MITSUBISHI ELECTRIC

SPLIT-TYPE, HEAT PUMP AIR CONDITIONERS

October 2019
No. OCH723

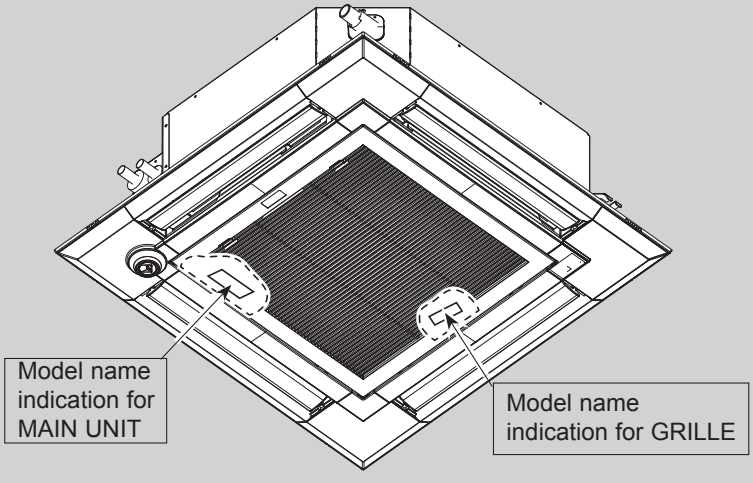
TECHNICAL & SERVICE MANUAL

Series PLFY Ceiling Cassettes

Indoor unit [Model names]	[Service Ref.]
PLFY-WL32VEM-E	PLFY-WL32VEM-E.UK
PLFY-WL32VEM-ET	PLFY-WL32VEM-ET.UK
PLFY-WL40VEM-E	PLFY-WL40VEM-E.UK
PLFY-WL40VEM-ET	PLFY-WL40VEM-ET.UK
PLFY-WL50VEM-E	PLFY-WL50VEM-E.UK
PLFY-WL50VEM-ET	PLFY-WL50VEM-ET.UK

Grille model [Model names]

PLP-6EA
PLP-6EAE
PLP-6EAL
PLP-6EALE
PLP-6EAJ
PLP-6EAJE
PLP-6EALM
PLP-6EALME



INDOOR UNIT

CONTENTS

PARTS CATALOG (OCB723)

CITY MULTI

1 SAFETY PRECAUTION

Cautions for units utilizing refrigerant R410A

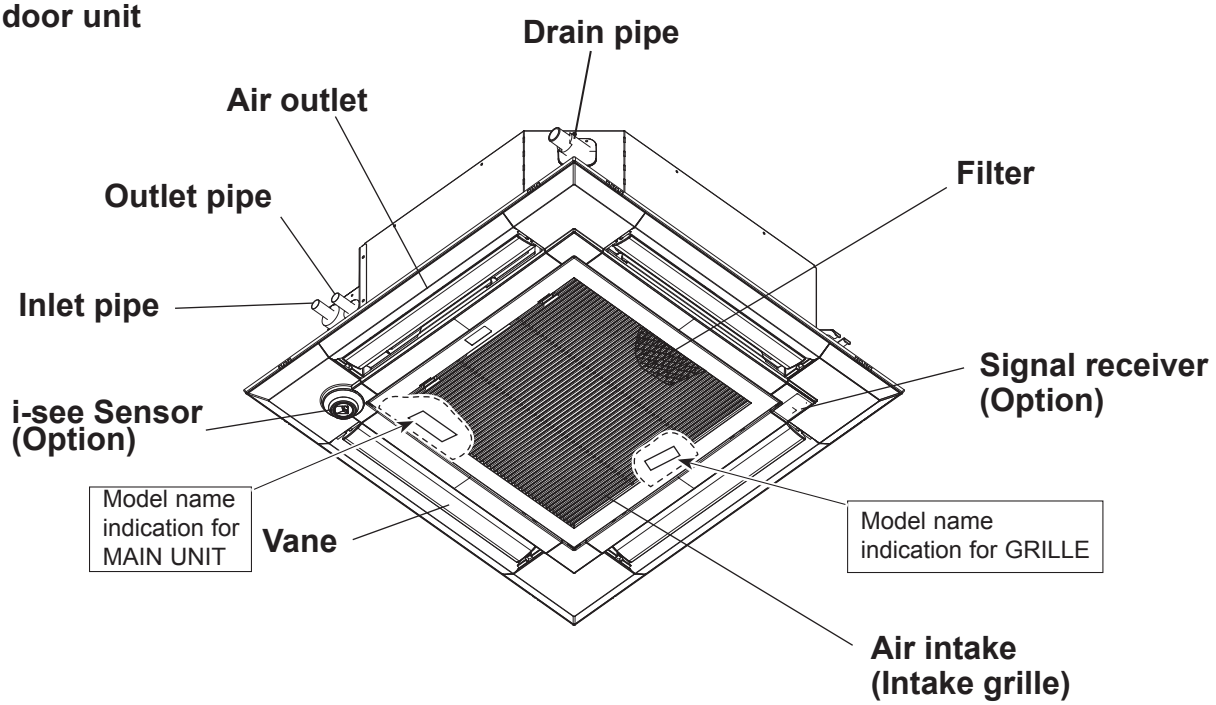
⚠ **CAUTION**

Do not use the existing water piping.
Store the piping materials indoors, and keep both ends of the pipes sealed until immediately before installation. Keep the joints wrapped in plastic bags. If dust or dirt enters the water circuit, it may damage the heat exchanger and cause water leakage.

Only use water.
Only use clean water as a refrigerant. The use of water outside the specification may damage the refrigerant circuit.

2 PARTS NAMES AND FUNCTIONS

2-1. Indoor unit



2-2. WIRED REMOTE CONTROLLER <PAR-40MAA>

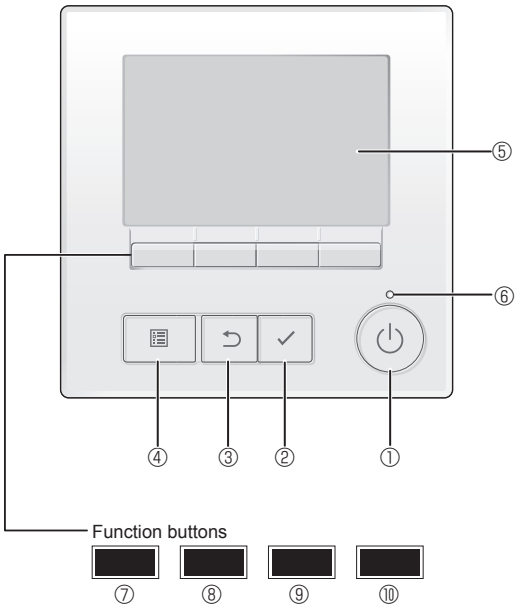
Wired remote controller function

The functions which can be used are restricted according to each model. ○ : Supported × : Unsupported

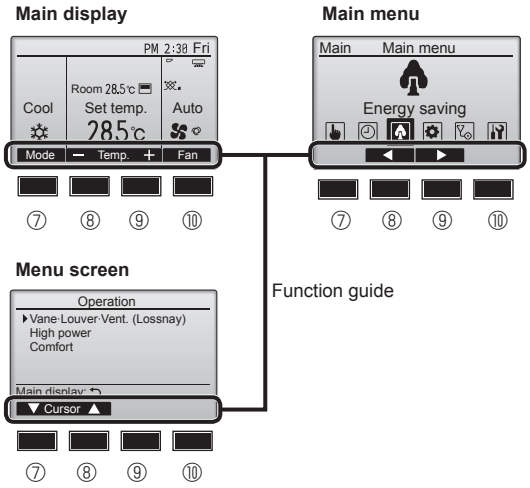
	Function	PAR-40MAA	
		Slim	CITY MULTI
Body	Product size H × W × D (mm)	120 × 120 × 14.5	
	LCD	Full Dot LCD	
	Backlight	○	
Energy saving	Energy saving operation schedule	○	×
	Automatic return to the preset temperature	○	
Restriction	Setting the temperature range restriction	○	
Function*	Operation lock function	○	
	Weekly timer	○	
	ON/OFF timer	○	
	High Power	○	×
	Manual vane angle	○	

*Some functions may not be available depending on model types.

Controller interface



The functions of the function buttons change depending on the screen.
Refer to the button function guide that appears at the bottom of the LCD for the functions they serve on a given screen.
When the system is centrally controlled, the button function guide that corresponds to the locked button will not appear.



① [ON/OFF] button

Press to turn ON/OFF the indoor unit.

② [SELECT] button

Press to save the setting.

③ [RETURN] button

Press to return to the previous screen.

④ [MENU] button

Press to bring up the Main menu.

⑤ Backlit LCD

Operation settings will appear.

When the backlight is off, pressing any button turns the backlight on and it will stay lit for a certain period of time depending on the screen.

When the backlight is off, pressing any button turns the backlight on and does not perform its function. (except for the [ON/OFF] button)

⑥ ON/OFF lamp

This lamp lights up in green while the unit is in operation. It blinks while the remote controller is starting up or when there is an error.

⑦ Function button [F1]

Main display: Press to change the operation mode.

Menu screen: The button function varies with the screen.

⑧ Function button [F2]

Main display: Press to decrease temperature.

Main menu: Press to move the cursor left.

Menu screen: The button function varies with the screen.

⑨ Function button [F3]

Main display: Press to increase temperature.

Main menu: Press to move the cursor right.

Menu screen: The button function varies with the screen.

⑩ Function button [F4]

Main display: Press to change the fan speed.

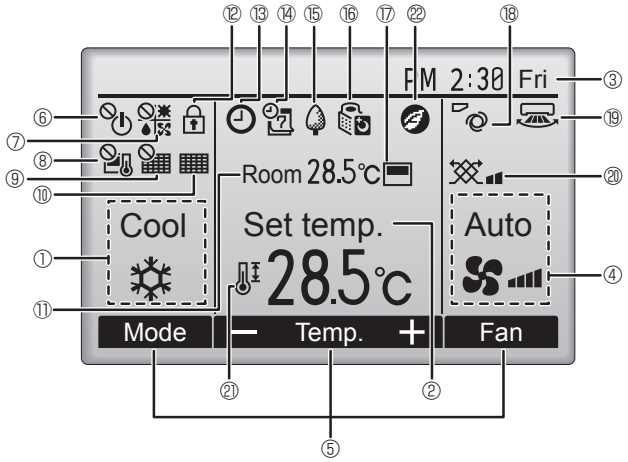
Menu screen: The button function varies with the screen.

Display

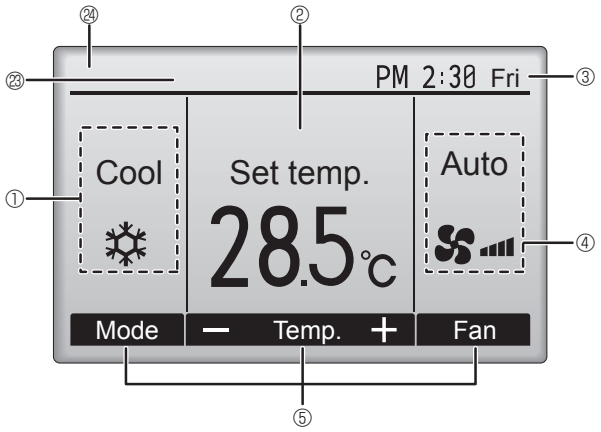
The main display can be displayed in two different modes: “Full” and “Basic”. The factory setting is “Full”. To switch to the “Basic” mode, change the setting on the Main display setting. (Refer to operation manual included with remote controller.)

<Full mode>

* All icons are displayed for explanation.



<Basic mode>



① Operation mode

② Preset temperature

③ Clock

Current time appears here.

④ Fan speed

⑤ Button function guide

Functions of the corresponding buttons appear here.

⑥

Appears when the ON/OFF operation is centrally controlled.

⑦

Appears when the operation mode is centrally controlled.

⑧

Appears when the preset temperature is centrally controlled.

⑨

Appears when the filter reset function is centrally controlled.

⑩

Indicates when filter needs maintenance.

⑪ Room temperature

Current room temperature appears here.

⑫

Appears when the buttons are locked.

⑬

Appears when the On/Off timer, Night setback, or Auto-off timer function is enabled.

appears when the timer is disabled by the centralized control system.

⑭

Appears when the Weekly timer is enabled.

⑮

Appears while the units are operated in the energy-save mode. (Will not appear on some models of indoor units)

⑯

Appears while the outdoor units are operated in the silent mode. (This indication is not available for CITY MULTI models.)

⑰

Appears when the built-in thermistor on the remote controller is activated to monitor the room temperature (⑪).

appears when the thermistor on the indoor unit is activated to monitor the room temperature.

⑱

Indicates the vane setting.

⑲

Indicates the louver setting.

⑳

Indicates the ventilation setting.

㉑

Appears when the preset temperature range is restricted.

㉒

Appears when an energy-saving operation is performed using a “3D i-See sensor” function. (not available)

㉓ Centrally controlled

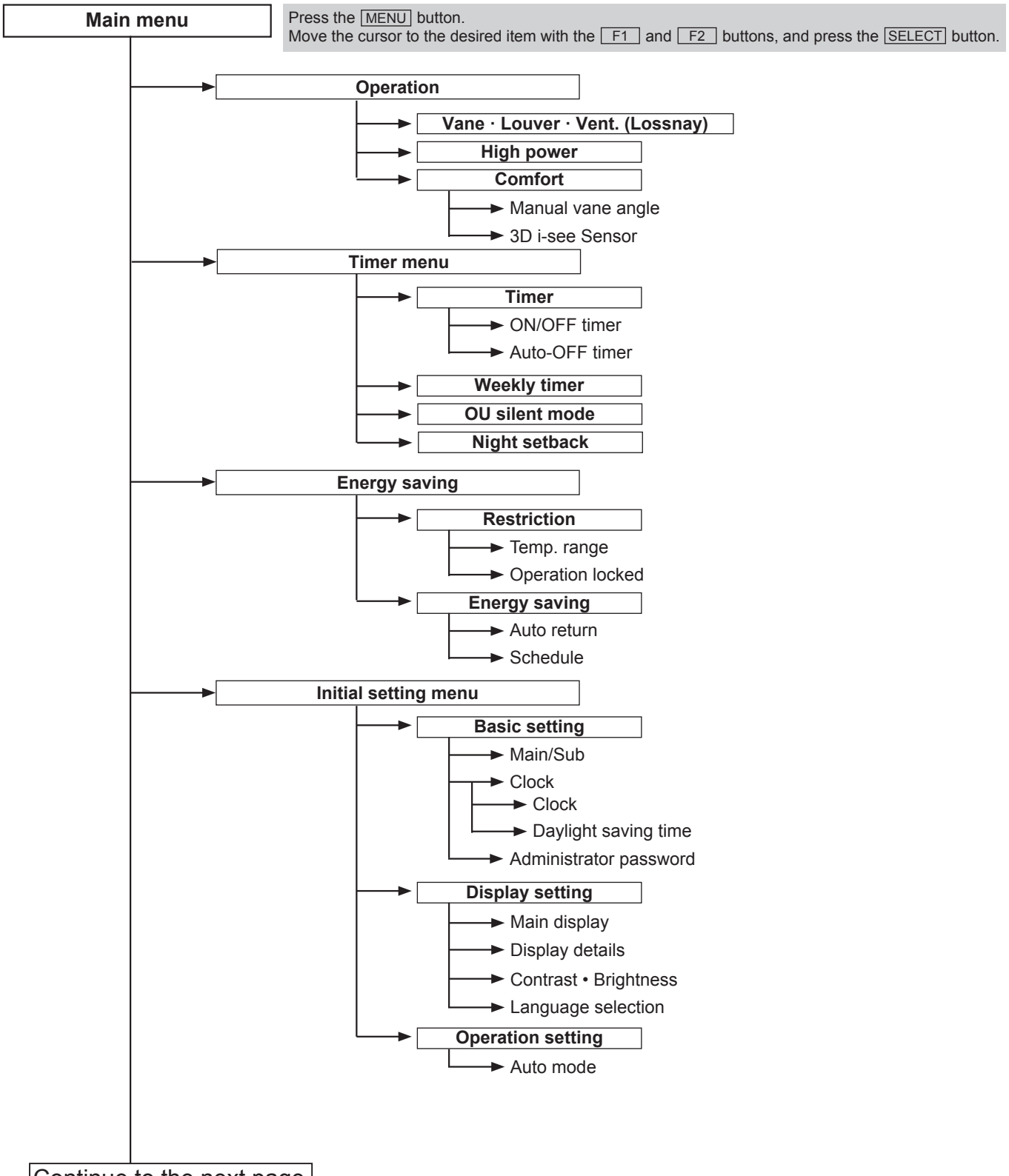
Appears for a certain period of time when a centrally-controlled item is operated.

