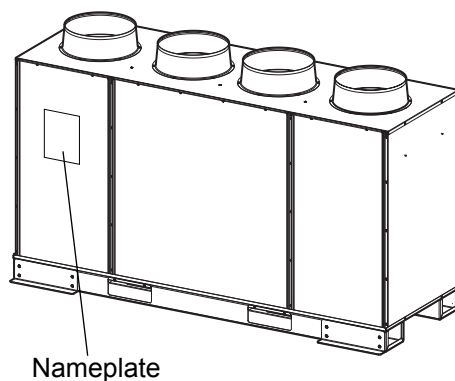


LOSSNAY

HANDBOOK

Model: LGF-100GX-E



Remote controller (Parts number is not set.)

Model: PZ-60DR-E

Filter

Model: PZ-100GF-E (Pre-filter)
PZ-100GFM-E (High efficiency filter)

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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1. Safety precautions

- Be sure to 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</p> <p>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>  <p>Caution against electric shock</p>		<p>◇ Turn off the power supply</p> <p>Be sure to shut off the earth leakage breaker before disassembling the unit for repair.</p> <p>(Failure to heed this warning may result in electric shock.)</p>  <p>Be sure to follow this instruction.</p>	
<p>◇ Modification is prohibited</p> <p>Do not modify the unit.</p> <p>(Failure to heed this warning may result in electric shock, fire and/or bodily injury.)</p>  <p>Prohibited</p>		<p>◇ Use proper parts and tools</p> <p>For repair, be sure to use the parts listed in the service parts list of the applicable model and use the proper tools.</p> <p>(Failure to heed this warning may result in electric shock, fire and/or bodily injury.)</p>  <p>Be sure to follow this instruction.</p>	
<p>◇ Proper electric work</p> <p>Use the electric wires designated for electric work, and conduct electric work in accordance with the "Electric Installation Engineering Standard", the "Indoor Wiring Regulations", and the Installation Work Guide.</p> <p>(Incomplete connection or wiring installation may result in electric shock and/or fire.)</p>  <p>Be sure to follow this instruction.</p>		<p>◇ Replace damaged and/or degraded parts</p> <p>Be sure to replace the power-supply cord and lead wire in the event that they are damaged and/or degraded.</p> <p>(Failure to heed this warning may result in electric shock and/or fire.)</p>  <p>Be sure to follow this instruction.</p>	
		<p>◇ Check insulation</p> <p>Be sure to measure the insulation resistance once the repair work is complete, and turn on the power supply after verifying that an insulation resistance of at least 10MΩ is obtained.</p> <p>(If an insulation problem exists, it may result in electric shock.)</p>  <p>Be sure to follow this instruction.</p>	

 Caution		Incorrect handling of the product may result in serious injury or damage to properties including buildings and equipment.	
<p>◇ Caution for bodily injury</p> <p>Do not work at a location where you do not have a sure footing.</p> <p>(Failure to heed this caution may result in a fall.)</p>  <p>Prohibited</p>		<p>◇ Wear gloves</p> <p>Wear gloves when servicing.</p> <p>(Failure to heed this caution may result in injury to your hands from sharp metal or other edges.)</p>  <p>Be sure to follow this instruction.</p>	

Request for repair

- Inspect the grounding, and repair it if it is incomplete. Make sure that an earth leakage breaker or an overload protection device is installed. If it is not installed, recommend the dealer 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.

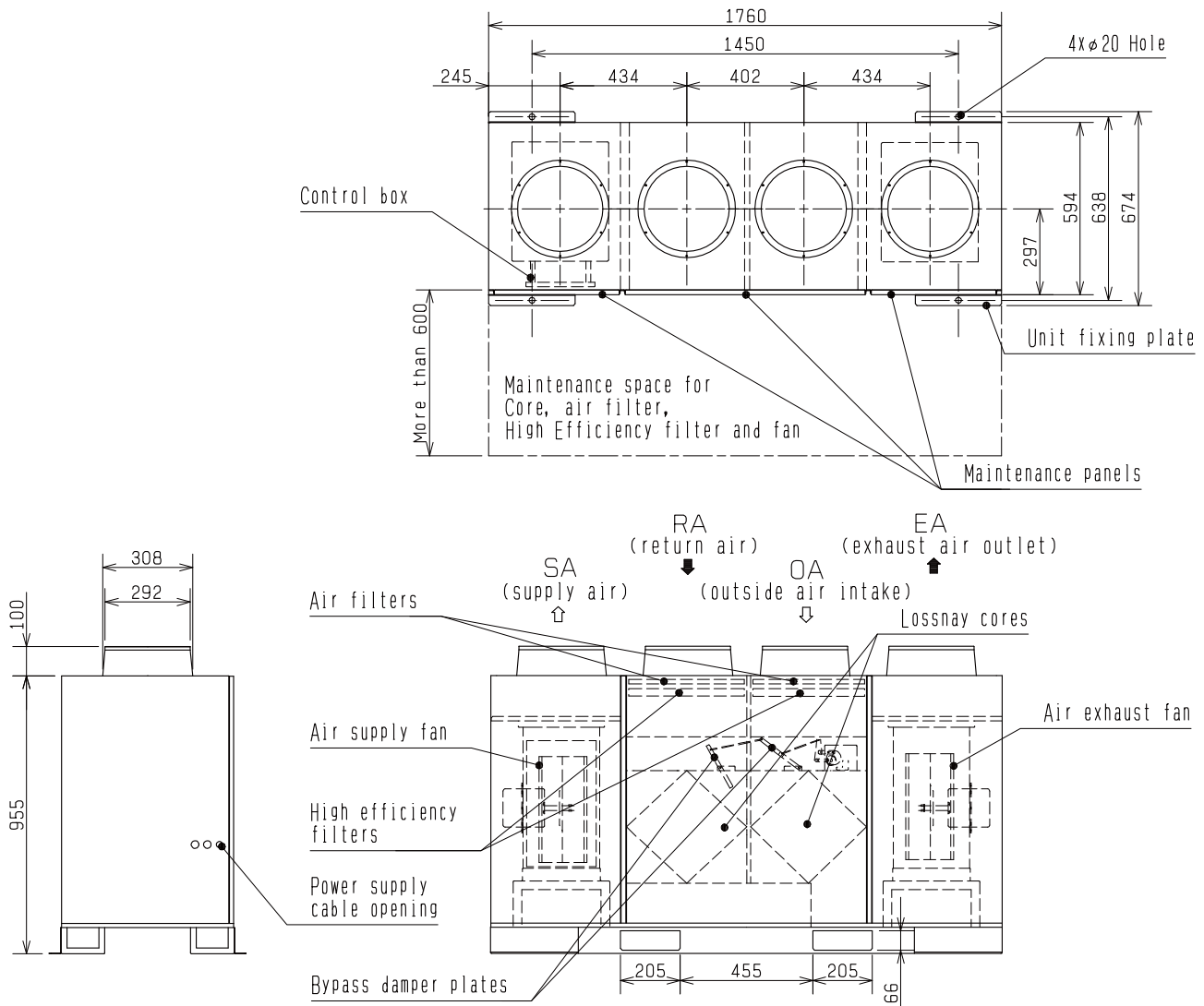
2. Specifications

MODEL	LGF-100GX-E					
Heat exchange system	Air-to-air total heat exchange(sensible heat + latent heat exchange)					
Heat exchange core material	Partition-spacing plate-special treated paper					
Cladding	Galvanized steel sheet					
Heat insulating material	Self-extinguishing urethane foam					
Motor	Totally enclosed capacitor permanent split-phase induction motor.4 poles,2 units					
Blower	280mm dia. Centrifugal fan					
Filter material	Non-woven fabrics filter (AFI Gravitational method 82%) Polyester, Polyolefin (ASHRAE Colorimetric method 65%, EU-F7)					
Applicable air condition of setting environment	The setting air condition shall be between -10℃ to 40℃, 80%RH or less.					
Applicable air condition range of outdoor and indoor	OA temperature shall be -15℃ to +40℃, 80%RH, or less,with general air conditioning room environment.					
Functions	Lossnay ventilation/Bypass ventilation High(Extra high)-Low switching					
Weight	164kg					
Frequency/ Power source	50Hz/Single phase 230V					
Ventilation mode	Lossnay ventilation			Bypass ventilation		
Fan speed	Extra high	High	Low	Extra high	High	Low
Current (A)	4.20	3.50	3.45	4.35	3.75	3.70
Power consumption (W)	922	790	785	960	845	840
Air volume	(m ³ /h)	995	995	890	995	995
	(L/s)	276	276	247	276	276
External static pressure	(mmH ₂ O)	20.4	15.3	12.1	20.4	15.3
	(Pa)	200	150	119	200	150
Temperature exchange efficiency (%)		80	80	81	-	-
Enthalpy exchange efficiency (%)	Heating	72.5	72.5	74	-	-
	Cooling	71	71	72	-	-
Noise (dB)		49	47	44	51	49
	Measured at 1.0m away from the unit in an anechoic chamber					
Starting current	Under 19.1A less					
Insulation resistance	10MΩ or more (500V megger)					
Dielectric strength	AC 1500V 1 minute					

Model	PZ-60DR-E
Power supply requirement	10 to 15V DC(Supplied from Lossnay unit)
Control signal	Serial signal communication
Transmission cable	Non polarized 2-wire PVC $\phi 0.65 \sim \phi 1.2$ or $0.3 \sim 1.25\text{mm}^2$
Total wiring length	500m maximum
Number of controllable Lossnay units	15 Lossnay units maximum (Max 2 remote controllers installable)
Environmental condition	Temperature:0 to 40℃ Humidity:30% to 80% relative humidity (no condensation)
Weight	0.2kg
Color	Munsell 6.4Y8.9/0.4

3. Outside dimensions

LGF-100GX-E



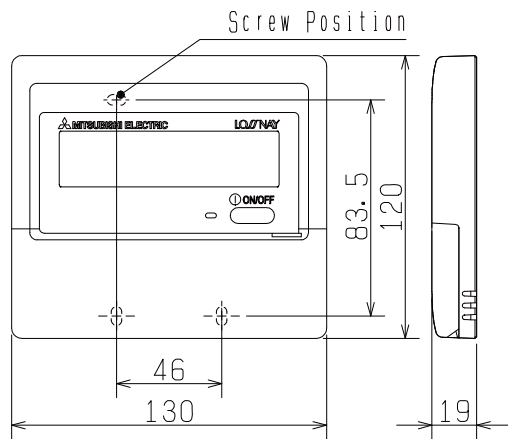
■ Attention

1. When using the product where it is exposed to high temperatures and humidity (40°C or higher, RH 80% or higher), or where fog occurs frequently, moisture is likely to condense in the core, and may result in condensation build up in the unit. The product should not be used under such conditions.
2. Outdoor air may enter the Lossnay owing to the pressure difference between indoor and outdoor or external winds even when the product is not operated. It is recommended to install an Electrically operated damper to block the outdoor air.
3. In a cold weather area, an area with strong external winds or where fog occurs frequently, cold outdoor air, external winds or fog may be introduced into the product when its operation is stopped. It is recommended to install an Electrically operated damper.
4. In a cold weather area, or others, dewing or freezing could occur on the main unit, where the duct is connected, or other sections, depending on the conditions of outdoor air and indoor temperature and moisture, even if they are within the range of operating conditions. Make sure to confirm the operating conditions and other precautions, and do not use the product if dewing or freezing is anticipated.
5. The outside ducts must be tilted at a gradient (1/30 or more) down toward the outdoor louvres from Lossnay, and properly insulated. The entry of rain water may cause power leakage, fire, or damage to household property.
6. The two outdoor ducts must be covered with heat-insulating material in order to prevent condensation from forming. If it is expected that the ambient temperature around the place where the Lossnay unit is installed will be high during the summer air conditioning season, it is recommended that the indoor ductwork be covered with insulation material.

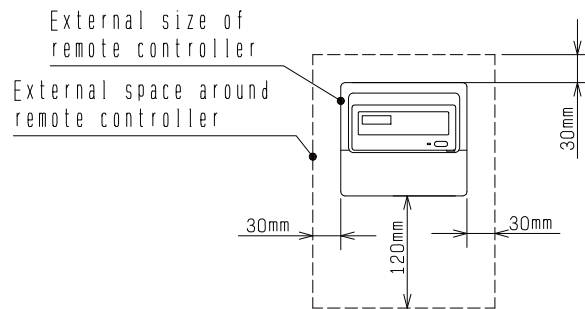
※Specifications may be subject to change without notice.

Unit (mm)

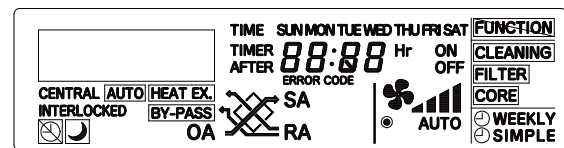
PZ-60DR-E



Install Position



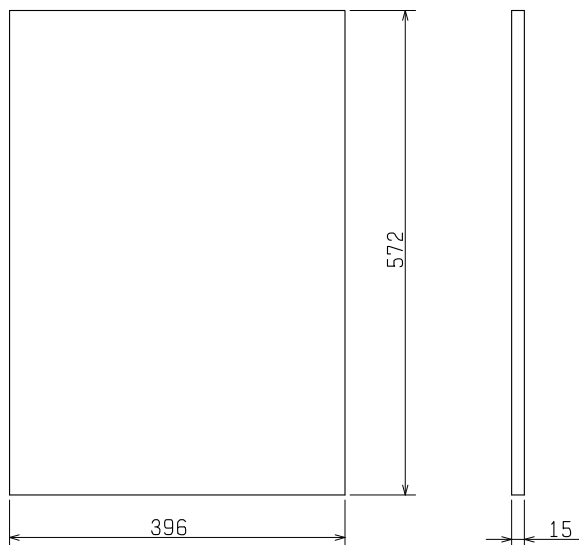
Display



- (1) Non polar transmission cable should be used (PVC insulated PVC jacketed and either between $\phi 0.65$ and $\phi 1.2$ or between 0.3mm^2 and 1.25mm^2 in cross section)
- (2) The total length of the transmission cable must be 500m or less.

Unit (mm)

PZ-100GF-E

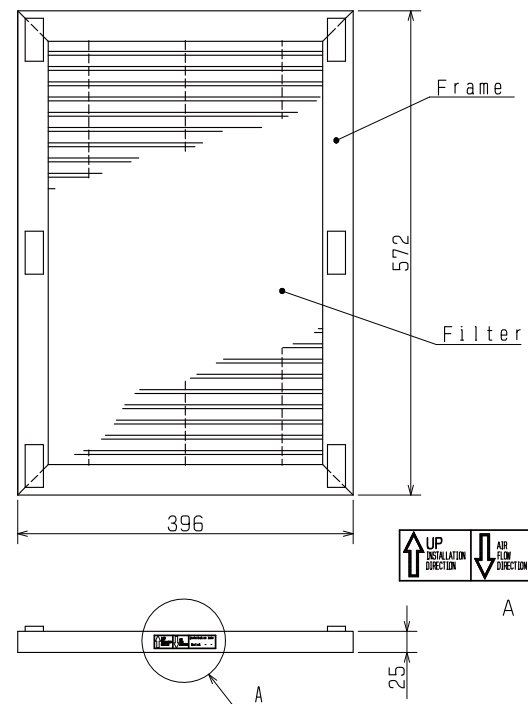


Note

1. This filter is for Energy Recovery Ventilator Lossnay.
Applicable Lossnay model : LGF-100GX-E
2. Number of filters per set : 2 (One for supply, one for exhaust)
3. Efficiency : AFI Gravitational method 82%
4. Material : Non-woven fabrics

Unit (mm)

PZ-100GFM-E



Note

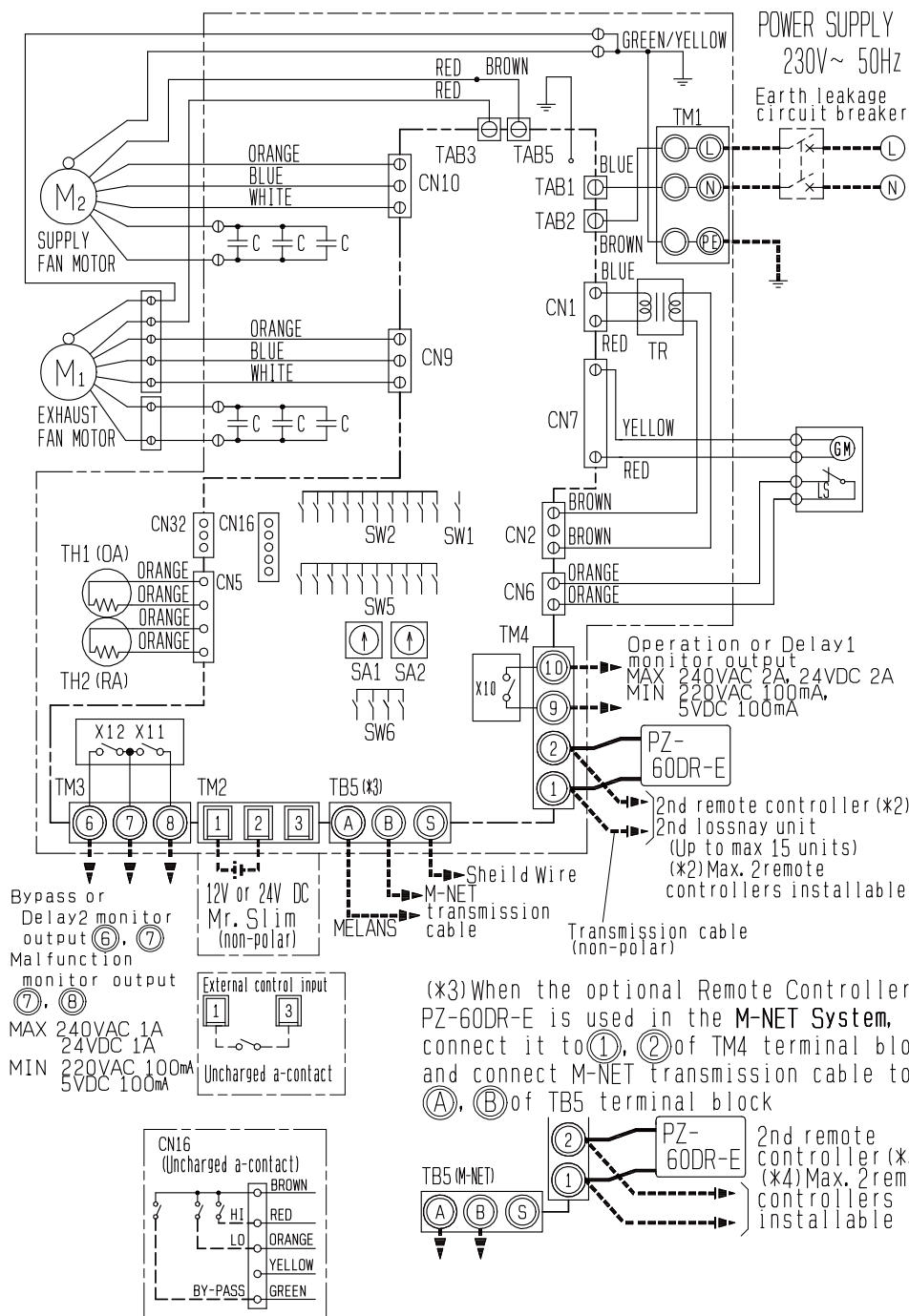
1. This filter is for Energy Recovery Ventilator Lossnay.
Applicable Lossnay model : LGF-100GX-E
2. Number of filters per set : 2 (One for supply, one for exhaust)
3. Efficiency :
F7 (EN779)
ASHRAE Colorimetric method 65%
4. Material
Frame: Vinyl chloride
Filter: Noncombustible fiber (polyester, polyolefin)

Unit (mm)

4. Electrical wiring diagram

LG F-100GX-E

- NOTE
1. Establish Connection to TM1, TM2, TM3, TM4, and TB5 shown in dotted lines at worksite.
 2. An earth leakage circuit breaker (Model name: NV63-CW 10A) should be provided by the customer.
 3. Be sure to connect the grounding wire.



■ Definition of symbols

M1 :Motor for exhaust fan
M2:Motor for supply fan
C :Capacitor
GM:Motor for Bypass movement
LS :Microswitch
TH1:Thermistor for outside air
TH2:Thermistor for return air
SW1:Switch(Main/sub change)
SW2, 5, 6:Switch(Function selection)
TM1:Terminal block(Power supply)
TM2:Terminal block
(External control input)
TM3:Terminal block(Monitor output)
TM4:Terminal block
(Transmission cable and monitor output)
TB5:Terminal block
(M-NET Transmission cable)
TAB1, TAB2:Connector(Power supply)
TR1:Control circuit transformer
X10, X11, X12 :Relay contact
CN1:Connector(Transformer primary)
CN2:Connector(Transformer secondary)
CN5:Connector(Thermistor)
CN6:Connector(Microswitch)
CN7:Connector(Motor for Bypass operation)
TAB3:Tab connector(Fan motor)
TAB5:Tab connector(Fan motor)
CN9:Connector(Fan motor)
CN10:Connector(Fan motor)
CN16:Connector(High/Low/Bypass switch)
CN32:Connector
(Remote control selection)
SA1:Address setting rotary switch
(10 digit)
SA2:Address setting rotary switch
(1 digit)

SYMBOL

⊙ □: Indicates terminal block.

① :Connector.

Ⓢ: Board insertion connector
or fastening connector
of circuit board.

Attention

With this product, the wiring installation method will vary according to the design of the system. Perform electrical installation to meet the local electrical regulations.

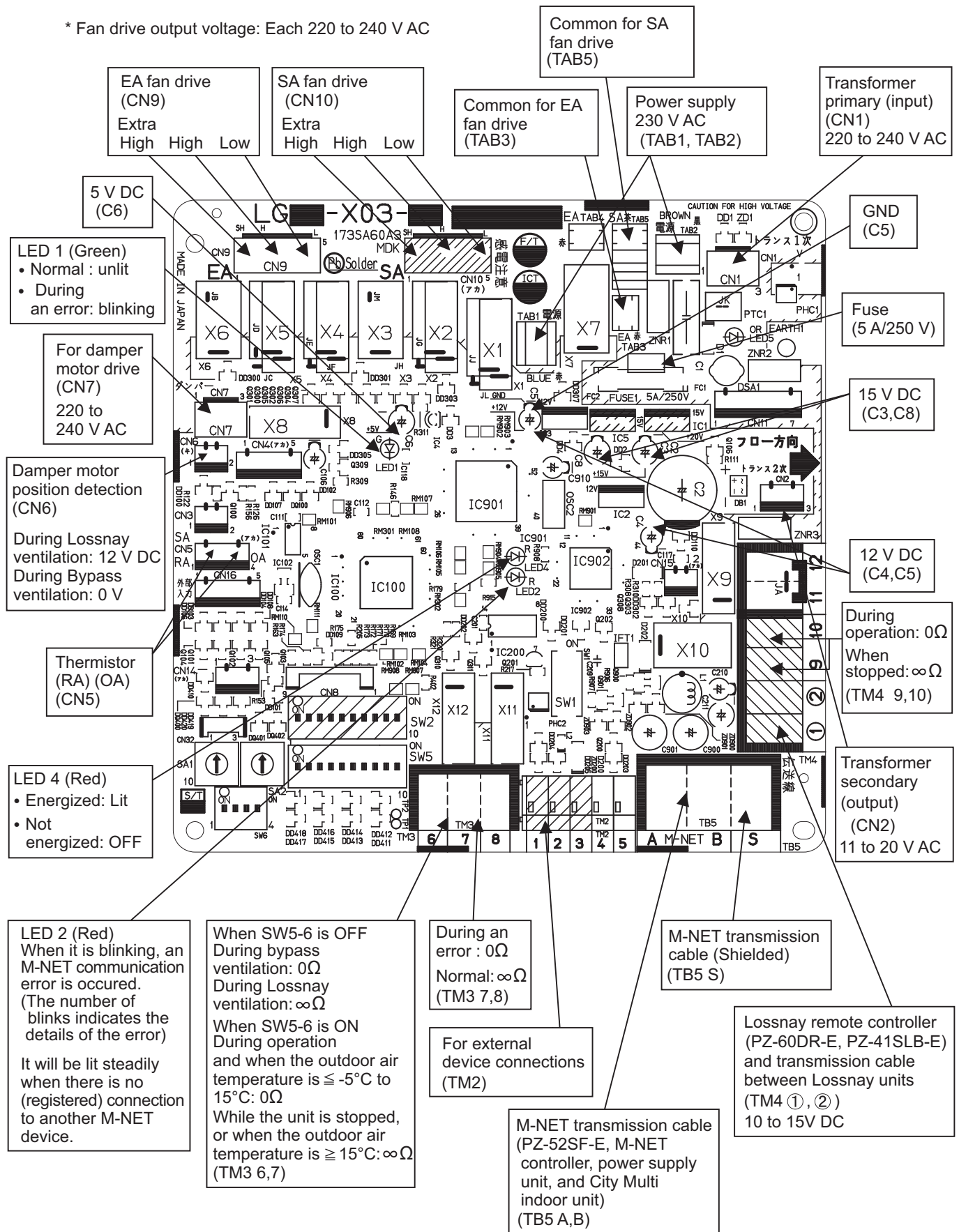
- Always use double insulated PVC cable for the transmission cables.
- Wiring work must be performed by qualified professionals.
- All supply circuits must be disconnected before obtaining access to the terminal devices.
- Do not connect an inverter for power supply.

