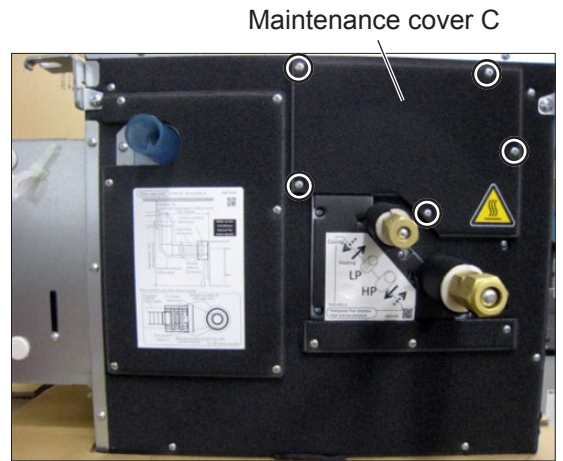


- ③ Disengage the thermistor lead from the lead wire clampers (two locations), and remove the thermistor (TH9).

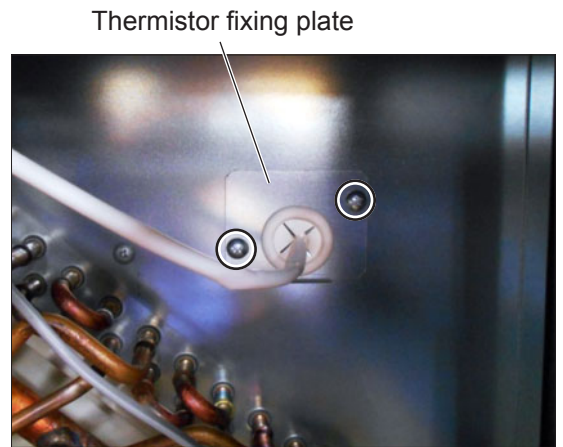


For GUG-03SL-E

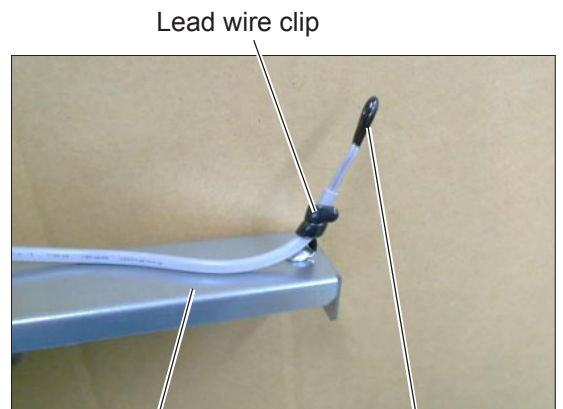
- ① Unscrew the screws (five special screws 4×14, indicated by ○ and shown in the photo below) to remove maintenance cover C.



- ② Unscrew the screws (two PTT screws 4×8, indicated by ○ and shown in the photo below) and pull out the thermistor fixing plate.



- ③ Loosen the lead wire clip, and remove the thermistor (TH9).



Thermistor fixing plate Thermistor (TH9)

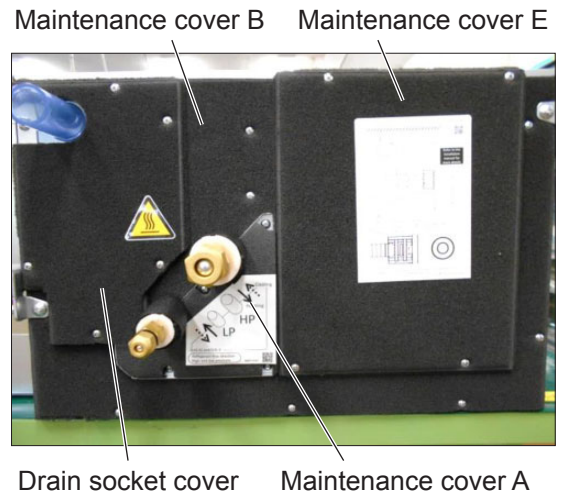
(8) Remove the thermistors (TH2: Liquid pipe temperature thermistor, TH5: Gas pipe temperature thermistor)

For GUG-01SL-E and GUG-02SL-E

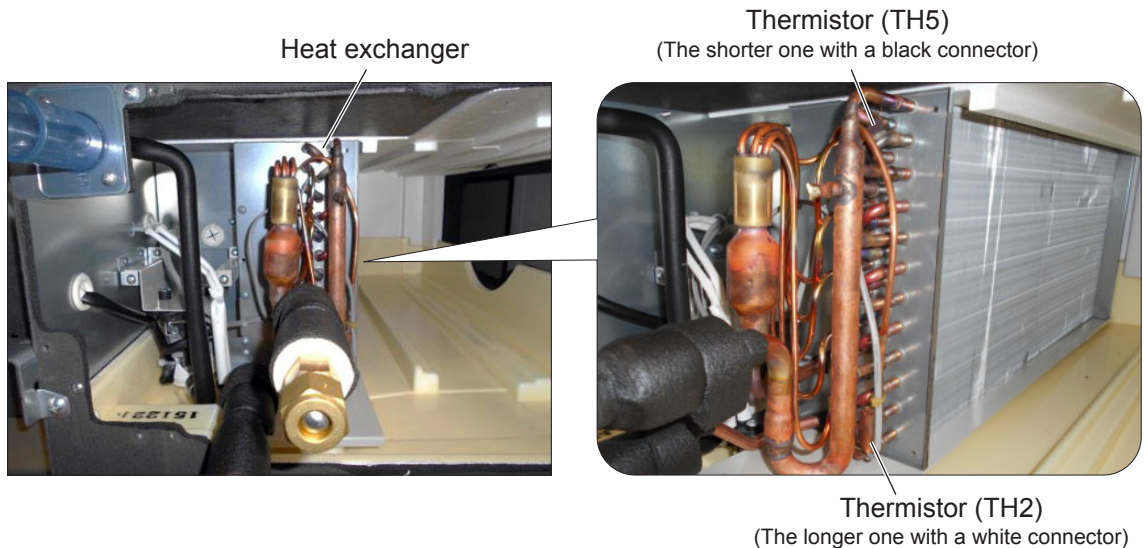
- ① Remove all the covers from the Dx-coil unit.
 - a. Unscrew the screws (seven special screws 4×14, shown in the photo below) to remove the drain socket cover. → See (4) ②.
 - b. Unscrew the screws (four special screws 4×14, shown in the photo below) to remove the maintenance cover E. → See (7) ①.



- c. Unscrew the screws (two PT screws 4×12, shown in the photo below) to remove the maintenance cover B.
 - d. Unscrew the screws (five PT screws 4×12, shown in the photo below) to remove the maintenance cover A.

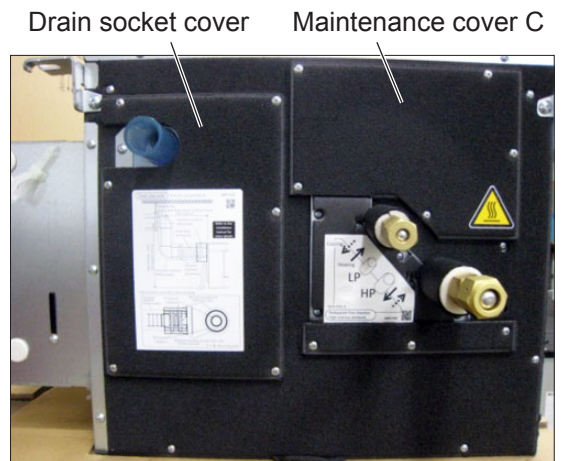


- ② Remove all of the guard plate assembled to the heat exchanger.
- ③ Cut the cord bands, and remove the thermistors (TH2, TH5) from the holders.



For GUG-03SL-E

- ① Remove the following covers from the Dx-coil unit.
 - a. Unscrew the screws (six special screws 4×14, shown in the photo below) to remove the drain socket cover.
→ See (4) ②.
 - b. Unscrew the screws (five special screws 4×14, shown in the photo below) to remove the maintenance cover C.
→ See (7) ①.