㉔ Preliminary error display

An error code appears during the preliminary error.

Most settings (except ON/OFF, mode, fan speed, temperature) can be made from the Main menu. (Refer to Page 10.)

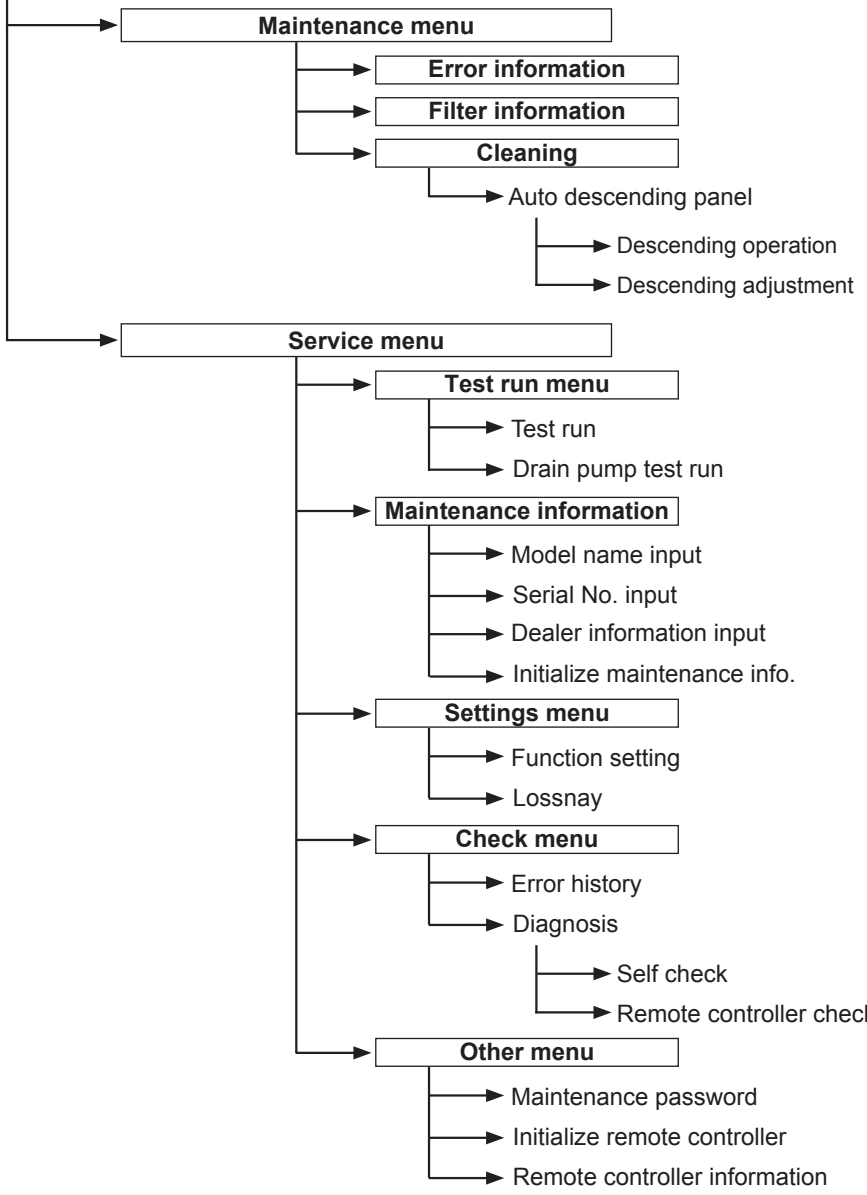
Menu structure



Continue to the next page.

Not all functions are available on all models of indoor units.

Continue from the previous page.



Not all functions are available on all models of indoor units.

Main menu list

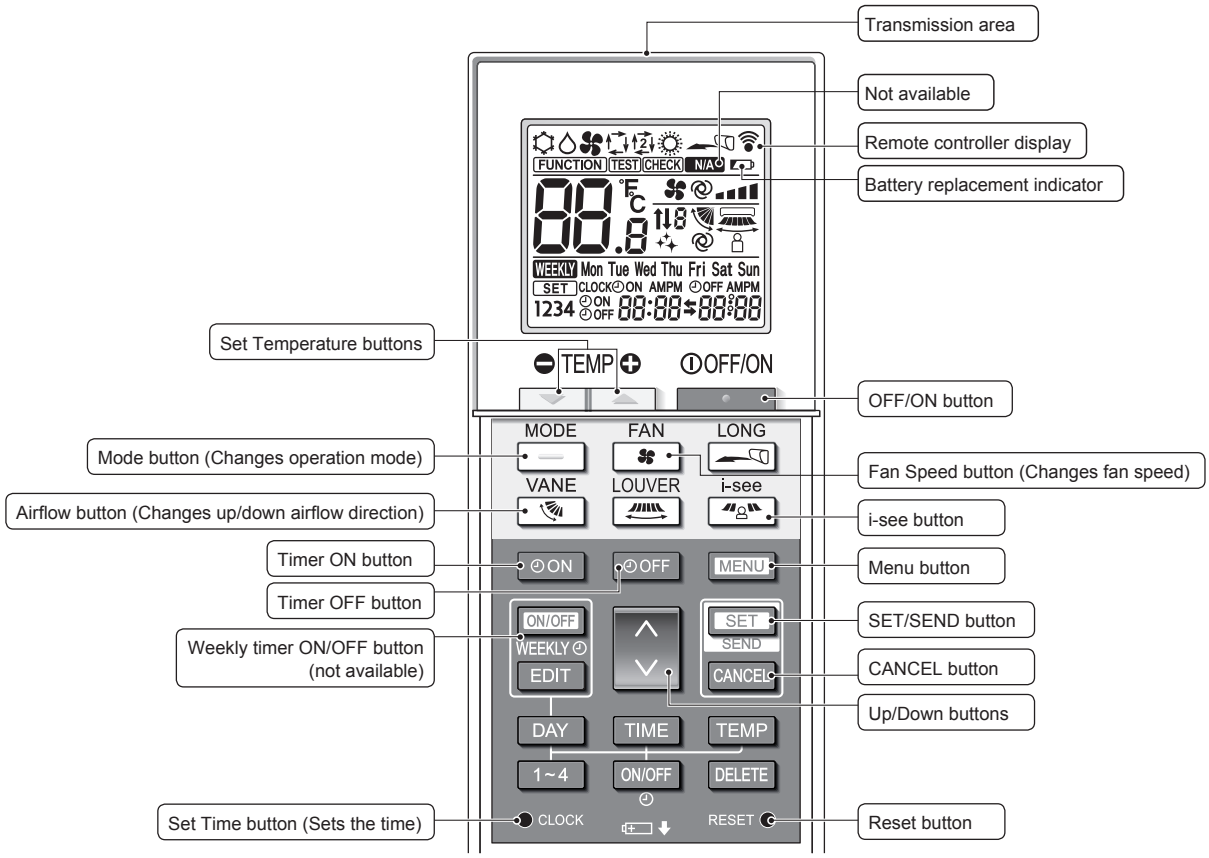
Main menu	Setting and display items		Setting details
Operation	**Vane · Louver · Vent. (Lossnay)**		**Use to set the vane angle.** • Select a desired vane setting from 5 different settings. **Use to turn ON/OFF the louver.** • Select a desired setting from "ON" and "OFF." **Use to set the amount of ventilation.** • Select a desired setting from "Off," "Low," and "High."
	High power		**Use to reach the comfortable room temperature quickly.** • Units can be operated in the High-power mode for up to 30 minutes.
	Comfort	**Manual vane angle**	**Use to fix each vane angle.**
		3D i-see Sensor	**Use to set the following functions for 3D i-see Sensor.** • Air distribution • Energy saving option • Seasonal airflow
Timer	**Timer**	**ON/OFF timer** *1	**Use to set the operation ON/OFF times.** • Time can be set in 5-minute increments.
		Auto-Off timer	**Use to set the Auto-Off time.** • Time can be set to a value from 30 to 240 in 10-minute increments.
	Weekly timer *1, *2		**Use to set the weekly operation ON/OFF times.** • Up to 8 operation patterns can be set for each day. (Not valid when the ON/OFF timer is enabled.)
	OU silent mode *1		**Use to set the time periods in which priority is given to quiet operation of outdoor units over temperature control. Set the Start/Stop times for each day of the week.** •Select the desired silent level from "Normal," "Middle," and "Quiet."
	Night setback *1		**Use to make Night setback settings.** • Select "Yes" to enable the setting, and "No" to disable the setting. The temperature range and the start/stop times can be set.
Energy saving	**Restriction**	**Temp. range** *2	**Use to restrict the preset temperature range.** • Different temperature ranges can be set for different operation modes.
		Operation lock	**Use to lock selected functions.** • The locked functions cannot be operated.
	Energy saving	**Auto return** *2	**Use to get the units to operate at the preset temperature after performing energy saving operation for a specified time period.** • Time can be set to a value from 30 and 120 in 10-minute increments. (This function will not be valid when the preset temperature ranges are restricted.)
		Schedule *1	**Set the start/stop times to operate the units in the energy saving mode for each day of the week, and set the energy saving rate.** • Up to 4 energy saving operation patterns can be set for each day. • Time can be set in 5-minute increments. • Energy saving rate can be set to a value from 0% or 50 to 90% in 10% increments.

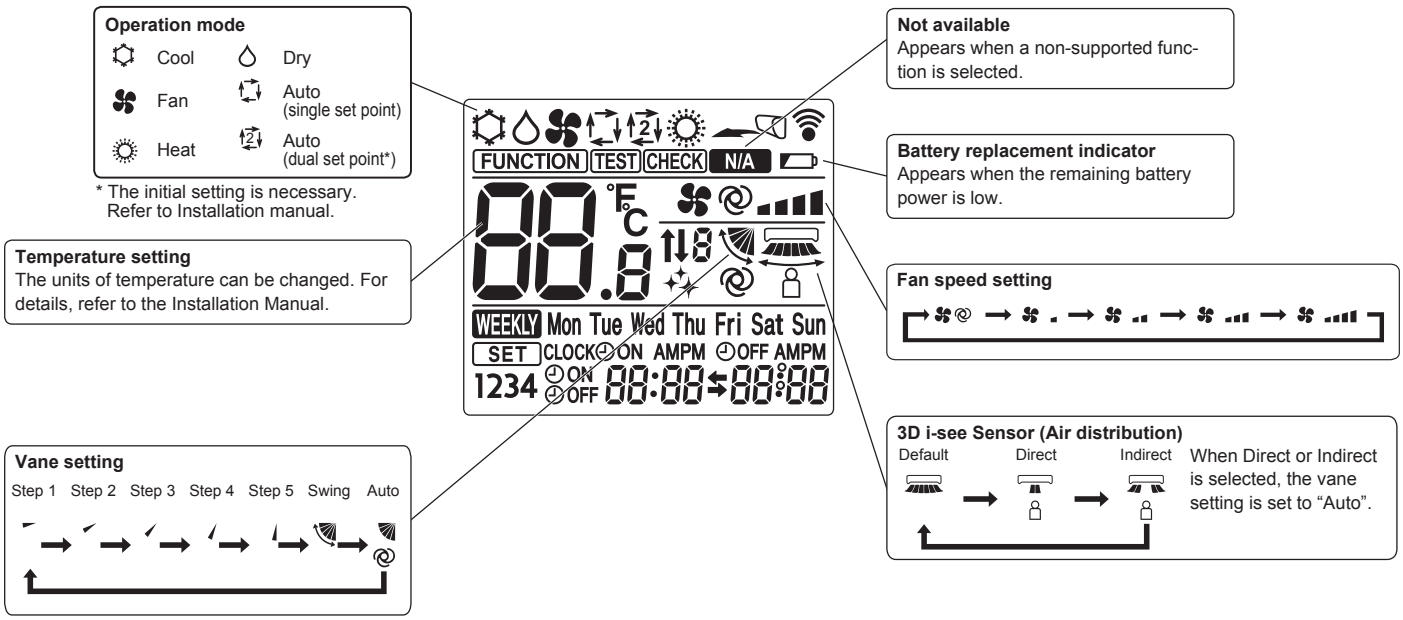
*1 Clock setting is required.

*2 1°C increments.

Main menu	Setting and display items		Setting details
Initial setting	**Basic setting**	**Main/Sub**	**When connecting 2 remote controllers, one of them needs to be designated as a sub controller.**
		Clock	**Use to set the current time.**
		Daylight saving time	**Set the daylight saving time.**
		Administrator password	**The administrator password is required to make the settings for the following items.** • Timer setting • Energy saving setting • Weekly timer setting • Restriction setting • Outdoor unit silent mode setting • Night set back
	Display setting	**Main display**	**Use to switch between "Full" and "Basic" modes for the Main display.** • The initial setting is "Full."
		Black and white inversion setting	**Use to invert the colors of the display, turning white background to black and black characters to white.**
		Display details	**Make the settings for the remote controller related items as necessary.** **Clock:** The initial settings are "Yes" and "24h" format. **Temperature:** Set either Celsius (°C) or Fahrenheit (°F). **Room temp. :** Set Show or Hide. **Auto mode:** Set the Auto mode display or Only Auto display.
		Contrast • Brightness	**Use to adjust screen contrast and brightness.**
		Language selection	**Use to select the desired language.**
	Operation setting	**Auto mode**	**Whether or not to use the Auto mode can be selected by using the button. This setting is valid only when indoor units with the Auto mode function are connected.**
Maintenance	**Error information**		**Use to check error information when an error occurs.** • Check code, error source, refrigerant address, unit model, manufacturing number, contact information (dealer's phone number) can be displayed. (The unit model, manufacturing number, and contact information need to be registered in advance to be displayed.)
	Filter information		**Use to check the filter status.** • The filter sign can be reset.
	Cleaning	**Auto descending panel**	**Use to lift and lower the auto descending panel (Optional parts).**
Service	**Test run**		**Select "Test run" from the Service menu to bring up the Test run menu.** • Test run • Drain pump test run
	Input maintenance		**Select "Input maintenance Info." from the Service menu to bring up the Maintenance information screen.** **The following settings can be made from the Maintenance Information screen.** • Model name input • Serial No. input • Dealer information input • Initialize maintenance info.
	Settings	**Function setting**	**Make the settings for the indoor unit functions via the remote controller as necessary.**
		LOSSNAY setting	**This setting is required only when the operation of CITY MULTI units is interlocked with LOSSNAY units.**
	Check	**Error history**	Display the error history and execute "delete error history".
		Diagnosis	**Self check:** Error history of each unit can be checked via the remote controller. **Remote controller check:** When the remote controller does not work properly, use the remote controller checking function to troubleshoot the problem.
	Other	**Maintenance password**	**Use to change the maintenance password.**
		Initialize remote controller	**Use to initialize the remote controller to the factory shipment status.**
		remote controller information	**Use to display the remote controller model name, software version, and serial number.**

2-3. Wireless remote controller





3 SPECIFICATIONS

3-1. SPECIFICATIONS

Model			PLFY-WL32VEM-E PLFY-WL32VEM-ET	PLFY-WL40VEM-E PLFY-WL40VEM-ET	PLFY-WL50VEM-E PLFY-WL50VEM-ET
Power source			1-phase 220–240 V 50 Hz, 1-phase 220 V 60 Hz		
Cooling capacity (Nominal)	*1	kW	3.6	4.5	5.6
	*1	kcal/h	3,100	3,900	4,800
	*1	BTU/h	12,300	15,400	19,100
	*2	kcal/h	3,150	4,000	5,000
	Power input	kW	0.03	0.03	0.04
	Current input	A	0.33	0.35	0.40
Heating capacity (Nominal)	*3	kW	4.0	5.0	6.3
	*3	kcal/h	3,400	4,300	5,400
	*3	BTU/h	13,600	17,100	21,500
	Power input	kW	0.03	0.03	0.04
	Current input	A	0.27	0.29	0.34
External finish			Galvanized steel sheet		
External dimension H × W × D		mm	258 × 840 × 840		
		inch	10-3/16 × 33-3/32 × 33-3/32		
Net weight		kg (lb)	20 (44)		
Grille	model		PLP-6EA		
	External finish		MUNSELL (1.0Y 9.2/0.2)		
	Dimension H × W × D	mm	40 × 950 × 950		
		inch	1-9/16 × 37-13/32 × 37-13/32		
	Net weight	kg (lb)	5 (11)		
Heat exchanger			Cross fin (Aluminum fin and copper tube)		
FAN			Turbo fan × 1	Turbo fan × 1	Turbo fan × 1
	External static press.	Pa	0	0	0
		mmH_2O	0	0	0
	Motor type		DC motor		
	Motor output	kW	0.050	0.050	0.050
	Driving mechanism		Direct-drive		
	Airflow rate (Low-Mid2-Mid1-High)	m^3/min	14 - 15 - 16 - 17	14 - 15 - 16 - 17	14 - 16 - 18 - 20
		L/s	233 - 250 - 267 - 283	233 - 250 - 267 - 283	233 - 267 - 300 - 333
		cfm	494 - 530 - 565 - 600	494 - 530 - 565 - 600	494 - 565 - 636 - 706
Sound pressure level (Low-Mid2-Mid1-High) (measured in anechoic room)		dB <A>	26 - 27 - 29 - 30	26 - 28 - 29 - 31	27 - 29 - 31 - 33
Insulation material			PS		
Air filter			PP honeycomb		
Protection device			Fuse		
Connectable outdoor unit			HYBRID CITY MULTI/CMB-WM-V-AA, CMB-WM-V-AB/CMH-WM-V-A		
Water pipe dimensions	Water inlet	mm I.D.	20		
	Water outlet	mm I.D.	20		
Field drain pipe size		mm (inch)	O.D. 32 mm (1-1/4") (PVC pipe VP-25 connectable)		
Standard attachment	Document Accessory		Installation Manual, Instruction Book		
Remark	Optional parts				
	Grille **1		PLP-6EA		
	Air outlet shutter plate		PAC-SJ37SP-E		
	High efficiency filter element **2		PAC-SH59KF-E		
	Multi-function casement		PAC-SJ41TM-E		
	VALVE KIT		PAC-SK04VK-E		
			**1. PLFY-VEM series should be used together with PLP-6EA. **2. PAC-SJ41TM-E is necessary to use with filter PAC-SH59KF-E.		
	Installation		Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.		