*Specifications may be subject to change without notice.

5. Basic circuit diagram

● Circuit board diagram and check points

* Fan drive output voltage: Each 220 to 240 V AC

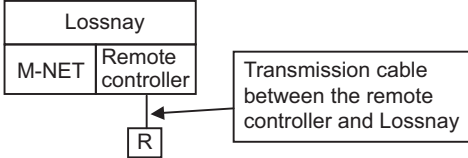
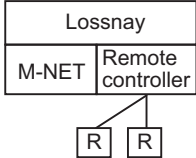
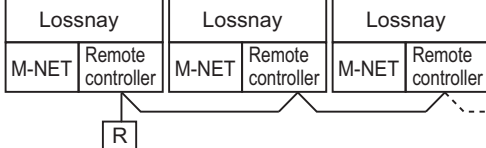
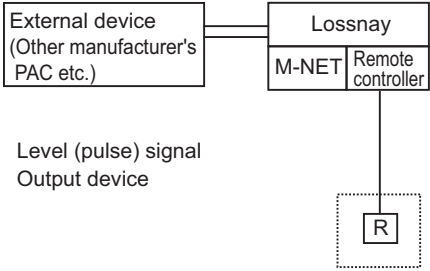
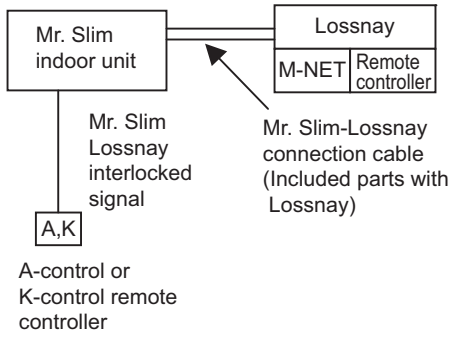


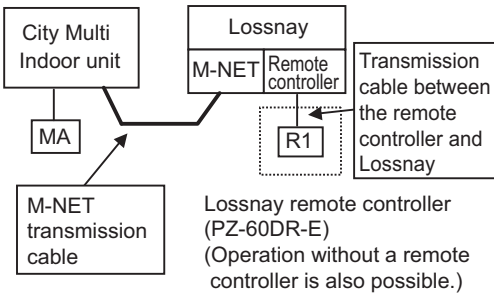
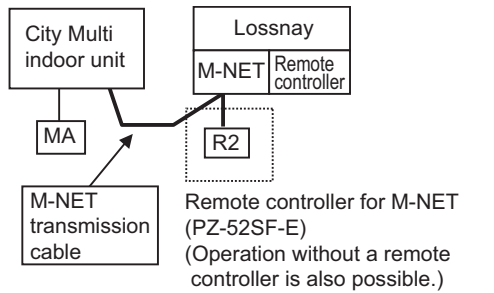
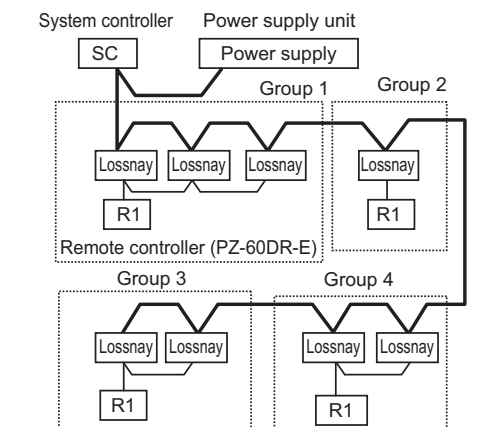
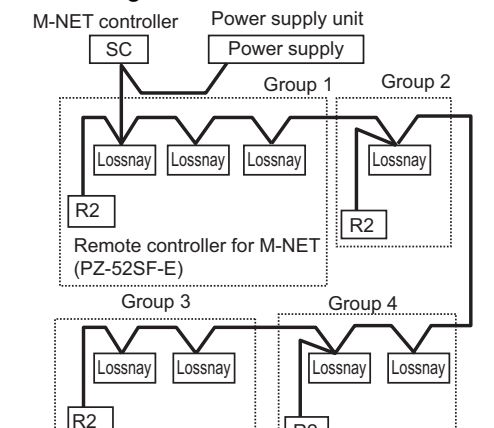
6. Fundamentals of operation

● Description of the circuit operation

(1) System Configuration

Lossnay operates through the following system.

System		System Diagram	Features	Required Parts
Classification	Details			
Basic System	Basic System 1 Lossnay unit 1 Remote controller	 <p>Remote controller : PZ-60DR-E or PZ-41SLB-E Transmission cable terminal blocks between Lossnay unit M-NET : M-NET transmission cable terminal block R : Remote controller (PZ-60DR-E or PZ-41SLB-E)</p>	<ul style="list-style-type: none"> One remote controller operates one Lossnay unit. 	Lossnay remote controller (PZ-60DR-E or PZ-41SLB-E)
	Two remote controllers system 1 Lossnay unit 2 Remote controllers		<ul style="list-style-type: none"> Two remote controllers operate one Lossnay unit. (Last touch priority operation) * PZ-60DR-E and PZ-41SLB-E cannot be used together. 	Lossnay remote controller (PZ-60DR-E or PZ-41SLB-E)
	Multiple units system Multiple Lossnay units	 <p>Remote controller (PZ-60DR-E or PZ-41SLB-E)</p>	<ul style="list-style-type: none"> A maximum of 15 Lossnay units can be operated by a single remote controller. (Group operation) All units will operate in the same mode. 	Lossnay remote controller (PZ-60DR-E or PZ-41SLB-E)
	Systems inter-locked with external devices (air conditioning units)	 <p>Level (pulse) signal Output device</p> <p>Remote controller (PZ-60DR-E or PZ-41SLB-E) (Operation without a remote controller is also possible.)</p>	<ul style="list-style-type: none"> Lossnay is started/stopped by a signal (*1) from an external device. Having a remote control permits last touch priority operation with the external device and the remote controller. A maximum of 15 Lossnay units can be operated. *1: An uncharged a-contact, 12 V DC or 24 V DC level signal, or an uncharged a-contact, 12 V DC or 24 V DC pulse signal. 	—
	Mr. Slim (A-control or K-control remote controller)	 <p>Mr. Slim-Lossnay connection cable (Included parts with Lossnay)</p> <p>Mr. Slim Lossnay interlocked signal</p> <p>A-control or K-control remote controller</p>	<ul style="list-style-type: none"> Lossnay can be started/stopped by an A-control remote controller or a K-control remote controller. Lossnay High or Low fan speed can be selected from the A-control remote controller. Lossnay stand-alone operation is permitted from the A-control remote controller. * Neither PZ-60DR-E nor PZ-41SLB-E can be used. 	—

System		System Diagram	Features	Required Parts
Classification	Details			
M-NET Control	Systems interlocked with external devices (air conditioning units) Mitsubishi City Multi air conditioner (MA remote controller or ME remote controller)	<p>When using PZ-60DR-E</p>  <p>When using PZ-52SF-E</p>  <p>Remote controller : Terminal block for transmission cable between PZ-60DR-E and Lossnay unit</p> <p>M-NET : M-NET transmission cable terminal block</p> <p>R1 : PZ-60DR-E</p> <p>R2 : PZ-52SF-E</p>	<ul style="list-style-type: none"> • Can be interlocked with a maximum of 16 air conditioning units. • Lossnay can be started/stopped, and switched between High and Low fan speed by an air conditioner remote controller. • Lossnay stand-alone operation is permitted from an air conditioner remote controller. • Having PZ-60DR-E or PZ-52SF-E, last touch priority operation is permitted with the air conditioner remote controller and the Lossnay remote controller. <p>*1: PZ-41SLB-E cannot be used in this system.</p> <p>*2: PZ-60DR-E and PZ-52SF-E cannot be used together.</p>	—
	Central control system for Lossnay only Central/independent control of multiple Lossnay units	<p>When using PZ-60DR-E</p>  <p>When using PZ-52SF-E</p> 	<ul style="list-style-type: none"> • Lossnay batch/independent (group) control permitted by system controller. • Operation of Lossnay within a group is permitted by a Lossnay remote controller. (PZ-60DR-E or PZ-52SF-E) • One group of a maximum of 16 Lossnay units can be operated. • Number of Lossnay control units Centralized controller (AG-150A) : 50 units/50 groups ON/OFF remote controller (PAC-YT40ANRA) : 50 units/16 groups System remote controller (PAC-SF44SRA) : 50 units/50 groups <p>*1: The remote controller (PZ-41SLB-E) cannot be used in this system.</p> <p>*2: PZ-60DR-E and PZ-52SF-E cannot be used together.</p>	<ul style="list-style-type: none"> • Lossnay remote controller (PZ-60DR-E or PZ-52SF-E) • Centralized controllers (G-50A), (PAC-SF44SRA), (PAC-YT40ANRA), and (AG-150A) • Power supply units (PAC-SC50KUA), (PAC-SF46EPA), and (PAC-SC51KUA)

* Refer to the technical documentation for details about M-NET system design.

● Remote controller list

① Remote controllers

Rough Classification	Fine Classification	Product	Model
For Lossnay independent control		Lossnay remote controller	PZ-60DR-E
			PZ-41SLB-E
For Lossnay M-NET control		Lossnay remote controller	PZ-52SF-E
M-NET For City Multi air conditioner	MA remote controller	MA remote controller	PAR-20/21MAA
		Wireless remote controller	PAR-FA(FL)31MA
		Compact remote controller	PAC-YT51CRA
	M-NET remote controller	ME remote controller	PAR-F27MEA
		Compact remote controller	PAC-SE51CRA
For Mr. Slim		A-control remote controller	PAR-21MAA
		K-control remote controller	

② System controllers

Classification	Product	Model
System controller	Schedule timer	PAC-YT34STA
	Group remote controller	PAC-SC30GRA
	ON/OFF remote controller	PAC-YT40ANRA
	System remote controller	PAC-SF44SRA
	Centralized controller	G-50A, AG-150A

(2) Start-up process

When the power is turned on, operation will not be performed for up to 45 seconds to allow Lossnay to perform information settings required for control purposes.

The start-up process can be confirmed by the blinking of LED1 in the Lossnay circuit board (1 second on/1 second off) or the remote controller LED when using the remote controller.

(3) Fan control

① Fan speed control for each system

The control indicated below can be performed according to the system that is paired.

Caution

- Up to two of the Lossnay remote controllers PZ-60DR-E, PZ-41SLB-E, and PZ-52SF-E can be used in the same group, but they cannot be used together with a different remote controller. When using two remote controllers, be sure to use the same model of the remote controller.
- PZ-41SLB-E cannot be used in M-NET control. When controlling Lossnay in M-NET control, use PZ-60DR-E or PZ-52SF-E.

System Configuration		Remote controllers System controllers	Fan speed
Basic System	Stand-alone/multiple Lossnay and Lossnay remote controller: PZ-60DR-E	Lossnay remote controller PZ-60DR-E	The remote controller "Fan Speed Adjustment" button permits High (Extra High)/Low fan speed selection. Extra low fan speed is not available.
	Stand-alone/multiple Lossnay and Lossnay remote controller: PZ-41SLB-E	Lossnay remote controller PZ-41SLB-E	The remote controller "Fan Speed Adjustment" button permits High (Extra High)/Low fan speed selection.
	System interlocked with Mr. Slim	A-control remote controller K-control remote controller (Remote controller connection prohibited with Lossnay)	The A-control remote controller "Ventilation" button permits High (Extra High)/Low fan speed selection. (High (Extra High)/Low fan speed selection is not available from the K-control remote controller.)
	Level signal/pulse signal System interlocked with the output device	None	Fixed to High (Extra High) fan speed.
M-NET Control	Stand-alone/multiple Lossnay and Lossnay remote controller: PZ-60DR-E	Lossnay remote controller PZ-60DR-E	The remote controller "Fan Speed Adjustment" button permits High (Extra High)/Low fan speed selection. Extra low fan speed is not available.
	Stand-alone/multiple Lossnay and Lossnay remote controller: PZ-52SF-E	Lossnay remote controller PZ-52SF-E	The remote controller "Fan Speed Adjustment button" permits High (Extra High)/Low fan speed selection.
	M-NET Lossnay central control system	M-NET controller	The system remote controller, or centralized control remote controller "Fan Speed" button or "Ventilation setting" button permits High (Extra High)/Low fan speed selection. (The ON/OFF remote controller and the schedule timer do not permit fan speed selection.)
	M-NET System interlocked with City Multi indoor units	ME remote controller PAR-F27MEA, MA remote controller PAR-20/21MAA	The remote controller "Ventilation" button permits High (Extra High)/Low fan speed selection.

② Fan speed control by function setting

The following fan speed control can be set with PZ-60DR-E or the function selection switch (SW2) on the Lossnay circuit board.

Function	Details	Setting Method	
		PZ-60DR-E (Remote controller function selection)	PZ-60DR-E Not Used (Function selec- tion switch)
Extra High /High Fan speed selection	The fan speed can be selected either High or Extra High, when the speed is set High with the remote controller or the system controller. Select Extra High when large air volume is required, or when the ductwork length is long. When set to High fan speed, High/Low fan speed can be switched, and when set to Extra High fan speed, Extra High/Low fan speed can be switched.	Supply fan speed setting Extra High SH: L High H: L	Air supply SW2-9 : ON Exhaust SW2-10 : ON
	Display The fan speed display of the remote controller, and the system controller will be the same for either Extra High or High.	Exhaust fan speed setting Extra High SH: L High H: L	(Refer to page 25)
	Multiple units When PZ-60DR-E will not be used in a system of multiple Lossnay units, set the function selection switches on the Lossnay circuit board for each unit.	(Refer to page 28)	
Multi ven- tilation mode	The settable fan speed with the remote controller or the system controller can be fixed at Low. The supply/exhaust balance is adjusted to suit the usage environment or the place of installation.	Supply fan speed setting Multiple ventila- tion : L	Air supply SW2-4 : ON Exhaust SW2-5 : ON
	Operation When both supply and exhaust are set to the multi ventilation mode, due to operation restrictions PZ-60DR-E cannot be switched to a setting other than Low fan speed. Other remote controllers and system controllers can change the fan speed display; however, the fan will remain fixed at Low fan speed.	Exhaust fan speed setting Multiple ventila- tion : L	(Refer to page 25)
	Multiple units When PZ-60DR-E will not be used in a system of multiple Lossnay units, set the function selection switches on the Lossnay circuit board for each unit.	(Refer to page 28)	
Power supply/ exhaust mode (When operation starts)	During the first 30 minutes of operation, operation will be at High (Extra High) fan speed. This is used when rapid ventilation is desired at the time of starting operation. After 30 minutes have elapsed since starting operation, or when the fan speed set from the remote controller or the system controller has been changed to something other than High fan speed, power ventilation will be cancelled and the system will follow the fan speed set by the remote controller or system controller.	Power supply/ exhaust when operation starts : ON	SW2-3: ON (Refer to page 25)
	Display During power ventilation, PZ-60DR-E will display "POWER VENT START". Other remote controllers and system controllers will display the set fan speed, even during power supply exhaust operation.	(Refer to page 28)	
	Multiple units When PZ-60DR-E will not be used in a system of multiple Lossnay units, set the function selection switches on the Lossnay circuit board for each unit.		

Function	Details	Setting Method	
		PZ-60DR-E (Remote controller function selection)	PZ-60DR-E Not Used (Function selec- tion switch)
Fan motor delay stop (Operation monitor with delay function) *Note 1	When TM4 ⑨, ⑩ output settings, and TM3 ⑥, ⑦ output settings are set to operation monitor with delay function 1 or 2, the fan will stop after 3 minutes have elapsed from the OFF operation when output ON (Closed) is switched to output OFF (Open) by the Lossnay stop instruction.	TM4 ⑨, ⑩ output setting "Operation monitor with delay function 1": SW2-8: ON TM3 ⑥, ⑦ output setting "Operation monitor with delay function 2": SW5-6: ON (Refer to page 25) * This function cannot be set from PZ-60DR-E.	

*Note 1: The fan will continue to operate even after operation is stopped with the remote controller, etc.

③ Restriction when switching fan speed

- When switching between High (Extra High) and Low fan speed, the fan will be stopped for approximately 5 seconds.

④ Air supply fan forced stop

Under the following conditions, Lossnay will force stop of the air supply fan.

- When Mr. Slim is in defrost or stopped due to a fault, in an interlocked system with Mr. Slim that has a duct connection with Lossnay.
(For cold inrush prevention, or falling dust prevention)
- When the indoor unit is in defrost, in an interlocked system with a City Multi indoor unit that has a duct connection with Lossnay.
(For cold inrush prevention)
- When the outside temperature is -10 °C or lower, the air supply fan is stopped periodically for approximately 10 minutes to 55 minutes.
(To prevent freezing of the Lossnay core)

(4) Ventilation mode control

Lossnay (heat exchange) ventilation or bypass (normal) ventilation is achieved by switching the air duct inside the Lossnay unit with a damper.

① Ventilation mode

There are three control modes.

- Lossnay ventilation (heat exchange ventilation) mode : Heat exchange ventilation is performed regularly via the Lossnay core.
- Bypass ventilation (normal ventilation) mode : Ventilation is performed regularly without going through the Lossnay core.
- Automatic ventilation mode : A temperature sensor built into the unit provides automatic ventilation to a suitable ventilation mode.
In addition, energy saving ventilation is provided by interlocking with a Mr. Slim or City Multi indoor unit.

② Damper control for each system

The control indicated below can be performed according to the system that is paired

Caution

- Up to two of the Lossnay remote controllers PZ-60DR-E, PZ-41SLB-E, and PZ-52SF-E can be used in the same group, but they cannot be used together with a different remote controller. When using two remote controllers, be sure to use the same model of the remote controller.
- PZ-41SLB-E cannot be used in M-NET control. When controlling Lossnay in M-NET control, use PZ-60DR-E or PZ-52SF-E.

System		Remote controllers System controllers	Ventilation mode
Basic System	Stand-alone/multiple Lossnay and Lossnay remote controller: PZ-60DR-E	Lossnay remote controller PZ-60DR-E	The “Function selector” button of the remote controller permits ventilation mode switching for automatic, Lossnay, and bypass ventilation. Bypass ventilation is set at the time of night purge operation, and ventilation mode switching is not possible.
	Stand-alone/multiple Lossnay and Lossnay remote controller: PZ-41SLB-E	Lossnay remote controller PZ-41SLB-E	The “Function selector” button of the remote controller permits ventilation mode switching for automatic, Lossnay, and bypass ventilation.
	System interlocked with Mr. Slim	A-control remote controller K-control remote controller (Remote controller connection prohibited with Lossnay)	Fixed to automatic ventilation.
	Level signal/pulse signal output device and external device only	None	Fixed to automatic ventilation.
M-NET Control	Stand-alone/multiple Lossnay and Lossnay remote controller: PZ-60DR-E	Lossnay remote controller PZ-60DR-E	The “Function selector” button of the remote controller permits ventilation mode switching for automatic , Lossnay, and bypass ventilation. Bypass ventilation is set at the time of night purge operation, and ventilation mode switching is not possible.
	Stand-alone/multiple Lossnay and Lossnay remote controller: PZ-52SF-E	Lossnay remote controller PZ-52SF-E	The “Function selector” button of the remote controller permits ventilation mode switching for automatic , Lossnay, and bypass ventilation.
	M-NET Lossnay central control system	M-NET controller	The “Operation mode” button of the system remote controller and the centralized controller permits ventilation mode switching for automatic , Lossnay, and bypass ventilation. (The schedule timer, ON/OFF remote controller, and the group remote controller do not permit ventilation mode selection.)
	M-NET System interlocked with City Multi indoor units	ME remote controller PAR-F27MEA, MA remote controller PAR-20/21MAA	Fixed to automatic ventilation.

③ Bypass ventilation prohibited

When the conditions described below are applicable, the ventilation mode will be fixed at Lossnay ventilation. When bypass ventilation has been set from the remote controller or the system controller, damper operation will be set to Lossnay ventilation, even though bypass ventilation is displayed on the ventilation mode display.

- When the outdoor temperature is 8 °C or lower. (Product condensation prevention)

When bypass ventilation prohibition has been set under this condition, the prohibition will be cancelled when the outdoor temperature goes from a temperature of less than 10 °C to one higher than 10 °C.

- When there is an outdoor temperature (Outdoor Air) thermistor fault.
- When, in the automatic ventilation mode, there is an outdoor temperature (Outdoor Air) or indoor temperature (Return Air) thermistor fault.
- When Lossnay is set to the automatic ventilation mode and interlocked with Mr.Slim or City Multi indoor units set to the fan operation mode.

④ Damper operation

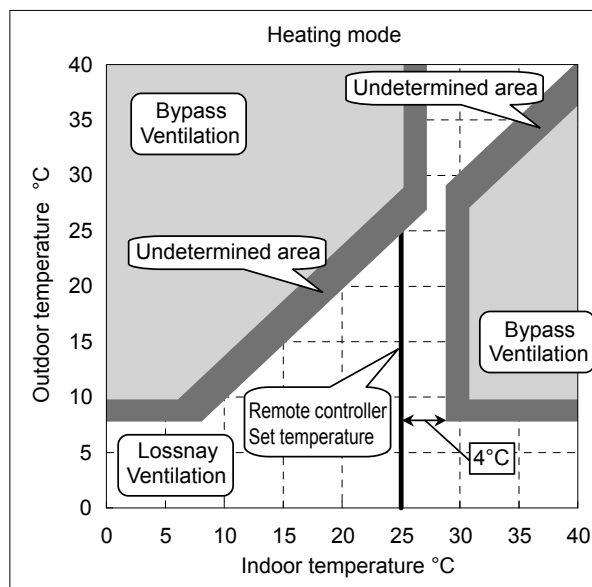
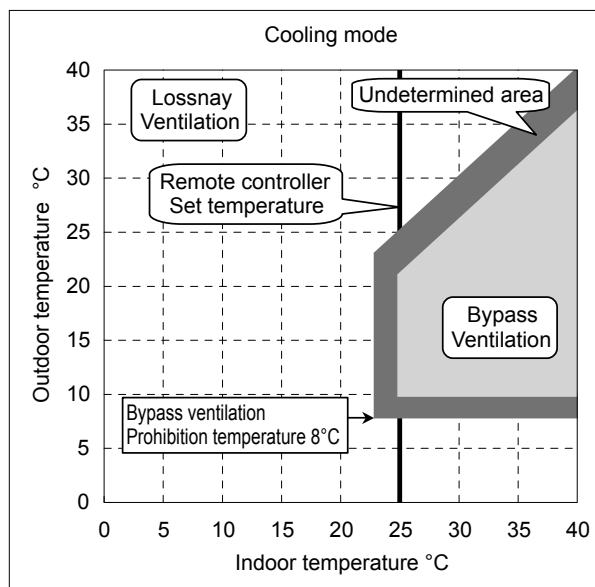
The damper is controlled on a 30-second cycle. Accordingly, a delay of 30 seconds maximum may be generated from ventilation mode switching to damper operation.

⑤ Automatic ventilation algorithm temperature map

Ventilation mode switching of Lossnay ventilation/Bypass ventilation in the automatic ventilation mode is in accordance with the following map.

a. Systems interlocked with Mr. Slim and City Multi indoor units

The map will differ depending on the operation mode that has been set with the A-control remote controller or the K-control remote controller for Mr. Slim, or the MA remote controller or the ME remote controller for City Multi indoor units. There will be switching to the ventilation mode in conjunction with the set temperature of the air conditioner remote controller. Note that the “b” map will be followed while Mr. Slim and City Multi indoor units are stopped.



