July 2026 No. U332H

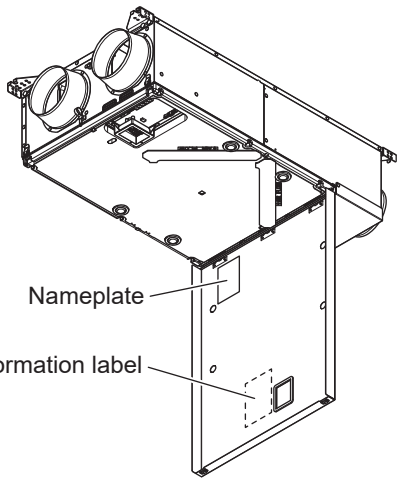
MITSUBISHI ELECTRIC

LOSSNAY ENERGY RECOVERY VENTILATOR

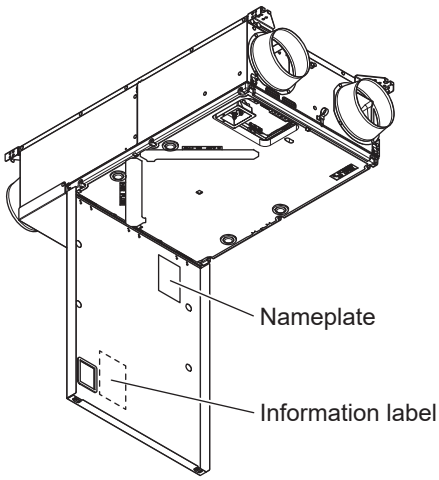
HANDBOOK

MODELS

LGH-F110MXL-E
LGH-F110MXR-E



LGH-F110MXL-E



LGH-F110MXR-E

Remote controller (Optional)
PZ-62DR-EA
TZ-62DR-EA

Filter (Optional)
PZ-F110RF-E
PZ-F110MF-E

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

MITSUBISHI ELECTRIC CORPORATION

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PARTS CATALOG (U332)

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 improperly are described with the warning symbols shown below.

⚠ Warning

Improper handling of the product may result in serious injury or death.

◇ Electric shock

If you must inspect the circuitry while the power is on, do not touch the live parts.

(Failure to observe this warning may result in electric shock.)

Caution against electric shock

◇ Turn off the power supply

Be sure to shut off the power supply isolator before disassembling the unit for repair.

(Failure to observe this warning may result in electric shock.)

Be sure to follow this instruction.

◇ Modification is prohibited

Do not modify the unit.

(Failure to observe this warning may result in electric shock, fire and/or injury.)

Prohibited

◇ Use proper parts and tools

For repair, be sure to use the parts listed in the parts catalog of the applicable model and use the proper tools.

(Failure to observe this warning may result in electric shock, fire and/or injury.)

Be sure to follow this instruction.

◇ Proper electric work

Qualified electricians shall conduct electric work in accordance with your local electric work regulations and the Installation Instructions.

(Improper connection or wiring installation may result in electric shock and/or fire.)

Be sure to follow this instruction.

◇ Replace damaged and/or degraded parts

Be sure to replace the power cord and lead wires if they are damaged and/or degraded.

(Failure to observe this warning may result in electric shock and/or fire.)

Be sure to follow this instruction.

◇ 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.

(Inadequate insulation may result in electric shock.)

Be sure to follow this instruction.

⚠ Caution

Improper 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 observe this caution may result in a fall.)

Prohibited

◇ Wear gloves

Wear gloves when servicing.

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

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 and an overload protection device are installed. If they are not installed, recommend the customer to install them.

- 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. Specifications

Model name	LGH-F110MXL-E, LGH-F110MXR-E
Heat exchange system	Energy recovery ventilating system
Heat exchanger material	Special treated paper plate heat exchanger
Cladding	Galvanized steel sheet
Heat insulation material	Self-extinguishing urethane foam
Motor	EC motor
Filter	Non-woven fabric filter (MERV10)
Surrounding air condition	Shall be between 32°F (0°C) and 104°F (40°C), 80%RH or less
Suction air condition	Shall be lower than 104°F (40°C), 80%RH
Supply fan operation under low outdoor temperature	14°F (-10°C) to 5°F (-15°C) : Intermittent defrost operation Lv.1 60 min ON, 10 min OFF 5°F(-15°C) to -13°F(-25°C) : Intermittent defrost operation Lv.2 18 min ON, 4 min OFF (horizontal only) -13°F (-25°C) or less : Intermittent sensing operation 55 min OFF, 5 min ON In wall-mounted operation, the unit starts intermittent sensing operation under 5°F (-15°C).
Electrical power supply	Single phase 120 V / 60 Hz, 3-prong power supply cord
Insulation resistance	10 MΩ or more
Dielectric strength	1000 V AC 1 minute

Model name	Input power (W)	Air volume		Specific Fan power	Static pressure		Exchange efficiency (%)				Noise (dB)	Weight	
		(CFM)	(L/s)	(W/CFM)	(InW.G.)	(Pa)	Temperature		Enthalpy			(lbs)	(kg)
							Heating	Cooling	Heating	Cooling			
LGH-F110MXL-E LGH-F110MXR-E	50	110	52	0.45	0.4	100	75	67	64	53	25	39	18

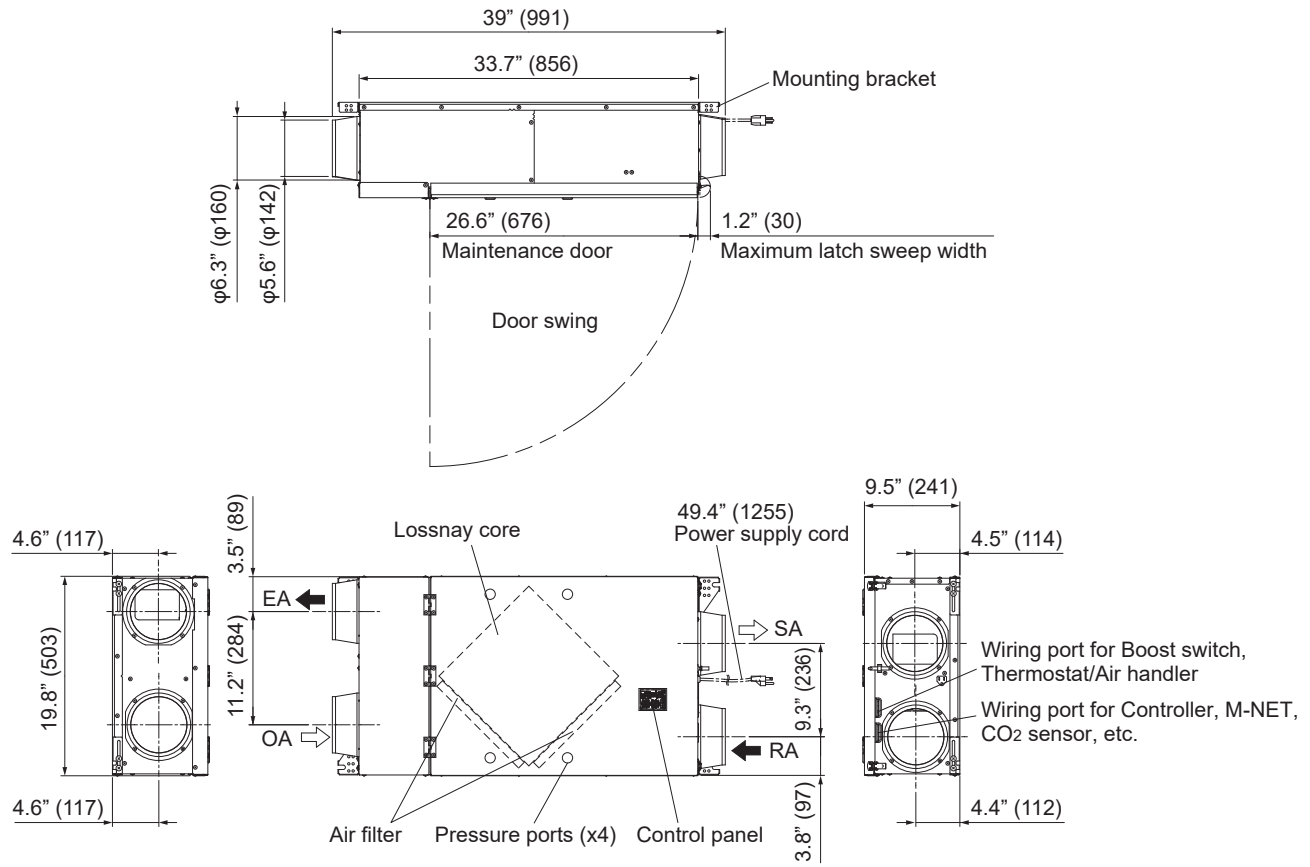
* The input power, exchange efficiency and noise are based on the rated air volume, 120 V/60 Hz, and horizontal installation.
  Noise (A-weighted sound pressure level) is measured at a distance of 4.8 ft (1.5 m) below the center of the unit in an anechoic chamber.
* Mitsubishi Electric measures products with reference to ISO 16494-1.

■ Remote controller

Model name	PZ-62DR-EA, TZ-62DR-EA
Power supply requirement	12 V DC (Supplied from Lossnay unit)
Power consumption	0.3 W
Transmission cable	Non polarized 2-core cable (AWG 22 (0.3 mm^2) sheathed cable)
Total wiring length	656 ft. (200 m) maximum
Number of controllable Lossnay units	1 Lossnay unit maximum (Max. 2 remote controllers installable)
Environmental condition	Temperature: 32 to 104°F (0 to 40°C) Humidity: 30% to 90% relative humidity (no condensation)
Size	4.69 x 4.69 x 0.75 inch (120 x 120 x 19 mm)
Weight	0.56 lbs (0.25 kg)

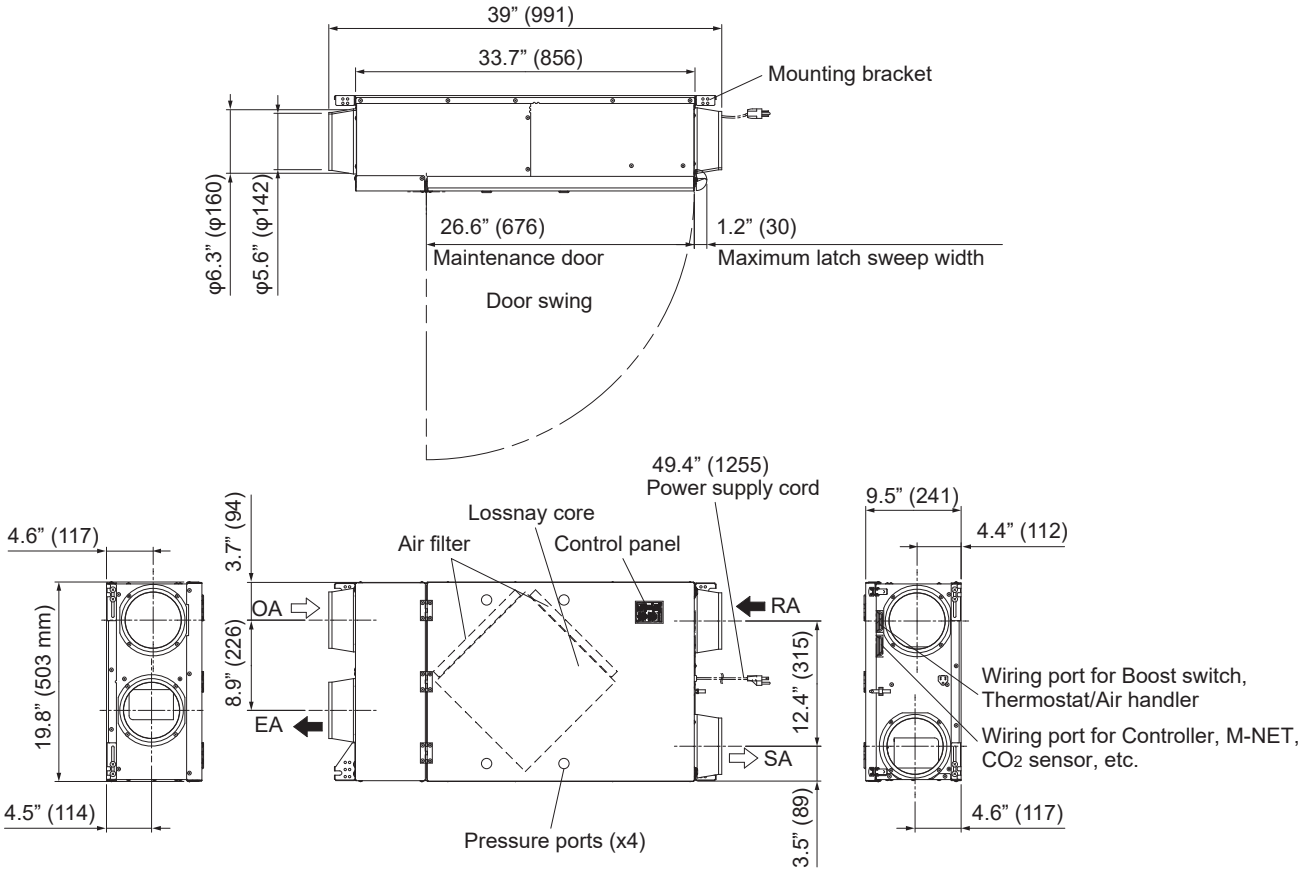
3. Outside dimensions

LGH-F110MXL-E



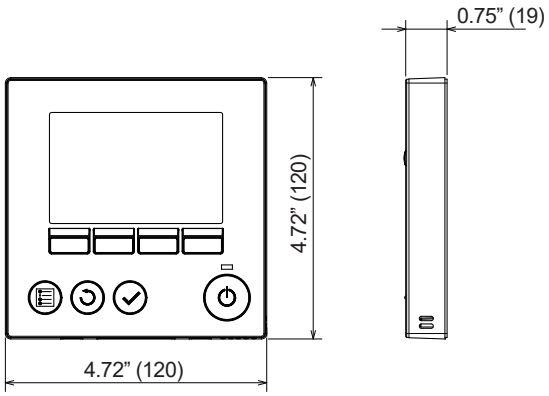
Unit: Inch (mm)

