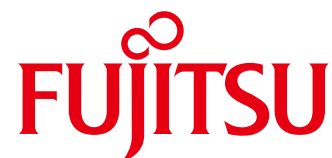


SPLIT TYPE  
ROOM AIR CONDITIONER  
WALL MOUNTED TYPE



# SERVICE MANUAL



Indoor unit	Outdoor unit
ASYG12LLCE	AOYG12LLCE

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# SPECIFICATIONS

## ELECTRICAL DATA

INDOOR UNIT		ASYG12LLCE
OUTDOOR UNIT		AOYG12LLCE
POWER SOURCE		230 V 50 Hz Single phase
Cooling	CAPACITY	3.40 kW
	POWER CONSUMPTION	1.08 kW
	EER	3.15 kW/kW
	RUNNING CURRENT	5.2 A
	MAXIMUM CURRENT	6.5 A
	MOISTURE REMOVAL	1.8 L/h
Heating	CAPACITY	4.00 kW
	POWER CONSUMPTION	1.13 kW
	COP	3.54 kW/kW
	RUNNING CURRENT	5.4 A
	MAXIMUM CURRENT	9.0 A

## DIMENSIONS

INDOOR UNIT	H x W x D	262 x 820 x 206 mm
OUTDOOR UNIT	H x W x D	535 x 663 x 293 mm

## WEIGHT

INDOOR UNIT	Net / Shipping	7.0 kg / 9.0 kg
OUTDOOR UNIT	Net / Shipping	26 kg / 29 kg

## FAN MOTOR

INDOOR UNIT'S Discrimination		MFD-12BYW
OUTDOOR UNIT'S Discrimination		MFE-22AVAL
INDOOR UNIT Cooling	High	1,320 rpm
	Medium	1,120 rpm
	Low	840 rpm
	Quiet	700 rpm
INDOOR UNIT Heating	High	1,360 rpm
	Medium	1,120 rpm
	Low	900 rpm
	Quiet	700 rpm
OUTDOOR UNIT Cooling		860 rpm
OUTDOOR UNIT Heating		760 rpm

## AIRFLOW

INDOOR UNIT Cooling	High	720 m <sup>3</sup> /h
	Medium	600 m <sup>3</sup> /h
	Low	420 m <sup>3</sup> /h
	Quiet	325 m <sup>3</sup> /h
INDOOR UNIT Heating	High	740 m <sup>3</sup> /h
	Medium	600 m <sup>3</sup> /h
	Low	450 m <sup>3</sup> /h
	Quiet	325 m <sup>3</sup> /h
OUTDOOR UNIT Cooling		1,830 m <sup>3</sup> /h
OUTDOOR UNIT Heating		1,600 m <sup>3</sup> /h

## NOISE LEVEL

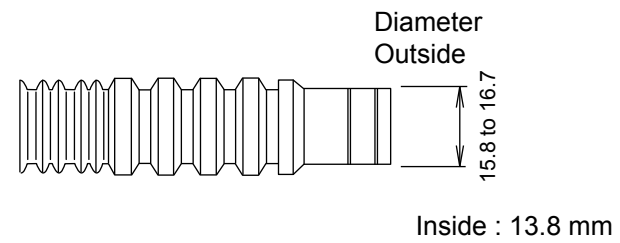
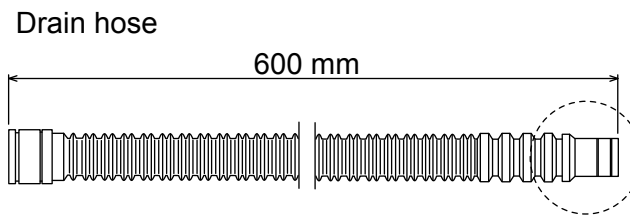
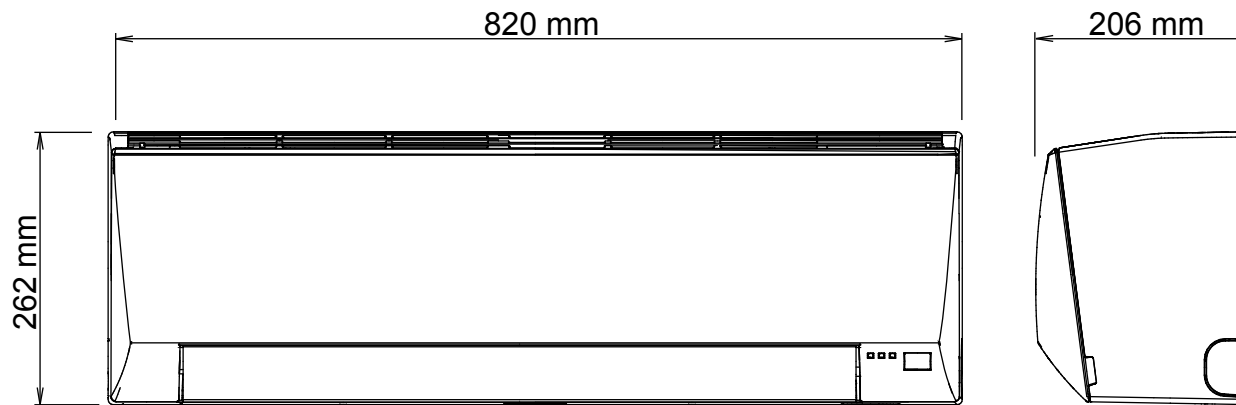
INDOOR UNIT Cooling	High	43 dB	
	Medium	38 dB	
	Low	33 dB	
OUTDOOR UNIT Heating	High	43 dB	
	Medium	38 dB	
	Low	33 dB	
		Quiet	22 dB
OUTDOOR UNIT Cooling		50 dB	
OUTDOOR UNIT Heating		51 dB	

## COMPRESSOR AND REFRIGERANT

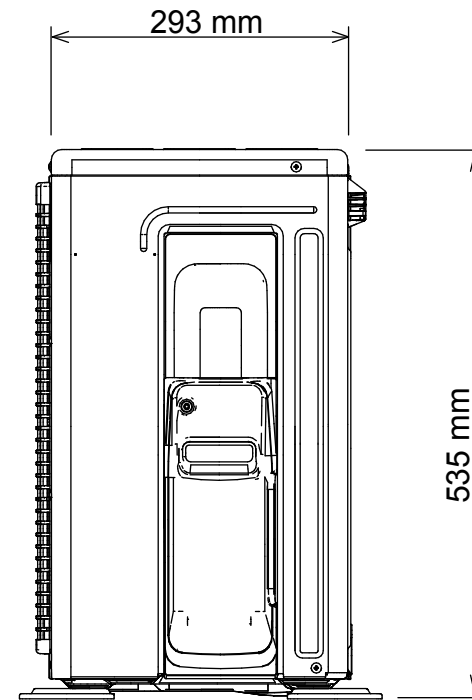
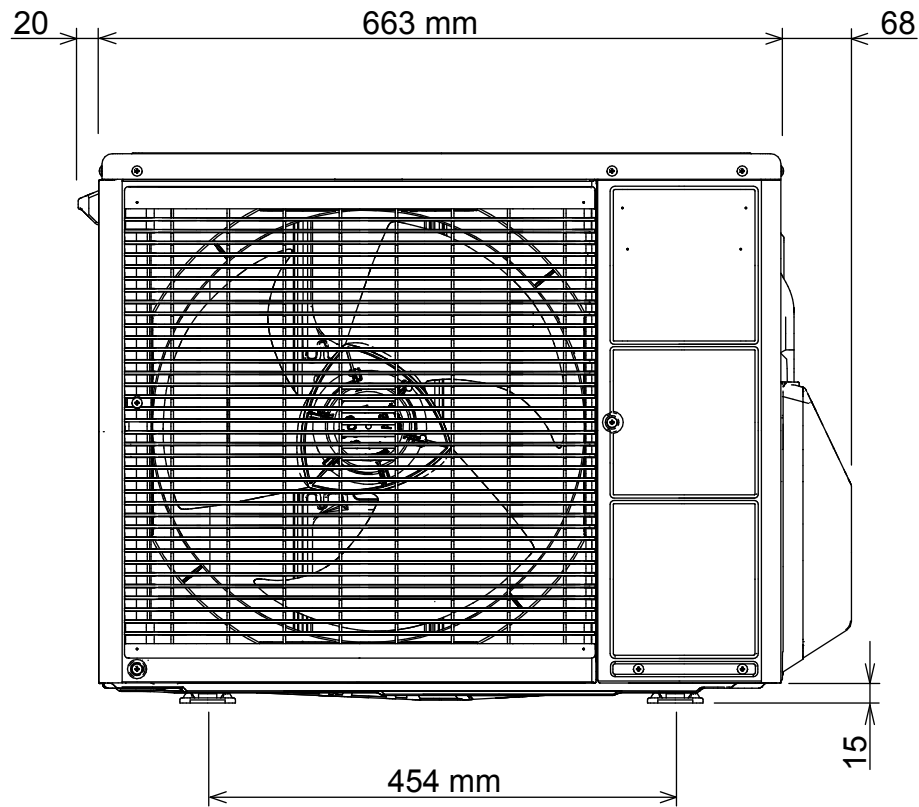
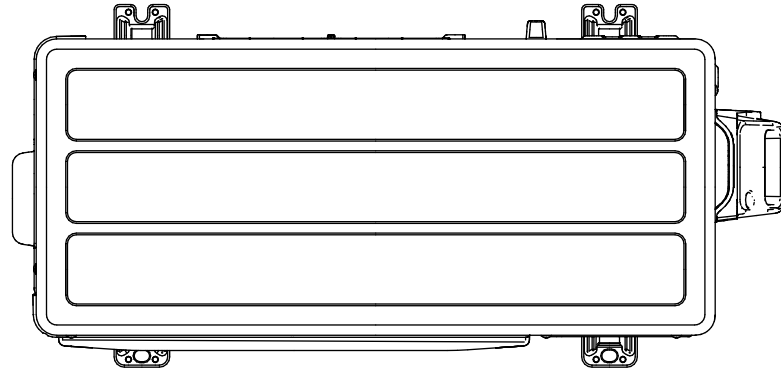
COMPRESSOR TYPE	Hermetic type, 4 pole, 3 phase, DC inverter motor, Rotary	
DISCRIMINATION	ASM98D10UFZA	
WEIGHT (with oil)	8.9 kg	
PRECHARGED REFRIGERANT	850 g	
REFRIGERANT TYPE	R410A	
FULL CHARGE	Pipe length 15 m	850 g
	20 m	950 g
ADDITIONAL CHARGE	20 g/m	
MAXIMUM PIPING HEIGHT	15m	

