

## SERVICE MANUAL



| Indoor unit | Outdoor unit |
|-------------|--------------|
| ASYA07LACM  | AOY18LMAK2   |
| ASYA09LACM  |              |
| ASYA12LACM  |              |
| ASYA14LACM  |              |
| ASYA07LACM  | AOY24LMAM2   |
| ASYA09LACM  |              |
| ASYA12LACM  |              |
| ASYA14LACM  |              |
| ASYA18LACM  |              |

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## SPECIFICATIONS

### INDOOR UNIT

#### ELECTRICAL DATA

| TYPE                 | COOL & HEAT |            |            |            |            |
|----------------------|-------------|------------|------------|------------|------------|
| INDOOR UNIT          | ASYA07LACM  | ASYA09LACM | ASYA12LACM | ASYA14LACM | ASYA18LACM |
| COOLING CAPACITY     | 2.3 kW      | 2.7 kW     | 3.5 kW     | 4.2 kW     | 5.0 kW     |
| HEATING CAPACITY     | 2.7 kW      | 3.3 kW     | 4.0 kW     | 4.8 kW     | 6.0 kW     |
| MOISTURE REMOVAL     | 0.8 L/hr    | 1.0 L/hr   | 1.2 L/hr   | 1.4 L/hr   | 2.0 L/hr   |
| AIR CIRCULATION HIGH | 500 m3/hr   | 550 m3/hr  | 580 m3/hr  | 700 m3/hr  | 700 m3/hr  |

#### FAN MOTOR

| POWER SOURCE                 |                | 230 V                |                      |                      |                      |                      |
|------------------------------|----------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| FAN SPEED<br>( cool / heat ) | Discrimination | MFD-34ROM            |                      |                      |                      |                      |
|                              | High           | 1,140 / 1,140 r.p.m. | 1,220 / 1,220 r.p.m. | 1,280 / 1,320 r.p.m. | 1,480 / 1,480 r.p.m. | 1,480 / 1,480 r.p.m. |
|                              | Middle         | 1,000 / 1,050 r.p.m. | 1,060 / 1,110 r.p.m. | 1,100 / 1,180 r.p.m. | 1,250 / 1,250 r.p.m. | 1,250 / 1,250 r.p.m. |
|                              | Low            | 880 / 980 r.p.m.     | 900 / 1,040 r.p.m.   | 900 / 1,080 r.p.m.   | 1,050 / 1,100 r.p.m. | 1,100 / 1,100 r.p.m. |
|                              | Quiet          | 700 / 800 r.p.m.     | 720 / 830 r.p.m.     | 750 / 860 r.p.m.     | 850 / 950 r.p.m.     | 950 / 950 r.p.m.     |

#### NOISE LEVEL

|       |          |          |          |          |          |
|-------|----------|----------|----------|----------|----------|
| HIGH  | 35 dB(A) | 38 dB(A) | 39 dB(A) | 45 dB(A) | 45 dB(A) |
| QUIET | 21 dB(A) | 22 dB(A) | 23 dB(A) | 26 dB(A) | 28 dB(A) |

#### MEASUREMENT

|                      |             |                    |
|----------------------|-------------|--------------------|
| DIMENSIONS H x W x D |             | 275 x 790 x 215 mm |
| WEIGHT               | Gross / Net | 12 kg / 9 kg       |

## OUTDOOR UNIT

### ELECTRICAL SPECIFICATIONS

| TYPE                 |         | Cooling & heating multi | Cooling & heating multi |
|----------------------|---------|-------------------------|-------------------------|
| MODEL NAME           |         | AOY18LMAK2              | AOY24LMAM2              |
| COOLING CAPACITY     |         | 5.5 kW                  | 5.8 kW                  |
| HEATING CAPACITY     |         | 6.3 kW                  | 6.4 kW                  |
| POWER SUPPLY         |         | 230 V                   | 230 V                   |
| FREQUENCY            |         | 50 Hz                   | 50 Hz                   |
| RUNNING CURRENT      | Cooling | 7.3 A                   | 7.6 A                   |
|                      | Heating | 7.3 A                   | 7.2 A                   |
| INPUT                | Cooling | 1.65 kW                 | 1.73 kW                 |
|                      | Heating | 1.65 kW                 | 1.64 kW                 |
| EER                  | Cooling | 3.33 kW/kW              | 3.35 kW/kW              |
|                      | Heating | 3.82 kW/kW              | 3.90 kW/kW              |
| AIR CIRCULATION HIGH |         | 2,800 m³/hr             | 2,800 m³/hr             |
| MAX CURRENT          |         | 10.5 A                  | 12.5 A                  |

### FAN MOTOR

|                   |            |
|-------------------|------------|
| DISCRIMINATION    | MFB24JTAT  |
| HIGH SPEED (COOL) | 780 r.p.m. |
| HIGH SPEED (HEAT) | 780 r.p.m. |

### NOISE LEVEL

|      |          |
|------|----------|
| COOL | 49 dB(A) |
| HEAT | 50 dB(A) |

### MEASUREMENT

|            |             |                    |
|------------|-------------|--------------------|
| DIMENSIONS | H x W x D   | 650 x 830 x 320 mm |
| WEIGHT     | Net / Gross | 56 kg / 62 kg      |

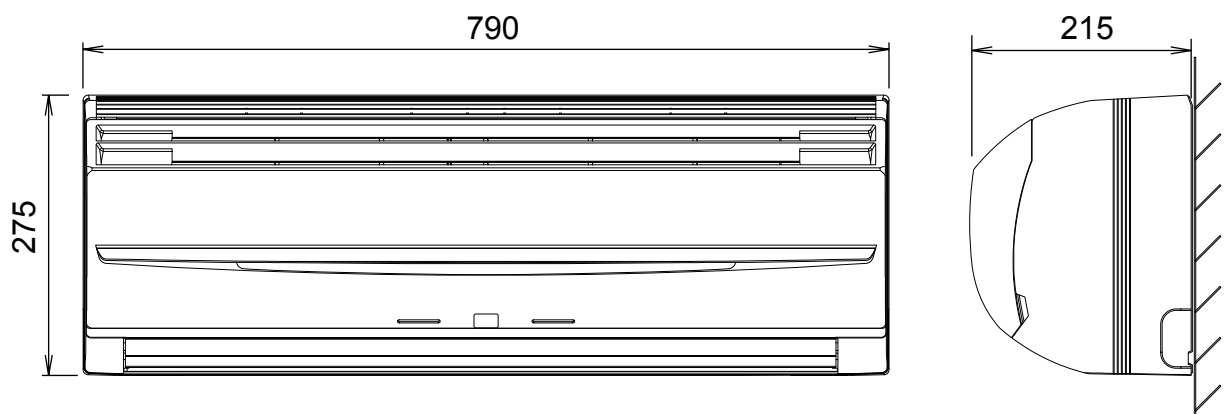
### COMPRESSOR AND REFRIGERANT

|                                            |                                                                  |
|--------------------------------------------|------------------------------------------------------------------|
| COMPRESSOR TYPE                            | Hermetic type, Inverter, 4 poles, 3-phase, DC motor, Twin Rotary |
| DISCRIMINATION                             | TNB220FPCMT                                                      |
| WEIGHT (with oil)                          | 14.1 kg                                                          |
| STANDARD REFRIGERANT                       | 1,900 g                                                          |
| REFRIGERANT TYPE                           | R410A                                                            |
| ADDITIONAL CHARGE                          | Chargeless                                                       |
| MAX PIPE LENGTH (each unit)                | 20 m                                                             |
| MAX PIPE LENGTH (total)                    | 30 m                                                             |
| MIN. PIPE LENGTH (each unit)               | 5 m                                                              |
| MIN. PIPE LENGTH (total)                   | 10 m                                                             |
| MAX ELEVATION (between indoor units)       | 10 m                                                             |
| MAX ELEVATION (between indoor and outdoor) | 10 m                                                             |