Lossnay ventilation area

Bypass ventilation area

Undetermined area

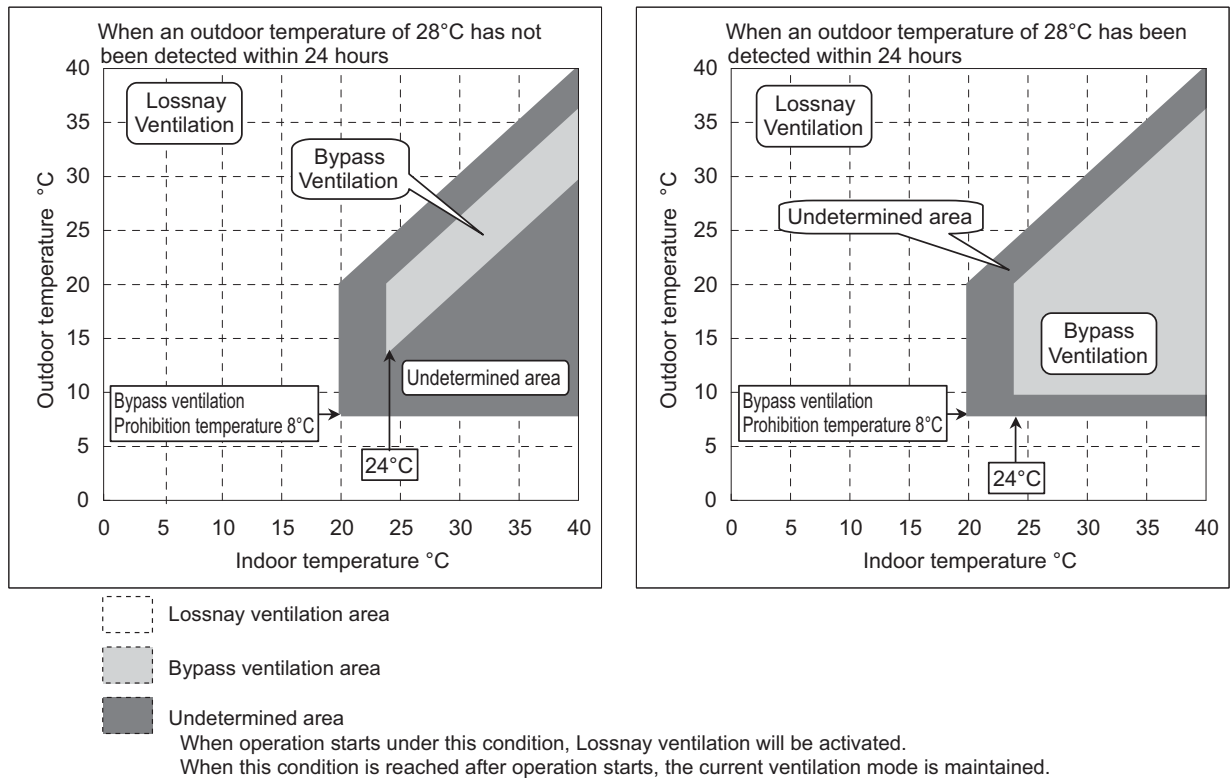
When operation starts under this condition, Lossnay ventilation will be activated.

When this condition is reached after operation starts, the current ventilation mode is maintained.

b. When there is no interlocking with Mr. Slim and City Multi indoor units

Pattern 1. Normal ventilation mode

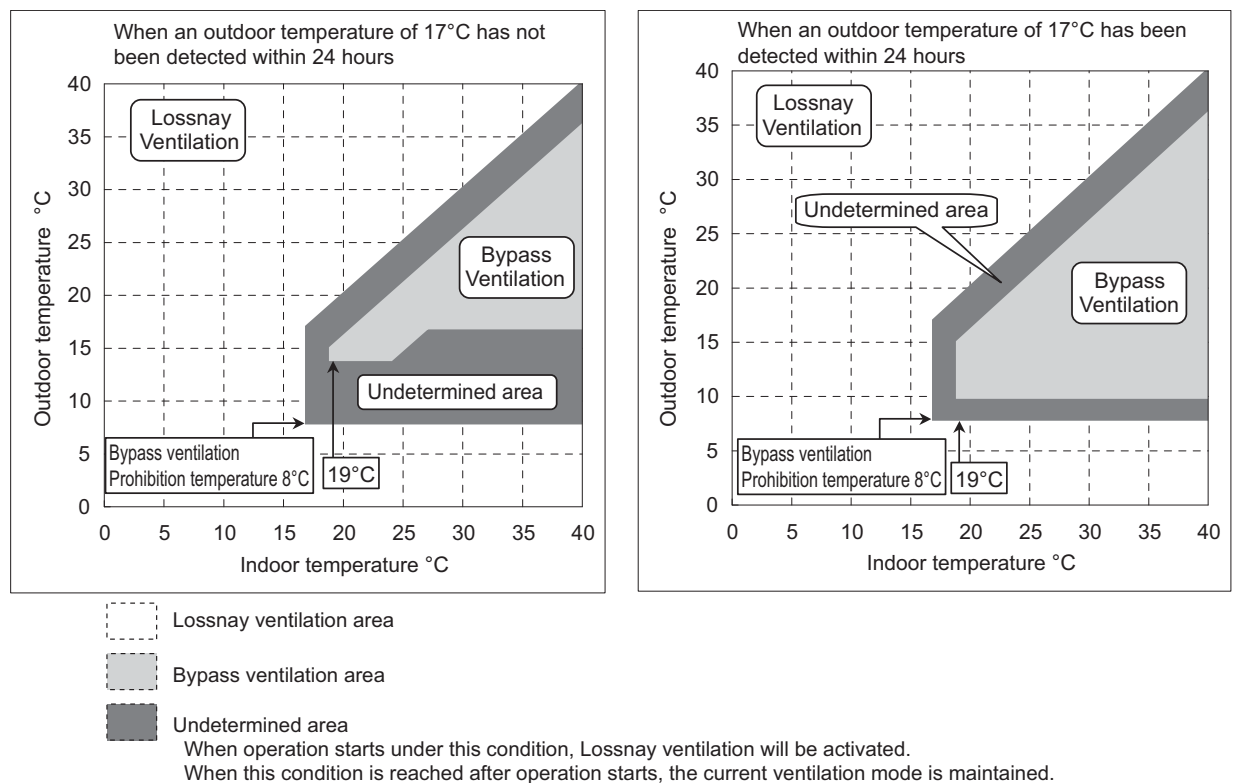
When PZ-60DR-E is used, operation will be at the setting of automatic ventilation adjustment pattern “1” of the remote controller function selection. When PZ-60DR-E is not used, operation will be at the OFF setting of function selection switch (SW2-7) on the Lossnay circuit board.



Pattern 2. Outdoor cooling priority mode

When the outdoor temperature is lower than the indoor temperature, this mode actively takes in the outdoor air for cooling.

When PZ-60DR-E is used, operation will be at the setting of automatic ventilation adjustment pattern “2” of the remote controller function selection. When PZ-60DR-E is not used, operation will be at the ON setting of function selection switch (SW2-7) on the Lossnay circuit board.



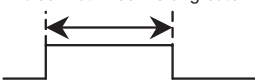
- ⑥ Ventilation mode change recommendation (RECOMMENDED, VENTILATION MODE) display
 When PZ-60DR-E is used and the ventilation mode is set to Lossnay ventilation or bypass ventilation, “RECOMMENDED” and “VENTILATION MODE” may be displayed alternately (for 10 minutes maximum). This function informs the user of the suitable ventilation mode according to the automatic ventilation algorithm. When a ventilation mode change recommendation has been displayed, more comfortable ventilation can be provided by pressing the “Function selector” button of the remote controller and switching to another ventilation mode.
 (We recommend that “AUTO” be selected for the ventilation mode; however, there is no problem in leaving the ventilation mode unchanged with “RECOMMENDED” “VENTILATION MODE” displayed.)

(5) Interlocking with external devices

① Input signal

The system will interlock with the following input signals from external devices and start/stop.

Multiple units systems having multiple Lossnay units, input the signal to the “Main” Lossnay.

Type	Signal, and operation	Setting Method	
		PZ-60DR-E (Remote controller function selection)	PZ-60DR-E Not Used (Function selec- tion switch)
Level signal	Charged 12 V DC/24 V DC Operation signal: 12 V DC/24 V DC Stop signal : 0 V Uncharged a-contact (Current drawn: 10 mA or greater) Operation signal: Close Stop signal : Open	Pulse input setting “oFF”	SW2-2: OFF
Pulse signal	Charged 12 V DC/24 V DC Uncharged a-contact Start/stop is inverted with each pulse  Pulse width 200 ms or greater	Pulse input setting “on”	SW2-2: ON
Systems interlocked with Mr. Slim	<ul style="list-style-type: none"> • Connect the signal cable of Mr. Slim to Lossnay, and perform the Lossnay interlock settings from the A-control remote controller or the K-control remote controller. • The system is started/stopped by interlocking with Start/ Stop of the A-control remote controller or K-control remote controller. • The system is started/stopped by interlocking with the ventilation setting of the A-control remote controller. • The Mr. Slim operation mode, target temperature, and other internal information can also be brought in. 	PZ-60DR-E (Lossnay remote controller) cannot be used.	SW2-2: OFF
Systems interlocked with Mitsubishi City Multi indoor units	<ul style="list-style-type: none"> • City Multi indoor units and Lossnay are connected by M-NET, and the Lossnay interlock setting is performed from the remote controller or system controller. • The system is started/stopped by interlocking with Start/ Stop of the MA remote controller or ME remote controller and the ventilation setting. • The City Multi indoor unit operation mode, target temperature, and other internal information can also be brought in. 	Pulse input setting “oFF”	SW2-2: OFF

② Interlock mode

Lossnay can set the following four types of interlock modes for the start/stop signal from the external device.

Interlock mode	Pulse signal input	Other than pulse signal input	Setting Method		
			PZ-60DR-E (Remote controller function selection) *1	PZ-41SLB-E (Interlock mode)	PZ-52SF-E or remote controller not used (Function selection switch)
ON/OFF interlock (Remote controller last touch operation permitted)	The start/stop condition will be reversed each time the pulse signal is input.	Lossnay will start with the operation signal of the external device, and Lossnay will stop with the stop signal.	Interlock mode setting selection "onoF" (Factory setting)	1 (Factory setting)	SW5-7: OFF SW5-8: OFF (Factory setting)
ON interlock	Lossnay will start when the pulse signal is input. Stopping is controlled by the remote controller.	Lossnay will start with the start signal of the external device. Stopping is controlled by the remote controller.	Interlock mode setting "on"	2	SW5-7: ON SW5-8: OFF
OFF interlock	Lossnay will stop when the pulse signal is input. Starting is controlled by the remote controller.	Lossnay will stop with the stop signal of the external device. Starting is controlled by the remote controller.	Interlock mode setting "oFF"	3	SW5-7: OFF SW5-8: ON
External input priority ON/OFF interlock	Same as ON/OFF interlocked.	Same as ON/OFF interlocked. Note that during operation that started with a signal from the external device, stopping by the remote controller will not be possible.	Interlock mode setting "oUT"	4	SW5-7: ON SW5-8: ON

*1: Display of liquid crystal display (LCD) when setting is made by the PZ-60DR-E remote controller

③ Delay operation

This function delays the starting of Lossnay for 30 minutes with respect to the start signal from the external device (and for 10 to 60 minutes when PZ-41SLB-E is used). When the remote controllers other than PZ-41SLB-E are used, LED1 on the Lossnay circuit board will light during delay operation. Also, when PZ-60DR-E and PZ-41SLB-E are used, there will be a display of the delay time.

Function settings	Setting Method		
	PZ-60DR-E (Remote controller function selection)	PZ-41SLB-E (Delay starting time)	PZ-52SF-E or remote controller not used (Function selection switch)
Normal operation	Delay operation setting "oFF" (Factory setting)	0 minutes (Factory setting)	SW5-1: OFF (Factory setting)
Delay operation	Delay operation setting "on"	10 to 60 minutes (in 10-minute units)	SW5-1: ON

Note that delay operation will be disabled under the following condition

- When the start signal from the external device is a pulse signal.
- When the system is interlocked with Mr. Slim or City Multi indoor units set to the fan operation mode.
- When the system is restarted within 2 hours of Lossnay stop.
- When the interlock mode is set to "OFF Interlock".

(6) External input/output terminals on the Lossnay circuit board

Located on the Lossnay circuit board are terminals for the external output of the Lossnay operating condition, and input terminals for external switching of the Lossnay fan speed and ventilation mode.

① Output terminals

The function and contact rating of each output terminal are described below.

“Operation monitor” and “Bypass operation monitor” are in common with “Operation monitor with delay function 1” and “Operation monitor with delay function 2”, respectively.

(Switch with the DIP switch (function selection switch) on the Lossnay circuit board. Refer to page 25 and 26.)

Output	Function	Output Terminal	Signal Form	Contact Rating	
				Maximum	Minimum
Malfunction monitor	Turned ON (closed) at time of Lossnay malfunction.	TM3 ⑦, ⑧ *1	Uncharged a-contact	240 V AC, 1 A 24 V DC, 1 A	220 V AC, 100 mA 5 V DC, 100 mA
Operation monitor *3	Turned ON (closed) at time of Lossnay operation. This can also be turned ON (closed) at time of air supply fan operation.	TM4 ⑨, ⑩	Uncharged a-contact	240 V AC, 2 A 24 V DC, 2 A	220 V AC, 100 mA 5 V DC, 100 mA
Operation monitor with delay function 1	Turned ON (closed) 10 seconds after start of air supply fan.				
Bypass operation monitor	Turned ON (closed) at time of bypass ventilation.	TM3 ⑥, ⑦ *2	Uncharged a-contact	240 V AC, 1 A 24 V DC, 1 A	220 V AC, 100 mA 5 V DC, 100 mA
Operation monitor with delay function 2	Turned ON (closed) 10 seconds after start of air supply fan when outdoor air temperature is -5 °C or lower. Turned OFF (open) when outdoor air temperature is 15 °C or higher.				

*1 Terminal ⑦ of TM3 is a common terminal with bypass operation monitor/operation monitor with delay function 2 output ⑦.

*2 Terminal ⑦ of TM3 is a common terminal with malfunction monitor output ⑦.

*3 The operation monitor can also be used as an air supply fan operation monitor with the setting described below.

< When using PZ-60DR-E >

< When not using PZ-60DR-E >

Set “2” for operation monitor output of function selection.

Set the operation monitor output switch on the Lossnay circuit board (SW5-2) to ON. (This function cannot be used when operation monitor with delay function 1 has been set.)

② Input terminals

a. High (Extra High)/Low fan speed switching input

This is used for external switching of the fan speed by means of a commercially available CO₂ sensor, etc.

Operation

During the input of High (Extra High)/Low fan speed selection, PZ-60DR-E displays “Automatic Fan Speed” indicator. The set fan speed cannot be changed while “Automatic Fan Speed” is displayed due to operation restrictions. Other remote controllers and system controllers can change the fan speed display; however, the fan will remain fixed at the input fan speed selection of High (Extra High)/Low.

Multiple units

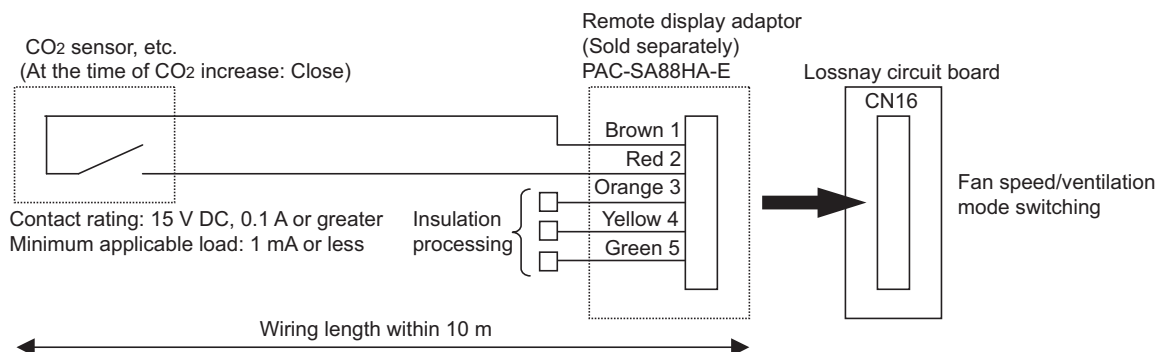
When PZ-60DR-E is used in a system of multiple Lossnay units, input of High (Extra High)/Low fan speed into the “Main” Lossnay will permit the switching of the fan speed of all Lossnay units within the same group. When PZ-60DR-E is not used, input High/Low fan speed into each Lossnay unit. In this case, the setting is applied only to the Lossnay units that have received the High/Low input.

- A remote display adaptor (PAC-SA88HA-E), which is sold separately, is required for the connections.

[1] When operating on High (Extra High) fan speed via external input

Usually, ventilation is performed at Low fan speed, and there is automatic switching to High (Extra High) fan speed when dirty indoor air is detected by a CO₂ sensor, etc.

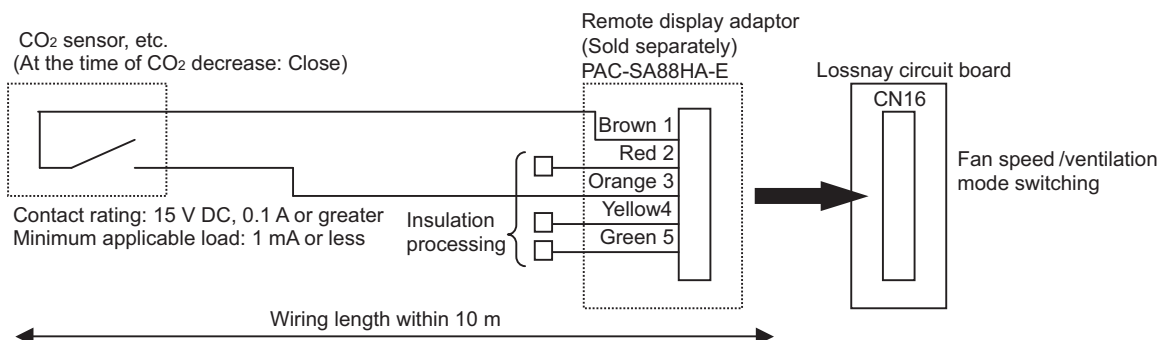
Insert the remote display adaptor (PAC-SA88HA-E) into the connector (CN16) on the Lossnay circuit board, and input the signal (uncharged a-contact) from a CO₂ sensor to the brown and red lines. When the contacts in the diagram below are ON (closed), the system will switch to High (Extra High) fan speed regardless of the fan speed settings on the remote controller or the system controller.



[2] When operating on Low fan speed via external input

Usually, ventilation is performed at High (Extra High) fan speed, and there is automatic switching to Low fan speed when an absence of dirty indoor air is detected by a CO₂ sensor, etc.

Insert the remote display adaptor (PAC-SA88HA-E) into the connector (CN16) on the Lossnay circuit board, and input the signal (uncharged a-contact) from a CO₂ sensor to the brown and orange lines. When the contacts in the diagram below are ON (closed), the system will switch to Low fan speed regardless of the fan speed settings on the remote controller or the system controller.



b. Bypass ventilation switching input

This is used to force a changeover of the ventilation mode to bypass ventilation by means of the input of an external switch etc.

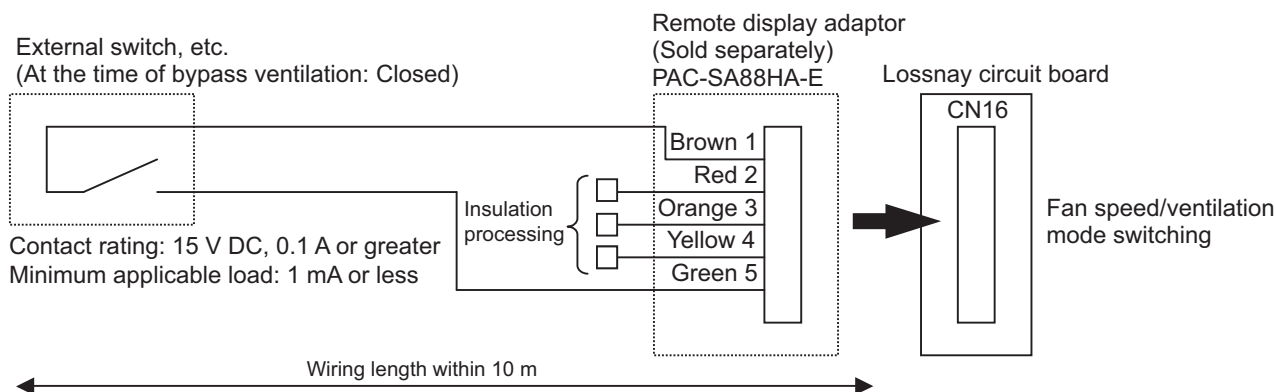
Operation During the input of bypass ventilation switching, the ventilation mode display of the remote controller and the system controller will change to bypass ventilation. With PZ-60DR-E, the ventilation mode setting cannot be changed due to operation restrictions. Even using a different remote controller or system controller to change the ventilation mode setting will result in an automatic return to bypass ventilation.

Note that when the conditions of bypass ventilation prohibition are applicable, the ventilation mode display of the remote controller and the system controller will remain as bypass ventilation; however, only damper operation will be fixed at Lossnay (heat exchange) ventilation.

Multiple units

When PZ-60DR-E is used in a system of multiple Lossnay units, input of bypass ventilation switching into the "Main" Lossnay will permit the switching of the ventilation mode of all Lossnay units within the same group. When PZ-60DR-E is not used, input bypass ventilation switching into each Lossnay unit. (The setting is applied only to the Lossnay units that have received input.)

A remote display adaptor (PAC-SA88HA-E), which is sold separately, is required for the connections. Insert the remote display adaptor (PAC-SA88HA-E) into the connector (CN16) on the Lossnay circuit board, and input the signal (uncharged a-contact) from an external switch to the brown and green lines. When the switch is ON (closed) in the diagram below, the system will switch to bypass ventilation regardless of the ventilation mode setting of the remote controller and the system controller.



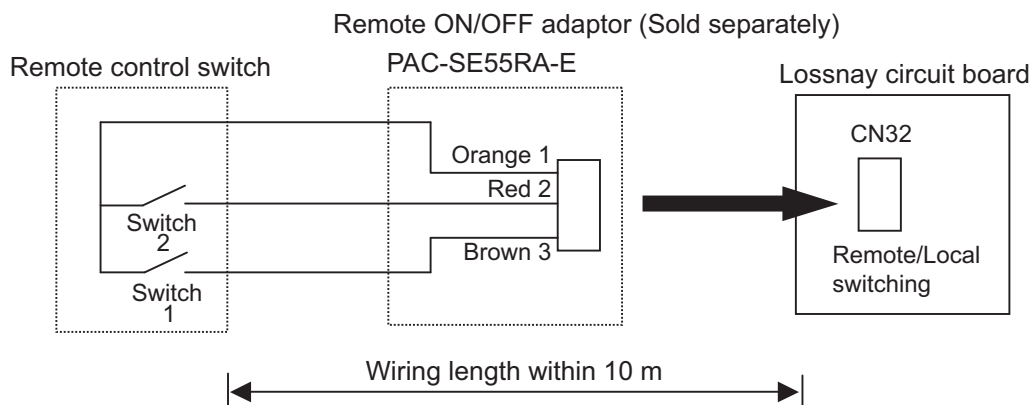
(7) Remote/Local switching

This is used to prohibit Starting-Stopping from the remote controller.

A remote ON/OFF adaptor (PAC-SE55RA-E), which is sold separately, is required.

Insert the remote ON/OFF adaptor (PAC-SE55RA-E) into the connector for remote switching (CN32) on the Lossnay circuit board, and connect the remote control signal (uncharged a-contact).

Note: This function cannot be used when PZ-41SLB-E is used.



Start/stop operation is not possible with the remote controller when switch 1 is ON.

While switch 1 is ON, turning switch 2 ON will start Lossnay, and turning switch 2 OFF will stop Lossnay.

