

SPLIT TYPE  
ROOM AIR CONDITIONER  
WALL MOUNTED TYPE

# SERVICE MANUAL



|             |              |
|-------------|--------------|
| Indoor unit | Outdoor unit |
| ASYG12LTCA  | AOYG12LTC    |

## CONTENTS

|                                   |    |
|-----------------------------------|----|
| SPECIFICATIONS.....               | 1  |
| DIMENSIONS.....                   | 2  |
| REFRIGERANT SYSTEM DIAGRAM... ..  | 3  |
| CIRCUIT DIAGRAM.....              | 4  |
| INDOOR PCB CIRCUIT DIAGRAM.....   | 5  |
| OUTDOOR PCB CIRCUIT DIAGRAM... .. | 8  |
| ERROR DETECTION.....              | 10 |
| PARTS (INDOOR UNIT).....          | 12 |
| PARTS (OUTDOOR UNIT).....         | 17 |
| ACCESSORIES.....                  | 20 |

# SPECIFICATIONS

## ELECTRICAL DATA

|                      |         |                       |
|----------------------|---------|-----------------------|
| TYPE                 |         | Cool & heat inverter  |
| INDOOR UNIT          |         | ASYG12LTCA            |
| OUTDOOR UNIT         |         | AOYG12LTC             |
| COOLING CAPACITY     |         | 3.50 kW               |
| HEATING CAPACITY     |         | 4.00 kW               |
| POWER SOURCE         |         | 230 V                 |
| FREQUENCY            |         | 50 Hz                 |
| RUNNING CURRENT      | Cooling | 4.0 A                 |
|                      | Heating | 4.3 A                 |
| INPUT WATTS          | Cooling | 0.850 kW              |
|                      | Heating | 0.910 kW              |
| E.E.R.               | Cooling | 4.12 kW/kW            |
| COP                  | Heating | 4.40 kW/kW            |
| MOISTURE REMOVAL     |         | 1.8 L/h               |
| AIR CIRCULATION HIGH | Cooling | 850 m <sup>3</sup> /h |
|                      | Heating | 850 m <sup>3</sup> /h |
| MAXIMUM CURRENT      | Cooling | 9.0 A                 |
|                      | Heating | 10.5 A                |

## FAN MOTOR

|                      |              |              |
|----------------------|--------------|--------------|
| POWER SOURCE         |              | 230 V        |
| INDOOR UNIT Cooling  | High speed   | 1,370 r.p.m. |
|                      | Medium speed | 1,120 r.p.m. |
|                      | Low speed    | 960 r.p.m.   |
|                      | Quiet        | 650 r.p.m.   |
| INDOOR UNIT Heating  | High speed   | 1,370 r.p.m. |
|                      | Medium speed | 1,120 r.p.m. |
|                      | Low speed    | 960 r.p.m.   |
|                      | Quiet        | 650 r.p.m.   |
| OUTDOOR UNIT Cooling |              | 870 r.p.m.   |
| OUTDOOR UNIT Heating |              | 780 r.p.m.   |

## NOISE LEVEL

|                      |              |       |
|----------------------|--------------|-------|
| INDOOR UNIT Cooling  | High speed   | 43 dB |
|                      | Medium speed | 37 dB |
|                      | Low speed    | 32 dB |
|                      | Quiet        | 21 dB |
| INDOOR UNIT Heating  | High speed   | 43 dB |
|                      | Medium speed | 38 dB |
|                      | Low speed    | 32 dB |
|                      | Quiet        | 21 dB |
| OUTDOOR UNIT Cooling |              | 48 dB |
| OUTDOOR UNIT Heating |              | 49 dB |

## COMPRESSOR AND REFRIGERANT

|                        |   |         |
|------------------------|---|---------|
| COMPRESSOR TYPE        | Hermetic type, 4 pole, 3 phase, DC inverter motor, Rotary |         |
| DISCRIMINATION         | 808-884-80  |         |
| WEIGHT (with oil)      | 9.3 kg  |         |
| PRECHARGED REFRIGERANT | 1,200 g   |         |
| REFRIGERANT TYPE       | R410A   |         |
| FULL CHARGE            | Pipe length 15 m  | 1,200 g |
|                        | 20 m  | 1,300 g |
| ADDITIONAL CHARGE      | 20 g/m  |         |
| MAXIMUM PIPING HEIGHT  | 15m   |         |

## DIMENSIONS

|              |           |                    |
|--------------|-----------|--------------------|
| INDOOR UNIT  | H x W x D | 282 x 870 x 185 mm |
| OUTDOOR UNIT | H x W x D | 620 x 790 x 290 mm |

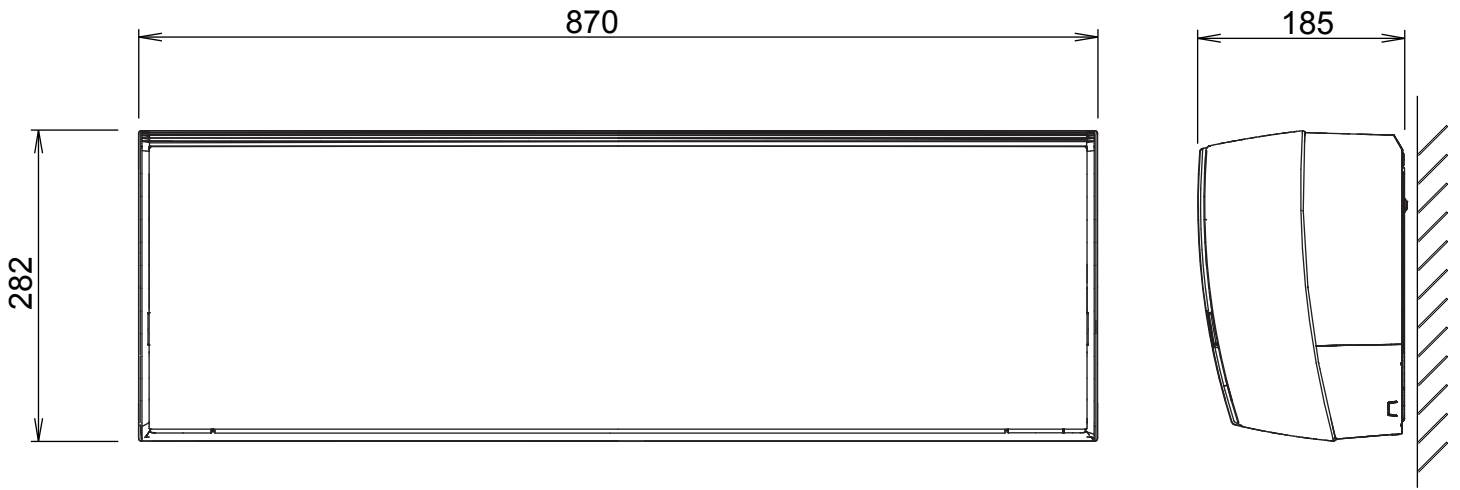
## WEIGHT

|              |                |                |
|--------------|----------------|----------------|
| INDOOR UNIT  | Shipping / Net | 12 kg / 9.5 kg |
| OUTDOOR UNIT | Shipping / Net | 43 kg / 40 kg  |