# DIMENSIONS

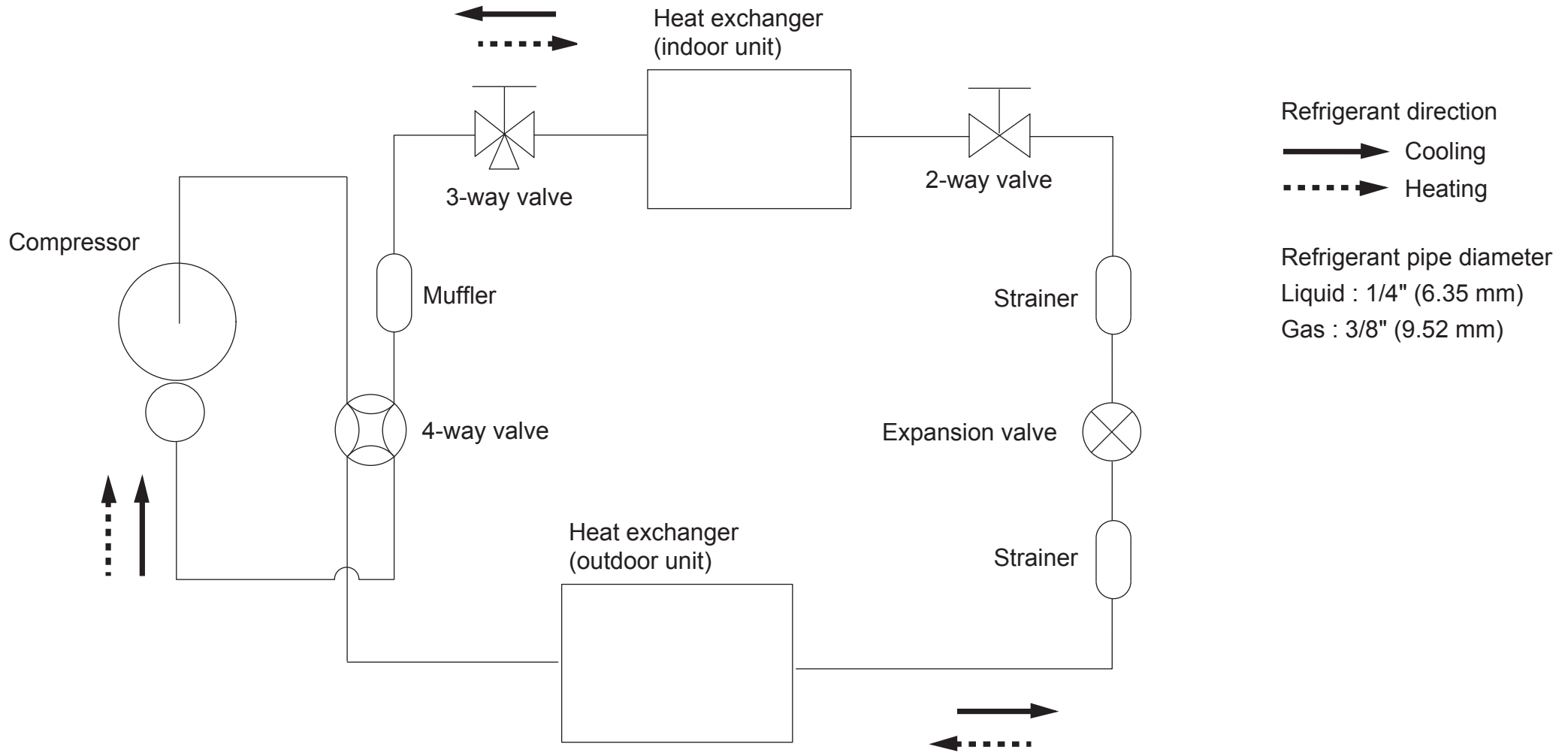
## INDOOR UNIT



# OUTDOOR UNIT



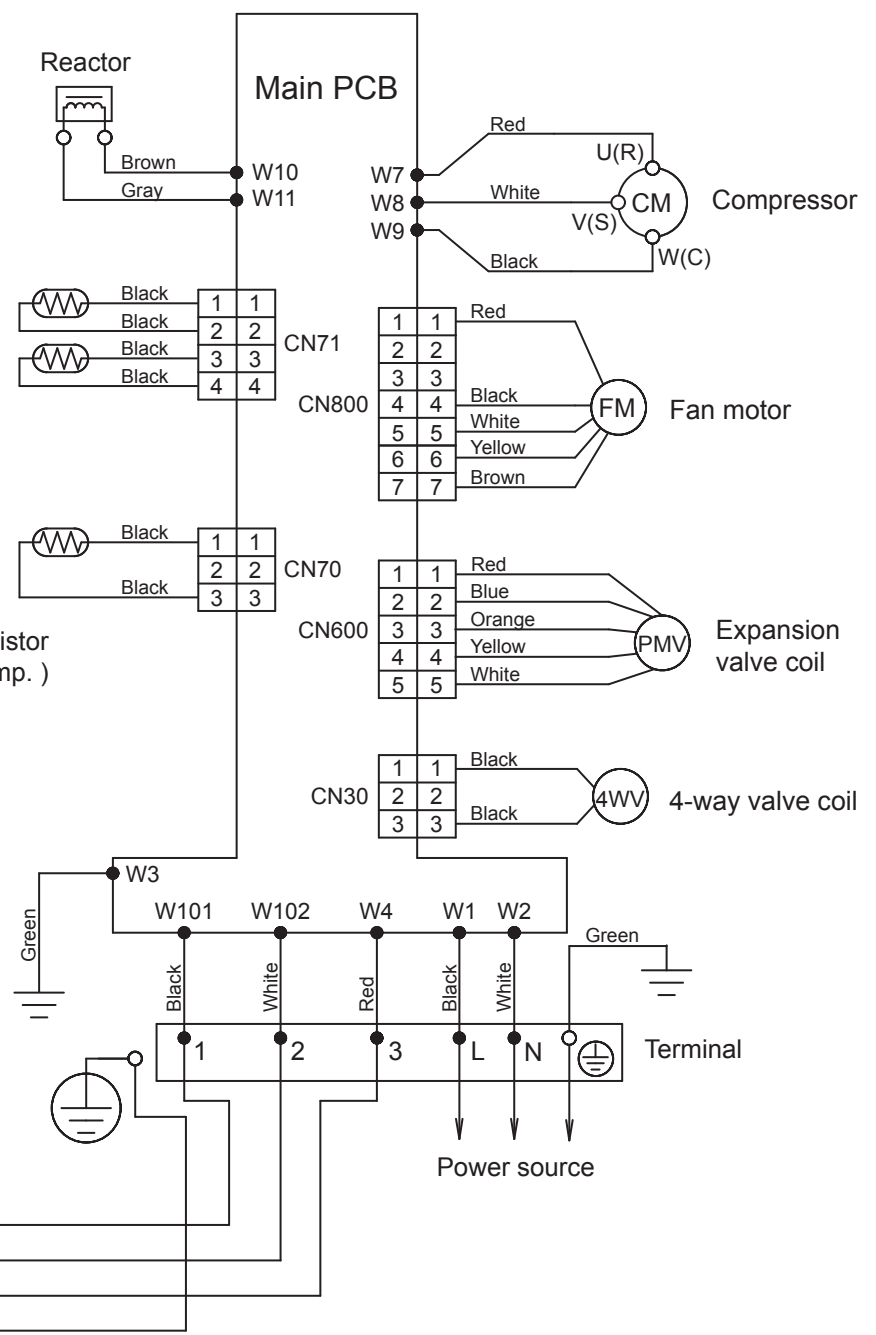
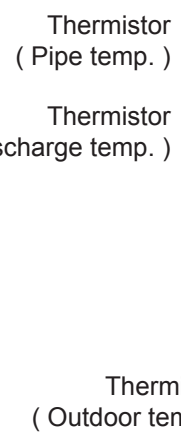
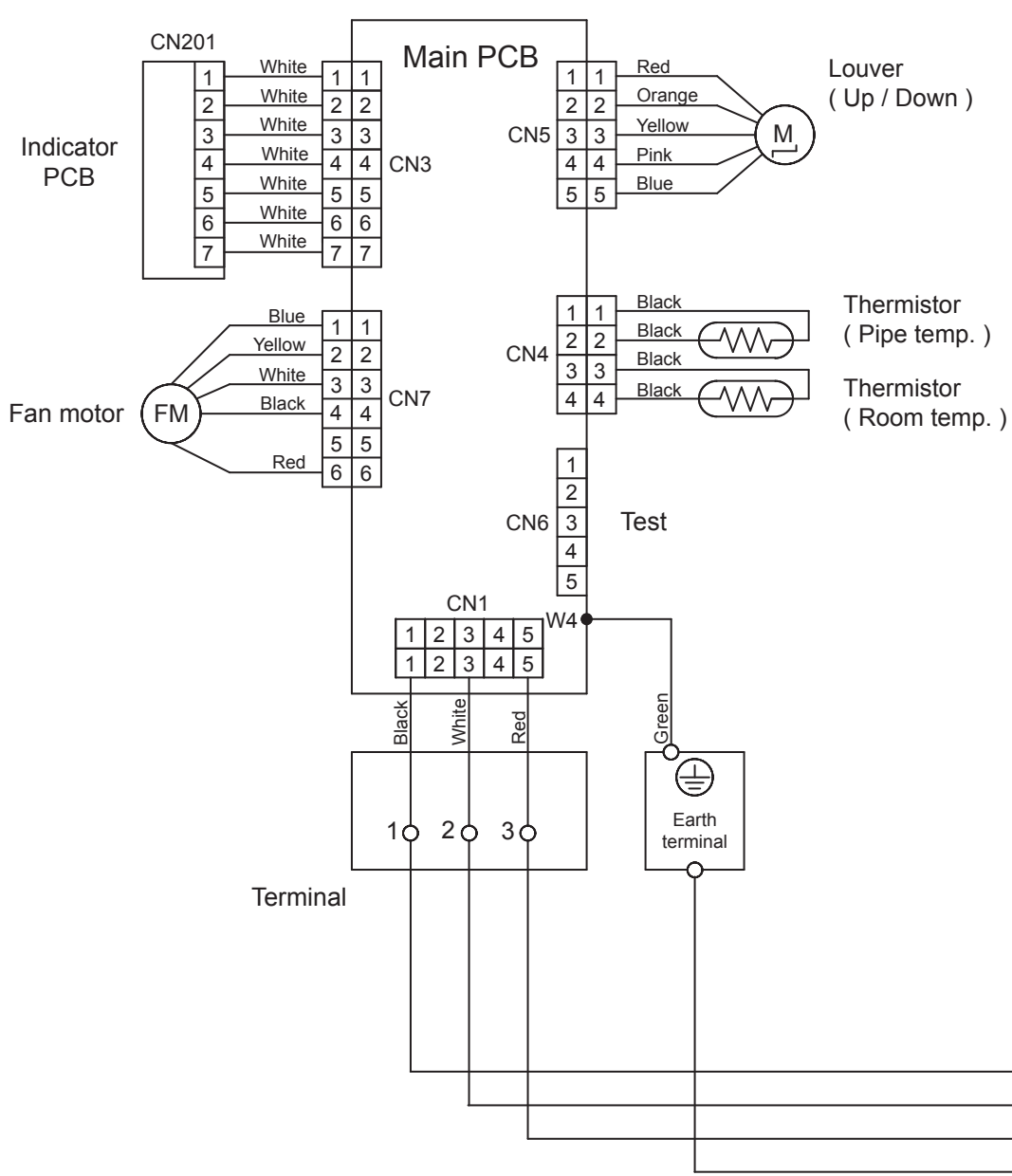