## DIMENSIONS

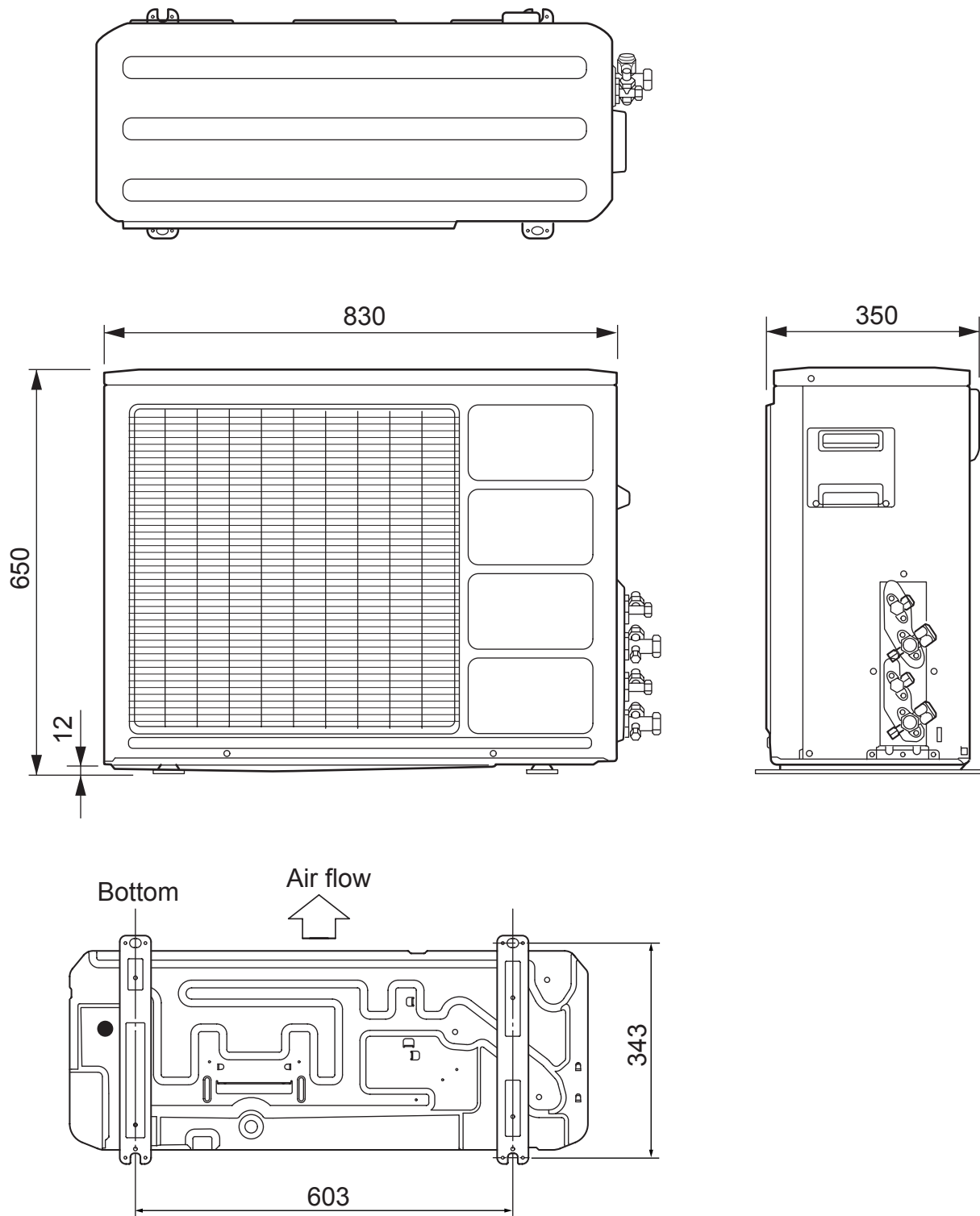
### INDOOR UNIT

(unit : mm)