# DIMENSIONS

unit : mm

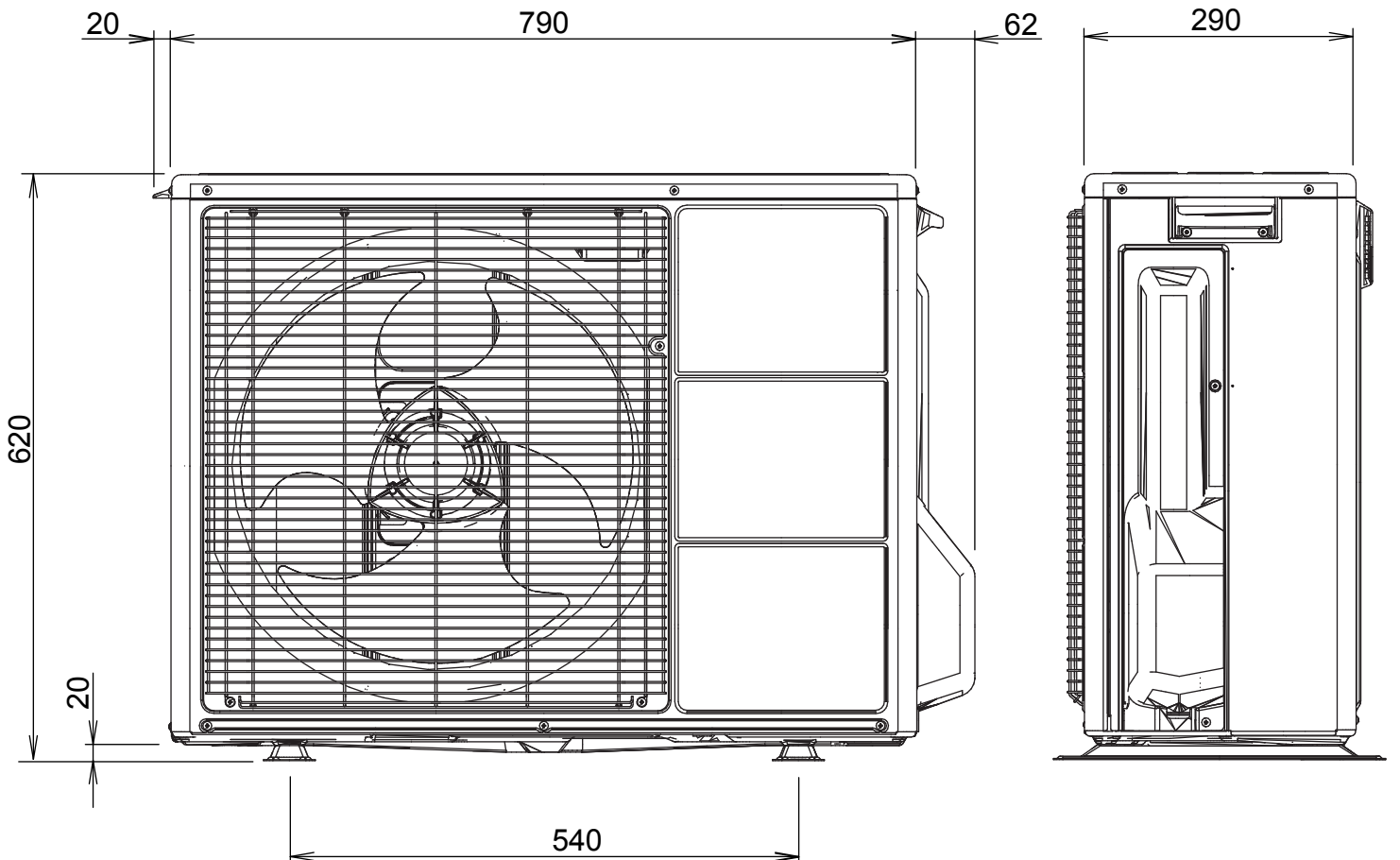
## INDOOR UNIT



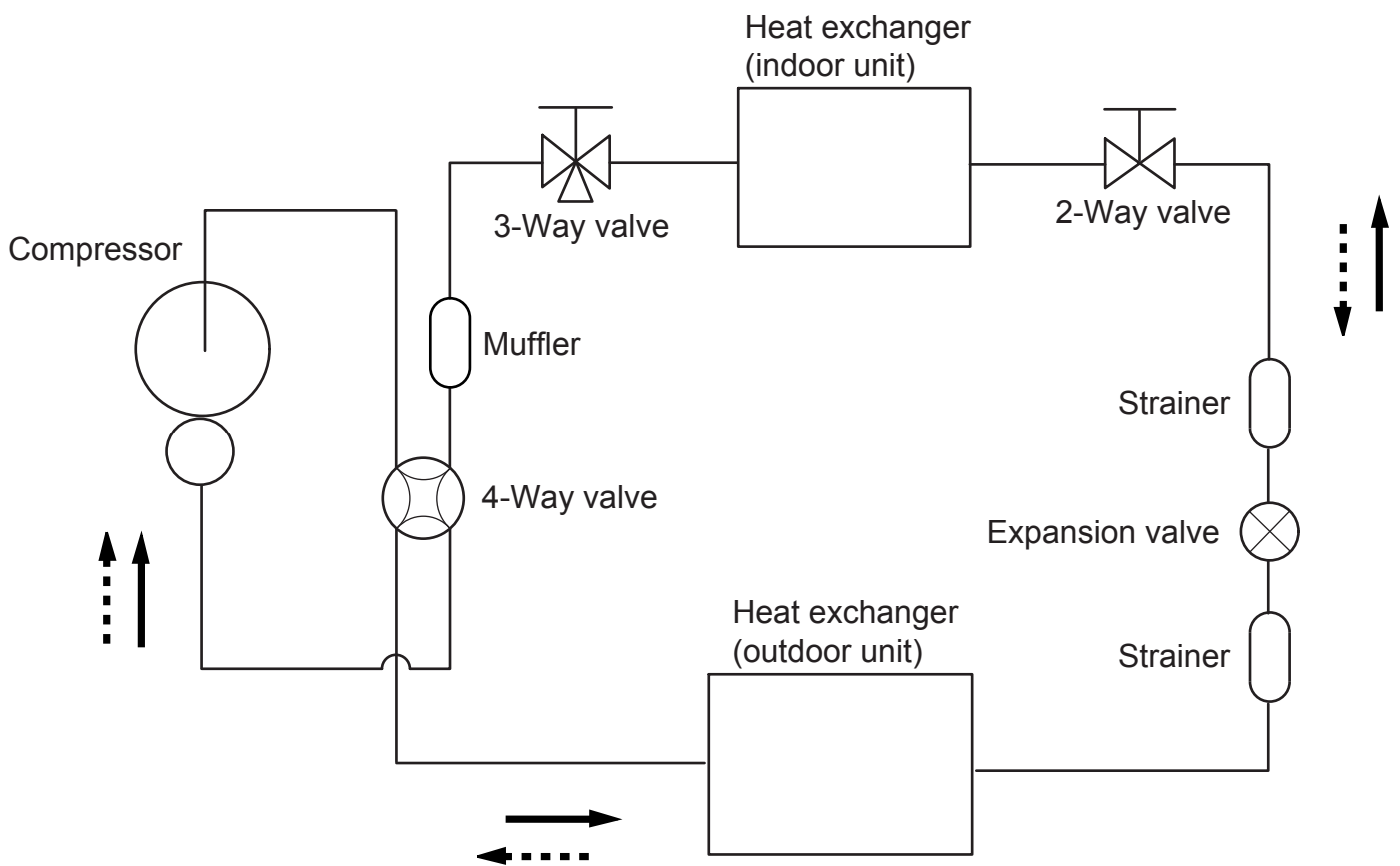
Drain pipe diameter  
16.2 mm

Liquid pipe diameter : 6.35 mm  
Gas pipe diameter : 9.52 mm

## OUTDOOR UNIT



# REFRIGERANT SYSTEM DIAGRAM



Refrigerant pipe diameter  
 Liquid : 1/4" (6.35 mm)  
 Gas : 3/8" (9.52 mm)

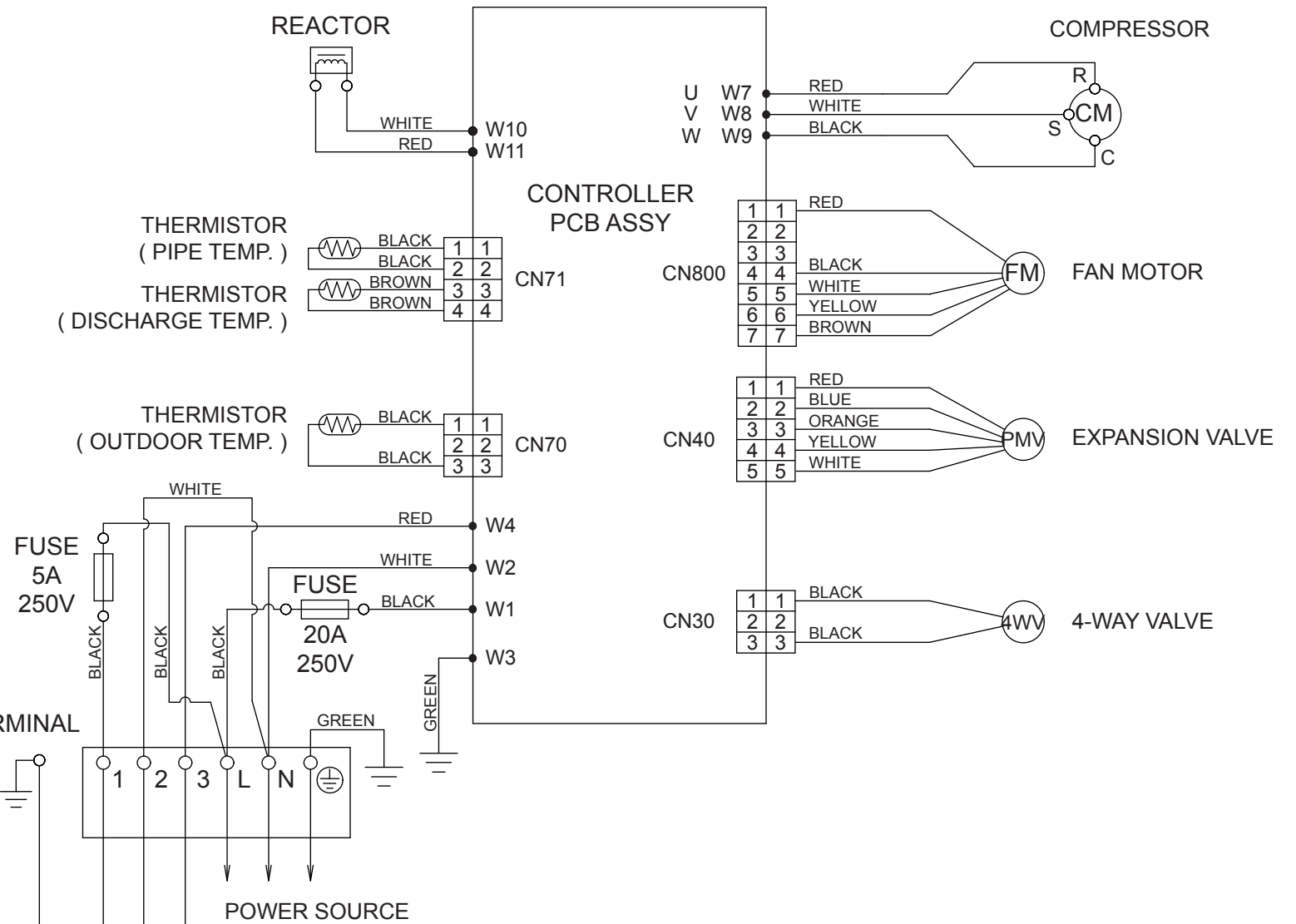
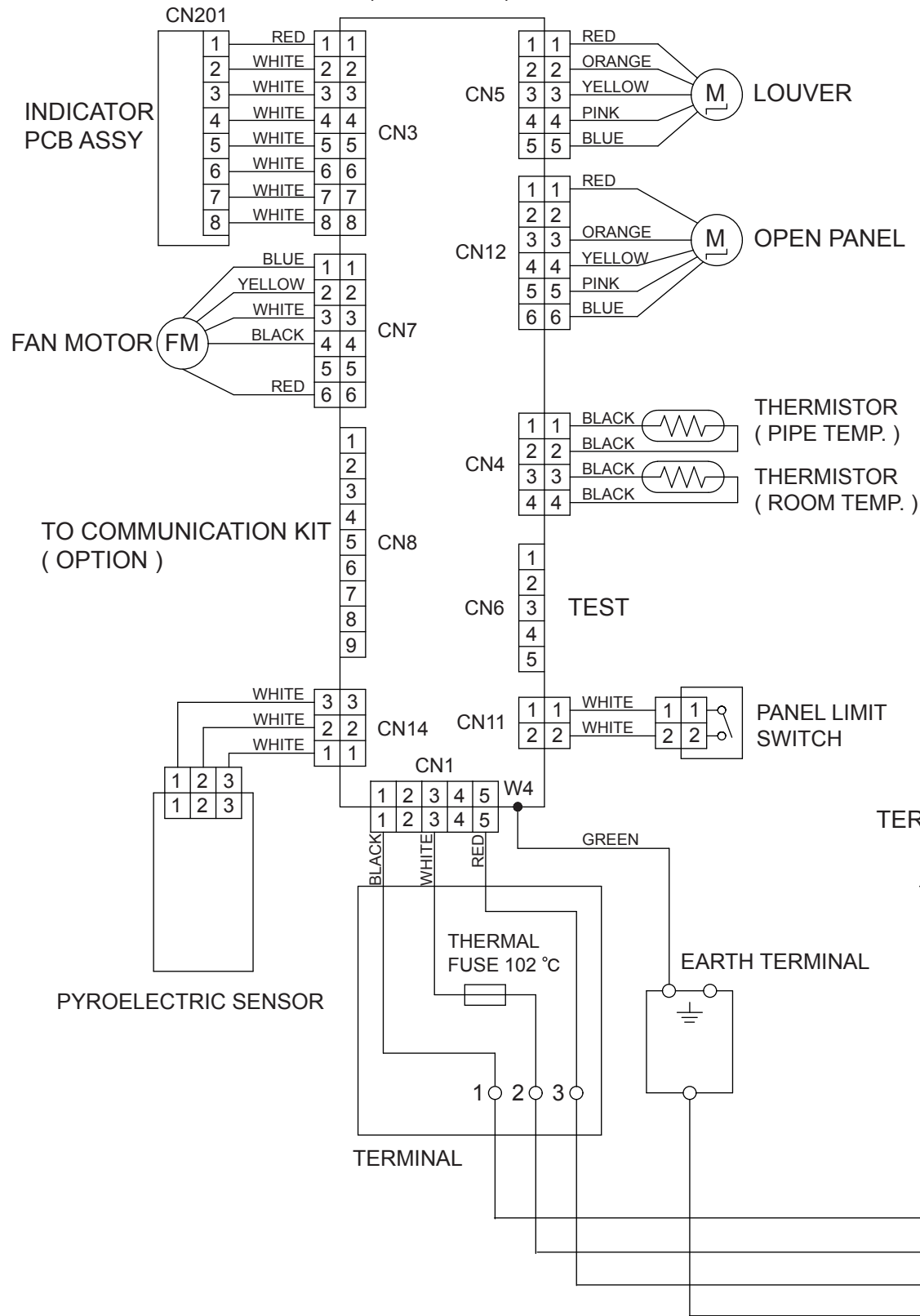
Refrigerant direction  
 ———→ Cooling  
 - - - -> Heating