* Remote/Local switching and operation interlocked with an external device (external control input) cannot be used together.

(8) Trial operation function

This function operates Lossnay without the need of a device (such as a remote controller, or an external device) to control Lossnay.

This function permits verification of the connection condition of the AC line and wiring when Lossnay has been set up.

Also, Lossnay can be forced to operate even when the system is down.

- Trial operation mode

Setting the trial operation switch (SW 2-1) on the Lossnay circuit board to ON will set the High (Extra High) fan speed operation mode. The damper will be fixed at bypass ventilation for approximately 1 minute, and then the system will be fixed at Lossnay ventilation.

Control target	Operation
Fan	Air supply side, and exhaust side fan will both be High (Extra High) fan speed
Damper motor	Bypass ventilation (normal ventilation) fixed

* If the Lossnay remote controller or the centralized controller have been set, you can verify on the display of the LCD that Lossnay is in the trial operation mode.

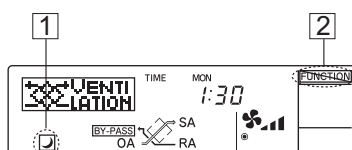
(9) Night Purge operation

PZ-60DR-E is required to perform night purge operation.

Night purge operation is used in the summer to automatically ventilate a room at night while the air conditioner is stopped, to discharge accumulated heat and reduce the air conditioning load the next morning.

If Night purge is enabled per the “Installation Manual” for PZ-60DR-E [5. Function Selection [5] (8)], night purge operation will be performed based on the flowchart shown in the next page.

From 1:00 A.M. to 6:00 A.M., “Night Purge” indicator is shown on the screen (at ①).



- The fan speed will revert to the last setting before the Lossnay unit was stopped.
- Night purge operation is terminated in any of the following conditions (① to ④), and is not resumed until the start conditions of the next day are reached.

① Between 6:00 and 0:59

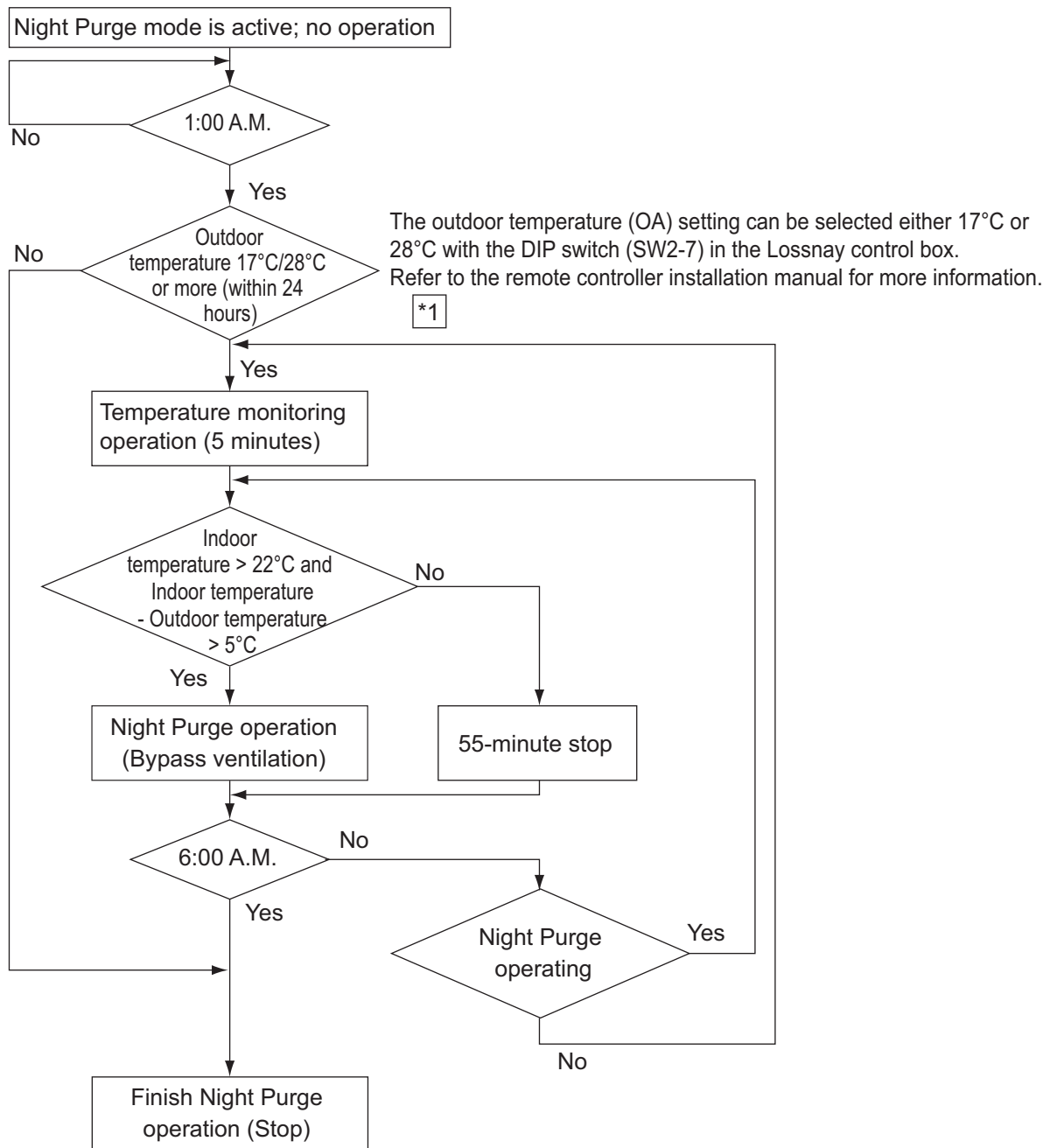
② When the operation is stopped between 1:00 and 6:00 with a remote controller or system controller

③ When the operation is switched on or off between 1:00 and 6:00 by a scheduled timer (Weekly timer)

④ When the operation is switched on or off between 1:00 and 6:00 by an air conditioner, an external control input or a remote input

Note:

- Night purge can be performed when the clock use setting is ON (use clock) in Function Selection.
- The Function Selector cannot be switched during Night purge operation. (“Locked” ② will blink.)
- Night purge cannot be used with the Simple timer.
- Night purge settings can be checked in the Function Selection mode.
- When more than one Lossnay units are running, the temperature is measured by the “Main” Lossnay.
- Night purge is not performed when “CENTRAL” is displayed.



*1: When Lossnay is interlocked with the City Multi indoor units, “Stop of Lossnay during interlocked operation with the City Multi operating in cooling mode” is another necessary condition in addition to that of “Detection of an outdoor temperature of 17 °C or 28 °C or higher (within 24 hours)”.
(Night Purge operation will be performed when either of these necessary conditions has been satisfied.)

(10) Setting of function selection switches (SW1, 2, 5, and 6)

The associated switches are as listed below.

* This function can also be set from PZ-60DR-E. When the function has been switched from the remote controller later on, the system will operate according to the setting of the remote controller.

Type	Name	Specification
SW1	Main/Sub selection switch	Lossnay control mode (Main/Sub) switching (The factory setting is set to "Main".)
SW2	1 Trial operation	ON : Trial operation mode OFF: Normal mode (Factory setting)
	2 Pulse input *	ON : At the time of pulse signal input (Requires a pulse width of 200 ms or greater) OFF: At the time of level signal and Mr. Slim signal inputs (Factory setting)
	3 Power supply/exhaust when operation starts *	ON : Power supply exhaust mode OFF: Normal mode (Factory setting)
	4 SA fan fixed at Low speed *	ON : Low fan speed fixed OFF: Normal mode (Factory setting)
	5 EA fan fixed at Low speed *	ON : Low fan speed fixed OFF: Normal mode (Factory setting)
	6 Power supply ON/OFF * Note 1	ON : Available OFF: Unavailable (Factory setting)
	7 Bypass ventilation priority at Automatic mode * Temperature condition for Night purge operation	ON : Automatic ventilation outdoor air cooling priority mode / Night purge operation condition of outdoor air temperature is 17 °C or higher (within 24 hours) OFF: Automatic ventilation normal mode / Night purge operation condition of outdoor air temperature is 28 °C or higher (within 24 hours) (Factory setting)
	8 TM4 ⑨, ⑩ output setting	ON : Operation monitor output with delay function 1. Refer to (3) ② Fan speed control by function setting (page 13), and (6) ① Output terminals (page 20). OFF: Operation monitor output based on SW5-2 (Factory setting)
	9 Supply Extra High/High *	ON : Air supply fan Extra High fan speed OFF: Air supply fan High fan speed (Factory setting)
	10 Exhaust Extra High/High *	ON : Air exhaust fan Extra High fan speed OFF: Air exhaust fan High fan speed (Factory setting)
SW5	1 Delay setting * Note 1	ON : Delay operation of 30 minutes OFF: Normal (Factory setting)
	2 Operation output monitor *	ON : Operation monitor output correspond to air supply fan OFF: Operation monitor output with normal operation (Factory setting)
	3 Exhaust fan stop during air conditioner defrost * Exhaust fan Low fan speed at outdoor air temperature of -15 °C or lower *	ON : Both Air exhaust fan and Air supply fan (Low fan speed) operation at outdoor air temperature of -15 °C or lower OFF: Exhaust fan operation (Only Air supply fan stopped) (Factory setting)
	4 Automatic recovery after power failure * Note 1	ON : After the recovery, operation at the mode preceding the power failure OFF: Stop after the recovery (Factory setting)
	5 Filter cleaning setting * Note 1	Selection switch for accumulated running time of the filter cleaning display. ON : 3,000 hours OFF: No filter maintenance display (Factory setting)
	6 TM3 ⑥, ⑦ output setting	ON : Operation monitor output with delay functions 2. Refer to (3) ② Fan speed control by function setting (page 13), and (6) ① Output terminals (page 20). OFF: Bypass ventilation operation monitor output (Factory setting)
	7 Interlock mode setting *	Effective only at the time of external control input usage.
	8 Note 1	Refer to (5) ② Interlock mode (page 19).

Type	Name	Specification
SW5	9 Exhaust fan stop at outdoor air temperature of -15 °C or lower *	ON : Both Air supply fan and Air exhaust fan stop OFF: Air exhaust fan operation (Only Air supply fan stopped) (Factory setting)
	10 Not in use Note 3	Fixed at OFF
SW6	1 Not in use Note 3	Fixed at ON
	2 Not in use Note 3	Fixed at OFF
	3 Not in use Note 3	Fixed at OFF
	4 Not in use Note 3	Fixed at OFF

Note 1: When PZ-41SLB-E is used, the settings will be disabled for SW2-6, SW 5-1, SW5-4, SW5-5, SW5-7, and SW5-8.

(Operation after a recovery from a power failure will be fixed at power failure automatic recovery, and functions other than this will be according to the setting of PZ-41SLB-E.)

Note 2: All of the aforementioned switches (SW2, and SW5) are in the OFF position at the factory setting.

When replacing the circuit board, set the new board to the same setting as that of the board prior to replacement.

Note 3: Do not change the setting. (Lossnay will not operate properly.)

- Main/Sub selection switch

- In systems of only one Lossnay unit, be sure to set it to “Main”.
- In systems with multiple Lossnay units, be sure that one unit is set to “Main”, and that all the others are set to “Sub”.
- When interlocked with an external device, be sure to connect the external device to the Lossnay that is set to “Main”.

(11) Function selection with PZ-60DR-E

When PZ-60DR-E is used, function selection can be made from the remote controller.

Functions can be switched from PZ-60DR-E even after the function selection switches have been set on the Lossnay circuit board.

(Settings from PZ-60DR-E will have priority over function selection switch settings of the Lossnay circuit board.)

When two remote controllers are used, “LOSSNAY FUNCTION” and “INTERLOCK SETTING” can be set only on the “Main” remote controller.

The “Main” and “Sub” remote controller will be determined automatically by communication when the main unit power is turned on. The remote controller on which “LOSSNAY FUNCTION” and “INTERLOCK SETTING” are displayed is the “Main” remote controller.

* For information about operation of PZ-60DR-E, refer to the Lossnay remote controller PZ-60DR-E Installation Manual and the Operating Instructions.

① Function selection mode

The following functions can be changed with PZ-60DR-E function selection mode. Please change the settings as needed.

Major items	Intermediate items (Names)	Dot matrix display	Selection display	Function	Notes
Change Language CHANGE LANGUAGE	English display	LANGUAGE ENGLISH(en)		Dot matrix display characters English (Factory setting)	—
	German display	LANGUAGE Deutsch(de)		Dot matrix display characters German	
	Spanish display	LANGUAGE ESPAÑOL(es)		Dot matrix display characters Spanish	
	Russian display	LANGUAGE РУССКИЙ(ru)		Dot matrix display characters Russian	
	Italian display	LANGUAGE ITALIANO(it)		Dot matrix display characters Italian	
	Chinese display	LANGUAGE 中文 (zh)		Dot matrix display characters Chinese	
	French display	LANGUAGE FRENCH(fr)		Dot matrix display characters French	
	Japanese display	LANGUAGE ニホンゴ (ja)		Dot matrix display characters Japanese	
Function limit FUNCTION SELECTION	Button operation restricted mode (Operation lock)	LOCKING FUNCTION	oFF	Without operation lock (Factory setting)	*1
			no1	Lock with the exception of the “ON/OFF” button	
			no2	All button lock	
Mode selection MODE SELECTION	Clock use setting	CLOCK	oFF	Clock function is not used	*2
			on	Clock function is used (Factory setting)	
	Timer function setting	WEEKLY TIMER		Weekly timer is used (Factory setting) This cannot be selected unless the clock function is used	*3
		SIMPLE TIMER		Simple timer is used Clock (time, day of the week) is not displayed	
		TIMER MODE OFF		Timer is not used	
	Contact number setting (Display contact information when there is a fault)	CALL OFF		Contact information is not displayed when there is a fault (Factory setting)	*4
		CALLXXXX *****		The telephone number that has been set is displayed at the time of fault	
Display change DISP MODE SETTING	Filter maintenance sign setting	MAINTENANCE SIGN	on	With “FILTER CLEANING” maintenance sign display	—
			oFF	Without “FILTER CLEANING” maintenance sign display (Factory setting)	
	Lossnay core maintenance sign setting	MAINTENANCE SIGN	on	With “CORE CLEANING” maintenance sign display	—
			oFF	Without “CORE CLEANING” maintenance sign display (Factory setting)	
	SA temperature display setting	TEMPERATURE DISP	on SA	SA temperature is displayed (Factory setting)	—
			oFF SA	SA temperature is not displayed	
	OA temperature display setting	TEMPERATURE DISP	on OA	OA temperature is displayed (Factory setting)	—
			oFF OA	OA temperature is not displayed	
	RA temperature display setting	TEMPERATURE DISP	on RA	RA temperature is displayed (Factory setting)	—
			oFF RA	RA temperature is not displayed	
	Exchange efficiency correction	EXCHANGE EFFICIENCY	30~99	Factory setting: 70 (%)	—

- *1: To execute the operation lock, the execution operation (of holding down the “Filter” button and the “ON/OFF” button simultaneously for 2 seconds) is required at the normal screen.
To cancel, the same operation is also required.
- *2: When using weekly timer and night purge operation, please set clock use to on.
- *3: When the simple timer is used, night purge operation will not be possible.
- *4: When the contact information display is set at the time of a fault, pressing the “Clear” button of the remote controller will display the number that was set.

When two remote controllers are used, the following settings are permitted for the “Main” remote controller only.

Major items	Intermediate items (Names)	Dot matrix display	Selection display	Function	Notes
Installation setting LOSSNAY FUNCTION	Supply fan speed setting	SA SETTING	SH: L	Used at Extra High fan speed/Low fan speed	—
			H: L	Used at High fan speed/Low fan speed (Factory setting)	
			L	Fixed at Low fan speed (Multiple ventilation mode)	
	Exhaust fan speed setting	EA SETTING	SH: L	Used at Extra High fan speed/Low fan speed	—
			H: L	Used at High fan speed/Low fan speed (Factory setting)	
			L	Fixed at Low fan speed (Multiple ventilation mode)	
	Power supply/exhaust when operation starts	POWER VENT START	oFF	"Power supply/exhaust when operation starts" is not executed (Factory setting)	*5
			on	"Power supply/exhaust when operation starts" is executed (30 minutes)	
	Sub Lossnay setting	SUB SET	RC	Function settings from the remote controller to the “Sub” Lossnay is enabled (Factory setting)	*6
			dIP	Function settings from the remote controller to the “Sub” Lossnay is disabled	
	Power supply ON/OFF/AUTO	RECOVERY SETTING	oFF	Lossnay remains stopped when the power supply is turned on (Factory setting)	—
			on	Lossnay starts operating when the power supply is turned on	
			AUTo	Lossnay resumes the same operation mode (stop or start) before power off	
	Operation monitor output selection	OPERATION MONITOR	1	Corresponding to the operation monitor output exhaust fan (Factory setting)	*7
			2	Corresponding to the operation monitor output air supply fan	
	Exhaust fan speed selection for cold region intermittent operation (at outdoor air temperature of -15 °C or lower)	EA SETTING INTERMIT.	oFF	Exhaust fan stops	—
			Lo	Exhaust fan operates at Low fan speed (fixed)	
			on	Exhaust fan normal operation (without fan speed change) (Factory setting)	
	Night purge setting	NIGHT PURGE	oFF	Night purge disabled (Factory setting)	*8
			on	Night purge enabled	
	Automatic ventilation adjustment pattern selection	BYPASS SETTING	1	Automatic ventilation normal mode / Night purge operation condition of outdoor air temperature is 28 °C or higher (within 24 hours) (Factory setting)	*9
			2	Automatic ventilation outdoor air cooling priority mode / Night purge operation condition of outdoor air temperature is 17 °C or higher (within 24 hours)	

Major items	Intermediate items (Names)	Dot matrix display	Selection display	Function	Notes
Interlocking item setting INTELOCK SETTING	Interlock mode selection	INTERLOCK MODE	onoF	ON/OFF interlocked (Factory setting)	*10
			on	ON interlocked	
			oFF	OFF interlocked	
			oUT	External input signal priority	
	Pulse input setting	INPUT SIGNAL	oFF	Without pulse input (Factory setting)	—
			on	With pulse input	
	Delay operation setting	DELAY OPERATION	oFF	Without delay operation (Factory setting)	*11
			on	With delay operation (for 30 minutes)	
	Exhaust operation setting during air conditioner defrosting	EA SETTING DEFROST	oFF	Exhaust fan stops	—
			on	Exhaust fan operates (Factory setting)	

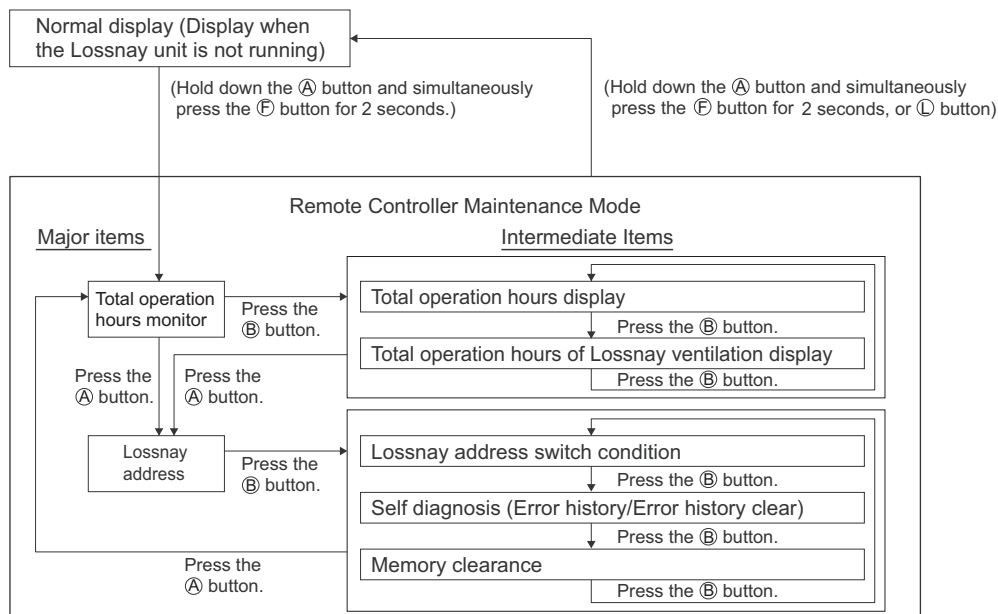
- *5 : Pressing the “fan speed adjustment” button during the power supply/exhaust operation at the start of operation will result in a change of the fan speed.
- *6 : Only the following functions will be supported. “Supply fan speed” “Exhaust fan speed” “Power supply/exhaust when operation starts”
- *7 : The setting of the operation monitor output selection will be disabled when the setting is to Operation monitor output with delay function 1 with the TM4 ⑨, ⑩ output setting switch (SW2-8) on the Lossnay circuit board, or when the setting is to Operation monitor output with delay function 2 with the TM3 ⑥, ⑦ output setting switch (SW5-6).
- *8 : When clock use is OFF and the simple timer is used, night purge operation will not be performed.
Switching of the ventilation mode will not be possible during night purge operation (Bypass ventilation fixed)
- *9 : Refer to (4) ⑤ Automatic ventilation algorithm temperature map.
- *10: External input priority will not be possible when the pulse input setting is ON.
- *11: Delayed operation will not be possible when the pulse input setting is ON.

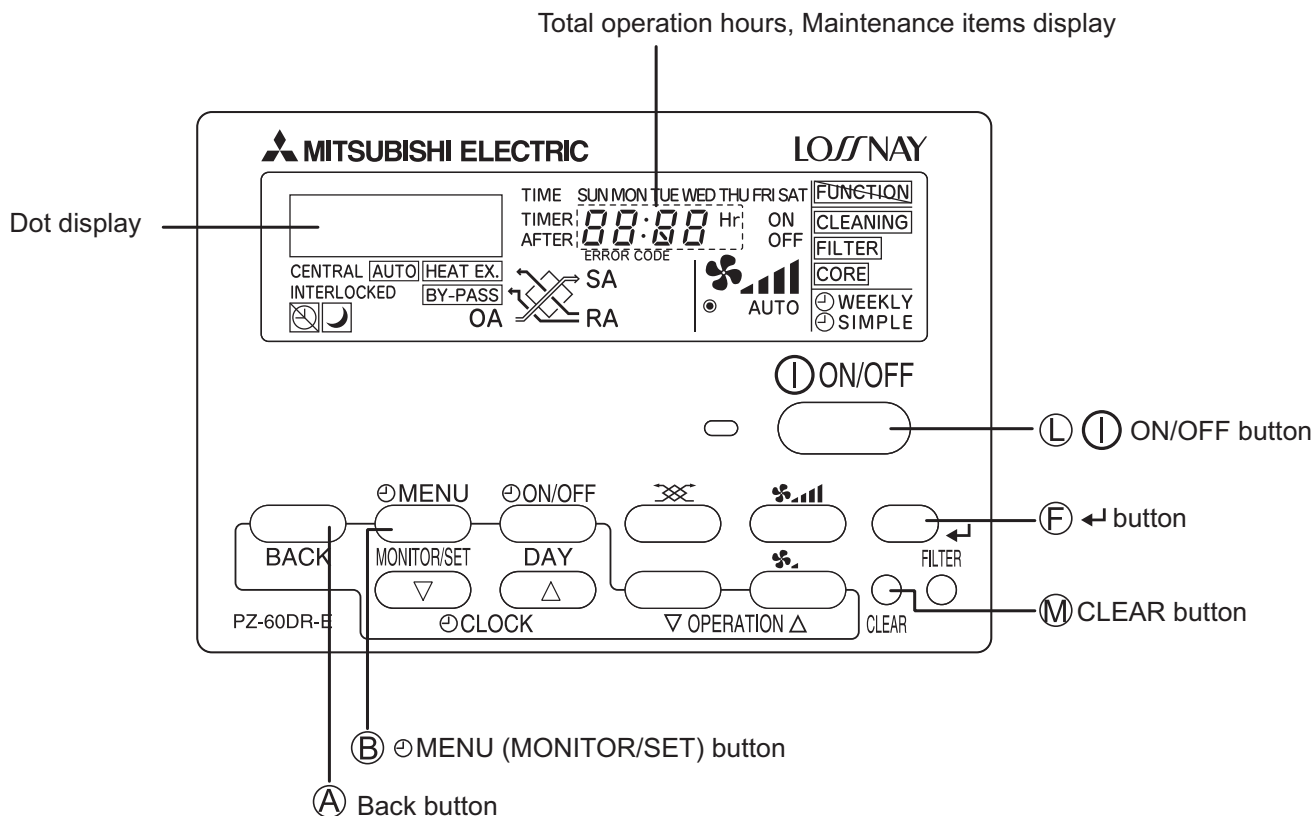
② Maintenance mode

This mode displays the total operation hours of Lossnay, checks the Lossnay address, and displays the error history.