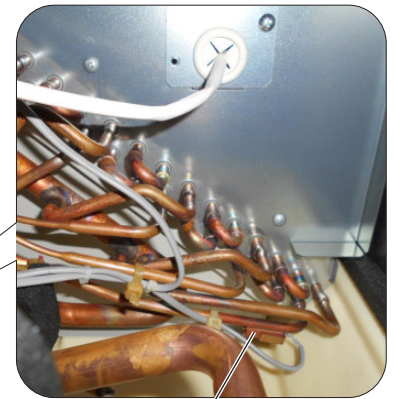
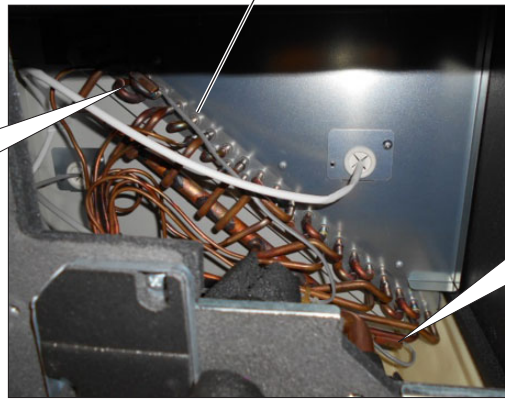
- ② Cut the cord bands, and remove the thermistors (TH2, TH5) from the holders.

Thermistor (TH5)

(The longer one with a black connector)



Heat exchanger



Thermistor (TH2)

(The shorter one with a white connector)

* When reassembling

- Reassemble the unit in the reverse order of disassembly.
- After reassembly, always make a test run to be sure that the unit operates properly.

(9) Installation of the circuit boards

- Make sure that the switch settings on the new board are the same as the old board.
- Set the functions of Dx-coil unit remote controller (PZ-01RC) as same as before the replacement.

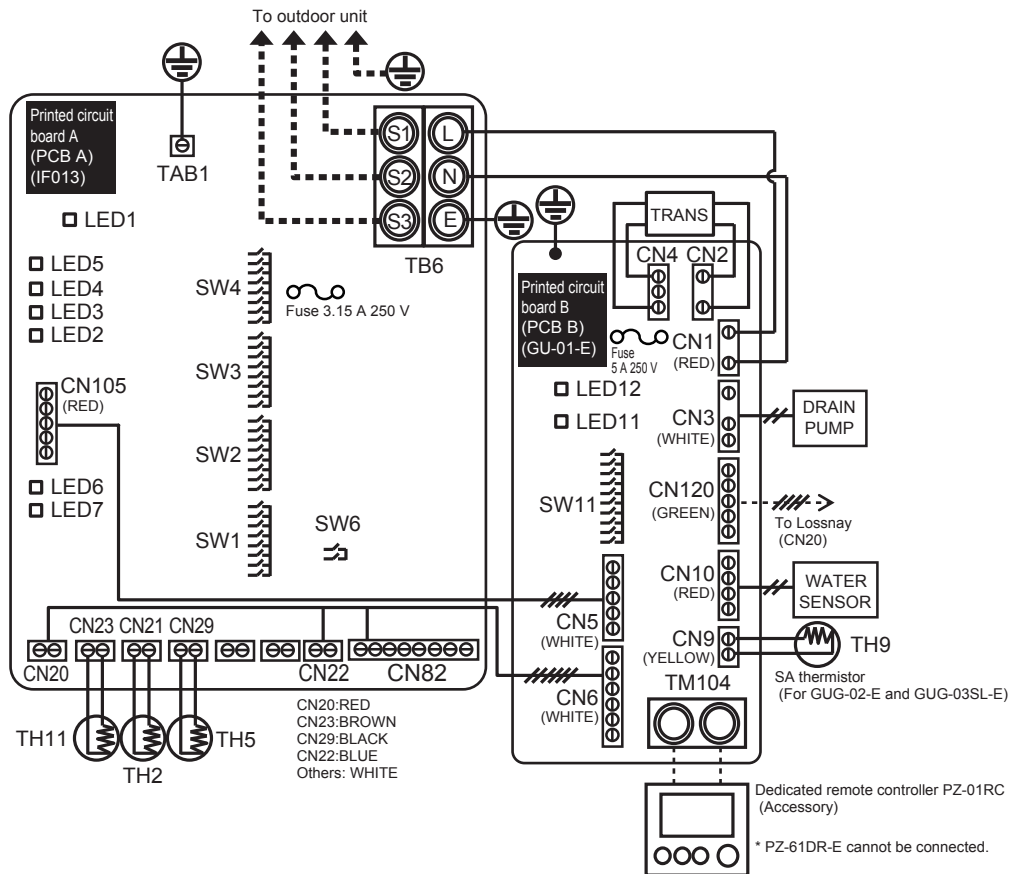
■ DIP switches (Function selection switches)

PCB A: SW1, SW2, SW3, SW4, SW6

PCB B: SW11

See the installation instructions of the Dx-coil unit for the functions of Dx-coil unit remote controller (PZ-01RC).

- ① Attach the circuit boards in the reverse order of disassembly
- ② Connect the connectors, power leads, earth leads, and remote controller transmission cable to the circuit boards.



Connection points

Circuit board	Symbol on the circuit board	Application of connector and terminal	Check
PCB A	TB6 *1	For connecting power leads, earth lead, and PCB B	
	TAB1	For connecting earth lead for PCB A	
	CN20, CN22, CN82, CN105	For connecting PCB B	
	CN21, CN23, CN29	For connecting thermistors	
PCB B	TM104	For connecting PZ-01RC transmission cable	
	CN1	For connecting PCB A: TB6	
	CN2, CN4	For connecting transformer	
	CN3	For connecting drain pump	
	CN5, CN6	For connecting PCB A	
	CN9	For connecting SA thermistor *2	
	CN10	For connecting water sensor	
	CN120	For connecting Lossnay	

Notes:

*1 Be aware of the polarity of TB6, and pay attention not to make wrong connection.

*2 GUG-01SL-E is not equipped with SA thermistor (TH9).

Assembly precautions

- Securely connect the connectors between CN82/CN20 on PCB A and CN6 on PCB B. Make sure to connect all the connectors, and check for contact failure, wrong connection, or the like. (Even in the event of wrong connection, the error code may not be displayed at the time of test run.)
- Make a test run according to the installation instructions after the replacement of the circuit boards.

(10) Setting status record

① System configuration

Date: _____

Installation location:

Model name	Dx-coil unit: GUG- (01 · 02 · 03) SL-E
	Lossnay unit: LGH- (50 · 65 · 80 · 100 · 150 · 200) RVX-E, LGH- (150 · 200 · 250) RVXT-E
	Outdoor unit:

Address number of the Lossnay unit:

Lot number marked on the circuit board	PCB A of the Dx-coil unit:
	PCB B of the Dx-coil unit:
	Control circuit board of the Lossnay unit:
	Power circuit board of the Lossnay unit:

Microcomputer software version marked on the circuit board	PCB A of the Dx-coil unit:
	PCB B of the Dx-coil unit:
	Control circuit board of the Lossnay unit:

Lossnay remote controller PZ-61DR-E: (Used · Not used)	
Interlock with the City Multi indoor unit: (Set · Not set)	Model name:
Centralized controller: (Used · Not used)	Model name:

② Function selection switches

Check the setting status of the function selection switches on the circuit board.

a. PCB A of the Dx-coil unit

SW1	ON	OFF	SW2	ON	OFF	SW3	ON	OFF	SW4	ON	OFF	SW6	ON	OFF
1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	5	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	6	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
7	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	7	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	8	<input type="checkbox"/>	<input checked="" type="checkbox"/>			

■ : Factory setting

b. PCB B of the Dx-coil unit

SW11	ON	OFF
1	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9	<input type="checkbox"/>	<input type="checkbox"/>
10	<input type="checkbox"/>	<input type="checkbox"/>

Follow the table below for setting the model selection switches (SW11-9 and SW11-10)

SW11-9	SW11-10	Contents
OFF	OFF	New circuit board for replacement
ON	OFF	GUG-01SL-E
OFF	ON	GUG-02SL-E
ON	ON	GUG-03SL-E

■ : Factory setting

c. Control circuit board of the Lossnay unit

SW2	ON	OFF	SW5	ON	OFF	SW7	ON	OFF
1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	5	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	6	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	7	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	8	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9	<input type="checkbox"/>	<input checked="" type="checkbox"/>	9	<input type="checkbox"/>	<input checked="" type="checkbox"/>	9	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10	<input type="checkbox"/>	<input checked="" type="checkbox"/>	10	<input type="checkbox"/>	<input checked="" type="checkbox"/>	10	<input type="checkbox"/>	<input checked="" type="checkbox"/>

■ : Factory setting

SW6	ON	OFF
1	<input type="checkbox"/>	<input type="checkbox"/>
2	<input type="checkbox"/>	<input type="checkbox"/>
3	<input type="checkbox"/>	<input type="checkbox"/>
4	<input type="checkbox"/>	<input type="checkbox"/>

Note: SW6 setting differs according to the model.