*1 Nominal cooling condition

Indoor :	27˚CDB/19˚CWB (81˚FDB/66˚FWB)
Outdoor :	35˚CDB (95˚FDB)
Pipe length :	7.5 m (24-9/16 ft)
Level difference :	0 m (0 ft)

*2 Nominal cooling condition

Indoor :	27˚CDB/19.5˚CWB (81˚FDB/67˚FWB)
Outdoor :	35˚CDB (95˚FDB)
Pipe length :	5 m (16-3/8 ft)
Level difference :	0 m (0 ft)

*3 Nominal heating condition

Indoor :	20˚CDB (68˚FDB)
Outdoor :	7˚CDB/6˚CWB (45˚FDB/43˚FWB)
Pipe length :	7.5 m (24-9/16 ft)
Level difference :	0 m (0 ft)

Notes:
1. Nominal conditions*1 and *3 are subject to JIS B8615-1.
2. Due to continuing improvement, above specification may be subject to change without notice.

Unit converter

kcal/h = kW × 860
Btu/h = kW × 3,412
cfm = m^3/min × 35.31
lb = kg/0.4536
*Above specification data is subject to rounding variation.

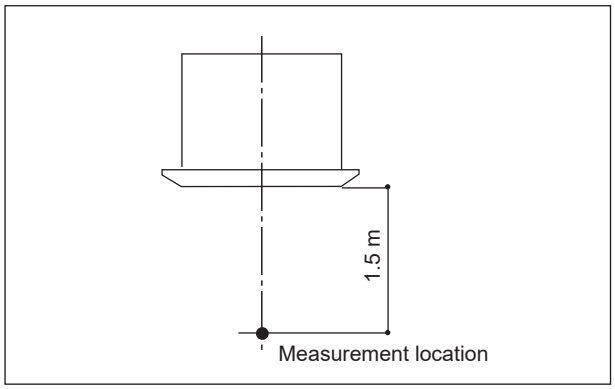
3-2. ELECTRICAL PARTS SPECIFICATIONS

Parts name \ Service Ref.	Symbol	PLFY-WL32VEM-E.UK PLFY-WL32VEM-ET.UK	PLFY-WL40VEM-E.UK PLFY-WL40VEM-ET.UK	PLFY-WL50VEM-E.UK PLFY-WL50VEM-ET.UK
Room temperature thermistor	TH21	Resistance 0℃/15 kΩ, 10℃/9.6 kΩ, 20℃/6.3 kΩ, 25℃/5.4 kΩ, 30℃/4.3 kΩ, 40℃/3.0 kΩ		
Liquid pipe thermistor	TH22	Resistance 0℃/15 kΩ, 10℃/9.6 kΩ, 20℃/6.3 kΩ, 25℃/5.4 kΩ, 30℃/4.3 kΩ, 40℃/3.0 kΩ		
Gas pipe thermistor	TH23	Resistance 0℃/15 kΩ, 10℃/9.6 kΩ, 20℃/6.3 kΩ, 25℃/5.4 kΩ, 30℃/4.3 kΩ, 40℃/3.0 kΩ		
Fuse (Indoor controller board)	FUSE	250 V 6.3 A		
Fan motor	MF	8-pole OUTPUT 50 W		
Vane motor	MV	MSBPC20M13 DC12 V 300 Ω/phase		
Drain pump	DP	PMD-12D13ME INPUT 3 W 24 ℓ/Hr		
Drain float switch	FS	Open / Short detection		
Linear expansion valve	LEV	DC12V Stepping motor drive port dimension ø 3.2 (0–2000pulse) EDM-40YGME		
Power supply terminal block	TB2	(L, N) Rated to 330 V 30 A *		
Transmission terminal block	TB5	(M1, M2, S) Rated to 250 V 20 A *		
MA remote controller terminal block	TB15	(1, 2) Rated to 250 V 10 A *		

*Refer to WIRING DIAGRAM for the supplied voltage.

3-3. SOUND PRESSURE LEVEL

PLFY-WL ·VEM-E



Note: Measured in anechoic room.

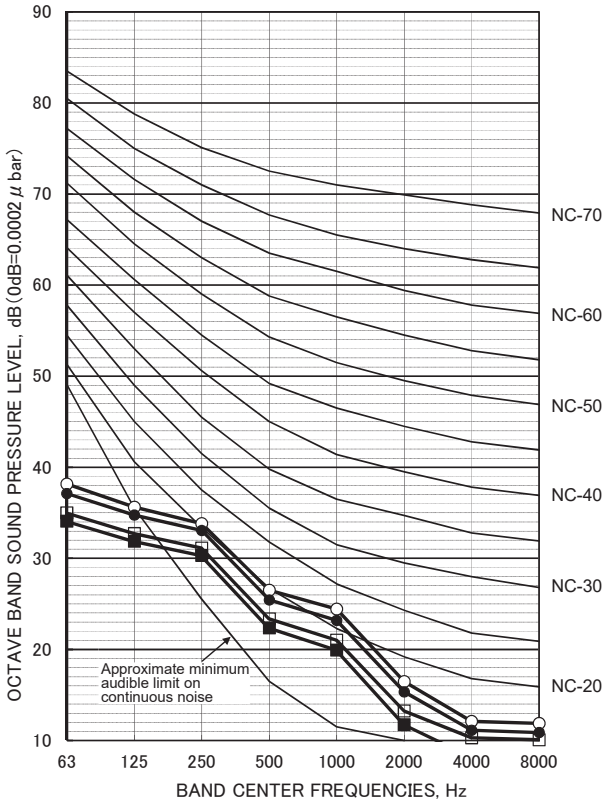
Sound pressure level at anechoic room : Low-Mid2-Mid1-High

Service Ref.	Sound pressure level dB (A)
PLFY-WL32VEM-E.UK PLFY-WL32VEM-ET.UK	26-27-29-30
PLFY-WL40VEM-E.UK PLFY-WL40VEM-ET.UK	26-28-29-31
PLFY-WL50VEM-E.UK PLFY-WL50VEM-ET.UK	27-29-31-33

3-4. NC CURVES

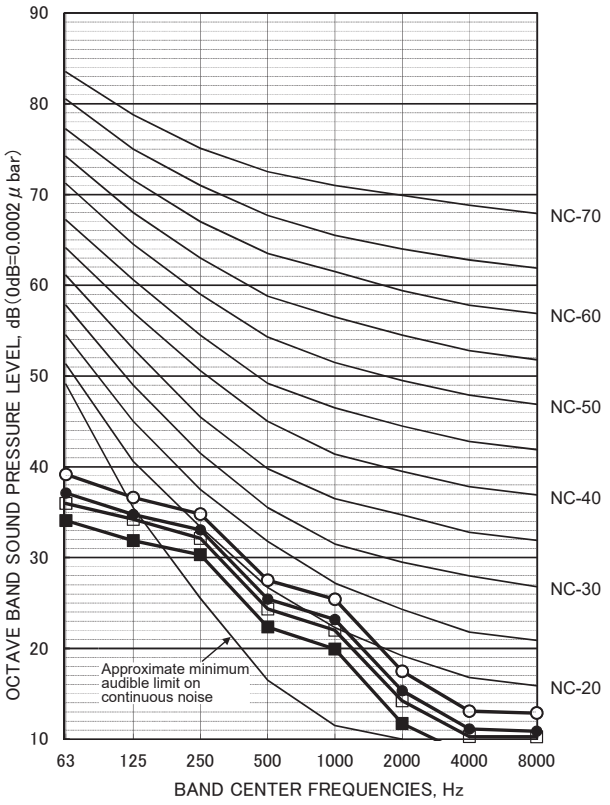
PLFY-WL32VEM-E.UK
PLFY-WL32VEM-ET.UK

FAN	SPL(dB)	LINE
High	30	
Medium1	29	
Medium2	27	
Low	26	



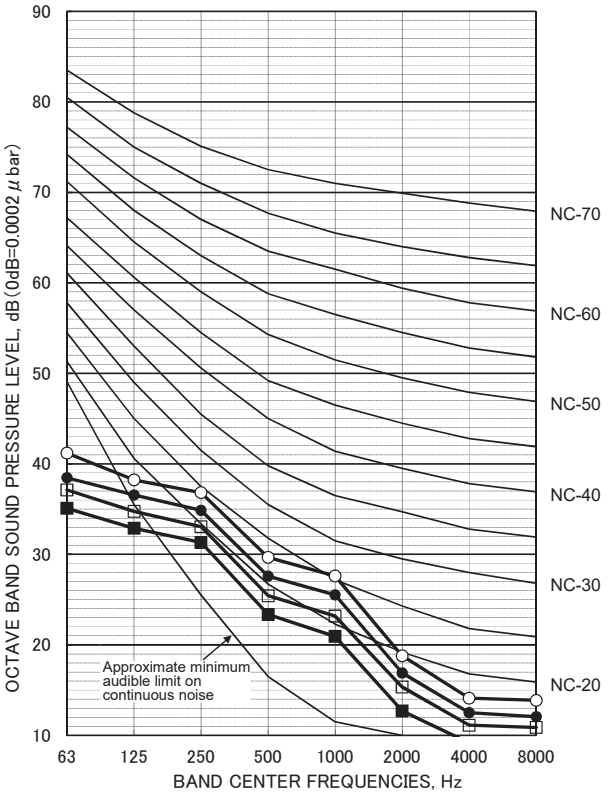
PLFY-WL40VEM-E.UK
PLFY-WL40VEM-ET.UK

FAN	SPL(dB)	LINE
High	31	
Medium1	29	
Medium2	28	
Low	26	



PLFY-WL50VEM-E.UK
PLFY-WL50VEM-E.UK

FAN	SPL(dB)	LINE
High	33	
Medium1	31	
Medium2	29	
Low	27	



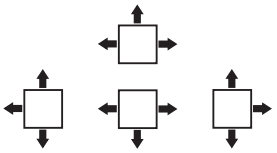
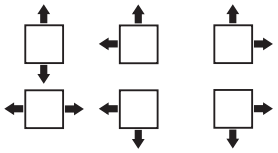
4 4-WAY AIRFLOW SYSTEM

4-1. PLACEMENT OF THE AIR OUTLETS

• For this grille, the blowout direction comes in 11 patterns.
Also, by setting switch on the controller board to the appropriate settings, you can adjust the airflow and speed. Select the settings from Table1 according to the location in which you want to install the unit.

1) Decide on the pattern of the airflow direction.

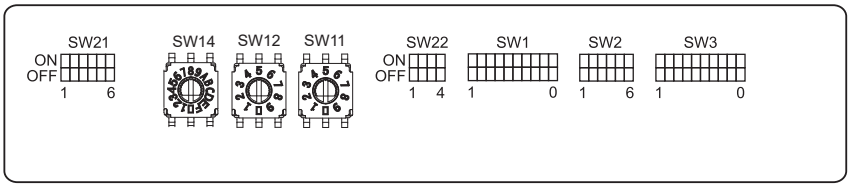
<Table 1>

Blowout direction pattern	4-direction	3-direction	2-direction
	Pattern 1 Initial setting 	Pattern 4 1 air outlet fully closed 	Pattern 6 2 air outlet fully closed 

Note1.
For 3- and 2-direction settings, please use the air outlet shutter plate (option).

2) According to the number of air outlets and height of the ceiling to install the unit, be sure to set up the switch (SW21) on the circuit board to the appropriate setting.

• Correspondence of ceiling heights to the number of air outlets



			PLFY-WL32/40/50VEM-E PLFY-WL32/40/50VEM-ET					
			Silent		Standard		High ceiling	
			SW21-1	SW21-2	SW21-1	SW21-2	SW21-1	SW21-2
			OFF	ON	OFF	OFF	ON	OFF
4 direction	SW21-3	OFF	2.5 m		2.7 m		3.5 m	
	SW21-4	ON						
3 direction	SW21-3	OFF	2.7 m		3.0 m		3.5 m	
	SW21-4	OFF						
2 direction	SW21-3	ON	3.0 m		3.3 m		3.5 m	
	SW21-4	OFF						

4-2. BRANCH DUCT HOLE AND FRESH AIR INTAKE HOLE

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

• A fresh air intake hole for the optional multi-functional casement can also be made.

Note:

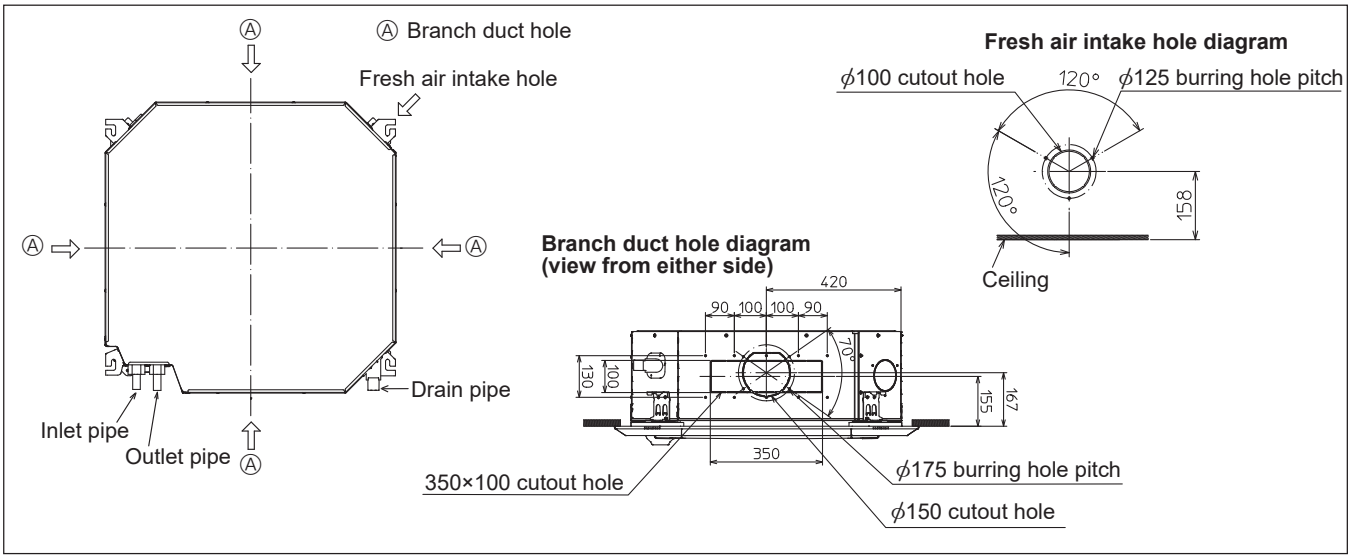
The figures marked with * in the drawing below represent the dimensions of the main unit excluding those of the optional multi-functional casement.

When installing the optional multi-functional casement, add 135 mm to the dimensions marked on the figure.

When installing the branch ducts, be sure to insulate adequately.

Otherwise, condensation and dripping may occur.

