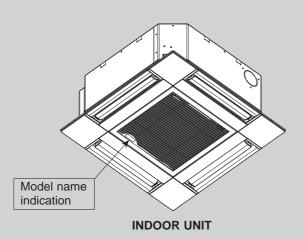


SPLIT-TYPE, HEAT PUMP AIR CONDITIONERS

November 2023 No. TCH130

TECHNICAL & SERVICE MANUAL

Series PLFY	Ceiling Cassettes R410A
Indoor unit [Model Name]	[Service Ref.]
PLFY-P05NFMU-E	PLFY-P05NFMU-ER1.TH
PLFY-P08NFMU-E	PLFY-P08NFMU-ER1.TH
PLFY-P12NFMU-E	PLFY-P12NFMU-ER1.TH
PLFY-P15NFMU-E	PLFY-P15NFMU-ER1.TH
PLFY-P18NFMU-E	PLFY-P18NFMU-ER1.TH



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PARTS CATALOG (TCB130)

CITY MULTI

CAUTIONS RELATED TO NEW REFRIGERANT

Cautions for units utilizing refrigerant R410A

Do not use the existing refrigerant piping.

The old refrigerant and lubricant in the existing piping contains a large amount of chlorine which may cause the lubricant deterioration of the new unit.

Use "low residual oil piping"

If there is a large amount of residual oil (hydraulic oil, etc.) inside the piping and joints, deterioration of the lubricant will result.

Store the piping indoors, and keep both ends of the piping sealed until just before brazing. (Leave elbow joints, etc. in their packaging.)

If dirt, dust or moisture enters into refrigerant cycle, that can cause deterioration of refrigerant oil or malfunction of equipment components.

The refrigerant oil applied to flare and flange connections must be ester oil, ether oil or alkylbenzene oil in a small amount.

If large amount of mineral oil enters, that can cause deterioration of refrigerant oil, etc.

Charge refrigerant from liquid phase of gas cylinder.

If the refrigerant is charged in a gas phase, composition change may occur in refrigerant and the efficiency will be lowered.

Do not use refrigerant other than R410A.

If other refrigerant (R22, etc.) is used, chlorine in refrigerant can cause deterioration of refrigerant oil, etc.

Use a vacuum pump with a reverse flow check valve.

Vacuum pump oil may flow back into refrigerant cycle and that can cause deterioration of refrigerant oil, etc.

Use the following tools specifically designed for use with R410A refrigerant.

The following tools are necessary to use R410A refrigerant.

Tools for R410A			
Gauge manifold	Flare tool		
Charge hose	Size adjustment gauge		
Gas leak detector	Vacuum pump adaptor		
Torque wrench	Electronic refrigerant charging scale		
Micron gauge			

Handle tools with care.

If dirt, dust or moisture enters into refrigerant cycle, that can cause deterioration of refrigerant oil or malfunction of compressor.

Do not use a charging cylinder.

If a charging cylinder is used, the composition of refrigerant will change and the efficiency will be lowered.

Use the specified refrigerant only.

Never use any refrigerant other than that specified. Doing so may cause a burst, an explosion, or fire when the unit is being used, serviced, or disposed of. Correct refrigerant is specified in the manuals and on the spec labels provided with our products. We will not be held responsible for mechanical failure, system malfunction, unit breakdown or accidents caused by failure to follow the instructions.

Ventilate the room if refrigerant leaks during operation. If refrigerant comes into contact with a flame, poisonous gases will be released.

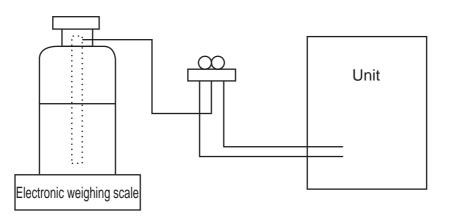
[1] Cautions for service

- (1) Perform service after recovering the refrigerant left in unit completely.
- (2) Do not release refrigerant in the air.
- (3) After completing service, charge the cycle with specified amount of refrigerant.
- (4) When performing service, install a filter drier simultaneously.
- Be sure to use a filter drier for new refrigerant.

[2] Additional refrigerant charge

When charging directly from cylinder

- · Check that cylinder for R410A on the market is a syphon type.
- · Charging should be performed with the cylinder of syphon standing vertically. (Refrigerant is charged from liquid phase.)



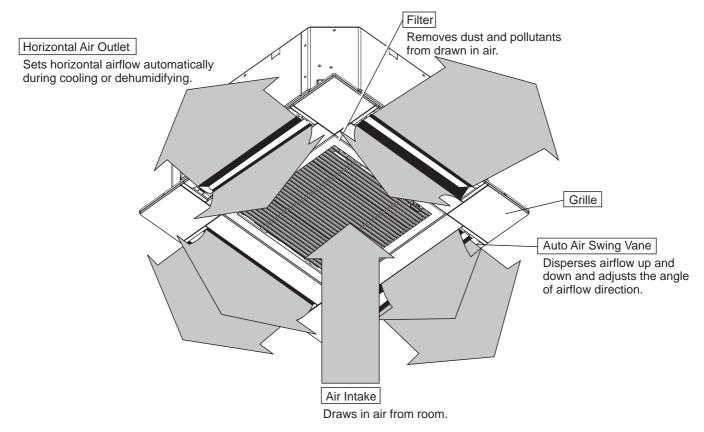
[3] Service tools

Use the below service tools as exclusive tools for R410A refrigerant.

No.	Tool name	Specifications		
		Only for R410A		
1	Gauge manifold	 Use the existing fitting specifications. (UNF1/2) 		
		· Use high-tension side pressure of 768.7 PSIG [5.3 MPa·G] or over.		
2	Charge here	Only for R410A		
C	Charge hose	· Use pressure performance of 738.2 PSIG [5.09 MPa·G] or over.		
3	Electronic weighing scale			
4	Gas leak detector	Use the detector for R134a, R407C or R410A.		
5	Adaptor for reverse flow check	Attach on vacuum pump.		
6	Refrigerant charge base			
	Defricerent evinder	Only for R410A Top of cylinder (Pink)		
0	Refrigerant cylinder	Cylinder with syphon		
8	Refrigerant recovery equipment			
9	Micron gauge			

2 PARTS NAMES AND FUNCTIONS

2-1. Indoor Unit



2-2. Wired Remote Controller <PAR-41MAA> <PAC-YT53CRAU>

Wired remote controller function

The functions which can be used are restricted according to each model.

					\bigcirc : Supported $ imes$: Unsupported
	Function		PAR-41MAA		PAC-YT53CRAU
	Function		Slim	City multi	PAC-1155CRAU
Body	Product size H × W × D	(mm) (inch)	(120 × 12 (4-3/4 ×4-3	0 × 14.5) 3/4 × 9/16)	(120 × 70 × 14.5) (4-3/4 × 2-3/4× 9/16)
	LCD		Full Do	ot LCD	Partial Dot LCD
	Backlight		C)	0
Energy-	Energy-saving operation schedule		0	×	×
saving	Automatic return to the preset temperature		C)	×
Restriction	Setting the temperature range restriction		C)	0
Function	Operation lock function		C)	0
	Weekly timer		C)	×
	ON/OFF timer		C)	×
	High Power		0	×	×
	Manual vane angle		C)	×

TCH130

SPECIFICATIONS

3-1. SPECIFICATIONS

3

Service F	-		PLFY-P05NFMU-ER1.TH				PLFY-P18NFMU-ER1.T	
power so					e phase, 208/230V, 60			
cooling ca	pacity	kW	1.4	2.3	3.5	4.3	5.2	
1								
		BTU/h	5,000	8,000	12,000	15,000	18,000	
	Power input		0.02	0.02	0.02	0.03	0.04	
	Current input		0.19	0.22	0.23	0.28	0.40	
leating ca 3	apacity	kW	1.6	2.6	3.9	4.9	5.8	
	*3	BTU/h	5,600	9,000	13,500	17,000	20,000	
	Power input	kW	0.02	0.02	0.02	0.03	0.04	
	Current input		0.14	0.17	0.18	0.23	0.35	
xternal				G	alvanized steel sheet	t		
xternal	dimension	mm			208×570×570			
l×W×	D	in		8-3	/16"×22-7/16"×22-7/1	6"		
let weig	ht	kg (lb)	13.1 (28.9)	13.1 (28.9)	14.2(31.3)	14.2(31.3)	14.2(31.3)	
ecoration	model				SLP-18FAU	. , ,		
anel	External finis	h			Munsell 1.0Y 9.2/0.2			
	Dimension	mm			10 × 625 × 625			
	H × W × D	in		13/3	2"×24-19/32"×24-19/	32"		
	Net weight	kg (lb)			2.4(5.3)			
leat ex	changer			Cross fin (Aluminum fin and cop	oper tube)		
AN	Туре			Turbo fan × 1				
	External static	pressure	0 Pa (0 mmH2O)					
	Motor type		DC motor					
	Motor output	kW	0.05					
	Driving med				Direct driven			
		m³/min	6.5-7.5-8.0	6.5-8.0-9.0	7.0-8.0-9.5	7.5-9.0-11.0	9.0-11.0-13.0	
	Airflow	L/s	108-125-133	108-133-150	117-133-158	125-150-183	150-183-217	
	rate	cfm	230-265-280	230-280-315	245-280-335	265-315-390	315-390-460	
loise leve	j 	dB <a>						
Low-Mid-	High)		26-28-30	26-30-33	26-30-34	28-33-39	33-39-43	
	n anechoic room)							
	on material				PS			
ir filter				PP hone	eycomb fabric (long lif	e type)		
Protection	on device				Fuse			
Refriger	ant control c	levice			LEV			
	table outdoo		R410A CITY MULTI					
	Liquid	mm (in)			ø6.35 (ø1/4") Flare			
f efrigerant	Gas	mm (in)			ø12.7 (ø1/2") Flare			
pipe	L							
	eld drain pipe size mm (in) O.D. 32 mm (1-1/4") (PVC pipe VP-25 connectable)							
	d attachment				on manual, Instructio	n book		
Remark	Optional pa	rts	Decoration panel : SL	P-18FAU, SLP-18FAEU				
			*PLFY-P NFMU-ER1 should be used together with decoration panel.					
	Installation		Details on foundation shall be referred to the	work, duct work, insulati Installation Manual.	on work, electrical wi	ring, power source swi	tch, and other items	
	*1	Nominal	cooling condition	*2 Nominal heating	condition		Unit converter	
	indoor : 27	°CDB/19	°CWB (81°FDB/66°FW	B) 20°CDB (68°FDB)				
	Outdoor: 35	°CDB (9	5°FDB)	7°CDB/6°CWB (45	FDB/43°FWB)		kcal= kW × 860	

*1 Nominal cooling condition	*2 Nominal heating condition	Unit converter	
indoor : 27°CDB/19°CWB (81°FDB/66°FWB)	20°CDB (68°FDB)		
Outdoor : 35°CDB (95°FDB)	7°CDB/6°CWB (45°FDB/43°FWB)	kcal= kW × 860	
Pipe length : 7.5m (24-9/16 ft)	7.5 m (24-9/16 ft)	BTU/h =3,412	
Level difference : 0m (0 ft)	0 m (0 ft)	cfm = K/min × 35.31	
Notes:		lb = kg/0.4536	
1. Nominal conditions *1 and *2 are subject			
2 Due to continuing improvement above s	pecification may be subject to change without notice		