CONTROLLER PCB ASSY  
( MAIN PCB )

INDOOR UNIT

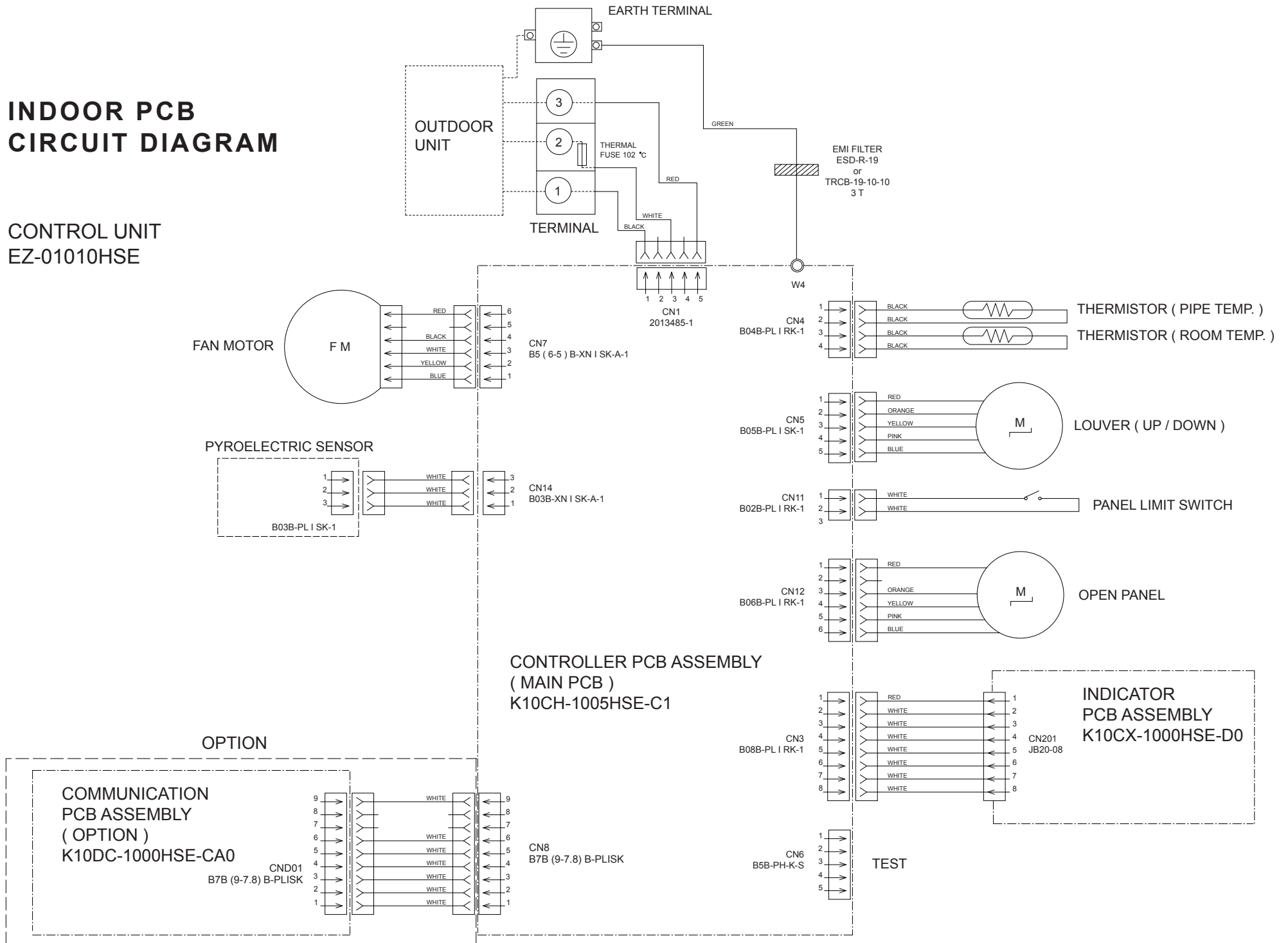
CIRCUIT DIAGRAM

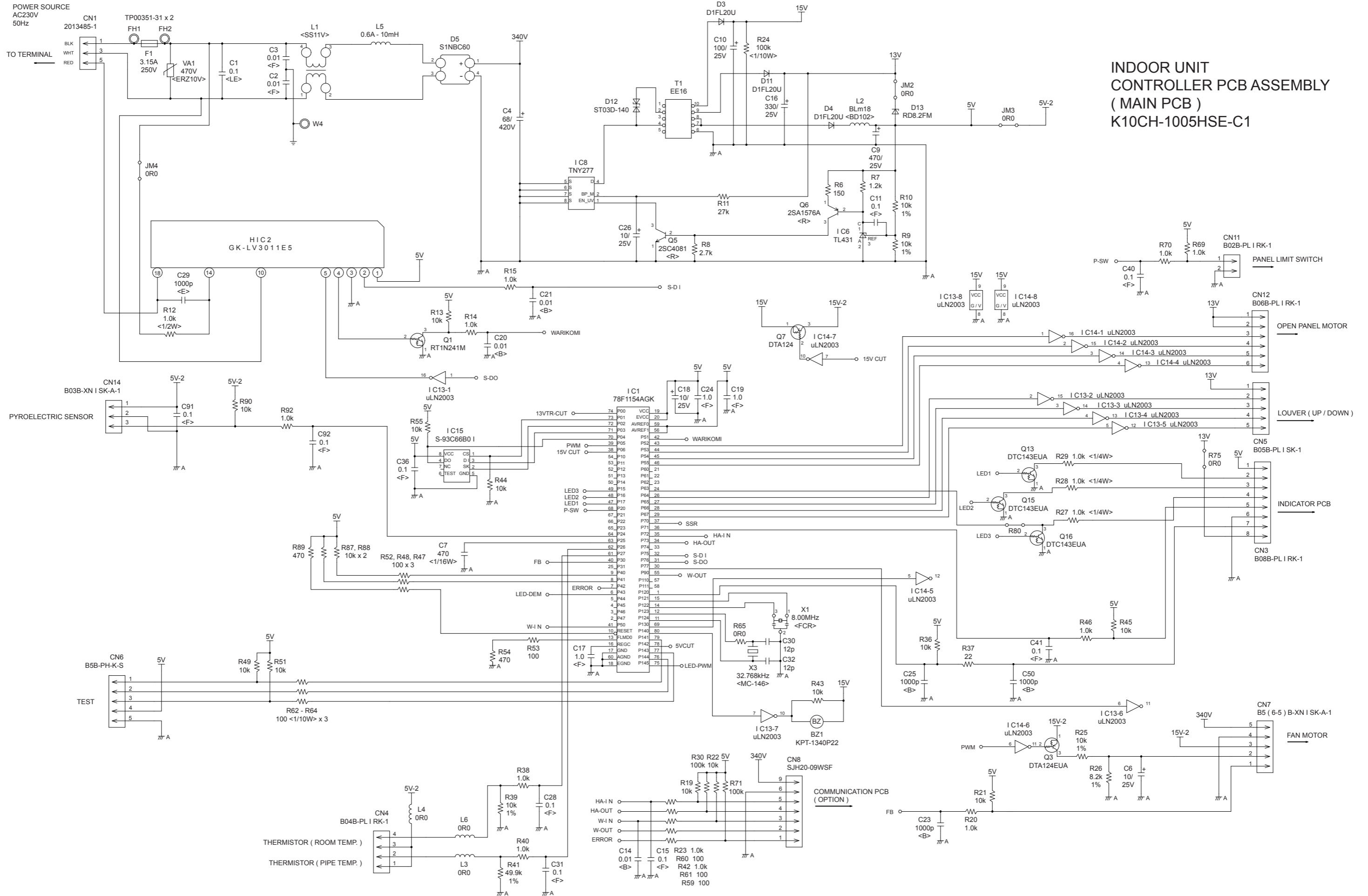
OUTDOOR UNIT



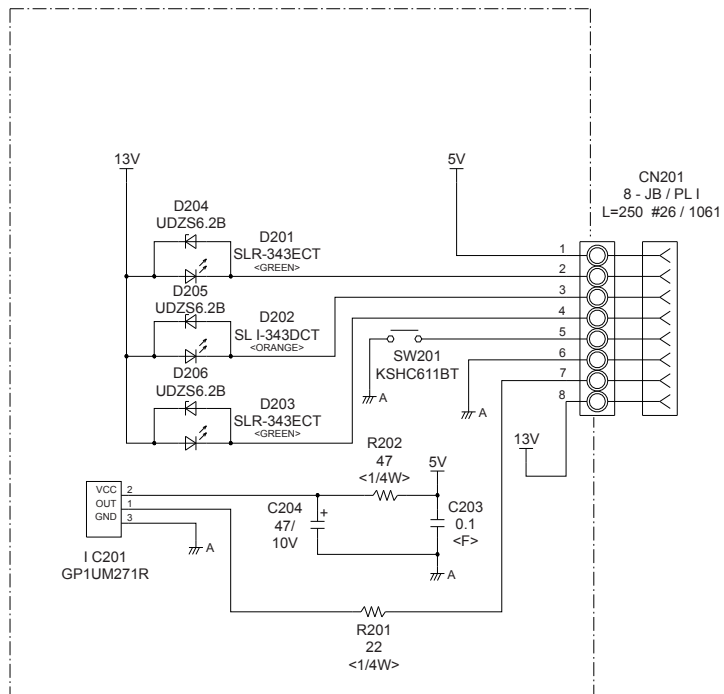
# INDOOR PCB CIRCUIT DIAGRAM

CONTROL UNIT  
EZ-01010HSE





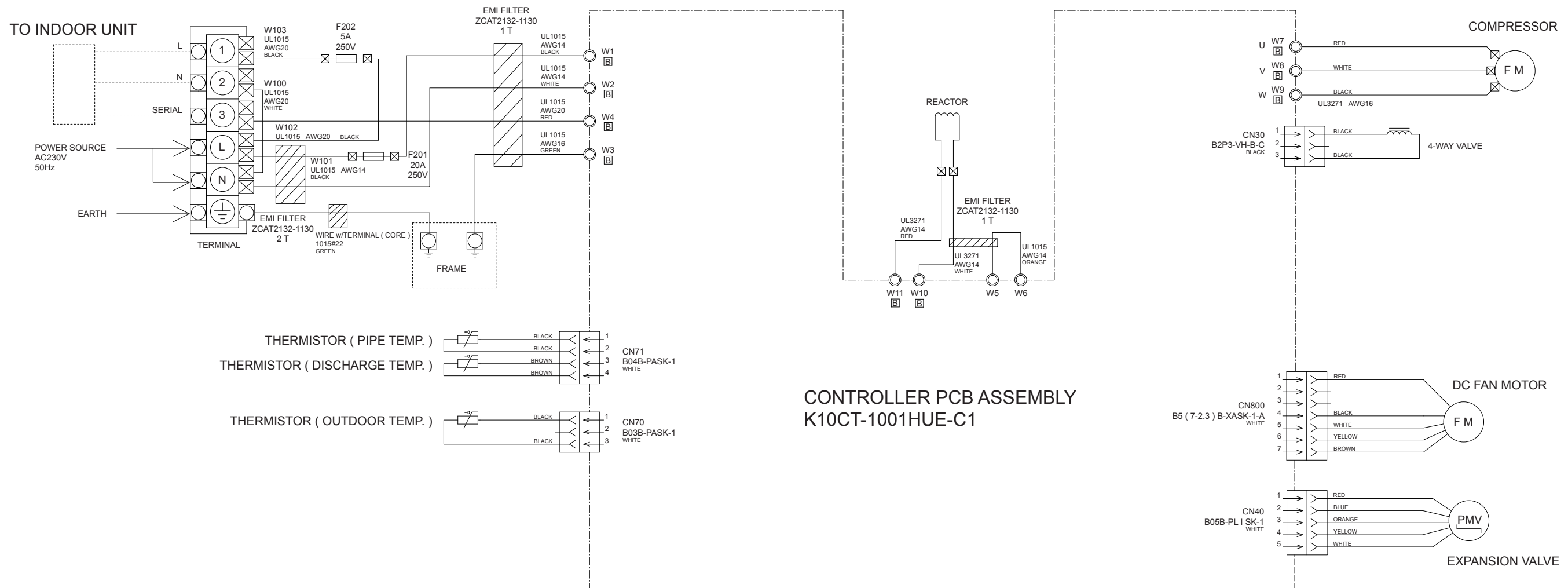
INDOOR UNIT  
 INDICATOR PCB ASSEMBLY  
 K10CX-1000HSE-D0





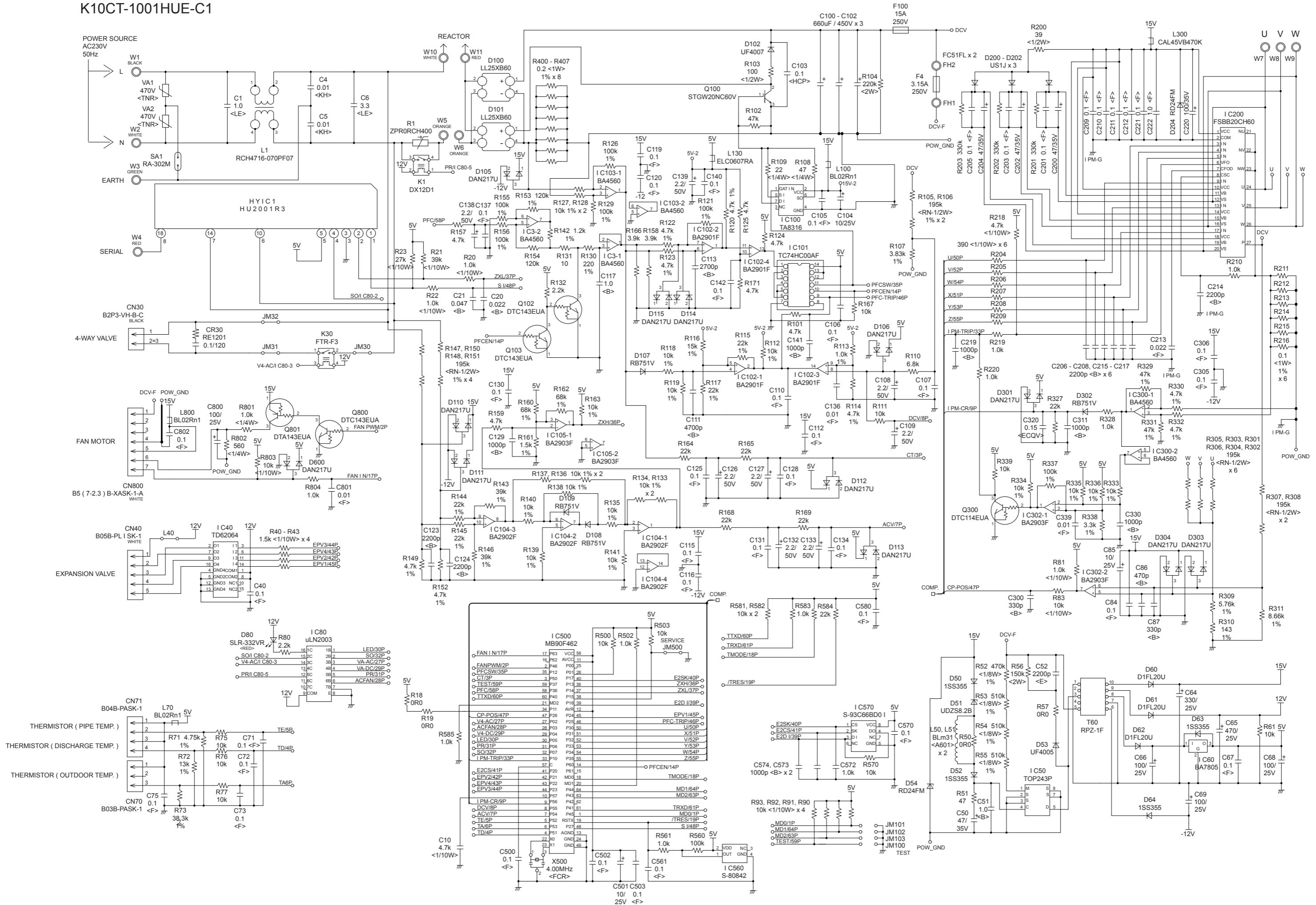
# OUTDOOR PCB CIRCUIT DIAGRAM

## INVERTER ASSEMBLY EZ-01010HUE

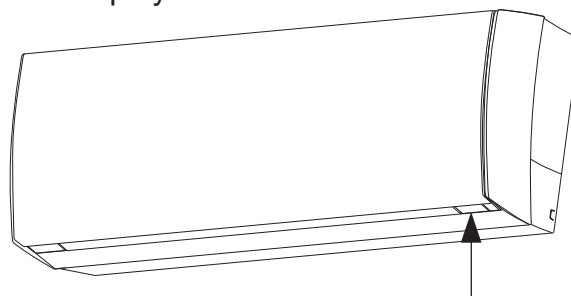


## CONTROLLER PCB ASSEMBLY K10CT-1001HUE-C1

OUTDOOR UNIT  
 CONTROLLER PCB ASSEMBLY  
 K10CT-1001HUE-C1



## Indoor unit display



OPERATION indicator lamp (green) —  
 TIMER indicator lamp (orange) —  
 ECONOMY indicator lamp (green) —

## ERROR DETECTION

### INDOOR UNIT REMOTE CONTROL

If you use a wireless remote control, the lamp on the photo detector unit will output error codes by way of blinking patterns.

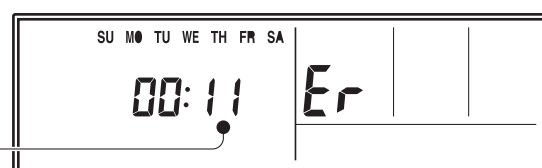
If you use a wired remote control, error codes will appear on the remote control display.

See the lamp blinking patterns and error codes in the table.

An error display is displayed only during operation.

### Wired remote control display (Option)

If an error occurs, the following display will be shown. ("Er" will appear in the set room temperature display.)