Unit : mm



4-3. OPERATION IN CONJUNCTION WITH DUCT FAN (Booster fan)

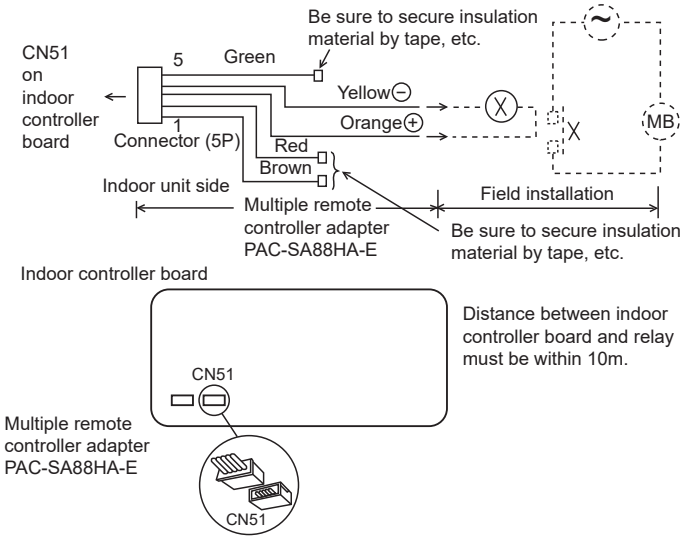
• Whenever the indoor unit is operating, the duct fan also operates.

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

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

MB: Electromagnetic switch power relay for duct fan.

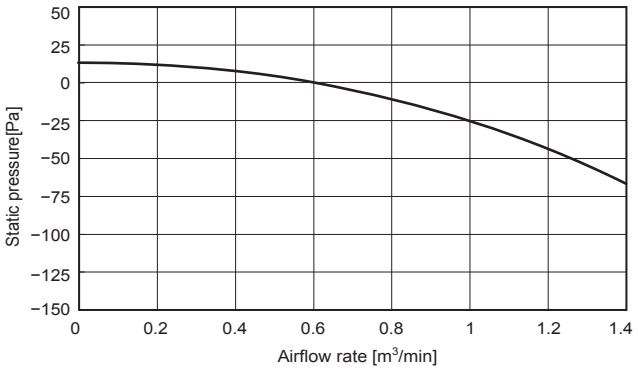
X: Auxiliary relay (For 12 V DC, coil rating: 1.0W or smaller)



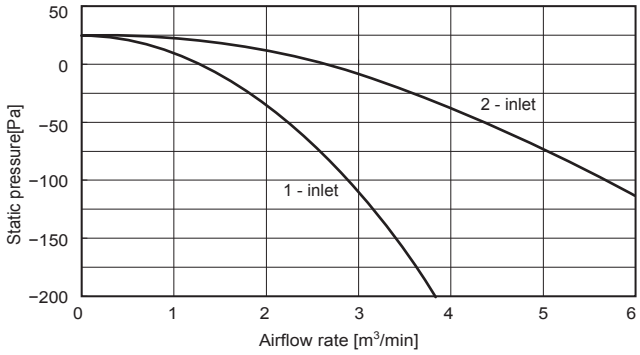
4-4. FRESH AIR INTAKE AMOUNT & STATIC PRESSURE CHARACTERISTICS

PLFY-WL32/40/50VEM-E.UK
PLFY-WL32/40/50VEM-ET.UK

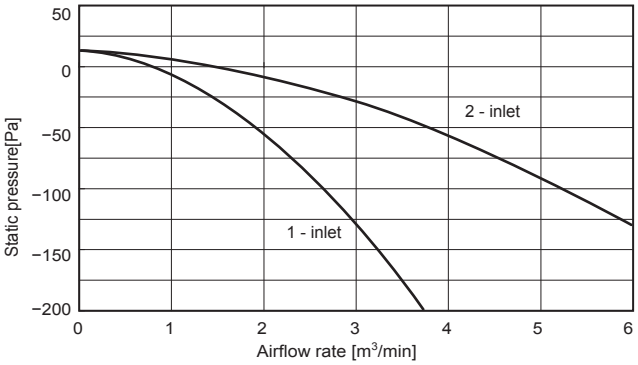
Taking air into the unit



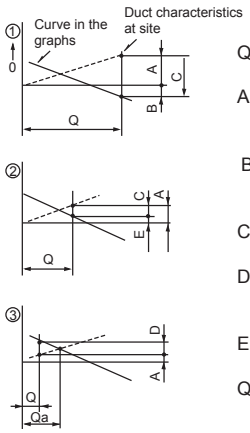
Multi-functional casement + High efficiency filter



Multi-functional casement + Standard filter



How to read curves

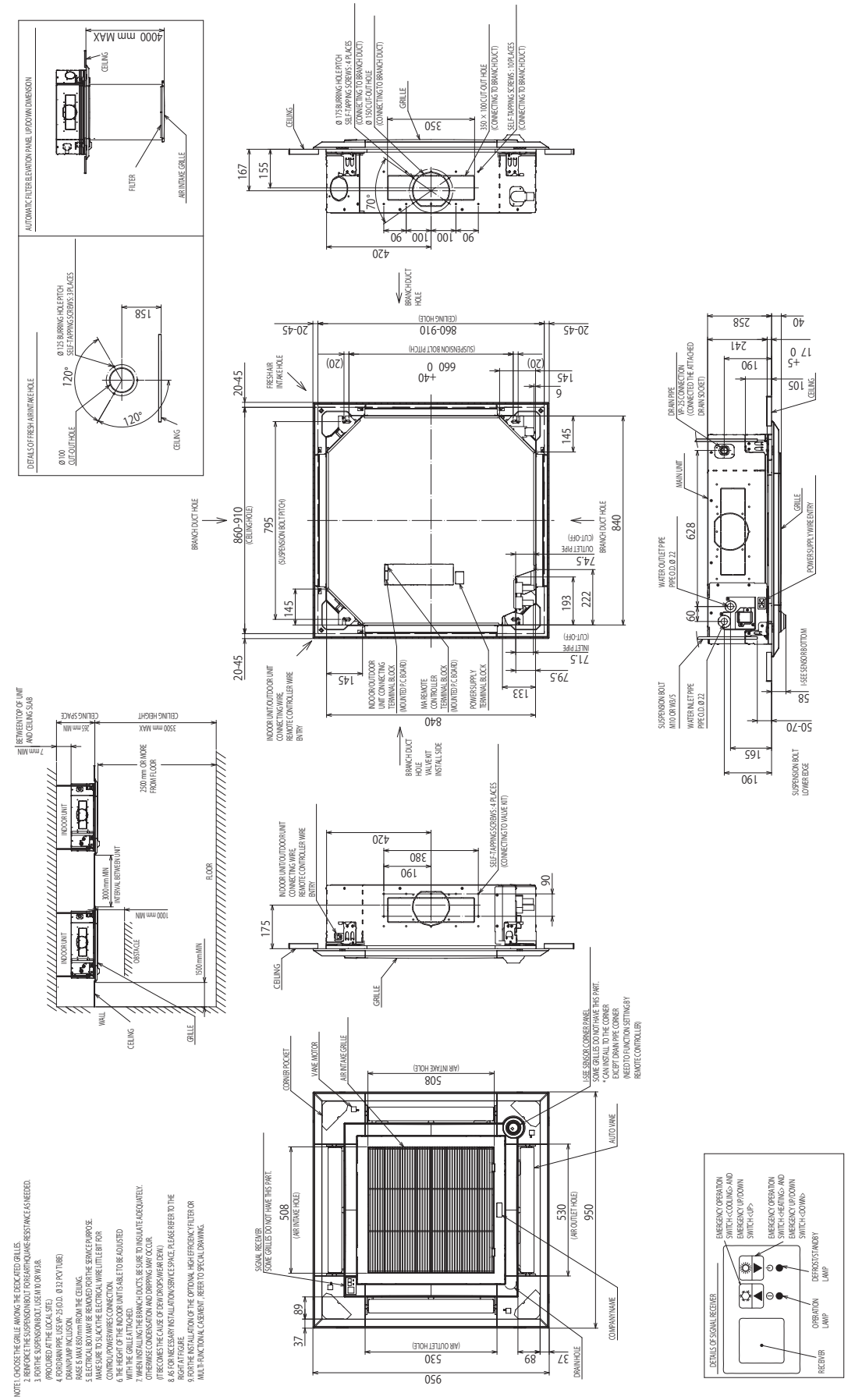


Q···Designed amount of fresh air intake <m³/min>
A···Static pressure loss of fresh air intake air duct system with airflow amount Q <Pa>
B···Forced static pressure at air conditioner inlet with airflow amount Q <Pa>
C···Static pressure of booster fan with airflow amount Q <Pa>
D···Static pressure loss increase amount of fresh air intake duct system for airflow amount Q <Pa>
E···Static pressure of indoor unit with airflow amount Q <Pa>
Qa···Estimated amount of fresh air intake without D <m³/min>

5 OUTLINES AND DIMENSIONS

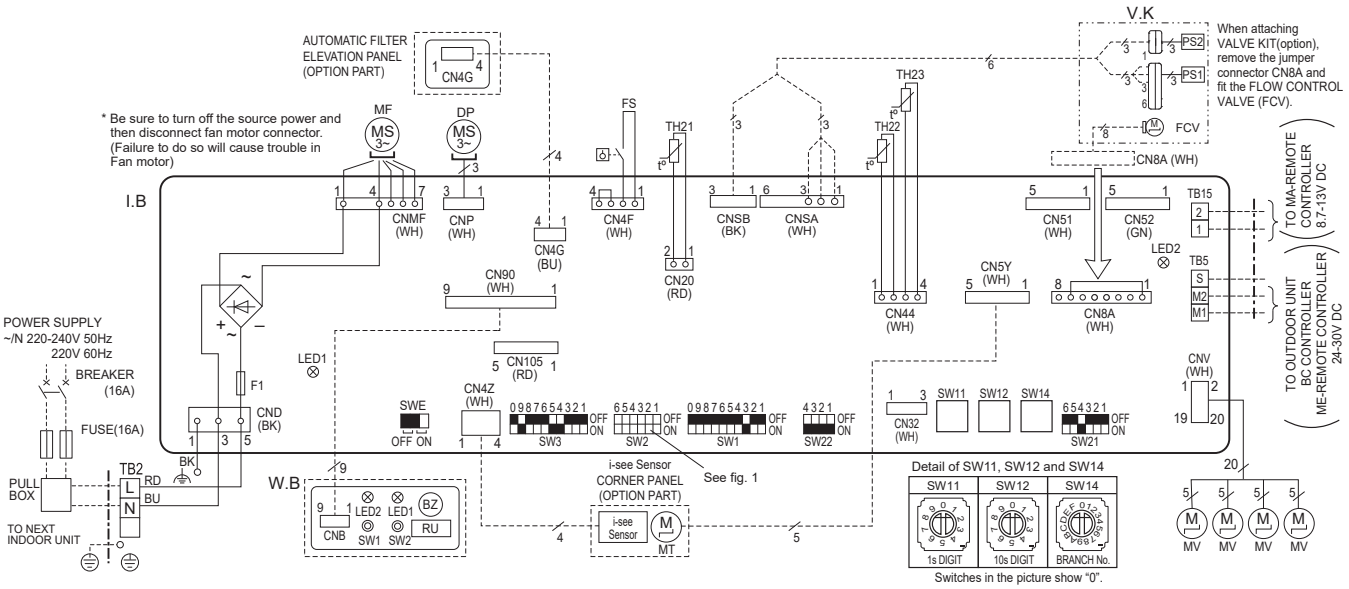
PLFY-WL32VEM-E.UK **PLFY-WL40VEM-E.UK** **PLFY-WL50VEM-E.UK**
PLFY-WL32VEM-ET.UK **PLFY-WL40VEM-ET.UK** **PLFY-WL50VEM-ET.UK**

Unit: mm



6 WIRING DIAGRAM

PLFY-WL32VEM-E.UK **PLFY-WL40VEM-E.UK** **PLFY-WL50VEM-E.UK**
PLFY-WL32VEM-ET.UK **PLFY-WL40VEM-ET.UK** **PLFY-WL50VEM-ET.UK**



NOTES:
1. At servicing for outdoor unit, always follow the wiring diagram of outdoor unit.
2. In case of using MA-Remote controller, please connect to TB15.
   (Remote controller wire is non-polar.)
3. In case of using ME-Remote controller, please connect to TB5.
   (Transmission line is non-polar.)
4. Symbol [S]of TB5 is the shield wire connection.
5. Symbols used in wiring diagram are,
   □□□ : terminal block, ○ ○ ○ : connector.
6. The setting of SW2 differs in the capacity.
   For the detail, refer to the fig. 1.
7. Make sure to turn off the indoor and the outdoor units before replacing indoor controller board.
8. ■ is the switch position.

<fig. 1> SW2 (CAPACITY CODE)

MODELS	SW2	MODELS	SW2	MODELS	SW2
WL32	ON OFF 1 2 3 4 5 6	WL40	ON OFF 1 2 3 4 5 6	WL50	ON OFF 1 2 3 4 5 6

【LEGEND】

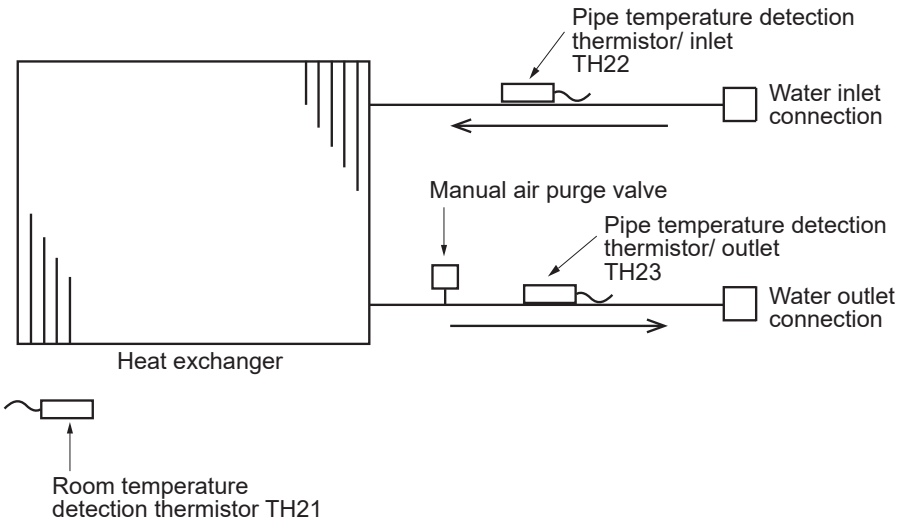
SYMBOL	NAME		SYMBOL	NAME	
I. B	INDOOR CONTROLLER BOARD		TH21	THERMISTOR	ROOM TEMP. DETECTION (0°C/15kΩ, 25°C/5.4kΩ)
CN32	CONNECTOR	REMOTE SWITCH			
CN51		CENTRALLY CONTROL	TH22		PIPE TEMP. DETECTION / INLET (0°C/15kΩ, 25°C/5.4kΩ)
CN52		REMOTE INDICATION			
CN105		IT TERMINAL	TH23		PIPE TEMP. DETECTION / OUTLET (0°C/15kΩ, 25°C/5.4kΩ)
F1	FUSE (T 6.3AL 250V)				
SW1	SWITCH	MODE SELECTION	TB2	TERMINAL BLOCK	POWER SUPPLY
SW2		CAPACITY CODE	TB5		TRANSMISSION
SW3		MODE SELECTION	TB15		MA-REMOTE CONTROLLER
SW11		ADDRESS SETTING 1s DIGIT	OPTION PART		
SW12		ADDRESS SETTING 10s DIGIT	W.B		PCB FOR WIRELESS REMOTE CONTROLLER
SW14		BRANCH NO.	BZ		BUZZER
SW21		CEILING HEIGHT DISCHARGE OUTLET NUMBER OPTION SELECTOR	LED1		LED (OPERATION INDICATION : GREEN)
			LED2		LED (PREPARATION FOR HEATING : ORANGE)
			RU		RECEIVING UNIT
SW22		PAIR NO. SETTING	SW1		EMERGENCY OPERATION (HEAT / DOWN)
SWE		DRAIN PUMP (TEST MODE)	SW2		EMERGENCY OPERATION (COOL / UP)
DP	DRAIN PUMP		MT		i-see Sensor MOTOR
FS	DRAIN FLOAT SWITCH		V.K		VALVE KIT
MF	FAN MOTOR		PS1		PRESSURE SENSOR 1 (INLET)
MV	VANE MOTOR		PS2		PRESSURE SENSOR 2 (OUTLET)
			FCV		FLOW CONTROL VALVE