Model	SW6-1	SW6-2	SW6-3	SW6-4
LGH-50RVX-E	OFF	OFF	ON	OFF
LGH-65RVX-E	ON	OFF	ON	OFF
LGH-80RVX-E	OFF	ON	ON	OFF
LGH-100RVX-E	ON	ON	ON	OFF
LGH-150RVX-E	OFF	OFF	OFF	ON
LGH-200RVX-E	ON	OFF	OFF	ON
LGH-150RVXT-E	OFF	ON	OFF	ON
LGH-200RVXT-E	ON	ON	OFF	ON
LGH-250RVXT-E	OFF	OFF	ON	ON

■ : Factory setting

③ Function settings by Lossnay remote controller (PZ-61DR-E)

When Lossnay remote controller (PZ-61DR-E) is used, enter the setting data of the functions set by PZ-61DR-E.

Function No.	Setting Data	Function No.	Setting Data	Function No.	Setting Data	Function No.	Setting Data
1	(0)	28	(0)	40	(0)	58	(0)
2	(0)	30	(0)	41	(7)	59	(0)
5	(0)	31	(5)	42	(7)	60	(0)
6	(0)	32	(2)	51	(0)	61	(0)
7	(0)	33	(0)	52	(0)	62	(0)
8	(0)	34	(0)	53	(6)	63	(0)
9	(0)	36	(0)	54	(1)	71	(0)
13	(0)	37	(0)	55	(0)	72	(0)
14	(0)	38	(0)	56	(0)	100	(0)
15	(0)	39	(7)	57	(0)		

() : Factory setting

④ External input/output of the Lossnay unit

If an external input/output is used, enter the usage of the external input/output.

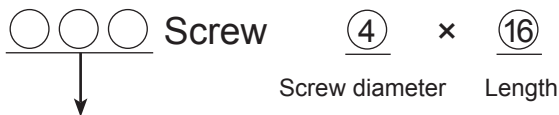
Terminal or connector on the circuit board	Function Name	Used	Not used	Connected device
TM2 ①②③	External control input	<input type="checkbox"/>	<input type="checkbox"/>	
CN32	Remote/Local switching	<input type="checkbox"/>	<input type="checkbox"/>	
CN17 ①②	Fan speed 4 input	<input type="checkbox"/>	<input type="checkbox"/>	
CN17 ①③	Fan speed 3 input	<input type="checkbox"/>	<input type="checkbox"/>	
CN17 ①④	Fan speed 2 input	<input type="checkbox"/>	<input type="checkbox"/>	
CN17 ①⑤	Fan speed 1 input	<input type="checkbox"/>	<input type="checkbox"/>	
CN20	Dx-coil unit connection	<input type="checkbox"/>	<input type="checkbox"/>	
CN26 ①②	Bypass mode input	<input type="checkbox"/>	<input type="checkbox"/>	
CN26 ④⑤	Fan speed switching input (0 to 10 V DC)	<input type="checkbox"/>	<input type="checkbox"/>	
TM3 ⑦⑩	Bypass monitor or Pre-heater output	<input type="checkbox"/>	<input type="checkbox"/>	
TM3 ⑧⑩	Malfunction monitor output	<input type="checkbox"/>	<input type="checkbox"/>	
TM3 ⑨⑩	Operation monitor output	<input type="checkbox"/>	<input type="checkbox"/>	

9. Parts catalog

Please note the following when using the parts catalog.

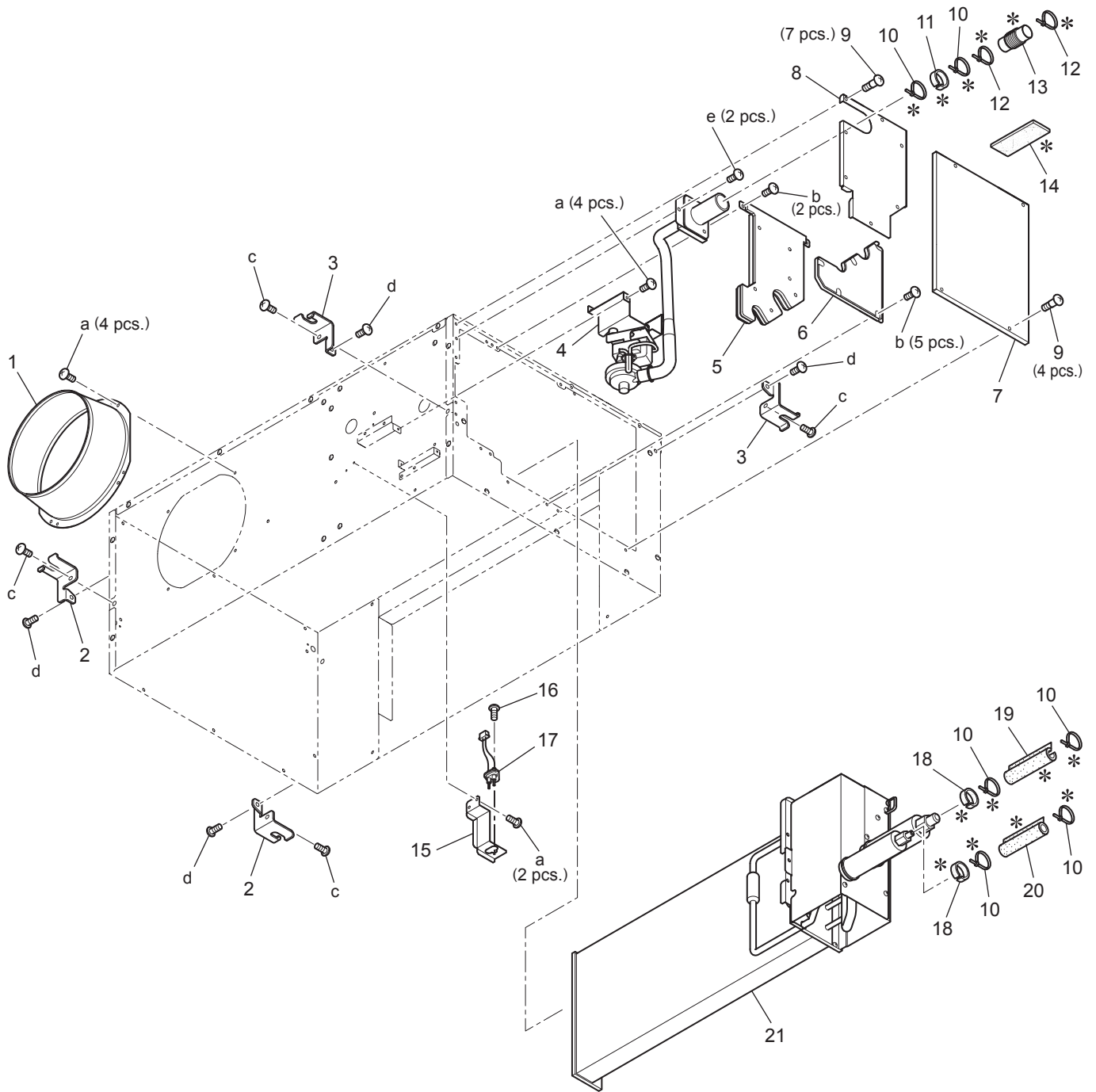
1. When ordering parts, always indicate the part number, part name, and the number of parts required.
2. It may take time for you to receive the parts. Make an inquiry about a rush order.
3. Specifications may be subject to change without notice.
4. Parts marked with \triangle and \blacksquare are critical for safety.
5. To maintain safety and performance, always replace the parts with the parts prescribed.
6. When replacing the parts to which the nameplate is attached, remove the nameplate and attach it to the new parts.