# REFRIGERANT SYSTEM DIAGRAM



# CIRCUIT DIAGRAM

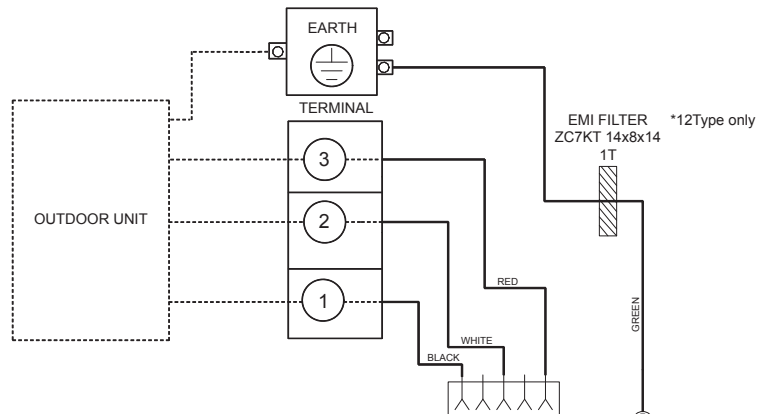
# OUTDOOR UNIT

## INDOOR UNIT



# PCB CIRCUIT DIAGRAM

CONTROL UNIT  
ASYG12LLCE : EZ-0131LHSE



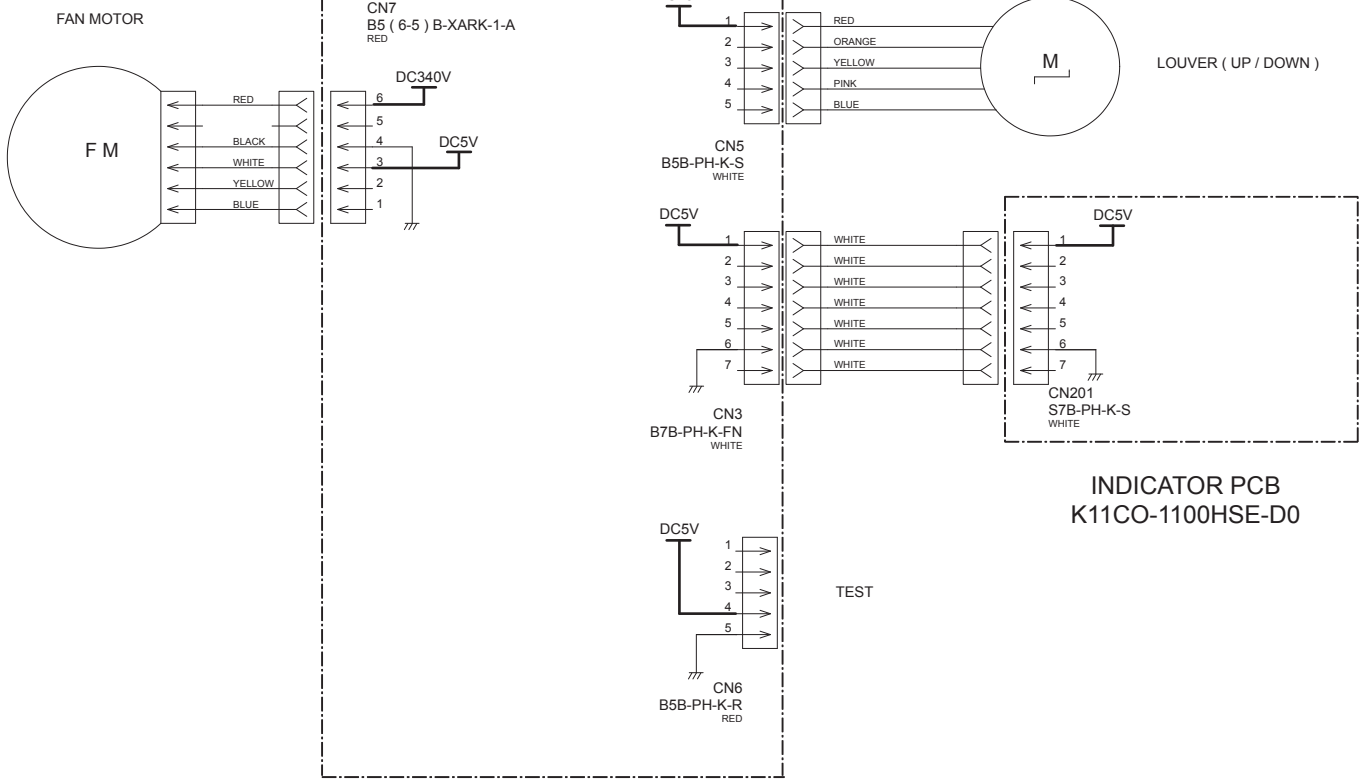
MAIN PCB  
ASYG12LLCE : K11CN-1304HSE-C1