Error code

● : 0.5s ON / 0.5s OFF

◇ : 0.1s ON / 0.1s OFF

( ) : Number of flashing

| Indoor unit            |                     |                      | Wired remote control | Description  |
|------------------------|---------------------|----------------------|----------------------|--|
| OPERATION lamp (green) | TIMER lamp (orange) | ECONOMY lamp (green) |                      |  |
| ● (1)                  | ● (1)               | ◇                    | 11                   | Serial communication error   |
| ● (1)                  | ● (2)               | ◇                    | 12                   | Wired remote control communication error                             |
| ● (1)                  | ● (5)               | ◇                    | 15                   | Check run unfinished   |
| ● (2)                  | ● (2)               | ◇                    | 22                   | Indoor unit capacity error   |
| ● (2)                  | ● (3)               | ◇                    | 23                   | Combination error  |
| ● (3)                  | ● (2)               | ◇                    | 32                   | Indoor unit PCB model information error                              |
| ● (3)                  | ● (5)               | ◇                    | 35                   | Manual auto switch error   |
| ● (4)                  | ● (1)               | ◇                    | 41                   | Room temp. sensor error  |
| ● (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)                  | ● (10)              | ◇                    | 6A                   | Display PCB microcomputers communication error                       |
| ● (7)                  | ● (1)               | ◇                    | 71                   | Discharge temp. sensor error   |

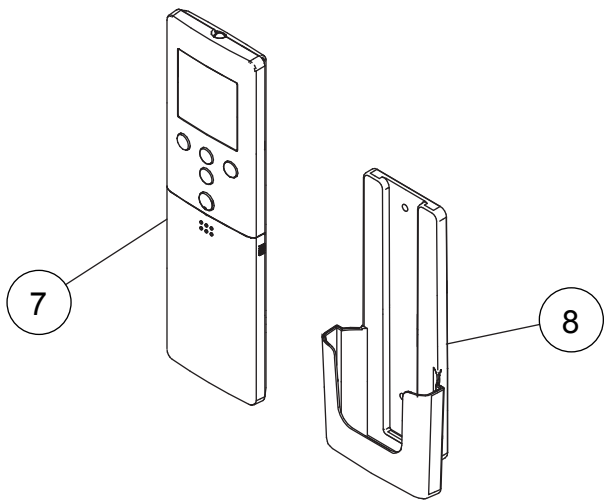
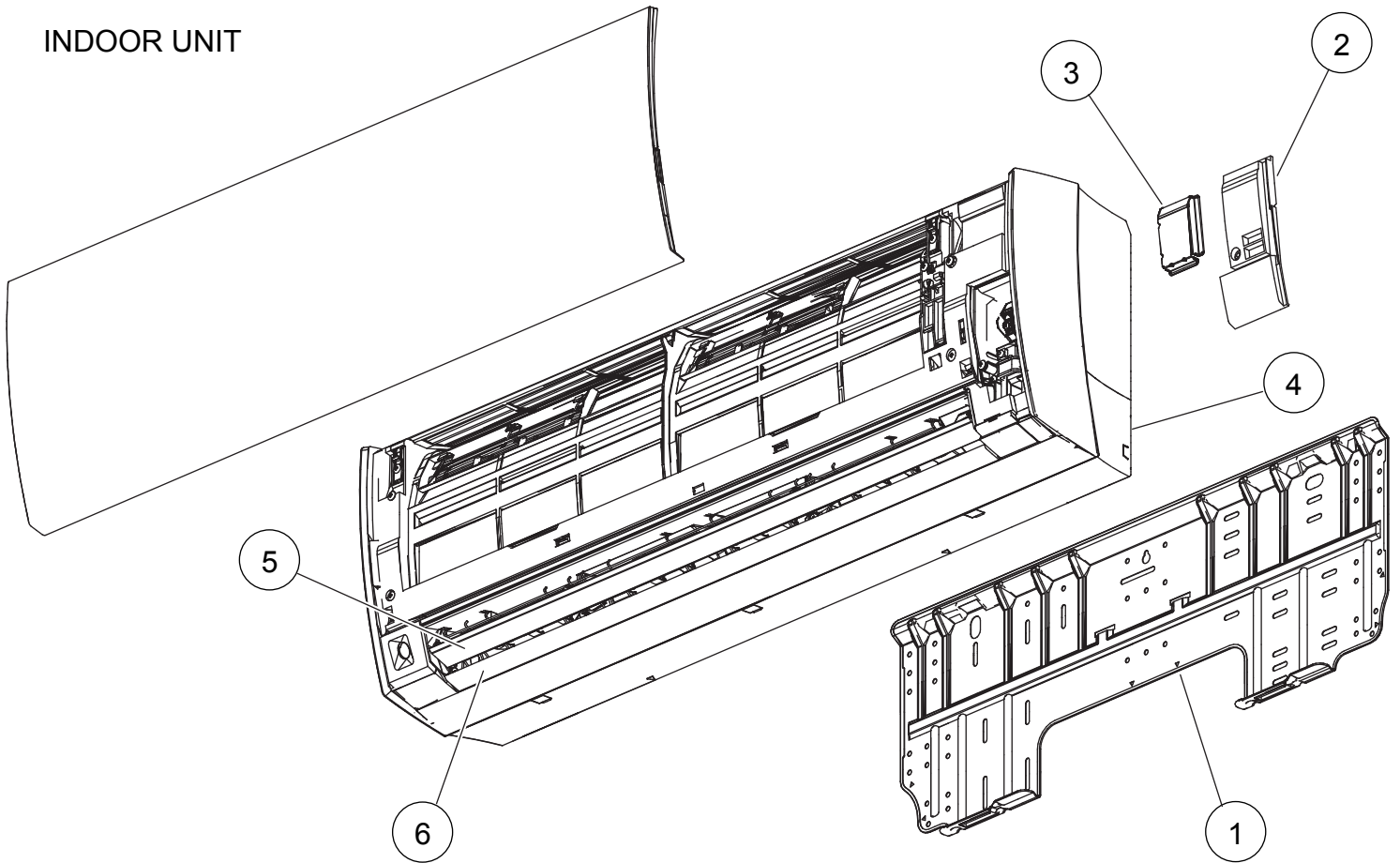
| Indoor unit            |                     |                      | Wired remote control | Description   |
|------------------------|---------------------|----------------------|----------------------|---|
| OPERATION lamp (green) | TIMER lamp (orange) | ECONOMY lamp (green) |                      |   |
| ● (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<br>• 3-way valve temp. sensor error                                  |
| ● (7)                  | ● (7)               | ◇                    | 77                   | Heat sink temp. sensor error  |
| ● (8)                  | ● (2)               | ◇                    | 82                   | • Sub-cool Heat Ex. gas inlet temp. sensor error<br>• 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<br>• Suction pressure sensor error<br>• 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 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  |

#### OUTDOOR UNIT

| LED                            | ERROR                          |
|--------------------------------|--------------------------------|
| on                             | Discharge temperature abnormal |
| 0.5 second on / 0.5 second off | IPM overcurrent protection     |
| 0.1 second on / 0.1 second off | Thermistor abnormal            |
| 2.0 second on / 2.0 second off | CT abnormal                    |
| 0.1 second on / 2.0 second off | Compressor location abnormal   |
| 5.0 second on / 5.0 second off | Fan abnormal                   |