LGH-F110MXR-E



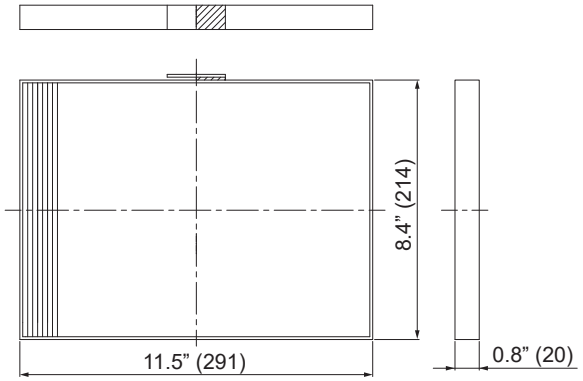
Unit: Inch (mm)

PZ-62DR-EA, TZ-62DR-EA



Unit: Inch (mm)

PZ-F110RF-E, PZ-F110MF-E



Notes:

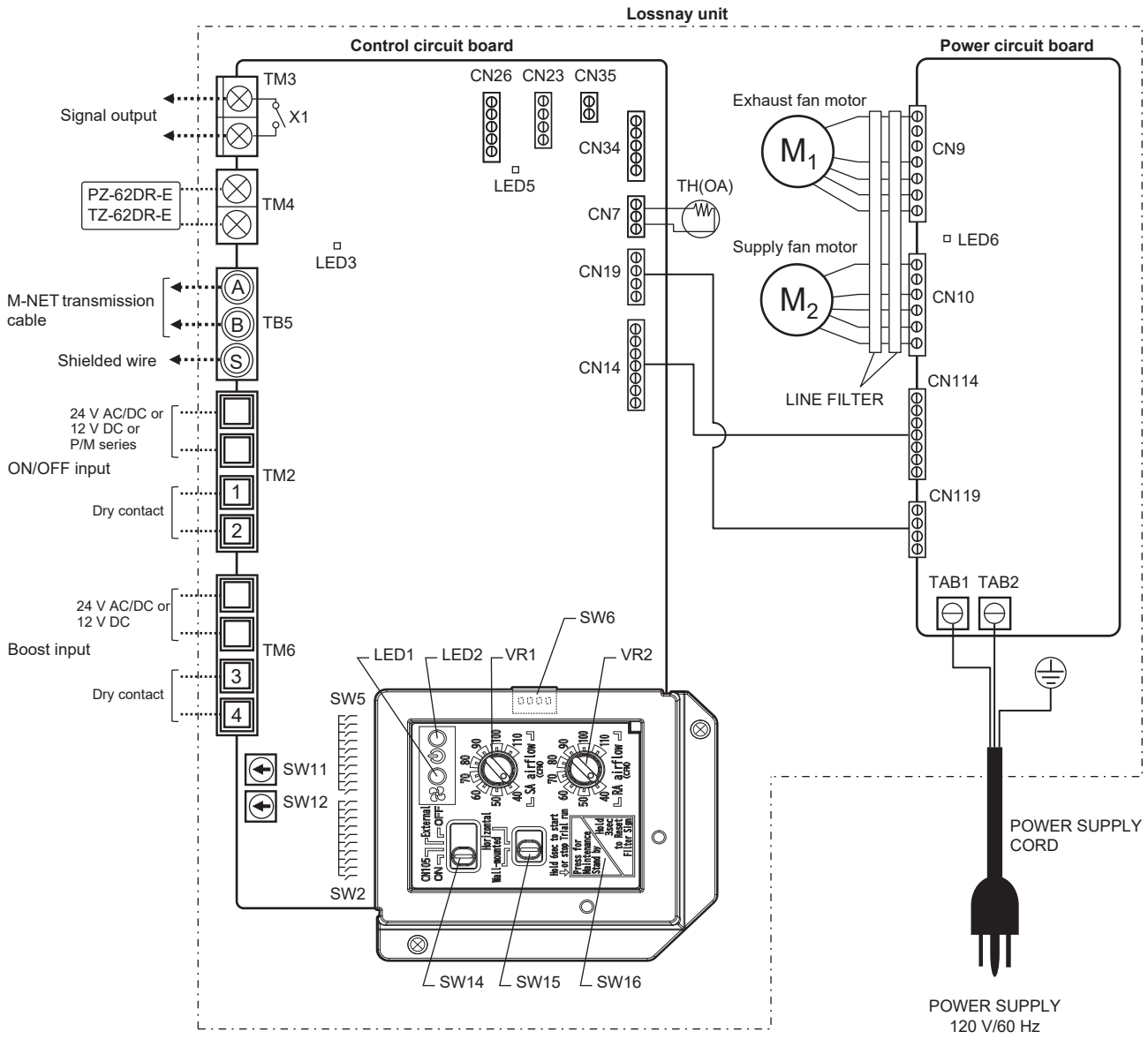
* Two filters make up one set.

Unit: Inch (mm)

4. Electrical wiring diagrams

LGH-F110MXL-E, LGH-F110MXR-E

* Wiring for TM2, TM3, TM4, TM6, and TB5 shown in dotted lines are field work.



Definition of symbols		
M1: Motor for exhaust fan M2: Motor for supply fan TH: Thermistor for outdoor air SW2, 5: Switch (Function selection) SW6: Switch (Model selection) TM2: Terminal block (ON/OFF input) TM3: Terminal block (Signal output) TM4: Terminal block (Remote controller transmission cable) TM6: Terminal block (Boost input) TB5: Terminal block (M-NET transmission cable) TAB1, TAB2: Connector (Power supply cord) X1: Relay contact	CN7: Connector (Thermistor OA) CN9: Connector (Fan motor) CN10: Connector (Fan motor) CN14: Connector CN114: Connector CN19: Connector CN119: Connector CN23: Connector (CO_2 sensor power supply) CN26: Connector (CO_2 sensor input) CN34: Connector (CO_2 sensor output) CN35: Connector (CO_2 sensor input)	SW11: Address setting rotary switch (ones digit) SW12: Address setting rotary switch (tens digit) SW14: Operation mode selection slide switch SW15: Installation direction selection slide switch SW16: Maintenance switch VR1: SA airflow selection switch VR2: RA airflow selection switch LED1: Operation indicator lamp LED2: Power/Error indicator lamp LED3: Remote controller power supply indicator lamp LED5: CO_2 sensor power supply indicator lamp (When the CO_2 sensor is connected) SYMBOL ◎ ▣ : Terminal block, ▣ : Connector on PCB

Select proper isolator according to the electrical current information in the chart below.

Model	LGH-F110MXL-E, LGH-F110MXR-E
Maximum current when operating [A]	1.1

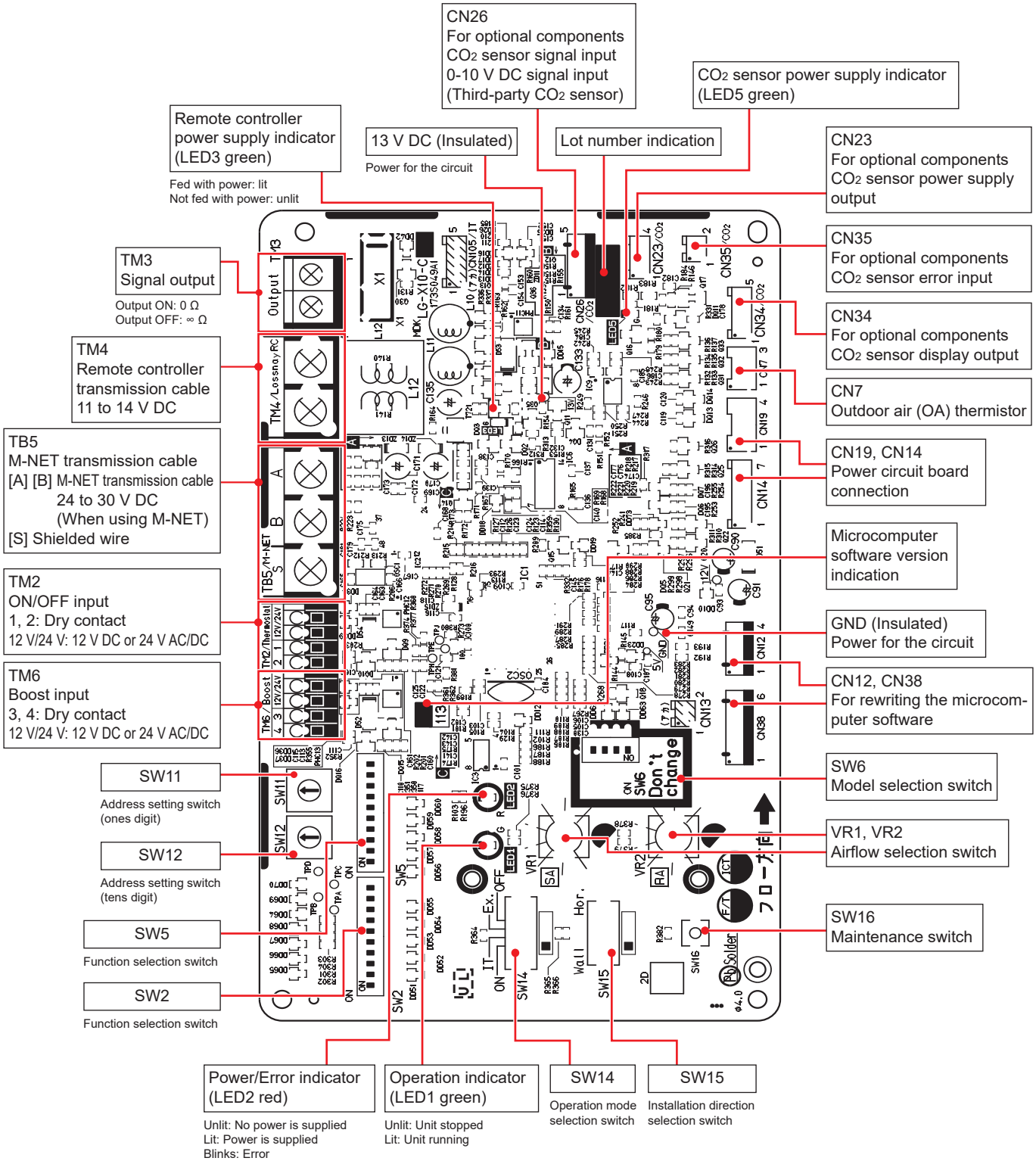
* Always use a current leakage breaker compatible with higher harmonics, as this unit is equipped with an inverter.
* Use of an inadequate breaker may cause improper operation of the inverter.