CN4  
Thermistor Characteristics.

Thermistor	Temperature ( 0°C )	(20°C )	(30°C )
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

CN7

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



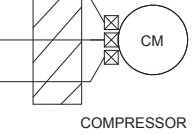
# INVERTER ASSEMBLY

## AOYG12LLCE : EZ-0131RHUE

Compressor Winding resistance

U-V	1.30 Ω (20°C)
V-W	
U-W	

EMI FILTER  
ESD-R-16C e.t.c.  
2 TURNS



4-WAY VALVE COIL  
DC Resistance 1320 Ω ± 10% (20°C)



CN600 Expansion valve coil recommended drive condition  
Unipolar drive, 1-2 phase excitation.

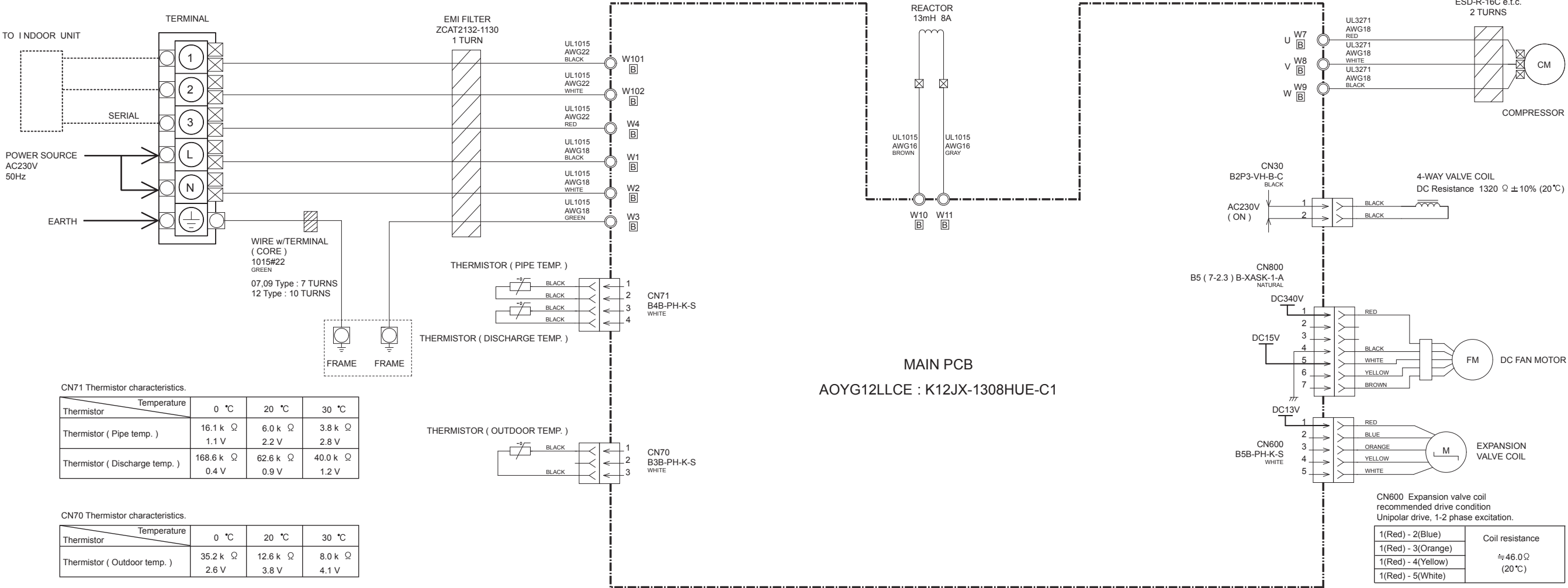
1(Red) - 2(Blue)	Coil resistance ≈ 46.0 Ω (20°C)
1(Red) - 3(Orange)	
1(Red) - 4(Yellow)	
1(Red) - 5(White)	

CN800 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	Brown

### MAIN PCB

#### AOYG12LLCE : K12JX-1308HUE-C1



CN71 Thermistor characteristics.

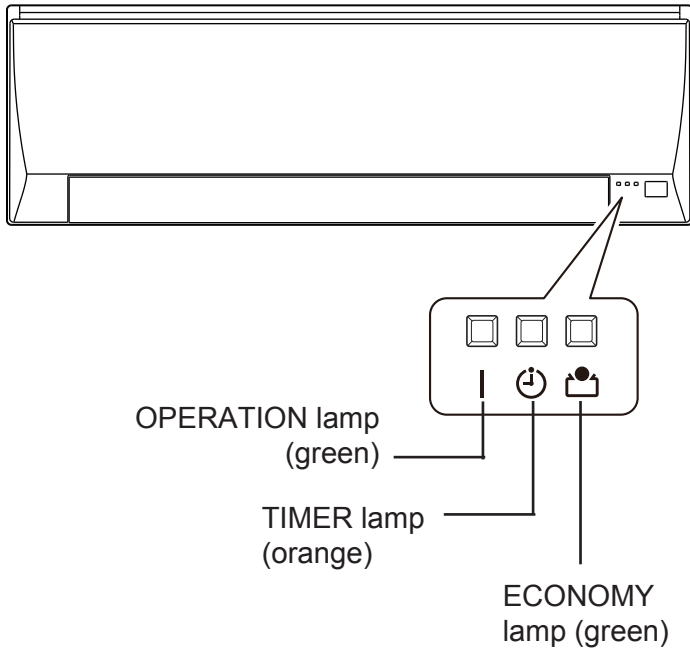
Thermistor	Temperature		
	0 °C	20 °C	30 °C
Thermistor ( Pipe temp. )	16.1 k Ω	6.0 k Ω	3.8 k Ω
	1.1 V	2.2 V	2.8 V
Thermistor ( Discharge temp. )	168.6 k Ω	62.6 k Ω	40.0 k Ω
	0.4 V	0.9 V	1.2 V

CN70 Thermistor characteristics.