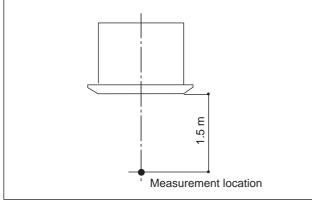
3-2. ELECTRICAL PARTS SPECIFICATIONS

Parts name	Symbol	PLFY-P05NFMU-ER1.TH	PLFY-P08NFMU-ER1.TH	PLFY-P12NFMU-ER1.TH	PLFY-P15NFMU-ER1.TH	PLFY-P18NFMU-ER1.TH			
Thermistor (Room temperature detection)	TH21	Resistance 30°F/15.8Ω, 50°F/9.6Ω, 70°F/6.0Ω, 80°/4.8Ω, 90°F/3.9Ω, 100°F/3.2Ω							
Thermistor (Pipe temperature detection/Liquid)	TH22		Resistance 30°F/15.8Ω, 50°F/9.6Ω, 70°F/6.0Ω, 80°/4.8Ω, 90°F/3.9Ω, 100°F/3.2Ω						
Thermistor (Pipe temperature detection/Gas)	TH23		Resistance 30°F/15.8Ω, 50	0°F/9.6Ω, 70°F/6.0Ω, 80°/4.	8Ω, 90°F/3.9Ω, 100°F/3.2Ω				
Fuse (Indoor controller board)	FUSE			250V 6.3A					
Fan motor	MF		OUTPUT 50 W						
Vane motor	MV		MSBPC20M32 (green label)/MSBPC20M33 (blue label) DC12V 300Ω/phase						
Drain pump	DP	PMD-12D13ME INPUT 3.9W (DC 13V) 24 ℓ /Hr							
Drain float switch	FS	Open/short detection							
Linear expansion valve [coil]	LEV		DC12V Stepping motor drive, Port dimension ϕ 5.2 (0–2000pulse) EDM-40YGME						
Power supply terminal block	TB2	(L1, L2) Rated to 330V 30A*							
Transmission terminal block	TB5	(M1, M2, S) Rated to 250V 20A*							
MA remote controller terminal block	TB15	(1, 2) Rated to 250V 10A*							

* Refer to WIRING DIAGRAM for the supplied voltage.

3-3 SOUND PRESSURE LEVEL

PLFY-P·NFMU-ER1

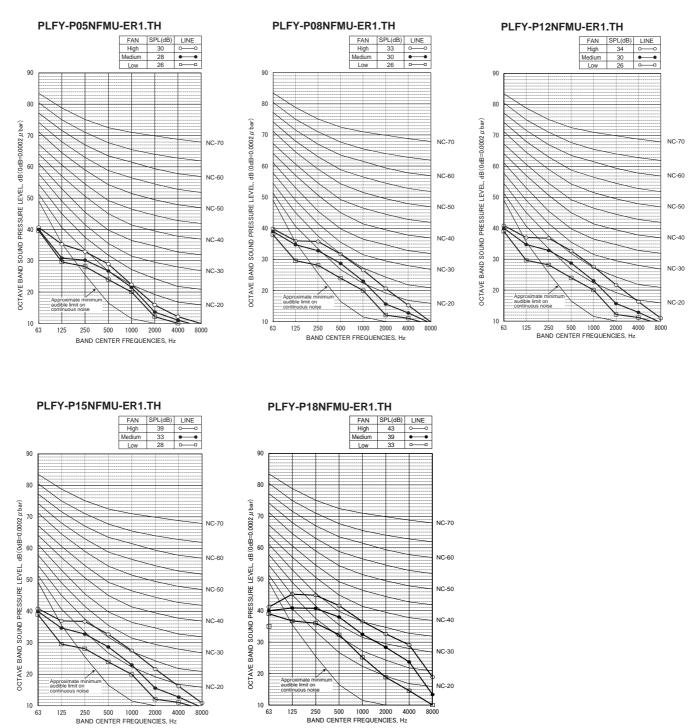


Sound	nressure	level at	anechoic	room ·	Low-Mid-High

Service Ref.	Sound pressure level dB (A)
PLFY-P05NFMU-ER1.TH	26-28-30
PLFY-P08NFMU-ER1.TH	26-30-33
PLFY-P12NFMU-ER1.TH	26-30-34
PLFY-P15NFMU-ER1.TH	28-33-39
PLFY-P18NFMU-ER1.TH	33-39-43

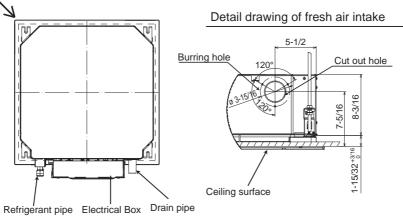
Note: Measured in anechoic room.

3-4. NOISE CRITERION CURVES



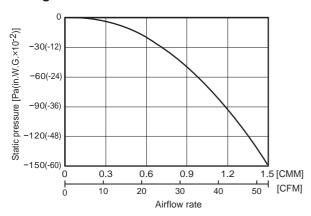
4-1. FRESH AIR INTAKE (Location for installation)

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

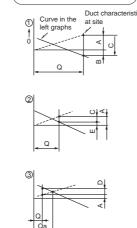


4-2. FRESH AIR INTAKE AMOUNT & STATIC PRESSURE CHARACTERISTICS PLFY-P05NFMU-ER1.TH PLFY-P08NFMU-ER1.TH PLFY-P15NFMU-ER1.TH PLFY-P18NFMU-ER1.TH

Taking air into the unit



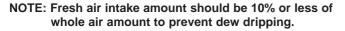
PLFY-P12NFMU-ER1.TH How to read curves



Q…Designed amount of fresh air intake <CMM (CFM)> A Static pressure loss of fresh air intake

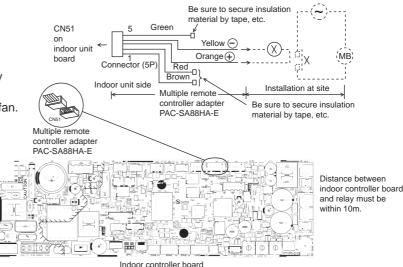
- duct system with air flow amount Q <Pa (in.W.G.×10-2)>
- B. Forced static pressure at air conditioner inlet with air flow amount Q <Pa (in W G ×10-2)>
- C…Static pressure of booster fan with air flow amount Q <Pa (in.W.G.×10-2)>
- D. Static pressure loss increase amount of fresh air intake duct system for air flow
- amount Q <Pa (in.W.G.×10-2)> E---Static pressure of indoor unit with air
- flow amount Q <Pa (in.W.G.×10-2)> Qa...Estimated amount of fresh air intake

without D <CMM (CFM)>



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

- Whenever the indoor unit operates, 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 wires.
 - MB: Electromagnetic switch power relay for duct fan. X: Auxiliary relay
 - (For 12 V DC, coil rating: 1.0 W or below)



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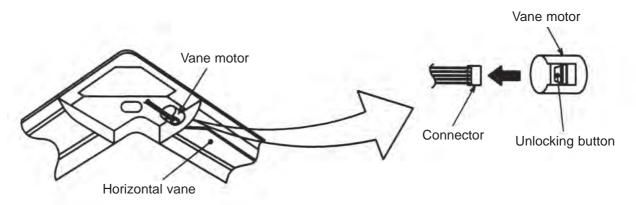
4-4. FIXING HORIZONTAL VANE

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

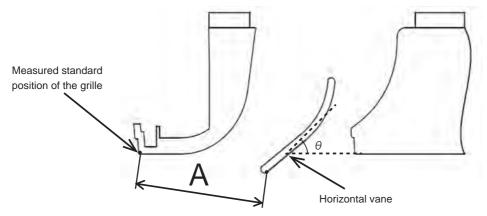
Setting procedures

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

Insulate the disconnected connector with the plastic tape.



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



<Set range>

Standard of	Angle θ = 21°	Angle $\theta = 24^{\circ}$	Angle $\theta = 39^{\circ}$	Angle $\theta = 42^{\circ}$	Angle θ = 45°
horizontal position	(Horizontal)	, anglo o El	, anglo o oo	, anglo o 12	(Downward)
Dimension A inch (mm)	1-17/32 (39)	1-39/64 (41)	1-27/32(47)	1-57/64(48)	1-57/64(49)

Note: Dimension between 1-17/32 (39) and 1-57/64(49) can be arbitrarily set.

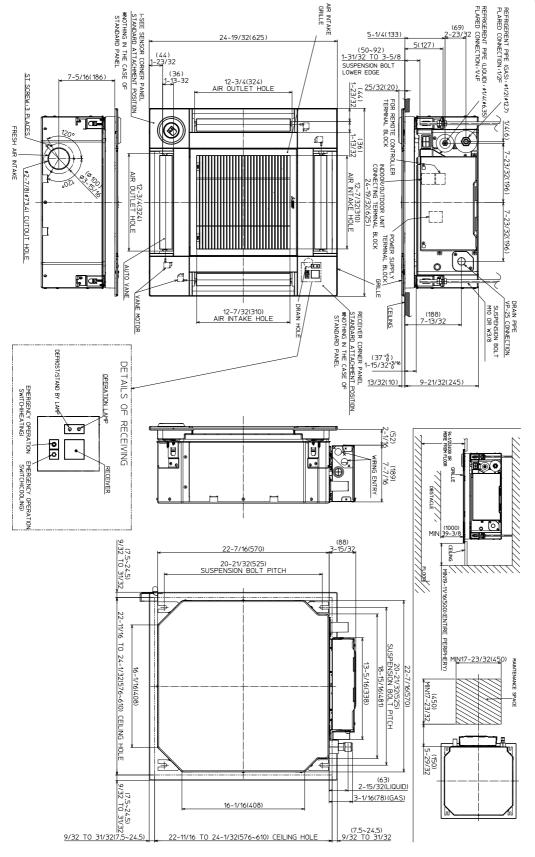
Caution	Do not set the dimension out of the range.
	Erroneous setting could cause dew drips or malfunction of unit.

PLFY-P05NFMU-ER1.TH PLFY-P15NFMU-ER1.TH

PLFY-P08NFMU-ER1.TH PLFY-P18NFMU-ER1.TH

PLFY-P12NFMU-ER1.TH

Unit: inch(mm)

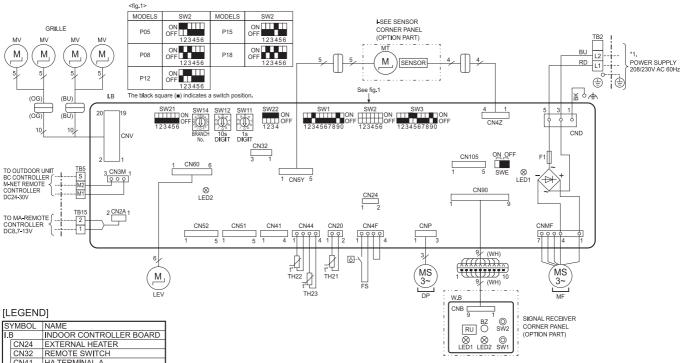


TCH130

PLFY-P05NFMU-ER1.TH PLFY-P15NFMU-ER1.TH

6

PLFY-P08NFMU-ER1.TH PLFY-P18NFMU-ER1.TH PLFY-P12NFMU-ER1.TH



SYMBOL		BOL	NAME					
I.E			INDOOR CONTROLLER BOARD					
CN24			EXTERNAL HEATER					
	C	N32	REMOTE SWITCH					
	C	N41	HA TERMINAL-A					
	C	N51	CENTRALLY CONTROL					
	C	N52	REMOTE INDICATION					
	C	N105	IT TERMINAL					
	F	1	FUSE (UL 6.3A 250V AC)					
	LE	ED1	POWER SUPPLY (I.B)					
	LE	ED2	POWER SUPPLY (MA-REMOTE CONTROLLER)					
	SI	N1	MODE SELECTION					
	SI	N2	CAPACITY CODE					
	SI	N3	MODE SELECTION					
	S١	N11	ADDRESS SETTING ONES DIGIT					
	SI	N12	ADDRESS SETTING TENS DIGIT					
	SI	N14	BRANCH No.					
	SI	N21	CEILING HEIGHT SELECTOR					
	SI	N22	PAIR NO. SETTING					
	S١	NE	DRAIN PUMP(TEST MODE)					
D	Ρ		DRAIN PUMP					
L	E٧		LINEAR EXPANSION VALVE					
Ν	IF		FAN MOTOR					
Ν	IV		VANE MOTOR					
F	S		FLOAT SWITCH					
Τ	B2	2	TERMINAL POWER SUPPLY					
Т	B5	i i	BLOCK TRANSMISSION					
Т	Β1	5	MA-REMOTE CONTROLLER					
Т	H2	1	ROOM TEMP. THERMISTOR					
Т	H2	2	PIPE TEMP. THERMISTOR/LIQUID					
Т	H2	3	PIPE TEMP. THERMISTOR/GAS					
0	PΤ	ION P/	ART					
	W	.B	WIRELESS REMOTE CONTROLLER BOARD					
			BUZZER					
		LED1	OPERATION (GREEN)					
			STAND BY (ORANGE)					
			RECEIVING UNIT					
			EMERGENCY OPERATION(HEAT)					
		SW2	EMERGENCY OPERATION(COOL)					
	Μ	т	I-SEE SENSOR MOTOR					

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 M-NET, 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 above are, ____: terminal block, ____ooo: connec 6.The setting of the SW2 dip switches differs in the capacity. For the detail, refer to the fig.1. oo: connector.