Notes

- If the remote controller Maintenance mode is entered during timer operation, the timer operation will be cancelled. Set timer operation after completing the remote controller Maintenance mode.
- When two remote controllers are used, if one remote controller is set to remote controller Maintenance mode, “FUNCTION” will be displayed in the other remote controller and its operation will be disabled.
- Button response may at times be slow due to communication processing; this is not an error.





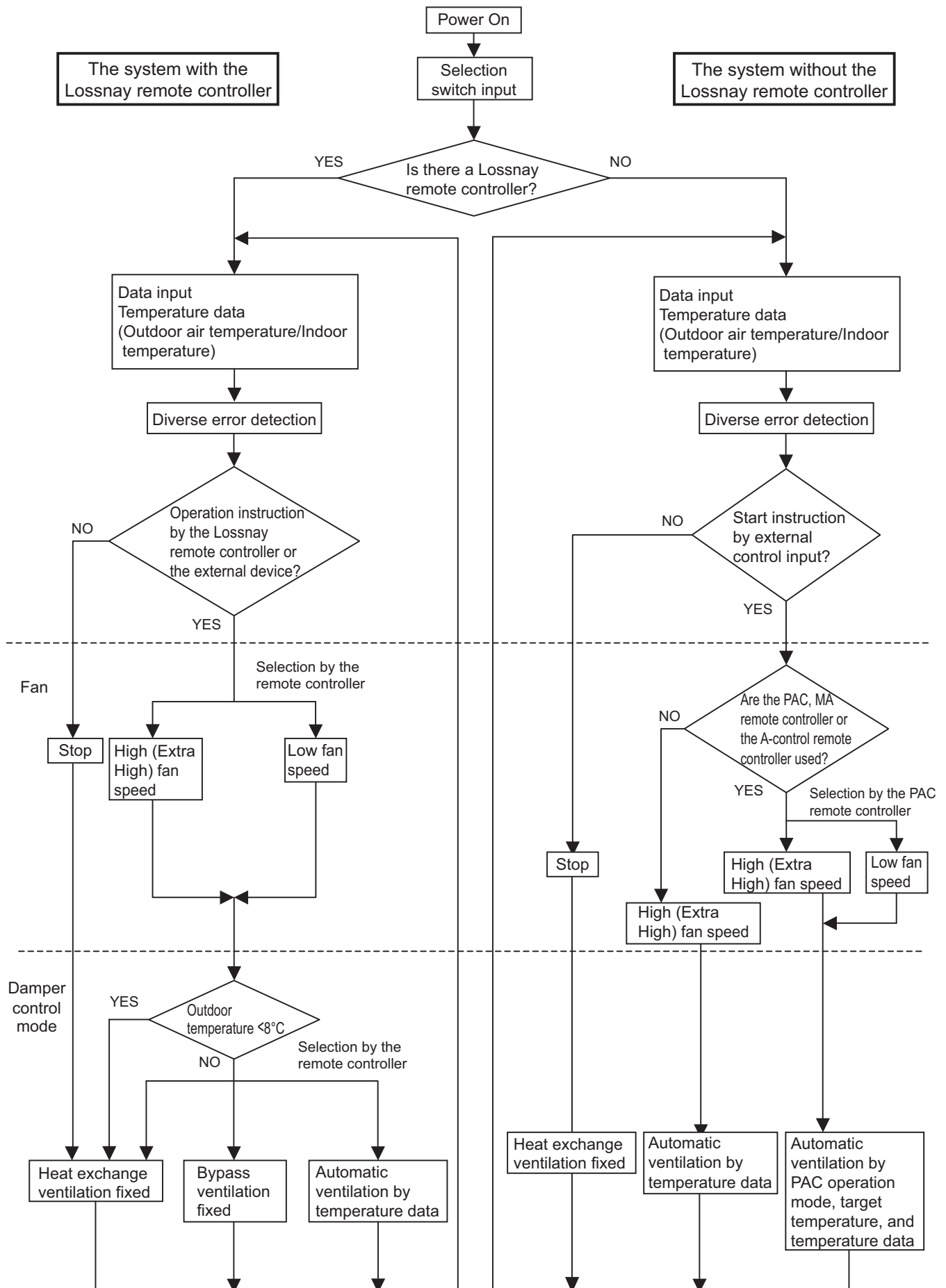
Major items	Intermediate items (Names)	Dot matrix display	Function	Notes
Total operation hours monitor	Total operation hours display	TOTAL HR OPERATION	Displays the total Lossnay operation hours. (The 10,000 and 100,000 hours digits are displayed in the air supply temperature display area)	*12
	Total operation hours of Lossnay ventilation display	TOTAL HR LOSSNAY	Displays the total operation hours when the damper is on the Lossnay side (Lossnay ventilation condition). (The 10,000 and 100,000 hours digits are displayed in the air supply temperature display area)	
Maintenance	Lossnay address switch condition	LOSSNAY ADDRESS	Displays the address switch condition of the "Main" Lossnay. (Example: 001 will be displayed when the address is number 01)	—
	Self diagnosis (Error history/ Error history clear)	SELF CHECK	Alternately displays at a 0.5 second interval the error number, generated attribute, and address as the latest error history stored with the remote controller. This displays the error number and the attribute when the address has not been set (i.e., address 00). "FFFF" will be displayed when the error history is not available.	*13
	Memory clearance	CLEAR MEMORY	Returns all of the remote controller settings and stored content to the factory setting. Hold down the "Clear" button of the remote controller. A change of the display from "rdy" to "End" will indicate the completion of memory clearance.	*14

*12: Performing the memory clearance operation of the maintenance mode will clear the total operation hours.

*13: Two presses of the remote controller "Clear" button during the self diagnosis display will clear the error history. Note also that performing the memory clearance operation of the maintenance mode will clear the error history.

*14: The setting content that is stored by the Lossnay unit will not be cleared; therefore, after executing memory clearance, use the remote controller to perform the function settings again.

(12) Operation sequence flowchart



7. Troubleshooting

- Work precautions
- When removing or touching a transformer, printed circuit board or other parts, make sure to turn off the earth leakage breaker.
 - 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.
 - When servicing, be sure to recreate the malfunction two or three times before starting repairs.
 - If it is thought that there is a printed circuit board malfunction, check for disconnected wires in the print pattern, burnt parts or discoloration.
 - If the printed circuit board is replaced, make sure that the switch settings on the new board are the same as the old board.

7-1 Service flowchart

- Check items
- ① Condition of trouble :

Remote controller display etc.
- ② Frequency of trouble :

The date of starting operation and occurrence of trouble
- ③ Occurrence timing
- ④ With or without working drawings :

Equipment (including controllers), cables, wiring, and settings.

Applicable models

Lossnay

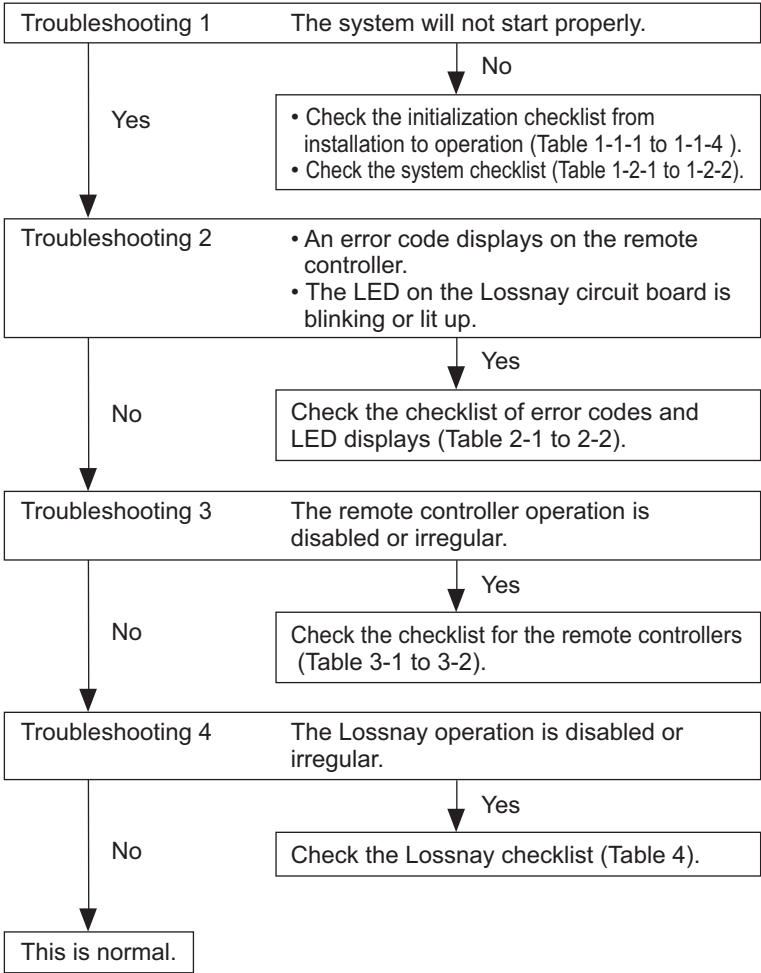
LGF-100GX-E

Remote controller

PZ-60DR-E

PZ-41SLB-E

PZ-52SF-E



7-2 Checklists

(1) Troubleshooting 1: The system will not start properly.

Initialization checklist from installation to operation (Table 1-1)

After checking the system, verify the checkpoints listed below.

Power supply (Table 1-1-1)

No.	Checkpoint	Action
1	Is the main power supply on?	Turn on the main power supply.
2	Do the main power supply switching capacity and wiring diameter meet specification?	Use specified items.
3	Is the specified power supply of 230 V AC connected to the power supply terminal (TM1)?	Connect the specified power supply.
4	Has the fuse (FUSE 1) on the circuit board blown?	Replace the circuit board.
5	Are connector (CN1) of the transformer primary and connector (CN2) of the transformer secondary on the circuit board securely connected?	Connect them securely.
6	Is the power supply wiring incorrectly wired, or is there a faulty connection?	Make secure connections.
7	Is power display LED4 (red) on the circuit board unlit?	Check the above checkpoints.

Transmission cables (Table 1-1-2)

Check the following checkpoints when connecting with the remote controller, M-NET controller, or City Multi indoor units.

No.	Checkpoint	Action
1	Do the transmission cables meet regulations? (Type, diameter)	Use specified cables.
2	Is the transmission cable wired at least 5 cm away from the power supply cable?	Wire the transmission cable at least 5 cm away from the power supply cable.
3	Are multiple transmission or signal cables wired to the same power cable duct?	Wire the transmission cables away from the signal cables.
4	Are multiple transmission cables wired with multi core cables?	Using suitable cables, wire the transmission cables so that they are separated from one another.
5	Are the transmission cables securely connected to the terminals?	Connect them securely.
6	Are the transmission cables connected to the specified terminal blocks? Basic system (PZ-60DR-E, PZ-41SLB-E): TM4 ①, ② M-NET control: TAB5 ④, ⑤	Connect them to the specified terminal blocks.
7	Is the wiring length of the transmission cable within the regulations? Basic system (PZ-60DR-E, PZ-41SLB-E): Total extension within 500 m M-NET control: Maximum extension within 200 m, total extension within 500 m	Wire the cables within the regulations. (See the technical manual for details about the regulations.)
8	Is the Main/Sub selection switch (SW1) on the Lossnay circuit board set correctly? When using one Lossnay unit: Set the unit to "Main". When using multiple Lossnay units: Set the first unit to "Main" and the second and following units to "Sub".	Set the switches correctly.
9	When using M-NET Is the address setting on the Lossnay circuit board (SA1, SA2) set to the correct number?	Make the setting so that the address does not duplicate that of other devices within M-NET control.
10	When PZ-60DR-E is not used, are the function selection switches (SW2, SW5) on the Lossnay circuit board set correctly?	Set the switches correctly to correspond with the application. (Refer to page 25 and 26)
11	When PZ-60DR-E is used, is the function selection set correctly?	Set it correctly to correspond with the application. (Refer to page 27 to 29)

Signal cables from external devices (Table 1-1-3)

Check the following checkpoints when connecting with level signal/pulse signal output devices, and Mr. Slim units.

No.	Checkpoint	Action
1	Do the transmission cables meet regulations? (Type, diameter)	Use specified cables.
2	Is the signal cable wired at least 5 cm away from the power supply cable?	Wire the signal cable at least 5 cm away from the power supply cable.
3	Are multiple transmission or signal cables wired to the same power cable duct?	Wire the transmission cables away from the signal cables.
4	Are multiple signal cables wired with multi core cables?	Using suitable cables, wire the signal cables so that they are separated from one another.
5	Are the signal cables securely connected to the terminals?	Connect them securely.
6	Are the signal cables connected to the specified terminal blocks? Mr. Slim control signal : TM2 ①, ② Charged signal : TM2 ①, ② Uncharged a-contact signal : TM2 ①, ③	Connect them to the specified terminal blocks.
7	Is the wiring length of the signal cable within the regulations? Mr. Slim control signal : Total extension within 500 m Charged signal : Within limitation of the external device Uncharged a-contact signal : Total extension within 500 m	Wire the cables within the regulations.
8	Do the external signals meet specifications? Level signal: Charged 12 V DC/ 24 V DC, uncharged a-contact Pulse signal: Charged 12 V DC/ 24 V DC, uncharged a-contact (A pulse width of 200 ms or greater is required)	Input a signal that suits the specifications.
9	Are the type of input signal and the setting of the pulse input matched? Pulse signal : ON setting Other than pulse signal : OFF setting	<When using PZ-60DR-E> Check the pulse input setting from the function selection. (Refer to page 29) <When not using PZ-60DR-E> Check the setting of the pulse input switch (SW2-2) on the Lossnay circuit board. (Refer to page 25)
10	In a system with multiple Lossnay units, are the signal cables connected to the specified Lossnay unit? Basic system (PZ-60DR-E, PZ-41SLB-E): Lossnay unit for which the Main/Sub selection switch (SW1) is set to "Main" M-Net control: Lossnay unit that is set to the address with the smallest number within the group	Connect the signal cables to the specified Lossnay unit.
11	When PZ-60DR-E is not used, are the function selection switches (SW2, SW5) on the Lossnay circuit board set correctly?	Set the switches correctly to correspond with the application. (Refer to page 25 and 26)
12	When PZ-60DR-E is used, is the function selection set correctly?	Set it correctly to correspond with the application. (Refer to page 27 to 29)

Signal cables to external devices (Table 1-1-4)

Check the following checkpoints when outputting the operation monitor, air supply fan operation monitor, malfunction monitor, bypass operation monitor, and operation monitor with delay function.

No.	Checkpoint	Action																					
1	Do the signal cables meet regulations? (Type, diameter)	Use specified cables.																					
2	Is the signal cable wired at least 5 cm away from the power supply cable?	Wire the signal cable at least 5 cm away from the power supply cable.																					
3	Are multiple transmission or signal cables wired to the same power cable duct?	Wire the transmission cables away from the signal cables.																					
4	Are multiple signal cables wired with multi core cables?	Using suitable cables, wire the signal cables so that they are separated from one another.																					
5	Are the signal cables securely connected to the terminals?	Connect them securely.																					
6	Are the signal cables connected to the specified terminal blocks? Operation monitor, operation monitor with delay function 1: TM4 ⑨, ⑩ Malfunction monitor : TM3 ⑦, ⑧ Bypass operation monitor, operation monitor with delay function 2 : TM3 ⑥, ⑦	Connect them to the specified terminal blocks.																					
7	Are the output capacities of the operation monitor, malfunction monitor, and bypass operation monitor within the ratings? <table border="1"> <thead> <tr> <th>Output</th><th>Maximum rating</th><th>Minimum rating</th></tr> </thead> <tbody> <tr> <td>Operation monitor</td><td>240 V AC 2 A</td><td>220 V AC 100 mA</td></tr> <tr> <td>Operation monitor with delay function 1</td><td>24 V DC 2 A</td><td>5 V DC 100 mA</td></tr> <tr> <td>Malfunction monitor</td><td>240 V AC 1 A</td><td>220 V AC 100 mA</td></tr> <tr> <td></td><td>24 V DC 1 A</td><td>5 V DC 100 mA</td></tr> <tr> <td>Bypass operation monitor</td><td>240 V AC 1 A</td><td>220 V AC 100 mA</td></tr> <tr> <td>Operation monitor with delay function 2</td><td>24 V DC 1 A</td><td>5 V DC 100 mA</td></tr> </tbody> </table>	Output	Maximum rating	Minimum rating	Operation monitor	240 V AC 2 A	220 V AC 100 mA	Operation monitor with delay function 1	24 V DC 2 A	5 V DC 100 mA	Malfunction monitor	240 V AC 1 A	220 V AC 100 mA		24 V DC 1 A	5 V DC 100 mA	Bypass operation monitor	240 V AC 1 A	220 V AC 100 mA	Operation monitor with delay function 2	24 V DC 1 A	5 V DC 100 mA	Use them within the ratings.
Output	Maximum rating	Minimum rating																					
Operation monitor	240 V AC 2 A	220 V AC 100 mA																					
Operation monitor with delay function 1	24 V DC 2 A	5 V DC 100 mA																					
Malfunction monitor	240 V AC 1 A	220 V AC 100 mA																					
	24 V DC 1 A	5 V DC 100 mA																					
Bypass operation monitor	240 V AC 1 A	220 V AC 100 mA																					
Operation monitor with delay function 2	24 V DC 1 A	5 V DC 100 mA																					
8	When the operation monitor is used, is the setting of the output signal correct?	<When using PZ-60DR-E> Check the operation monitor setting from the function selection. (Refer to page 28) <When not using PZ-60DR-E> Check the setting of the operation monitor (SW5-2) on the Lossnay circuit board. (Refer to page 25)																					
9	When the operation monitor is used with delay function , is the setting of the output signal correct?	Check the settings of the TM4 ⑨, ⑩ output setting (SW2-8), and the TM3 ⑥, ⑦ output setting (SW5-6) on the Lossnay circuit board. (Refer to page 25)																					
10	When PZ-60DR-E is not used, are the function selection switches (SW2, SW5) on the Lossnay circuit board set correctly?	Set the switches correctly to correspond with the application. (Refer to page 25 and 26)																					
11	When PZ-60DR-E is used, is the function selection set correctly?	Set it correctly to correspond with the application. (Refer to page 27 to 29)																					

System checklist (Table 1-2)

When using PZ-60DR-E, PZ-41SLB-E, or interlocking with external devices (Table 1-2-1)

No.	Error	Cause	Action
1	<ul style="list-style-type: none"> Remote controller display does not appear. The power display “●” does not appear on the remote controller. The remote controller continues to display “HO”. 	<ul style="list-style-type: none"> Power is not supplied to the Lossnay, or power that does not follow specifications is used. When using only one Lossnay, the Main/Sub switch (SW1) on the Lossnay circuit board is set to “Sub”. The overall wiring length of the transmission cable is longer than specified (longer than 500 m). Is there a connection of 3 or more remote controllers, or 16 or more Lossnay units? The remote controller is connected to TB5 (terminal block for M-NET transmission cable). PZ-52SF-E (Lossnay remote controller for M-NET) is connected to the Lossnay remote controller. 	<ul style="list-style-type: none"> Check the power supply to the Lossnay. (Refer to Table 1-1-1) Set the Main/Sub (SW1) switch to “Main”. Check the length of the transmission cable wiring. Check the number of units connected. Connect the transmission cable to TM4 ①, ②. Change to the PZ-60DR-E or PZ-41SLB-E remote controller.
2	Remote controller does not operate. (Communication error display)	<ul style="list-style-type: none"> When using multiple Lossnay units, the Main/Sub switch (SW1) on the Lossnay circuit board of the second or following units is set to “Main.” The overall wiring length of the transmission cable is longer than specified (longer than 500 m). Multiple transmission cables are wired with multi core cables. When two remote controllers are used, are PZ-60DR-E and PZ-41SLB-E being used together? 	<ul style="list-style-type: none"> Set the Main/Sub switch (SW1) of the second and following Lossnay units to “Sub”. Check the length of the transmission cable wiring. Using suitable cables, wire the transmission cables so that they are separated from one another. Use the same type of the remote controller.
3	Interlock operation with external devices does not occur.	<ul style="list-style-type: none"> Is the specified power being supplied to the Lossnay unit? Are the signal cables from the external devices wired according to regulations? The type of external signal does not match the connected terminal unit (charged, uncharged, serial signal). The type of external signal does not match the pulse input setting (level signal, pulse signal). The external device signal is not being input. The external device and signal cable wiring is longer than specified. <ul style="list-style-type: none"> 12 V DC, 24 V DC: Longer than limitations of the external device Uncharged a-contact: Longer than 500 m Mr. Slim signal: Longer than 500 m “DELAY OPERATION ‘ON’” (PZ-60DR-E) or “Delay time” (PZ-41SLB-E) is set. (When using PZ-60DR-E, during the delay operation, LED1 (green) on the Lossnay circuit board will be lit.) 	<ul style="list-style-type: none"> Refer to Table 1-1-1. Refer to Table 1-1-3. Check the type of external signal and the connections between the external signal and external control input terminal (TM2). <When using PZ-60DR-E> Check the type of external signal and verify the pulse input setting from the function selection. (Refer to page 29) <When not using PZ-60DR-E> Check the type of external signal and the setting of the pulse input switch (SW2-2) on the Lossnay circuit board. (Refer to page 25). Check the external device. Check the length of the signal cable wiring. Check the Delay operation setting with the remote controller (PZ-60DR-E or PZ-41SLB-E).

No.	Error	Cause	Action
3	Interlock operation with external device does not occur.	<ul style="list-style-type: none"> ○ The interlock mode is set to "ON Interlocked" or "OFF Interlocked" with the remote controller (PZ-60DR-E). ○ The interlock mode is set to "2" (ON Interlocked) or "3" (OFF Interlocked) with PZ-41SLB-E. ○ When PZ-60DR-E and PZ-41SLB-E are not used, the delay setting switch (SW5-1) on the Lossnay circuit board is set to ON. (During the delay operation, LED1 (green) on the Lossnay circuit board will be lit.) ○ When PZ-60DR-E and PZ-41SLB-E are not used, the interlock mode setting switches (SW5-7, SW5-8) on the Lossnay circuit board are set to "ON Interlocked" or "OFF Interlocked". ○ When multiple Lossnay units are used, the external control input signal is connected to a unit set to "Sub". ○ Remote/local switching (CN32) is used. 	<ul style="list-style-type: none"> ○ Check the Interlock mode setting with the remote controller (PZ-60DR-E). (Refer to page 19) ○ Check the Interlock mode setting with the remote controller (PZ-41SLB-E). (Refer to page 19) ○ Check the setting of the delay setting switch (SW5-1) on the Lossnay circuit board. (Refer to page 25) ○ Check the setting of the interlock mode setting switch (SW5-7, SW5-8) on the Lossnay circuit board. (Refer to page 25) ○ Connect the external control input signal to the Lossnay unit set to "Main." ○ When Lossnay is interlocked with external devices, remote/local switching (CN32) cannot be used.

Note: When two remote controllers are used, the combination of the PZ-60DR-E and PZ-41SLB-E cannot be used.