Thermistor	Temperature		
	0 °C	20 °C	30 °C
Thermistor ( Outdoor temp. )	35.2 k Ω	12.6 k Ω	8.0 k Ω
	2.6 V	3.8 V	4.1 V



# ERROR DETECTION



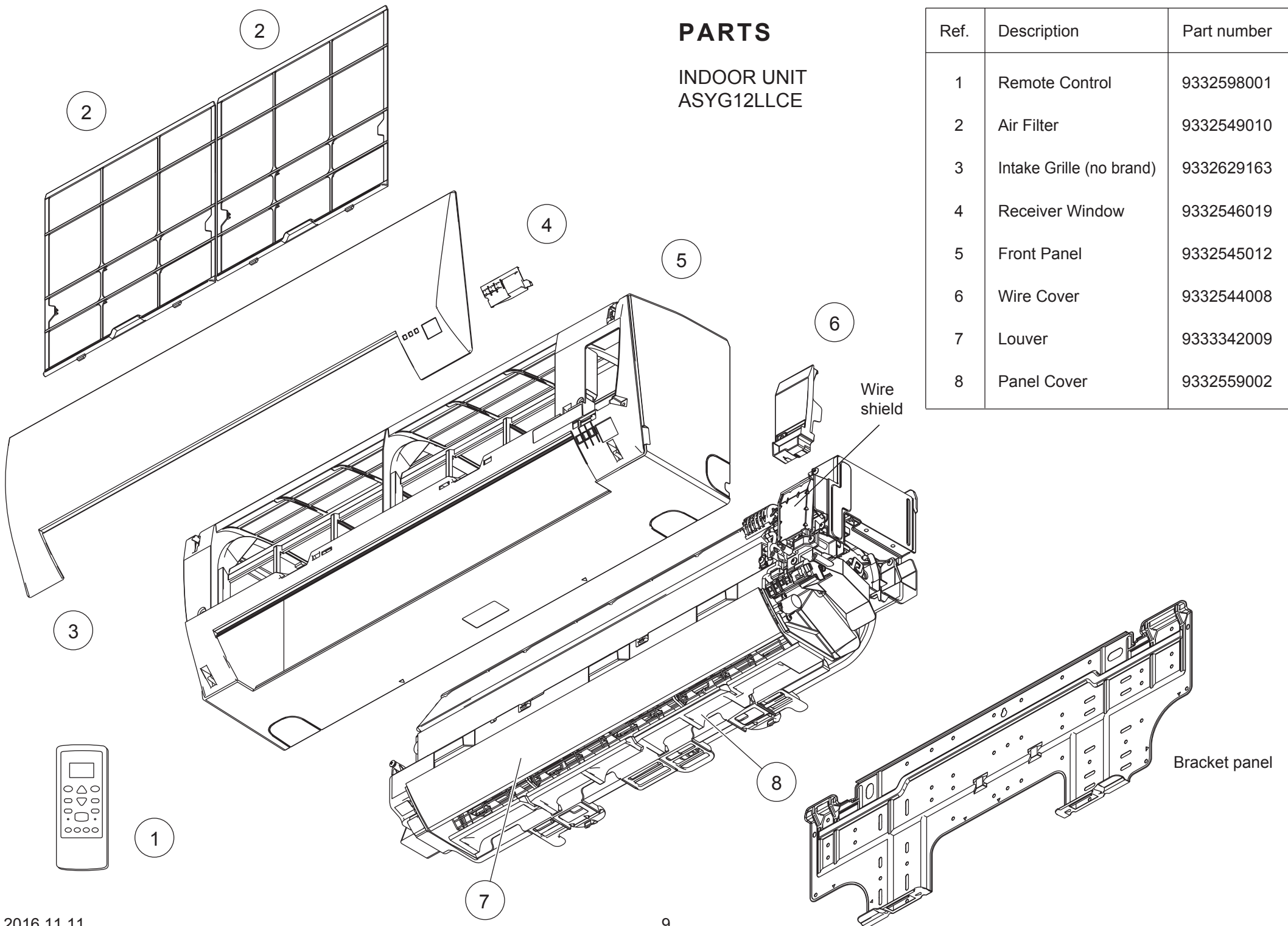
	OPERATION	TIMER	ECONOMY
Serial communication error	1 flash	1 flash	Rapid flash (0.1s on / 0.1s off)
Indoor unit PCB model information error	3	2	
Manual auto switch error	3	5	
Room temp. sensor error	4	1	
Indoor unit Heat Ex. Middle temp.sensor error	4	2	
Indoor unit fan motor error	5	1	
Indoor unit error	5	15	
Outdoor unit main PCB model information error or communication error	6	2	
Inverter error	6	3	
Active filter error, PFC circuit error	6	4	
Trip terminal L error	6	5	
Display PCB microcomputers communication error	6	10	
Discharge temp. sensor error	7	1	
Outdoor unit Heat Ex. liquid temp. sensor error	7	3	
Outdoor temp. sensor error	7	4	
Current sensor error	8	4	
Trip detection	9	4	
Compressor rotor position detection error	9	5	
4-way valve error	9	9	
Discharge temp. error	10	1	

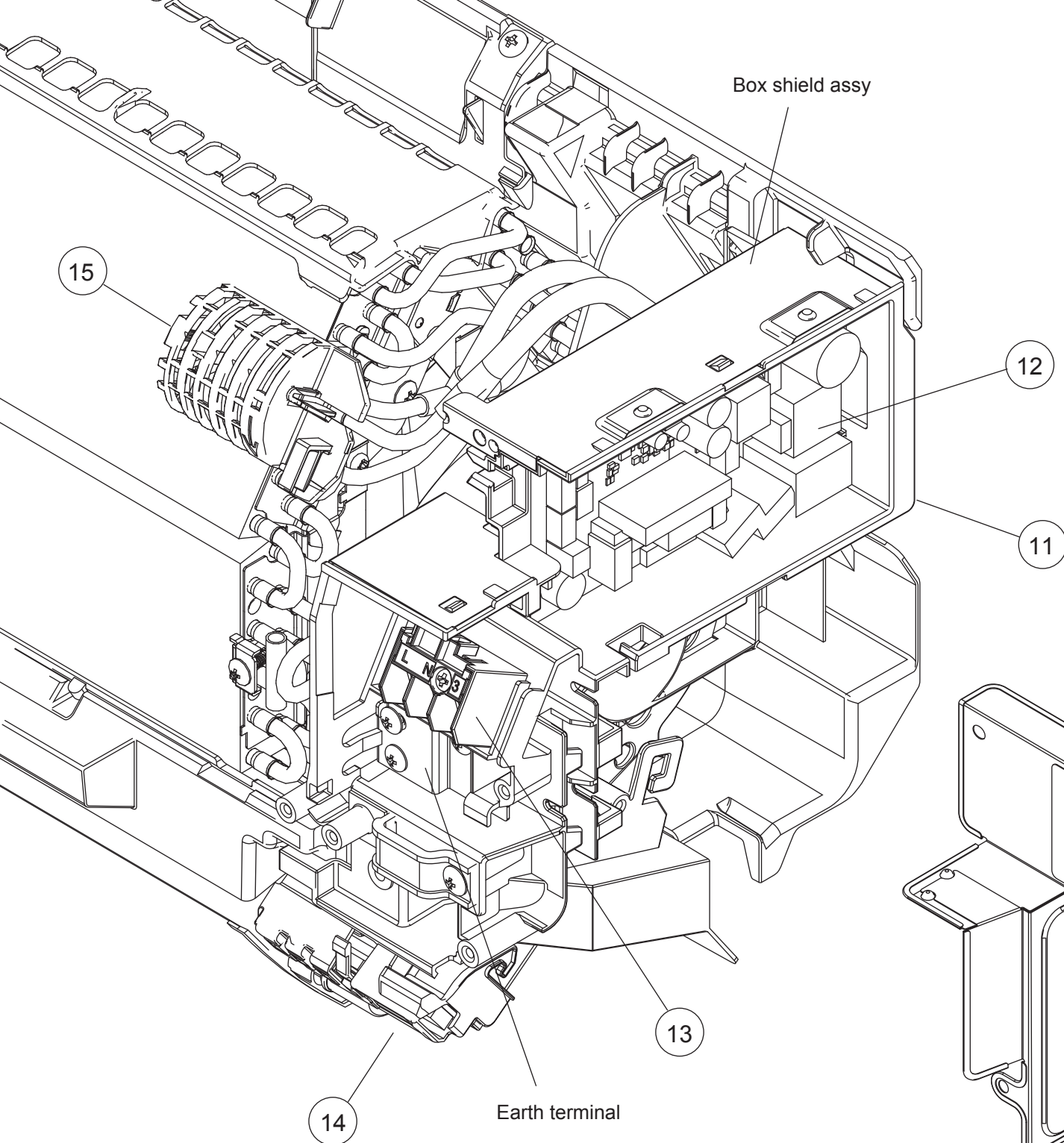
(0.5s on / 0.5s off)

