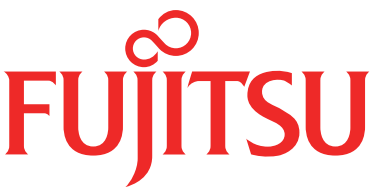


Split type room air conditioner
Wall-mounted type



SERVICE MANUAL



Indoor unit	Outdoor unit
ASYG07KPCA	AOYG07KPCA
ASYG09KPCA	AOYG09KPCA
ASYG12KPCA	AOYG12KPCA

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Specifications

Type				Wall mounted			
				Inverter heat pump			
Model name				ASYG07KPCA	ASYG09KPCA	ASYG12KPCA	
Power supply				230 V ~ 50 Hz			
Power supply intake				Outdoor unit			
Available voltage range				198—264 V			
Capacity	Cooling	Rated	kW	2.00	2.50	3.40	
			Btu/h	6,800	8,500	11,600	
		Min.—Max.	kW	0.9—2.8	0.9—3.0	0.9—3.7	
			Btu/h	3,100—9,600	3,100—10,200	3,100—12,600	
	Heating	Rated	kW	2.50	2.80	3.80	
			Btu/h	8,500	9,500	13,000	
		Min.—Max.	kW	0.9—3.4	0.9—3.8	0.9—4.80	
			Btu/h	3,100—11,600	3,100—12,900	3,100—16,400	
Input power	Cooling	Rated	kW	0.48	0.71	1.00	
		Min.—Max.		0.25—1.03	0.25—1.05	0.25—1.14	
	Heating	Rated		0.63	0.79	1.14	
		Min.—Max.		0.25—1.39	0.25—1.39	0.25—1.60	
	Fan	HIGH	W	21.5		26.9	
		MED		12.5		14.5	
		LOW		6.3		7.1	
		QUIET		3.0		3.0	
	Current	Cooling	Rated	A	2.7	3.5	4.7
		Heating			3.2	3.8	5.6
EER	Cooling		kW/kW	4.17	3.52	3.40	
COP	Heating			3.97	3.54	3.33	
Sensible capacity	Cooling		kW	1.9	2.1	2.6	
Power factor	Cooling		%	77	87	92	
	Heating			85	90	89	
Moisture removal			L/h (pints/h)	1.0 (1.8)	1.3 (2.30)	1.8 (3.20)	
Maximum operating current *1		Cooling	A	6.5	6.5	6.5	
		Heating		9.0	9.0	9.0	
Fan	Airflow rate	Cooling	HIGH	m³/h	580	580	630
			MED		460	460	490
			LOW		340	340	360
			QUIET		240	240	240
		Heating	HIGH		580	580	630
			MED		460	460	490
			LOW		380	380	380
			QUIET		260	260	260
	Type × Q'ty		Cross flow fan × 1				
	Motor output			W	27	27	27
Sound pressure level *2		Cooling	dB (A)	HIGH	45	45	46
				MED	38	38	40
				LOW	31	31	33
				QUIET	22	22	22
		Heating		HIGH	45	45	46
				MED	40	40	40
				LOW	36	36	35
				QUIET	28	26	27
Heat exchanger type		Dimensions (H × W × D)		mm	210 × 600 × 26.6		
		Fin pitch			1.3		
		Rows × Stages		2 × 10			
		Pipe type		Copper tube			
		Fin type		Aluminum			
Enclosure		Material		Polystyrene			
		Color		White Approximate color of Munsell N 9.25/			
Dimensions (H × W × D)		Net	mm	270 × 784 × 224			
		Gross		279× 864 × 334			
Weight		Net	kg	8.0			
		Gross		11.0			
Connection pipe		Size	mm (in)	Ø 6.35 (1/4)			
		Liquid Gas		Ø 9.52 (3/8)			
Method				Flare			
Material				PP+HDPE			
Drain hose		Size	mm	Ø 11.8 (I.D.), Ø 15 to Ø 16.8 (O.D.)			
Operation range		Cooling	°C	18 to 32			
			%RH	80 or less			
Remote controller type		Heating	°C	16 to 30			
				Wireless			

NOTES:

- Specifications are based on the following conditions:
 - Cooling: Indoor temperature of 27 °CDB/19 °CWB, and outdoor temperature of 35 °CDB/24 °CWB.
 - Heating: Indoor temperature of 20 °CDB/15 °CWB, and outdoor temperature of 7 °CDB/6 °CWB.
 - Pipe length: 5 m, Height difference: 0 m. (Between outdoor unit and indoor unit.)
- Protective function might work when using it outside the operation range.
- *1: Maximum current is maximum value when operated within the operation range.
- *2: Sound pressure level:
 - Measured values in manufacturer's anechoic chamber.
 - Because of the surrounding sound environment, the sound levels measured in actual installation conditions might be higher than the specified values here.