System checklist when using the M-NET (Table 1-2-2)

No.	Error	Cause	Action
1	Lossnay does not interlock with City Multi indoor units. (Lossnay cannot be operated with the ventilation button on the ME remote controller, MA remote controller or MELANS.)	<ul style="list-style-type: none"> ○ Lossnay is not set for interlock operation, or is set for interlock operation at the wrong address. ○ The length of the M-NET transmission cable wiring from the outdoor unit or the system's overall wiring length is longer than specified. (Longer than 200 m from the outdoor unit, longer than 500 m between ends.) ○ PZ-41SLB-E is connected to Lossnay. 	<ul style="list-style-type: none"> ○ Check the Lossnay address, and set it for an address corresponding to interlock operation. ○ Check the length of the transmission cable wiring. (See the technical manual for details about the regulations.) ○ Change it to the PZ-60DR-E or PZ-52SF-E remote controller. (PZ-41SLB-E cannot be used with the M-NET.)
2	Cannot operate using MELANS or the Lossnay remote controller.	<ul style="list-style-type: none"> ○ The address that has been set for the group in MELANS and the address for the Lossnay are different. ○ The length of the M-NET transmission cable wiring from the power supply unit or the system's overall wiring length is longer than specified. (Longer than 200 m from the power supply unit, longer than 500 m between ends.) ○ PZ-41SLB-E is connected to Lossnay. 	<ul style="list-style-type: none"> ○ Check the registered address in MELANS. ○ Check the length of the transmission cable wiring. (See the technical manual for details about the regulations.) ○ Change it to the PZ-60DR-E or PZ-52SF-E remote controller. (PZ-41SLB-E cannot be used with the M-NET.)
3	A Lossnay unit should operate independently by MELANS or the Lossnay remote controller, but it interlocks with different City Multi units.	<ul style="list-style-type: none"> ○ It has been set for interlock operation with the City Multi units. 	<ul style="list-style-type: none"> ○ Cancel the interlock operation setting.

No.	Error	Cause	Action
4	Cannot perform group settings for the Lossnay using MELANS, ME remote controller, or MA remote controller. (The remote controller displays “88” at the time of registration.)	<ul style="list-style-type: none"> ○ Power is not supplied to Lossnay, or power that does not follow specifications is used. ○ The M-NET transmission cable is connected to TM4 ①, ②. ○ The transmission cable is not properly connected to MELANS or City Multi. ○ The length of the transmission cable wiring is longer than specified (longer than maximum 200 m from the power supply unit, longer than 500 m between ends). ○ Lossnay address setting (SA1, SA2) is wrong. 	<ul style="list-style-type: none"> ○ Check the power supply to Lossnay and perform the registration again. ○ Connect the transmission cable to TB5 ①, ②. ○ Check the transmission cable connection. ○ Check the length of the transmission cable wiring. (See the technical manual for details about the regulations.) ○ Check the setting of the address setting switches (SA1, SA2) on the Lossnay circuit board.
5	When power is supplied to the system, the Lossnay remote controller PZ-52SF-E continues to display “HO” and does not start. (Group registration information is erased.)	<ul style="list-style-type: none"> ○ In a system connected to MELANS, the group setting was performed from the Lossnay remote controller PZ-52SF-E. ○ The length of the transmission cable wiring is longer than specified (longer than maximum 200 m from the power supply unit, longer than 500 m between ends). 	<ul style="list-style-type: none"> ○ In a system connected to MELANS, perform the group setting with the MELANS. (Do not perform the group setting with PZ-52SF-E.) ○ Check the length of the transmission cable wiring. (See the technical manual for details about the regulations.)
6	When power is supplied to the system, the display of PZ-52SF-E goes blank and the system does not start.	<ul style="list-style-type: none"> ○ The restricted number of connected PZ-52SF-E units have been exceeded. ○ The length of the transmission cable wiring is longer than specified (longer than maximum 200 m from the power supply unit, longer than 500 m between ends). 	<ul style="list-style-type: none"> ○ Check the restricted number of remote controller units when using the power supply unit. (See the technical manual for details.) ○ Check the length of the transmission cable wiring. (See the technical manual for details about the regulations.)
7	The power display “●” does not appear on the remote controller when power is supplied to the system.	<ul style="list-style-type: none"> ○ When the Lossnay units are connected to indoor unit transmission cable side and Lossnay M-NET remote controllers: <ul style="list-style-type: none"> ① PZ-52SF-E is not correctly connected to the transmission cables of the indoor units. ② The outdoor unit is not turned on. ③ The length of transmission cable wiring from the outdoor units is longer than specified (longer than 200 m). ○ When a power supply unit is used <ul style="list-style-type: none"> ① The power supply unit is not connected with the transmission cable. ② The power supply unit is not turned on. ③ The length of the M-NET transmission cable wiring from the power supply unit is longer than specified (longer than 200 m). ○ The transmission cable power supply restrictions have been exceeded. 	<ul style="list-style-type: none"> ① Check the transmission cable connection. ② Check the power of the outdoor unit. ③ Check the length of the transmission cable wiring. (See the technical manual for details about the regulations.) ① Connect the power supply unit with the transmission cable. ② Check the power of the power supply unit. ③ Check the length of the transmission cable wiring. (See the technical manual for details about the regulations.) ○ Make connections within the transmission cable power supply restrictions of the outdoor units, or the power supply units. (See the technical manual for details about the restrictions.)

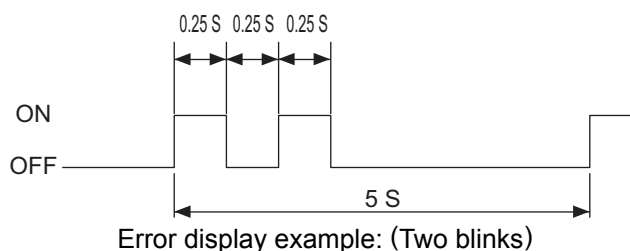
No.	Error	Cause	Action
8	The remote controller PZ-52SF-E continues to blink "HO" when the power is supplied to the system.	<ul style="list-style-type: none"> ○ The specified power is not supplied to Lossnay. ○ Group setting of the PZ-52SF-E address has not been performed with MELANS. ○ Group setting has been performed with PZ-52SF-E. ○ The M-NET transmission cable is connected to TM4 ①, ②. ○ For a Lossnay individual system with no MELANS, Lossnay registration has not been performed by PZ-52SF-E. ○ Lossnay address setting (SA1, SA2) is wrong. ○ Lossnay address setting (SA1, SA2) was changed. ○ The transmission cable power supply restrictions have been exceeded. ○ Group setting has not been performed after replacement of the circuit board. 	<ul style="list-style-type: none"> ○ Check the power to Lossnay. ○ Check the address registration of PZ-52SF-E with MELANS ("HO" displays for 3 to 10 minutes when power is supplied to the system). ○ Connect the transmission cable to TB5 ④, ⑤. ○ Check the Lossnay registration with PZ-52SF-E. ○ Verify the address (SA1, SA2) and register them again. ○ Make connections within the transmission cable power supply restrictions of the outdoor units, or the power supply units. (See the technical manual for details about the restrictions.) ○ Perform group setting again.
9	"LC 6608" appears on the remote controller and the Lossnay does not operate.	<ul style="list-style-type: none"> ○ PZ-60DR-E is connected to the terminal block (TB5 ④, ⑤) for the M-NET transmission cable. ○ Rather than PZ-52SF-E, PZ-41SLB-E is connected to the M-NET transmission cable. 	<ul style="list-style-type: none"> ○ When using PZ-60DR-E, connect to the terminal block (TM4 ①, ②.) for the remote controller transmission cable. ○ Change it to the PZ-60DR-E or PZ-52SF-E remote controller. (PZ-41SLB-E cannot be used with the M-NET.)
10	The operation from MELANS and Lossnay operation differ.	<ul style="list-style-type: none"> ○ PZ-41SLB-E is connected to Lossnay. ○ PZ-60DR-E is connected by crossover cable with multiple Lossnay units of a separate group. 	<ul style="list-style-type: none"> ○ Change it to the PZ-60DR-E or PZ-52SF-E remote controller. (PZ-41SLB-E cannot be used with the M-NET.) ○ Do not connect PZ-60DR-E with multiple Lossnay units of a separate group.

Note: PZ-60DR-E and PZ-52SF-E cannot be used in the same group.

(2) Troubleshooting 2

- An error code displays on the remote controller.
- The LED on the Lossnay circuit board is blinking or lit up.

An error code displayed on the remote controller (PZ-60DR-E, PZ-41SLB-E, PZ-52SF-E) or the M-NET controller, and blinking or illumination of LED1 (green) or LED2 (red) on the circuit board shows the type of an error. The LED blink interval is 0.25 seconds for both on and off. The display duration is approximately 5 seconds.



Checklist of error codes displayed on the PZ-60DR-E (when M-NET is not used) or PZ-41SLB-E, and LED displays (Table2-1)

Error code	LED1 (green)	LED2 (red)	Error	Cause	Action
LC 6608	—	—	Lossnay communication error	<ul style="list-style-type: none"> ○ When multiple Lossnay units are used, the Main/Sub setting has not been made for the second unit and following units. ○ Multiple transmission cables are wired using multi core cables. ○ Transmission cable and power cable are too close. ○ Transmission cable is not securely connected. ○ The length of the transmission cable wiring is longer than specified (longer than 500 m). 	<ul style="list-style-type: none"> ○ Turn off the main power supply and set the Main/Sub selection switch (SW1) (first unit to “Main”, second and following units to “Sub”). ○ Using suitable cables, wire the transmission cables so that they are separated from one another. ○ Wire the transmission cable at least 5 cm away from the power supply cable. ○ Check the transmission cable connection. ○ Check the length of the transmission cable wiring.
RC6608 SRC 6608	—	—	Communication error between remote controllers (when two remote controllers are connected)	<ul style="list-style-type: none"> ○ Multiple transmission cables are wired using multi core cables. ○ Transmission cable and power supply cable are too close. ○ Transmission cable is not securely connected. ○ The length of the transmission cable wiring is longer than specified (longer than 500 m). 	<ul style="list-style-type: none"> ○ Using suitable cables, wire the transmission cables so that they are separated from one another. ○ Wire the transmission cable at least 5 cm away from the power supply cable. ○ Check the transmission cable connection. ○ Check the length of the transmission cable wiring.
RC 6201,6202 SRC 6201,6202	—	—	Remote controller error	<ul style="list-style-type: none"> ○ The remote controller has broken down. 	<ul style="list-style-type: none"> ○ Replace the remote controller.
LC 0900 SLC 0900	—	—	Lossnay trial operation	<ul style="list-style-type: none"> ○ Trial operation switch on the Lossnay circuit board (SW2-1) is set to ON. 	<ul style="list-style-type: none"> ○ Check the trial operation switch. (Refer to page 25)
LC 3126 SLC 3126	8 blinks	—	External device error	<ul style="list-style-type: none"> ○ When the TM3 ⑥, ⑦ output setting switch (SW5-6) is ON, the following conditions are applied. <ul style="list-style-type: none"> • OA temperature is still -10°C or lower, 60 minutes after the output started • OA temperature is 15 °C or higher within 15 minutes after the output started • OA temperature is 70 °C or higher 	<ul style="list-style-type: none"> ○ When external devices are connected, check the external devices. ○ When external devices are not connected, check the TM3 ⑥, ⑦ output setting switch (SW5-6). (Refer to page 25)

Error code	LED1 (green)	LED2 (red)	Error	Cause	Action
LC 3602 SLC 3602	3 blinks	—	Damper re- lated error	<ul style="list-style-type: none"> ○ Damper board operation is not correct. ○ Connectors for the damper unit are not correctly connected. ○ The switch (SW5-10) setting is incorrect. 	<ul style="list-style-type: none"> ○ Remove the rod, and check whether the dampers can be moved manually. ○ Check the connection of the lead wire connectors and the circuit connector. ○ Check that the switch (SW5-10) is OFF. (Refer to page 26)
LC 4116 SLC 4116	2 blinks	—	Fan motor operation drive error	<ul style="list-style-type: none"> ○ The Lossnay fan does not stop due to a breakdown of the fan motor operation drive of the circuit board. ○ Fan motor error 	<ul style="list-style-type: none"> ○ Check and replace the circuit board. ○ Check and replace the fan motor.
LC 5101 SLC 5101	4 blinks	—	OA thermis- tor related error	<ul style="list-style-type: none"> ○ Connectors for the thermistor are not correctly connected. 	<ul style="list-style-type: none"> ○ Check the connection of the lead wire connectors and the circuit connectors.
LC 5102 SLC 5102	5 blinks	—	RA thermis- tor related error	<ul style="list-style-type: none"> ○ Connectors for the thermistor are not correctly connected. 	<ul style="list-style-type: none"> ○ Check the connection of the lead wire connectors and the circuit connectors.
— — —	9 blinks	—	Remote controller communi- cation error	<ul style="list-style-type: none"> ○ No Lossnay unit is set to "Main". ○ Multiple transmission cables are wired using multi core cables. ○ Transmission cable and power supply cable are too close. ○ Transmission cable is not securely connected. ○ The length of the transmission cable wiring is longer than specified (longer than 500 m). 	<ul style="list-style-type: none"> ○ Turn off the main power, and set the Main/Sub selection switch (SW1). (Set the first unit to "Main" and the second and following units to "Sub".) ○ Using suitable cables, wire the transmission cables so that they are separated from one another. ○ Wire the transmission cable at least 5 cm away from the power supply cable. ○ Check the transmission cable connection. ○ Check the length of the transmission cable wiring.
"CLEANING" "FILTER" blinking	—	—	Filter cleaning warning accord- ing to total hours of operation	<ul style="list-style-type: none"> ○ It is time to clean the Filters. 	<ul style="list-style-type: none"> ○ After cleaning the filters, press the "FILTER" button of the remote controller two times.
"CLEANING" "CORE" blinking	—	—	Lossnay core cleaning warning according to total hours of operation (PZ-60DR-E)	<ul style="list-style-type: none"> ○ It is time to clean the Lossnay cores. 	<ul style="list-style-type: none"> ○ After cleaning the Lossnay cores, press the "FILTER" button of the remote controller two times.
"PLEASE WAIT" blinking	blink- ing	—	System is starting (PZ-60DR-E)	<ul style="list-style-type: none"> ○ LED1 blinks at 1 second intervals during starting operation (maximum of 45 seconds). 	<ul style="list-style-type: none"> ○ This is not an error.
"HO" blink- ing	blink- ing	—	System is starting (PZ-41SLB-E)	<ul style="list-style-type: none"> ○ LED1 blinks at 1 second intervals during starting operation (maximum of 45 seconds). 	<ul style="list-style-type: none"> ○ This is not an error.
— — —	Lit	—	In delay operation	<ul style="list-style-type: none"> ○ "DELAY OPERATION 'ON'" is set from PZ-60DR-E. ○ Delay setting switch (SW5-1) on the Lossnay circuit board is set to ON. 	<ul style="list-style-type: none"> ○ This is not an error. ○ This is not an error.
— — —	—	Lit	No M-NET connec- tion information	<ul style="list-style-type: none"> ○ LED2 will be lit when M-NET is not used. 	<ul style="list-style-type: none"> ○ This is not an error.

Note: LC: "Main" Lossnay SLC: "Sub" Lossnay RC, SRC: remote controller (PZ-60DR-E or PZ-41SLB-E)

Checklist of error codes displayed on PZ-60DR-E (when using M-NET), PZ-52SF-E or M-NET controllers, and LED displays (Table2-2)

Error code	LED1 (green)	LED2 (red)	Error	Cause	Action
6600	—	6 blinks	Multiple address error	○ There is another unit with the same address setting.	○ Check the addresses of devices in the system.
6607 6608	—	8 blinks	No ACK error *1 No answer error (M-NET commu- nication error)	○ Power is not supplied to Lossnay. ○ Lossnay address was changed. ○ Multiple transmission cables are wired using multi core cables. ○ Transmission cable is not securely connected. ○ The length of the transmission cable wiring is longer than specified (long- er than maximum extension 200 m, longer than 500 m between ends).	○ Check the power supply to Lossnay. ○ Check the Lossnay address. ○ Using suitable cables, wire the transmission cables so that they are separated from one another. ○ Check the transmission cable connection. ○ Check the length of the transmis- sion cable wiring. (See the techni- cal manual for details about the regulations.)
0900	—	—	Lossnay trial operation	○ Trial operation switch on the Lossnay circuit board (SW2-1) is set to ON.	○ Check the trial operation switch. (Refer to page 25)
3126	8 blinks	—	External device error	○ When the TM3 ⑥, ⑦ output set- ting switch (SW5-6) is ON, the following conditions are applied. • OA temperature is still -10 °C or lower, 60 minutes after the output started • OA temperature is 15 °C or higher within 15 minutes after the output started • OA temperature is 70 °C or higher	○ When external devices are con- nected, check the external devices. ○ When external devices are not connected, check the TM3 ⑥, ⑦ output setting switch (SW5-6). (Refer to page 25)
3602	3 blinks	—	Damper re- lated error	○ Damper board operation is not correct. ○ Connectors for the damper unit are not correctly connected. ○ The switch (SW5-10) setting is incorrect.	○ Remove the rod, and check whether the dampers can be moved manually. ○ Check the connection of the lead wire connectors and the circuit connectors. ○ Check that the switch (SW5-10) is OFF. (Refer to page 26)
4116	2 blinks	—	Fan motor operation drive error	○ The Lossnay fan does not stop due to a breakdown of the fan motor operation drive of the circuit board. ○ Fan motor error	○ Check and replace the circuit board. ○ Check and replace the fan motor.
5101	4 blinks	—	OA thermis- tor related error	○ Connectors for the thermistor are not correctly connected.	○ Check the connection of the lead wire connectors and the circuit connectors.
5102	5 blinks	—	RA thermis- tor related error	○ Connectors for the thermistor are not correctly connected.	○ Check the connection of the lead wire connectors and the circuit connectors.
6602 6604	—	1 to 4 blinks	Communication circuit section error	○ Controller where an error originally occurred is defective. ○ Lossnay circuit board is defective.	○ Check the controller where the er- ror occurred. ○ Replace the circuit board.
6603	—	5 blinks	Transmission cable error	○ Power is supplied to the same transmission cable from two or more power supply units. ○ The power supply unit is connect- ed to the TB3 side of the power supply expansion unit. ○ The power supply unit is con- nected to the indoor and outdoor transmission cables.	○ Adjust the wiring of the power sup- ply unit.

*1 ACK: Acknowledgement signal from other communicating devices.


Error code	LED1 (green)	LED2 (red)	Error	Cause	Action
6801	9 blinks	—	PZ-60DR-E communi- cation error	<ul style="list-style-type: none"> ○ When multiple Lossnay units are used, the Main/Sub setting has not been made for the second unit and following units. ○ Multiple transmission cables are wired using multi core cables. ○ Transmission cable and power cable are too close. ○ Transmission cable is not securely connected. ○ The length of the transmission cable wiring is longer than specified (longer than 500 m). 	<ul style="list-style-type: none"> ○ Turn off the main power supply and set the Main/Sub selection switch (SW1) (first unit to “Main”, second and following units to “Sub”). ○ Using suitable cables, wire the transmission cables so that they are separated from one another. ○ Wire the transmission cable at least 5 cm away from the power supply cable. ○ Check the transmission cable connection. ○ Check the length of the transmission cable wiring.
“CLEANING” “FILTER” blinking	—	—	Filter clean- ing warning according to total hours of operation	<ul style="list-style-type: none"> ○ It is time to clean the Filters. 	<ul style="list-style-type: none"> ○ After cleaning the filters, press the “FILTER” button of the remote controller two times.
“CLEANING” “CORE” blinking	—	—	Lossnay core clean- ing warning according to total hours of operation (PZ-60DR-E)	<ul style="list-style-type: none"> ○ It is time to clean the Lossnay cores. 	<ul style="list-style-type: none"> ○ After cleaning the Lossnay cores, press the “FILTER” button of the remote controller two times.
“PLEASE WAIT” blinking	blink- ing	—	System is starting (PZ-60DR-E)	<ul style="list-style-type: none"> ○ LED1 blinks at 1 second intervals during starting operation (maximum of 45 seconds). 	<ul style="list-style-type: none"> ○ This is not an error.
“HO” blink- ing	blink- ing	—	System is starting (PZ-52SF-E)	<ul style="list-style-type: none"> ○ LED1 blinks at 1 second intervals during starting operation (maximum of 45 seconds). 	<ul style="list-style-type: none"> ○ This is not an error.
— — —	—	Lit	No M-NET connection information	<ul style="list-style-type: none"> ○ The Lossnay units have not been set to group setting (registration). 	<ul style="list-style-type: none"> ○ Check the Lossnay address and confirm that the group setting has been made.
— — —	Lit	—	In delay operation	<ul style="list-style-type: none"> ○ “DELAY OPERATION ‘ON’” is set from PZ-60DR-E. ○ Delay setting switch (SW5-1) on the Lossnay circuit board is set to ON. 	<ul style="list-style-type: none"> ○ This is not an error. ○ This is not an error.

Note: The “LC” characters that are displayed simultaneously with the error code indicate the Lossnay attributes in the M-NET device.

(3) Troubleshooting 3: The remote controller operation is disabled or irregular.

Checklist for PZ-60DR-E or PZ-41SLB-E (Table 3-1)

No.	Error	Cause	Action
1	Nothing displays on the liquid crystal display (LCD).	<ul style="list-style-type: none"> ○ Transmission cable is connected to the wrong terminal block. ○ No Lossnay unit is set to "Main". ○ Power is not supplied to Lossnay. ○ Power that does not follow specifications is used. ○ Transmission cable is not securely connected. ○ The length of the transmission cable wiring is longer than specified (longer than 500 m). 	<ul style="list-style-type: none"> ○ Check the transmission cable connection. (TM4 ①, ② for the transmission cable from the remote controller) ○ Turn off the main power supply and set the Main/Sub selection switch (SW1) (first unit to "Main", and second and following units to "Sub"). ○ Check the power supply to Lossnay. ○ Check the power supply. ○ Check the transmission cable connection. ○ Check the length of the transmission cable wiring.
2	Starts or stops, or the display changes, by itself.	<ul style="list-style-type: none"> ○ Multiple transmission cables are wired using multi core cables. ○ Transmission cable and power supply cable are too close. 	<ul style="list-style-type: none"> ○ Using suitable cables, wire the transmission cables so that they are separated from one another. ○ Wire the transmission cable at least 5 cm away from the power supply cable.
3	Displays an error code that is not in the check list.	<ul style="list-style-type: none"> ○ LCD characters on the remote controller are missing. ○ Poor return action of the remote controller buttons. 	<ul style="list-style-type: none"> ○ Replace the remote controller. ○ Replace the remote controller.
4	Cannot stop the Lossnay with the remote controller. ("CENTRAL" is displayed)	<ul style="list-style-type: none"> ○ Operation of the remote controller has been prohibited by MELANS. ○ "INTERLOCK MODE" is set to "oUT" (external input given priority). ○ Remote/local switching (CN32) is set to "Remote." 	<ul style="list-style-type: none"> ○ Check the setting of the MELANS. ○ Check the interlock mode setting. (Refer to page 19) ○ Check the remote/local switching (CN32). (Refer to page 22)
5	Cannot switch fan speed with the remote controller.	<ul style="list-style-type: none"> ○ High/Low fan speed switching external input (CN16) is ON. ○ When PZ-60DR-E is used, "POWER VENT START" is set to "on" with the function selection of the remote controller. ○ When PZ-60DR-E is not used, the function selection switch for "Power supply/exhaust when operation starts" (SW2-3) on the Lossnay circuit board is set to ON. ○ When PZ-60DR-E is used, the supply fan speed setting and the exhaust fan speed setting are set to "L" with the function selection of the remote controller. ○ When PZ-60DR-E is not used, the function selection switches for "Supply fan fixed at Low speed", and "Exhaust fan fixed at Low speed" (SW2-4, SW2-5) on the Lossnay circuit board are set to ON. 	<ul style="list-style-type: none"> ○ Check the High/Low fan speed switching input (CN16). (Refer to page 20 and 21) ○ Check the setting of "power supply/exhaust when operation starts" with the PZ-60DR-E function selection. (Refer to page 28) ○ Check the function selection switch (SW2-3). (Refer to page 25) ○ Check the supply fan speed setting and the exhaust fan speed setting with the PZ-60DR-E function selection. (Refer to page 28) ○ Check the function selection switches (SW2-4, SW2-5). (Refer to page 25)
6	The ventilation mode cannot be switched with the remote controller.	<ul style="list-style-type: none"> ○ The bypass ventilation switching external input (CN16) is set to ON. 	<ul style="list-style-type: none"> ○ Check the bypass ventilation switching input (CN16). (Refer to page 22)

No.	Error	Cause	Action
7	When the main power supply is turned on, the remote controller display will indicate and Lossnay will start.	<ul style="list-style-type: none"> ○ When PZ-60DR-E is used, "RECOVERY SETTING" is set to "on" or "AUTO" with the function selection of the remote controller. ○ When PZ-60DR-E is not used, the function selection switch (SW2-6 or SW5-4) on the Lossnay circuit board is set to ON. ○ When PZ-41SLB-E is used, the main power supply was turned off during operation. 	<ul style="list-style-type: none"> ○ Check the power supply ON/OFF/AUTO setting with the PZ-60DR-E function selection. (Refer to page 28) ○ Check the function selection switch (SW2-6 or SW5-4). (Refer to page 25) ○ When PZ-41SLB-E is used, the operation prior to switching off the power will return when the main power supply is turned on. Switch off the main power supply approximately 10 seconds after Lossnay stop with the remote controller.
8	There is no power failure automatic return.	<ul style="list-style-type: none"> ○ When PZ-60DR-E is used, "RECOVERY SETTING" is set to "off" with the function selection of the remote controller. ○ When PZ-60DR-E is not used, the function selection switch (SW5-4) on the Lossnay circuit board is set to ON. 	<ul style="list-style-type: none"> ○ Check the power supply ON/OFF/AUTO setting with the PZ-60DR-E function selection. (Refer to page 28) ○ Check the function selection switch (SW5-4) on the Lossnay circuit board. (Refer to page 25)
9	The fan does not stop even though the remote controller is set to stop.	○ Operation monitor with delay function is set to ON. (Function selection switch SW2-8 or SW5-6 is set to ON)	○ Check the function selection switch (SW2-8 or SW5-6). (Refer to page 25)
10	When PZ-60DR-E is used, Lossnay starts or stops operating, or the fan speed changes, by itself.	<ul style="list-style-type: none"> ○ Timer function has been set with PZ-60DR-E. ○ "NIGHT PURGE" is set to "on" with PZ-60DR-E. 	<ul style="list-style-type: none"> ○ Check the timer function setting with PZ-60DR-E. ○ Check the night purge setting of PZ-60DR-E. If enabled, this is not an error. (Refer to page 28)
11	When PZ-60DR-E is used, Lossnay does not operate in accordance with the timer setting.	○ When a different timer has been set with each remote controller in a two remote controller system, the resultant operation will not be in accordance with the setting.	○ Perform the timer setting with one remote controller only, and use the other remote controller as "( Timer off indicator)".
12	"CLEANING" "FILTER" / "CLEANING" "CORE" (PZ-60DR-E), or "FILTER" (PZ-41SLB-E) continues to blink and the display cannot be reset.	<ul style="list-style-type: none"> ○ The display is reset incorrectly. ○ The remote controller has broken down. 	<ul style="list-style-type: none"> ○ During Lossnay operation, press the "FILTER" button two times (within 3 seconds). ○ Replace the remote controller.
13	The volume of air is extremely reduced.	○ The switch (SW6) setting is incorrect.	○ Check that the switch SW6-1 is ON, and SW6-2, to 6-4 are OFF. (Refer to page 26)

Note: When two remote controllers are used, the combination of the PZ-60DR-E and PZ-41SLB-E cannot be used.