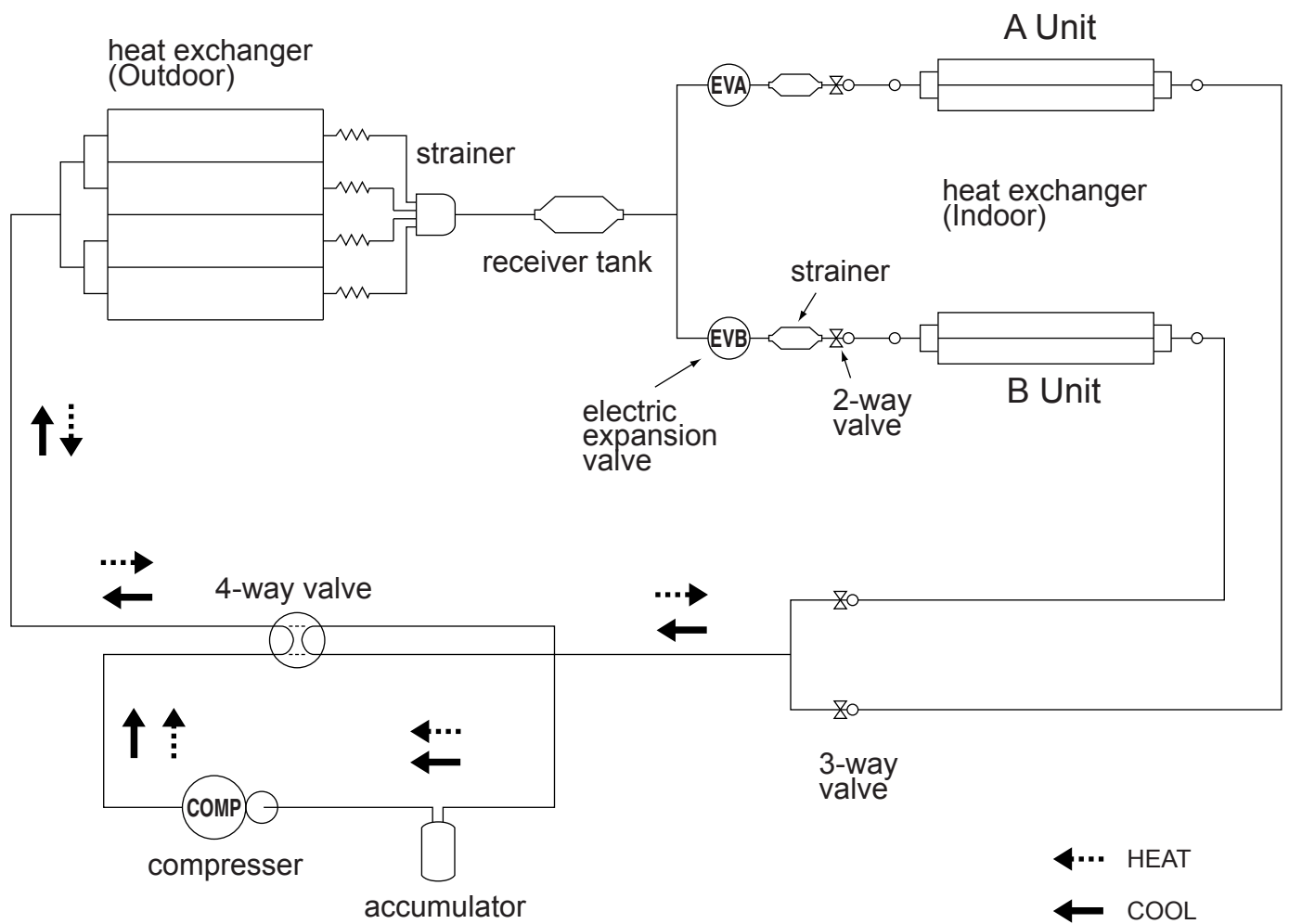


## OUTDOOR UNIT

Unit : mm

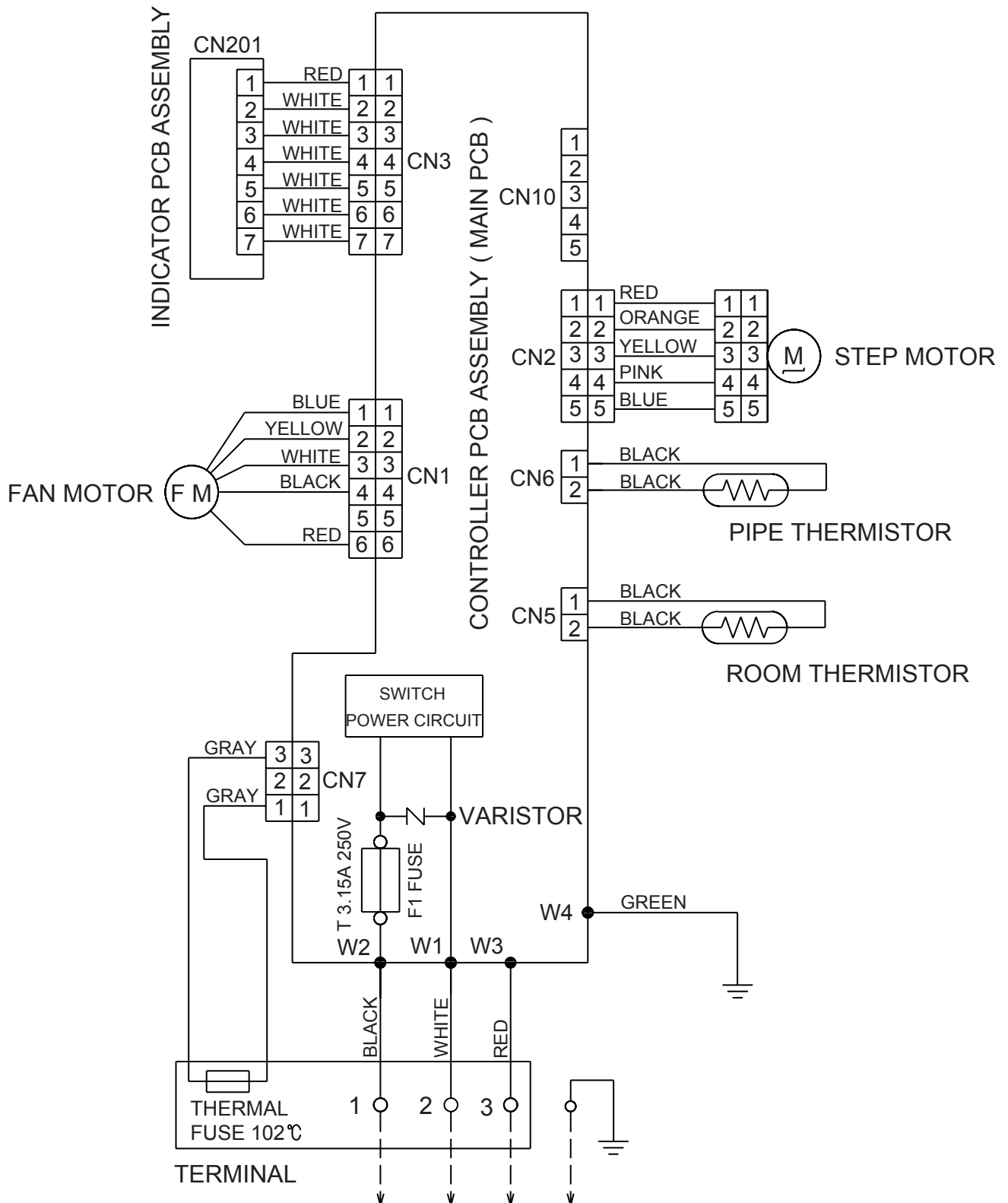


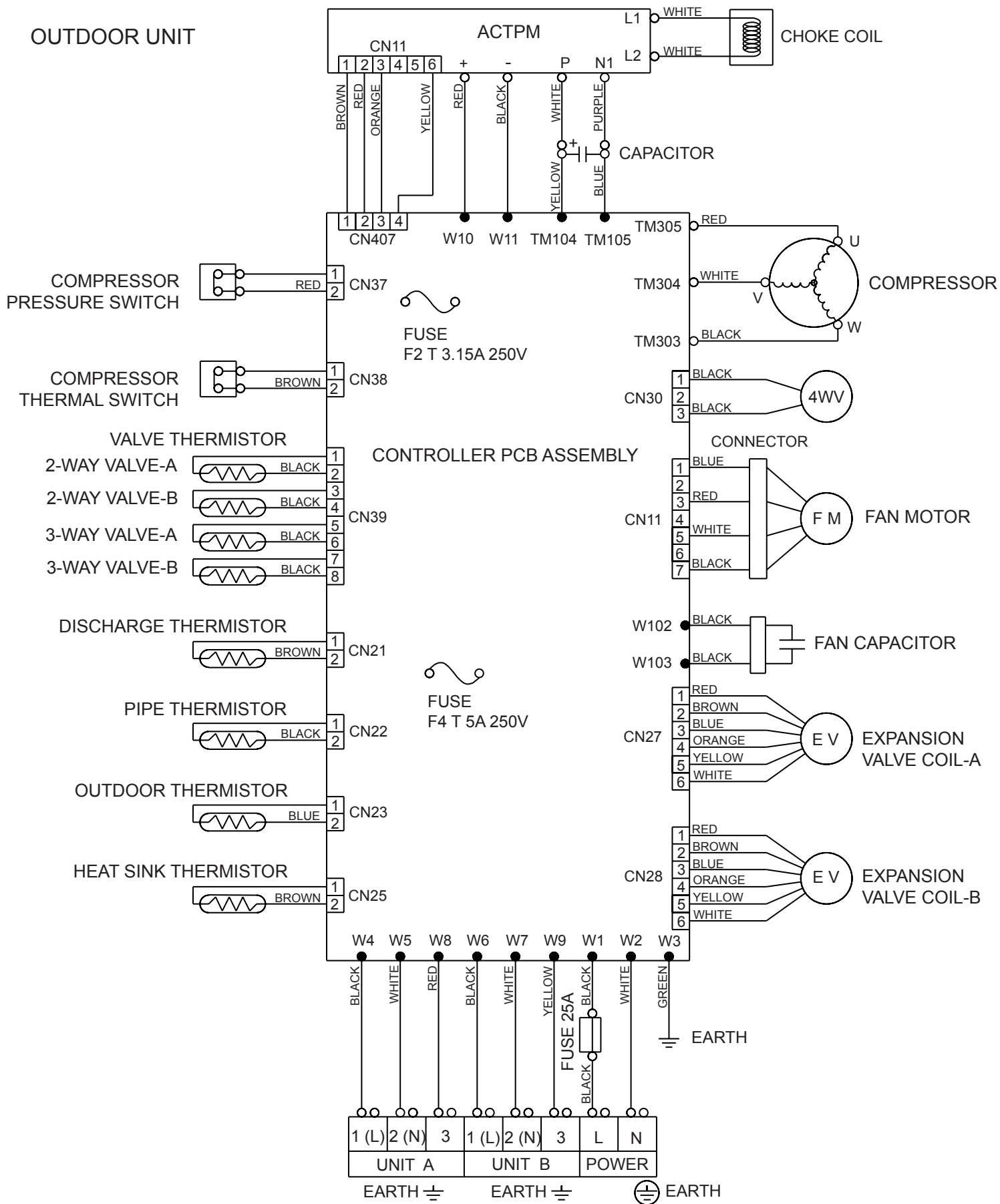
## REFRIGERANT SYSTEM DIAGRAM



# CIRCUIT DIAGRAM

## INDOOR UNIT





# INDOOR PCB CIRCUIT DIAGRAM

## CONTROL UNIT

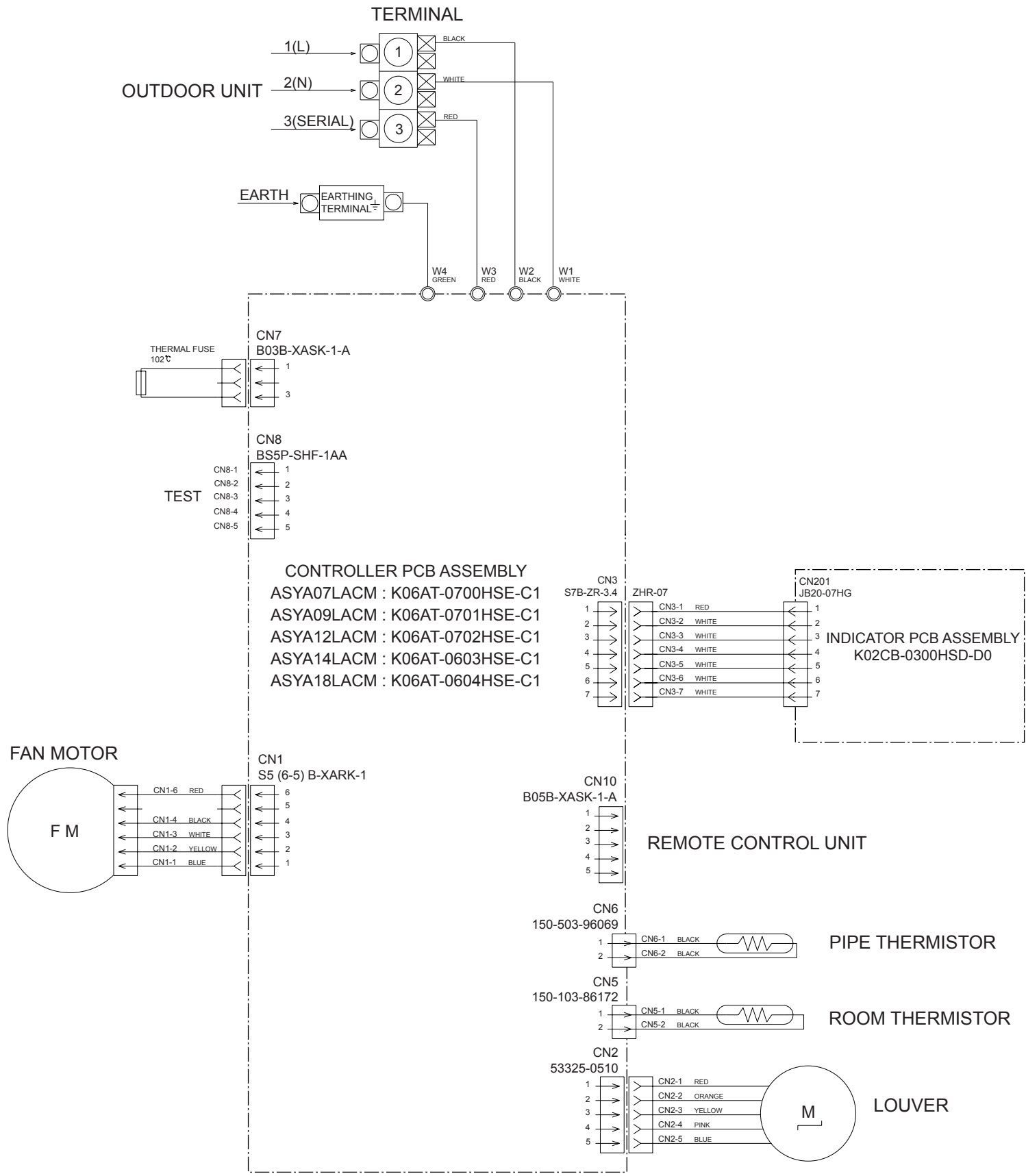
ASYA07LACM : EZ-0070HSE