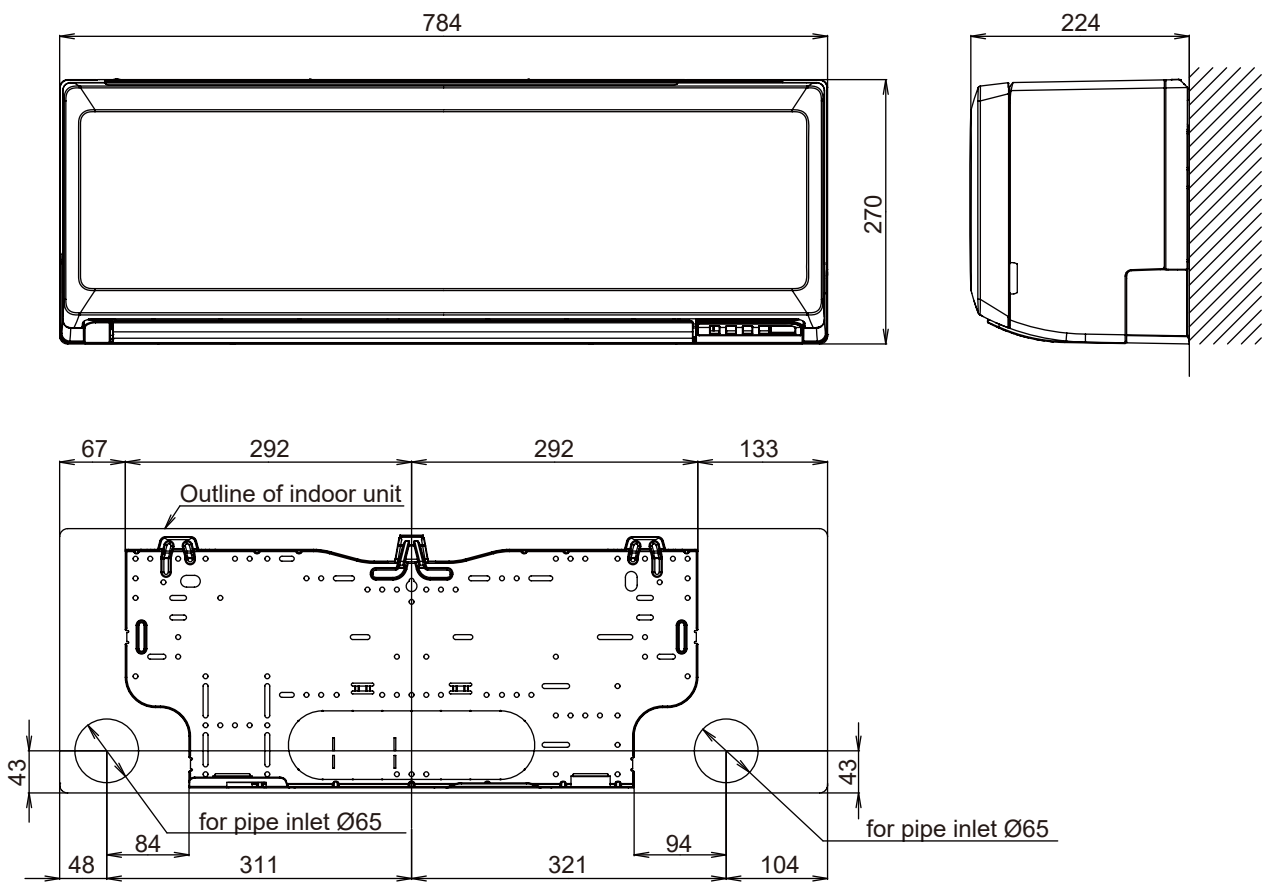
Specifications for Lot10						
Model name				ASYG07KPCA	ASYG09KPCA	ASYG12KPCA
Energy efficiency class	Cooling			A ⁺⁺		
	Heating (Average)			A ⁺		
P design	Cooling	kW		2.0 (35 °C)	2.5 (35 °C)	3.4 (35 °C)
	Heating (Average)			2.2 (-10 °C)	2.4 (-10 °C)	2.5 (-10 °C)
SEER	Cooling	kWh/kWh		6.7	6.7	6.3
SCOP	Heating (Average)			4.0	4.0	4.1
Annual energy consumption	QCE	kWh/a		104	131	189
	QHE (Average)			769	840	853
Sound power level	Cooling	HIGH	dB (A)	57	58	59
	Heating			58	58	59