Checklist for PZ-52SF-E (Table 3-2)

No.	Error	Cause	Action
1	Nothing displays on the liquid crystal display (LCD).	<ul style="list-style-type: none"> ○ Transmission cable is connected to the wrong terminal block. ○ There is no power supply unit (for Lossnay only systems). ○ The power supply unit is not turned on. ○ Transmission cable is not securely connected. ○ Wiring length of the transmission cable from the power supply unit or the outdoor unit is longer than specified (maximum extension 200 m). 	<ul style="list-style-type: none"> ○ Check the transmission cable connection (TB5 (A), (B) for M-NET transmission cables). ○ Install the power supply unit. ○ Check the power to the power supply unit. ○ Check the transmission cable connection. ○ Check the length of the transmission cable wiring. (See the technical manual for details about the regulations.)

No.	Error	Cause	Action
2	Continues to display "HO" and does not start.	<ul style="list-style-type: none"> ○ It is less than 10 minutes since the power was supplied to the system. ○ Group setting (registration) has not been performed. ○ The PZ-52SF-E address has not been registered in the group setting by MELANS. ○ Power supply to the Lossnay is not turned on. ○ Power that does not follow specifications is used. ○ Transmission cable is connected to the wrong terminal of the Lossnay unit. ○ Lossnay address was changed. ○ Lossnay circuit board was replaced. ○ The length of the transmission cable wiring is longer than specified (longer than maximum extension 200 m, longer than 500 m between ends). 	<ul style="list-style-type: none"> ○ After supplying power to the system, "HO" blinks for a maximum of about 10 minutes. (This is not an error.) ○ Perform the group setting (registration). If using MELANS, register with the MELANS. If there is only PZ-52SF-E, register with it. ○ Check the group setting with the MELANS. ○ Check the power supply to Lossnay. ○ Check the power supply. ○ Check the transmission cable connection (TB5 (A),(B) for M-NET transmission cables). ○ Check the Lossnay address. ○ If the circuit board has been replaced, perform the group settings again. ○ Check the length of the transmission cable wiring. (See the technical manual for details about the regulations.)
3	Cannot register the Lossnay with PZ-52SF-E or MELANS.	<ul style="list-style-type: none"> ○ Power is not supplied to Lossnay. ○ Power that does not follow specifications is used. ○ Transmission cable to the Lossnay is not connected. ○ Transmission cable is connected to the wrong terminal of the Lossnay unit. ○ Lossnay address was changed. ○ The length of the transmission cable wiring is longer than specified (longer than maximum extension 200 m, longer than 500 m between ends). 	<ul style="list-style-type: none"> ○ Check the power supply to Lossnay. ○ Check the power supply. ○ Check the transmission cable connection. ○ Check the transmission cable connection (TB5 (A),(B) for M-NET transmission cables). ○ Check the Lossnay address. ○ Check the length of the transmission cable wiring. (See the technical manual for details about the regulations.)
4	Starts or stops, or the display changes, by itself.	<ul style="list-style-type: none"> ○ The Lossnay unit is set for interlock operation with City Multi. 	<ul style="list-style-type: none"> ○ Cancel the interlock mode setting.
5	Displays an error code that is not in the checklist.	<ul style="list-style-type: none"> ○ LCD characters on the remote controller are missing. 	<ul style="list-style-type: none"> ○ Replace the remote controller.
6	Cannot stop Lossnay with the remote controller. ("CENTRAL" is displayed)	<ul style="list-style-type: none"> ○ Operation of the remote controller has been prohibited by MELANS. ○ "INTERLOCK MODE" is set to "oUT" (external input given priority). ○ Remote/local switching (CN32) is set to "Remote." 	<ul style="list-style-type: none"> ○ Check the settings of the MELANS. ○ Check the interlock mode setting. (Refer to page 19) ○ Check the remote/local switching (CN32). (Refer to page 22)




Note: PZ-60DR-E and PZ-52SF-E cannot be used in the same group.

(4) Troubleshooting 4: The Lossnay operation is disabled or irregular.

Lossnay checklist (Table 4)

No.	Error	Cause	Action
1	The fan does not operate. The fan does not operate normally.	<ul style="list-style-type: none"> ○ Connectors for the fan or connectors for the Lossnay circuit board section are not correctly connected. ○ Power is not supplied to the Lossnay, or power that does not follow specifications is used. ○ When M-NET is used, Lossnay group setting is not performed. (LED2 lights) 	<ul style="list-style-type: none"> ○ Check the lead wire connectors and the Lossnay circuit board section connectors. ○ Check the power supply. ○ Check the Lossnay address and the group setting. (LED2 lights when not using M-NET. This is not an error.)
2	Interlocked operation with external devices (air conditioners) does not occur.	<ul style="list-style-type: none"> ○ The type of external signal does not match the connected terminal block (charged, uncharged, Mr. Slim signal). ○ The type of external signal does not match the pulse input setting (level signal, pulse signal). ○ The external device signal is not being input. ○ The external device and signal cable wiring is longer than specified. <ul style="list-style-type: none"> 12 V DC, 24 V DC : Longer than limitations of the external device Uncharged a-contact : Longer than 500 m Mr. Slim signal : Longer than 500 m ○ The Delay operation is set with the function selection of PZ-60DR-E or PZ-41SLB-E, or the function selection switch (SW5-1) on the Lossnay circuit board. ○ The ON Interlocked or OFF Interlocked is set with the function selection of PZ-60DR-E or PZ-41SLB-E, or the function selection switches (SW5-7, SW5-8) on the Lossnay circuit board. ○ When multiple Lossnay units are used, the external control input signal is connected to a "Sub" Lossnay. ○ In a group of multiple Lossnay units with M-NET, the external control input signal is connected to a Lossnay unit other than the one with the smallest address. ○ There is a communication error with the remote controller or MELANS. 	<ul style="list-style-type: none"> ○ Check the external signal type and the external control input terminal (TM2) connection. ○ <When using PZ-60DR-E> Check the external signal type and the pulse input setting from the function selection. ○ <When not using PZ-60DR-E> Check the external signal type and the pulse input setting switch (SW2-2) on the Lossnay circuit board. (Refer to page 18). ○ Check the external device. ○ Check the wiring length of the signal cable. ○ Check the delay operation setting of PZ-60DR-E or PZ-41SLB-E, and the function selection switch (SW5-1) on the Lossnay circuit board. (Refer to page 19) ○ Check the interlock mode setting of PZ-60DR-E, PZ-41SLB-E, or the function selection switches (SW5-7, SW5-8) on the Lossnay circuit board. (Refer to page 19) ○ Connect the external control input signal to the "Main" Lossnay. ○ Connect the external control input signal to the Lossnay unit with the smallest address in the group. ○ Check the remote controller or MELANS.
3	The fan will not stop.	<ul style="list-style-type: none"> ○ Trial operation switch (SW2-1) on the Lossnay circuit board is set to ON. ○ The TM4 ⑨, ⑩ output setting switch (SW2-8) or the TM3 ⑥, ⑦ output setting switch (SW5-6) on the Lossnay circuit board is set to ON. 	<ul style="list-style-type: none"> ○ Check the trial operation switch (SW2-1). (Refer to page 23) ○ When SW2-8 or SW5-6 is ON, the fan will stop 3 minutes after OFF operation of the remote controller. (Refer to page 14)

No.	Error	Cause	Action
4	Lossnay operates when the main power is turned on.	<ul style="list-style-type: none"> ○ When PZ-60DR-E is used, "RECOVERY SETTING" is set to "on" or "AUTO" with the function selection of the remote controller. ○ When PZ-60DR-E is not used, the function selection switches (SW2-6 or SW5-4) on the Lossnay circuit board are set to ON. ○ When PZ-41SLB-E is used, the main power supply was turned off during operation. 	<ul style="list-style-type: none"> ○ Check the power supply ON/OFF/AUTO setting with the PZ-60DR-E function selection. (Refer to page 28) ○ Check the function selection switches (SW2-6 or SW5-4) (Refer to page 25) ○ When PZ-41SLB-E is used, the operation prior to switching off the power will return when the main power supply is turned on. Switch off the main power supply approximately 10 seconds after Lossnay stop with the remote controller.
5	Takes in air from outdoors during interlocked operation with a Mr. Slim or a City Multi, but air supply fan does not stop when defrosting.	<ul style="list-style-type: none"> ○ The outdoor air intake setting of the PAC indoor unit or the PAC remote controller is not enabled. 	<ul style="list-style-type: none"> ○ Set the outdoor air intake to "ON" with the indoor unit or the PAC remote controller.
6	The air supply fan and air exhaust fan both periodically stop operating.	<ul style="list-style-type: none"> ○ In a system that Lossnay has duct connections and interlocked with Mr. Slim or City Multi indoor units, when "EA SETTING DEFROST" is set to "oFF" with PZ-60DR-E, or when the function selection switch (SW5-3) on the Lossnay circuit board is ON, the fans will stop during air conditioner defrosting. 	<ul style="list-style-type: none"> ○ Check the exhaust operation setting for air conditioner defrosting with the PZ-60DR-E function selection, or the function selection switch (SW5-3). (Refer to page 25 and 29)
7	Fan speed will not change.	<ul style="list-style-type: none"> ○ High/Low fan speed switching external input (CN16) is ON. ○ When PZ-60DR-E is used, "POWER VENT START" is set to "on" with the function selection of the remote controller. ○ When PZ-60DR-E is not used, the function selection switch for "Power supply/exhaust when operation starts" (SW2-3) on the Lossnay circuit board is set to ON. ○ When PZ-60DR-E is used, the supply fan speed setting and the exhaust fan speed setting are set to "L" with the function selection of the remote controller. ○ When PZ-60DR-E is not used, the function selection switches for "Supply fan fixed at Low speed", and "Exhaust fan fixed at Low speed" (SW2-4, SW2-5) on the Lossnay circuit board are set to ON. ○ Trial operation switch (SW2-1) on the Lossnay circuit board is set to ON. 	<ul style="list-style-type: none"> ○ Check the High/Low fan speed switching input (CN16). (Refer to page 20 and 21) ○ Check the setting of "power supply/exhaust when operation starts" with the PZ-60DR-E function selection. (Refer to page 28) ○ Check the function selection switch (SW2-3). (Refer to page 25) ○ Check the supply fan speed setting and the exhaust fan speed setting with the PZ-60DR-E function selection. (Refer to page 28) ○ Check the function selection switches (SW2-4, SW2-5). (Refer to page 25) ○ Check the trial operation switch (SW2-1). (Refer to page 25)

No.	Error	Cause	Action
8	The damper board does not operate.	<ul style="list-style-type: none"> ○ The outdoor air temperature is 8 °C or lower. ○ The bypass ventilation switching external input (CN16) is set to ON. ○ During the night purge operation ○ Damper board operation is not correct. ○ Connectors for the thermistor are not correctly connected. ○ Connectors for the dampers are not correctly connected. ○ The trial operation switch (SW2-1) on the Lossnay circuit board is turned ON. 	<ul style="list-style-type: none"> ○ Check the outdoor air temperature. ○ Check the bypass ventilation switching input (CN16). (Refer to page 22) ○ Check the display of the PZ-60DR-E. ("  " is displayed) ○ Remove the rod, and check whether the dampers can be moved manually. ○ Check the connections of the lead wire connectors and the circuit connectors. ○ Check the connections of the lead wire connectors and the circuit connectors. ○ Check the trial operation switch (SW2-1) on the Lossnay circuit board. (Refer to page 25)
9	Operation monitor output is OFF during operation.	<ul style="list-style-type: none"> ○ When the "OPERATION MONITOR" is set to "2" with the PZ-60DR-E function selection, or when the function selection switch (SW5-2) on the Lossnay circuit board is ON, because there is operation monitor output interlocked with the air supply fan, the operation monitor output will turn OFF when the outdoor temperature is -10 °C or less, or at the time of air conditioner defrosting. 	<ul style="list-style-type: none"> ○ Check the operation monitor output setting with the PZ-60DR-E function selection, or the function selection switch (SW5-2) on the Lossnay circuit board. (Refer to page 25 and 28)
10	Delay operation does not work even though Delay operation is set.	<ul style="list-style-type: none"> ○ Pulse input setting is set to ON. 	<ul style="list-style-type: none"> ○ <When using PZ-60DR-E> Check the pulse input setting from the function selection. (Refer to page 29) <When not using PZ-60DR-E> Check the setting of the pulse input switch (SW2-2) on the Lossnay circuit board. (Refer to page 25).
11	Night purge operation does not work even though Night purge operation is set.	<ul style="list-style-type: none"> • The night purge conditions have not been satisfied. • Lossnay has been started or stopped during the display of "  (Night purge)". • Night purge operation will not be performed when "CENTRAL" is displayed. 	<ul style="list-style-type: none"> • Check whether these are the night purge operation conditions. (Refer to page 23 and 24) • When Lossnay has been started or stopped during the display of "  ", the night purge operation will not be performed until 1:00 of the next day.
12	The fan does not stop even though the remote controller is set to stop.	<ul style="list-style-type: none"> ○ Operation monitor with delay function is set. (Function selection switch (SW2-8 or SW5-6) is set to ON) 	<ul style="list-style-type: none"> ○ Check the setting of the function selection switch (SW2-8 or SW5-6). The fan will stop 3 minutes after the remote controller OFF operation. (Refer to page 14)
13	The damper board does not operate correctly.	<ul style="list-style-type: none"> ○ The switch (SW5-10) setting is incorrect. 	<ul style="list-style-type: none"> ○ Check that the switch (SW5-10) is OFF. (Refer to page 26)

It is normal in the following cases.

No.	Error	Cause	Reference
1	Immediately after turning on the main power, LED1 (green) on the Lossnay circuit board blinks.	LED1 blinks at 1 second intervals during starting operation (maximum of 45 seconds).	Page 11
2	LED1 (green) on the Lossnay circuit board is lit.	LED1 will be lit during the delay operation when the delay operation setting is enabled.	Page 19
3	LED2 (red) on the Lossnay circuit board is lit.	LED2 will be lit when M-NET is not used.	Page 41
4	When PZ-60DR-E is used, the operation will not be in accordance with the setting of the function selection switch on the Lossnay circuit board.	As for the Lossnay function selection, the function selection setting by PZ-60DR-E will have priority.	Page 26 - 29
5	When PZ-60DR-E is used, button operations of the remote controller will result in a display of "NOT AVAILABLE".	<p>"NOT AVAILABLE" will be displayed in the following circumstances:</p> <ul style="list-style-type: none"> • When the "Extra Low" fan speed" button has been operated with the Lossnay unit LGF-100GX-E connected. • When the "timer menu" button or the "timer on/off" button has been operated with timer function set to "TIMER MODE OFF". • When the operation lock setting (i.e., pressing "FILTER" and "ON/OFF" buttons at the same time) has been performed with the "LOCKING FUNCTION" is set to "oFF". 	—
6	Button operations are not accepted immediately when the function selection mode or the maintenance mode is entered from the normal display of PZ-60DR-E, or when the normal display is returned from the function selection mode or the maintenance mode.	<p>Button operations may not be accepted immediately depending on communication processing.</p> <p>When an operation has not been accepted, operate the controller after several seconds have passed.</p>	—
7	"24 HR VENTILATION" is not displayed on the PZ-60DR-E function selection.	This is not displayed because the model LGF-100GX-E does not have a 24 hour ventilation function.	—
8	When two PZ-60DR-E remote controllers are used, "LOSSNAY FUNCTION" and "INTERLOCK SETTING" of the function selection mode can be set only from one of the remote controllers.	When two remote controllers are used, "LOSNNAY FUNCTION" and "INTERLOCK SETTING" can be set only with the "Main" remote controller. The "Main" and "Sub" remote controller will be determined automatically by communication when the main unit power is turned on. The remote controller on which "LOSSNAY FUNCTION" and "INTERLOCK SETTING" are displayed is the "Main" remote controller.	Page 26
9	Even when the clock use setting is set to "on" with PZ-60DR-E, the day of the week and time are not displayed.	When "SIMPLE TIMER" has been set with the timer function setting, the day of the week and time are not displayed.	Page 27
10	When two PZ-60DR-E remote controllers are used, the display of the day of the week and time differs.	When a remote controller has been replaced or added, the day of the week and time display will not match; therefore, perform a day of the week and time setting with either one of the remote controllers.	—
11	When PZ-60DR-E is used, the timer operation does not work.	<p>Timer operation does not work in the following circumstances:</p> <ul style="list-style-type: none"> • When the timer function is set to OFF. • During the day of the week and time setting / During function selection / During timer setting • When "CENTRAL" is displayed. 	—

No.	Error	Cause	Reference
12	When PZ-41SLB-E is used, the operation will not be in accordance with the setting of the function selection switch on the Lossnay circuit board.	The settings will be disabled for switches (SW2-6, SW5-1, SW5-4, SW5-5, SW5-7, and SW5-8).	Page 25
13	When PZ-60DR-E is used, "FUNCTION" ("Locked" indicator)" is displayed, and the remote controller cannot be operated.	In the following circumstances "FUNCTION" ("Locked" indicator)" is displayed, and the applicable function button cannot be operated.	Page 27
		• The operation lock is enabled. (Buttons other than the "ON/OFF" button, or all buttons)	27
		• When operating with the High / Low fan speed switching input ("Fan Speed Adjustment" button)	20, 21
		• When operating with the bypass ventilation switching input. ("Function selector" button)	22
		• During the night purge operation. ("Function selector" button)	23, 24
14	The air supply fan periodically stops operating.	• When two remote controllers are used, one of the remote controllers is set to the function selection mode or the maintenance mode. (All buttons)	27 - 30
		• When the outdoor temperature is -10 °C or lower, the fan is periodically stopped for approximately 10 minutes to prevent freezing of the Lossnay core. (Cold region specifications)	
15	The Lossnay unit starts by itself at night.	• When the Lossnay unit has duct connections and interlocked with Mr. Slim or City Multi indoor units, the fan will stop during air conditioner defrosting.	Page 14
16	Night purge operation does not work even though Night purge operation is set.	When the night purge setting is set to "on", the night purge operation will be performed at night time.	Page 23, 24
17	Damper board does not operate.	The night purge operation will not be performed in the following circumstances:	Page 23, 24
18	Delay operation does not work even though Delay operation is set.	• The night purge conditions have not been satisfied.	
		• Lossnay has been started or stopped during the display of "☾" (Night purge)".	
		• Night purge operation will not be performed when "CENTRAL" is displayed.	
19	Operation monitor output will not be output until several seconds after the fan started operation.	When the ventilation mode is switched with the remote controller, a maximum delay of 30 seconds will be generated depending on the timing.	Page 16
20	After operation has been stopped with the remote controller, the fan continues to run for a while.	• Delay operation will not start until 2 hours after the Lossnay stopped.	Page 19
		• When the pulse input setting is set to "on", delay operation will not start.	
		• When PZ-60DR-E and PZ-41SLB-E are used, operation will be according to the setting of the remote controller.	
19	Operation monitor output will not be output until several seconds after the fan started operation.	When the TM4 ⑨, ⑩ output setting is set to operation monitor with delay function 1 (SW2-8 is ON), the operation monitor will be output 10 seconds after the fan started operation.	Page 20
20	After operation has been stopped with the remote controller, the fan continues to run for a while.	When the TM4 ⑨, ⑩ output setting is set to operation monitor with delay function 1 (SW2-8 is ON), or when the TM3 ⑥, ⑦ output setting is set to operation monitor with delay function 2 (SW5-6 is ON), the fan will stop 3 minutes after stop with the remote controller.	Page 14

Temperatures and thermistor resistance table

Temperature (°C)	Resistance value (kΩ)	Temperature (°C)	Resistance value (kΩ)	Temperature (°C)	Resistance value (kΩ)	Temperature (°C)	Resistance value (kΩ)	Temperature (°C)	Resistance value (kΩ)
-30	53.9 - ∞	-7	18.0	8	9.5	23	5.4	38	3.1
⋮	⋮	-6	17.2	9	9.2	24	5.1	39	3.1
-20	32.8	-5	16.5	10	8.8	25	5.0	40	3.0
-19	31.2	-4	15.7	11	8.5	26	4.8	41	2.8
-18	29.8	-3	15.1	12	8.1	27	4.7	42	2.7
-17	28.4	-2	14.5	13	7.8	28	4.5	43	2.7
-16	27.1	-1	13.8	14	7.6	29	4.3	44	2.6
-15	25.8	0	13.3	15	7.3	30	4.2	45	2.5
-14	24.7	1	12.8	16	7.0	31	4.0	46	2.4
-13	23.6	2	12.2	17	6.7	32	3.9	47	2.3
-12	22.5	3	11.7	18	6.5	33	3.7	48	2.2
-11	21.5	4	11.2	19	6.3	34	3.6	49	2.2
-10	20.6	5	10.7	20	6.0	35	3.5	50	2.1
-9	19.7	6	10.3	21	5.8	36	3.4	⋮	⋮
-8	18.8	7	10.0	22	5.6	37	3.2	90	0 - 0.7

8. Overhaul procedure

■ 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.
- Before replacing parts, repair troubled sections according to the instructions described in the troubleshooting.
- When servicing, always keep proper footing.
- When servicing, make sure that the power cord is pulled out of the outlet, or the earth leakage breaker is off if no mains connector is built in the product, so as no electrical shock or injury to occur. Pay sufficient attention when working on the product.
- Always connect the power wire properly.
- After completing repairs, check that the unit operates properly.
- Always wear gloves when servicing.

(1) Turning the power off

- ① Shut down the unit.
- ② Turn off the earth leakage breaker on the distribution board.

(2) Fan parts

- ① Unscrew the fixing screws (two PT screws 4 x 8, indicated by ○), and remove the maintenance panel (small).