# PARTS

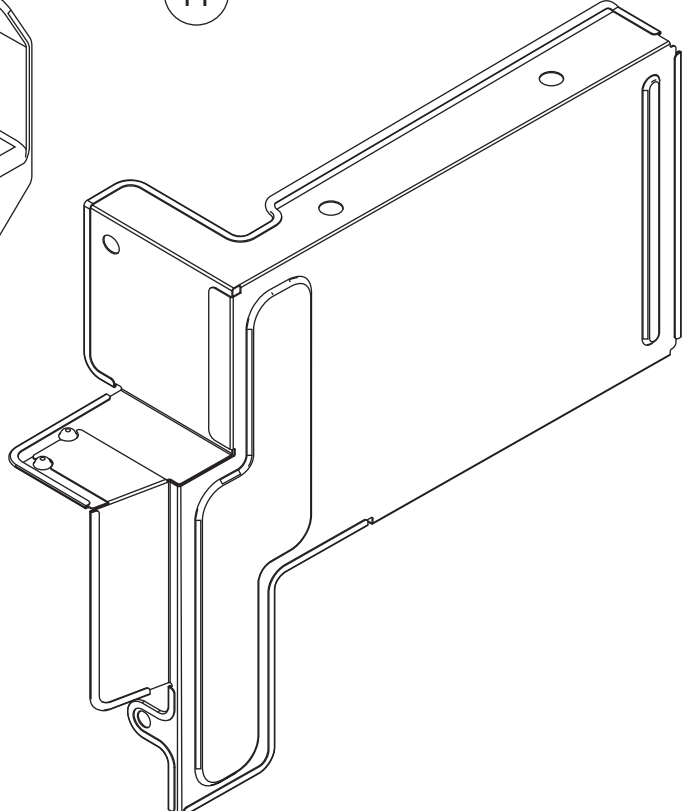
INDOOR UNIT  
ASYG12LLCE

Ref.	Description	Part number
1	Remote Control	9332598001
2	Air Filter	9332549010
3	Intake Grille (no brand)	9332629163
4	Receiver Window	9332546019
5	Front Panel	9332545012
6	Wire Cover	9332544008
7	Louver	9333342009
8	Panel Cover	9332559002





Ref.	Description	Part number
11	Control Box	9332542004
12	Main PCB	9709170199
13	Terminal	9900720001
14	Display Assy	9709173015
15	Room Thermistor Holder	9316895003
--	Thermistor Assy	9900938017