Type				Inverter heat pump			
Model name				AOYG07KPCA	AOYG09KPCA	AOYG12KPCA	
Power supply				230 V ~ 50 Hz			
Power supply intake				Outdoor unit			
Available voltage range				198—264 V			
Starting current			A	3.2	3.8	5.6	
Fan	Airflow rate	Cooling	m³/h	1,650	1,650	1,700	
		Heating		1,450	1,450	1,470	
	Type × Q'ty			Propeller fan × 1			
Motor output			W	23			
Sound pressure level *1		Cooling	dB (A)	45	47	49	
		Heating		46	47	51	
Sound power level		Cooling	dB (A)	57	59	62	
		Heating		58	59	62	
Heat exchanger type		Dimensions (H × W × D)	mm	504 × 650 × 18.2		504 × 630 × 36.4	
		Fin pitch		1.3			
		Rows × Stages			1 × 24		2 × 24
		Pipe type			Copper		
		Fin type		Type (Material)	Corrugate (Aluminum)		
				PC Fin			
Compressor	Type × Q'ty			DC Rotary × 1			
	Motor output		W	850			
Refrigerant		Type (Global warming potential)		R32 (675)			
		Charge	g	550	590		
Refrigerant oil		Type		POE			
		Amount	cm³	240			
Enclosure		Material		Steel sheet			
		Color		Beige Approximate color of Munsell 10YR 7.5/1.0			
Dimensions (H × W × D)	Net		mm	541 × 663 × 290			
	Gross			596 × 798 × 369			
Weight	Net		kg	23		25	
	Gross			25		27	
Connection pipe	Size	Liquid	mm (in)	Ø 6.35 (1/4)			
		Gas		Ø 9.52 (3/8)			
	Method		m	Flare			
	Pre-charge length			15			
	Max. length			20			
	Max. height difference			15			
Operation range		Cooling	°C	-10 to 46			
		Heating		-15 to 24			
Drain hose		Material		PP			
		Size	mm	Ø 13.0 (I. D.), Ø 16.0 to Ø 16.8 (O. D.)			
NOTES: - Specifications are based on the following conditions: - Cooling: Indoor temperature of 27 °CDB/19 °CWB, and outdoor temperature of 35 °CDB/24 °CWB. - Heating: Indoor temperature of 20 °CDB/15 °CWB, and outdoor temperature of 7 °CDB/6 °CWB. - Pipe length: 5 m, Height difference: 0 m. - Protective function might work when using it outside the operation range. *1: Sound pressure level - Measured values in manufacturer's anechoic chamber. - Because of the surrounding sound environment, the sound levels measured in actual installation conditions might be higher than the specified values here.							

Dimensions

Models: ASYG07KPCA, ASYG09KPCA, and ASYG12KPCA

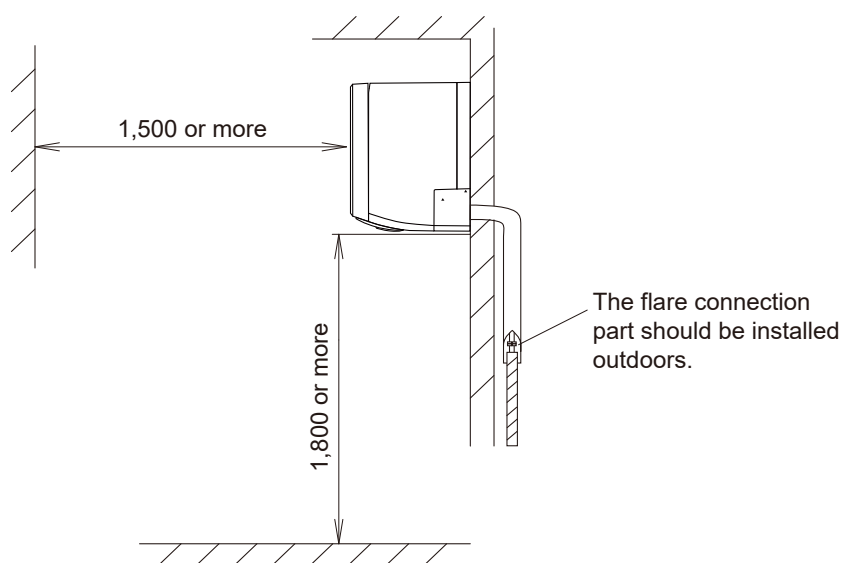
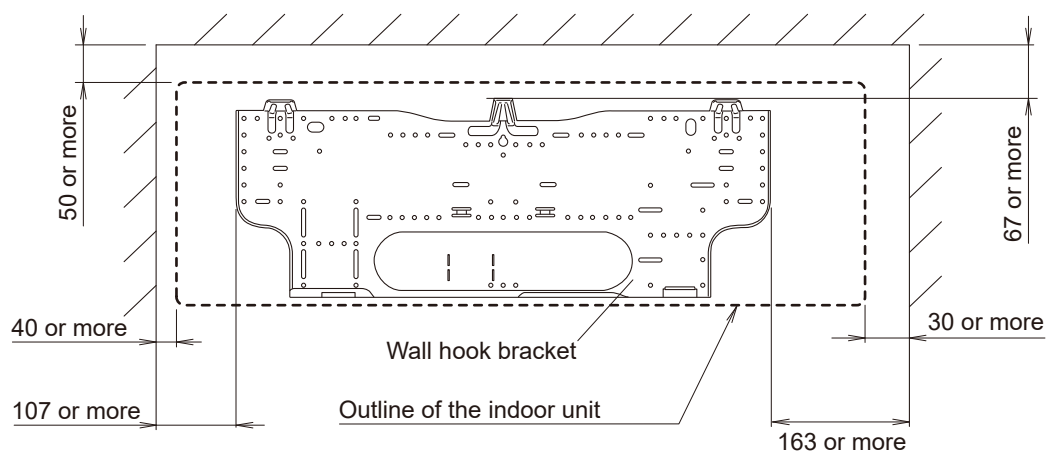
Unit: mm