7. Make sure to turn off the indoor and the outdoor units before replacing indoor controller board.

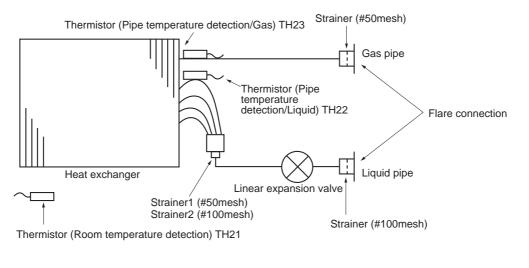
*1. Use copper supply wires. Utilisez des fils d'alimentation en cuivre.

7 REFRIGERANT SYSTEM DIAGRAM

PLFY-P05NFMU-ER1.TH PLFY-P15NFMU-ER1.TH

PLFY-P08NFMU-ER1.TH PLFY-P18NFMU-ER1.TH

PLFY-P12NFMU-ER1.TH



	Unit: inch (mm)
Gas pipe	¢1/2(12.7)
Liquid pipe	¢1/4(6.35)

8

MICROPROCESSOR CONTROL

INDOOR UNIT CONTROL 8-1. COOL OPERATION



<How to operate>

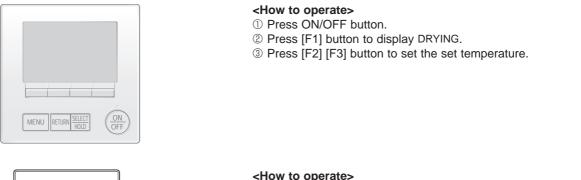
- ① Press ON/OFF button.
- ⁽²⁾ Press [F1] button to display COOL.
- ③ Press [F2] [F3] button to set the set temperature.
 - **NOTE**: The settable temperature range varies with the model of outdoor units and remote controller.

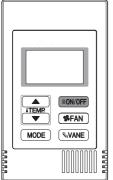
<How to operate>

- ① Press POWER ON/OFF button.
- 2 Press the operation MODE button to display COOL.
- ③ Press the TEMP. button to set the set temperature.
 - NOTE: The set temperature changes 1°F when the ♥ or △ button is pressed one time. Cooling 67 to 87°F

Control Mode	Control Details	Remarks					
1. Temperature adjustment function	apperature 1-1. Determining temperature adjustment function ustment (Function to prevent restarting for 3 minutes)						
2. Fan	By the remote controller setting (switch of 4 speeds+Auto)						
	Type Fan speed notch 3 speeds + Auto type Auto Subscription Subscription						
	When [Auto] is set, fan speed is changed depending on the value of:						
	ΔT = Room temperature – Set temperature						
	High Med2 Med1 Low						
3. Drain pump	 3-1. Drain pump control The drain pump will always run when the unit is in COOL or DRYING mode. (Regardless of the thermo ON/OFF) Whenever the operation is changed over to the other modes (including Stop), the drain pump will stop pumping after approximately 3 minutes. 						
	Float switch control • Float switch control judges whether the sensor is in the air or in the water by turning the float switch ON/OFF. In the water: Detected that the float switch is ON for 15 seconds. In the air: Detected that the float switch is OFF for 15 seconds Float SW ON OFF 15 s 15 s 15 s 15 s 15 s 1 min 30 s 1 min 30 s						
	In the water In the air In the water Error Drain pump postponement abnormal						
4. Vane (up/down vane change)	 (1) The initial vane setting for COOL mode will be the horizontal position. (2) Vane position: Horizontal →Downward A →Downward B →Downward C→Downward D→Swing→Auto 	"1h" appears on the wired remote controller.					
	(3) Restriction of the downward vane setting If the vane position is set to Downward A/B/C/D in [Med1], [Med2], or [Low], the vane will return to the horizontal position after 1 hour has passed.						

8-2. DRYING OPERATION





<How to operate>

- ① Press POWER ON/OFF button.
- ^② Press the operation MODE button to display DRYING.
- ③ Press the TEMP. button to set the set temperature.
 NOTE: The set temperature changes 1°F when the ♥ or △ button is pressed one time. Dry 67 to 87°F

Control Mode	Control Mode Control Details							
1. Temperature adjustment function	1-1. Determining tem (Function to prev Setting the Dry t Dry thermo-ON Dry thermo-OFF							
	Room temperature	starting	assed since operation	Dry thermo- ON time (min)	Dry thermo- OFF time (min)			
		Thermostat signal	Room temperature (T1) T1 ≧ 83°F	9	. ,			
			11 ≦ 83°F 83°F > T1 ≧ 79°F	9 7	3			
	Over 64°F	ON	79°F > T1 ≧ 75°F	5	3			
	Over 64°F		79 F > T1 ≦ 75 F 75°F > T1	3	3			
		OFF	Unconditional	3	10			
	Below 64°F	011	Dry thermo	10				
	1-2. Anti-freeze control No control functi							
2. Fan	Indoor fan operation							
	Dry therm							
	ON	0	Fan s					
	OFF	Excl	uding the following	[Low] Stop				
			Room temp. < 64°F		[Low]			
	Note: Fan speed cha							
3. Drain pump	a pump Operates as it would in COOL operation.							
4. Vane (up/down vane change)	. Vane (up/down vane Settings are the same in DRYING operation as they are in COOL operation.							

8-3. FAN OPERATION



8.8.8.8.8

ON/OFF **\$**FAN MODE NOVANE

> 8.8.8.8.8

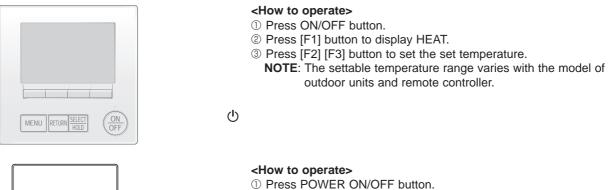
<How to operate>

- ① Press ON/OFF button.
- ⁽²⁾ Press [F1] button to display FAN.

- <hol>
 How to operate>
 Press POWER ON/OFF button.
- 2 Press the operation MODE button to display FAN.

Control Mode	Control Details	Remarks
1. Temperature adjustment function	Set by remote controller. Type Fan speed notch 3 speeds + Auto type Auto Start Start When [Auto] is set, fan speed becomes [Low].	
2. Drain pump	 2-1. Drain pump control The drain pump turns ON for the specified amount of time when any of the following conditions has been satisfied: ① ON for 3 minutes after the operation mode is switched from COOL or DRYING to another operation mode (FAN). ② ON for 6 minutes after the float switch is submerged in the water when the float switch control judges the sensor is in the water. 	
	 2-2. Float switch control Float switch control judges whether the sensor is in the air or in the water by turning the float switch ON/OFF. In the water : Detected that the float switch is ON for 15 seconds. In the air : Detected that the float switch is OFF for 15 seconds. 	Operates as it would in COOL operation.
3. Vane (up/down vane change)	Same as the control performed during the COOL operation, but with no restriction on the vane's downward blow setting	

8-4. HEAT OPERATION





- ② Press the operation MODE button to display HEAT.
- ③ Press the TEMP. button to set the set temperature.
 - NOTE: The set temperature changes 1°F when the r (a) or (a) button is pressed one time. Heating 63 to 83°F

Control Mode	Control Details	Remarks					
1. Temperature adjustment function	. Temperature adjustment function (Function to prevent restarting for 3 minutes) • Room temperature ≤ Set temperature −2°F ···Thermo-ON						
2. Fan	By the remote controller setting (switch of 4 speeds+Auto) Type Fan speed notch 3 speeds + Auto type Auto Image: the speed s						

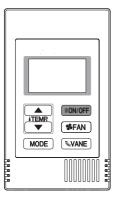
Control Mode	Control Details	Remarks			
	 2-1. Hot adjust mode The fan controller becomes the hot adjuster mode ① When starting the HEAT operation ② When the temperature adjustment function char ③ When release the HEAT defrosting operation Hot adjust mode*1 Generation Set fan spee [Low]*3 [COFF]*2 A: Hot adjust mode starts. B: 5 minutes have passed since the condition A or the indoor I C: 5 minutes have passed since the condition A or the indoor I 				
	D: 2minutes have passed since the condition C.			DIP S	W 1-8 OFF
	(Terminating the hot adjust mode)	DIP SW	ON	B to C [Extra Low] C to D [Low]	B to C [Low] C to D [Low]
		1-7	OFF	B to C [Setting airflow] C to D [Setting airflow]	B to C [Extra Low] C to D [Low] Note: Initial setting
	2-2. Residual heat exclusion modeWhen the condition changes the auxiliary heater C function, or operation stop, etc.), the indoor fan op	• This control is same for the model without auxiliary heater.			
	2-3. Thermo-OFF mode When the temperature adjustment function change [Extra low].				
	2-4. Heat defrosting mode The indoor fan stops.				
3. Drain pump	 3-1. Drain pump control The drain pump turns ON for the specified amount conditions has been satisfied: ① ON for 3 minutes after the operation mode is sw another operation mode (FAN). ② ON for 6 minutes after the float switch is subme control judges the sensor is in the water. 	ch			
	 3-2. Float switch control Float switch control judges whether the sensor is float switch ON/OFF. In the water: Detected that the float switch is ON for In the air : Detected that the float switch is OFF for 	Operates as it would in COOL operation.			
4. Vane control (Up/down vane change)	 (1) Initial setting: OFF → HEAT…[last setting] When the last setting is [Swing] … [Downward D] When changing the mode from exception of HEAT …[Downward D] (2) Vane position: Horizontal →Downward A →Downward B →Down (3) Restriction of vane position ① The vane is horizontally fixed for the following m (The control by the remote controller is temporal Thermo-OFF Hot adjust [Extra low] mode Heat defrost mode 				

8-5. AUTO OPERATION [AUTOMATIC COOL/HEAT CHANGE OVER OPERATION]



<How to operate>

- ① Press ON/OFF button.
- ⁽²⁾ Press [F1] button to display AUTO.
- ③ Press [F2] [F3] button to set the set temperature.
- **NOTE**: The settable temperature range varies with the model of outdoor units and remote controller.