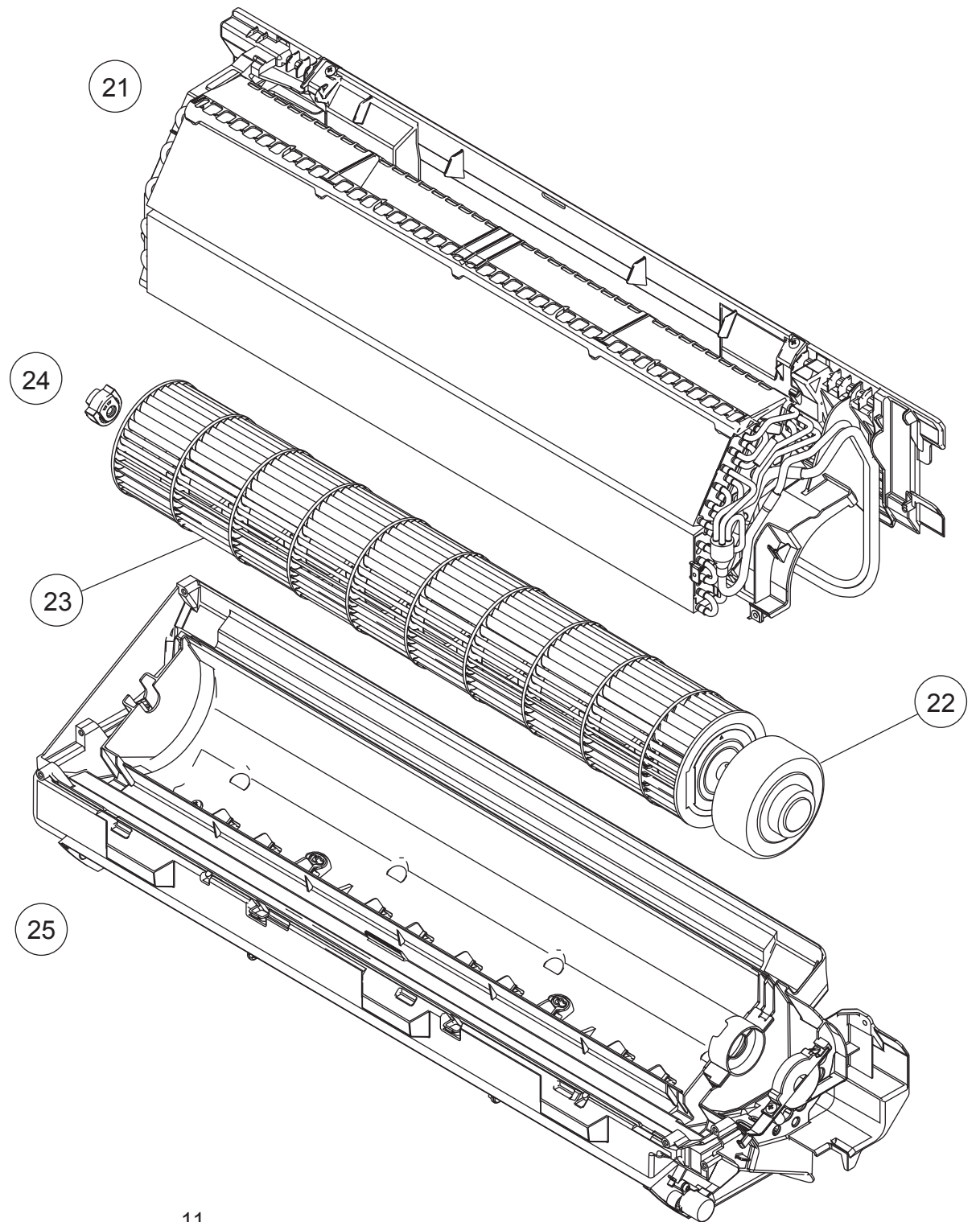


Cover shield

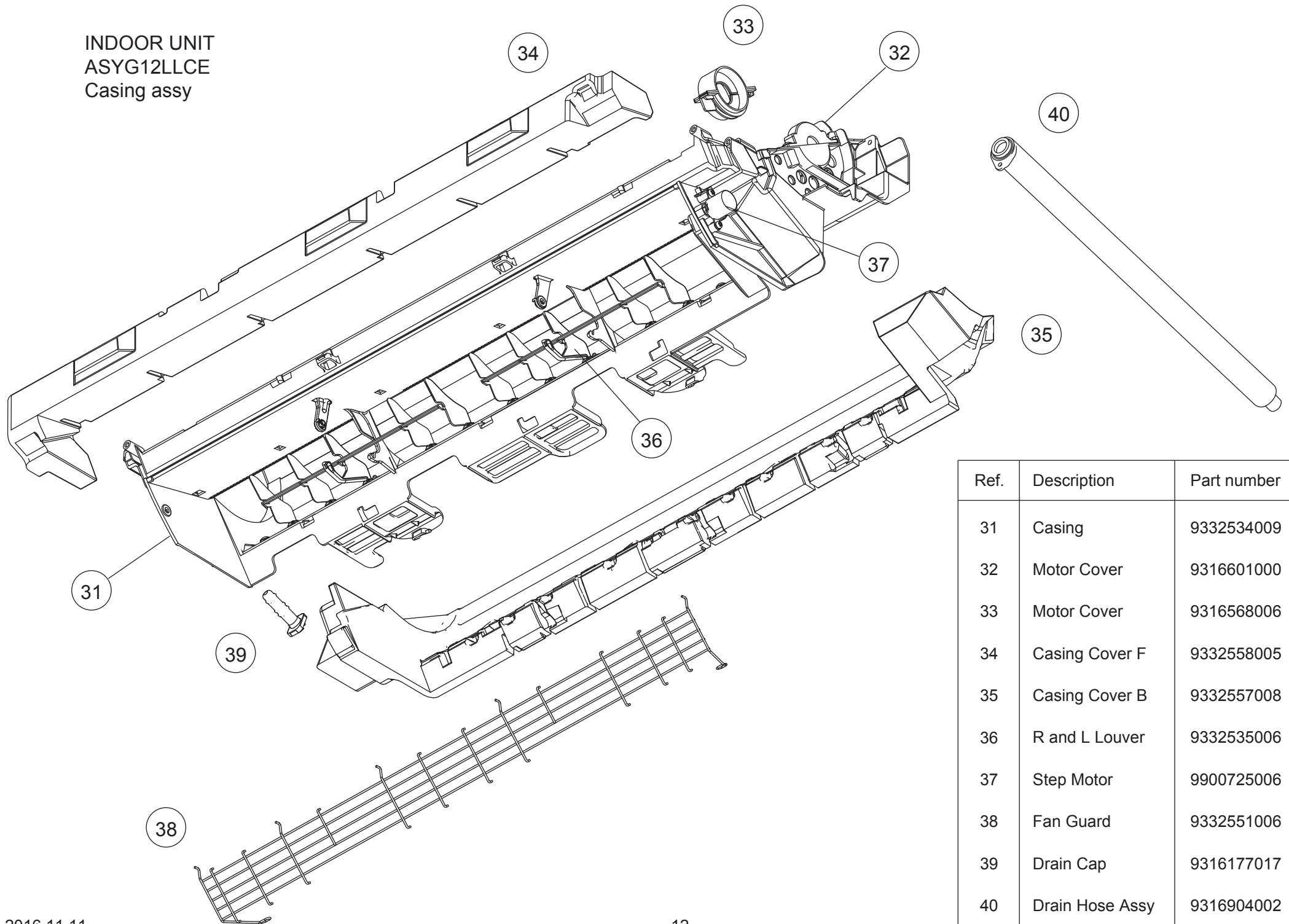
INDOOR UNIT  
ASYG12LLCE  
Control box

INDOOR UNIT  
 ASYG12LLCE  
 Evaporator  
 Fan

Ref.	Description	Part number
21	Evaporator Total Assy	9316893207
22	Fan Motor	9603180003
23	Crossflow Fan Assy	9316830004
24	Bearing C Assy	9306628017
25	Casing Assy	9332613018



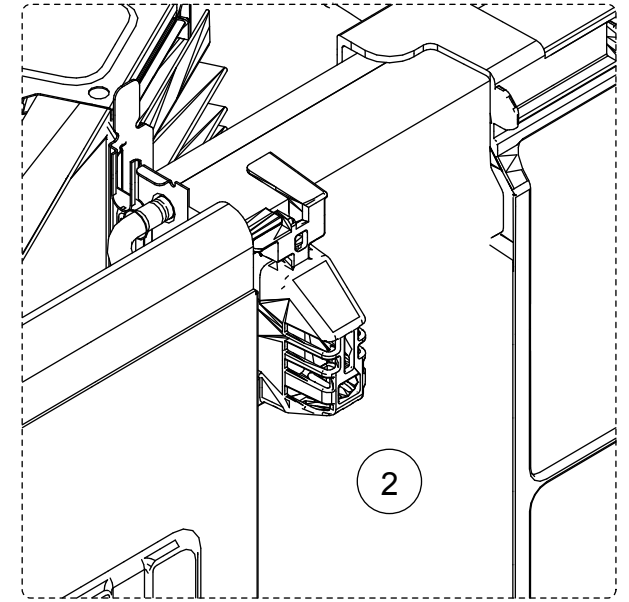
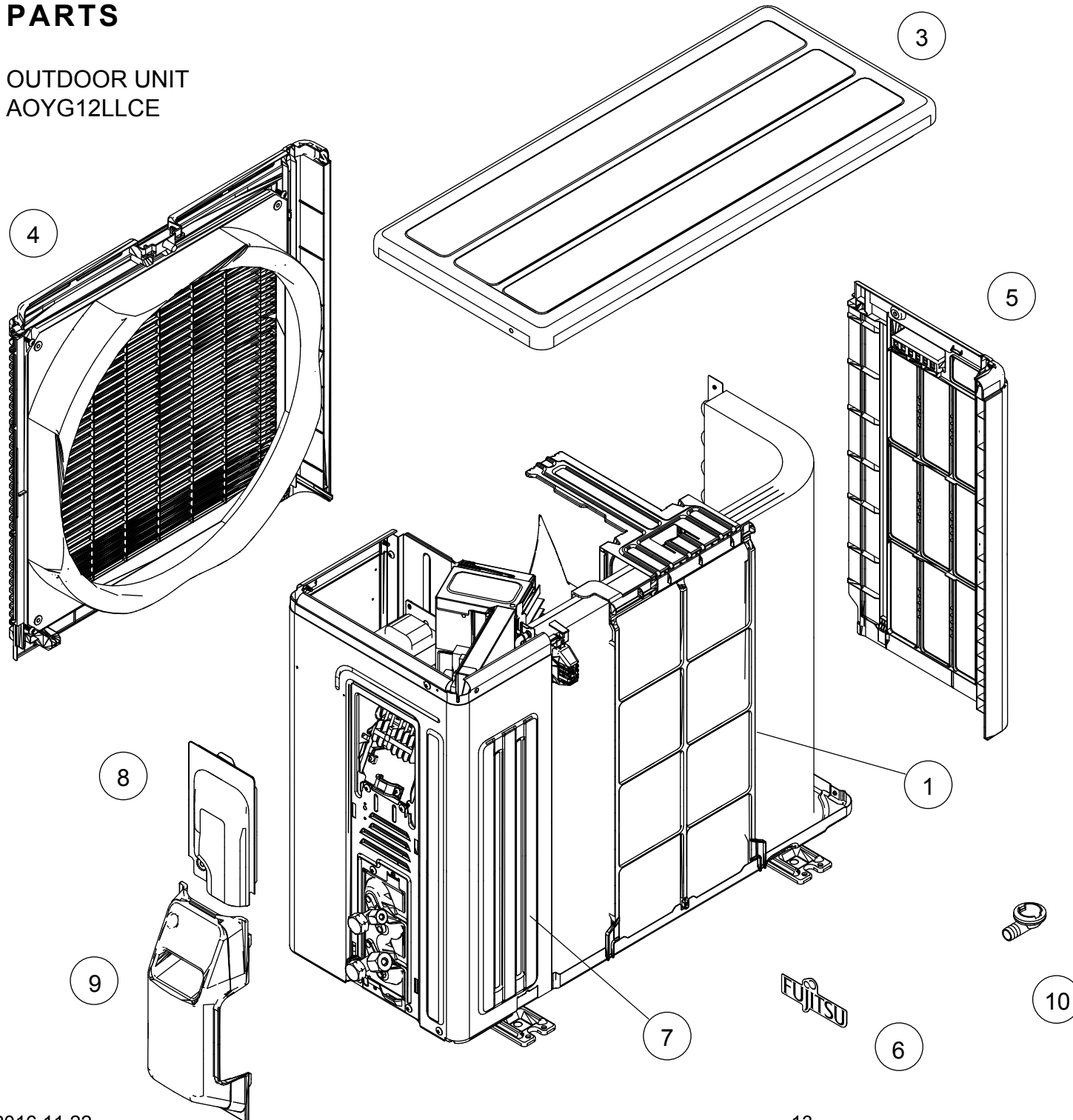
INDOOR UNIT  
ASYG12LLCE  
Casing assy



Ref.	Description	Part number
31	Casing	9332534009
32	Motor Cover	9316601000
33	Motor Cover	9316568006
34	Casing Cover F	9332558005
35	Casing Cover B	9332557008
36	R and L Louver	9332535006
37	Step Motor	9900725006
38	Fan Guard	9332551006
39	Drain Cap	9316177017
40	Drain Hose Assy	9316904002