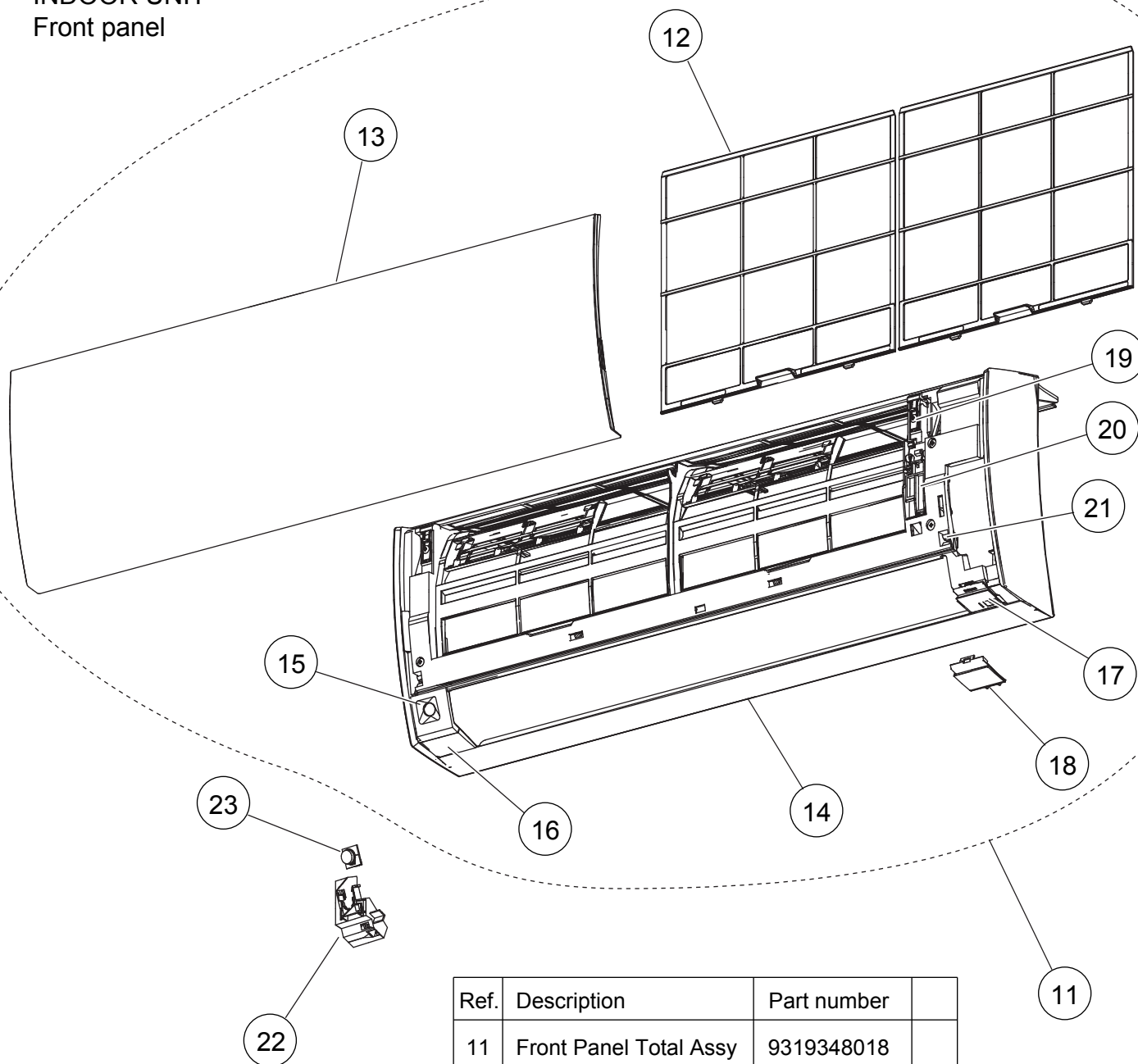
# PARTS

## INDOOR UNIT



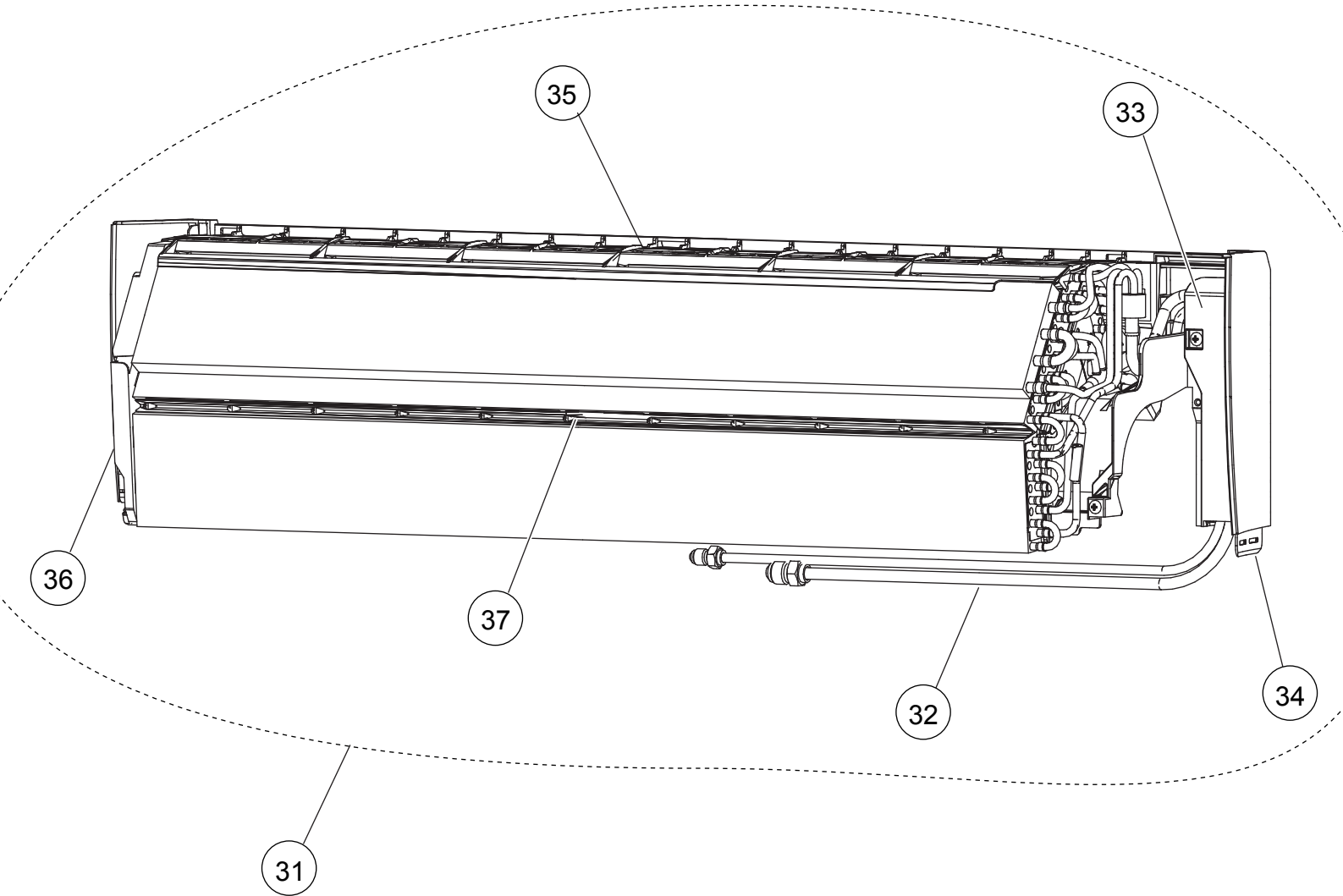
| Ref. | Description           | Part number |
|------|-----------------------|-------------|
| 1    | Bracket Panel         | 9318913002  |
| 2    | Wire Cover            | 9318911008  |
| 3    | Wire Shield           | 9318919004  |
| 4    | Under Cover           | 9318879001  |
| 5    | Louver (Upper)        | 9318880007  |
| 6    | Louver (Lower)        | 9318881004  |
| 7    | Remote Control        | 9319207001  |
| 8    | Remote Control Holder | 9318912005  |
| --   | Air Clean Filter Assy | 9317250009  |

INDOOR UNIT  
Front panel



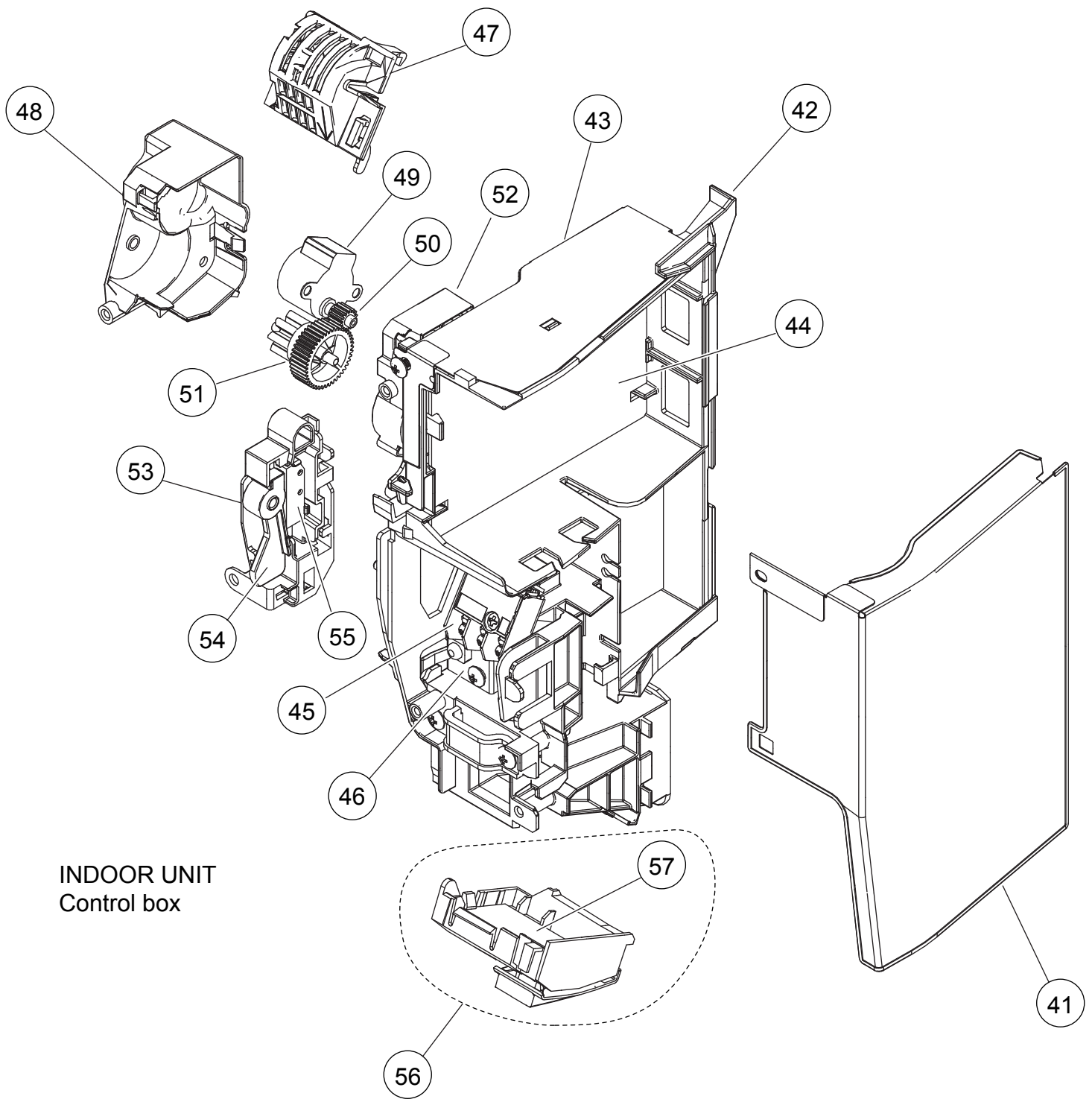
| Ref. | Description             | Part number |
|------|-------------------------|-------------|
| 11   | Front Panel Total Assy  | 9319348018  |
| 12   | Air Filter              | 9318883008  |
| 13   | Intake Grille Assy      | 9319351018  |
| 14   | Front Panel             | 9318876000  |
| 15   | Front Panel Cover T     | 9318909005  |
| 16   | Display Plate Holder L  | 9318894004  |
| 17   | Display Plate Holder R  | 9318895001  |
| 18   | Display Plate R         | 9318893007  |
| 19   | Arm Cover               | 9318900002  |
| 20   | Grille Stay             | 9318899009  |
| 21   | Grille Clamper B        | 9316951006  |
| 22   | Motion LED Display Case | 9318907001  |
| 23   | Pyroelectric Sensor     | 9317755023  |

INDOOR UNIT  
Evaporator



| Ref. | Description           | Part number |
|------|-----------------------|-------------|
| 31   | Evaporator Total Assy | 9319327006  |
| 32   | Joint Pipe Assy       | 9319322001  |
| 33   | Joint Pipe Holder     | 9318901009  |
| 34   | Base                  | 9318874006  |
| 35   | Filter Guide          | 9318887006  |
| 36   | Evaporator Holder L   | 9318875003  |
| 37   | Air Seal              | 9319295008  |