■ Installation space requirement

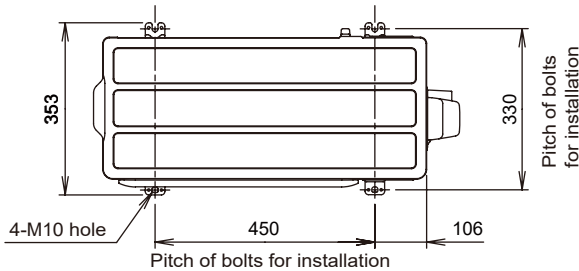
Provide sufficient installation space for product safety.

Unit: mm

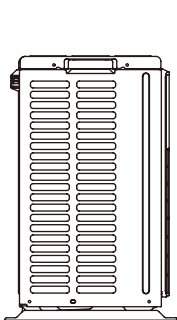


Models: AOYG07KPCA, AOYG09KPCA, and AOYG12KPCA

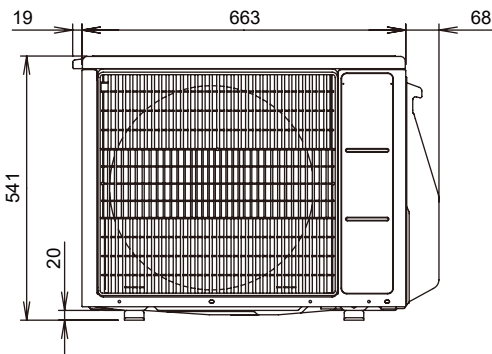
Unit: mm



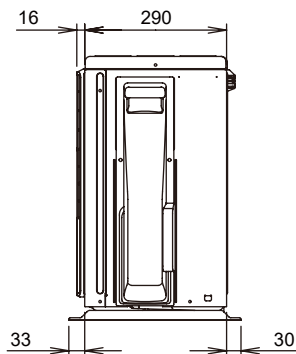
Top view



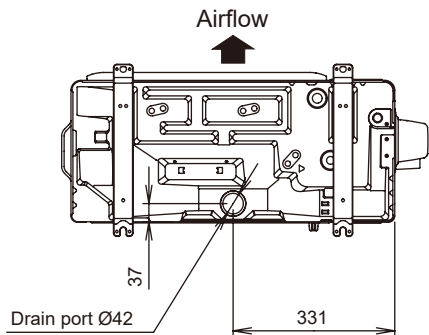
Side view



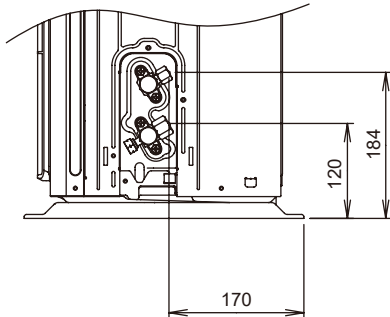
Front view



Side view

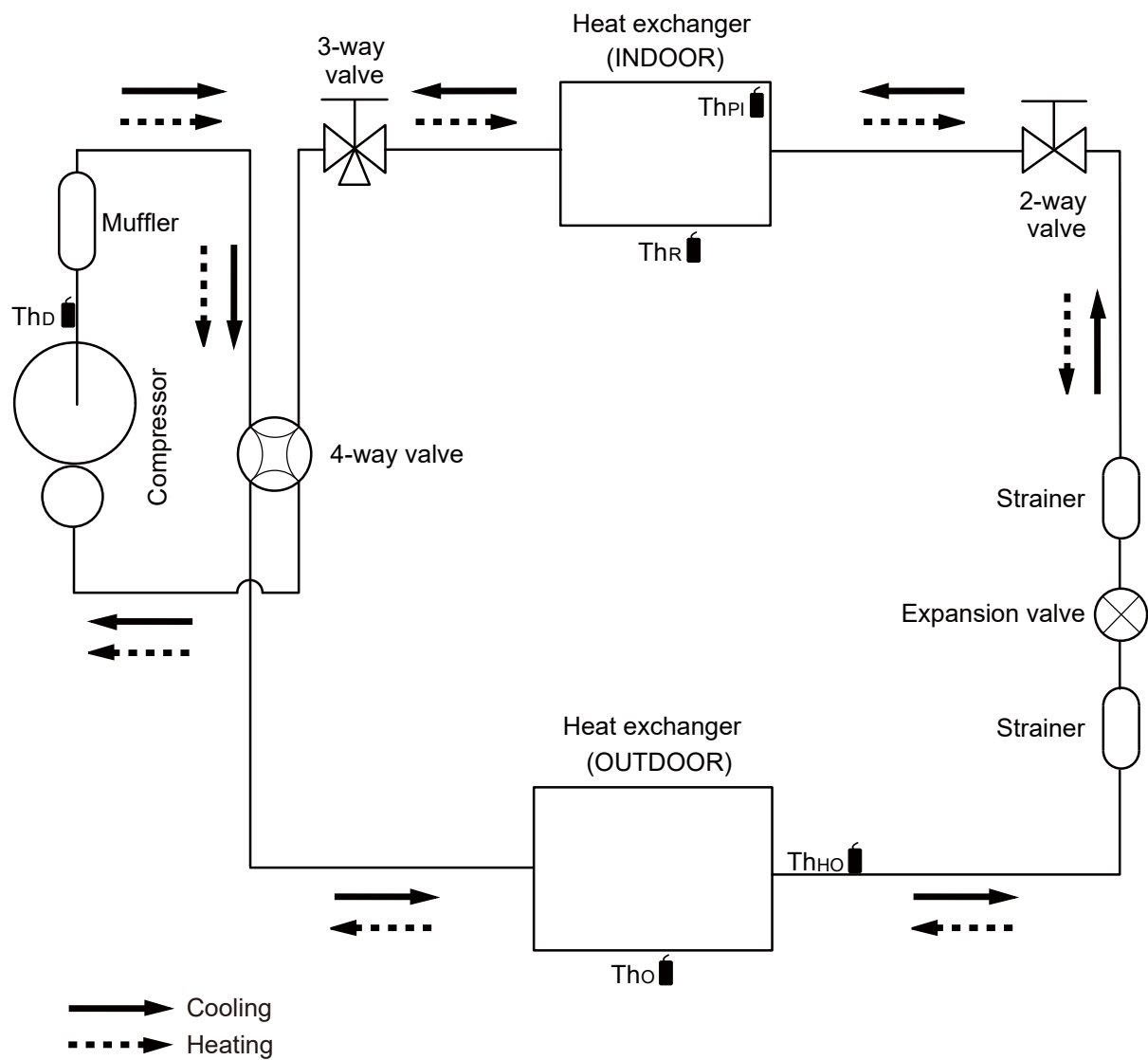


Bottom view



Side view (Bulb part)

Refrigerant circuit



Th_D : Thermistor (Discharge temperature)

Th_O : Thermistor (Outdoor temperature)

Th_{HO} : Thermistor (Heat exchanger out temperature)

Th_R : Thermistor (Room temperature)

Th_{PI} : Thermistor (Pipe temperature)