Description of screw abbreviations



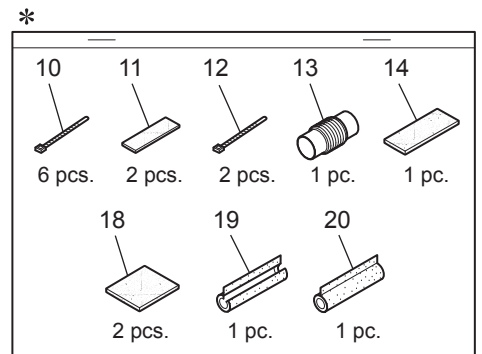
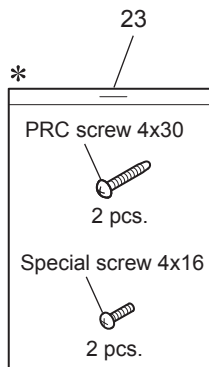
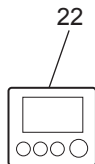
Abbreviation	Description
PC screw	Cross recess flat head machine screw
PRC screw	Cross recess oval head machine screw
PP screw	Cross recess pan head machine screw
SW · PP screw	Cross recess pan head screw with spring washer
PPT screw	Cross recess tapping screw
PCT screw	Cross recess flat head tapping screw
PTT screw	Cross recess truss head tapping screw
PT screw	Cross recess truss head machine screw
SET screw	Slotted head stop screw
SQ · SET screw	Square head stop screw
P · SET screw	Pan head stop screw
PMT screw	Primer truss head screw
HS · SET screw	Hexagon head stop screw
P · R · W screw	Cross recess round wood screw
P · C · W screw	Cross recess flat head wood screw
P · R · C · W screw	Cross recess round and flat wood screw
R · W screw	Slotted round wood screw
PW · PP screw	Cross recess pan head screw with small washer
SW-PW · PP screw	Cross recess pan head machine screw with spring washer and flat washer

GUG-01SL-E



<Standard screws>

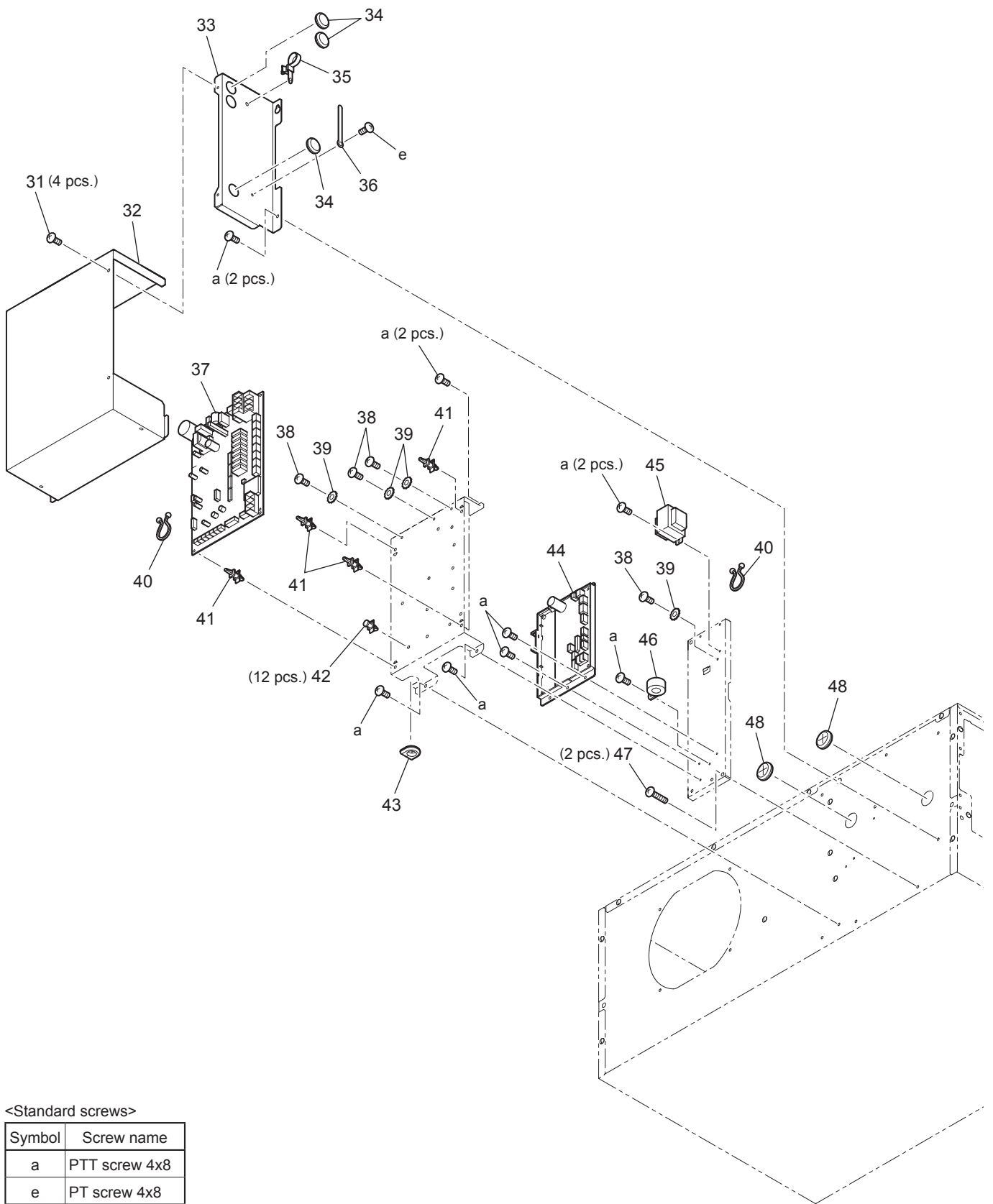
Symbol	Screw name
a	PTT screw 4x8
b	PT screw 4x12
c	PT screw 5x10
d	PT screw 6x12
e	PT screw 4x8



* shows accessory parts.

GUG-01SL-E

No.	Name of part	Parts No.	Q'ty pcs/unit	Critical for safety	Remarks
1	Flange	W50 004 609	1		
2	Hanger L	W36 002 380	2		
3	Hanger R	W50 004 380	2		
4	Drain pump assembly	W50 012 319	1	⚠	Drain hose set
5	Maintenance cover B	W50 012 695	1		
6	Maintenance cover A	W50 012 694	1		
7	Maintenance cover E	W50 012 697	1		
8	Drain socket cover	W50 012 696	1		
9	Special screw 4x14	W00 000 198	11		
10	Cord band	W00 000 292	6		301mm
11	Heat insulator	W50 012 703	2		For the drain socket
12	Cord band	W00 000 284	2		202mm
13	Drain hose	W50 012 712	1		200mm
14	Heat insulator	W50 012 704	1		200x60x10
15	Fix plate	W50 012 693	1		
16	Special screw 4x12	W00 000 045	1		
17	Water sensor	W50 012 216	1	⚠	With lead wires
18	Heat insulator	W50 012 705	2		For the refrigerant pipe
19	Heat insulator	W50 012 708	1		For the gas pipe
20	Heat insulator	W50 012 706	1		For the liquid pipe
21	Heat exchanger	W50 012 713	1	⚠	
22	Remote controller	W50 012 180	1	⚠	
23	Screws in bag	W50 012 689	1		