5. Circuit board diagrams

● Circuit board diagrams and check points

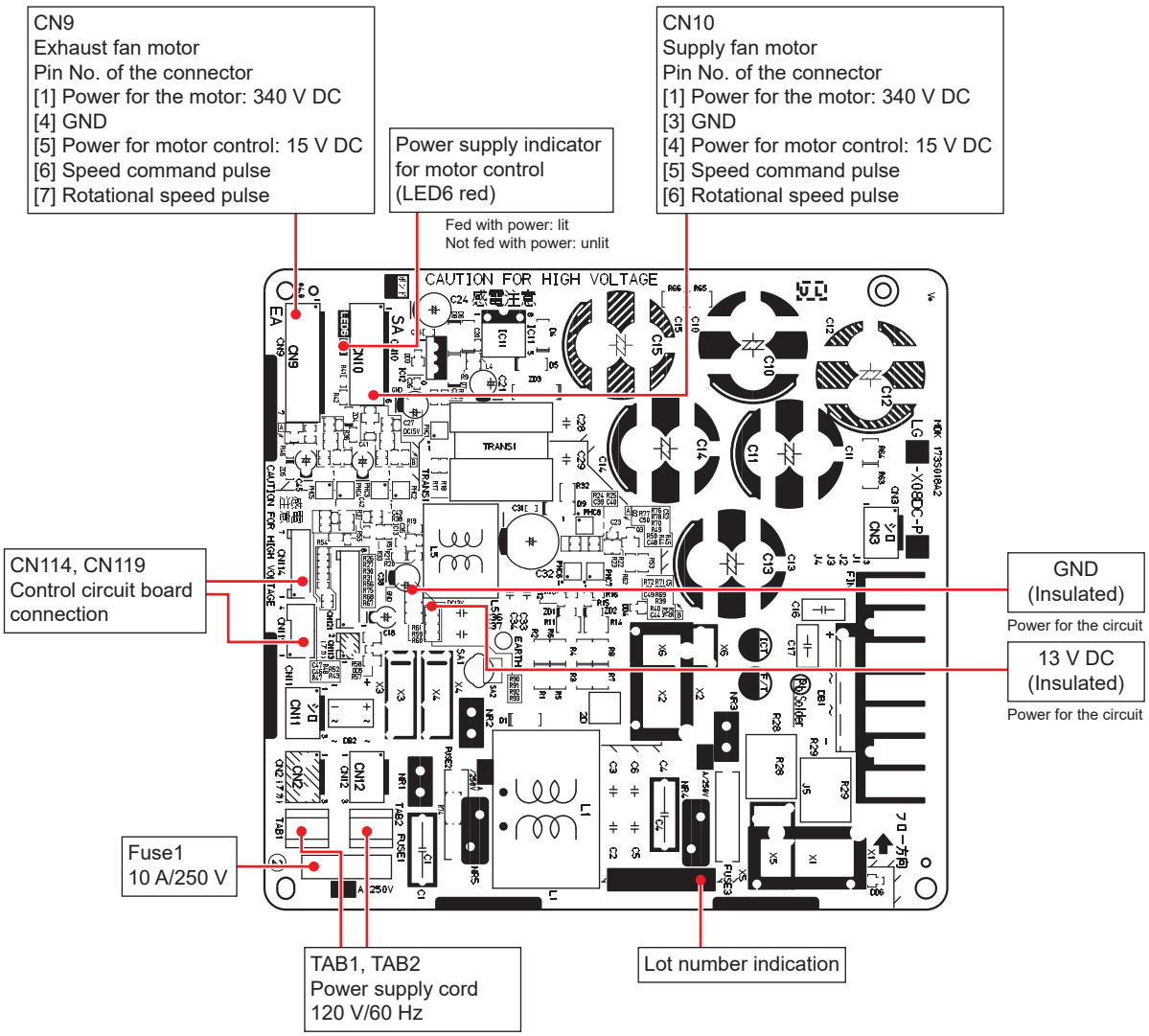
(1) Control circuit board

Caution:
Before servicing (including replacing the circuit boards), be sure to turn off the power supply isolator and check that all the LEDs on the control circuit board and power circuit board are not lit. A large-capacity electrolytic capacitor on the circuit board may carry voltage for several minutes after the isolator is turned off.



(2) Power circuit board

Caution:
The power circuit consists of live parts. The power circuit board is not insulated from the power line, except for the connection part with the control circuit board. Before servicing (including replacing the circuit boards), be sure to turn off the power supply isolator and check that all the LEDs on the control circuit board and power circuit board are not lit. A large-capacity electrolytic capacitor on the circuit board may carry voltage for several minutes after the isolator is turned off.



6. Troubleshooting

■ **Work precautions**

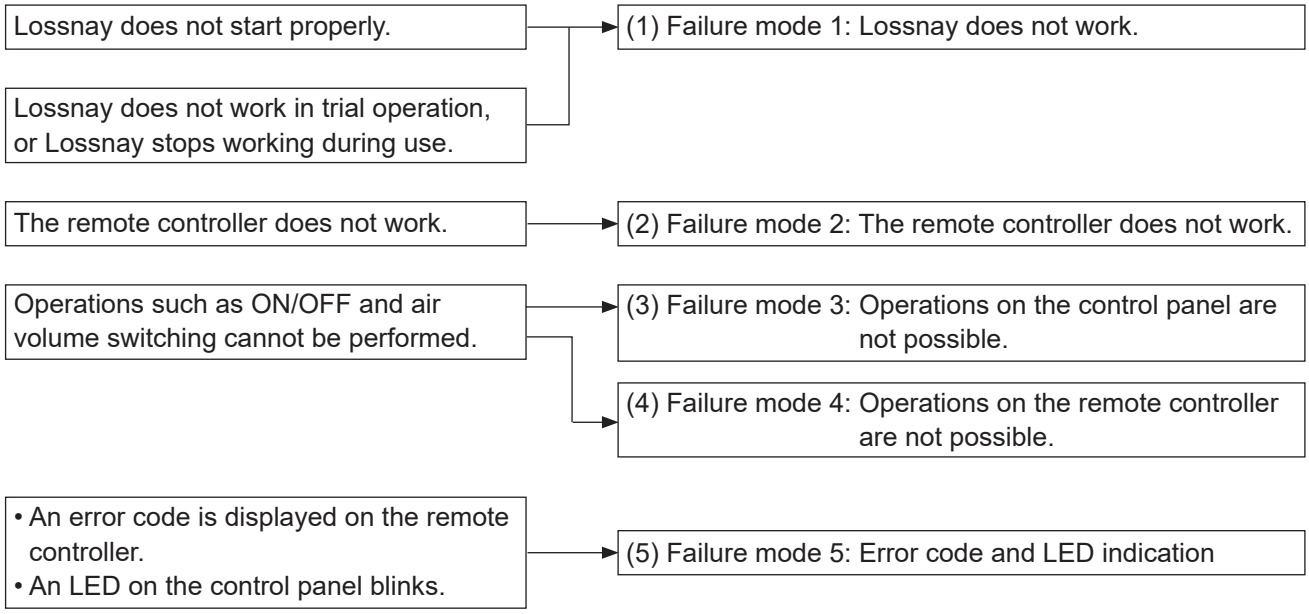
- Before servicing, the power supply cord must be unplugged. Pay sufficient attention to avoid electric shock or injury.
- When removing or touching any wiring, circuit boards, or other components, the power supply cord must be unplugged.
- Even after the power supply cord is unplugged, the capacitors on the circuit board retain 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.
- Once the power supply cord is unplugged, wait for at least five minutes before plugging it in again.
- When servicing, power supply to M-NET must be turned off. Live-line working may cause a circuit board failure.
- When servicing, recreate the malfunction two or three times before starting repairs.
- When servicing, always keep proper footing.
- When disconnecting the motor connectors, make sure that the power supply cord is unplugged. Even when the fan motors are stopped, disconnecting the connectors while power is supplied may cause motor failure.
- When removing the circuit board, always hold it at both ends and remove carefully in order 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.
- When circuit board failure is considered to be a cause, check closely for any broken section on the copper foil patterns, burning or discoloration of parts.
- If the circuit board is replaced, make sure that the switch settings on the new board are the same as the old board.
- Be sure to connect the power supply cord correctly.

6-1 Service flowchart

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

Applicable Device	Applicable Model
Lossnay Energy Recovery Ventilator	LGH-F110MXL-E, LGH-F110MXR-E
Lossnay Remote Controller	PZ-62DR-EA, TZ-62DR-EA

No.	Preliminary check item	Details
1	Product information	• 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	• Fault status (e.g., the fan does not operate.) • Error code display on the remote controller • Operation setting of the remote controller (e.g., boost operation is not activated.)
3	Frequency of fault occurrence	• Frequency of occurrence (hourly, daily, irregular, etc.) • Operating period before fault occurrence • Date of start of use, date of fault occurrence
4	Timing of fault occurrence	• Switch operation performed immediately before fault occurrence • Remote controller operation performed immediately before fault occurrence • Operating status, etc.
5	System settings	• Function selection switch settings and address setting of the product • Model names and address settings of the Lossnay remote controller or Centralized controller • Function settings on the PZ/TZ-62DR-EA remote controller
6	System drawings	• System configuration • Wiring • Record of the Lossnay function setting statuses



6-2 Check Details

(1) Failure mode 1: Lossnay does not work.

● **Initial Check Items**

Check the following details if Lossnay does not work.

[1] Power supply

No.	Check item	Corrective action
1	Is the power supply cord plugged into the outlet?	Plug the power supply cord into the outlet.
2	Is the breaker for the outlet turned on?	Turn on the breaker.
3	Is the rated voltage supplied? 120 V/60 Hz	Supply the specified power supply voltage.
4	Are the LEDs (red and green) on the control panel lit?	If either LED is blinking (error indication) or unlit, check the voltage.

[2] Transmission cables

(Remote controller transmission cable, M-NET transmission cable, external input/output signal cable)

No.	Check Item	Corrective action
1	Are the designated cables used for the remote controller transmission cable and M-NET transmission cable? (See Table 2-1 (page 12) and Table 2-2 (page 12).)	Use the designated transmission cables.
2	Are the designated cables used for the external input/output signal cable? (See Table 2-3 (page 13).)	Use the designated cables.
3	Are the transmission cables wired using multicore cables?	Use the 2-core transmission cables.
4	Are multiple transmission cables wired in the same piping duct?	Wire the transmission cable away from one another.
5	Is the power supply cord kept at least 2 in. (5 cm) away from transmission cables?	Keep the power supply cord at least 2 in. (5 cm) away from the transmission cables.
6	Are the transmission cables connected to the designated terminal blocks? (See Table 2-1 (page 12) and Table 2-2 (page 12).)	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 2-1 (page 12) and Table 2-2 (page 12).)	Wire the cables within the regulations.
9	Are communication cables wired at least 2 in. (5 cm) away from the other communication cables?	Wire the cables at least 2 in. (5 cm) away from the other cables.
10	Does the external input signal match the specifications? (See Table 2-3 (page 13).)	Input the signal that matches the specifications.
11	Does the boost input signal match the specifications? (See Table 2-4 (page 13).)	Input the signal that matches the specifications.

Table 2-1
M-NET transmission cable specifications

Cable	M-NET transmission cable
Type	Shielded cable type TC-ER, CL3P/CL2P
Number of cores	2-core cable
Cable diameter	AWG 16 (1.25 mm^2)
Max. extension (Note 1)	656 ft. (200 m)
Total extension (Note 2)	1640 ft. (500 m)
Terminal block	TB5 [A] [B]

(Note 1) Distance from the power supply unit to the furthest unit or Centralized controller
(Note 2) Overall length of the cable between the units and the Centralized controllers

Table 2-2
Remote controller transmission cable specifications

Cable	PZ/TZ-62DR-EA transmission cable
Type	Sheathed cable
Number of cores	2-core cable
Cable diameter	AWG 22 (0.3 mm^2)
Total extension	656 ft. (200 m)
Terminal block	TM4

Table 2-3
External input specifications

Function Name	Terminal or connector on the circuit board	Signal specifications	Materials Used	Total extension
External control input (volt-free contact)	TM2 [1] [2]	Level (Note 1)	Stranded wire, AWG 20 (0.5 mm^2) to AWG 15 (1.5 mm^2)	1640 ft. (500 m)
External control input (12 V DC, 24 V AC/DC)	TM2 [12 V/24 V]	Level (Note 1)	Stranded wire, AWG 20 (0.5 mm^2) to AWG 15 (1.5 mm^2)	(Note 2)
P/M-series or MITSUBISHI air handler control signal	TM2 [12 V/24 V]	Serial signal	Interlock connection cable (Accessory parts) AWG 20 (0.5 mm^2) to AWG 15 (1.5 mm^2)	Follow the Operation Manual for the air handler.