LED on indoor board for service

Mark	Meaning	Function
LED1	Main power supply	Main Power supply (Indoor unit:220-240V AC) power on → lamp is lit
LED2	Power supply for MA-Remote controller	Power supply for MA-Remote controller on → lamp is lit

7 REFRIGERANT SYSTEM DIAGRAM

PLFY-WL32VEM-E.UK **PLFY-WL40VEM-E.UK** **PLFY-WL50VEM-E.UK**
PLFY-WL32VEM-ET.UK **PLFY-WL40VEM-ET.UK** **PLFY-WL50VEM-ET.UK**

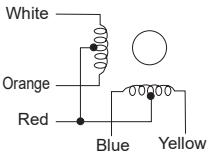
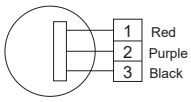


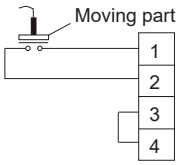
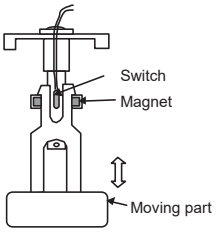
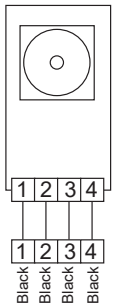
Service Ref. / Item	PLFY-WL32/40/50VEM-E.UK PLFY-WL32/40/50VEM-ET.UK
Water outlet	I.D. 20 [mm]
Water inlet	I.D. 20 [mm]

8 TROUBLESHOOTING

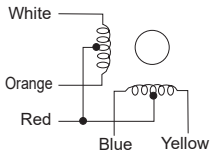
8-1. HOW TO CHECK THE PARTS

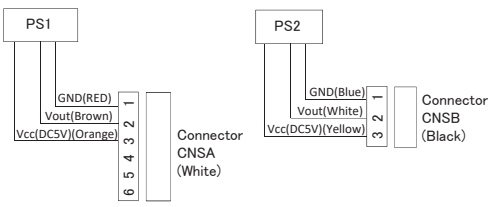
PLFY-WL32VEM-E.UK PLFY-WL40VEM-E.UK PLFY-WL50VEM-E.UK
PLFY-WL32VEM-ET.UK PLFY-WL40VEM-ET.UK PLFY-WL50VEM-ET.UK

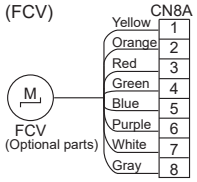
<table>
<tr><th>Parts name</th><th>Check points</th></tr>
<tr><td>Room temperature detection thermistor (TH21)
Pipe temperature detection thermistor/liquid (TH22)
Pipe temperature detection thermistor/gas (TH23)</td><td>Disconnect the connectors, then measure the resistance with a tester.
(At ambient temperatures of 10 to 30℃)
<table><tr><th>Normal</th><th>Abnormal</th></tr><tr><td>4.3–9.6 kΩ</td><td>Open or short</td></tr></table>(Refer to “8-1-1. Thermistor”.)</td></tr>
<tr><td>Vane motor (MV)
 
</td><td>Measure the resistance between the terminals with a tester.
(At ambient temperatures of 20 to 30℃)
<table><tr><th>Connector</th><th>Normal</th><th>Abnormal</th></tr><tr><td>Red - Yellow (⑤-③, ⑩-⑧, ⑮-⑬, ⑳-⑱)</td><td rowspan="4">300 Ω ± 7%</td><td rowspan="4">Open or short</td></tr><tr><td>Red - Blue (⑤-①, ⑩-⑥, ⑮-⑪, ⑳-⑯)</td></tr><tr><td>Red - Orange (⑤-④, ⑩-⑨, ⑮-⑭, ⑳-⑲)</td></tr><tr><td>Red - White (⑤-②, ⑩-⑦, ⑮-⑫, ⑳-⑰)</td></tr></table></td></tr>
<tr><td>Drain pump (DP)
 
</td><td>① Check if the drain float switch works properly.
② Check if the drain pump works and drains water properly in cooling operation.
③ If no water drains, confirm that the check code 2502 will not be displayed 10 minutes after the operation starts.
Note: The drain pump for this model is driven by the internal DC motor of controller board, so it is not possible to measure the resistance between the terminals.

Normal
Red–Black: Input 13 V DC → The fan starts to rotate.
Purple–Black: Abnormal (check code 2502) if it outputs 0–13 V square wave (5 pulses/rotation), and the number of rotation is not normal.</td></tr>
<tr><td>Drain float switch (FS)
 
</td><td>Measure the resistance between the terminals with a tester.
<table><tr><th>State of moving part</th><th>Normal</th><th>Abnormal</th></tr><tr><td>UP</td><td>Short</td><td>Other than short</td></tr><tr><td>DOWN</td><td>Open</td><td>Other than open</td></tr></table> 
</td></tr>
<tr><td>i-see Sensor
 
</td><td>Turn the power ON while the i-see Sensor connector is connected to the CN4Z on indoor controller board. A communication between the indoor controller board and i-see Sensor board is made to detect the connection.

Normal: When the operation starts, the motor for i-see Sensor is driven to rotate the i-see Sensor.
Abnormal: The motor for i-see Sensor is not driven when the operation starts.

Note: The voltage between the terminals cannot be measured accurately since it is pulse output.</td></tr>
<tr><td>i-see Sensor motor (MT) (Option)
 
</td><td>Measure the resistance between the terminals with a tester.
(At ambient temperatures of 20 to 30°C)
<table><tr><th>Connector</th><th>Normal</th><th>Abnormal</th></tr><tr><td>Red - Yellow</td><td rowspan="4">250 Ω ± 7%</td><td rowspan="4">Open or short</td></tr><tr><td>Red - Blue</td></tr><tr><td>Red - Orange</td></tr><tr><td>Red - White</td></tr></table></td></tr>
<tr><td>Pressure sensor (Optional parts)</td><td>▪ Pressure sensor (inner water) PS1
▪ Pressure sensor (outlet water) PS2
1. Check that the pressure sensor is connected.
2. Check the pressure sensor wiring for breakage.

Pressure 0-1.0 MPa [145 psi] Vout 0.5-4.5 V
0.392 V/ 0.098 MPa [14 psi]
Pressure [MPa] = 0.25 × Vout [V] - 0.125
Pressure [psi] = (0.25 × Vout [V] - 0.125) × 145
 
</td></tr>
</table>

Parts name	Check points
Flow control valve (FCV) 	Disconnect the connector then measure the resistance between terminals with a tester. Refer to "8-1-2. Flow control valve". Normal: 1-5 Purple-Brown; 2-5 Orange-Brown; 3-5 Blue-Brown; 4-5 Green-Brown: 55 Ω ± 5.6 Ω (at 25℃) Abnormal: Open or short

8-1-1. Thermistor

<Thermistor characteristic graph>

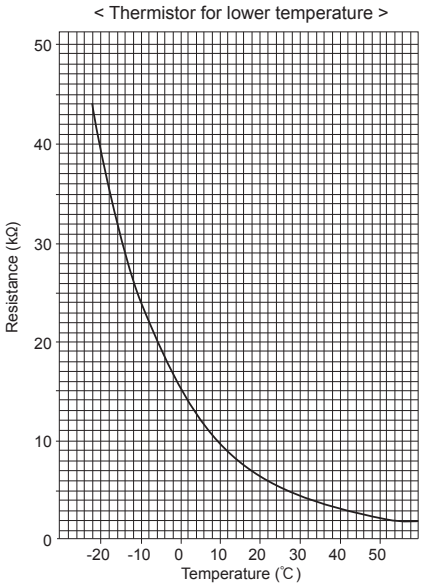
Thermistor for lower temperature

Room temperature detection thermistor (TH21)
Pipe temperature detection thermistor/liquid (TH22)
Pipe temperature detection thermistor/gas (TH23)

Thermistor R_0=15 kΩ ± 3%
Fixed number of B=3480 ± 2%

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

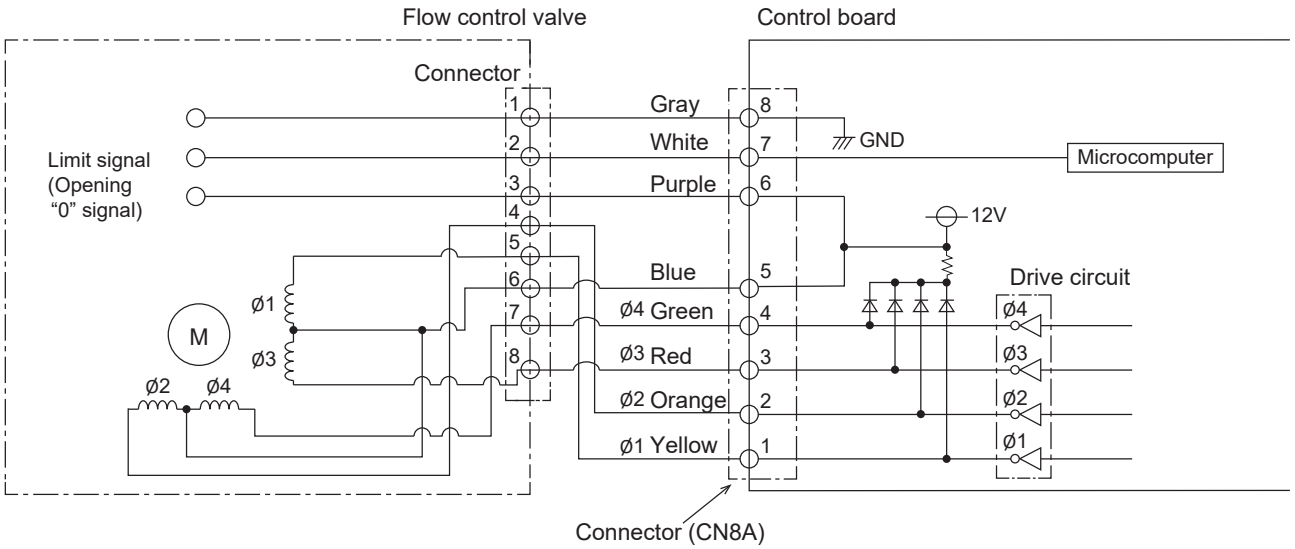
0℃	15 kΩ
10℃	9.6 kΩ
20℃	6.3 kΩ
25℃	5.4 kΩ
30℃	4.3 kΩ
40℃	3.0 kΩ



8-1-2. Flow control valve

1) Summary of flow control valve (FCV) operation
- The FCV is operated by a stepping motor, which operates by receiving a pulse signal from the indoor control board.
- The FCV position changes in response to the pulse signal.

Indoor control board and FCV connection

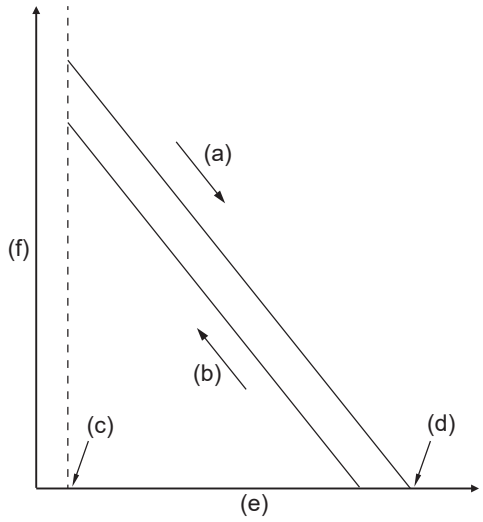


Pulse signal output and valve operation

Output (phase) number	Output status			
	1	2	3	4
ø1	OFF	ON	ON	OFF
ø2	ON	ON	OFF	OFF
ø3	ON	OFF	OFF	ON
ø4	OFF	OFF	ON	ON

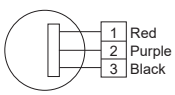
The output pulse changes in the following order:
When the valve closes 1 -> 2 -> 3 -> 4 -> 1
When the valve opens 4 -> 3 -> 2 -> 1 -> 4

2) FCV operation



(a) Close
(b) Open
(c) Fully open valve (85 pulses)
(d) Fully close valve (770 pulses)
(e) No. of pulses
(f) Valve opening degree

8-1-3. Drain pump



1. Check if the drain float switch works properly.
2. Check if the drain pump works and drains water properly in cooling operation.
3. If no water drains, confirm that the check code 2502 will not be displayed 10 minutes after the operation starts.

Note: The drain pump for this model is driven by the internal DC motor of controller board, so it is not possible to measure the resistance between the terminals.

Normal
Red–Black: Input 13 V DC→ The fan starts to rotate.
Purple–Black: Abnormal (check code 2502) if it outputs 0–13 V square wave (5 pulses/rotation), and the number of rotation is not normal.

8-1-4. DC Fan motor (fan motor/indoor controller board)

Check method of indoor fan motor (fan motor/indoor controller board)

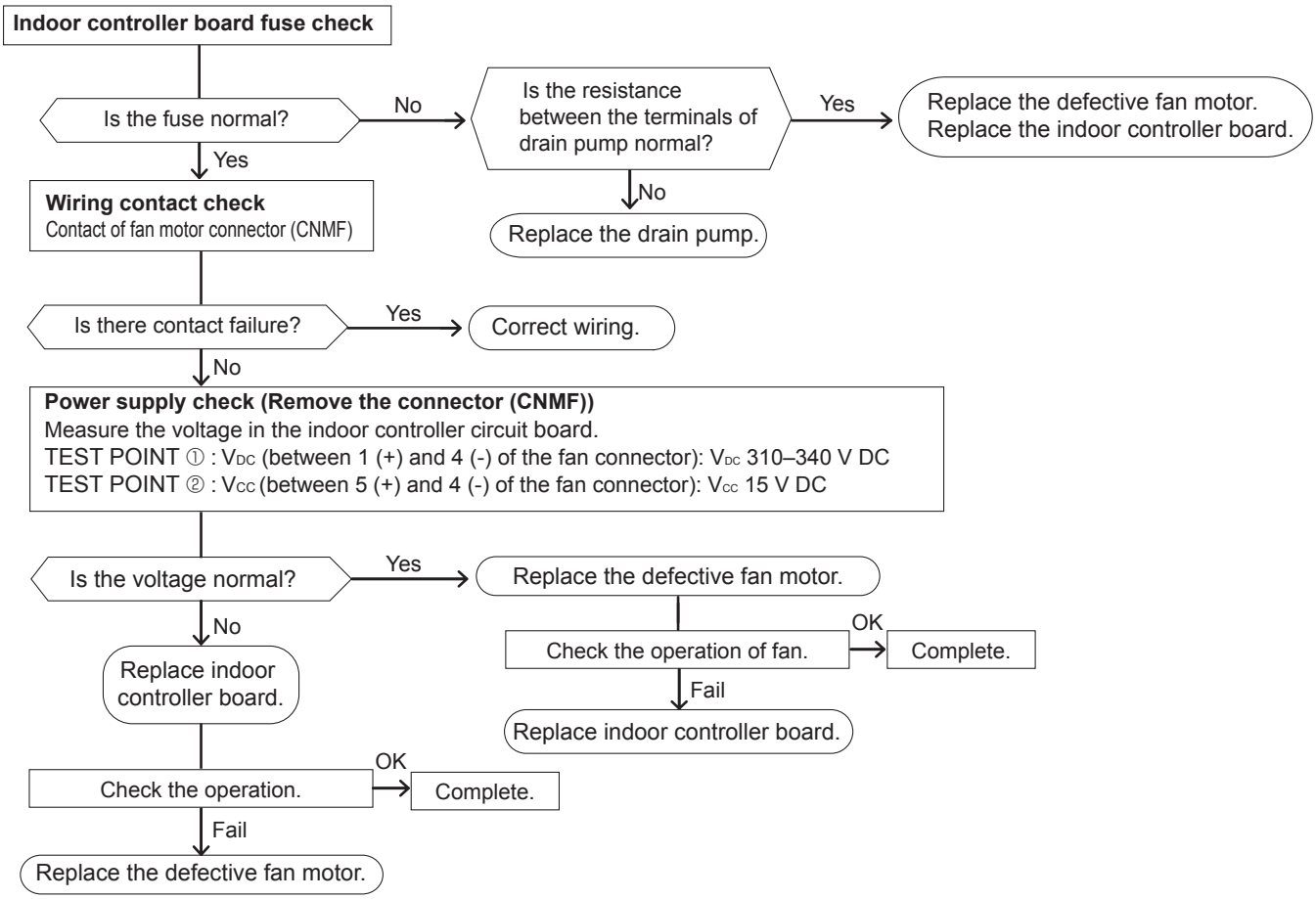
① Notes

· High voltage is applied to the connector (CNMF) for the fan motor. Pay attention to the service.