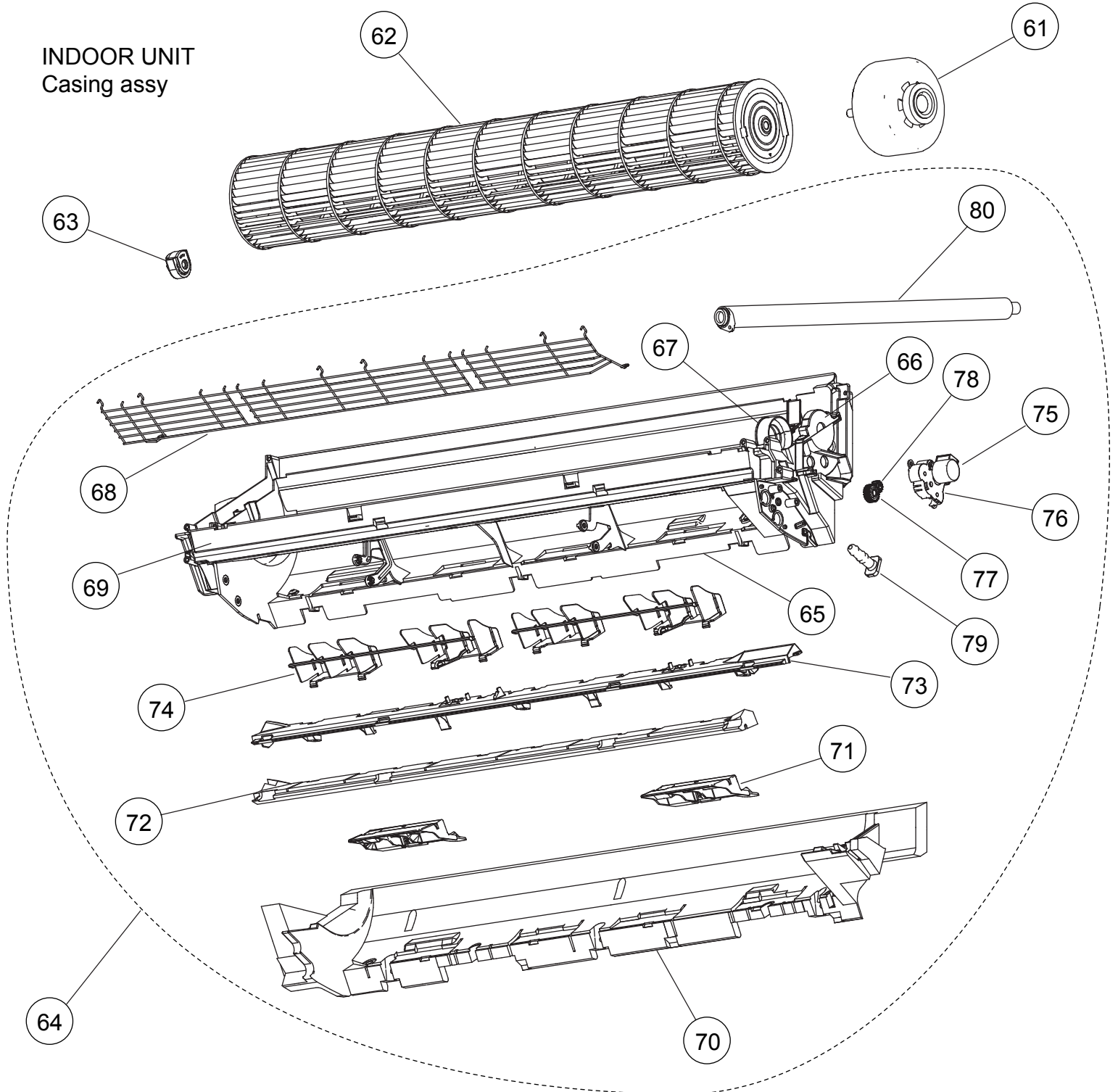


| Ref. | Description            | Part number |
|------|------------------------|-------------|
| 41   | Cover Shield A         | 9318916003  |
| 42   | Control Box            | 9318882001  |
| 43   | Box Shield Assy        | 9319344003  |
| 44   | Controller PCB Assy    | 9708713069  |
| 45   | Terminal               | 9900638009  |
| 46   | Earth Terminal         | 9318918007  |
| 47   | Room Thermistor Holder | 9319068008  |
| 48   | Gear Cover             | 9318902006  |
| 49   | Step Motor             | 9900384166  |

| Ref. | Description      | Part number |
|------|------------------|-------------|
| 50   | Gear B           | 9319294001  |
| 51   | Panel Gear       | 9319293004  |
| 52   | Gear Case        | 9318903003  |
| 53   | Switch Case      | 9319332000  |
| 54   | Grille Key Top   | 9319334004  |
| 55   | Micro Switch     | 9900625009  |
| 56   | Display Assy     | 9708823010  |
| 57   | Display PCB Assy | 9708824017  |
| --   | Thermistor Assy  | 9900627003  |



INDOOR UNIT  
Casing assy

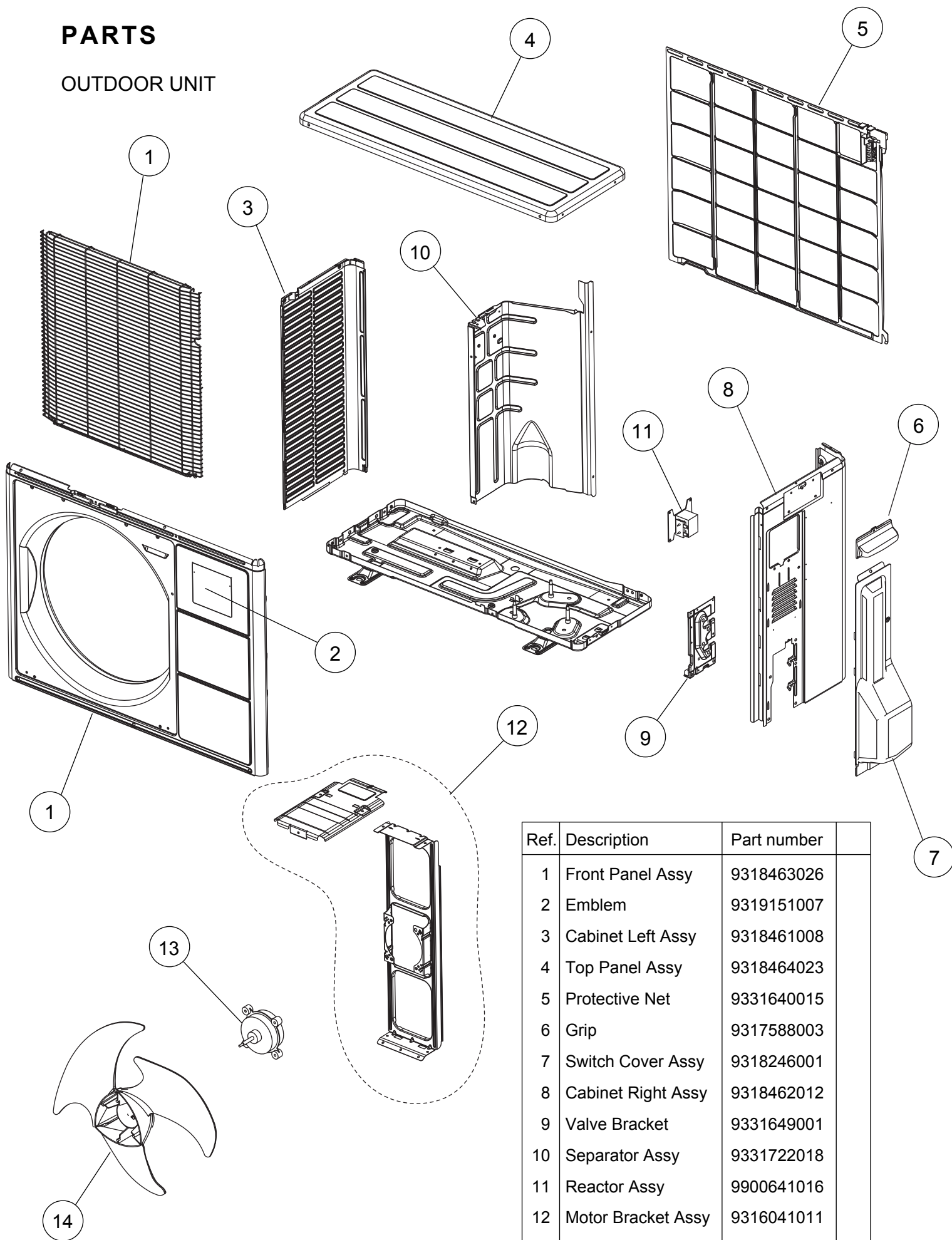


| Ref. | Description        | Part number |
|------|--------------------|-------------|
| 61   | Fan Motor          | 9602947003  |
| 62   | Crossflow Fan Assy | 9319361000  |
| 63   | Bearing C Assy     | 9306628017  |
| 64   | Casing Assy        | 9319342009  |
| 65   | Casing             | 9318873009  |
| 66   | Motor Cover        | 9316601000  |
| 67   | Motor Cover        | 9318888003  |
| 68   | Fan Guard          | 9318924008  |
| 69   | Casing Cover F     | 9318923001  |
| 70   | Casing Cover B     | 9318920000  |