(Note 1) The input signal must conform to the following specifications:
Level signal, Volt-free contact, 12 V DC, 24 V AC/DC
Both the ON and OFF signal widths must be 10 seconds or longer.
In the case of relay contact input, use a relay having a contact rating of 15 V DC/0.1 A or higher and a minimum applicable load of 1 mA or less.
(Note 2) Check the specifications of the external device.

Table 2-4
Boost input specifications

Function Name	Terminal or connector on the circuit board	Signal specifications	Materials Used	Total extension
Boost input (volt-free contact)	TM6 [3] [4]	Level/pulse (Note 1)	Stranded wire, AWG 20 (0.5 mm^2) to AWG 15 (1.5 mm^2)	1640 ft. (500 m)
Boost input (12 V DC, 24 V AC/DC)	TM6 [12 V/24 V]	Level/pulse (Note 1)	Stranded wire, AWG 20 (0.5 mm^2) to AWG 15 (1.5 mm^2)	(Note 2)

(Note 1) The input signal must conform to the following specifications:
Level signal, Volt-free contact, 12 V DC, 24 V AC/DC
When a level signal is selected, both the ON and OFF signal widths must be 10 seconds or longer.

Signal type	Lossnay operation
Volt-free contact	When the contact closes, Lossnay operation switches to boost mode. When the contact opens, Lossnay operation returns to normal airflow mode.
12 V DC, 24 V AC/DC	When voltage is applied, Lossnay operates in boost mode. When the voltage is 0 V, Lossnay operates in normal airflow mode.

Pulse signal, Volt-free contact, 12 V DC, 24 V AC/DC
When a pulse signal is selected, both the ON and OFF signal widths must be 200 milliseconds or longer.
In the case of relay contact input, use a relay having a contact rating of 15 V DC/0.1 A or higher and a minimum applicable load of 1 mA or less.

(Note 2) Check the specifications of the external device.

[3] Signal output cable

No.	Check Item	Corrective action
1	Is the signal cable wired by multicore cable?	Wire the cable using a 2-core cable.
2	Are the signal cables and transmission cables wired in the same piping duct?	Wire the signal cables away from the transmission cables.
3	Is the power supply cord kept at least 2 in. (5 cm) away from signal cables?	Keep the power supply cord at least 2 in. (5 cm) away from the signal cables.
4	Is the signal cable connected to the designated terminal block? (See Table 3-1 (page 14).)	Connect the signal cable to the designated terminal block.
5	Is the signal cable incorrectly wired, is there a faulty connection or are screws loose?	Connect the cable securely and correctly, and tighten the screws firmly.
6	Is the output capacity of the signal cable within the specified rating? (See Table 3-1 (page 14).)	Use the signal cable within the specified rating.
7	Is the function selection for the external output signal set correctly?	Set the function selection switches (SW5-1 to SW5-3) on the circuit board correctly, or set the function setting (No. 12) of PZ/TZ-62DR-EA correctly.

Table 3-1
Signal output specifications

Terminal block	TM3
Function name	Operation monitor (Factory default setting) (Note 1)
Signal specifications	Volt-free contact
Output rating	30 V AC, 1 A
	20 V DC, 1 A
Min. applicable load	20 V AC, 100 mA
	5 V DC, 100 mA

(Note 1) Output can be changed with function settings.

[4] Function setting

No.	Check Item	Corrective action
1	Are the function selection switches on the circuit board set correctly to suit the required application?	Set the function selection switches (SW2, SW5) on the circuit board correctly.
2	Is the applicable model used as the Lossnay remote controller?	Use PZ/TZ-62DR-EA. (The air conditioner remote controller including PAR-40MAA cannot be used to configure the function settings.)
3	When PZ/TZ-62DR-EA is used, are the function selections set correctly to suit the required application?	Set the function selections correctly. After setting the functions with PZ/TZ-62DR-EA, operating the address setting switches (SW11, SW12) on the control circuit board resets the settings to the initial settings.
4	For a function that can be set with both PZ/TZ-62DR-EA and the function selection switches on the control circuit board, was the function set with the function selection switches after the function is set with PZ/TZ-62DR-EA?	Set the function again with PZ/TZ-62DR-EA. For the function that can be set with both PZ/TZ-62DR-EA and the function selection switches, after the function was set with PZ/TZ-62DR-EA, setting with the function selection switches is disabled.

[5] Control panel

For details of error indications by LED1 (green) and LED2 (red), see (5) Failure mode 5: Error code and LED indication (page 22).

Operation mode selection

OFF	Stops the operation
External	ON/OFF interlocked with external device (Remote controller, M-NET, or Thermostat)
CN105	Unavailable * Stops the operation
ON	Starts in accordance with the panel settings

Operation indication LED 1 (green)

Unlit	Unit stopping
Lit	Unit running
6 Blinks	Defrost or sensing operation under 5°F (-15°C)
0.5 sec ON/ 0.5 sec OFF	Maintenance Stand-by operation
2 sec ON/ 2 sec OFF	Trial operation

Power indication LED 2 (red)

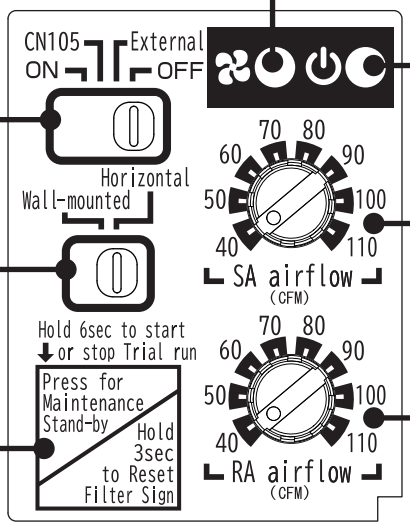
Unlit	No power is supplied
Lit	Power is supplied
1 sec ON/ 1 sec OFF	Starting up
2 sec ON/ 1 sec OFF	Filter maintenance sign
5 Blinks	Filter maintenance sign was just reset

Installation direction selection

Horizontal
Wall-mounted

Maintenance switch

Single push	Starts Maintenance Stand-by operation (3 hours) to defrost and dry inside the unit before opening the maintenance door
3 sec hold	Resets the filter maintenance sign after replacing the filter
6 sec hold	Starts trial run, when held again, the trial run stops



Error indicator information on LED 2

Number of blinks	Error details
1	Supply motor error
2	Exhaust motor error
4	Thermistor error
7	Supply voltage fault
8	Pre-heater error
9	Communication error
10	Function setting fault
11	RC overcurrent
12	CO_2 sensor error
13	M-NET error

Airflow selection switch

Supply and Return airflow can be selected independently.
* Air volume can be set in increments of 10 CFM, and air volume does not change between each number.

● **Individual function check items**

[6] If Lossnay does not work in the trial operation, or if Lossnay stops working during use, check the following items.

No.	Symptom	Cause	Corrective action
1	The fan does not operate when the Maintenance switch is held for 6 seconds or when the Operation mode selection switch is set to ON.	The connectors between the fan motor and circuit board are disconnected.	Check the connector (CN9) for the exhaust fan motor and the connector (CN10) for the supply fan motor. *Before connecting or disconnecting the motor connectors (CN9, CN10), turn off the power supply isolator or unplug the power supply cord, and check that all the LEDs on the circuit board are not lit.
		The connectors between the control circuit board and power circuit board are disconnected.	Check the connector connections. Control circuit board: CN14, CN19 Power circuit board: CN114, CN119
		Fan motor failure	If the fan can be turned manually, replace the DC motor of the fan. Check the resistance between the motor leads. If the measured value is significantly different from the values specified in the table, replace the DC motor of the fan. See (6) Motor resistance table (page 23).
		Circuit board failure	If LED6 located between CN9 and CN10 on the power circuit board is not lit, check power supply to TAB1 and TAB2. If no error is found with power supply, replace the power circuit board. If the problem persists, replace the DC motor of the fan.
		Power with the rated voltage is not supplied to the product.	Check the power supply voltage.
2	Though the remote controller display indicates the fan is running, the fan stops by itself.	The Lossnay unit is operating in the protective mode (cold region operation).	When PZ/TZ-62DR-EA is used, it displays the icon " " that indicates the cold region operation is in-progress. When PZ/TZ-62DR-EA is not used, check LED1 (green) on the control panel to verify that cold region operation is being performed. For details, see the Lossnay Operating/Installation Instructions or PZ/TZ-62DR-EA Instruction Book.
		The interlocked air conditioner (P/M-series indoor unit, MITSUBISHI air handler indoor unit, or City Multi indoor unit) is stopped due to defrosting.	The supply fan has been stopped to prevent cold air from blowing out. When the air conditioner starts operating, the fan operation is started automatically.
		The Lossnay unit is set to Timed intermittent operation.	Check the Timed intermittent operation setting. (Set the function selection switches (SW2-9 and SW2-10) on the circuit board correctly, or set the function setting (No.59) of PZ/TZ-62DR-EA correctly.)

No.	Symptom	Cause	Corrective action
3	[When wall-mounted type CO_2 sensor PZ-70CSW-E is used] The LED display lamps of the CO_2 sensor do not light even when the Maintenance switch on the control panel is held for 6 seconds.	CO_2 sensor setting is set incorrectly.	Check the setting. • When the function setting (No. 66) of PZ/TZ-62DR-EA is set to “0”, the function selection switches (SW5-6 to SW5-8) on the Lossnay circuit board should be: SW5-6 ON, SW5-7 OFF, SW5-8 OFF for boost control SW5-6 OFF, SW5-7 OFF, SW5-8 ON for linear control • When the function setting (No. 66) of PZ/TZ-62DR-EA is set to other than “0”, set it to “2” for boost control or “5” for linear control. For details, see the Installation Instructions.
		The connectors between the LED circuit board (of the CO_2 sensor) and control circuit board (of the Lossnay unit) are disconnected.	Check the connector connections. LED circuit board: CN100 Control circuit board: CN34 For details about the CO_2 sensor PZ-70CSW-E, see its Installation and Instruction Manual.
		The lead wires connecting the LED circuit board (of the CO_2 sensor) and control circuit board (of the Lossnay unit) are broken.	Measure the voltage between the pins of connector (CN100) after holding the Maintenance switch on the control panel for 6 seconds. When the values shown below are detected, the lead wires are not broken. • Between the pins 1 and 2 of CN100, voltage is applied in a cycle of 20-second 0 V and 10-second 12 V DC. • Between the pins 1 and 3 of CN100, voltage is applied in a cycle of 20-second 0 V and 10-second 12 V DC. • Between the pins 1 and 4 of CN100, voltage is applied in a cycle of 20-second 0 V and 10-second 12 V DC. When extending the CO_2 sensor wiring cables, check that they are properly connected. For details about the CO_2 sensor PZ-70CSW-E, see its Installation and Instruction Manual.
		LED circuit board failure	If the problem persists, replace the wall-mounted type CO_2 sensor. For details about the CO_2 sensor PZ-70CSW-E, see its Installation and Instruction Manual.
4	[When wall-mounted type CO_2 sensor PZ-70CSW-E is used] CO_2 concentration display of PZ/TZ-62DR-EA does not change even though the number of persons in a room is changed.	Ventilation air volume by the Lossnay unit is large enough or too small against the change in the number of persons in a room.	In this case, CO_2 concentration displayed value may be always low or high.
		The lead wires connecting the CO_2 sensor circuit board and Lossnay control circuit board are broken.	If the lead wire to pin 3 of the connector on the CO_2 sensor circuit board is broken, the detected CO_2 concentration value may be fixed. When extending the CO_2 sensor wiring cables, check that they are properly connected. For details about the CO_2 sensor PZ-70CSW-E, see its Installation and Instruction Manual.
		The lead wires connecting the LED circuit board (of the CO_2 sensor) and control circuit board (of the Lossnay unit) are broken.	Check the connector connections. LED circuit board: CN100 Control circuit board: CN34 When extending the CO_2 sensor wiring cables, check that they are properly connected. For details about the CO_2 sensor PZ-70CSW-E, see its Installation and Instruction Manual.

No.	Symptom	Cause	Corrective action
5	The fan does not stop even though the remote controller is operated to stop operation.	The Operation mode selection switch on the control panel is set to "ON".	Set the Operation mode selection switch to "External".
6	Lossnay does not operate even though the remote controller is operated to start operation.	The Operation mode selection switch on the control panel is set to "OFF" or "CN105".	Set the Operation mode selection switch to "External".
7	The air volume does not change even though the operating mode is switched to boost mode with the remote controller.	The Airflow selection switch on the control panel is set to the maximum airflow. The air volume does not increase when the operating mode is switched to boost operation while the airflow is set to maximum.	This is not a malfunction.
8	Air volume is low.	Filters are clogged.	Replace the filters.
		The power supply voltage is low.	Check the power supply voltage.
		The SA and/or RA ducts of the Lossnay unit are connected to the air handler ducts.	Check that the ducts between the Lossnay unit and the air handler are connected correctly. See the Installation Instructions for details.
9	The operating mode automatically returns to normal airflow mode even though the operating mode is switched to boost mode with the remote controller.	The boost timer has ended.	Switch the operating mode to boost mode again. Check the Boost timer setting. (Set the function selection switches (SW2-4 and SW2-5) on the circuit board correctly, or set the function setting (No.58) of PZ/TZ-62DR-EA correctly.)