· Do not pull out the connecter (CNMF) for the motor with the power supply on.
(It causes trouble of the indoor controller board and fan motor.)

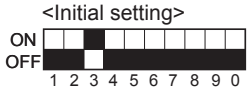
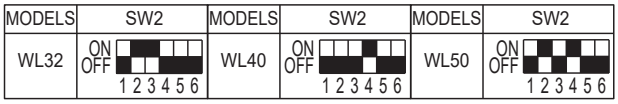
② Self check

Conditions : The indoor fan cannot rotate.



8-2. FUNCTION OF DIP SWITCH

The black square (■) indicates a switch position.

Switch	Pole	Function	Operation by switch		Effective timing	Remarks
			ON	OFF		
SW1 Function Selection	1	Thermistor <Room temperature detection> position	Built-in remote controller	Indoor unit	Under suspension	<Initial setting>  *1 Refer to <Table A> below.
	2	Filter clogging detection	Provided	Not provided		
	3	Filter cleaning	2,500 hr	100 hr		
	4	Fresh air intake	Effective	Not effective		
	5	Switching remote display	Thermo-ON signal display	Indicating fan operation ON/OFF		
	6	—	—	—		
	7	Airflow set in case of thermo-OFF at heating mode	Low*1	Extra low*1		
	8		Setting airflow*1	Depends on SW1-7		
	9	Auto restart function	Effective	Not effective		
	0	Power ON/OFF by breaker	Effective	Not effective		
SW2 Capacity code setting	1–6	 			Before power supply ON	Set while the unit is off. <Initial setting> Set for each capacity.
SW3 Function setting	1	Heat pump/Cooling only	Cooling only	Heat pump	Under suspension	<Initial setting>  *2 Refer to <Table D> below for SW3-5 and SW-3-6.
	2	—	—	—		
	3	3D i-see Sensor positioning	The setting depends on the combination of SW3-3 and SW3-4. Refer to <Table B> below.		Before power supply ON	
	4					
	5	Vane horizontal angle ①	Second setting*2	First setting*2	Under suspension	
	6	Vane horizontal angle ②	Third setting*2	Depends on SW3-5		
	7	—	—	—		
	8	Heat 4 degrees up	Not effective	Effective		
	9	3D i-see Sensor ceiling height setting	The setting depends on the combination of SW3-9 and SW3-10. Refer to <Table C> below.			
	0					

<Table A>

SW1-7	SW1-8	
OFF	OFF	Extra low
ON	OFF	Low
OFF	ON	Setting airflow
ON	ON	stop

<Table B>

SW3-3	SW3-4	
OFF	OFF	Setting ①
ON	OFF	Setting ②
OFF	ON	Setting ③
ON	ON	Setting ④

<Table C>

SW3-9	SW3-10	
OFF	OFF	Low ceiling
ON	OFF	Standard
OFF	ON	High ceiling
ON	ON	(High ceiling)

<Table D>

SW3-5	SW3-6	Vane setting	Initial setting	Setting	Vane position
OFF	OFF	Setting ①		Standard	Standard
ON	OFF	Setting ②	●	Less draft*3	Upward position than the standard
OFF	ON	Setting ③		Less smudging	Downward position than the standard
ON	ON	Unused		—	—

*3 Be careful of the smudge on ceiling.

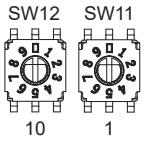
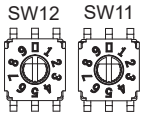
<Table E>

Blowout directions \ Ceiling height			PLFY-WL32/40/50VEM-E PLFY-WL32/40/50VEM-ET					
			Silent		Standard		High ceiling	
			SW21-1	SW21-2	SW21-1	SW21-2	SW21-1	SW21-2
			OFF	ON	OFF	OFF	ON	OFF
4 directions	SW21-3	OFF	2.5 m		2.7 m		3.5 m	
	SW21-4	ON						
3 directions	SW21-3	OFF	2.7 m		3.0 m		3.5 m	
	SW21-4	OFF						
2 directions	SW21-3	ON	3.0 m		3.3 m		3.5 m	
	SW21-4	OFF						

Note: The setting with [ ] indicates the initial setting; To change it to other than [ ], switch setting is necessary.

Continue to the next page

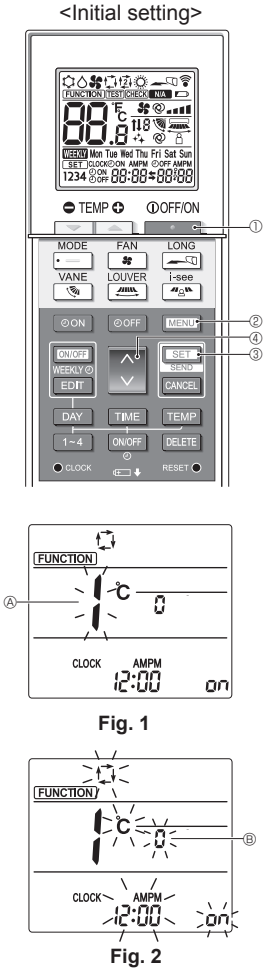
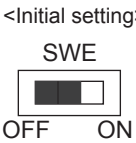
<table>
<tr><th rowspan="2">Switch</th><th rowspan="2">Pole</th><th rowspan="2">Function</th><th colspan="2">Operation by switch</th><th rowspan="2">Effective timing</th><th rowspan="2">Remarks</th></tr>
<tr><th>ON</th><th>OFF</th></tr>
<tr><td>SW11
1s digit address setting

SW12
10s digit address setting</td><td>Rotary switch</td><td>  </td><td colspan="2">Address setting should be done when M-NET remote controller is being used.</td><td rowspan="2">Before power supply ON</td><td>  </td></tr>
<tr><td>SW14
Connection No. setting</td><td>Rotary switch</td><td>  </td><td colspan="2">This is the switch to be used when the indoor unit is operated with R2 series outdoor unit as a set.</td><td>  </td></tr>
<tr><td rowspan="6">SW21
Function Selection</td><td>1</td><td>Setting the ceiling height</td><td colspan="2" rowspan="2">Depending on the combination of SW21-1 and SW21-2.
Refer to <Table E> on the previous page.</td><td rowspan="6">Under suspension</td><td rowspan="6">  </td></tr>
<tr><td>2</td><td>Setting the ceiling height</td></tr>
<tr><td>3</td><td>Setting the number of air outlet</td><td colspan="2" rowspan="2">Depending on the combination of SW21-3 and SW21-4.
Refer to <Table E> on the previous page.</td></tr>
<tr><td>4</td><td>Setting the number of air outlet</td></tr>
<tr><td>5</td><td>Setting for optional parts</td><td>Option</td><td>Standard</td></tr>
<tr><td>6</td><td>Not used</td><td>Not used</td><td>Not used</td></tr>
<tr><td>SW22
Function selection</td><td>Switch</td><td colspan="3">
<table>
<tr><th></th><th>Function</th><th>ON</th><th>OFF</th></tr>
<tr><td>1</td><td>—</td><td>—</td><td>—</td></tr>
<tr><td>2</td><td>—</td><td>—</td><td>—</td></tr>
<tr><td>3</td><td>Pair No. of wireless remote controller</td><td colspan="2" rowspan="2">Depends on the combination of SW22-3 and 22-4</td></tr>
<tr><td>4</td><td>Pair No. of wireless remote controller</td></tr>
</table>
• To operate each indoor unit by each remote controller when installed 2 indoor units or more are near, Pair No. setting is necessary.
●Pair No. setting is available with the 4 patterns.
●Make setting for SW22-3, 22-4 of indoor controller board and the Pair No. of wireless remote controller.

• You may not set it when operating it by one remote controller.
① Setting for indoor unit
●Set SW22-3, 22-4 on the indoor controller board according to the table below.

② Wireless remote controller pair number:
●Setting operation (Fig. 1 Ⓐ)
1. Press the [ ] button ① to stop the air conditioner.
2. Press the [MENU] button ②.
3. Check that function No."1" is displayed, and then press the [SET] button ③. The Screen display setting screen will be displayed. (Fig. 2.)

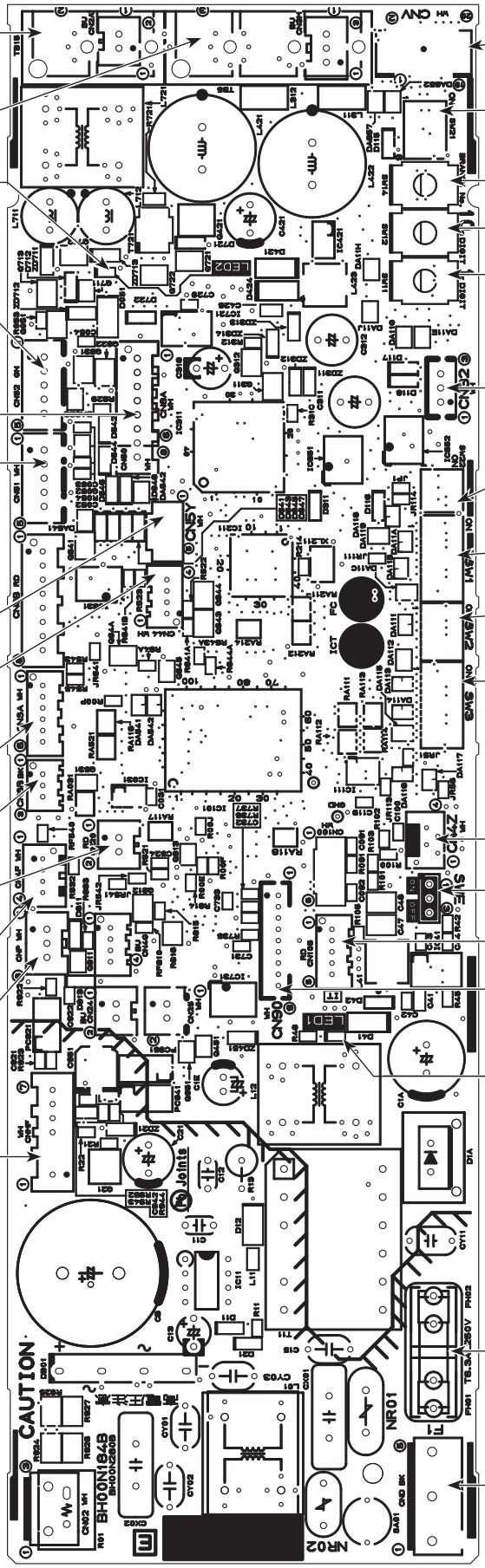
●Pair No. changing operation (Fig. 2 Ⓑ)
1. Press the [ ] button ④.
2. Each time the [ ] button ④ is pressed, the pair No.0–3 changes.
3. Press the [SET] button ③ to check the setting.
4. Press the [MENU] button ②.

<table>
<tr><th colspan="2">Indoor unit SW22</th><th rowspan="2">Pair No. of wireless remote controller</th><th rowspan="2"></th></tr>
<tr><th>SW22-3</th><th>SW22-4</th></tr>
<tr><td>ON</td><td>ON</td><td>0</td><td>Initial setting</td></tr>
<tr><td>OFF</td><td>ON</td><td>1</td><td>—</td></tr>
<tr><td>ON</td><td>OFF</td><td>2</td><td>—</td></tr>
<tr><td>OFF</td><td>OFF</td><td>3–9</td><td>—</td></tr>
</table>
</td><td>Under operation or suspension</td><td> 
Fig. 1
Fig. 2</td></tr>
<tr><td>SWE
Test run for Drain pump</td><td>Connector</td><td colspan="3">Drain pump and fan are activated simultaneously after the connector SWE is set to ON and turn on the power.
 
The connector SWE is set to OFF after test run.</td><td>Under operation</td><td>  </td></tr>
</table>

8-3. TEST POINT DIAGRAM

Indoor controller board

PLFY-WL32VEM-E.UK PLFY-WL40VEM-E.UK PLFY-WL50VEM-E.UK
PLFY-WL32VEM-ET.UK PLFY-WL40VEM-ET.UK PLFY-WL50VEM-ET.UK



TB15
MA-Remote controller connecting wire
①–②: 8.7–13 V DC (non-polar)

TB5
M-NET transmission connecting wire
24–30 V DC (non-polar)

LED2
Power supply for
MA-Remote controller

CN52
Remote indicator
①–②: Status lamp
12V DC(①: +)
①–③: Cooling/Dry status lamp
12V DC(①: +)
①–④: Heating status lamp
12V DC(①: +)

CN8A
Flow control valve

CN51
Centrally controlled
①–②: Status lamp
12V DC(①: +)
③–④: Cooling/Dry status lamp
12V DC(③: +)
③–⑤: Heating status lamp
12V DC(③: +)

CN5Y
i-see Sensor motor output
12 V DC pulse output

CN44
Pipe temperature thermistor
①–②: Inlet (TH22)
③–④: Outlet (TH23)

CNSA
Pressure sensor
(inlet water)

CNSB
Pressure sensor
(outlet water)

CN20
Room temperature
thermistor (TH21)

CN4F
Drain float switch (FS)

CNP
Drain pump output (DP)
①–③: 220–240 V AC

CNMF
Connect to the fan motor (MF)
①–④: 310–340 V DC
⑤–④: 15 V DC

CNV
Vane motor output
12 V DC pulse

SW21
Number of air outlets and height of
the ceiling

SW14
Branch No.

SW12
Address setting 10s digit

SW11
Address setting 1s digit

CN32
Remote switch

SW22
Pair No.setting for wireless
remote controller

SW1
Function setting

SW2
Capacity setting

SW3
Function setting

CN4Z
i-see Sensor

SWE
Test run (Drain pump)

CN105
IT Terminal

CN90
Connect to the wireless remote
controller board (W.B)

LED1
Main power supply
(Indoor unit: 220–240 V)

FUSE
6.3 A 250 V

CND
Power supply for indoor controller board
③–⑤: 220–240 V AC

9 SPECIAL FUNCTION

9-1. OPERATION (AUTOMATIC FILTER ELEVATION GRILLE: PLP-6EAJ/PLP-6EAJE)

(1) Normal operation

① UP/DOWN

Air intake grille is raised/lowered by commands of UP and DOWN.
Air intake grille does not move under the state of no-load detection or obstacle detection.
Air intake grille stops automatically at the set lowering distance from the ceiling level.

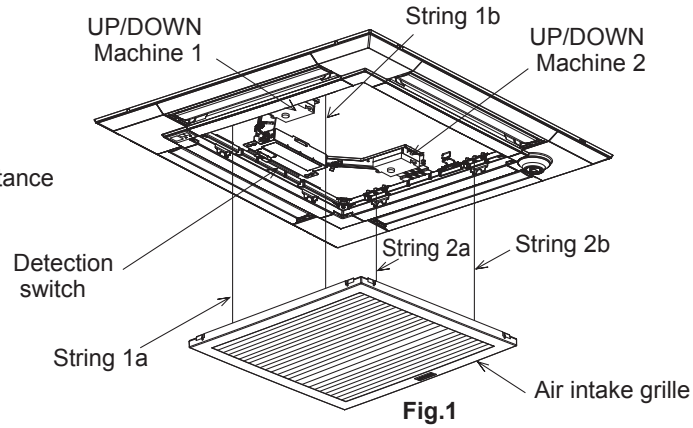


Fig.1

② STOP

It stops in the cases below :

- When it reaches the set lowering distance from the ceiling level.
  It automatically stops after a predetermined period of lowering.
- When it is stored in the panel.
  The air intake grille is judged to be stored in the panel when the storage detection switch is pressed for 5 seconds continuously.
- When receiving commands of STOP, DOWN while moving up or UP while moving down.
  The STOP button is only available on the automatic filter elevation panel remote controller.
  When the wired remote controller is used, there will be a slight delay in stopping due to transmission speed.
- When both string 1b and 2b are not loaded.
  Only the string b in each UP/DOWN Machine has a tension detection switch.

(2) Special operation

① Re-storage operation

Case : Obstruction of the raising air intake grille before storage or malfunction of storage detection switch
Re-storage operation will be performed when the intake grille has been raised the set distance but the storage detection switch is not engaged.
In this case, the operation below will be repeated up to 4 times.
10 cm down → 30 cm up → ···· → 10 cm down → 30 cm up

② No-load detection

Case : UP/DOWN commands with no grille suspended.
When both string 1b and string 2b are not loaded, the strings will not move.