ASYA09LACM : EZ-0071HSE

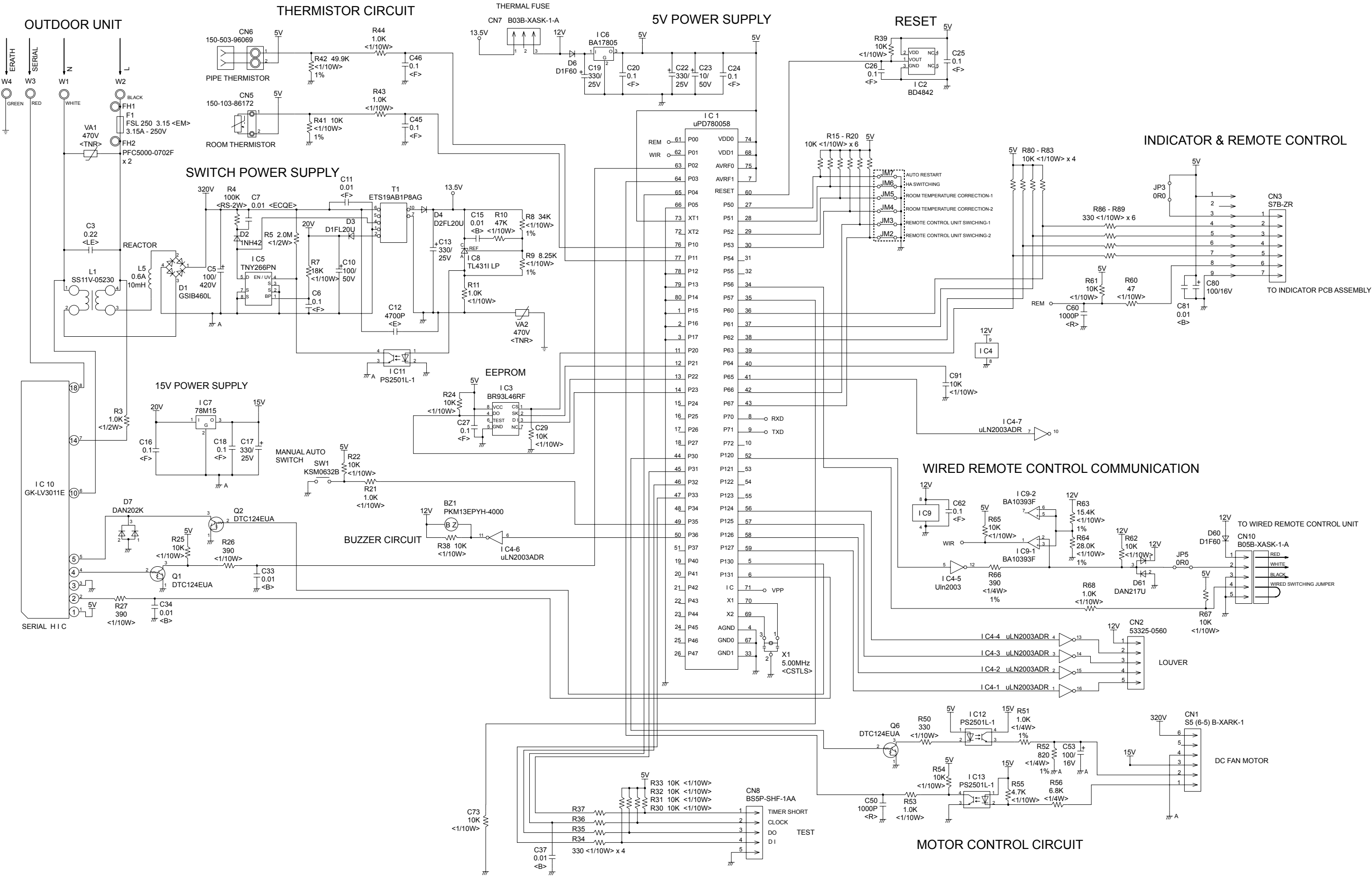
ASYA12LACM : EZ-0072HSE

ASYA14LACM : EZ-006WHSE

ASYA18LACM : EZ-006YHSE



INDOOR UNIT  
CONTROLLER PCB ASSEMBLY  
ASYA07LACM : K06AT-0700HSE-C1  
ASYA09LACM : K06AT-0701HSE-C1  
ASYA12LACM : K06AT-0702HSE-C1  
ASYA14LACM : K06AT-0603HSE-C1  
ASYA18LACM : K06AT-0604HSE-C1