PCB circuit diagram

Models : ASYG07KPCA
ASYG09KPCA
ASYG12KPCA

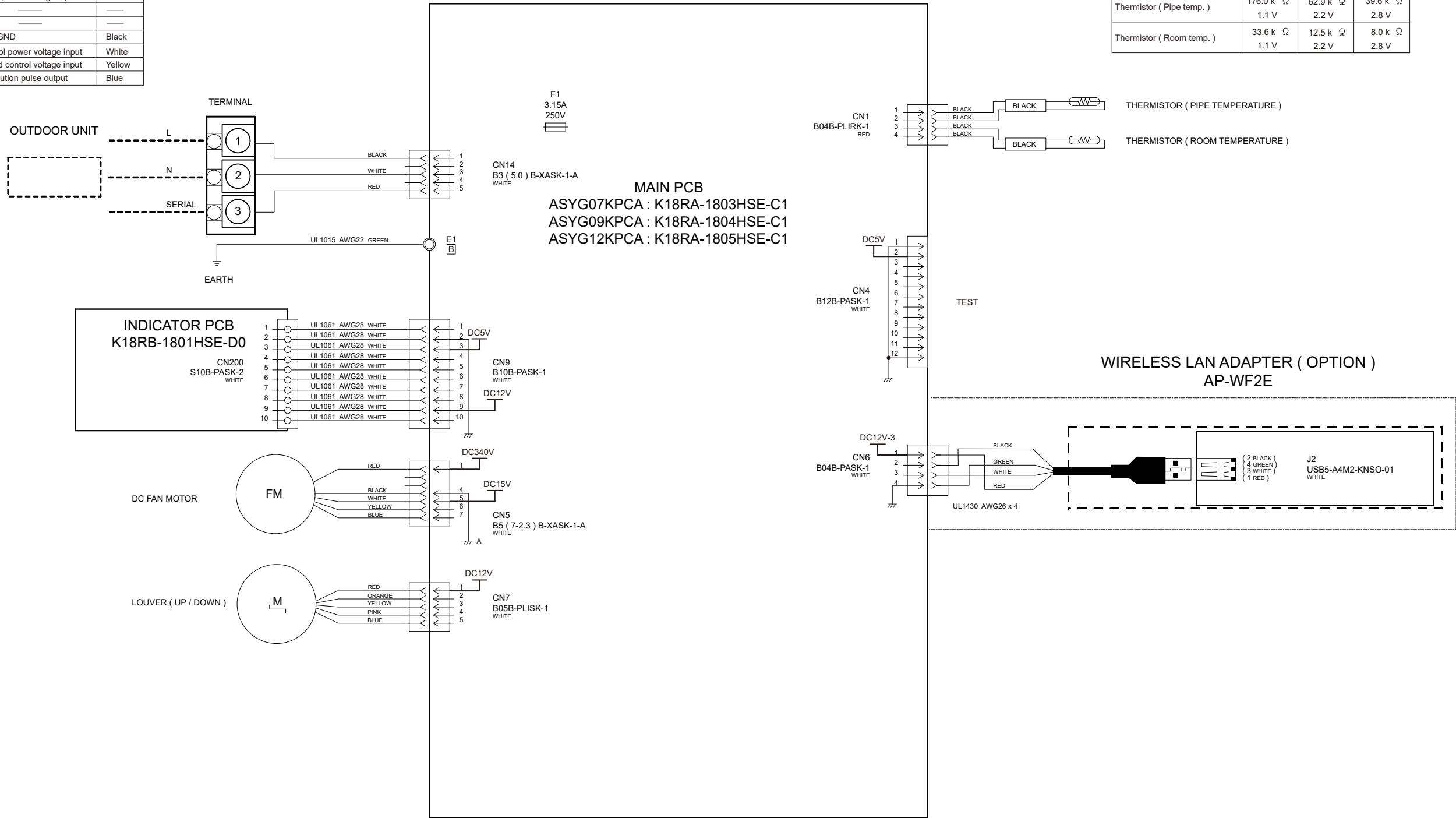
CONTROL UNIT
ASYG07KPCA : EZ-0180BHSE
ASYG09KPCA : EZ-0180CHSE
ASYG12KPCA : EZ-0180DHSE

CN5 DC Fan motor

Pin No.	Terminal code	Function of terminal	Lead wire color