③ Obstacle detection

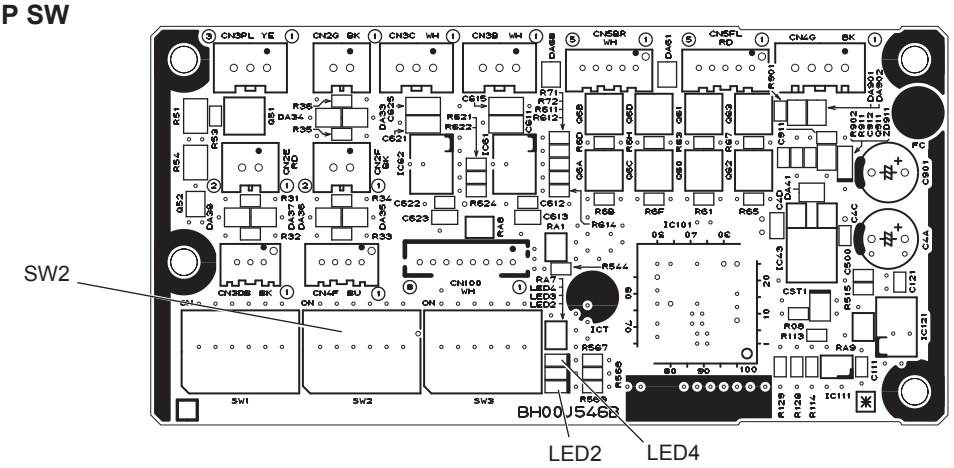
Case : Making contact with something while lowering.
Should the loads on the string 1b and string 2b be removed due to the air intake grille making contact with something while lowering, the lowering operation will stop. The air intake grille will then be raised 10 cm and stop again.

[EMERGENCY OPERATION]

1. If the wireless remote controller for ELEVATION PANEL is faulty or lost, operation will be possible using the emergency up/down switch at the wireless signal receiver or wired remote controller.
   - For the operation using the emergency up/down switch at the wireless signal receiver, refer to SW1 and SW2 on the [LEGEND] in the next page.
2. When machine for ELEVATION PANEL breaks down, a intake grille is fixed for a while, and the operation of the unit can be done.
   - Refer to installation manual with the grille for the details such as an installation method.

9-2. ELECTRICAL CIRCUIT (Controller board and wiring diagram (Panel))

9-2-1 DIP SW



[LEGEND]

SYMBOL		NAME	
U.B		ELEVATION PANEL CONTROLLER BOARD	
	LED2	LED ORANGE (INTAKE GRILLE CONDITION (See table *1))	
	LED4	LED GREEN (COMMUNICATION WITH INDOOR UNIT)	
U.K 1		ELEVATION MACHINE	
	M	MOTOR (ELEVATION)	
	LS21	DETECTION SWITCH (STRING TENSION)	
I.B		INDOOR UNIT CONTROLLER BOARD	
W.B		PCB OF SIGNAL RECEIVER	
	BZ	BUZZER	
	RU	RECEIVING UNIT	
	LED1	LED GREEN (OPERATION INDICATION)	
	LED2	LED ORANGE (PREPARATION FOR HEATING)	
	SW1	EMERGENCY HEATING (LONG PRESS FOR OVER 2 SECONDS)	INTAKE GRILLE/DOWN (SHORT PRESS)
	SW2	EMERGENCY COOLING (LONG PRESS FOR OVER 2 SECONDS)	INTAKE GRILLE/UP (SHORT PRESS)
LS1		DETECTION SWITCH (INTAKE GRILLE STORAGE)	
R.B		WIRED REMOTE CONTROLLER	

<*2>SW2 on U.B

LOWERING DISTANCE	SET UP	LOWERING DISTANCE	SET UP
1.2m	ON OFF 1 2 3 4 5 6	2.8m	ON OFF 1 2 3 4 5 6
1.6m (Initial setting)	ON OFF 1 2 3 4 5 6	3.2m	ON OFF 1 2 3 4 5 6
2.0m	ON OFF 1 2 3 4 5 6	3.6m	ON OFF 1 2 3 4 5 6
2.4m	ON OFF 1 2 3 4 5 6	4.0m	ON OFF 1 2 3 4 5 6

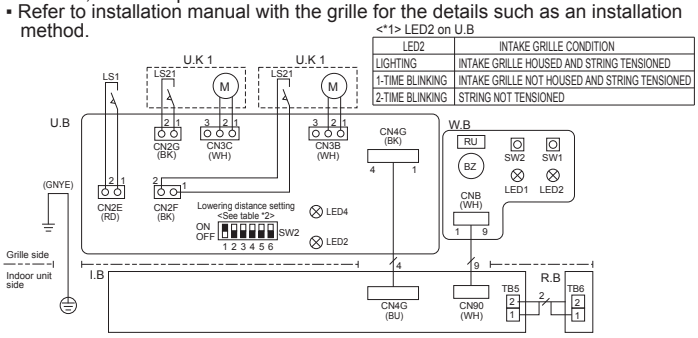
Note: The actual lowering distance might be different from the distance in the table 2 since it can also be set using the wired remote controller.

[EMERGENCY OPERATION]

1. If the wireless remote controller for ELEVATION PANEL is faulty or lost, operation will be possible using the emergency up/down switch at the wireless signal receiver or wired remote controller.
   - For the operation using the emergency up/down switch at the wireless signal receiver, refer to SW1 and SW2 on the left [LEGEND].
2. When machine for ELEVATION PANEL breaks down, a intake grille is fixed for a while, and the operation of the unit can be done.
   - Refer to installation manual with the grille for the details such as an installation method.

<*1> LED2 on U.B

LED2	INTAKE GRILLE CONDITION
LIGHTING	INTAKE GRILLE HOUSED AND STRING TENSIONED
1-TIME BLINKING	INTAKE GRILLE NOT HOUSED AND STRING TENSIONED
2-TIME BLINKING	STRING NOT TENSIONED



[Note]

1. Symbols used in wiring diagram above are, ○○○ : Connector, □□□ : Terminal (block).
2. The black square (■) indicates a switch position.

9-2-2. Check point of trouble

<LED 2 Orange display>

Turn OFF : No power supply
Blink : Storage detection switch ON (short)
One blink : Storage detection switch OFF (open)
Two blinks : Tension detection switch OFF (open)

<LED 4 Green display>

Blink : Connecting

<controller board>

Check item	Check point	Normal	Remarks
Up/down controller P.C. board supply voltage	CN4A (between 1–2)	11–14 V AC	——
Up/down machine supply voltage	CN3B (between 1–2) CN3C (between 1–2)	10–13.5 V DC	Check when instructing up/down with LED blinking once.

<Up/down machine>

Check item	Check point	Normal	Check contents
Storage detection switch	CN2E	open or short	Check if it is short by pressing push switch.
Tension detection switch	CN2F, CN2G	open or short	Check if it is short when string b is tensioned.
Motor	CN3B, CN3C	5–20 Ω	Check if it is not open or short.
Entwining strings	Pull string	Retention: about 2 kgf	Check if string is drawn out by pulling with 4 kgf.

9-3. TROUBLESHOOTING

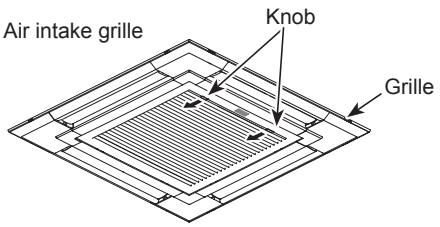
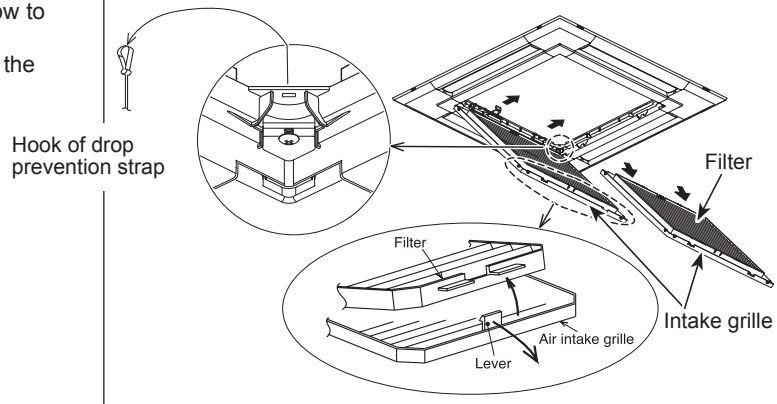
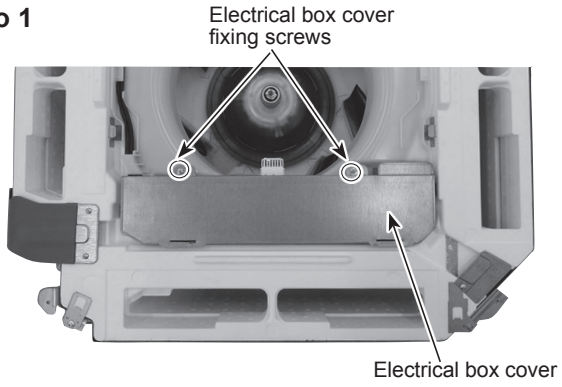
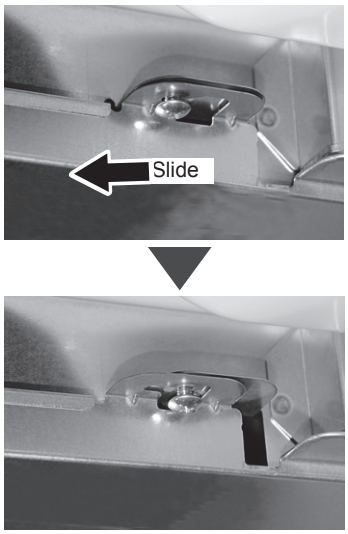
• Check the following points.

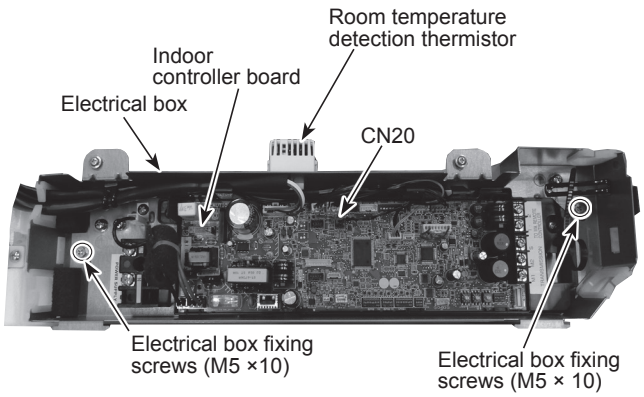
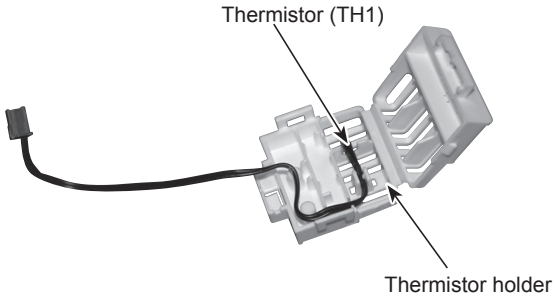
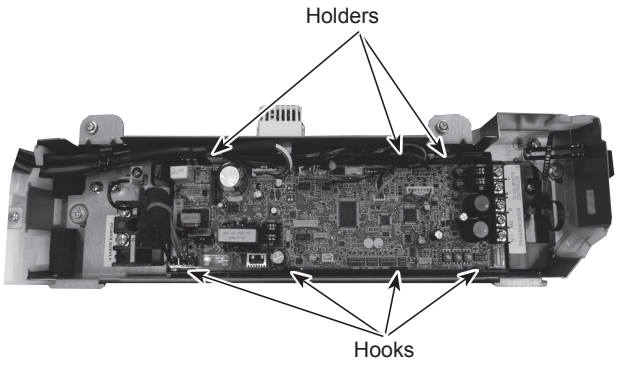
Problem	Possible Reason	Corrective Action
Intake grille does not function with operation of the remote controller.	Air-conditioner is running.	Stop running the air-conditioner and try again.
	Power failure	After recovering from power failure, try again.
	Batteries are not inserted into the wireless remote controller. Or battery power is running low.	Install or replace the battery.
	There is something on the intake grille. Or something is stuck in the intake grille.	Remove the objects or obstacles from the intake grille. Or, remove the stuck object.
Intake grille cannot be placed in the correct position.	There is something on the intake grille.	Remove the objects or obstacles from the intake grille.
	Filter is not properly installed.	Lower the intake grille again and check whether the filter is installed in the correct position.
	Intake grille is not hung with all 4 hooks.	Lower the intake grille again and hang the hook on the intake grille.
Intake grille stops lowering in mid flow. (Intake grille would not lower any further.)	Because the intake grille has finished lowering to the auto-stop position.	This is normal. Note: If you want to change the setting for the lowering distance, contact your dealer.
Noises are made during up/down operation. (While intake grille is moving up/down.)	This is the noise made when the string is winded and unwound.	This is normal.
Noises are made while placing the intake grille in.	This is the operational noise for placing the intake grille in securely.	
Intake grille repeats rising and lowering several times while being placed in the correct position.	This is the operation for placing the intake grille in securely.	
Intake grille leans toward one side during the up/down operation.	The speeds of winding each string is slightly different.	

10 DISASSEMBLY PROCEDURE

PLFY-WL32VEM-E.UK **PLFY-WL40VEM-E.UK** **PLFY-WL50VEM-E.UK**
PLFY-WL32VEM-ET.UK **PLFY-WL40VEM-ET.UK** **PLFY-WL50VEM-ET.UK**

Be careful when removing heavy parts.

OPERATING PROCEDURE	PHOTOS/FIGURES
1. Removing the filter (1) Slide the knob of air intake grille toward the arrow to open the air intake grille. (See Figure 1) (2) Pull down the lever of the air intake grille to remove the filter. (See Figure 2)	**Figure 1** 
2. Removing the air intake grille (1) Slide the knob of air intake grille toward the arrow to open the air intake grille. (See Figure 1) (2) Remove the hook of drop prevention strap from the panel. (3) Remove the air intake grille.	**Figure 2** 
3. Removing the electrical box cover (1) Remove the air intake grille and the filter. (Refer to procedure 2) (2) Loosen the 2 electrical box cover fixing screws (M4×10) approximately 2 to 3 mm. (See Photo 1) (3) Slide the electrical box cover toward the arrow to remove. (See Photo 2)	**Photo 1**  **Photo 2** 

OPERATING PROCEDURE	PHOTOS/FIGURES
4. Removing the room temperature thermistor (TH21) (1) Remove the electrical box cover. (See Photo 1 and 2) (2) Disconnect the connector CN20 (Red) from the indoor controller board. (3) Remove the room temperature thermistor with its holder. (See Photo 4)	**Photo 3**  **Photo 4** 
5. Removing the indoor controller board (I.B) (1) Remove the electrical box cover. (See Photo 1 and 2) (2) Disconnect the connectors: CNMF (White) for fan motor CNV (White) for vane motor CN5Y (White) for motor for i-see Sensor (Option) CN4Z (White) for sensor for i-see Sensor (Option) CN90 (White) for signal receiver (Option) CNP (White) for drain pump CN4F (White) for float switch CN44 (White) for thermistor (TH22/TH23) CN60 (White) for LEV CN01 (Black) for Indoor/Outdoor connecting line CN3C (Blue) for Indoor/Outdoor transmission Disconnect the connectors for optional parts, if any. (3) Disconnect the lead wire connected to the TB5 on the indoor controller board. TB5: M-NET transmission connecting wire (4) For the unit controlled with the wireless remote controller, disconnect the lead wire connected to the TB15 on the indoor controller board. (5) Remove the indoor controller board (3 holders/4 hooks). (See Photo 5)	**Photo 5** 

Be careful when removing heavy parts.

OPERATING PROCEDURE

6. Removing the electrical box

(1) Remove the electrical box cover (See Photo 1 and 2) and the connectors (Refer to procedure 5).
(2) Remove the electrical box fixing screws (M5×10: 2 screw). (See Photo 3)
<Electrical parts in the electrical box>
• Terminal block for earth and reactor
• Indoor controller board
• Thermistor (TH)
(3) Remove the electrical box (2 hooks).

7. Removing the turbo fan

(1) Remove the electrical box. (See Photo 3 and refer to procedure 6)
(2) Remove the bell mouth (tapping screw 4×10: 2 screws). (See Photo 6)

< With nut and washer >

(3) Remove the nut (M8 × 1) and a washer. (See Photo 7 and 8.)
(4) Remove the turbo fan.

Note 1: When assembling the turbo fan, attach it so that its tabs fit the holes of washer.
Note 2: Nut tightening torque: 4.5 ± 0.5 N•m.