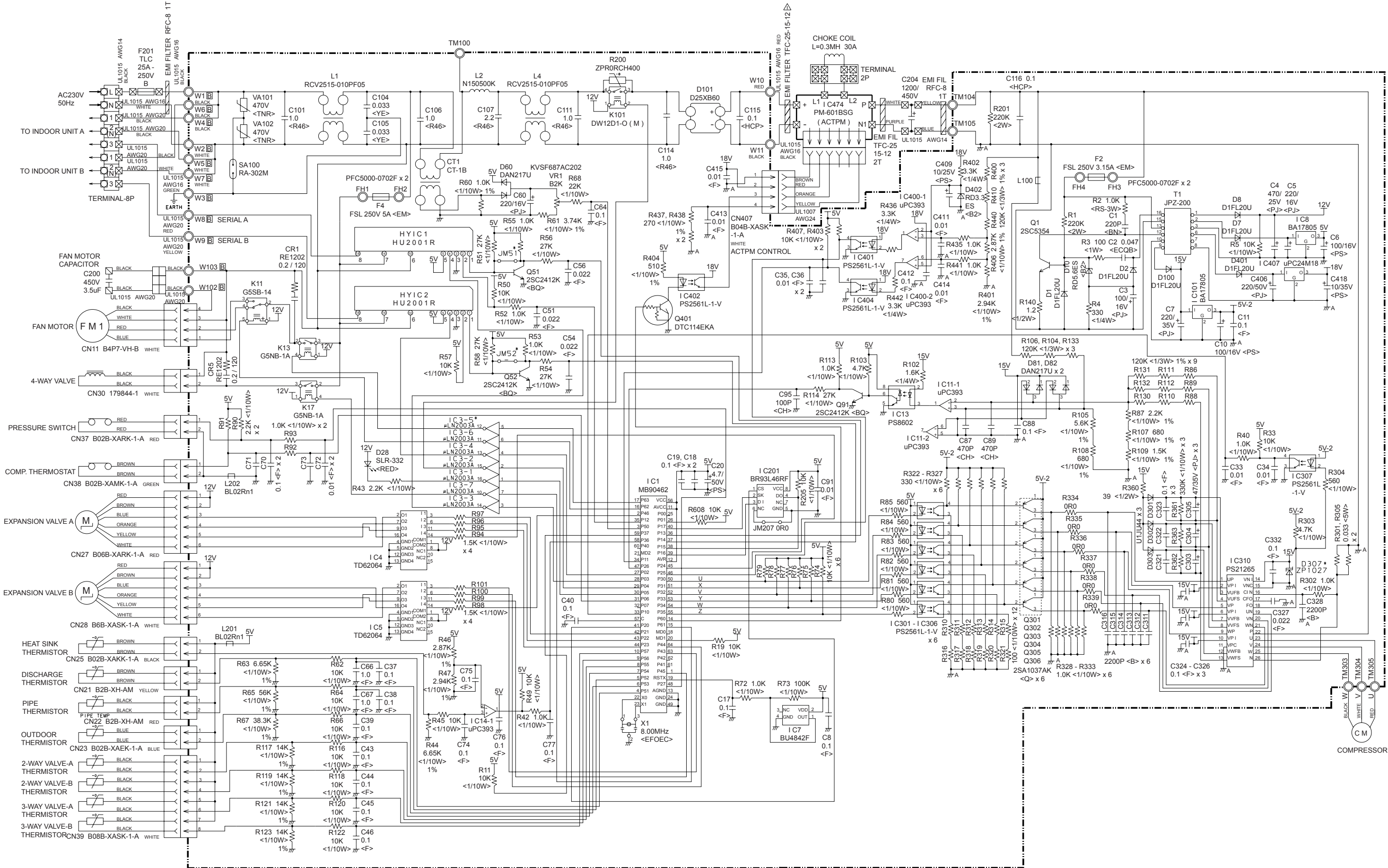




OUTDOOR PCB CIRCUIT DIAGRAM

INVERTER ASSEMBLY  
AOY18LMAK2 : EZ-0056HUE  
AOY24LMAM2 : EZ-0037HUE

CONTROLLER PCB ASSEMBLY  
AOY18LMAK2 : K06DY-0602HUE-C1  
AOY24LMAM2 : K06DY-0600HUE-C1



# ERROR CONTENTS

## INDOOR UNIT

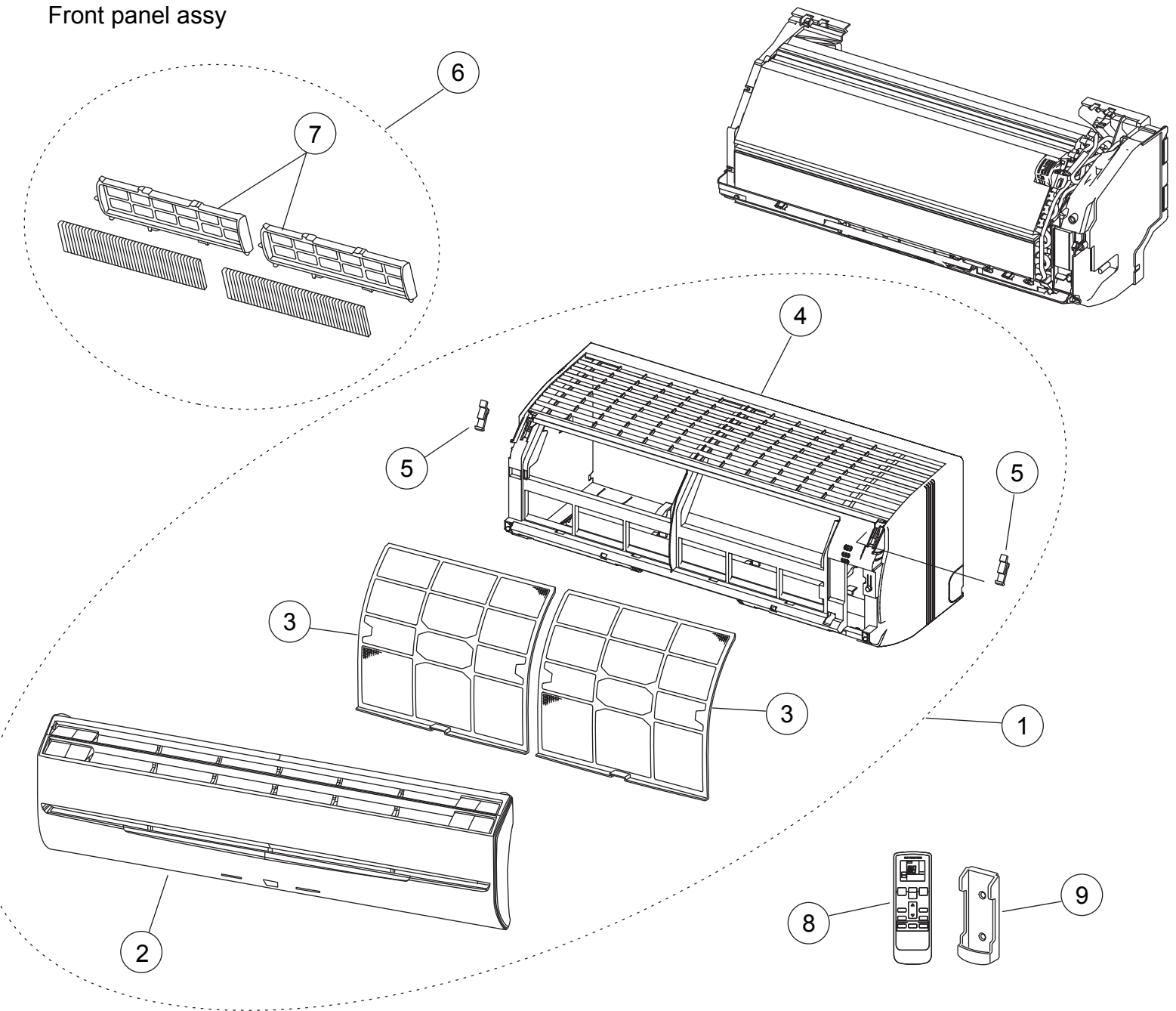
| Error contents                    |                                        | Error display<br>Indoor unit LED |                  |                                  |                      |
|-----------------------------------|----------------------------------------|----------------------------------|------------------|----------------------------------|----------------------|
|                                   |                                        | OPERATION<br>(Red)               | TIMER<br>(Green) | AIR CLEAN<br>or QUIET<br>(Green) | COIL DRY<br>(Orange) |
| Communication error               | Indoor unit - Outdoor unit             | off                              | 2 - 5<br>flashes | off                              | off                  |
| Indoor unit temperature error     | Room temp. sensor error                | 2 flashes                        | 2 flashes        | off                              | off                  |
|                                   | Heat exchanger temp. sensor error      | 2 flashes                        | 3 flashes        | off                              | off                  |
| Outdoor unit temperature error    | Discharge pipe temp. sensor error      | 3 flashes                        | 2 flashes        | off                              | off                  |
|                                   | Heat exchanger temp. sensor error      | 3 flashes                        | 3 flashes        | off                              | off                  |
|                                   | Outdoor temp. sensor error             | 3 flashes                        | 4 flashes        | off                              | off                  |
|                                   | 2 way valve temp. sensor error         | 3 flashes                        | off              | 2 flashes                        | off                  |
|                                   | 3 way valve temp. sensor error         | 3 flashes                        | off              | 3 flashes                        | off                  |
|                                   | Heat sink temp. sensor error           | 3 flashes                        | 7 flashes        | off                              | off                  |
|                                   | Compressor temp. sensor error          | 3 flashes                        | 8 flashes        | off                              | off                  |
| Indoor unit control system error  | MANUAL AUTO button error               | 4 flashes                        | 2 flashes        | off                              | off                  |
|                                   | 50Hz / 60Hz distinguish error          | 4 flashes                        | 4 flashes        | off                              | off                  |
|                                   | Electronic Air clean filter error      | 4 flashes                        | 7 flashes        | off                              | off                  |
|                                   | Electronic Air clean filter error      | 4 flashes                        | 8 flashes        | off                              | off                  |
| Outdoor unit control system error | Current trip error                     | 5 flashes                        | 2 flashes        | off                              | off                  |
|                                   | CT error                               | 5 flashes                        | 3 flashes        | off                              | off                  |
|                                   | Compressor position error              | 5 flashes                        | 5 flashes        | off                              | off                  |
|                                   | Fan motor error                        | 5 flashes                        | 6 flashes        | off                              | off                  |
|                                   | Connected indoor unit error            | 5 flashes                        | 7 flashes        | off                              | off                  |
|                                   | Main CPU - sub CPU communication error | 5 flashes                        | 8 flashes        | off                              | off                  |
| Indoor unit fan motor error       | Fan motor error                        | 6 flashes                        | 2 flashes        | off                              | off                  |
|                                   | Fan motor error                        | 6 flashes                        | 3 flashes        | off                              | off                  |
| Refrigerant system error          | Discharge pipe temp. error             | 7 flashes                        | 2 flashes        | off                              | off                  |
|                                   | High pressure error                    | 7 flashes                        | 3 flashes        | off                              | off                  |
|                                   | High pressure switch error             | 7 flashes                        | 6 flashes        | off                              | off                  |
| Added function error              | Active filter error                    | 8 flashes                        | 2 - 3<br>flashes | off                              | off                  |
| Indoor unit connect error         | Indoor unit model error                | blinking                         | blinking         | blinking                         | blinking             |

## OUTDOOR UNIT

| LED        | Condition                                               |
|------------|---------------------------------------------------------|
| 1 flash    | Communication abnormal                                  |
| 2 flashes  | Discharge pipe thermistor abnormal                      |
| 3 flashes  | Heat exchanger thermistor abnormal                      |
| 4 flashes  | Outdoor air thermistor abnormal                         |
| 5 flashes  | 2-way valve (A, B) thermistor abnormal                  |
| 6 flashes  | 3-way valve (A, B) thermistor abnormal                  |
| 7 flashes  | Compressor thermistor abnormal                          |
| 8 flashes  | Pressure switch abnormal                                |
| 9 flashes  | Indoor units connection abnormal                        |
| 10 flashes | Current trip (permanent stop)                           |
| 11 flashes | CT abnormal (permanent stop)                            |
| 12 flashes | Compressor location detection abnormal (permanent stop) |
| 13 flashes | Compressor does not start (permanent stop)              |
| 14 flashes | Timer reduction                                         |