Maintenance panel (small)

- ② Unscrew the fixing screws (three PT screws 4 x 8, indicated by ○), and remove the control cover.



Control cover

- ③ Disconnect the connectors (for the motors (SA and EA), the damper motor (GM), and the thermistor) from the circuit board.
- ④ Unscrew the screws (two PTT screws 4 x 8, indicated by ○).
- ⑤ Loosen the screws (two PTT screws 4 x 8, indicated by △), and pull out the control box to remove it.



- ⑥ Unscrew the screws (four PTT screws 4 x 8 (black), indicated by ○).



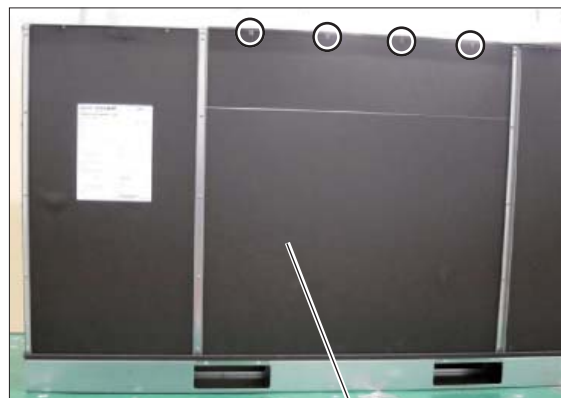
- ⑦ Unscrew the screws (four PTT screws 5 x 10 (two for each side), indicated by ○), and pull out the air supply fan assembly to remove it.
(Remove the air exhaust fan assembly in the same way.)



Air supply fan assembly

(3) Damper motor (GM) parts

- ① Unscrew the fixing screws (four PT screws 4 x 8, indicated by ○), and remove the maintenance panel (large).



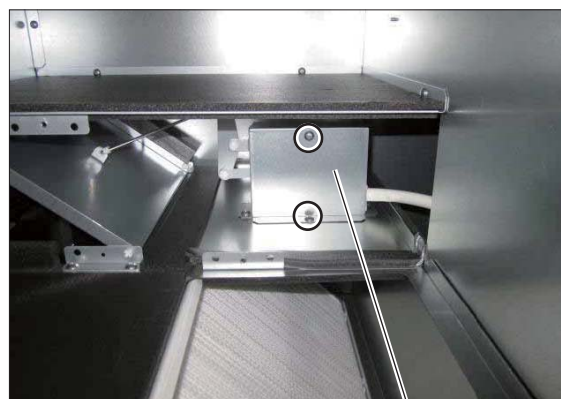
Maintenance panel (large)

- ② Unscrew the fixing screws (two PTT screws 4 x 8 (black), indicated by ○), and remove the maintenance plate (small).



Maintenance plate (small)

- ③ Unscrew the fixing screws (two PTT screws 4 x 8, indicated by ○), and remove the damper motor cover.



Damper motor cover

* When assembling

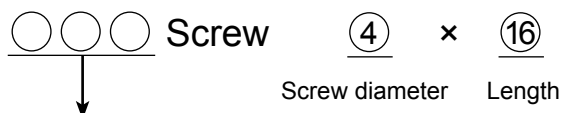
- Assemble the unit in the reverse order of disassembly.
- When reassembled, always perform a trial operation and make sure that the unit works properly.

9. Parts catalog

Please note the following when using the parts catalog.

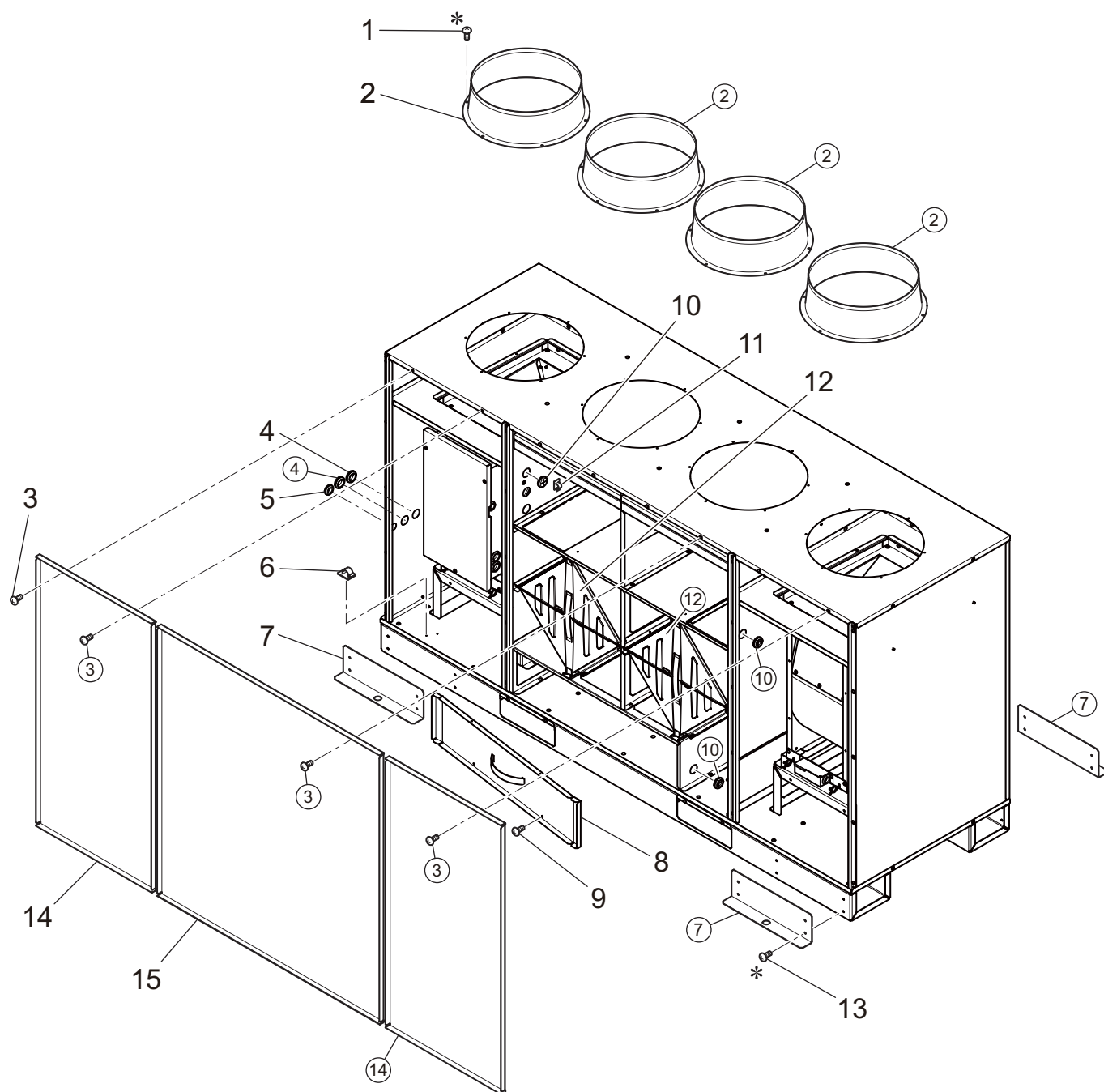
1. When ordering parts, always indicate the part number, part name, and the number of parts required.
2. Parts are not always available, and it may take time for you to receive them.
3. There may be specification improvements.
4. Parts marked \triangle are critical for safety. To maintain safety and performance, always replace these parts with the parts prescribed.
5. The numbers that are circled in the exploded view are the same as the reference number for the part being indicated.

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

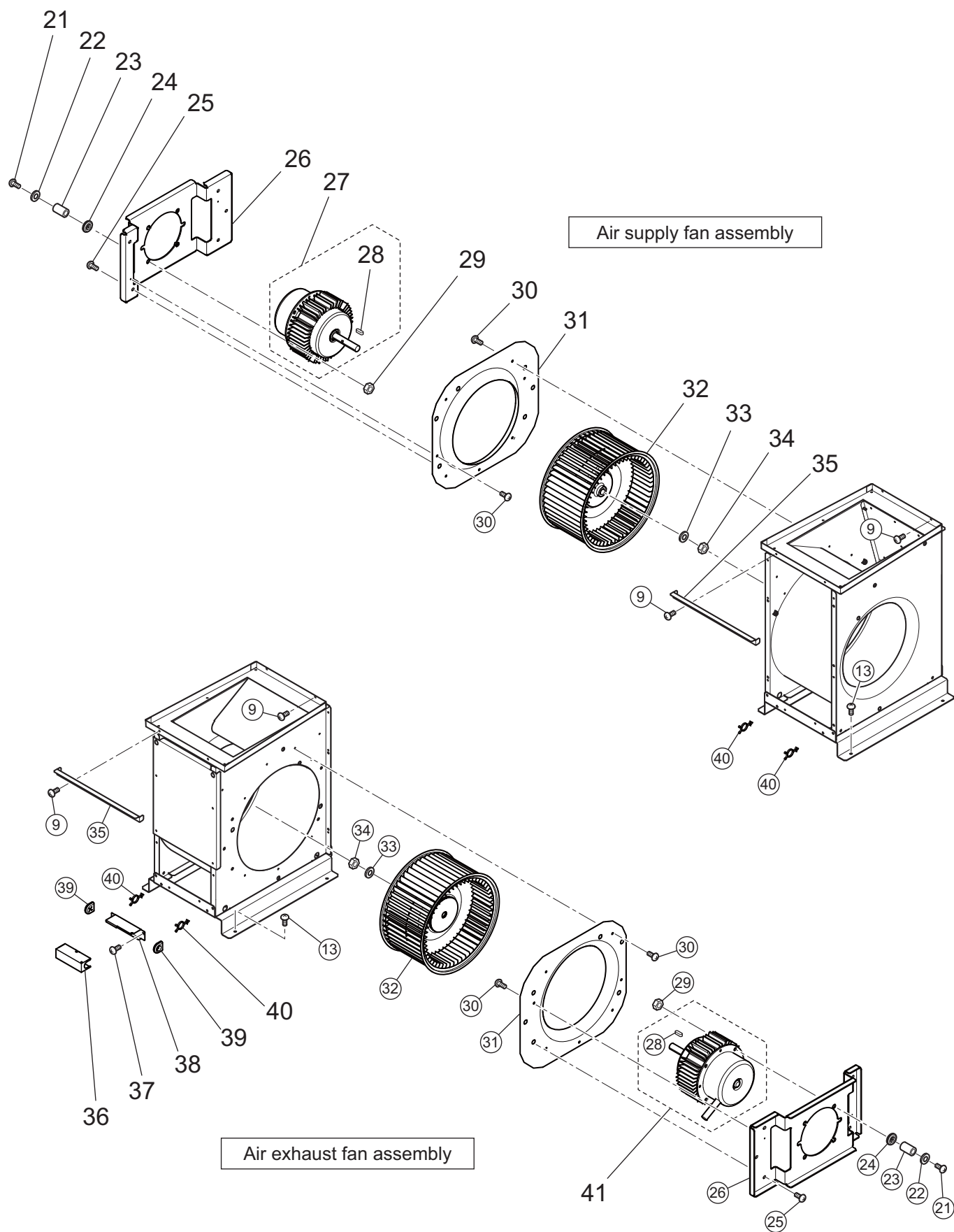
LGF-100GX-E



* shows accessory parts.

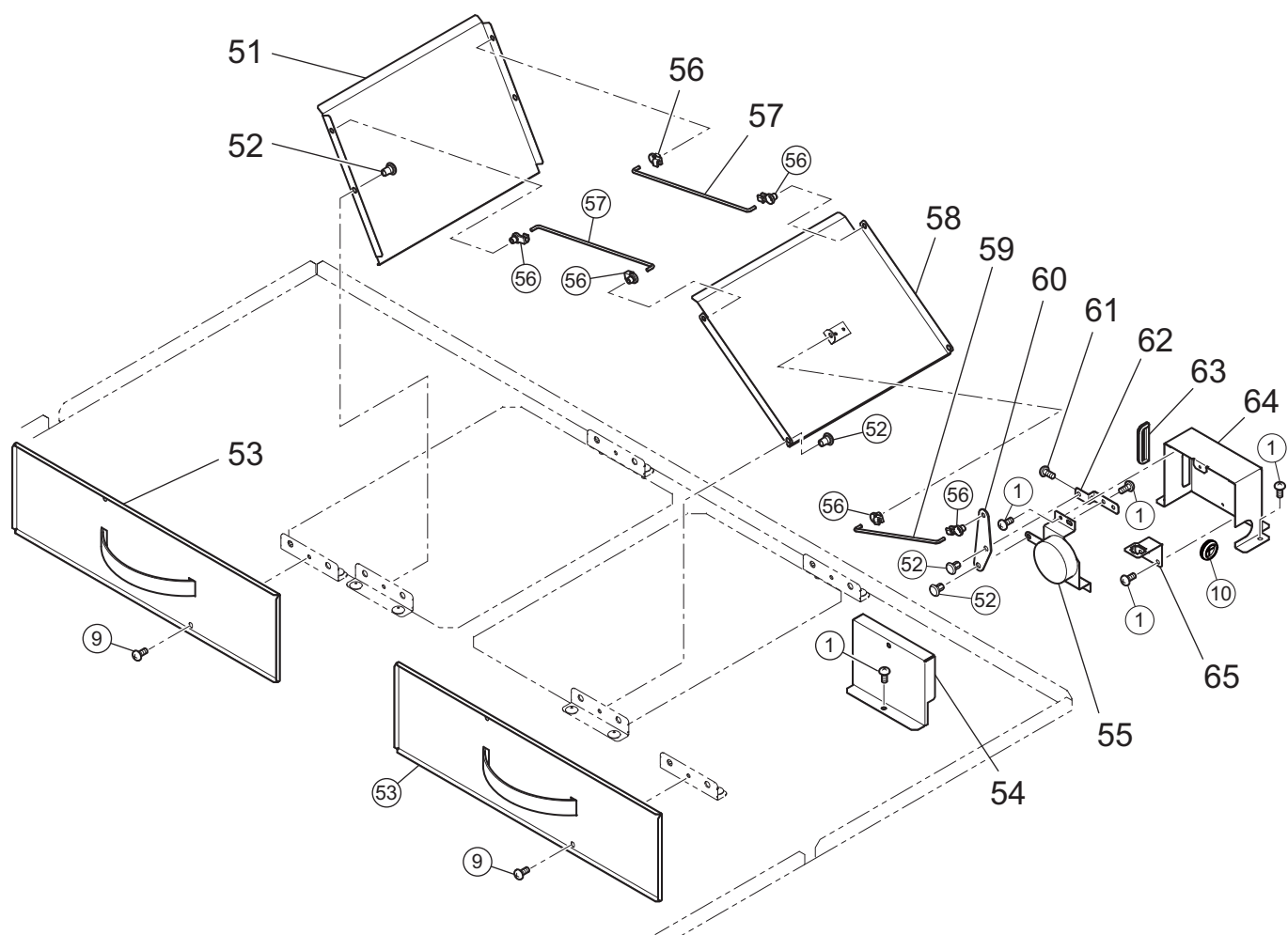
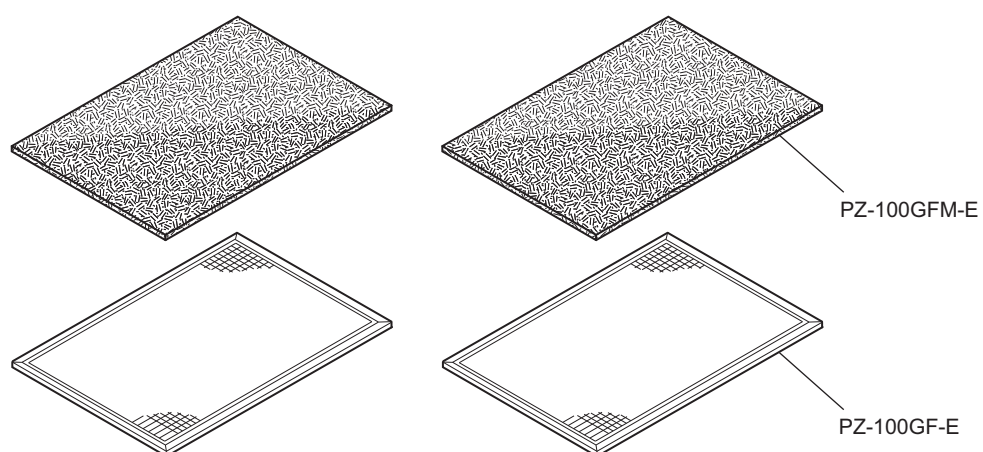
LGF-100GX-E

No.	Name of part	Parts No.	Q'ty pcs/unit	Critical for safety	Remarks
1	PTT screw 4×6	H00 312 007	55		
2	Flange	Y50 149 624	4		
3	PT screw 4×8	H00 000 349	11		
4	Bush	K82 163 225	4		
5	Bush	K83 223 225	2		
6	Cord clip	R50 399 224	2		
7	Fix plate	Y50 149 713	4		
8	Maint. plate L	Y50 149 830	1		
9	PTT screw 4×8	M45 502 095	16		Black
10	Bush	R50 476 225	6		
11	Cord clip	R50 399 223	2		
12	Lossnay core	Y50 149 710	2	⚠	
13	PTT screw 5×10	H00 189 007	24		
14	Maint. panel S	Y50 149 833	2		
15	Maint. panel L	Y50 149 834	1		



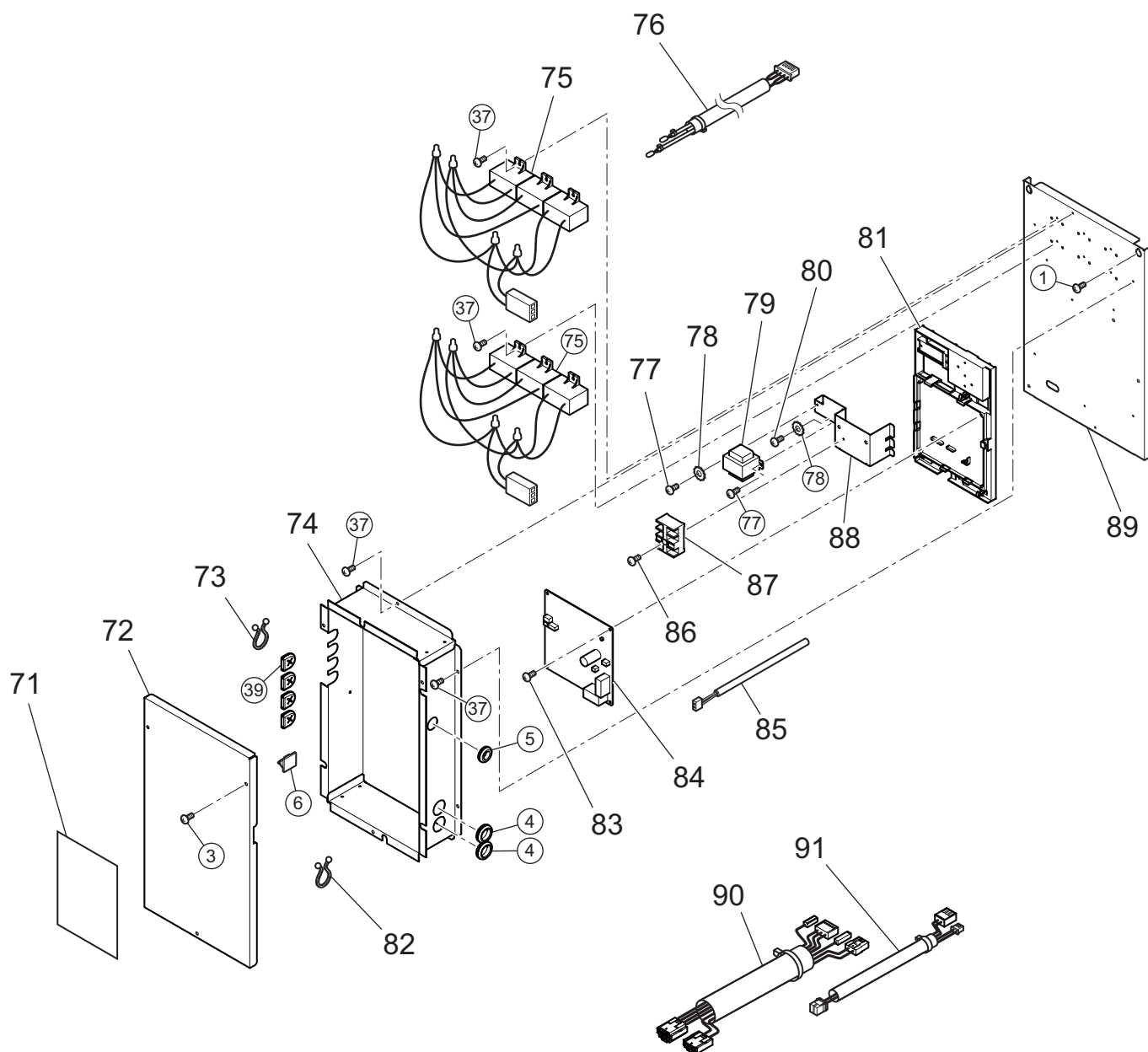
LGF-100GX-E

No.	Name of part	Parts No.	Q'ty pcs/unit	Critical for safety	Remarks
21	PT screw 6×20	H00 157 008	8		
22	Spl washer (6)	M34 043 080	8		
23	Spacer	R50 000 095	8		
24	Bush	Y50 033 226	8		
25	PT screw 6×16	H00 311 008	10		
26	Motor fix plate	Y50 149 712	2		
27	Motor	Y50 149 453	1	▲	5×5×15
28	Key	K83 262 104	2		
29	Nut (6)	H00 061 050	8		
30	PTT screw 4×10	H00 000 332	40		
31	Inlet ring	K81 612 629	2		
32	Centrifugal fan	K81 614 480	2	▲	φ280
33	Washer (12)	K83 466 113	2		
34	Special nut (12)	K83 440 111	2		
35	Fan fix plate	Y50 149 832	2		
36	Connector cover	Y50 115 709	1		
37	PTT screw 4×8	H00 000 487	20		
38	Connector plate	Y50 115 710	1		
39	Cord bush	M45 649 226	6		
40	Cord clamber	X31 088 223	6		
41	Motor	Y50 149 454	1	▲	



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No.	Name of part	Parts No.	Q'ty pcs/unit	Critical for safety	Remarks
51	Damper	Y50 149 721	1		
52	Special bush	M31 234 089	6		
53	Maint. plate S	Y50 149 831	2		
54	Motor cover	Y50 149 715	1		
55	Damper motor	Y50 061 260	1	⚠	AC220・240V
56	Special bush	R50 054 225	6		
57	Rod	Y50 149 707	2		179mm
58	Damper	Y50 149 722	1		With a fix piece
59	Rod	Y50 149 708	1		132mm
60	Crank	Y50 149 720	1		
61	PPT screw 3×6	H00 000 384	1		
62	Crank fix piece	Y50 149 719	1		
63	Bush	Y50 115 225	1		
64	Fix plate	Y50 149 716	1		
65	Fix piece	R50 533 693	1		



*

①	24 pcs.
⑬	16 pcs.

* shows accessory parts.

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No.	Name of part	Parts No.	Q'ty pcs/unit	Critical for safety	Remarks
71	Wiring diagram	Y50 149 368	1		White 21μF・440VAC
72	Control cover	Y50 149 705	1		
73	Cord band	K83 170 228	6		
74	Control frame	Y50 149 704	1		
75	Capacitor	Y50 149 287	2	▲	
76	Thermistor	Y50 149 167	1	▲	AC230V
77	PP screw 4×8	H00 000 003	2		
78	Lock washer (4)	H00 013 076	2		
79	Transformer	Y50 115 216	1	▲	
80	PT screw 4×8 BS	H00 011 008	1		
81	PCB fix plate	R50 546 705	1		LG-X03-G
82	Cord band	M45 017 228	2		
83	PPT screw 3×8	H00 003 005	1		
84	Circuit board	Y50 149 171	1	▲	
85	Lead wire	Y50 047 231	1	▲	
86	PPT screw 4×12	H00 154 005	1		3P
87	Terminal block	Y50 150 242	1	▲	
88	TB fix plate	Y50 115 712	1		
89	Control base	Y50 149 706	1		Motor (EA)
90	Lead wire	Y50 149 213	1	▲	
91	Lead wire	Y50 149 214	1	▲	Damper motor