<How to operate>

- ① Press POWER ON/OFF button.
- ^② Press the operation MODE button to display AUTO.
- ③ Press the TEMP. button to set the set temperature.
 - NOTE: The set temperature changes 1°F when the ♥ or △ button is pressed one time. Automatic 67 to 83°F

Control Mode	Control Details	Remarks
1. Initial value of operation mode	HEAT mode for room temperature < Set temperature COOL mode for room temperature ≧ Set temperature	
2. Mode change	 (1) HEAT mode → COOL mode Room temperature ≥ Set temperature + 3°F or 3 minutes have passed. (2) COOL mode → HEAT mode Room temperature ≤ Set temperature - 3°F or 3 minutes have passed. 	
3. COOL mode	Operates as it would in COOL operation.	
4. HEAT mode	Operates as it would in HEAT operation.	

8-6. WHEN UNIT IS STOPPED CONTROL MODE

Control Mode	Control Details	Remarks
1. Drain pump	 1-1. Drain pump control The drain pump turns ON for the specified amount of time when any of the following conditions has been satisfied: ① ON for 3 minutes after the operation mode is switched from COOL or DRYING to another operation mode (FAN). ② ON for 6 minutes after the float switch is submerged in the water when the float switch control judges the sensor is in the water. 	
	 1-2. Float switch control Float switch control judges whether the sensor is in the air or in the water by turning the float switch ON/OFF. In the water : Detected that the float switch is ON for 15 seconds. In the air : Detected that the float switch is OFF for 15 seconds. 	Operates as it would in COOL operation.

TROUBLESHOOTING

9-1. COUNTERMEASURES FOR ERROR DURING TEST RUN

If a problem occurs during test run, a code number will appear on the remote controller (or LED on the outdoor unit), and the air conditioning system will automatically cease operating.

Refer to the connected outdoor unit service manual in order to determine the nature of the abnormality and apply corrective measure.

Check		Detected Unit			Pomarka	
code	Trouble	Indoor	Outdoor	Remote Controller	Remarks	
0403	Serial communication error		0		Outdoor unit Multi controller board ~ Power board communication trouble	
1102	Compressor temperature		0		Check delay code 1202	
1300	Low pressure		0			
1302	High pressure		0		Check delay code 1402	
1500	Superheat due to low discharge temperature		0		Check delay code 1600	
1501	Refrigerant shortage		0		Check delay code 1601	
1501	Closed valve in cooling mode		0		Check delay code 1501	
1508	4-way valve trouble in heating mode		0	1	Check delay code 1608	
2500	Water leakage	0	1			
2502	Drain over flow protection	0	1	ĺ		
2503	Drain sensor abnormality	0				
4100	Compressor current interruption (locked compressor)		0		Check delay code 4350	
4114	Fan motor error	0	1	İ		
4210	Compressor overcurrent interruption			İ		
4220	Undervoltage/overvoltage/PAM error/L1open phase/power synchronization signal error		0		Check delay code 4320	
4230	Heat Sink temperature		0	İ	Check delay code 4330	
4250	Power module				Check delay code 4350	
4400	Fan trouble		0		Check delay code 4500	
= 1 = 1	Air inlet thermistor (TH21) open/short	0				
5101	Compressor temperature thermistor (TH4) open/short		0		Check delay code 1202	
= 100	Liquid pipe temperature thermistor (TH22) open/short	0				
5102	Suction pipe temperature thermistor (TH6) open/short				Check delay code 1211	
5103	Gas pipe temperature thermistor (TH23) open/short	0				
5105	Outdoor liquid pipe temperature thermistor (TH3) open/short		0		Check delay code 1205	
5106	Ambient thermistor (TH7) open/short		0	İ	Check delay code 1221	
5109	HIC pipe temperature thermistor (TH2) open/short		0	ĺ	Check delay code 1222	
5110	Heat Sink temperature thermistor (TH8) open/short		0		Check delay code 1214	
5201	High pressure sensor (63HS)		0		Check delay code 1402	
5202	Low pressure sensor (63LS)		0	İ	Check delay code 1400	
5701	Contact failure of drain float switch	0	1	ĺ		
6600	Duplex address error	0	0	0	Only M-NET Remote controller is detected.	
6602	Transmission processor hardware error	0	0	0	Only M-NET Remote controller is detected.	
6603	Transmission bus BUSY error	0	0	0	Only M-NET Remote controller is detected.	
6606	Signal communication error with transmission processor	0	0	0	Only M-NET Remote controller is detected.	
6607	No ACK error	Ō		Ō	Only M-NET Remote controller is detected. *	
6608	No response frame error	Õ		Ō	Only M-NET Remote controller is detected. *	
6831	MA communication receive error (no receive signal)	Õ	1	Õ	Only MA Remote controller is detected.	
6832	MA communication send error	Ō		Ō	Only MA Remote controller is detected.	
6833	MA communication send error	Õ	1	Õ	Only MA Remote controller is detected.	
6834	MA communication receive error	Õ	1	Õ	Only MA Remote controller is detected.	
7100	Total capacity error	-	0	1		
7101	Capacity code error	0	Ō	İ		
7102	Connecting excessive number of units	-	Ŏ	İ		
7105	Address setting error		Ŏ	İ		
					1	

Note:

When the outdoor unit detects No ACK error/No response error, an object indoor unit is treated as a stop, and not assumed to be abnormal. *Abnormality for PWFY series

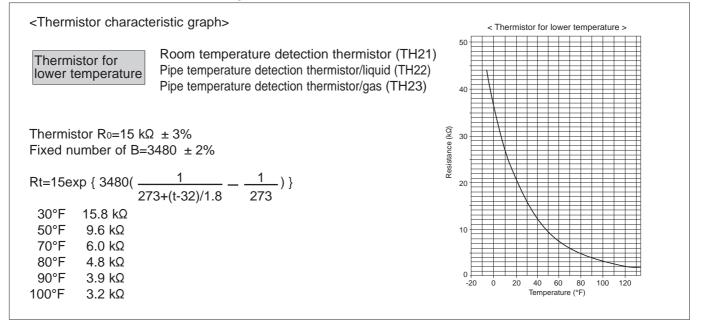
9-2. HOW TO CHECK THE PARTSPLFY-P05NFMU-ER1.THPLFY-P08NFMU-ER1.THPLFY-P15NFMU-ER1.THPLFY-P18NFMU-ER1.TH

PLFY-P12NFMU-ER1.TH

_			-					
Parts name	Check points							
Thermistor (TH21) (Room temperature detection) Thermistor (TH22)	Disconnect the connector then measure the resistance with a tester. (At the ambient temperature 50 to 86°F)							
(Pipe temperature detection/Liquid)	Normal	A	Abnormal					
Thermistor (TH23) (Pipe temperature detection/Gas)	4.3 to 9.6 kΩ	Op	en or short	Refer to "9	-2-1. Thermistor Cha	aracteristic Graph".		
Vane motor (MV)	Measure the resist (At the ambient ter			s with a tester.				
White		No	rmal		Abnormal	1		
					Abriormai	-		
Orange Red	Red-Yellow	Red–Blue	Red-Orange	Red–White	Open or short			
Blue Yellow		30	0 Ω					
Linear expansion valve (LEV)	Disconnect the co	nnector the	n measure the v	alve resistance	e with a tester.			
		Nor	mal		Abnormal	Refer to "9-2-2. Linear		
M Brown	White-Red Ye	low-Brown	Orange-Red	Blue-Brown	Open or short	Expansion Valve".		
Tellow 2 Yellow		200 Ω	±10%					
White Red Orange								
Drain pump (DP)	 Check if the dra 	in float swit	ch works prope	rly.				
		• •		,	in cooling operation.			
1 Red 2 Purple			that the check c	ode 2502 will r	not be displayed 10 n	ninutes after the		
3 Black	operation starts. Note: The drain pump for this model is driven by the control board and is a DC volt motor, so it is not possible to measure the resistance between the terminals.							
	Name							
	Normal Red–Black: Input	13 V DC \rightarrow	The pump start	s to rotate				
	Purple–Black: Abr	ormal (che		it outputs 0–1	3 V square wave (5 p	oulses/rotation), and		
Drain float switch (FS)	Measure the resistance between the terminals with a tester.							
Moving part	State of moving pa	rt No	rmal	Abnormal		- Switch		
1	UP	Sh	nort	Other than sho	ort	- Magnet		
2	DOWN	Or	pen	Other than op	en 🗍	î		
3						₩ Moving		
4					L	Part		
i-see sensor *	Turn the power (ON while the	ne i-see senso	r connector is	s connected to the	CN4Z on indoor		
					controller board a			
	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.							
1234								
	Note: The voltage between the terminals cannot be measured accurately since it is pulse output.							
1234								
1 2 3 4 sack 23 4 sack 23 4 Black 4 Bl								
i-see sensor motor *	Measure the resist (At the ambient ter			s with a tester.				
M 🛐		No	rmal		Abnormal	1		
Orange	Red-Yellow F	Red–Blue	Red-Orange	Rod White	Abriotitia	1		
Red				Red–White	Open or short			
Blue Yellow		25	0 Ω					

* i-see sensor is available with optional "i-see sensor corner panel" (SLP-18FAEU).

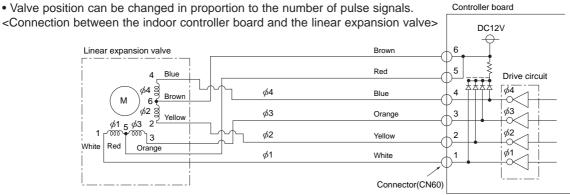
9-2-1. Thermistor Characteristic Graph



9-2-2. Linear Expansion Valve

① Operation summary of the linear expansion valve

• Linear expansion valves open/close through the use of a stepping motor after receiving the pulse signal from the indoor controller board.

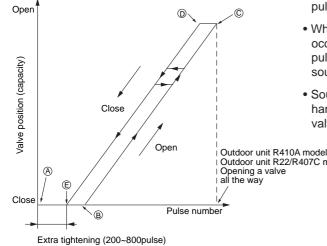


Note : Since the order of connector numbers is different at the controller board side from the LEV side, see the colors of lead wires to check the numbers.

<Output pulse signal and the valve operation>

Output	Output						
(Phase)	1	2	3	4			
ø1	ON	OFF	OFF	ON			
ø2	ON	ON	OFF	OFF			
ø3	OFF	ON	ON	OFF			
ø4	OFF	OFF	ON	ON			

2 Linear expansion valve operation



Closing a value : $1 \rightarrow 2 \rightarrow 3 \rightarrow 4 \rightarrow 1$ Opening a valve : $4 \rightarrow 3 \rightarrow 2 \rightarrow 1 \rightarrow 4$

The output pulse shifts in above order.

- . When linear expansion valve operation stops, all output phases become OFF.
- At phase interruption or when phase does not shift in order, motor does not rotate smoothly and motor will lock and vibrate.
- When power is applied valve drives in the closed direction 2200 pulses and will end at (a). This is done to define valve position.
- When the valve moves smoothly, there is no sound or vibration occurring from the linear expansion valves : however, when the pulse number moves from © to @ or when the valve is locked, more sound can be heard than in a normal situation.
- Sound can be detected by placing the ear against the screw driver handle while putting the screw driver tip to the linear expansion valve.