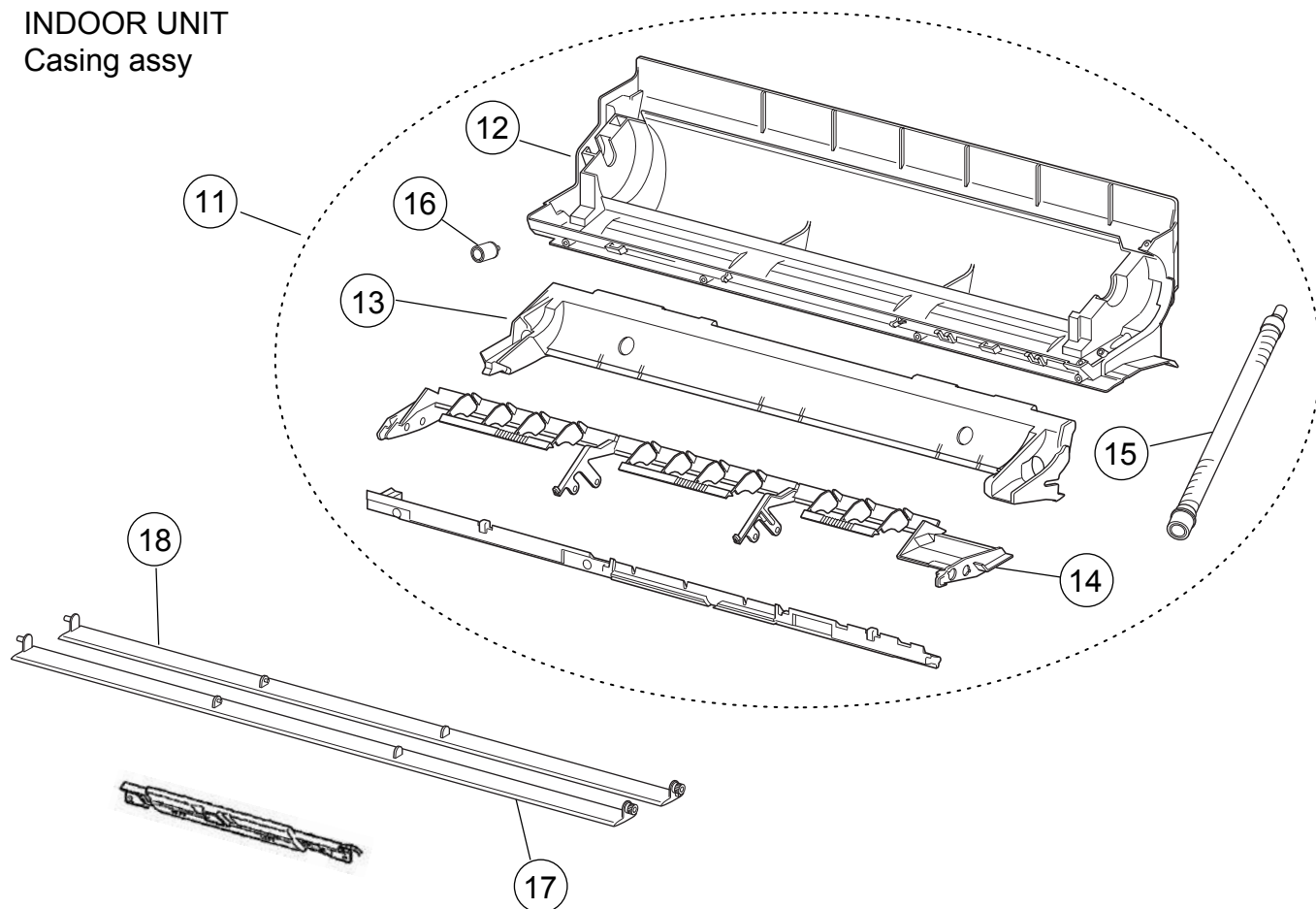
# PARTS

## INDOOR UNIT Front panel assy



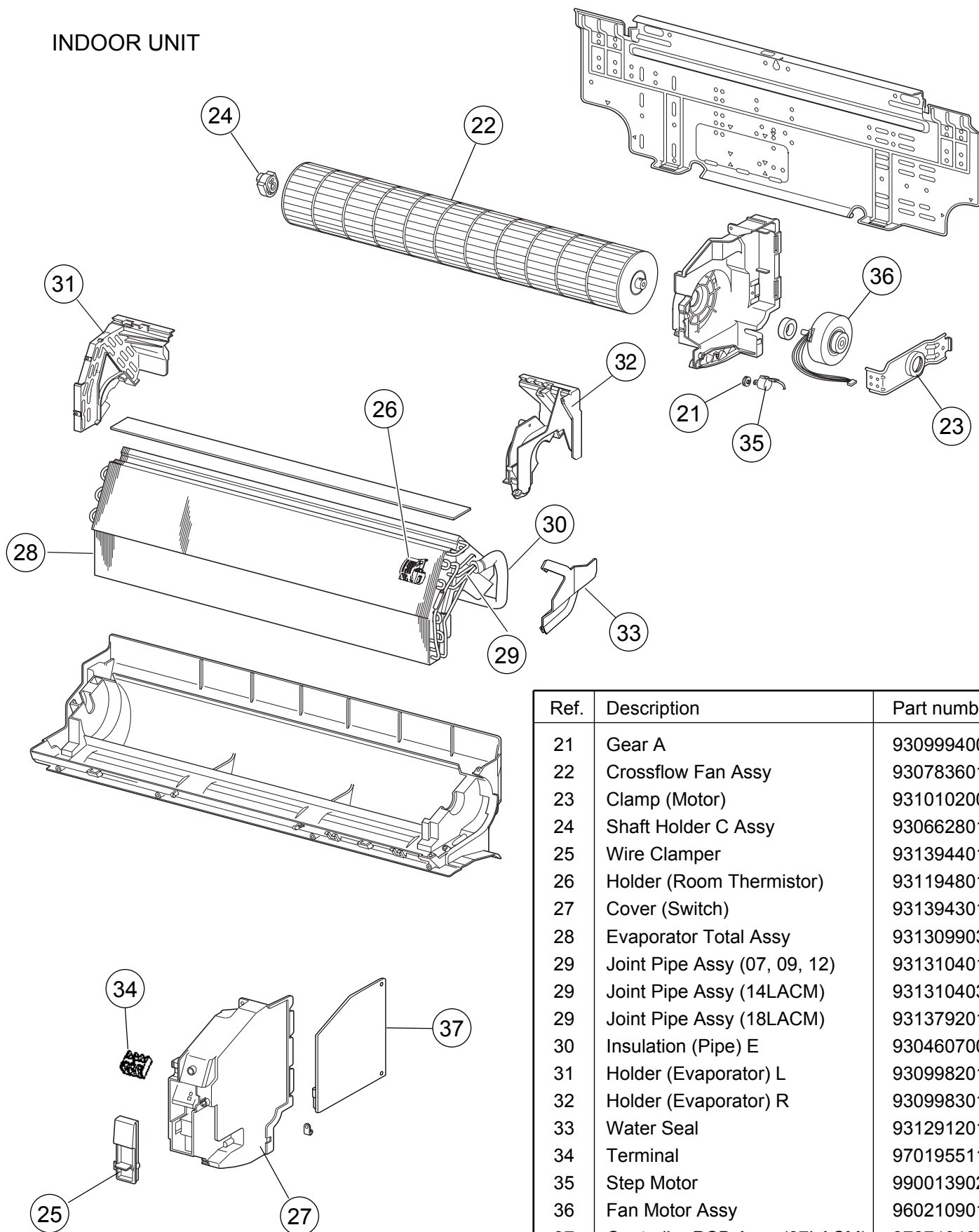
| Ref. | Description            | Part number |  |
|------|------------------------|-------------|--|
| 1    | Front Panel Assy       | 9313130169  |  |
| 2    | Intake Grille Assy     | 9313131128  |  |
| 3    | Air Filter             | 9309997011  |  |
| 4    | Front Panel            | 9309999053  |  |
| 5    | Clamper (Grille)       | 9306755010  |  |
| 6    | Air Clean Filter Assy  | 9312152018  |  |
| 7    | Electric Filter Holder | 9306602017  |  |
| 8    | Remote Control Unit    | 9315027030  |  |
| 9    | Remote Control Holder  | 9305642045  |  |

INDOOR UNIT  
Casing assy



| Ref. | Description     | Part number |  |
|------|-----------------|-------------|--|
| 11   | Casing Assy     | 9311354116  |  |
| 12   | Casing Cover B  | 9314160011  |  |
| 13   | Casing Cover F  | 9309987005  |  |
| 14   | Louver Holder   | 9309993013  |  |
| 15   | Drain Hose Assy | 9314147029  |  |
| 16   | Drain Cap Assy  | 9316177017  |  |
| 17   | Louver U Assy   | 9312368020  |  |
| 18   | Louver Z Assy   | 9312369027  |  |