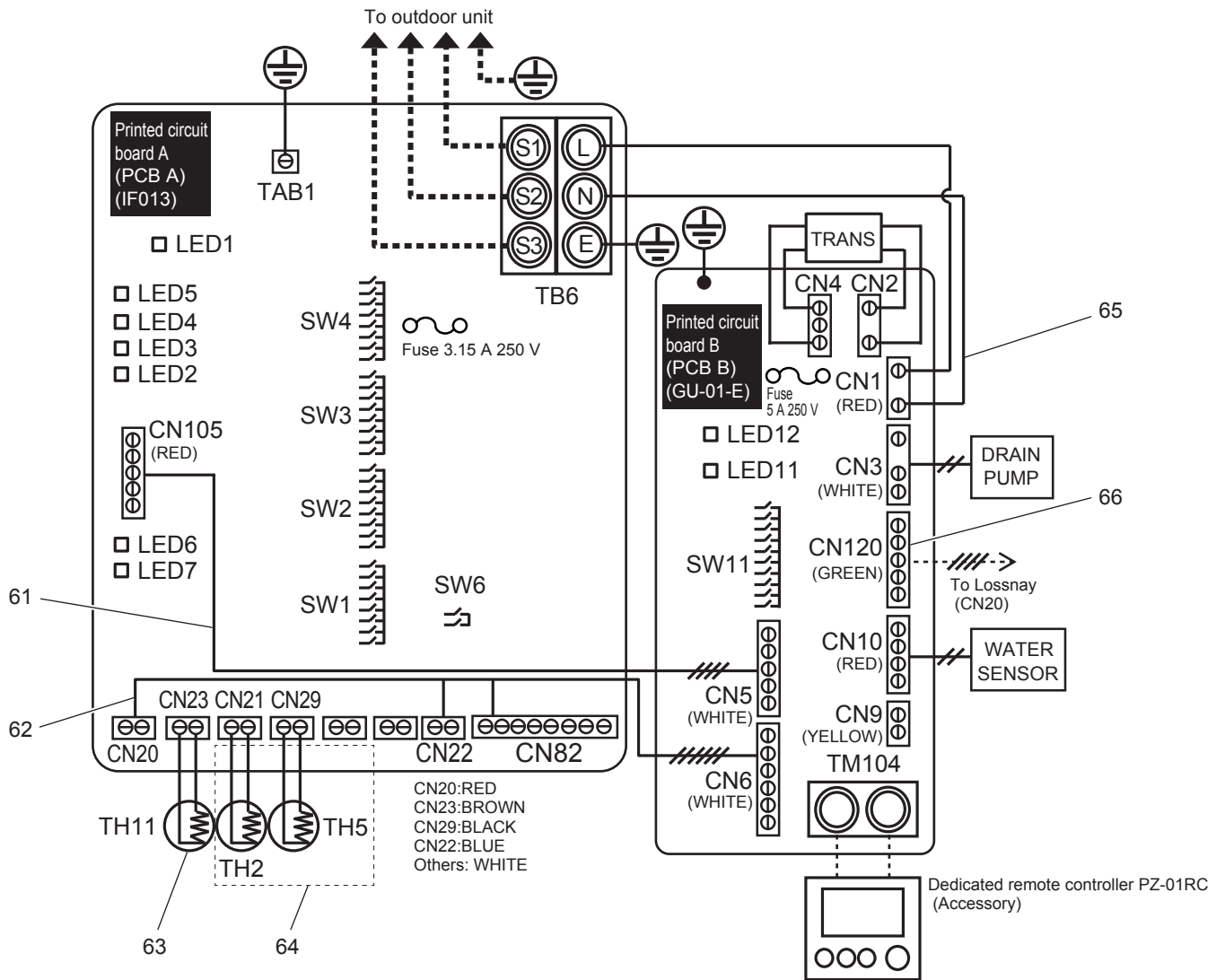


<Standard screws>

Symbol	Screw name
a	PTT screw 4x8
e	PT screw 4x8

GUG-01SL-E

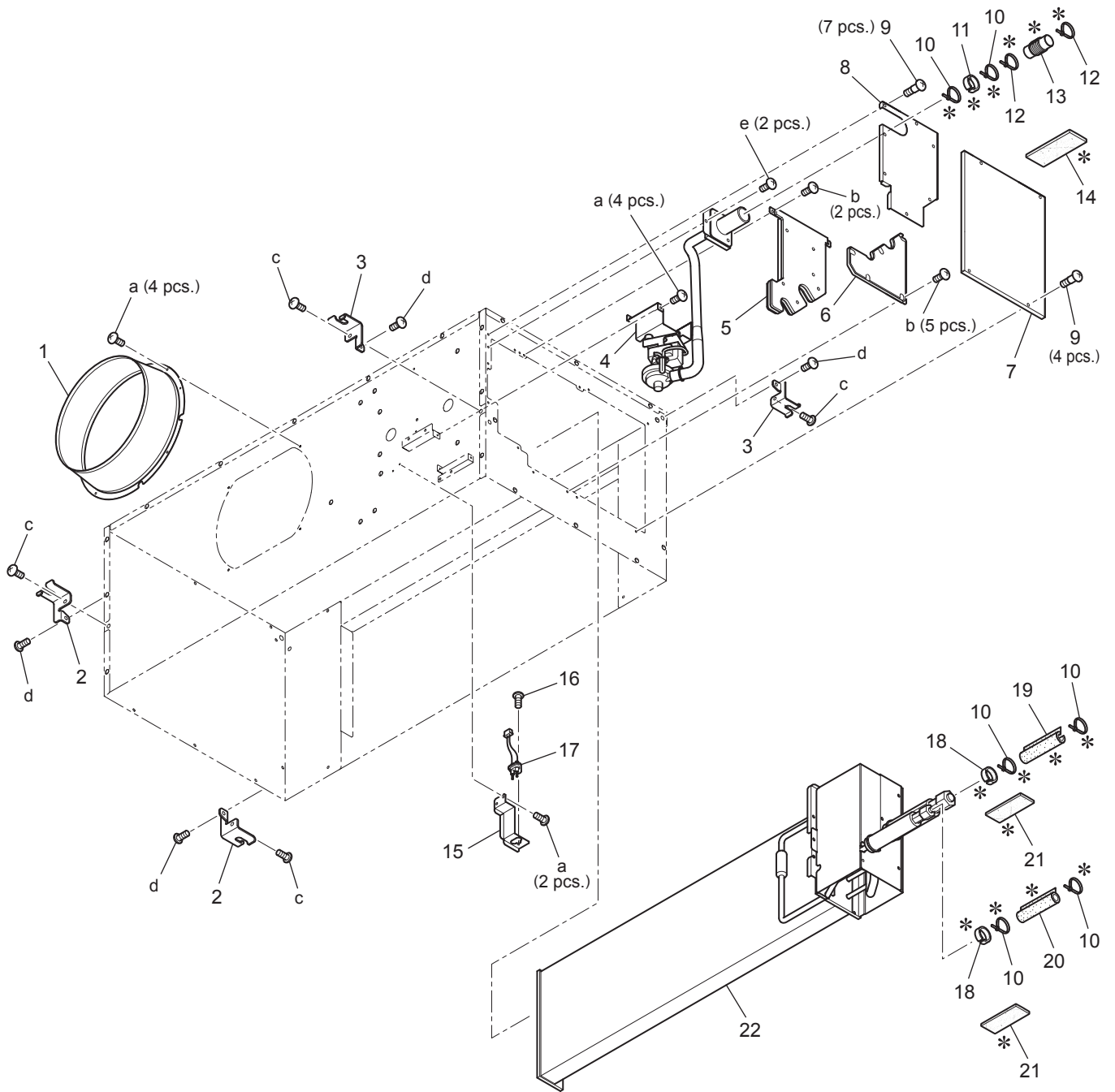
No.	Name of part	Parts No.	Q'ty pcs/unit	Critical for safety	Remarks
31	Special screw 4x8	W00 000 089	4		
32	Control cover	W50 012 698	1		
33	Side plate	W50 012 715	1		
34	Cord bush	W00 000 270	3		
35	Cord band	W00 000 258	1		
36	Lead wire clip	W00 000 238	2		
37	Circuit board	W50 012 171	1	⚠	PCB A (IF013)
38	PT screw 4x8 BS	W00 000 011	4		
39	Lock washer (4)	W00 000 082	4		
40	Cord band	W00 000 230	2		Black
41	Support piece	W50 001 096	4		
42	Support piece	W50 001 097	12		
43	Cord bush	W00 000 225	1		
44	Circuit board	W50 012 237	1	⚠	PCB B (GU-01-E)
45	Transformer	W50 001 217	1	⚠	AC230V
46	Ferrite core	W50 012 179	1	⚠	ESD-R-25D-B
47	Special screw M4	W00 000 101	2		
48	Bush	W00 000 277	2		



GUG-01SL-E

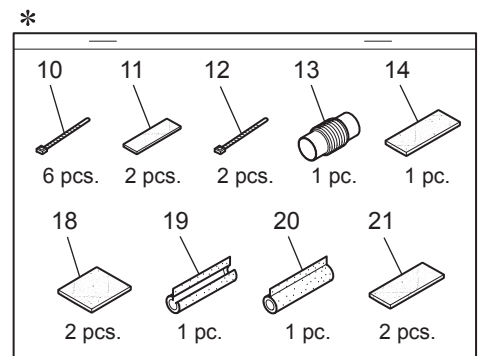
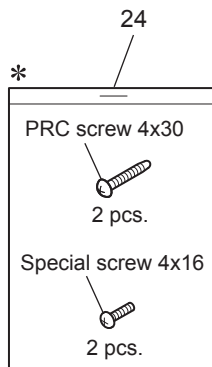
No.	Name of part	Parts No.	Q'ty pcs/unit	Critical for safety	Remarks
61	Lead wire	W50 012 214	1	△	CN5-CN105
62	Lead wire	W50 012 215	1	△	CN6-CN22,CN82,CN20
63	Thermistor (TH11)	W50 012 217	1	△	
64	Thermistor (TH2, TH5)	W50 012 222	1	△	
65	Lead wire	W50 012 213	1	△	CN1-TB6
66	Lead wire	W50 012 221	1	△	CN120