(2) Failure mode 2: The remote controller does not work.

If the remote controller does not work, check the following items.

■ PZ-62DR-EA, TZ-62DR-EA

No.	Symptom	Cause	Corrective action
1	Nothing is displayed on the remote controller. The ON/OFF lamp does not blink.	The power of the Lossnay unit is not ON.	Check the items described in (1) [1] Power supply (page 11).
		Faulty connection of the remote controller transmission cable	Check the items described in (1) [2] Transmission cables (page 12).
		The wiring length of the remote controller exceeds 219 yd. (200 m).	The wiring length of the remote controller shall be within 219 yd. (200 m).
2	The remote controller continues to display “Please Wait”. Error code “6831” is displayed.	The remote controller is starting up.	The remote controller displays “Please Wait” during start-up for up to three minutes. If "Please Wait" does not disappear after five minutes, unplug the power supply cord and reconnect it after at least five minutes.
		Faulty connection of the remote controller transmission cable	Check the items described in (1) [2] Transmission cables (page 12).
		The remote controller transmission cable is connected to the terminal block (TB5 [A] [B]) for the M-NET transmission cable.	Connect the remote controller transmission cable to the terminal block (TM4 [1] [2]).
		The old model remote controller (PZ-61DR-E) is connected.	Use the PZ/TZ-62DR-EA remote controller.
3	It takes time for the remote controller to be fed with power after turning the Lossnay unit ON.	The Lossnay unit is starting up.	The remote controller is not fed with power during start-up of the Lossnay unit for maximum one minute.

(3) Failure mode 3: Operations on the control panel are not possible.

If operations such as ON/OFF and air volume switching cannot be performed, check the following items.

No.	Symptom	Cause	Corrective action
1	Lossnay does not stop even when the Operation mode selection switch is set to "OFF".	Lossnay is performing a trial run.	Hold the Maintenance switch for 6 seconds to cancel the trial run.
2	The Lossnay does not operate.	The Operation mode selection switch is set to a position other than "ON".	Set the Operation mode selection switch to "ON".
		An error is indicated.	Check the error indication according to the number of blinks of LED2 (red). After correcting the error, reconnect the power supply. See (5) Failure mode 5: Error code and LED indication (page 22).
3	The following functions do not work when the Maintenance switch is pressed: • Maintenance Stand-by operation • Filter maintenance sign reset • Trial run	The switch is not responding.	• Press the Maintenance switch firmly. • Hold the Maintenance switch for 3 seconds to reset the filter maintenance sign. Hold the Maintenance switch for 6 seconds to start trial run.

(4) Failure mode 4: Operations on the remote controller are not possible.

● **Initial Check Items**

If the system cannot be operated with the remote controller, check the following items.

No.	Check item	Notes
1	Are the function selection switches (SW2, SW5) on the Lossnay circuit board set correctly to suit the required application?	Depending on the settings of the function selection switches, Lossnay may automatically operate or stop, or specific operation may be unable to be performed with the remote controller.
2	When PZ/TZ-62DR-EA is used, are the function selections set correctly to suit the required application?	Depending on the settings of the function selections, Lossnay may automatically operate or stop, or specific operation may be unable to be performed with the remote controller.
3	When PZ/TZ-62DR-EA is used, are icons and characters displayed on the PZ/TZ-62DR-EA screen?	Based on the icon and characters, you can check statuses such as filter maintenance indication, timed intermittent operation, boost operation, and cold region operation. (See the Lossnay Operating/Installation Instructions or PZ/TZ-62DR-EA Instruction Book.)
4	Is the Centralized controller of M-NET used?	The Centralized controller can be used to start/stop Lossnay, activate boost operation, and prohibit start/stop operation via PZ/TZ-62DR-EA.

● **Individual check items**

If the system cannot be started/stopped using the remote controller, check the following items.

[1] PZ-62DR-EA, TZ-62DR-EA

No.	Symptom	Cause	Corrective action
1	The screen display of the remote controller changes by itself. Even if you press the buttons, the screen returns to the original screen right away.	Faulty connection of the remote controller transmission cable	Check the items described in (1) [2] Transmission cables (page 12).
2	Even though the function setting (No. 36) of PZ/TZ-62DR-EA is set to “1”, the outdoor temperature is not displayed.	The setting of PZ/TZ-62DR-EA is not correct.	Select “Yes” at “Sensor value” menu of PZ/TZ-62DR-EA. For details, see the Installation Manual of PZ/TZ-62DR-EA.
3	Even though the function setting (No. 36) of PZ/TZ-62DR-EA is set to “1”, “LO” or “HI” is displayed on the remote controller.	The outdoor air temperature is outside the display range.	Outdoor temperature display range: 2°C (35.6°F) to 36°C (96.8°F) If the temperature exceeds the display range, “HI” will be displayed, and if less than the display range, “LO” will be displayed.
4	CO_2 concentration is not displayed on PZ/TZ-62DR-EA.	With the function setting No. 38, CO_2 concentration display setting is set to “0: N/A”.	Set the function setting No. 38 to “1: Available on the screen of PZ/TZ-62DR-EA”. (See the PZ/TZ-62DR-EA Installation Manual and the Lossnay Installation Instructions.)
		The detected CO_2 concentration is outside the display range.	Detectable CO_2 concentration range: 300 to 2000 ppm If the concentration exceeds 2000 ppm, “2000” will be displayed, and if less than 400 ppm, “LO” will be displayed.
		The CO_2 sensor is in warm-up operation. (For 15 minutes after power is supplied to the CO_2 sensor)	PZ/TZ-62DR-EA does not display CO_2 concentration while the CO_2 sensor is in warm-up operation. (It displays “--- ppm” during warm-up operation.)

[2] Interlocking with air conditioners (P/M-series indoor unit, MITSUBISHI air handler, or City Multi indoor unit) or external devices

No.	Symptom	Cause	Corrective action
1	Lossnay interlock settings cannot be performed with the remote controller.	The power of the Lossnay unit is not ON.	Check the items described in (1) [1] Power supply (page 11).
		Faulty connection of the remote controller transmission cable	Check the items described in (1) [2] Transmission cables (page 12).
		Lossnay address setting is incorrect.	Check the Lossnay address.
2	Lossnay does not perform interlock operation.	The power of the Lossnay unit is not ON.	Check the items described in (1) [1] Power supply (page 11).
		Faulty connection of the remote controller transmission cable or external input/output signal cables	Check the items described in (1) [2] Transmission cables (page 12).
		The Lossnay unit is not set for interlock operation.	Set the interlock setting.
		The terminal block connected and the type of external signal do not match (charged or volt-free).	Check the type of external signal and the connections of the external control input terminal (TM2).
		The type of external signal and input setting do not match (level signal or pulse signal).	Check the type of external signal and the setting of the input (level or pulse). (See the Lossnay Operating/Installation Instructions.)
		The Lossnay unit is operating in the protective mode (cold region operation).	For details, see the Lossnay Operating/ Installation Instructions or PZ/TZ-62DR-EA Instruction Book.
3	Lossnay does not operate even though the air conditioner remote controller is operated to start operation.	The Operation mode selection switch on the control panel is set to "OFF" or "CN105".	Set the Operation mode selection switch to "External".

(5) Failure mode 5: Error code and LED indication

An error code displayed on the remote controller (PZ-62DR-EA, TZ-62DR-EA) or the M-NET controller, and blinking of LED1 (green) or LED2 (red) on the control panel show the type of an error.

■ Error display list

Error Code	LED1 (green)	LED2 (red)	Symptom	Cause	Corrective action
0900	Blinks at 2 sec ON/ 2 sec OFF	—	Trial run	The Maintenance switch on the control panel has been pressed and held for 6 seconds.	Press and hold the Maintenance switch again for 6 seconds to stop the trial run.
3126	—	8 blinks	Pre-heater-related error	Pre-heater relay failure Pre-heater capacity fault	Check the wiring and relay for the pre-heater.
4101	—	11 blinks	Remote controller overcurrent error	The remote controller connection terminal (TM4) is short-circuited.	Check the wiring to TM4.
4120	—	7 blinks	Power supply voltage error	Abnormal voltage (150 V AC or higher) is applied.	Apply the rated voltage (120 V/60 Hz).
4132	—	1 blink	Motor error (SA)	Poor connection of air supply fan motor connector CN10	Connect the connector (CN10) on the power circuit board properly.
				Motor failure	Replace the DC motor.
4133	—	2 blinks	Motor error (EA)	Poor connection of exhaust fan motor connector CN9	Connect the connector (CN9) on the power circuit board properly.
				Motor failure	Replace the DC motor.
5101	—	4 blinks	Outdoor air (OA) thermistor error	Poor connection of outdoor air thermistor connector CN7	Connect the connector (CN7) on the control circuit board properly.
				Failure of the outdoor air thermistor • An open-circuit failure has occurred (-40°C was detected continuously for 3 minutes). • A short-circuit failure has occurred (90°C was detected continuously for 3 minutes).	Replace the thermistor.
5501	—	12 blinks	CO_2 sensor-related error	Poor connection of connectors	Connect the connectors (CN23, CN26, CN34, and CN35) on the control circuit board properly.
				Abnormal signal input • Incorrect wiring • CO_2 sensor type and control selection setting is incorrect.	• Check the CO_2 sensor wiring and connect it correctly. • Set the function selection switches (SW5-5 to SW5-7) on the circuit board correctly, or set the function setting (No.66) of PZ/TZ-62DR-EA correctly.
6600	—	13 blinks	M-NET-related error	Duplicate address setting (M-NET)	Check the addresses of the units on the M-NET line.
6603				Bus busy error	Unplug the power supply cord, wait for at least 2 minutes, and then plug it back in.
6602				Hardware error	
6606				Invalid command error	
6607/ 6608				M-NET communication error	Check the M-NET wiring and connect it correctly.
6831	—	9 blinks	Remote controller communication error	No response error	Unplug the power supply cord, wait for at least 2 minutes, and then plug it back in.
6832				Synchronization error	
6833				Transmission hardware error	
6834				Start bit detection error	
7113	—	10 blinks	Model setting error	The model selection switch (SW6) is set incorrectly.	Set the model selection switch (SW6) correctly.

(6) Motor resistance table

⚠ **Cautions**:

- Before disconnecting the motor connectors, make sure that the power supply cord is unplugged and the circuit board is fully discharged.
- Even after the power supply cord is unplugged, the capacitors remain charged. Therefore, high voltage remains applied to the motors for a while. Before starting work, make sure that the LEDs on the circuit board are unlit.
- Never touch the circuit board while the power supply cord is plugged in. Doing so may cause electric shock or failure of the unit.

Replace the fan motor in the following cases.

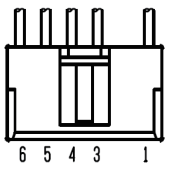
[1] If it is hard to rotate the motor shaft by hand

[2] If the resistance between the motor leads is significantly different from the values specified in the table below

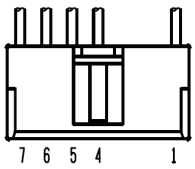
*Before measuring the resistance, the motor connectors must be disconnected from the circuit board.

*Be sure to measure the resistance by touching COM line of the tester to Pin No. 3 for Supply fan motor or No. 4 for Exhaust fan motor.

Pin No.	Supply fan motor	3-1	3-4	3-5	3-6
	Exhaust fan motor	4-1	4-5	4-6	4-7
Normal resistance		About 700 kΩ	About 40 kΩ	About 17 kΩ	∞ kΩ



Supply fan motor connector (CN10)



Exhaust fan motor connector (CN9)

(7) Temperatures and thermistor resistance table

Temperature (°C)	Resistance value (kΩ)
-40	93.0 to ∞
↑	↑
-25	41.8
-20	32.7
-15	25.8
-10	20.6
-5	16.4

Temperature (°C)	Resistance value (kΩ)
0	13.3
5	10.7
10	8.8
15	7.2
20	6.0
25	5.0
30	4.1

Temperature (°C)	Resistance value (kΩ)
35	3.5
40	2.9
45	2.5
50	2.1
↓	↓
90	0.6 to 0

* Measure the outdoor air (OA) thermistor resistance across pins No. 1 and 3 of connector CN7.