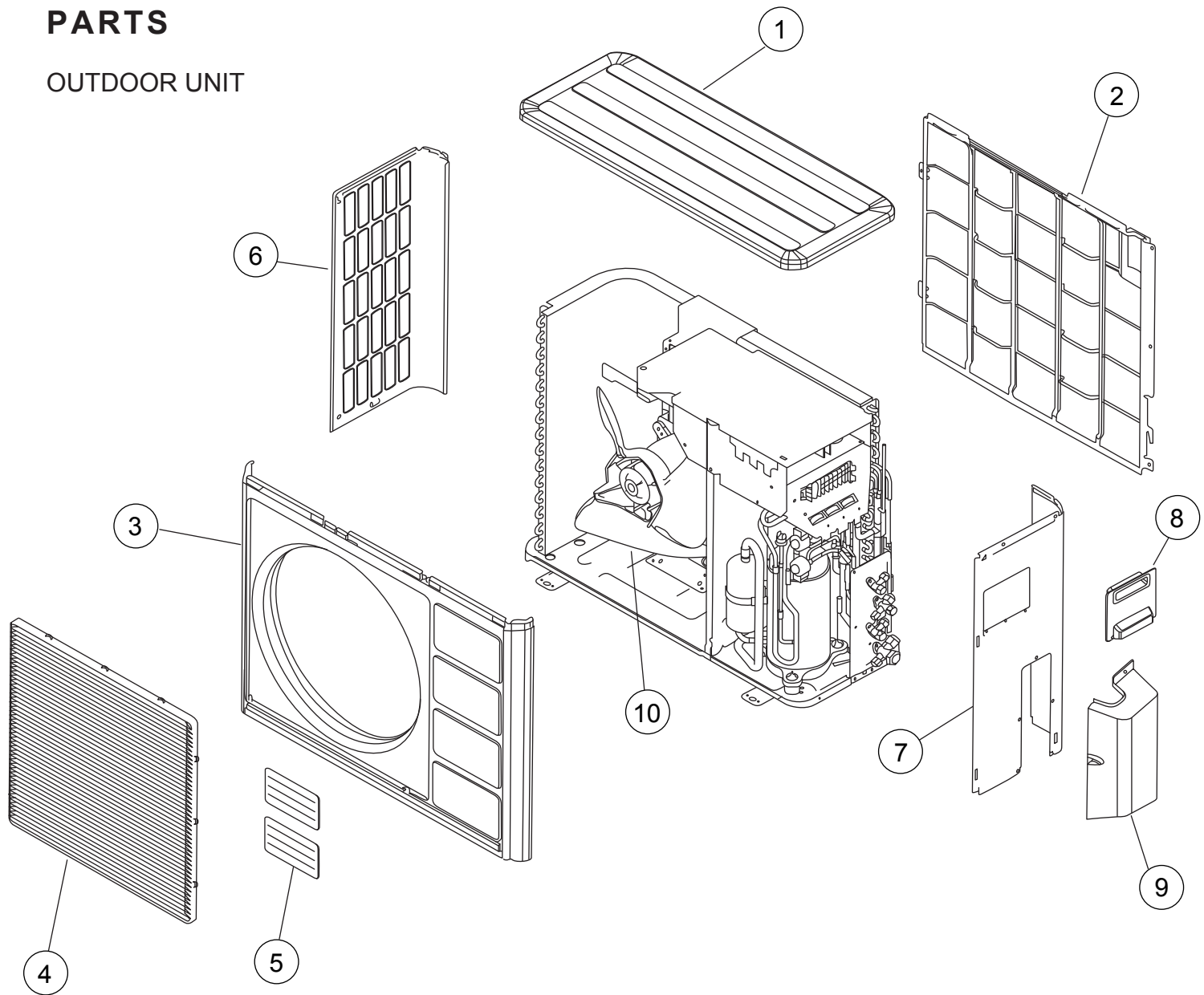
# INDOOR UNIT



| Ref. | Description                  | Part number |
|------|------------------------------|-------------|
| 21   | Gear A                       | 9309994003  |
| 22   | Crossflow Fan Assy           | 9307836015  |
| 23   | Clamp (Motor)                | 9310102008  |
| 24   | Shaft Holder C Assy          | 9306628017  |
| 25   | Wire Clamber                 | 9313944018  |
| 26   | Holder (Room Thermistor)     | 9311948018  |
| 27   | Cover (Switch)               | 9313943011  |
| 28   | Evaporator Total Assy        | 9313099039  |
| 29   | Joint Pipe Assy (07, 09, 12) | 9313104016  |
| 29   | Joint Pipe Assy (14LACM)     | 9313104030  |
| 29   | Joint Pipe Assy (18LACM)     | 9313792015  |
| 30   | Insulation (Pipe) E          | 9304607007  |
| 31   | Holder (Evaporator) L        | 9309982017  |
| 32   | Holder (Evaporator) R        | 9309983014  |
| 33   | Water Seal                   | 9312912018  |
| 34   | Terminal                     | 9701955114  |
| 35   | Step Motor                   | 9900139025  |
| 36   | Fan Motor Assy               | 9602109012  |
| 37   | Controller PCB Assy (07LACM) | 9707404067  |
| 37   | Controller PCB Assy (09LACM) | 9707404074  |
| 37   | Controller PCB Assy (12LACM) | 9707404081  |
| 37   | Controller PCB Assy (14LACM) | 9707404043  |
| 37   | Controller PCB Assy (18LACM) | 9707404050  |
| ---  | Pipe Thermistor              | 9702039042  |
| ---  | Room Thermistor              | 9700801108  |
| ---  | Indicator PCB Assy           | 9705039032  |
| ---  | Evaporator B (18LACM only)   | 9311275022  |

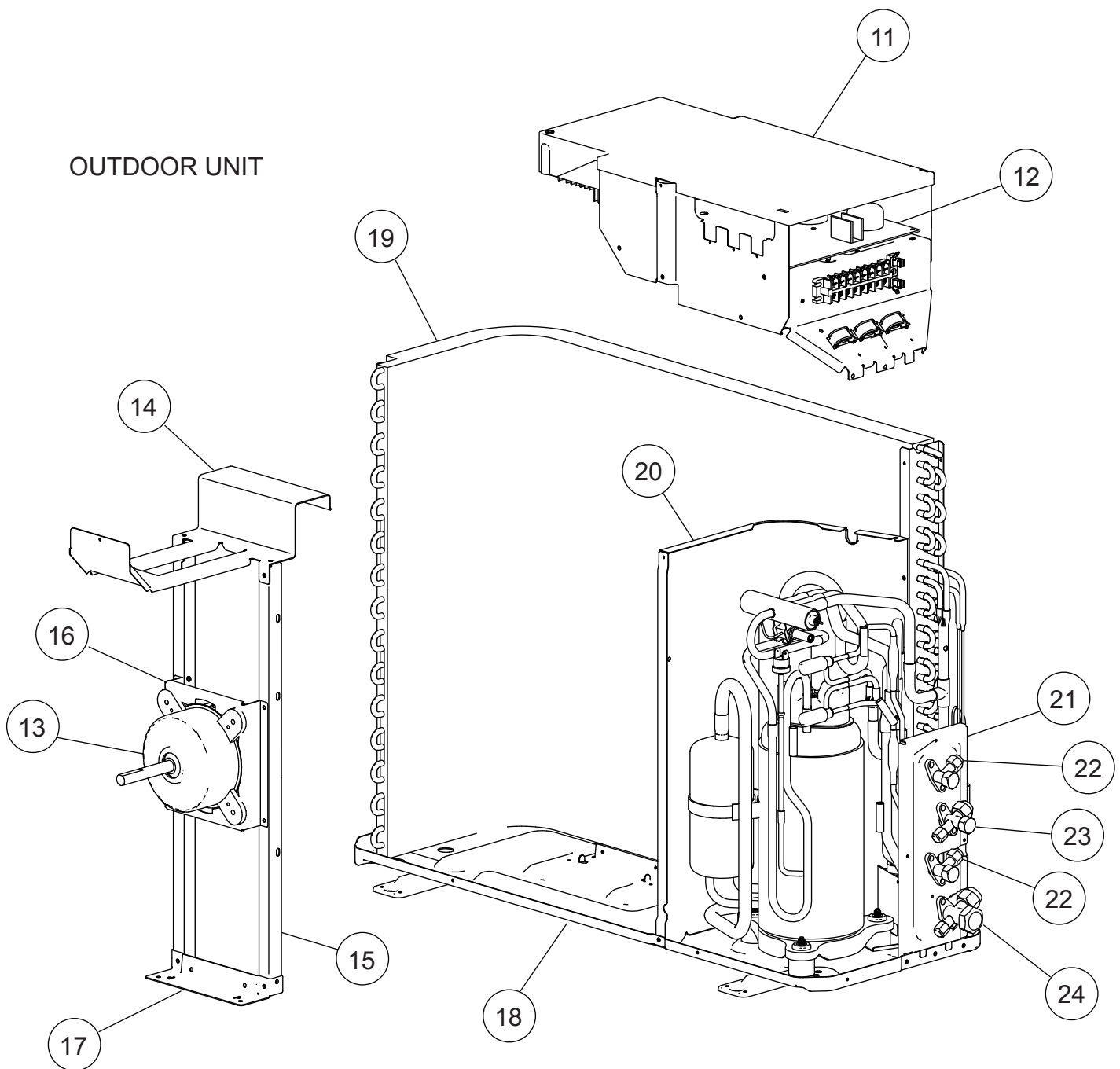
PARTS

OUTDOOR UNIT



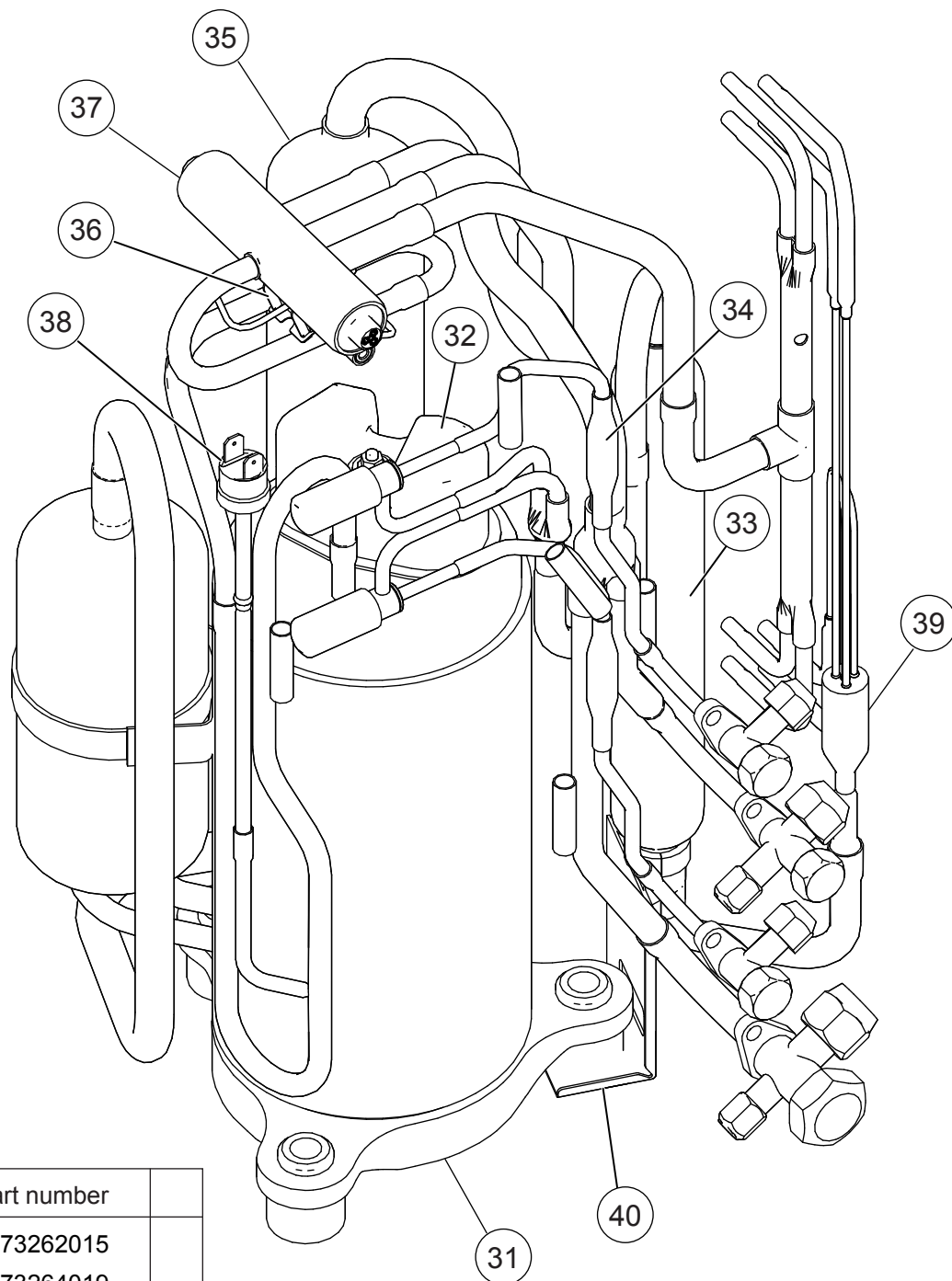
| Ref. | Description           | Part number |  |
|------|-----------------------|-------------|--|
| 1    | Top Panel             | 9371925011  |  |
| 2    | Protective Net        | 9371934013  |  |
| 3    | Front Panel           | 9371924014  |  |
| 4    | Fan Guard             | 9371187013  |  |
| 5    | Emblem                | 9351355005  |  |
| 6    | Side Panel L          | 9371926018  |  |
| 7    | Side Panel R Sub Assy | 9372306048  |  |
| 8    | Connecteur Cover      | 9366398004  |  |
| 9    | Valve Cover           | 9372796016  |  |
| 10   | Propeller Fan Assy    | 9366378013  |  |