GUG-02SL-E



<Standard screws>

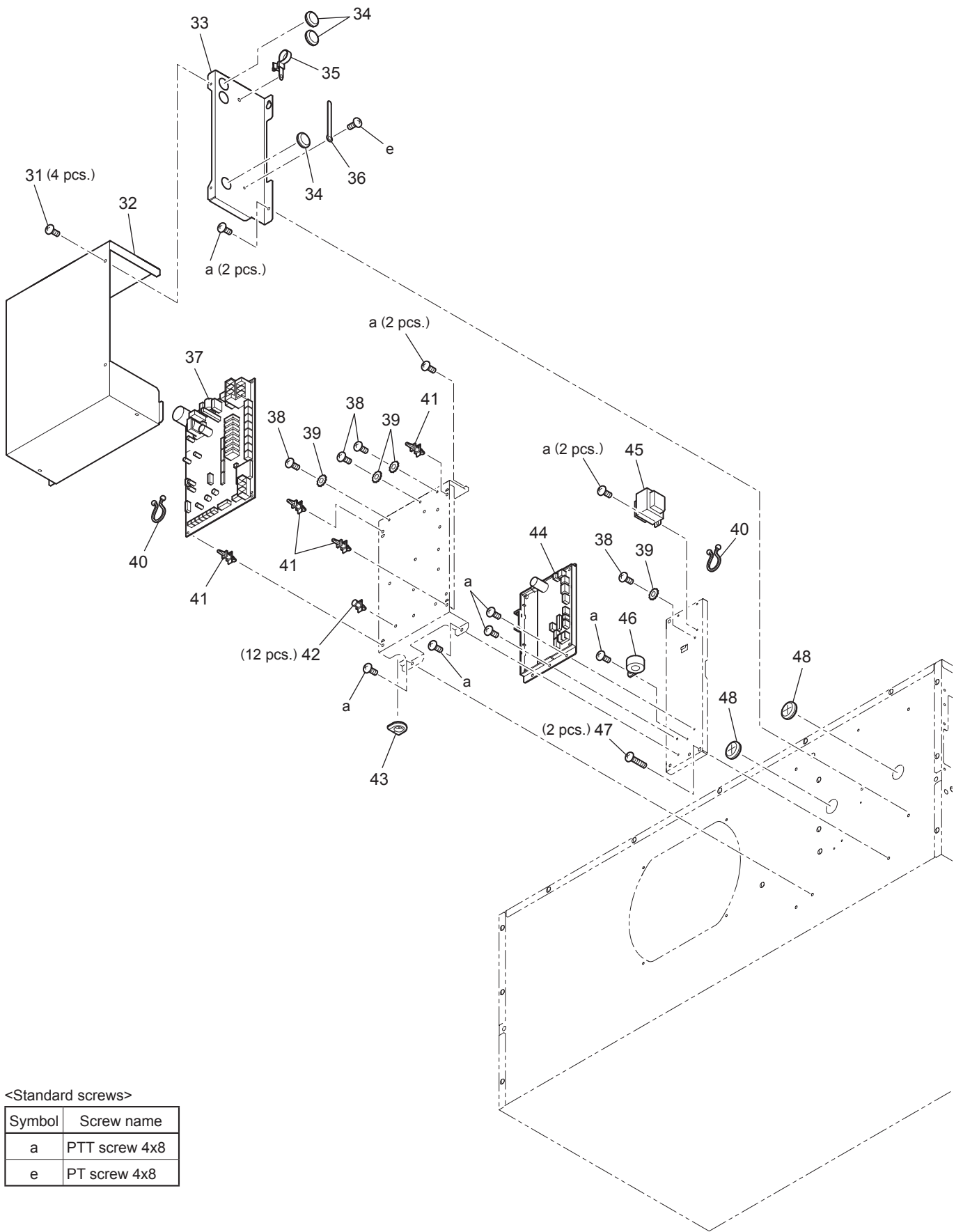
Symbol	Screw name
a	PTT screw 4x8
b	PT screw 4x12
c	PT screw 5x10
d	PT screw 6x12
e	PT screw 4x8



* shows accessory parts.

GUG-02SL-E

No.	Name of part	Parts No.	Q'ty pcs/unit	Critical for safety	Remarks
1	Flange	W50 004 610	1		
2	Hanger L	W36 002 380	2		
3	Hanger R	W50 004 380	2		
4	Drain pump assembly	W50 012 320	1	⚠	Drain hose set
5	Maintenance cover B	W50 012 695	1		
6	Maintenance cover A	W50 012 694	1		
7	Maintenance cover E	W50 012 697	1		
8	Drain socket cover	W50 012 696	1		
9	Special screw 4x14	W00 000 198	11		
10	Cord band	W00 000 292	6		301mm
11	Heat insulator	W50 012 703	2		For the drain socket
12	Cord band	W00 000 284	2		202mm
13	Drain hose	W50 012 712	1		200mm
14	Heat insulator	W50 012 704	1		200x60x10
15	Fix plate	W50 012 693	1		
16	Special screw 4x12	W00 000 045	1		
17	Water sensor	W50 012 216	1	⚠	With lead wires
18	Heat insulator	W50 012 711	2		For the refrigerant pipe
19	Heat insulator	W50 012 709	1		For the gas pipe
20	Heat insulator	W50 012 707	1		For the liquid pipe
21	Heat insulator	W50 012 710	2		110x50x10
22	Heat exchanger	W50 012 714	1	⚠	
23	Remote controller	W50 012 180	1	⚠	
24	Screws in bag	W50 012 689	1		