1	Vm	Motor power voltage input	Red
2	—	—	—
3	—	—	—
4	GND	GND	Black
5	Vcc	Control power voltage input	White
6	Vsp	Speed control voltage input	Yellow
7	FG	Revolution pulse output	Blue

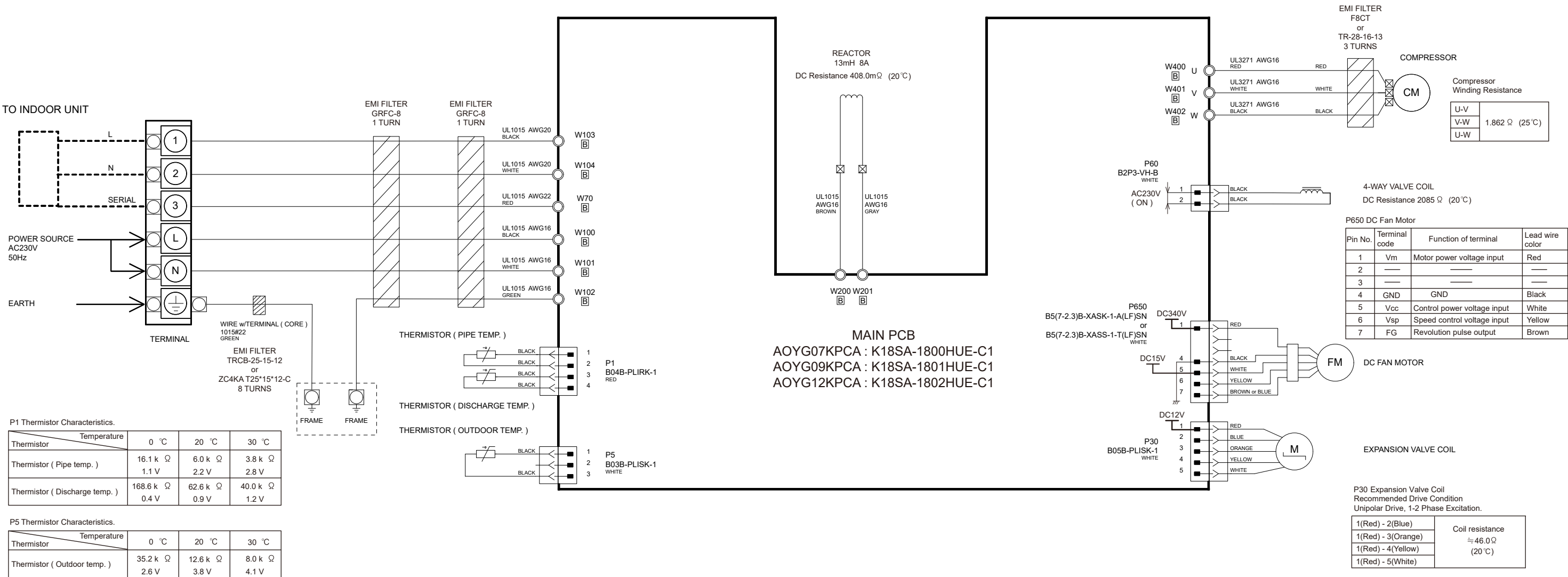
CN1 Thermistor Characteristics.