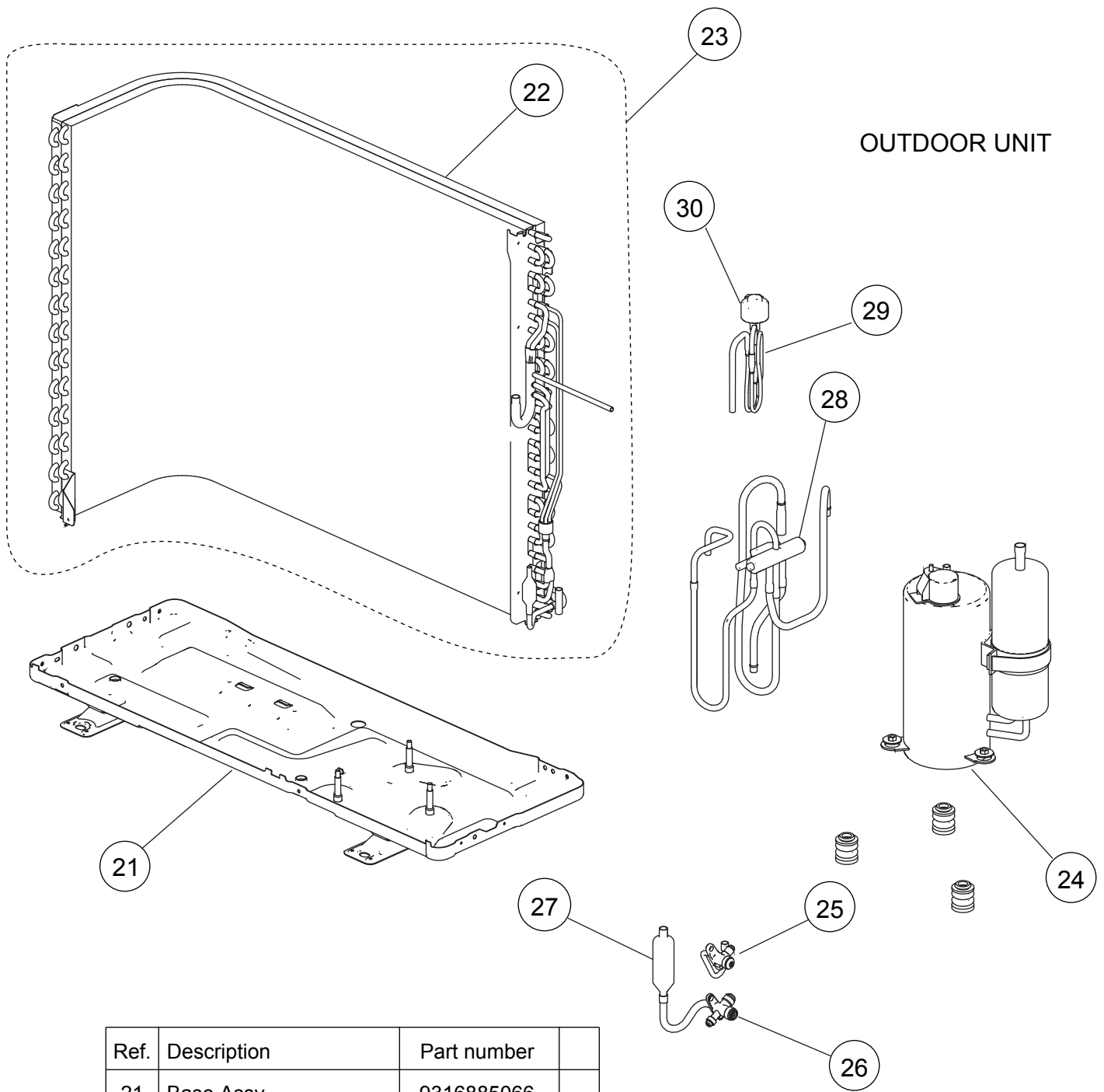
| Ref. | Description        | Part number |
|------|--------------------|-------------|
| 71   | Pipe Bracket       | 9318889000  |
| 72   | Panel Cover        | 9319296005  |
| 73   | Louver Holder      | 9318886009  |
| 74   | R and L Louver     | 9318885002  |
| 75   | Motor Step         | 9900384128  |
| 76   | Louver Gear Holder | 9318905007  |
| 77   | Louver Gear        | 9318904000  |
| 78   | Gear A             | 9309994003  |
| 79   | Drain Cap          | 9316177017  |
| 80   | Drain Hose Assy    | 9316904002  |

# PARTS

## OUTDOOR UNIT



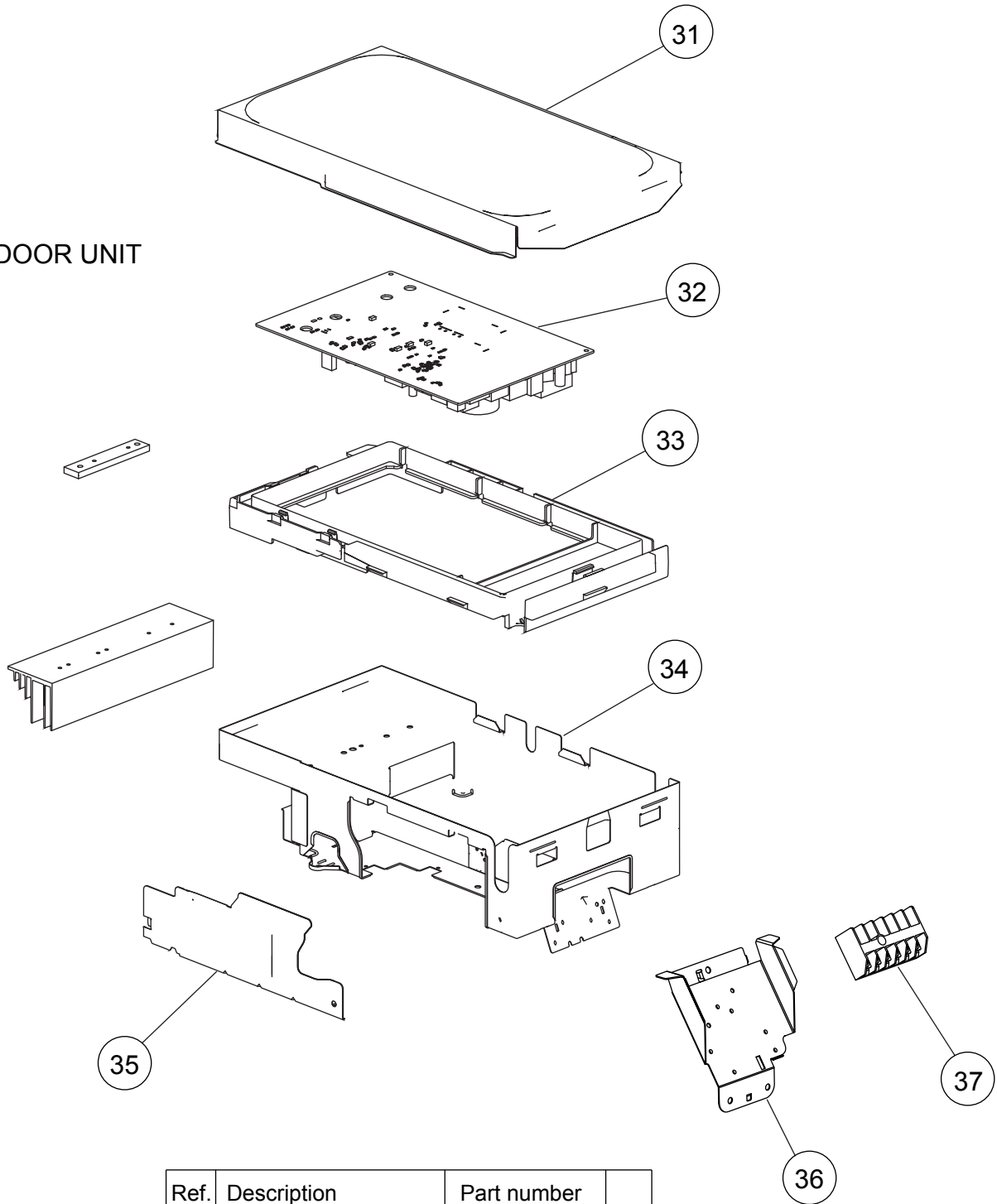
| Ref. | Description        | Part number |
|------|--------------------|-------------|
| 1    | Front Panel Assy   | 9318463026  |
| 2    | Emblem             | 9319151007  |
| 3    | Cabinet Left Assy  | 9318461008  |
| 4    | Top Panel Assy     | 9318464023  |
| 5    | Protective Net     | 9331640015  |
| 6    | Grip               | 9317588003  |
| 7    | Switch Cover Assy  | 9318246001  |
| 8    | Cabinet Right Assy | 9318462012  |
| 9    | Valve Bracket      | 9331649001  |
| 10   | Separator Assy     | 9331722018  |
| 11   | Reactor Assy       | 9900641016  |
| 12   | Motor Bracket Assy | 9316041011  |
| 13   | Fan Motor          | 9602724017  |
| 14   | Propeller Fan      | 9313808013  |
| --   | Drain Pipe         | 9303029022  |



OUTDOOR UNIT

| Ref. | Description            | Part number |
|------|------------------------|-------------|
| 21   | Base Assy              | 9316885066  |
| 22   | Condenser Assy         | 9317090001  |
| 23   | Condenser Total Assy   | 9317089005  |
| 24   | Compressor Assy        | 9317117005  |
| 25   | 2-way Valve Assy       | 9315573018  |
| 26   | 3-way Valve Assy       | 9317174015  |
| 27   | Muffler                | 9308625007  |
| 28   | 4-way Valve Assy       | 9317110013  |
| 29   | Pulse Motor Valve Assy | 9314557019  |
| 30   | Expansion Valve Coil   | 9970095030  |
| --   | Solenoid               | 9970055010  |

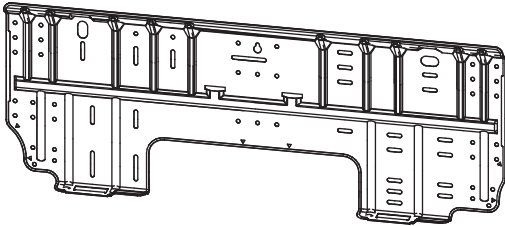
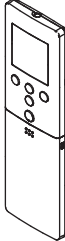


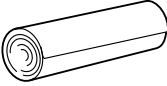
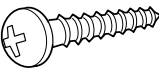

OUTDOOR UNIT



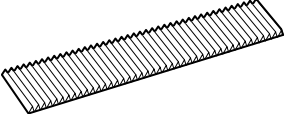
| Ref. | Description         | Part number |
|------|---------------------|-------------|
| 31   | Sealed Panel        | 9309913011  |
| 32   | Controller PCB Assy | 9708753027  |
| 33   | PCB Holder          | 9313074029  |
| 34   | Inverter Case Assy  | 9315690043  |
| 35   | Inverter Case Cover | 9314507014  |
| 36   | Terminal Bracket    | 9315233073  |
| 37   | Terminal            | 9900435028  |
| --   | Outdoor Thermistor  | 9900544010  |
| --   | Thermistor Assy     | 9900614027  |

# ACCESSORIES

## INDOOR UNIT

| Name and Shape   | Part number |
|--|-------------|
| Bracket panel<br>                               | 9318913002  |
| Remote control<br>                              | 9319207001  |
| Remote control holder<br>                      | 9318912005  |
| Battery (penlight)<br>                        | 0600185046  |
| Cloth tape<br>                                | 9308117007  |
| Tapping screw (big)<br>( $\phi$ 4 x 25)<br>   | 0700076046  |
| Tapping screw (small)<br>( $\phi$ 3 x 12)<br> | 0700019036  |

## OPTION

| Name and Shape   | Part number            |
|--|------------------------|
| Air cleaning filter<br> | UTR-FA16<br>UTR-FA16-2 |

1103G3924