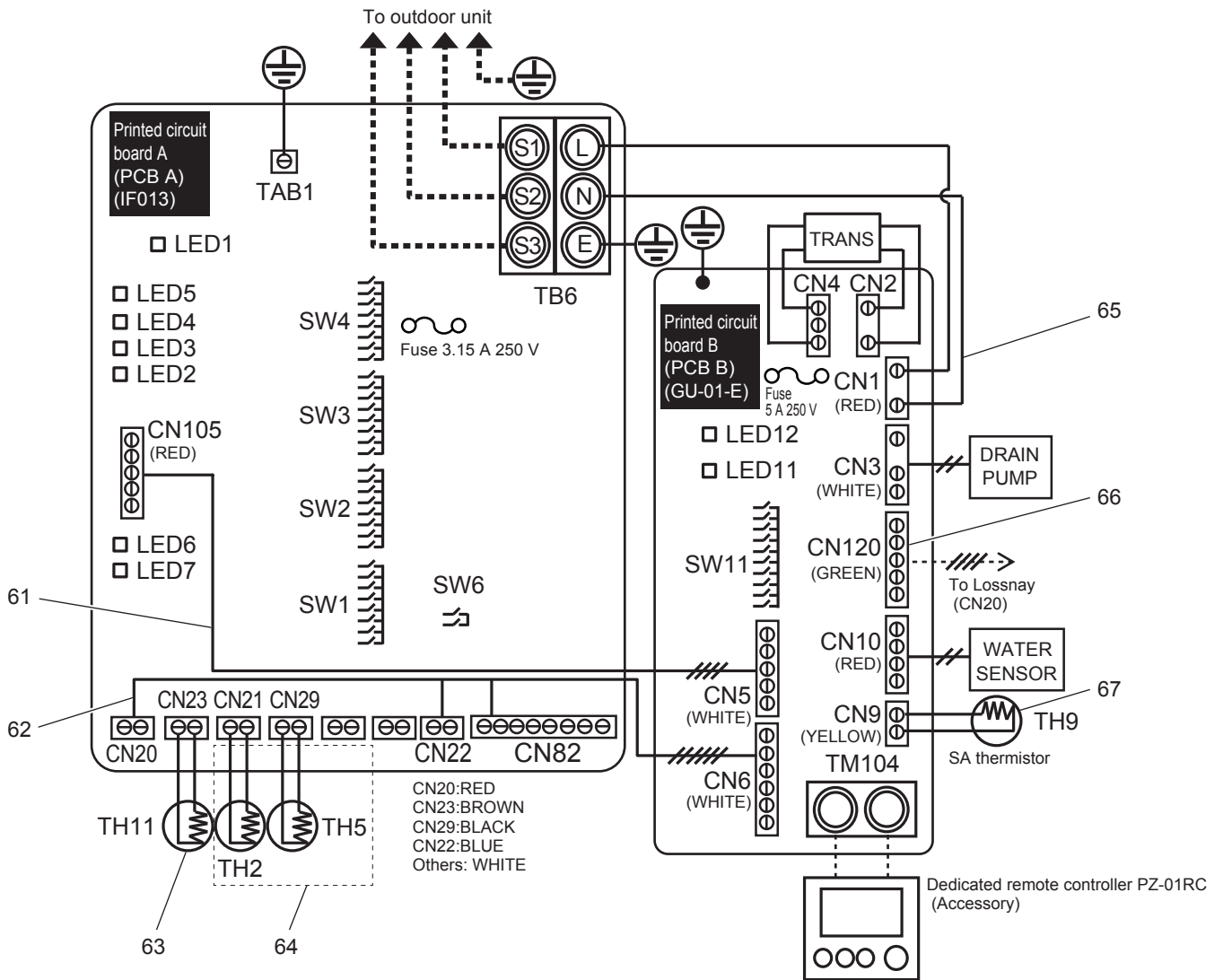


<Standard screws>

Symbol	Screw name
a	PTT screw 4x8
e	PT screw 4x8

GUG-02SL-E

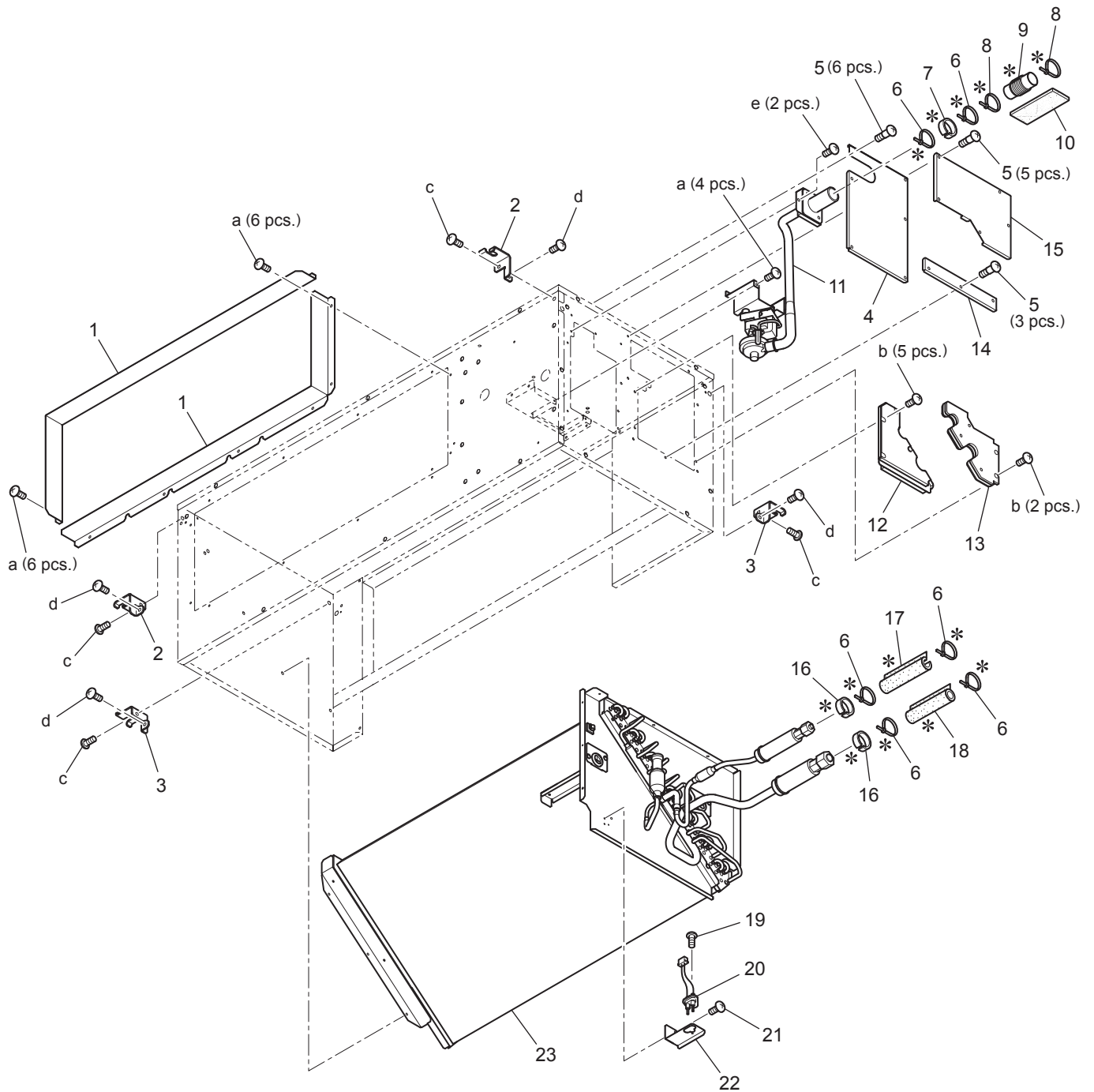
No.	Name of part	Parts No.	Q'ty pcs/unit	Critical for safety	Remarks
31	Special screw 4x8	W00 000 089	4		
32	Control cover	W50 012 698	1		
33	Side plate	W50 012 715	1		
34	Cord bush	W00 000 270	3		
35	Cord band	W00 000 258	1		
36	Lead wire clip	W00 000 238	2		
37	Circuit board	W50 012 171	1	⚠	PCB A (IF013)
38	PT screw 4x8 BS	W00 000 011	4		
39	Lock washer (4)	W00 000 082	4		
40	Cord band	W00 000 230	2		Black
41	Support piece	W50 001 096	4		
42	Support piece	W50 001 097	12		
43	Cord bush	W00 000 225	1		
44	Circuit board	W50 012 237	1	⚠	PCB B (GU-01-E)
45	Transformer	W50 001 217	1	⚠	AC230V
46	Ferrite core	W50 012 179	1	⚠	ESD-R-25D-B
47	Special screw M4	W00 000 101	2		
48	Bush	W00 000 277	2		



GUG-02SL-E

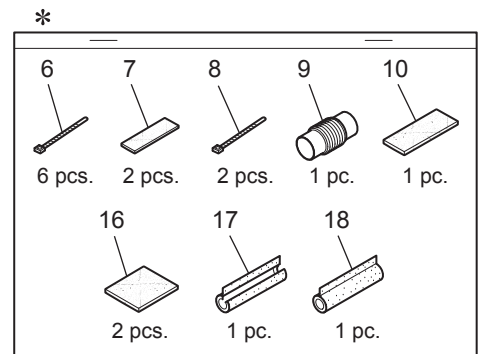
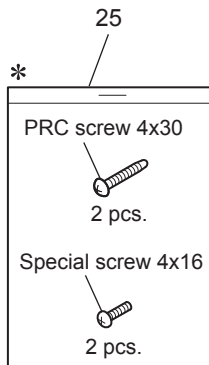
No.	Name of part	Parts No.	Q'ty pcs/unit	Critical for safety	Remarks
61	Lead wire	W50 012 214	1	△	CN5-CN105
62	Lead wire	W50 012 215	1	△	CN6-CN22,CN82,CN20
63	Thermistor (TH11)	W50 012 218	1	△	
64	Thermistor (TH2, TH5)	W50 012 222	1	△	
65	Lead wire	W50 012 213	1	△	CN1-TB6
66	Lead wire	W50 012 221	1	△	CN120
67	Thermistor (TH9)	W50 012 219	1	△	

GUG-03SL-E



<Standard screws>

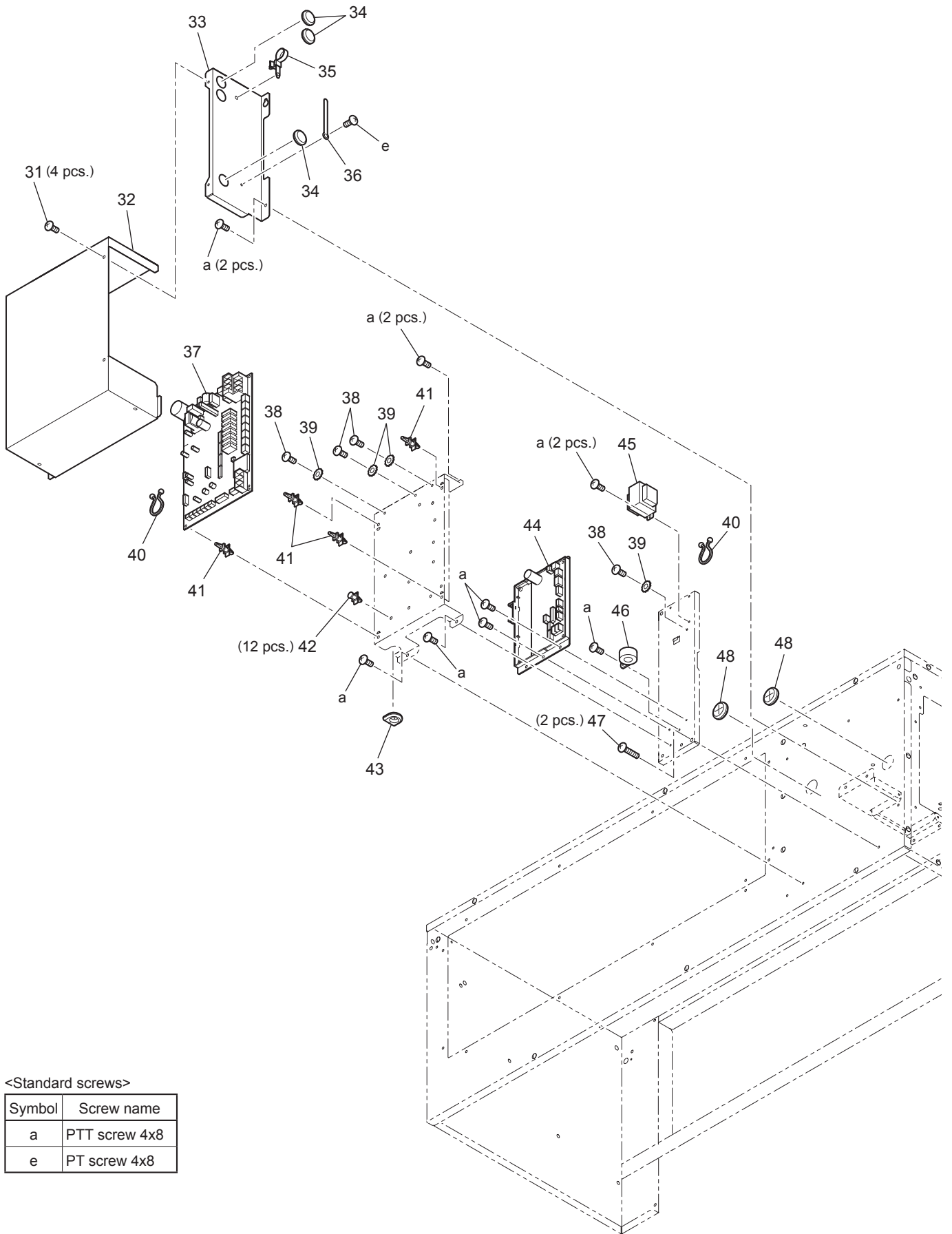
Symbol	Screw name
a	PTT screw 4x8
b	PT screw 4x12
c	PT screw 5x10
d	PT screw 6x12
e	PT screw 4x8