Thermistor	Temperature (0℃)	(20℃)	(30℃)
Thermistor (Pipe temp.)	176.0 k Ω 1.1 V	62.9 k Ω 2.2 V	39.6 k Ω 2.8 V
Thermistor (Room temp.)	33.6 k Ω 1.1 V	12.5 k Ω 2.2 V	8.0 k Ω 2.8 V



Models : AOYG07KPCA
AOYG09KPCA
AOYG12KPCA

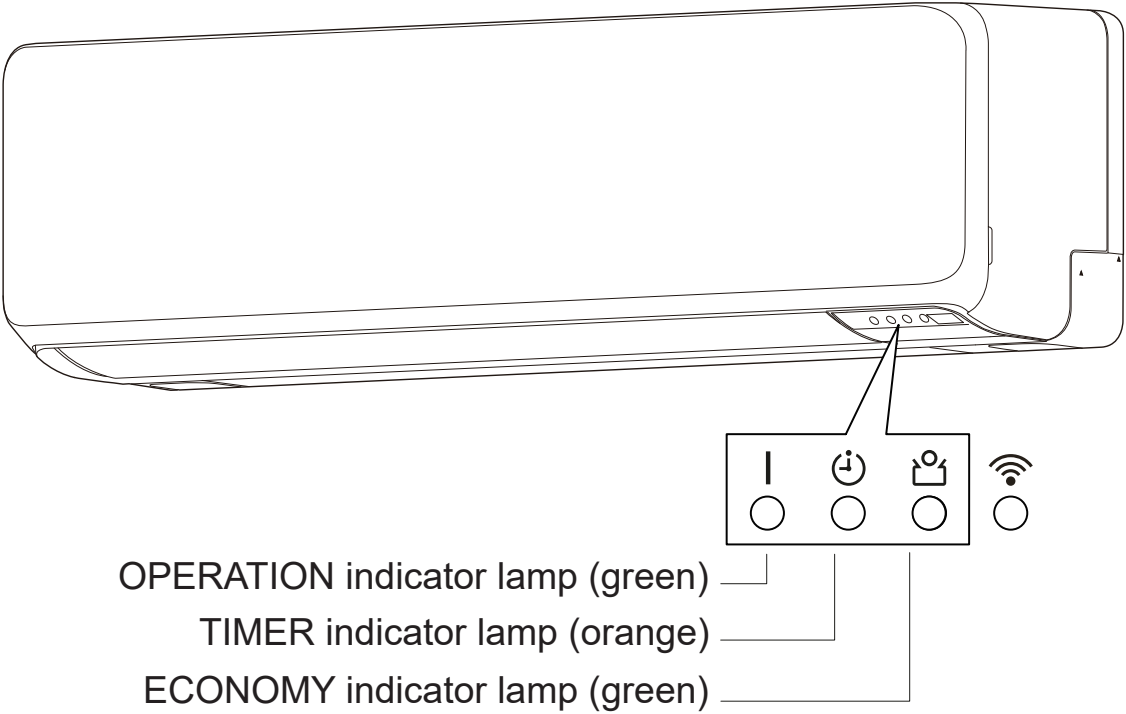
INVERTER ASSEMBLY
AOYG07KPCA : EZ-018GHUE
AOYG09KPCA : EZ-018HHUE
AOYG12KPCA : EZ-018KHUE



Error detection

If you use a wireless remote controller, the lamp on the photo detector unit will output error codes by way of blinking patterns. If you use a wired remote controller, error codes will appear on the remote control display. See the lamp blinking patterns and error codes in the table. An error display is displayed only during operation.