Outdoor unit R410A model : 1400 pulse Outdoor unit R22/R407C model : 2000 pulse

③ Troubleshooting

Symptom	Check points	Countermeasures
Operation circuit failure of the micro processor	Disconnect the connector on the controller board, then connect LED for checking. $\bigcirc 6$ $\bigcirc 5$ $\bigcirc 4$ $\bigcirc 2$ 1 $1 k\Omega$ LED When power is turned on, pulse signals will be output for 10 seconds. There must be some defects in the operation circuit if the LED does not light while the signals are output or keeps lighting even after the signals stop.	Exchange the indoor con- troller board at drive circuit failure.
Linear expansion valve mechanism is locked.	Motor will idle and make a ticking noise when the motor is operated while the linear expansion valve is locked. This tick- ing sound is the sign of the abnormality.	Exchange the linear expansion valve.
Short or breakage of the motor coil of the linear expansion valve	Measure the resistance between each coil (white-red, yellow- brown, orange-red, blue-brown) with a tester. It is normal if the resistance is in the range of $200\Omega \pm 10\%$.	Exchange the linear expan- sion valve.
Valve does not close completely.	To check the linear expansion valve, operate the indoor unit in fan mode and at the same time operate other indoor units in cooling mode, then check the pipe temperature <liquid pipe temperature> of the indoor unit by the outdoor multi controller board operation monitor. During fan operation, linear expan- sion valve is closed completely and if there is any leaking, detecting temperature of the thermistor will go lower. If the detected temperature indicated in the remote controller, it means the valve is not closed all the way. It is not necessary to exchange the linear expansion valve, if the leakage is small and not affecting normal operation.</liquid 	If large amount of refriger- ant leaks, exchange the linear expansion valve.
Wrong connection of the connector or contact failure	Check the color of lead wire and missing terminal of the con- nector.	Disconnect the connector at the controller board, then check the continuity.

TCH130

9-2-3. DC Fan Motor (Fan Motor/Indoor Controller Board)

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

- · High voltage is applied to the connecter (CNMF) for the fan motor. Pay attention to the service.
- · Do not pull out the connector (CNMF) for the motor with the power supply on.
- (It will damage the indoor controller board and fan motor)
- 2 Self check

Conditions : The indoor fan cannot turn around.

Indoor controller board fuse check Is the resistance Replace the fan motor. Yes No between the terminals of Is the fuse normal? Replace the indoor controller board. drain pump normal? Yes No Wiring contact check Contact of fan motor connector (CNMF) Replace the drain pump. Yes Is there contact failure? Wiring recovery No Power supply check (Remove the connector (CNMF)) Measure the voltage in the indoor controller circuit board. TEST POINT (): VDC (between 1 (+) and 4 (-) of the fan connector): VDC 294/325 V DC TEST POINT 2: Vcc (between 5 (+) and 4 (-) of the fan connector): Vcc 15 V DC Yes Replace the fan motor. Is the voltage normal? OK No Check the operation of fan. COMPLETE Replace the indoor Fail controller board. (Replace the indoor controller board. OK Check the operation. > COMPLETE Fail Replace the fan motor.

9-3. FUNCTION OF DIP SWITCH

0.11		– <i>– –</i>	Operation by switch			Effective	
Switch	Pole	Function	-unction ON		OFF	timing	Remarks
1	Thermistor <room temperature<br="">detection> position Built-in reme controller</room>		ote	Indoor unit			
	Filter clogging detection Provided		Not provided				
	3	Filter cleaning 2,500h		100h			Indeer controller board
SW1	4	Fresh air intake Effective		Not effective		Under	<pre>Indoor controller board <initial setting=""></initial></pre>
Function Selection	5	Remote indication Thermo ON indication		signal	ignal Fan output indication		
	6	—		- —			ON ON
	7	Air flow set in case of			Extra low *1		OFF
	8	Heat thermo OFF	Setting air f	low *1	Depends on SW1-7		1 2 3 4 5 6 7 8 9 0
	9	Auto restart function	Effective		Not effective		
	0	Power ON/OFF	Effective		Not effective		
		Capacity SW 2	Capacity	SW 2	Capacity SW 2		
SW2		P05 ON	P12 ON OFF		P18 ON	Before	Indoor controller board
Capacity	1–6	0FF 1 2 3 4 5 6		23456	0FF 1 2 3 4 5 6	power	
code setting	-	01				supply ON	<initial setting=""></initial>
ootting		P08 OFF	P15 _{OFF}			on	Set for each capacity.
		1 2 3 4 5 6	1	23456			
	1	Heat pump/Cooling only	Cooling only	V	Heat pump		
	2			y			
	3						
	-	Sotting i See concor					
	4	Setting i-See sensor installation position	Setting patt	ern ③	rn ③ Setting pattern ①		Indoor controller board
SW3	5	Vane horizontal angle	Second set	tting First setting		Under	<initial setting=""></initial>
Function setting	6	_	_	-	_	suspension	Set for each capacity.
g	7	Indoor linear expansion valve opening	Effective		Not effective		
	8	Heat 4 degrees up	Not effective	e	Effective]	1 2 3 4 5 6 7 8 9 0
	9				_		
	0		_	-	—		
SW11 1s digit address setting SW12 10s digit	Rotary switch	$\begin{array}{c c} SW12 & SW11 \\ \hline & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & \\ & & & & \\ & & & \\ & & & & \\ & & & & \\ & & & & \\ &$			etting should be done ET remote controller is d.		Indoor controller board
addrešs setting SW14 Branch No.	Rotary switch Rc	SW14		This is the switch to be used when the indoor unit is operated with R2 series outdoor unit			Indoor controller board
setting	Rota Rota			as a set. With other than R2 series outdoor unit leave at 0.			

*1 Refer to the <Table A> below.

<Table A>

SW1-7	SW1-8	
OFF	OFF	Extra low
ON	OFF	Low
OFF	ON	Setting air flow
ON	ON	stop

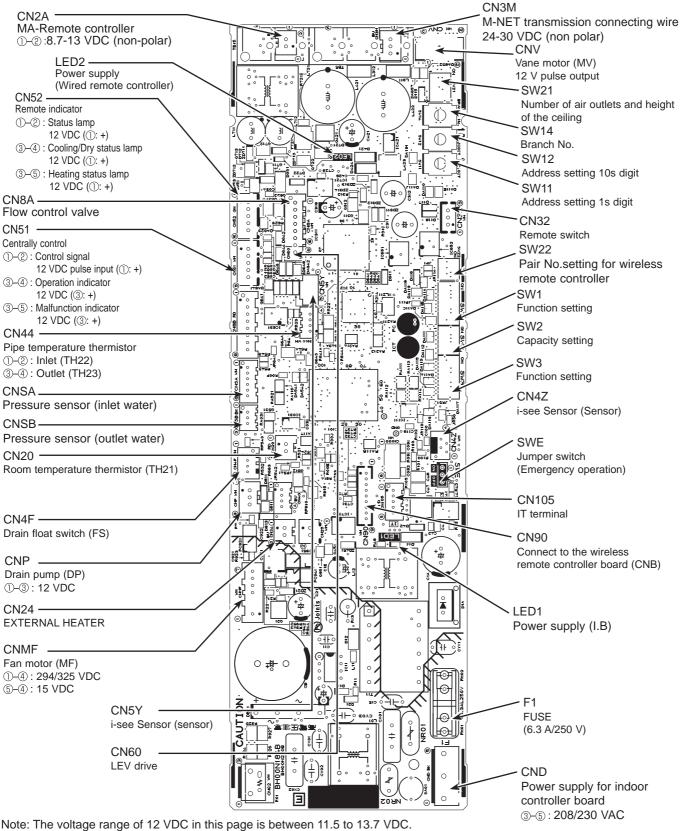
Continue to the next page

Switch	Pole	Function	Operation by switch		Effective timing	Remarks			
	1				OFF		unning		
-	2	Setting ceiling height Depends on SW21-1, SW21-2						<initial setting=""></initial>	
	3						operation		
	4						or suspension	1 2 3 4 5 6	
SW21	5 6						ouoponoion		
Function									
selection				SW21-1	SW21-2		Heig	ght	
		Siler	nt	_	ON	1	8.2 ft [2	2.5 m]	
		Stan	dard	OFF	OFF	8.9	ft [2.7 m] (d	efault setting)	
		High	h ON OFF			9.8 ft [3.0 m]			
								<initial setting=""></initial>	
			unction		ON OFF	- 1			
			_						
		2	_					☆ ◇鉄 1152	
		3 Pair No. of wireles	s remote c	ontroller	epends on SW22-3, 2	2-4			
		4 Pair No. of wireles	s remote c	ontroller	oponido on 04122-0, 2	·- ·		THE SOFT CONCOMMENT OF THE STATE OF THE SOFT CONCOMMENT OF THE SOFT CONCOMMENT OF THE SOFT. SOFT OF THE SOFT OF THE SOFT OF THE SOFT OF T	
		To operate each inde	oor unit hv e	each remote co	ntroller when			TEMP 🗘 OFF/ON	
		installed 2 indoor un	its or more	are near, Pair N	No. setting is			MODE FAN LONG	
		 Pair No. setting is available 	ailable with t	he 4 patterns (Se		VANE LOUVER i-see			
		 Make setting for J4 No. of wireless rem 	1, J42 of in	door controller	Pair				
		 You may not set it will Setting for indoor un 		ng it by one ren		Under			
		 Cut jumper wire J4 	1, J42 on th	ne indoor contro					
	Jumper	according to the ta	Die Delow.				1~4 ON/OFF DELETE		
SW22		Wireless remote contr	oller pair n Fig 1 (A)	umber:	operation or				
Function selection	mn	Setting operation (I Press the	button 1 to	o stop the air co					
0010011011		2. Press the MENU but 3. Check that function	n No."1" is o	displayed, and t	hen press the 🗖	SET	suspension		
		button 3. The Scre	en display s	etting screen will	be displayed. (Fi	ig. 2.)			
		•Pair No. changing	operation (I	Fig. 2 ®)					
		1. Press the butto		proceed the pr				CLOCK AMPM	
		2. Each time the 🚺 t 3. Press the 📧 bu	tton ③ to c	heck the setting	iges.		12:00 on		
		4. Press the MENU bu					Fig. 1		
		Indoor unit SW22 SW22-3 SW22-		No. of wireless ote controller					
		ON ON			Initial settin	a			
		OFF ON		1	-	-			
		ON OFF		2	_				
		OFF OFF		3–9	-			-12:00 < >oń	
								Fig. 2	
		Drain pump and fan a	re activator	simultaneouch	v after the				
SWE		connector SWE is set	to ON and	turn on the pov	/er.			abitial aatting.	
		SWE			SWE			<initial setting=""></initial>	
	Connector			[ī				SWE	
		OFF ON OFF ON					Linder		
Test run for Drain		The connector	SWF is s	-	-		Under operation	OFF ON	
pump	S		J 1 1 1 2				-1		

9-4. TEST POINT DIAGRAM Indoor controller board PLFY-P05NFMU-ER1.TH PLFY-P15NFMU-ER1.TH