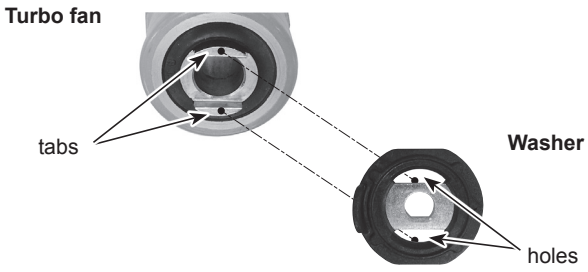


Photo 8

Turn this way to tighten. Turn this way to loosen.
(The same directions as the fan rotation.)

PHOTOS/FIGURES

Photo 6

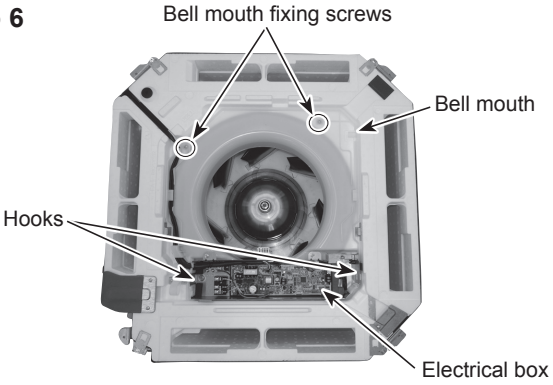
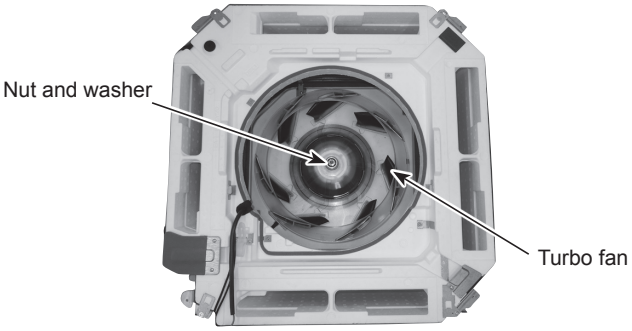
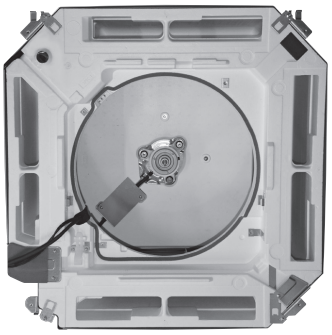


Photo 7



< Nut and washer >

Photo 9

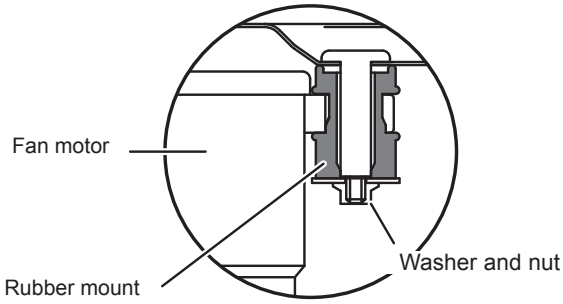


OPERATING PROCEDURE

8. Removing the fan motor (MF)

(1) Remove the turbo fan. (See Photo 8 and refer to procedure 7)
(2) Remove the lead cover (tapping screw 4×10: 2 screws). (See Photo 10)
(3) Loosen the 2 clamps.
(4) Remove the 3 nuts and washers (M5).
(5) Remove the fan motor.
(6) Remove the 3 rubber mounts.

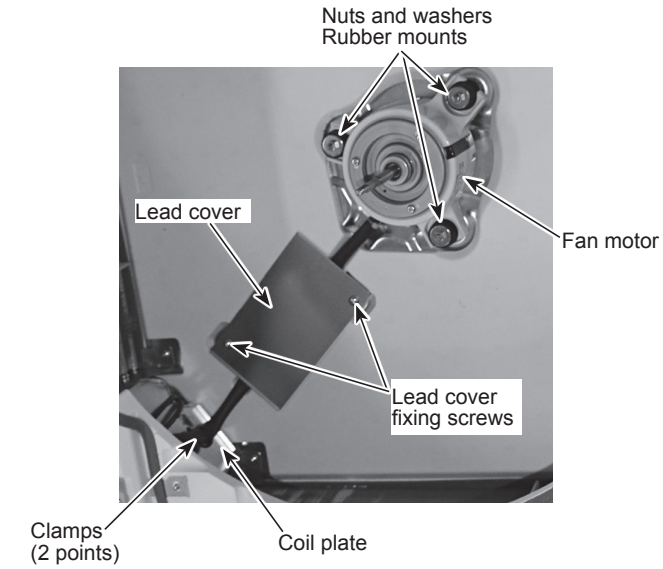
Figure 3: Partial cross section



Note: When re-attaching the motor mount, make sure that the thicker end faces the motor shaft.

PHOTOS/FIGURES

Photo 10



9. Removing the panel

(1) Remove the electrical box fixing cover. (See Photo 1)
(2) Disconnect the connector for vane motor (CNV: White). (Refer to procedure 5)
(3) Loosen the 4 corner panel fixing screws (tapping screw 4×16). (See Figure 4)
(4) Slide the corner panel to the direction of the arrow 1, and remove the corner panel. (See Figure 4)
(5) Remove the 4 installation screws (M5×28). (See Photo 11)
(6) Release the 2 temporary hanging hooks to remove the grille. (See Photo 12)

Figure 4

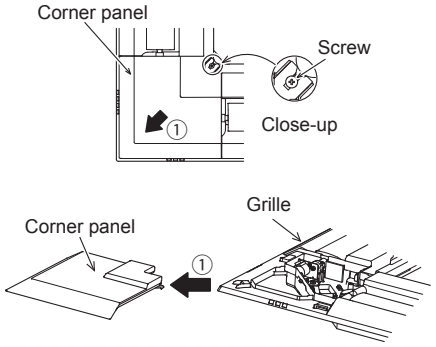


Photo 11

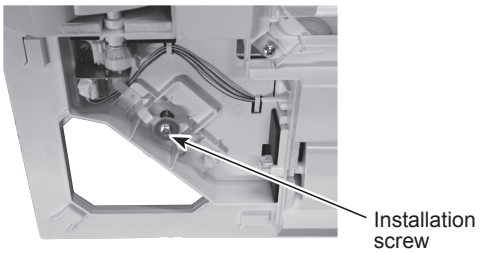
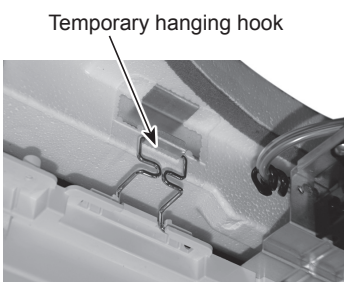
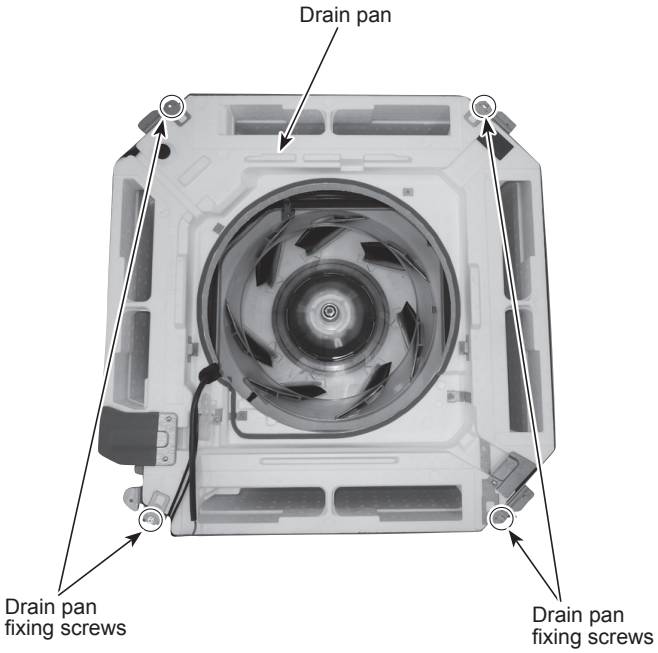
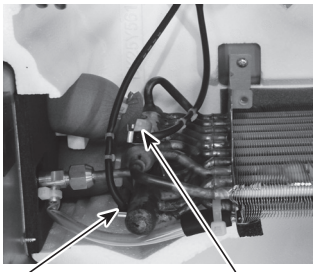


Photo 12



OPERATING PROCEDURE	PHOTOS/FIGURES
10. Removing the drain pan (1) Remove the electrical box. (See photo 3 and refer to procedure 6) (2) Remove the bell mouth (tapping screw 4×10 : 2 screws). (See Photo 6) (3) Remove the drain pan (screw M5×10: 4 screws).	**Photo 13** 
11. Removing the pipe temperature/liquid thermistor (TH22) and condenser/evaporator temperature thermistor (TH23) (1) Remove the drain pan (Refer to procedure 10) and loosen the 2 clamps of the coil plate. (See Photo 10) (2) Remove the coil plate (tapping screw 4×10: 2 screws). (3) Disconnect the pipe temperature/liquid thermistor (TH22) and condenser/evaporator temperature thermistor (TH23) from the holder.	**Photo 14** 

OPERATING PROCEDURE

12. Removing the drain pump (DP)

(1) Remove the drain pan. (Refer to procedure 10)
(2) Cut the hose band and remove the hose.
(3) Loosen the clamp of the drain pump.
(4) Remove the drain pump (tapping screw 4×10: 2 screws/2 hooks).
(5) Cut the drain pump base and lead wire fixing band. (See Figure 5)
(6) Remove the lead wire of the drain pump from the clamp of the drain pump base. (See Figure 5)
(7) Remove the drain pump (tapping screw: 3 screws). (See Figure 6)

PHOTOS/FIGURES

Photo 15

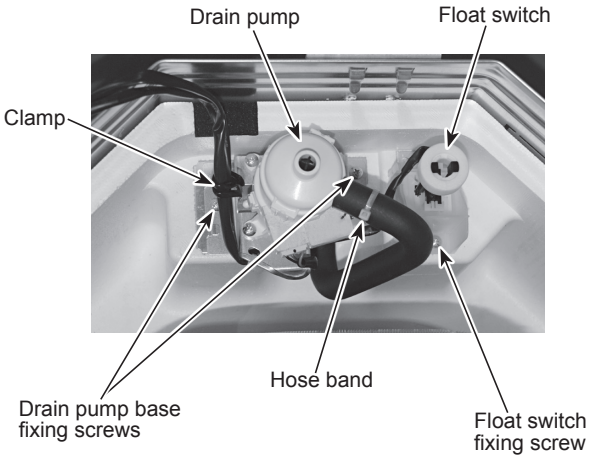


Figure 6

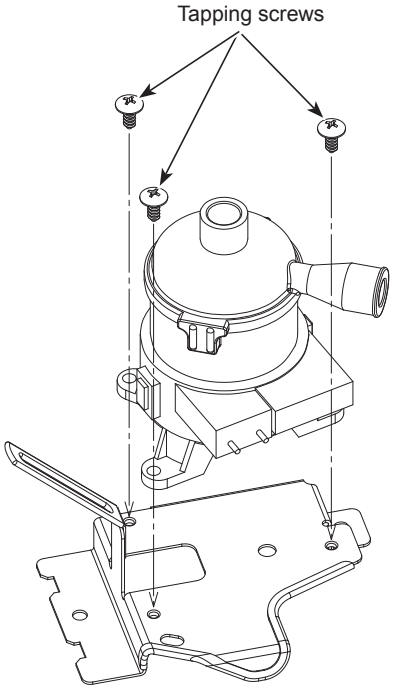
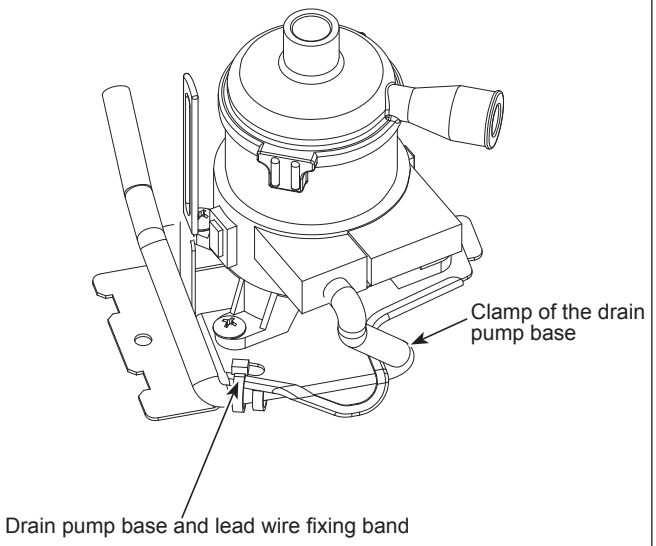
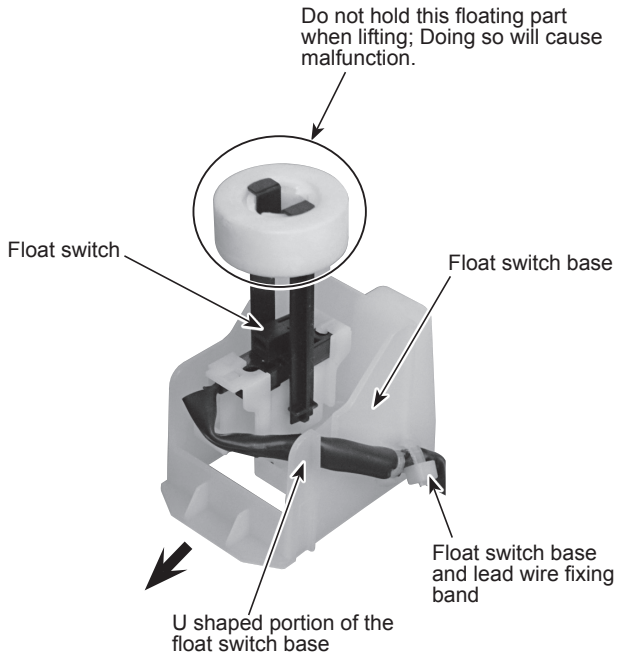
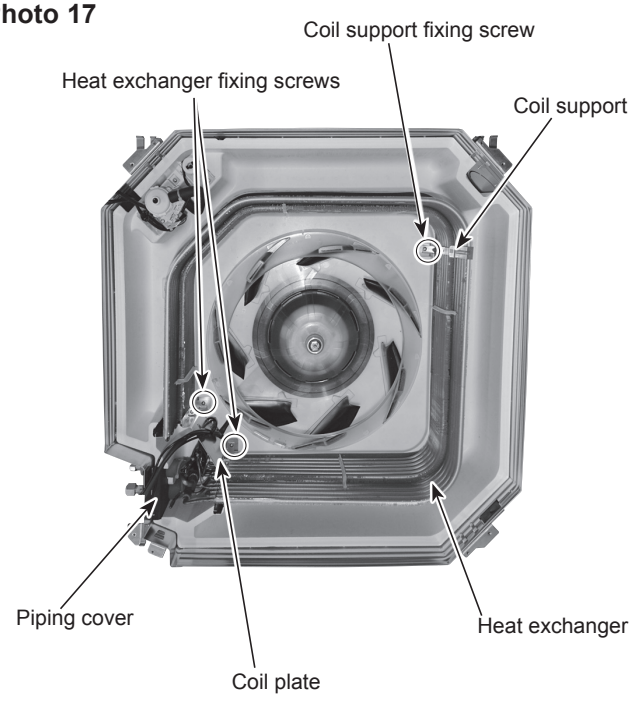


Figure 5



OPERATING PROCEDURE	PHOTOS/FIGURES
13. Removing the float switch (FS) (1) Remove the drain pan. (Refer to procedure 10) (2) Loosen the clamp of the drain pump. (See Photo 15) (3) Remove the float switch (tapping screw 4×10: 1 screw/1 hook). (See Photo 15) (4) Remove the float switch base and the lead wire fixing band. (See Photo 16) (5) Remove the lead wire from the U shaped portion of the float switch base. (See Photo 16) (6) Slide the float switch towards the arrow to remove from the float switch base.	**Photo 16** 
14. Removing the heat exchanger (1) Remove the drain pan. (Refer to procedure 10) (2) Remove the piping cover (tapping screw 4×10: 3 screws). (3) Remove the coil plate (tapping screw 4×10: 2 screws). (4) Remove the heat exchanger fixing screws (tapping screw 4×10: 2 screws). (5) Remove the coil support (tapping screw 4×10: 1 screw each) ■ WL32–50: 1 coil support (See photo 17) (6) Remove the heat exchanger.	**Photo 17** 

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