# PARTS

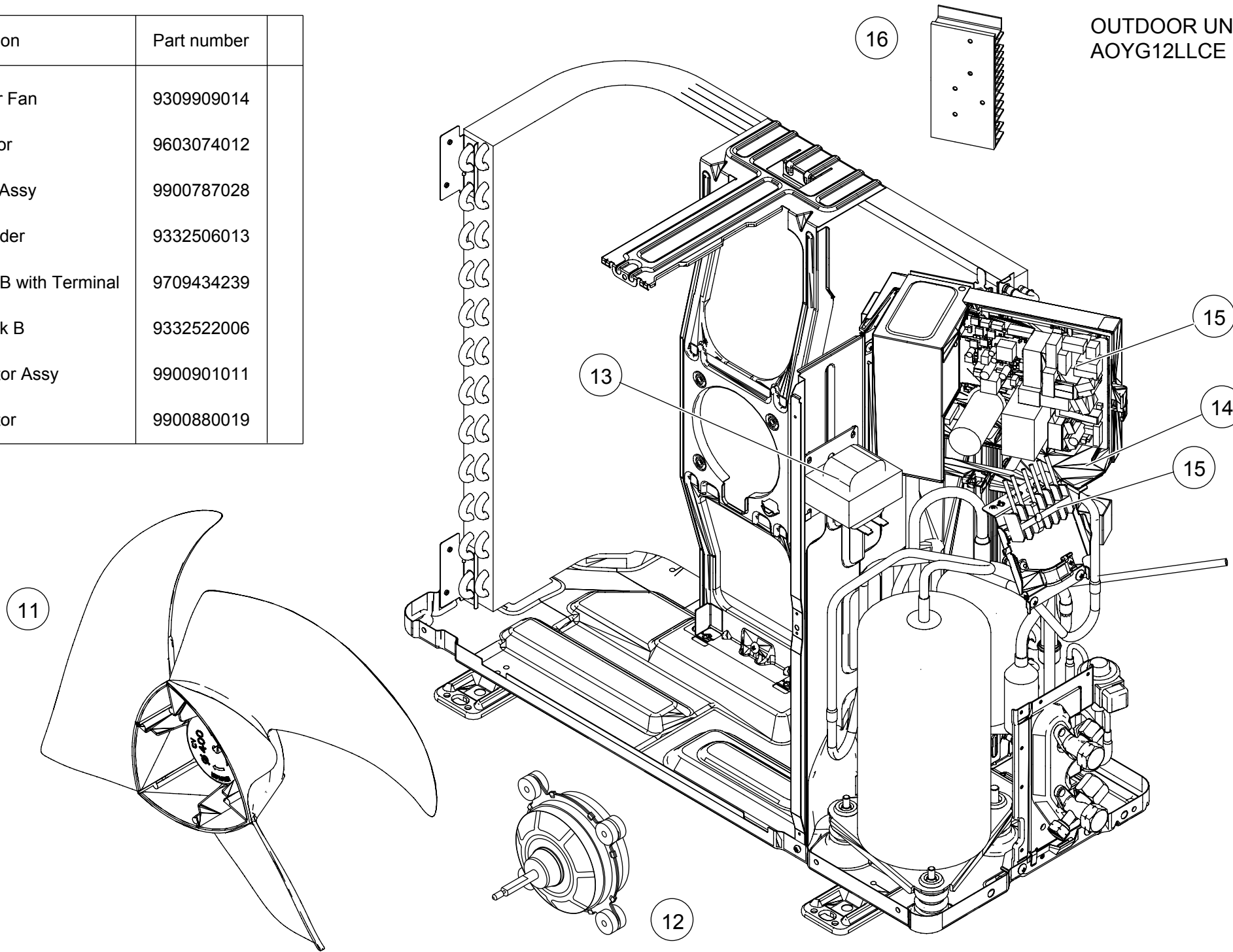
OUTDOOR UNIT  
AOYG12LLCE



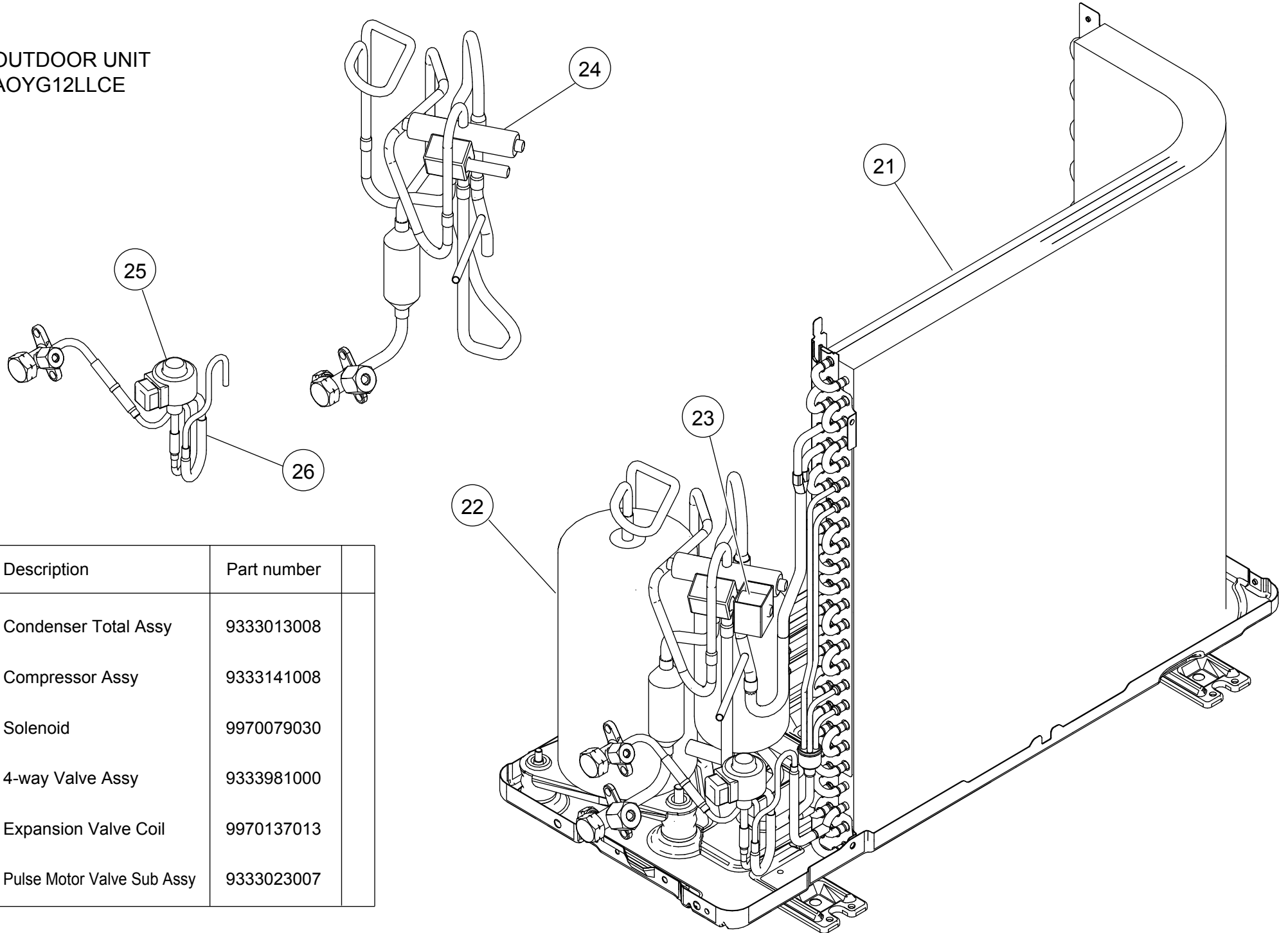
Ref.	Description	Part number
1	Protective Net	9332855005
2	Thermistor Holder	9332505009
3	Top Panel Assy	9332977004
4	Front Panel Assy	9332965001
5	Cabinet Left Assy	9332962000
6	Emblem	9319396019
7	Cabinet Right Assy	9332963007
8	Switch Cover A Assy	9332964011
9	Switch Cover B	9332843002
10	Drain Assy	9332574005

Ref.	Description	Part number
11	Propeller Fan	9309909014
12	Fan Motor	9603074012
13	Reactor Assy	9900787028
14	PCB Holder	9332506013
15	Main PCB with Terminal	9709434239
16	Heat Sink B	9332522006
--	Thermistor Assy	9900901011
--	Thermistor	9900880019

OUTDOOR UNIT  
AOYG12LLCE



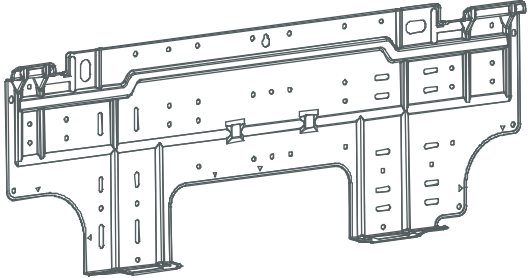

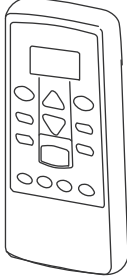
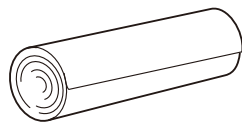

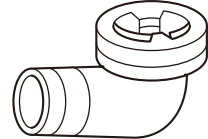
OUTDOOR UNIT  
AOYG12LLCE



Ref.	Description	Part number
21	Condenser Total Assy	9333013008
22	Compressor Assy	9333141008
23	Solenoid	9970079030
24	4-way Valve Assy	9333981000
25	Expansion Valve Coil	9970137013
26	Pulse Motor Valve Sub Assy	9333023007



## ACCESSORIES

Name and Shape	Part number	Name and Shape	Part number
Wall hook bracket 	9332556001	Battery (penlight) 	0600185541
Remote control 	9332598001	Cloth tape 	9310519004
		Tapping screw (big) ( $\phi$ 4 x 25) 	0700076046
		Drain pipe assy 	9332574005

1611G4557