7. Overhauling procedures

■ **Work precautions**

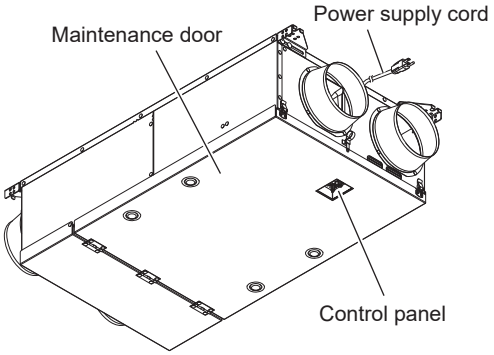
- When touching the electric components such as circuit boards and fan motors, do not touch the components for more than 5 minutes after power-off, and then start working. If LED2 on control panel is lit, do not touch the electric components.
- Before replacing parts or components, follow the instructions described in the troubleshooting.
- When servicing, always keep proper footing.
- When servicing, be sure to turn the breaker OFF or unplug the power supply cord. Pay sufficient attention to avoid electric shock or injury.
- Avoid application of abnormal voltage.
- Pay attention not to drop the parts or components.
- When the tightening torque for assembling is specified, be sure to tighten to the specified tightening torque.
- After connecting the lead wires, make sure that they are securely connected.
- After completing repairs, check that the product operates properly.

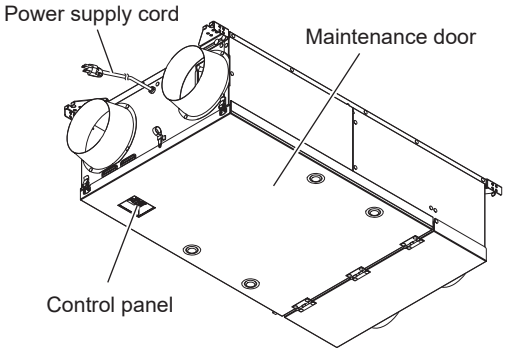
∗ **Always wear a pair of gloves when servicing.**

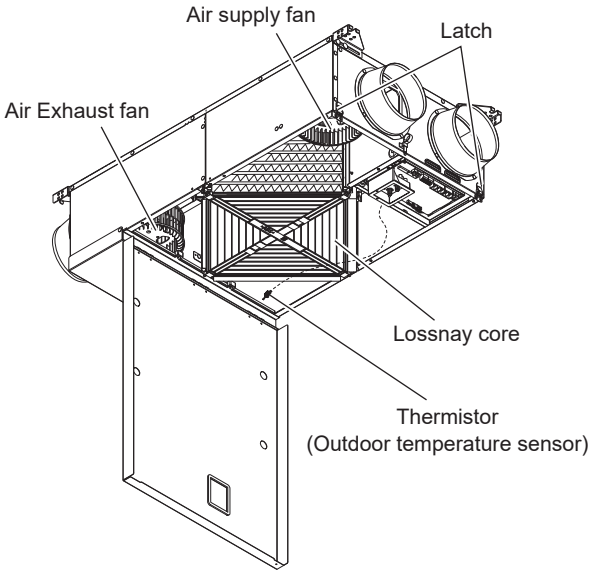
<Maintenance stand-by operation>

When Lossnay operates in cold region operation, condensation or ice may form inside the unit.
When opening the maintenance door to disassemble the unit, be careful of falling water or ice.
When Maintenance Stand-by operation is started by pressing the Maintenance switch on the control panel, only the exhaust fan operates to defrost and dry the inside of the unit. (The unit automatically returns to normal operation after 3 hours.) Use this function as required, depending on the amount of condensation or ice inside the unit.
For details of the control panel, see [5] Control panel (page 15).

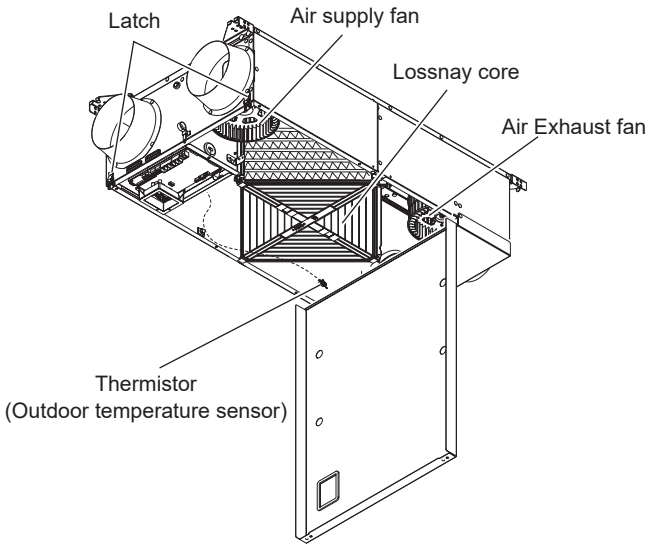
<External and internal view of the product>







LGH-F110MXL-E



LGH-F110MXR-E

Note: The following procedure is described for **LGH-F110MXL-E**. For **LGH-F110MXR-E**, the components are arranged in the opposite orientation; however, the disassembly and reassembly procedures are the same.

(1) Turning the power off

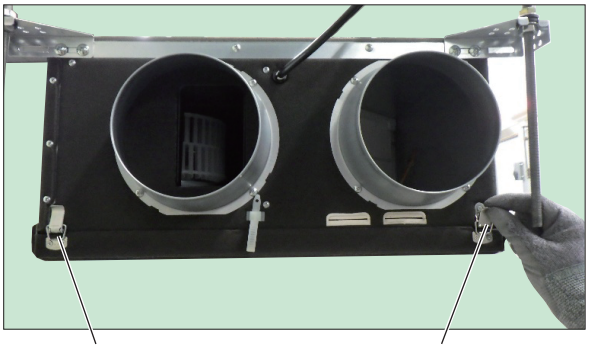
[1] Shut down the unit.

[2] Turn the breaker OFF or unplug the power supply cord.

Precaution
When servicing, power supply to M-NET must be turned off. Live-line working may cause a circuit board failure.

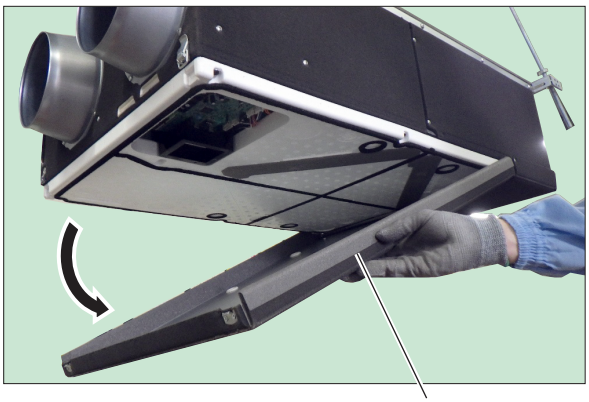
(2) Filters

[1] Release the two latches.



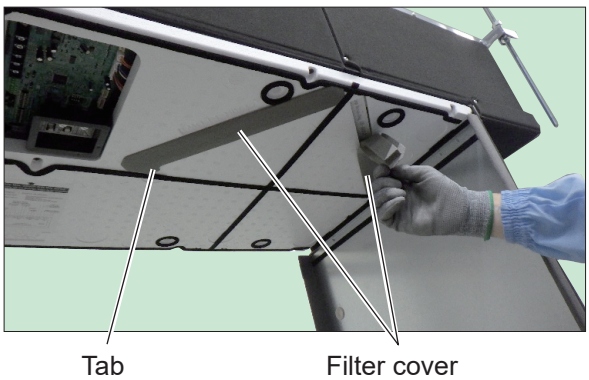
[2] Open the maintenance door.

Precaution
Do not apply excessive force to the maintenance door or hang from it.



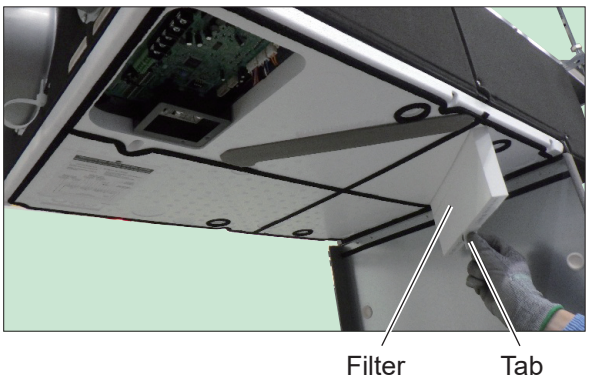
[3] Pinch the tab to remove the filter covers from the filter maintenance port.

Precaution
Be careful when removing the filter covers while the Lossnay unit is in a horizontal position, as the filters may fall.



[4] Pinch the tab to remove the filters from the unit.

Precaution
- **Pinch the tab to remove or attach the filters.**
- **Dust may fall when removing the filter covers or filters.**



(3) Lossnay core

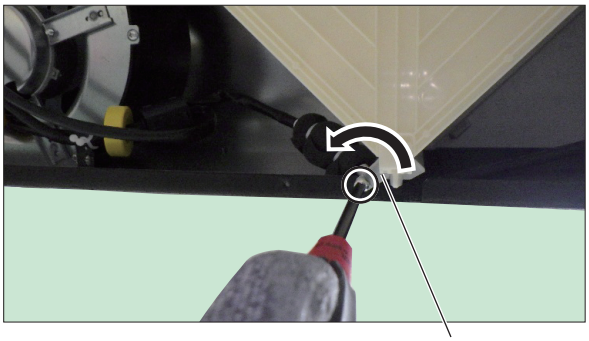
[1] Remove the filters. → See (2) Filters [1] to [4].

[2] Unscrew the black screws (nine special screws, indicated by ○ and △) to remove the inner EPS cover.

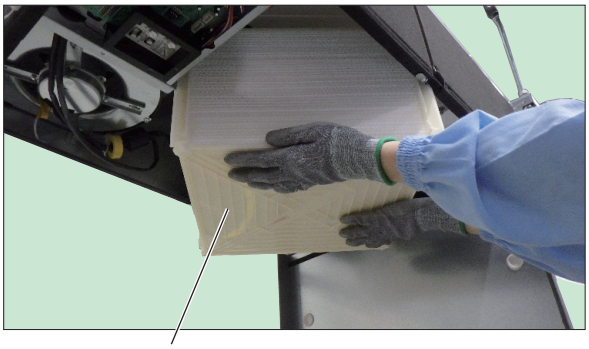
Precaution
Be sure to unscrew the screw indicated by △ last.

[3] Loosen the screw (one PTT screw 4x8, indicated by ○), and turn the fix piece in the direction of the arrow.

Note: Turn the other fix piece in the same way.



[4] Draw the Lossnay core out from the main unit.



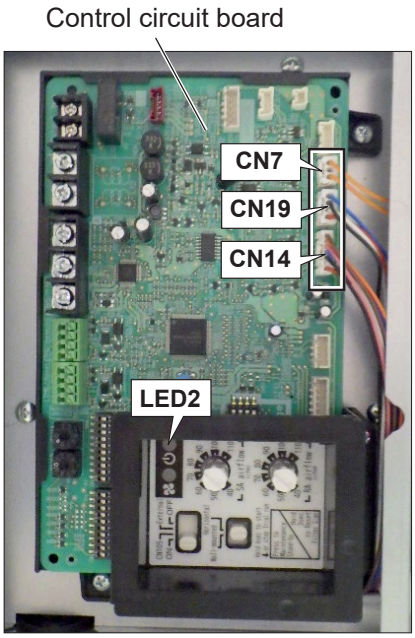
(4) Fan parts

[1] Remove the filters. → See (2) Filters [1] to [4].

[2] Remove the inner EPS cover. → See (3) Lossnay core [2].

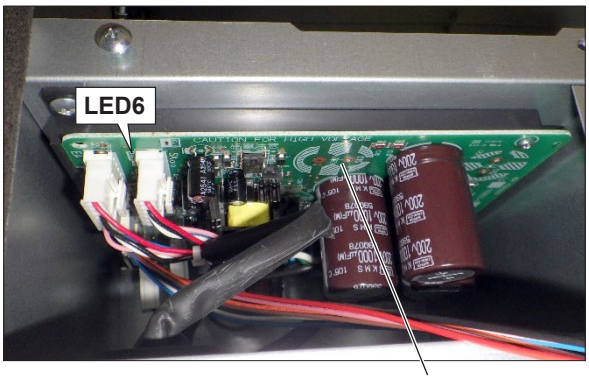
[3] Remove the Lossnay core. → See (3) Lossnay core [3] to [4].