* shows accessory parts.

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No.	Name of part	Parts No.	Q'ty pcs/unit	Critical for safety	Remarks
1	Flange	W50 004 734	2		
2	Hanger R	W50 004 380	2		
3	Hanger L	W36 002 380	2		
4	Drain socket cover	W50 012 699	1		
5	Special screw 4x14	W00 000 198	14		
6	Cord band	W00 000 292	6		301mm
7	Heat insulator	W50 012 703	2		For the drain socket
8	Cord band	W00 000 284	2		202mm
9	Drain hose	W50 012 712	1		200mm
10	Heat insulator	W50 012 704	1		200x60x10
11	Drain pump assembly	W50 012 320	1	⚠	Drain hose set
12	Maintenance cover A	W50 012 694	1		
13	Maintenance cover B	W50 012 700	1		
14	Maintenance cover D	W50 012 702	1		
15	Maintenance cover C	W50 012 701	1		
16	Heat insulator	W50 012 705	2		For the refrigerant pipe
17	Heat insulator	W50 012 706	1		For the gas pipe
18	Heat insulator	W50 012 708	1		For the liquid pipe
19	Special screw 4x12	W00 000 045	1		
20	Water sensor	W50 012 216	1	⚠	With lead wires
21	PTT screw 4x8	W00 000 199	2		
22	Fix plate	W50 012 692	1		
23	Heat exchanger	W50 012 690	1	⚠	
24	Remote controller	W50 012 180	1	⚠	
25	Screws in bag	W50 012 689	1		

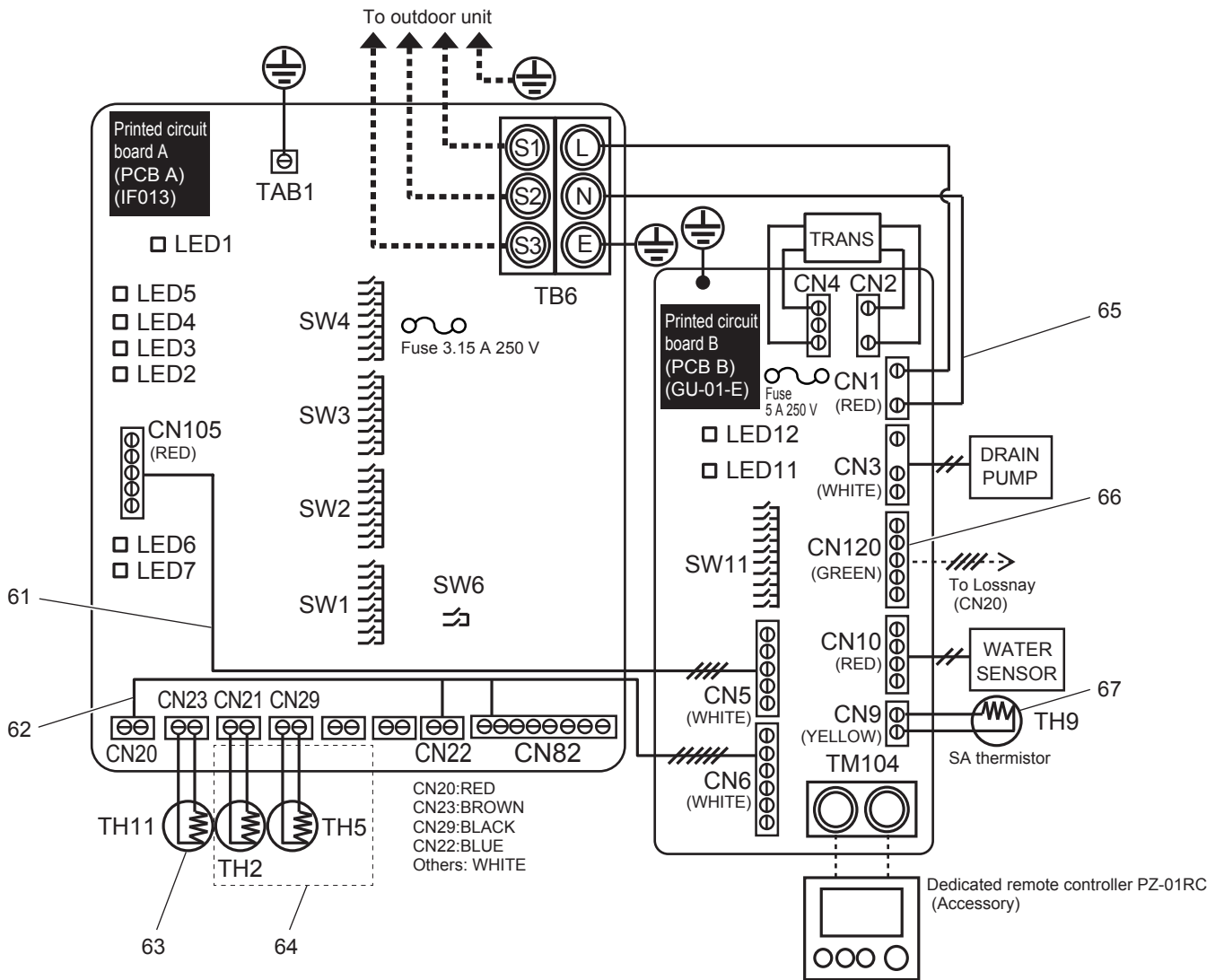


<Standard screws>

Symbol	Screw name
a	PTT screw 4x8
e	PT screw 4x8

GUG-03SL-E

No.	Name of part	Parts No.	Q'ty pcs/unit	Critical for safety	Remarks
31	Special screw 4x8	W00 000 089	4		
32	Control cover	W50 012 698	1		
33	Side plate	W50 012 715	1		
34	Cord bush	W00 000 270	3		
35	Cord band	W00 000 258	1		
36	Lead wire clip	W00 000 238	3		
37	Circuit board	W50 012 171	1	⚠	PCB A (IF013)
38	PT screw 4×8 BS	W00 000 011	4		
39	Lock washer (4)	W00 000 082	4		
40	Cord band	W00 000 230	2		Black
41	Support piece	W50 001 096	4		
42	Support piece	W50 001 097	12		
43	Cord bush	W00 000 225	1		
44	Circuit board	W50 012 237	1	⚠	PCB B (GU-01-E)
45	Transformer	W50 001 217	1	⚠	AC230V
46	Ferrite core	W50 012 179	1	⚠	ESD-R-25D-B
47	Special screw M4	W00 000 101	2		
48	Bush	W00 000 277	2		



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No.	Name of part	Parts No.	Q'ty pcs/unit	Critical for safety	Remarks
61	Lead wire	W50 012 214	1	△	CN5-CN105
62	Lead wire	W50 012 215	1	△	CN6-CN22,CN82,CN20
63	Thermistor (TH11)	W50 012 217	1	△	
64	Thermistor (TH2, TH5)	W50 012 223	1	△	
65	Lead wire	W50 012 213	1	△	CN1-TB6
66	Lead wire	W50 012 221	1	△	CN120
67	Thermistor (TH9)	W50 012 220	1	△	