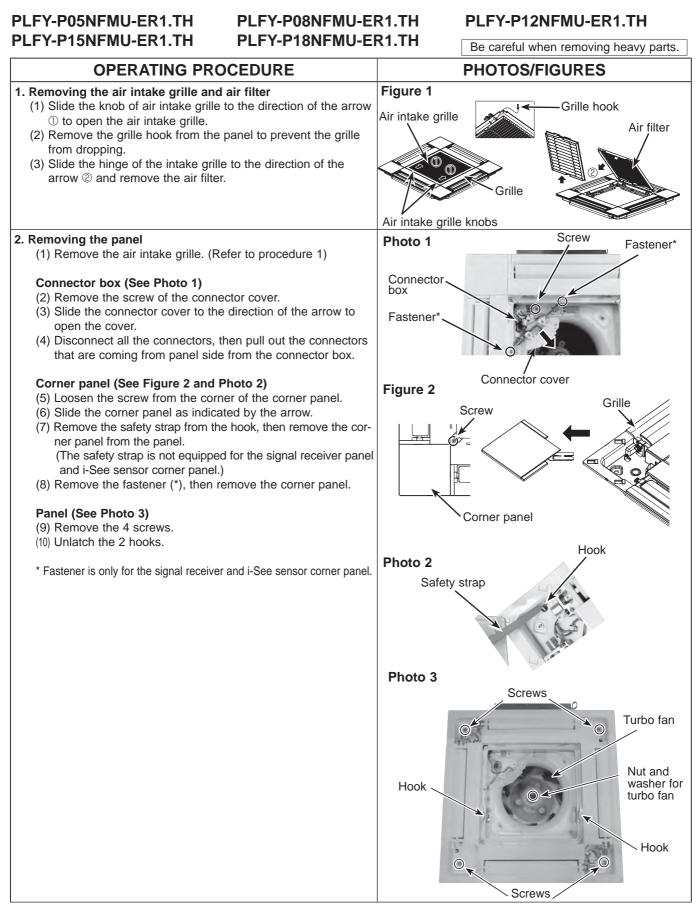
PLFY-P08NFMU-ER1.TH PLFY-P18NFMU-ER1.TH

PLFY-P12NFMU-ER1.TH

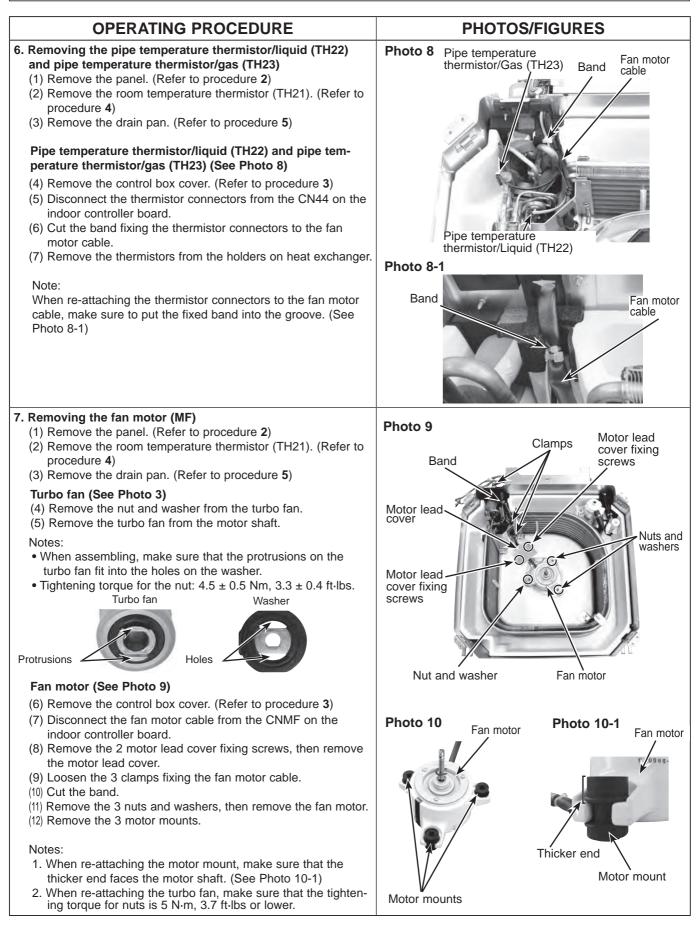


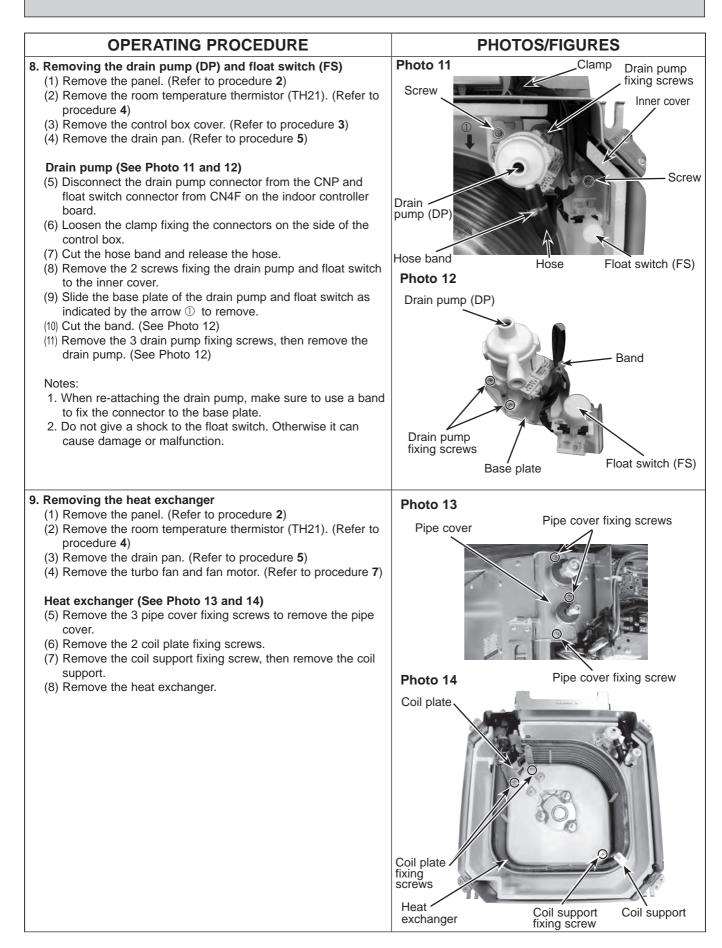
DISASSEMBLY PROCEDURE

10



OPERATING PROCEDURE	PHOTOS/FIGURES
 3. Removing the electrical parts (1) Loosen the 2 screws on the control box cover. (2) Slide the control box cover as indicated by the arrow to remove. <electrical box="" control="" in="" parts="" the=""> Indoor controller board (I.B) Terminal block (TB2) Terminal block (TB5) Terminal block (TB15) </electrical> 	Photo 4 Control box cover
	Photo 5 Screws Indoor controller board (I.B)
	Terminal block (TB15) \ Terminal block (TB2) Terminal block (TB5)
4. Removing the room temperature thermistor (TH21)(1) Remove the panel. (Refer to procedure 2)	Photo 6
 Room temperature thermistor (TH21) (See Photo 6) (2) Remove the 2 lead wire cover fixing screws. (See Photo 6) (3) Open the lead wire cover, then remove the connector cover from the connector box. (4) Remove the band that fixes the room temperature thermistor (TH21) to the connector box. (5) Remove the room temperature thermistor (TH21) from the connector box. (6) Remove the connector (CN20) from the indoor controller board, and disconnect the room temperature thermistor (TH21). 	Lead wire cover Lead wire cover Lead wire cover fixing screws
Note: When fixing the thermistor, make sure to fix it to the con- nector box using a band.	Room temperature thermistor (TH21) Connector cove
 5. Removing the drain pan (1) Remove the panel. (Refer to procedure 2) (2) Remove the room temperature thermistor (TH21). (Refer to procedure 4) Connector box (See Photo 7) (3) Remove the connector box fixing screw. (4) Slide the connector box as indicated by the arrow ①, then remove the claw from bell mouth. Bell mouth (See Photo 7) (5) Remove the 4 bell mouth fixing screws, then remove the bell mouth. Drain pan (See Photo 7) (6) Remove the 4 drain pan fixing screws, then remove the drain pan. 	Photo 7 Drain pan fixing screws





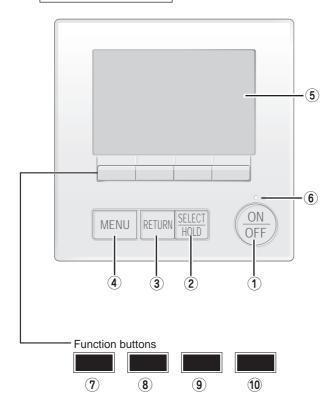
REMOTE CONTROLLER

11-1. REMOTE CONTROLLER FUNCTIONS

<PAR-41MAA>

11

Controller interface



① [ON/OFF] button

Press to turn ON/OFF the indoor unit.

② [SELECT/HOLD] button

Press to save the setting.

When the Main menu is displayed, pressing this button will enable/disable the HOLD function.

③ [RETURN] button

Press to return to the previous screen.

④ [MENU] button

Press to bring up the Main menu.

5 Backlit LCD

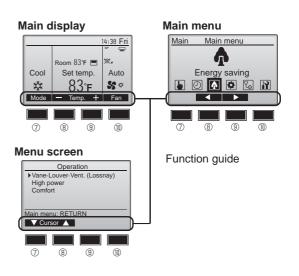
Operation settings will appear.

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)

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.



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.

[®] 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.

In Function button [F4]

Main display: Press to change the fan speed. Menu screen: The button function varies with the screen.

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Display

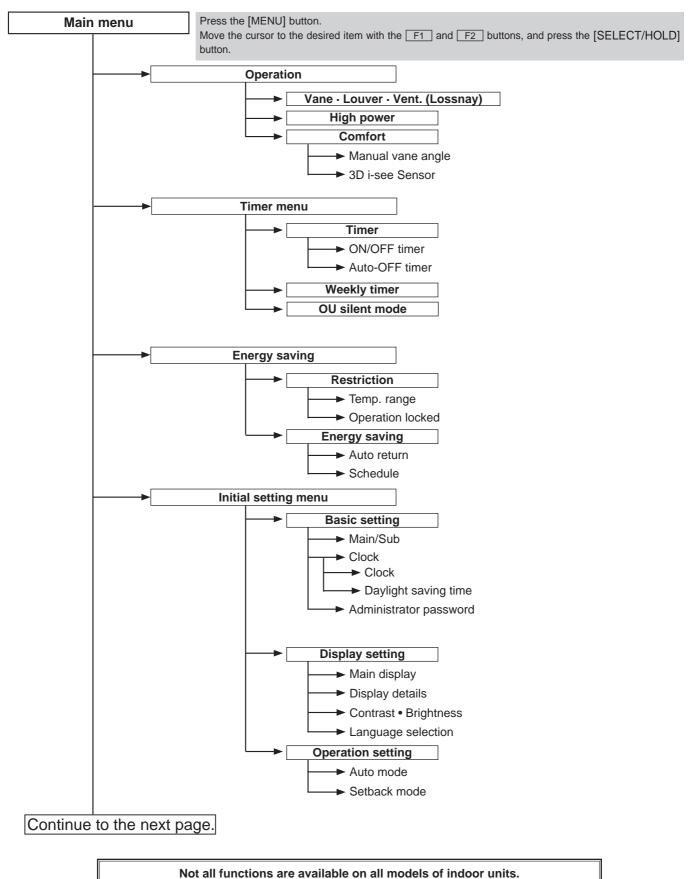
The main display can be displayed in two different modes: "Full" and "Basic". The initial setting is "Full". To switch to the "Basic" mode, change the setting on the Main display setting. (Refer to operation manual included with remote controller.)