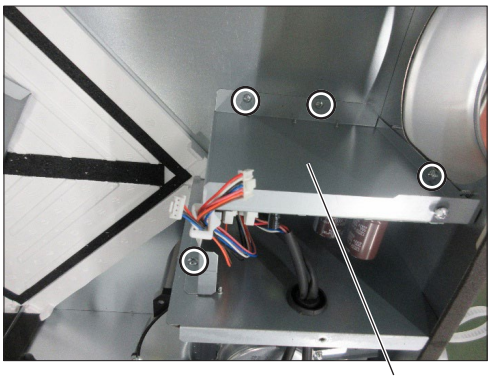
[4] Check that LED2 (red) on the control circuit board is OFF, and then disconnect the connectors (indicated by □) from the control circuit board.



[5] Unscrew the screws (three PTT screws 4×8, indicated by ○), and remove the sub control base.

[6] Check that LED6 (red) on the power circuit board is OFF.
Unscrew the screws (four PTT screws 4×6, indicated by ○), and shift the control base.

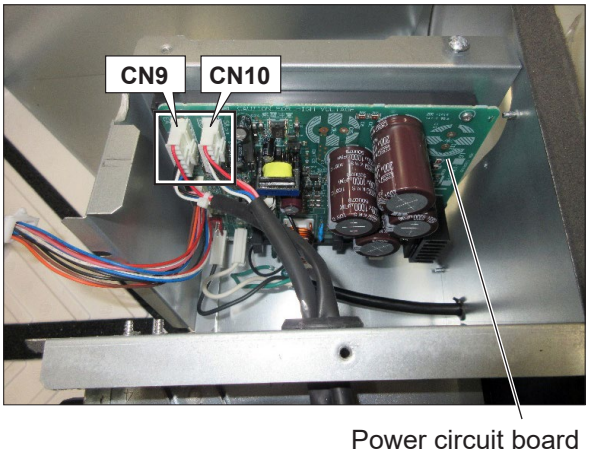




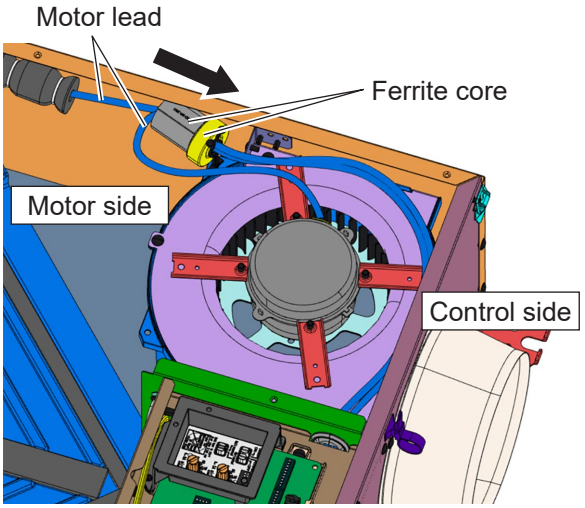
[7] Disconnect the motor connectors CN9 and CN10 (indicated by □) from the power circuit board.

Precaution
When disconnecting the motor connectors, make sure that the power supply is turned off and all LEDs are unlit. Even when the fan motor is stopped, disconnecting the live-line connectors will cause a motor malfunction.

Assembly precaution
After connecting the motor connectors (CN9 and CN10), check the wiring inside the main unit.



Assembly precaution
Align the directions of the two motor leads and pass them through the ferrite cores.

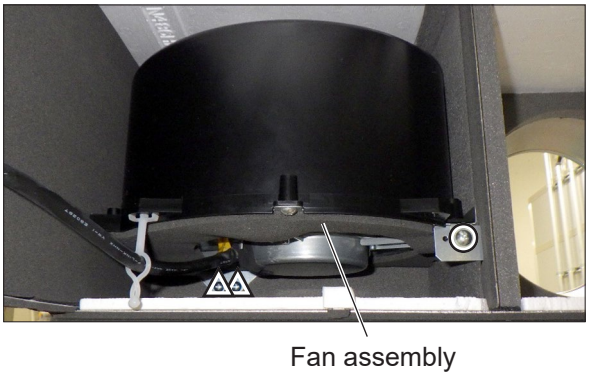


[8] Unscrew the screws (three PTT screws 4×8, indicated by ○ and △), and remove the fan assembly.

Notes:
- Remove the other fan assembly in the same way.
- A screwdriver at least 11.8 in. (300 mm) long is required to unscrew the screw indicated by △.

Precaution
When taking out fan assembly, hold the DC motor or motor leg.
Do not hold the centrifugal fan.

Assembly precaution
When attaching the centrifugal fan, tighten the special nut to the tightening torque of 2.3±0.2 N·m.



(5) Power supply cord

[1] Remove the filters. → See (2) Filters [1] to [4].

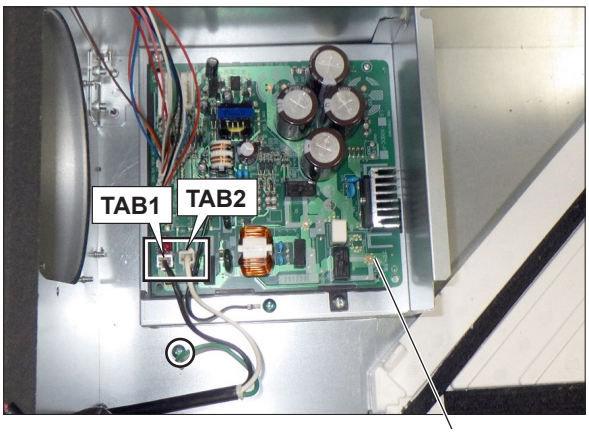
[2] Remove the inner EPS cover. → See (3) Lossnay core [2].

[3] Remove the Lossnay core. → See (3) Lossnay core [3] to [4].

[4] Remove the sub control base. → See (4) Fan parts [4] to [5].

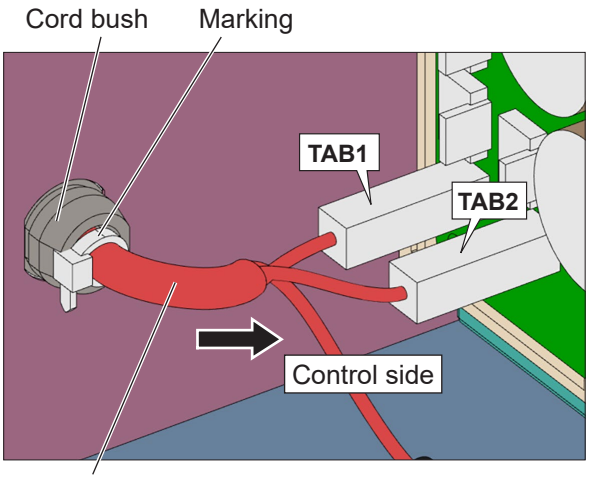
[5] Shift the control base and disconnect the motor connectors. → See (4) Fan parts [6] to [7].

[6] Disconnect the connectors (indicated by □), unscrew the screw (one green PT screw 4x6, indicated by ○), and remove the power supply cord.



Power circuit board

Assembly precaution
After connecting the connectors (TAB1 and TAB2), check the wiring inside the main unit.
Align the marking on the power supply cord with the cord bush.



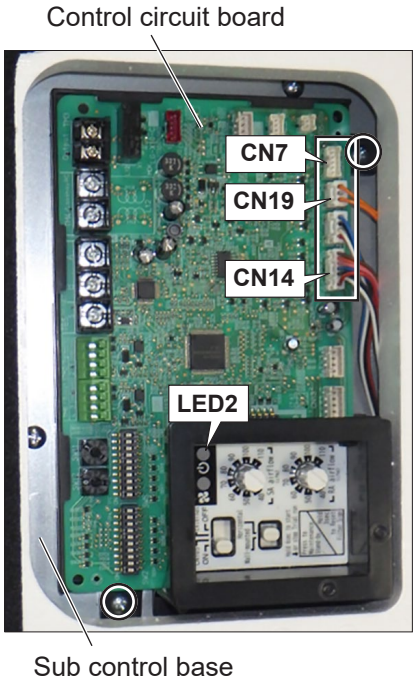
Power supply cord

(6) Control circuit board

Precaution
Before replacing the circuit boards, see (9) Procedures for replacing the circuit boards (page 32)

[1] Check that LED2 (red) on the control circuit board is OFF, and then disconnect the connectors (indicated by □) from the control circuit board.

[2] Unscrew the screws (two PT screws 4x8, indicated by ○), and remove the control circuit board from the sub control base.



(7) Power circuit board

Precaution
Before replacing the circuit boards, see (9) Procedures for replacing the circuit boards (page 32)

[1] Remove the filters. → See (2) Filters [1] to [4].

[2] Remove the inner EPS cover. → See (3) Lossnay core [2].

[3] Remove the Lossnay core. → See (3) Lossnay core [3] to [4].

[4] Remove the sub control base. → See (4) Fan parts [4] to [5].

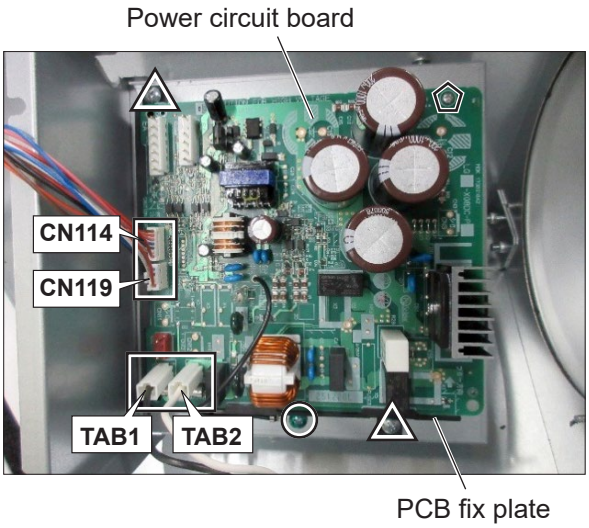
[5] Shift the control base and disconnect the motor connectors. → See (4) Fan parts [6] to [7].

[6] Disconnect the connectors (indicated by □).

[7] Unscrew the screw (one green PT screw 4x6, indicated by ○).

[8] Unscrew the screws (two PT screws 4×8, indicated by △).

[9] Unscrew the screw (one PPT screw 3x8, indicated by ⬠), and remove the power circuit board from the PCB fix plate.

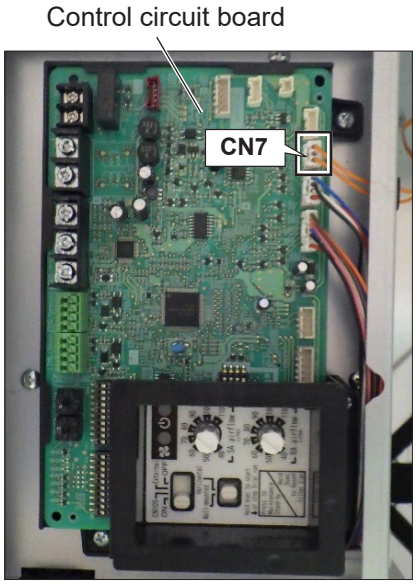


(8) Thermistor

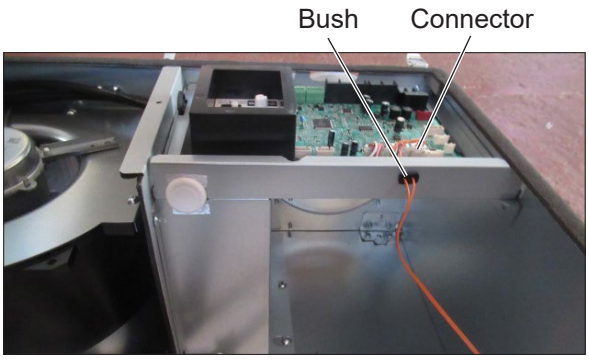
[1] Remove the filters. → See (2) Filters [1] to [4].

[2] Remove the Lossnay core. → See (3) Lossnay core [1] to [4].

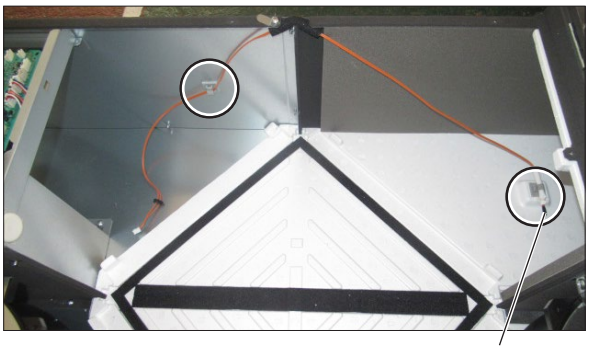
[3] Disconnect the connector (indicated by □) from the control circuit board.