[Troubleshooting with the indoor unit display]



Error display			Error code	Description
OPERATION lamp (green)	TIMER lamp (orange)	ECONOMY lamp (green)		
●(1)	●(1)	◇	11	Serial communication error
●(1)	●(2)	◇	12	• Wired remote controller communication error • Server room control communication error
●(1)	●(5)	◇	15	Check run unfinished Automatic airflow adjustment error
●(1)	●(8)	◇	18	External communication error
●(2)	●(2)	◇	22	Indoor unit capacity error
●(2)	●(3)	◇	23	Combination error
●(2)	●(6)	◇	26	Indoor unit address setting error
●(2)	●(9)	◇	29	Connection unit number error in wired remote controller system
●(3)	●(1)	◇	31	Power supply interruption error
●(3)	●(2)	◇	32	Indoor unit PCB model information error
●(3)	●(3)	◇	33	Indoor unit motor electricity consumption detection error
●(3)	●(5)	◇	35	Manual auto switch error
●(3)	●(9)	◇	39	Indoor unit power supply error for fan motor
●(3)	●(10)	◇	3A	Indoor unit communication circuit (wired remote controller) error
●(4)	●(1)	◇	41	Room temp. sensor error

Display mode ● : 0.5s ON / 0.5s OFF
 ◇ : 0.1s ON / 0.1s OFF
 () : Number of flashing

Error display			Error code	Description
OPERATION lamp (green)	TIMER lamp (orange)	ECONOMY lamp (green)		
●(4)	●(2)	◇	42	Indoor unit heat ex. middle temp. sensor error
●(5)	●(1)	◇	51	Indoor unit fan motor error
●(5)	●(15)	◇	5U	Indoor unit error
●(6)	●(2)	◇	62	Outdoor unit main PCB model information error or communication error
●(6)	●(3)	◇	63	Inverter error
●(6)	●(4)	◇	64	Active filter error, PFC circuit error
●(6)	●(5)	◇	65	Trip terminal L error
●(6)	●(8)	◇	68	Outdoor unit rush current limiting resistor temp. rise error
●(6)	●(10)	◇	6A	Display PCB microcomputers communication error
●(7)	●(1)	◇	71	Discharge temp. sensor error
●(7)	●(2)	◇	72	Compressor temp. sensor error
●(7)	●(3)	◇	73	Outdoor unit Heat Ex. liquid temp. sensor error
●(7)	●(4)	◇	74	Outdoor temp. sensor error
●(7)	●(5)	◇	75	Suction Gas temp. sensor error
●(7)	●(6)	◇	76	• 2-way valve temp. sensor error • 3-way valve temp. sensor error
●(7)	●(7)	◇	77	Heat sink temp. sensor error

Display mode ● : 0.5s ON / 0.5s OFF

◇ : 0.1s ON / 0.1s OFF

() : Number of flashing

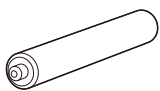
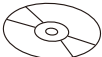
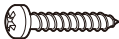
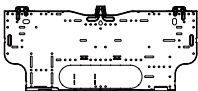
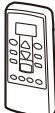
Error display			Error code	Description
OPERATION lamp (green)	TIMER lamp (orange)	ECONOMY lamp (green)		
●(8)	●(2)	◇	82	• Sub-cool Heat Ex. gas inlet temp. sensor error • Sub-cool Heat Ex. gas outlet temp. sensor error
●(8)	●(3)	◇	83	Liquid pipe temp. sensor error
●(8)	●(4)	◇	84	Current sensor error
●(8)	●(6)	◇	86	• Discharge pressure sensor error • Suction pressure sensor error • High pressure switch error
●(9)	●(4)	◇	94	Trip detection
●(9)	●(5)	◇	95	Compressor rotor position detection error (permanent stop)
●(9)	●(7)	◇	97	Outdoor unit fan motor 1 error
●(9)	●(8)	◇	98	Outdoor unit fan motor 2 error
●(9)	●(9)	◇	99	4-way valve error
●(10)	●(1)	◇	A1	Discharge temp. error
●(10)	●(3)	◇	A3	Compressor temp. error
●(10)	●(4)	◇	A4	High pressure error
●(10)	●(5)	◇	A5	Low pressure error

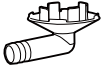
Display mode ● : 0.5s ON / 0.5s OFF

◇ : 0.1s ON / 0.1s OFF

() : Number of flashing

Accessories

Part name	Exterior	Q'ty	Part name	Exterior	Q'ty
Operating manual		1	Battery		2
Operating manual (CD-ROM)		1	Cloth tape		1
Installation manual		1	Tapping screw		5
Wall hook bracket		1	Remote controller		1

Part name	Exterior	Q'ty	Part name	Exterior	Q'ty
Drain pipe		1			

Optional parts

Exterior	Part name	Model name	Summary
	Remote controller holder	UTZ-RXLA	Wall or pillar mountable, and holds the wireless remote controller.
	Wireless LAN adapter	UTY-TFSXF2	Remotely manage an air conditioning system using mobile devices such as smartphones and tablets.

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