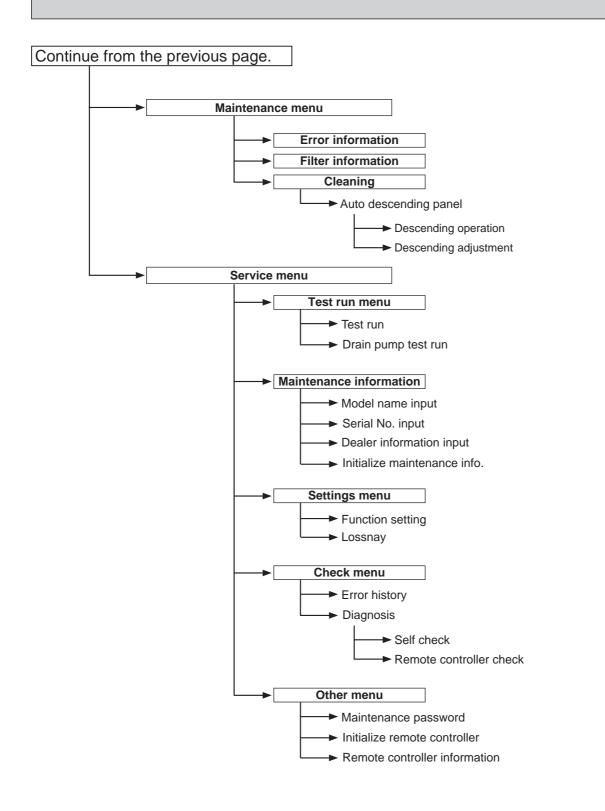
<Basic mode>

<Full mode>

All icons are displayed for explanation. (12) (13) (14) (15) 14:30 Fri 14:30 Fri (23 jo J 📼 6 19 シᲡ▓∄∄ 田園 0 **D** đ (7)-22 (8) Auto XX 🖬 Cool Room 83°F Set temp. 9. <u>-</u>(?)) (1) ſī Cool Set temp Auto Õ (1 4 Ω, 1 Temp. Mode Far Mode Fan Ż ģ (5) Ч_л Operation mode (14) Appears when the Weekly timer is enabled. Preset temperature () (15) Appears while the units are operated in the energy saving 3 Clock mode. (Will not appear on some models of indoor units) ④ Fan speed (16) 5 Appears while the outdoor units are operated in the silent mode. 5 Button function guide \bigcirc Functions of the corresponding buttons appear here. Appears when the built-in thermistor on the remote control- $\langle \eta \rangle$ ക ler is activated to monitor the room temperature (1). appears when the thermistor on the indoor unit is acti-Appears when the ON/OFF operation is centrally controlled. vated to monitor the room temperature. (7)18 6 Appears when the operation mode is centrally controlled. Indicates the vane setting. (19) \mathbf{R} Appears when the preset temperature is centrally controlled. Indicates the louver setting. (9)(21) X Appears when the filter reset function is centrally controlled. Indicates the ventilation setting. (10)μŧ (21) Indicates when filter needs maintenance. Appears when the preset temperature range is restricted. Room temperature 22 A Appears when an energy saving operation is performed us-(12) f ing a "3D i-See sensor" function. Appears when the buttons are locked. Centrally controlled (-) (13) Appears for a certain period of time when a centrally-controlled item is operated. Appears when the On/Off timer or Auto-off timer function is enabled. 24) Preliminary error display O appears when the timer is disabled by the centralized control system. A check code appears during the preliminary error. appears when the HOLD function is enable. Most settings (except ON/OFF, mode, fan speed, temperature) can be made from the Main menu.

Menu structure





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

Main menu list

Main menu	Setting and display items		Setting details		
Operation	ion Vane · Louver · Vent. (Lossnay) High power *3		 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." 		
			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 ti	mer ^{*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, *3}		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."		
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. 		

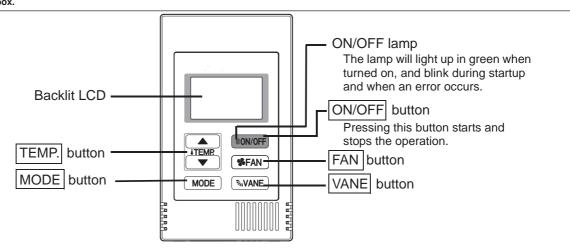
*1 Clock setting is required.
*2 1°C (2°F) increments.
*3 This function can only be set when certain outdoor units are connected.

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 a 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 followin 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, and us to change the background colors of the display to black.				
		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 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 Auto mode can be selected by using the button. This setting is valid only when indoor units with Auto mode function are connected.				
		Setback mode	Whether or not to use the Setback mode can be selected by using the button. This setting is valid only when indoor units with the Setback mode function are connected.				
Mainte- nance	Error information		 Use to check error information when an error occurs. Check code, error source, refrigerant address, model name, manufacturing number, contact information (dealer's phone number) can be displayed. (The model name, 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 mai	ntenance info.	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.				
	Others	Maintenance password	Use to change the maintenance password.				
		Initialize remote controller	Use to initialize the remote controller to the factory shipment status.				
		Remote control- ler information	Use to display the remote controller model name, software version, and serial number.				

<PAC-YT53CRAU>

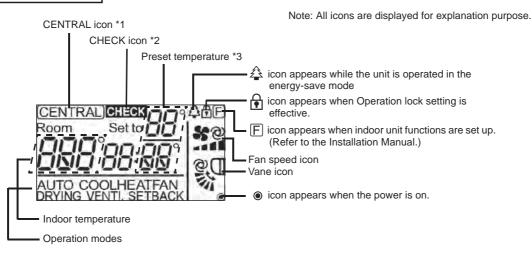
Note:

The phrase "Wired remote controller" in this manual refers only to the TAC-YT53CRAU. If you need any information for the other remote controller, please refer to either the installation manual or initial setting manual which are included in remote controller's box.



Note: To set the functions that are not available on this controller (TAC-YT53CRAU) such as Louver, use the centralized controller.

Display section



*1 (CENTRAL) icon

Appears when one of the following local operations is prohibited: ON/OFF; operation mode; preset temperature; fan speed; vane.

*2 CHECK icon

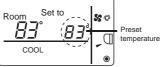
For City Multi, when an error occurs, power indicator will blink, and unit address (3 digits) and check code (4 digits) will blink.

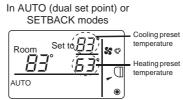
Check the error status, stop the operation, and consult your dealer.

*3 Preset temperature

* Centigrade or Fahrenheit is selectable. Refer to the Installation Manual for details.

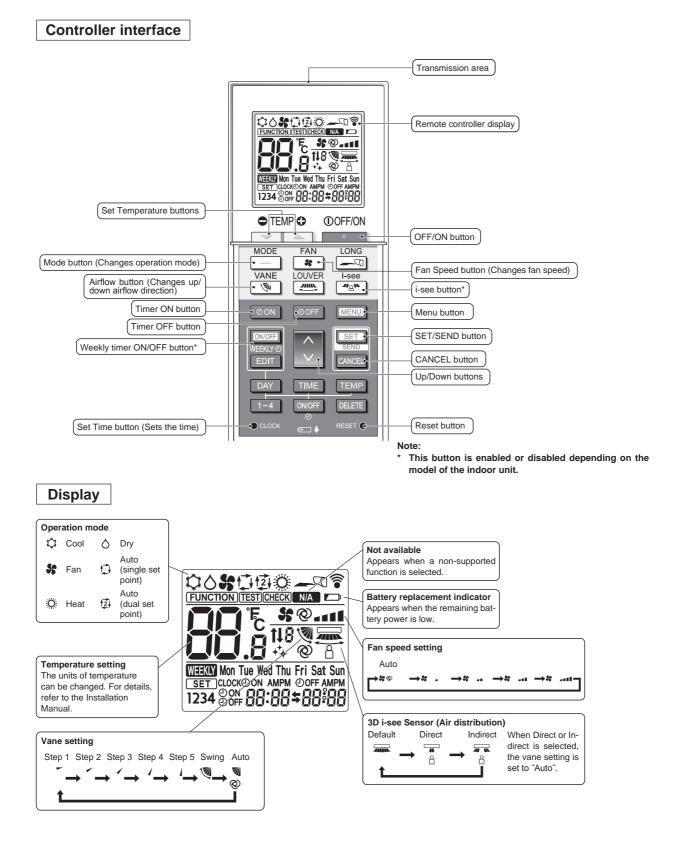
In COOL, DRYING, HEAT, or AUTO (single set point) modes



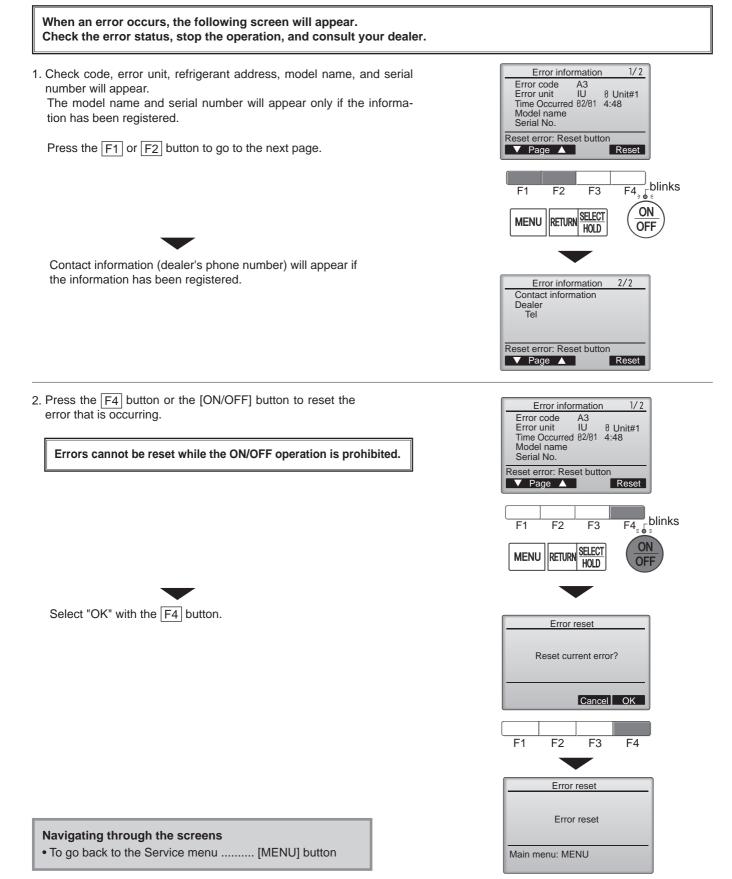


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<PAR-SL101A-E>

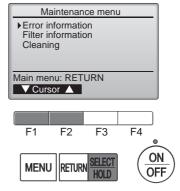


11-2. ERROR INFORMATION



• Checking the error information

While no errors are occurring, page 2/2 of the error information can be viewed by selecting "Error information" from the Maintenance menu. Errors cannot be reset from this screen.



11-3. SERVICE MENU

word.

Maintenance password is required

1. Select "Service" from the Main menu, and press the [SELECT/HOLD] button.

*At the main display, the menu button and select "Service" to make the maintenance setting.

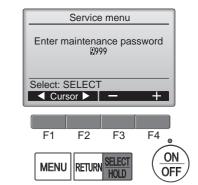
2. When the Service menu is selected, a window will appear asking for the pass-

To enter the current maintenance password (4 numerical digits), move the

cursor to the digit you want to change with the F1 or F2 button.

Set each number (0 through 9) with the F3 or F4 button.





Then, press the [SELECT/HOLD] button.

Note: The initial maintenance password is "9999". Change the default password as necessary to prevent unauthorized access. Have the password available for those who need it.

: If you forget your maintenance password, you can initialize the password to the default password "9999" by pressing and holding the $\boxed{F1}$ button for 10 seconds on the maintenance password setting screen.

3. If the password matches, the Service menu will appear.

The type of menu that appears depends on the connected indoor units' type.

Note: Air conditioning units may need to be stopped to make only at "Settings". There may be some settings that cannot be made when the system is centrally controlled.