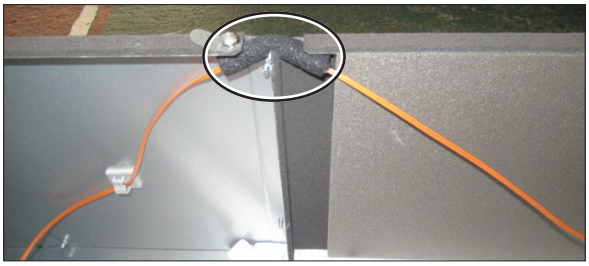
[4] Remove the bushing from the sub control base, and pull the connector out through the bushing hole.



[5] Open the cord clips (indicated by ○), and remove the thermistor leads.



Assembly precaution
When routing the thermistor leads, pass them through the casing slit as shown in the photo.

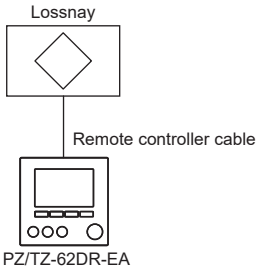


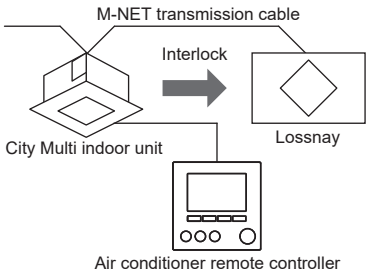
✻ When reassembling

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

(9) Procedures for replacing the circuit boards

Notes
- Before removing the circuit boards for replacement, check the following Steps 1 to 3.
- When the Lossnay remote controller PZ/TZ-62DR-EA is connected, be sure to replace the circuit boards as described in the Steps.

<table>
<tr><th>Step</th><th>Details</th><th colspan="2">Check item</th></tr>
<tr><td rowspan="5">1</td><td colspan="3">Check the system configuration.</td></tr>
<tr><td>Check whether PZ/TZ-62DR-EA is connected to the circuit board to be replaced.</td><td>PZ/TZ-62DR-EA connection</td><td></td></tr>
<tr><td>The following describes the settings required when replacing the circuit boards for each system configuration.
Check which system configuration is applicable, and then replace the circuit boards.</td><td>System Configuration</td><td></td></tr>
<tr><td>(A)
 

[1] Setting of the function selection switches on the circuit board
[2] Setting of the PZ/TZ-62DR-EA functions
[3] Address setting (when M-NET is used)
➡ Go to Steps 2 and 3.</td><td colspan="2"></td></tr>
<tr><td>(B)
 

[1] Setting of the function selection switches on the circuit board
[2] Address setting
➡ Go to Steps 2 and 4.</td><td colspan="2"></td></tr>
<tr><td>2</td><td colspan="3">Check the settings on the control panel.</td></tr>
<tr><td></td><td>• Operation mode selection
• Installation direction selection
• Airflow selection switch</td><td>Setting status record</td><td></td></tr>
<tr><td>3</td><td colspan="3">Check the settings on PZ/TZ-62DR-EA.</td></tr>
<tr><td></td><td>Regarding the settings on PZ/TZ-62DR-EA, prepare the data recorded at the time of installation (setting status record, etc.).

In the case there is no data recorded at the time of installation, and if the Lossnay unit can be operated with PZ/TZ-62DR-EA, use the form in “(11) Setting status record (page 35)” to record the settings on PZ/TZ-62DR-EA.
To check the settings on PZ/TZ-62DR-EA, see the Lossnay Operating/Installation Instructions or PZ/TZ-62DR-EA Instruction Book.
• On the function setting screen of PZ/TZ-62DR-EA, display the M-NET address of the Lossnay unit for which you wish to check the settings.
• The address can be checked by the address setting switches (SW11 and SW12) on the Lossnay circuit board.</td><td>Setting status record</td><td></td></tr>
</table>

<table>
<tr><th>Step</th><th>Details</th><th colspan="2">Check item</th></tr>
<tr><td>4</td><td colspan="3">Setting status record of the address setting switches and function selection switches on the circuit board</td></tr>
<tr><td></td><td>Using the form in “(11) Setting status record (page 35)”, record setting statuses necessary for replacing the circuit board.
Open the maintenance door, and check the setting status of each switch on the circuit board.
If the function setting statuses were recorded at the time of installation, this step can be skipped.
[1] Address setting (SW11 and SW12)
[2] Function selection switches (SW2, SW5) and model selection switch (SW6) setting
[3] External input (as necessary, record the connection status)</td><td>Setting status record</td><td></td></tr>
<tr><td>5</td><td colspan="3">Removing the circuit boards</td></tr>
<tr><td></td><td colspan="3">• For the working precautions, see “■ Work precautions (page 24)”.
• For removing the circuit boards, see “(6) Control circuit board (page 30)” and “(7) Power circuit board (page 30)”.</td></tr>
<tr><td>6</td><td colspan="3">Attaching the circuit boards</td></tr>
<tr><td></td><td>[1] According to the function status record data prepared in Step 4, set the address setting switches, function selection switches, and model selection switch of the new circuit board.
a. Address setting (SW11 and SW12)
b. Function selection switches (SW2, SW5) and model selection switch (SW6) setting</td><td>Address setting
Function setting
Model selection</td><td></td></tr>
<tr><td></td><td>[2] Attach the power circuit board in the reverse order of the steps for removing.
Be sure to connect the connectors listed in the following table.
<table>
<tr><th>Connector</th><th>Symbol on the circuit board</th><th>Check</th></tr>
<tr><td>For power supply cord connection</td><td>TAB1, TAB2</td><td></td></tr>
<tr><td>For exhaust fan motor connection</td><td>CN9</td><td></td></tr>
<tr><td>For supply fan motor connection</td><td>CN10</td><td></td></tr>
<tr><td>For control circuit board connection</td><td>CN114, CN119</td><td></td></tr>
</table></td><td>Circuit board fixing screw (1 pc.)
PCB fix plate fixing screw (2 pc.)
Earth fixing screw (1 pc.)</td><td></td></tr>
<tr><td></td><td>[3] Attach the control circuit board in the reverse order of the steps for removing, and then connect the connectors, remote controller transmission cable, M-NET transmission cable, and external signal cable, etc.
Be sure to connect the connectors or terminals listed in the following table.
(Connect PZ/TZ-62DR-EA transmission cable terminal, M-NET transmission cable terminal, and connector/terminal for external signal cable only when they are used.)
<table>
<tr><th>Connector and terminal</th><th>Symbol on the circuit board</th><th>Check</th></tr>
<tr><td>For thermistor connection (outdoor temperature (OA))</td><td>CN7</td><td></td></tr>
<tr><td>For power circuit board connection</td><td>CN14, CN19</td><td></td></tr>
<tr><td>PZ/TZ-62DR-EA transmission cable terminal</td><td>TM4</td><td></td></tr>
<tr><td>M-NET transmission cable terminal</td><td>TB5 [A] [B]</td><td></td></tr>
<tr><td>For external signal cable connection</td><td>TM2, TM3, TM6, CN23, CN26, CN34, CN35</td><td></td></tr>
</table></td><td>PCB fix plate fixing screw (2 pcs.)
Connector connection
PZ/TZ-62DR-EA transmis-sion cable connection
M-NET trans-mission cable connection
External sig-nal cable connection</td><td></td></tr>
<tr><td></td><td>[4] Close the maintenance door.</td><td></td><td></td></tr>
</table>

Step	Details	Check item	
7	Function setting with PZ/TZ-62DR-EA		
	When PZ/TZ-62DR-EA is connected, according to the function status record data prepared in Step 3, set the function settings with PZ/TZ-62DR-EA. If PZ/TZ-62DR-EA is not connected, skip this step and proceed to Step 8. To perform function settings with PZ/TZ-62DR-EA, see the Lossnay Operating/ Installation Instructions or PZ/TZ-62DR-EA Instruction Book. Note: • When changing the settings of the function selection switches and address setting switches on the circuit board after the functions were set with PZ/ TZ-62DR-EA, reset the function settings according to “(10) Initialization (page 34)”. After resetting the function settings, perform the function settings again in the order of Step 6 [1] and Step 7. • If you change the M-NET address after the functions were set with PZ/ TZ-62DR-EA, the settings with PZ/TZ-62DR-EA will be reset. In this case, set the functions again with PZ/TZ-62DR-EA.	Address setting	
		Function setting	
8	Restarting the system		
	Turn the power back on to the Lossnay unit which the circuit boards have been replaced, or when using M-NET, turn the power back on to the power supply unit connected to the Lossnay unit. In trial operation, make sure that the Lossnay unit with replaced circuit boards operates properly, and finish replacement work.	Trial operation	

(10) Initialization

Set to initialize the remote controller PZ/TZ-62DR-EA function setting.
All function settings which are changed by users are cancelled.

DIP-SW		Setting check	PZ/TZ-62DR-EA		Setting check	Initialization
SW No.	Setting		Function No.	Setting Data		
N/A	-	-	100	0		N/A
	-	-		1		Available

(11) Setting status record

[1] Basic information

Date:

Installation location:		
Model name: LGH- F110MX (L · R) -E		
Serial number on the nameplate (eight-digit):		
Address setting:		
Lot number marked on the circuit board:		
Microcomputer software version marked on the circuit board:		
Lossnay remote controller: (Used · Not used)	Model name: (PZ-62DR-EA · TZ-62DR-EA)	
Interlocking with City Multi: (Set · Not set)	Model name:	M-NET address:
Interlocking with Mitsubishi air conditioner (P-series, M-series via CN2L): (Set · Not set)	Model name:	
Centralized controller: (Used · Not used)	Model name:	
CO_2 sensor: (Used · Not used)	Model name: (PZ-70CSW-E · PZ-70CSD-E · Third-party CO_2 sensor)	

[2] Function selection switches

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

SW2	ON	OFF
1	☐	☐
2	☐	☐
3	☐	☐
4	☐	☐
5	☐	☐
6	☐	☐
7	☐	☐
8	☐	☐
9	☐	☐
10	☐	☐

SW5	ON	OFF
1	☐	☐
2	☐	☐
3	☐	☐
4	☐	☐
5	☐	☐
6	☐	☐
7	☐	☐
8	☐	☐
9	☐	☐
10	☐	☐

: Factory setting

Model selection switch

SW6	ON	OFF
1	☐	☐
2	☐	☐
3	☐	☐
4	☐	☐

Model	SW6-1	SW6-2	SW6-3	SW6-4
LGH-F110MXL-E	ON	OFF	OFF	OFF
LGH-F110MXR-E	ON	OFF	OFF	OFF

: Factory setting

[3] Control panel

Operation mode selection: (OFF · External · CN105 · ON)
Installation direction selection: (Horizontal · Wall-mounted)
Airflow selection switch (SA): (40 · 50 · 60 · 70 · 80 · 90 · 100 · 110)
Airflow selection switch (RA): (40 · 50 · 60 · 70 · 80 · 90 · 100 · 110)

[4] Function settings

Enter the setting data of the functions set with PZ/TZ-62DR-EA.

Function No.	Setting data
1	(0)
5	(0)
12	(0)
17	(0)
29	(0)
36	(1)
38	(1)
42	(7)

Function No.	Setting data
44	(5)
57	(0)
58	(0)
59	(0)
60	(0)
61	(0)
62	(0)
63	(0)

Function No.	Setting data
66	(0)
67	(2)
68	(5)
79	(0)
80	(0)
83	(10)
84	(10)
89	(4)

Function No.	Setting data
90	(0)
91	(1)
92	(1)
93	(5)
100	(0)

( ) : Factory setting

[5] External input/output

Enter the usage of the external input/output on the control circuit board.

Terminal or connector on the circuit board	Function Name	Used	Not used	Connected device
TM2 [1] [2]	ON/OFF input	☐	☐	
TM2 [12 V/24 V]	ON/OFF input	☐	☐	
TM3	Signal output	☐	☐	
TM6 [3] [4]	Boost input	☐	☐	
TM6 [12 V/24 V]	Boost input	☐	☐	
CN23	CO_2 sensor power supply output	☐	☐	
CN26	CO_2 sensor signal input	☐	☐	
CN34	CO_2 sensor display output	☐	☐	
CN35	CO_2 sensor error input	☐	☐	