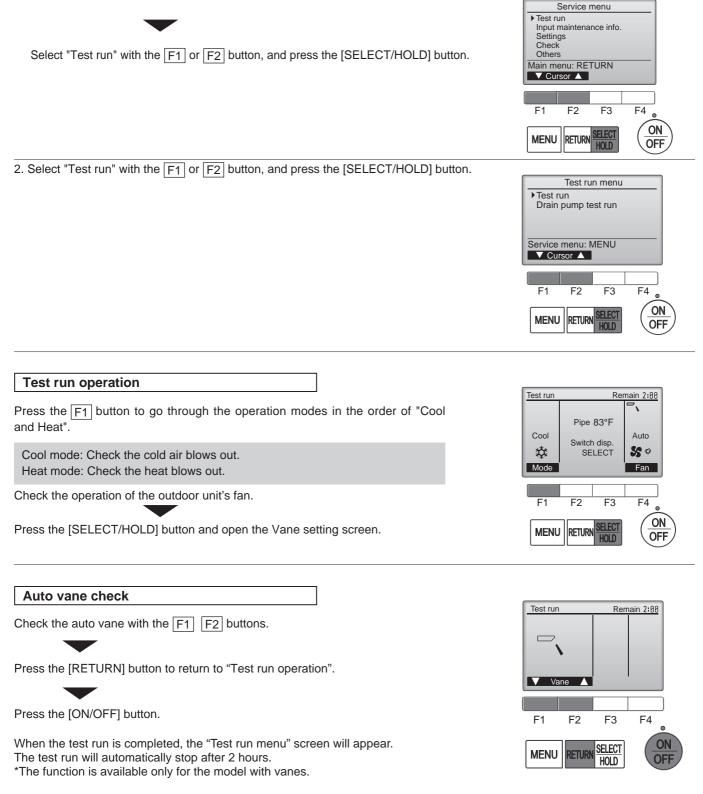


A screen will appear that indicates the setting has been saved.

Service menu
 Test run Input maintenance info. Settings
Check Others
Main menu: RETURN
▼ Cursor ▲
•
Service menu
Not available. Please stop the unit.
Service menu: RETURN

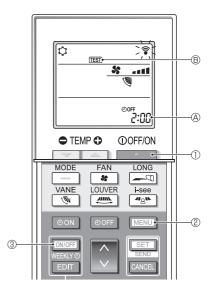
11-4. TEST RUN 11-4-1. PAR-41MAA

1. Select "Service" from the Main menu, and press the [SELECT/HOLD] button.



11-4-2. PAR-SL101A-E

- 1. Press the _____ button (1) to stop the air conditioner.
 - If the weekly timer is enabled (mean is on), press the Mean of button (3) to disable it (mean is off).
- 2. Press the $\hfill mean 2$ for 5 seconds.
 - \bullet $_{\mbox{\tiny CHECK}}$ comes on and the unit enters the service mode.
- 3. Press the MENU button 2.
 - TEST (B) comes on and the unit enters the test run mode.
- 4. Press the following buttons to start the test run.
- -: Switch the operation mode between cooling and heating and start the test run.
- : Switch the fan speed and start the test run.
- Switch the airflow direction and start the test run.
- : Switch the louver and start the test run.
- **SET**: Start the test run.
- 5. Stop the test run.
 - \bullet Press the _____ button () to stop the test run.
 - After 2 hours, the stop signal is transmitted.



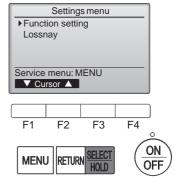
11-5. FUNCTION SETTING

11-5-1. PAR-41MAA

1. Select "Service" from the Main menu, and press the [SELECT/HOLD] button.

Select "Setting" from the Service menu, and press the [SELECT/HOLD] button.

Select "Function setting", and press the [SELECT/HOLD] button.



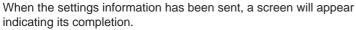
2. The Function setting screen will appear.

Press the F1 or F2 button to move the cursor to one of the following: M-NET address, function setting number, or setting value. Then, press the F3 or F4 button to change the settings to the desired settings.

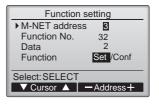
Once the settings have been completed, press the [SELECT/HOLD] button.

A screen will appear indicating that the settings information is being sent. To check the current settings of a given unit, enter the setting for its M-NET address and function setting number, select Conf for the Function, and press the [SELECT/HOLD] button.

A screen will appear indicating that the settings are being searched for. When the search is done, the current settings will appear.



To make additional settings, press the [RETURN] button to return to the screen shown in the above step. Set the function numbers for other indoor units by following the same steps.



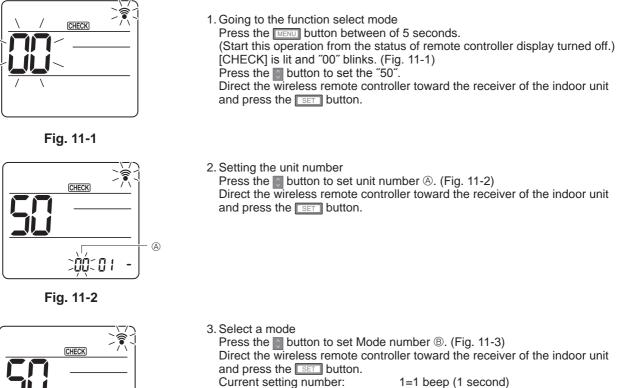
Function setting
M-NET address 3
Function No. 32
Data 2
Sending data

Function setting	
M-NET address 3	
Function No. 32	
Data 2	
Setting completed	
Return: RETURN	

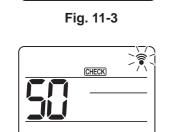
Note:

- Refer to the indoor unit Installation Manual for information about the factory settings of indoor units, function setting numbers, and setting values.
- Be sure to write down the settings for all functions if any of the initial settings has been changed after the completion of installation work.

11-5-2. PAR-SL101A-E



1=1 beep (1 second) 2=2 beep (1 second each) 3=3 beep (1 second each)



00:01:

B



00 010

4. Selecting the setting number

Use the button to change the Setting number ©. (Fig. 11-4) Direct the wireless remote controller toward the receiver of the indoor unit and press the set button.

 5. To select multiple functions continuously Repeat select ③ and ④ to change multiple function settings continuously.
 9. Repeat for a function selection

6. Complete function selection Direct the wireless remote controller toward the sensor of the indoor unit and press the OOFF/ON _____ button.

Note:

Make the above settings on Indoor units as necessary.

• Be sure to write down the settings for all functions if any of the initial settings has been changed after the completion of installation work.

11-6. ERROR HISTORY

1. Select "Service" from the Main menu, and press the [SELECT/HOLD] button.

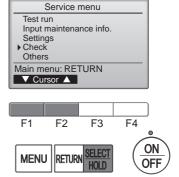


Select "Check" with the $\fbox{F1}$ or $\fbox{F2}$ button, and press the [SELECT/HOLD] button.

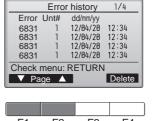
2. Select "Error history" with the F1 or F2 button, and press the [SELECT/HOLD] button.

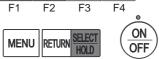
3. 16 error history records will appear.

4 records are shown per page, and the top record on the first page indicates the latest error record.



Check menu	
 Error history Diagnosis 	
Service menu: MENU ▼ Cursor ▲	_





4. Deleting the error history

To delete the error history, press the $\boxed{F4}$ button (Delete) on the screen that shows error history.

A confirmation screen will appear asking if you want to delete the error history.



Press the F4 button (OK) to delete the history.

"Error history deleted" will appear on the screen.

Press the [RETURN] button to go back to the Check menu screen.

Error history
Delete error history?
Cancel OK
Error history
Error history deleted
Check menu: RETURN

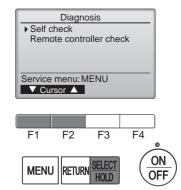
11-7. SELF-DIAGNOSIS 11-7-1. PAR-41MAA

1. Select "Service" from the Main menu, and press the [SELECT/HOLD] button.

Select "Check" from the Service menu, and press the [SELECT/HOLD] button.

Select "Diagnosis" from the Check menu, and press the [SELECT/HOLD] button.

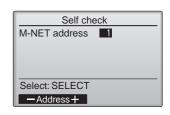
Select "Self check" with the F1 or F2 button, and press the [SELECT/HOLD] button.



2. Select "Self check" from the Diagnosis menu, and press the [SELECT/HOLD] button to view the Self check screen.

With the F1 or F2 button, enter the M-NET address, and press the [SELECT/HOLD] button.

Check code, unit number, attribute, and indoor unit demand signal ON/OFF status at the contact will appear. "-" will appear if no error history is available.



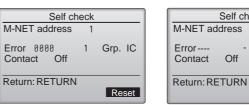
When there is no error history Self check

Off

1

- Grp. --

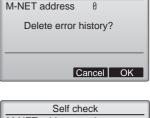
Reset



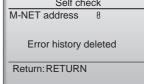
3. Resetting the error history

Press the F4 button (Reset) on the screen that shows the error history. A confirmation screen will appear asking if you want to delete the error history.

Press the F4 button (OK) to delete the error history. If deletion fails, "Request rejected" will appear, and "Unit not exist" will appear if indoor units that are correspond to the entered address are not found.

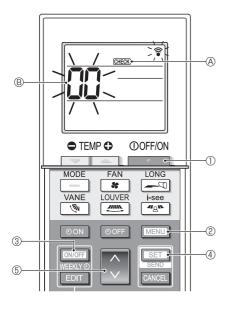


Self check



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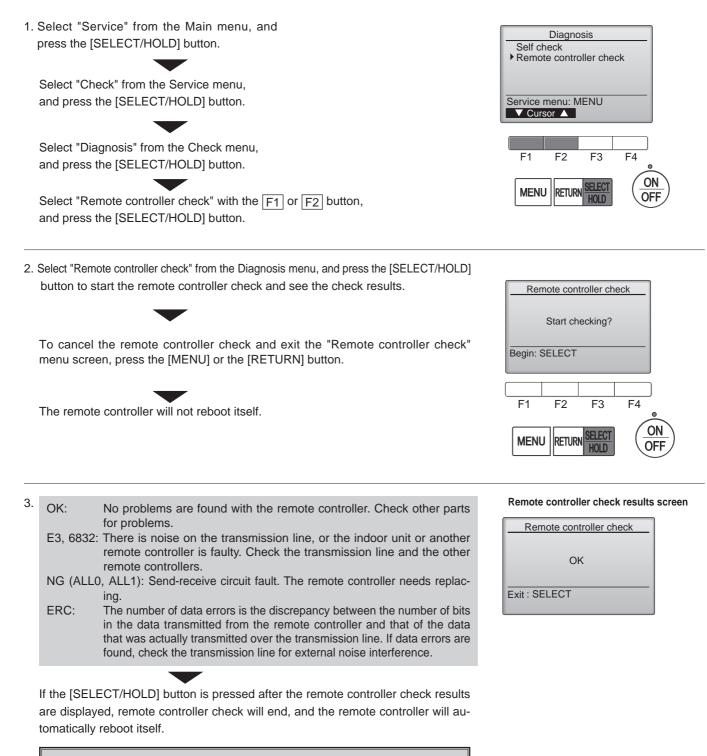
11-7-2. PAR-SL101A-E



- 1. Press the _____ button ① to stop the air conditioner.
 - If the weekly timer is enabled (WEEKN is on), press the button ③ to disable it (WEEKN is off).
- 2. Press the \fbox{MENU} button 2 for 5 seconds.
 - $\operatorname{CHECK}\ximide{\operatorname{A}}$ comes on and the unit enters the self-check mode.
- 3. Press the button (5) to select the refrigerant address (M-NET address) (8) of the indoor unit for which you want to perform the self-check.
- 4. Press the SET button ④.
 - If an error is detected, the check code is indicated by the number of beeps from the indoor unit and the number of blinks of the OPERATION INDICATOR lamp.
- 5. Press the _____ button ①.
 - GEEX (A) and the refrigerant address (M-NET address) (B) go off and the self-check is completed.

11-8. REMOTE CONTROLLER CHECK

If operations cannot be completed with the remote controller, diagnose the remote controller with this function.



Check the remote controller display and see if anything is displayed (including lines). Nothing will appear on the remote controller display if the correct voltage (8.5–12 VDC) is not supplied to the remote controller. If this is the case, check the remote controller wiring and indoor units.

TCH130

CITY MULTI

MITSUBISHI ELECTRIC CORPORATION

HEAD OFFICE : TOKYO BUILDING, 2-7-3, MARUNOUCHI, CHIYODA-KU TOKYO 100-8310, JAPAN

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