## OUTDOOR UNIT



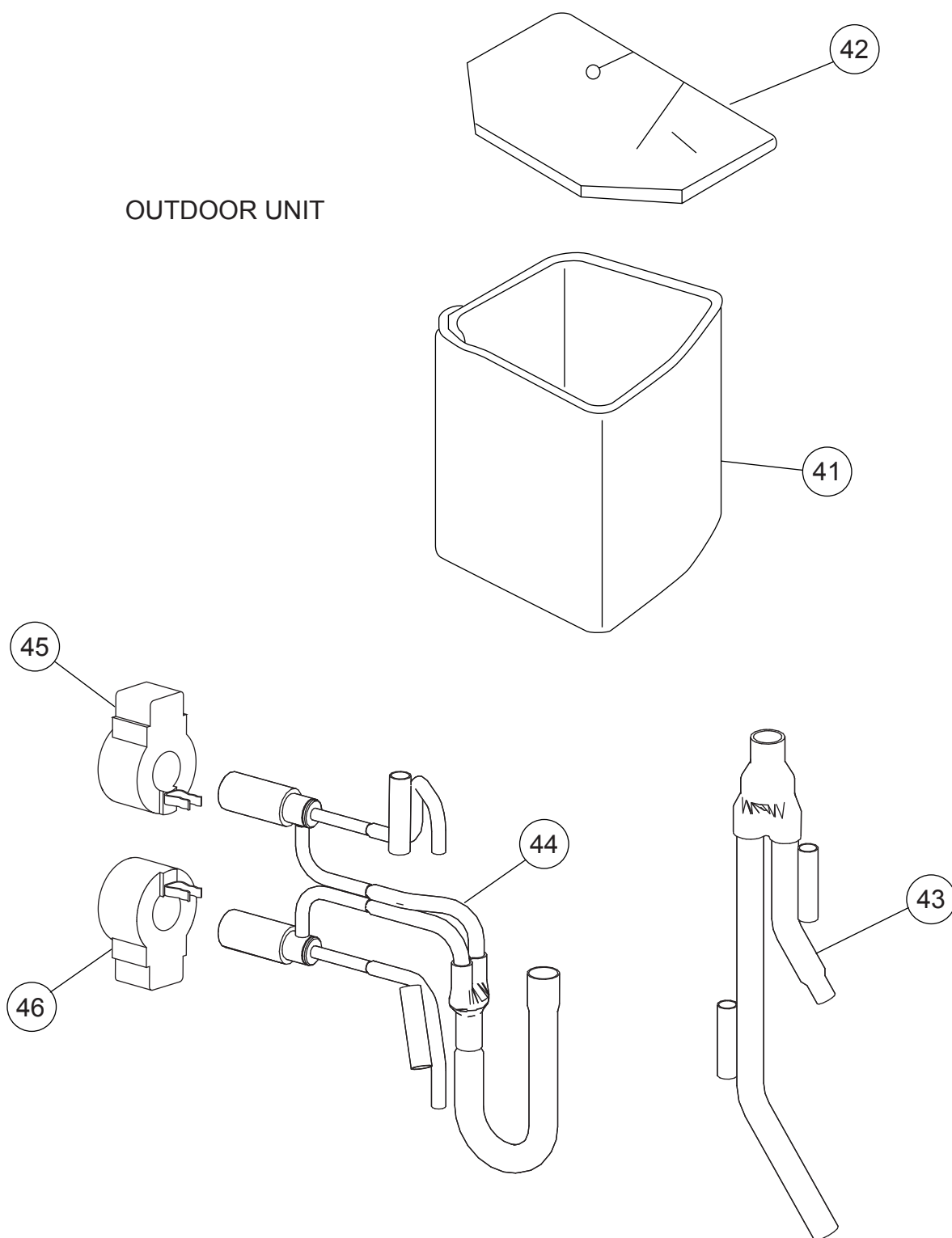
| Ref. | Description                   | Part number |  | Ref. | Description               | Part number |  |
|------|-------------------------------|-------------|--|------|---------------------------|-------------|--|
| 11   | Control Cover                 | 9372792018  |  | --   | Heat Exchanger Thermistor | 9704220059  |  |
| 12   | Controller PCB Assy (18LMAK2) | 9707560039  |  | --   | Thermistor Outdoor        | 9703516047  |  |
| 12   | Controller PCB Assy (24LMAM2) | 9707560015  |  | --   | Thermistor Heat Sink      | 9900195014  |  |
| 13   | Motor Induct                  | 9601671046  |  | --   | Relay                     | 9900117016  |  |
| 14   | Motor Bracket Top             | 9371931012  |  | --   | ACTPM                     | 9703457012  |  |
| 15   | Motor Bracket                 | 9371929019  |  | --   | Capacitor for PCB         | 9705387010  |  |
| 16   | Motor Bracket Center          | 9371930015  |  | --   | Fan Capacitor             | 9900270049  |  |
| 17   | Motor Bracket Bottom          | 9371932019  |  | --   | Fuse                      | 0600086039  |  |
| 18   | Base Assy                     | 9371920078  |  | --   | Terminal 8P               | 9900203047  |  |
| 19   | Condenser Assy                | 9372181096  |  | --   | Fuse Holder               | 0501454012  |  |
| 20   | Separate Wall                 | 9372795019  |  | --   | Terminal 2P               | 9701971015  |  |
| 21   | Valve Plate                   | 9371928036  |  |      |                           |             |  |
| 22   | 2-Way Valve                   | 9372204054  |  |      |                           |             |  |
| 23   | 3-Way Valve                   | 9372205044  |  |      |                           |             |  |
| 24   | 3-Way Valve                   | 9372205051  |  |      |                           |             |  |

## OUTDOOR UNIT



| Ref. | Description                | Part number  |  |
|------|----------------------------|--------------|--|
| 31   | Compressor Assy            | 9373262015   |  |
| 32   | Terminal Cover (Comp)      | 9373264019   |  |
| 33   | Receiver Tank Assy         | 9373426011   |  |
| 34   | Strainer Assy              | 9366602019   |  |
| 35   | Accumulator                | 9368391003   |  |
| 36   | Solenoid                   | 9900165079   |  |
| 37   | 4-Way Valve                | 9900163013   |  |
| 38   | Pressure Switch Assy       | 9373729044   |  |
| 39   | Capillary Assy             | 9373729211   |  |
| 40   | Accum Support Assy         | 9372252017   |  |
| --   | Thermal Switch             | 9377956019   |  |
| --   | Gasket (Comp)              | 9373266013   |  |
| --   | Compressor Pressure Switch | 9900186012   |  |
| --   | Compressor Thermal Switch  | 9373263012   |  |
| --   | Thermistor Valve           | 9900194017   |  |
| --   | Thermistor Discharge       | 9704219039   |  |
| --   | Special Nut M8 (Comp)      | 9355091008   |  |
| --   | Thermistor Holder Pipe     | 313714262805 |  |

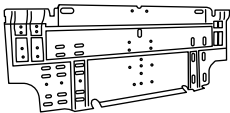
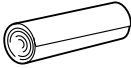
## OUTDOOR UNIT



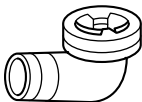
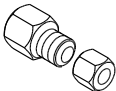
| Ref. | Description                            | Part number |  |
|------|----------------------------------------|-------------|--|
| 41   | Compressor Cover A                     | 9373730019  |  |
| 42   | Compressor Cover B                     | 9373730026  |  |
| 43   | Joint Pipe (3Way) Assy                 | 9373729129  |  |
| 44   | Expansion Valve Assy                   | 9373729068  |  |
| 45   | Expansion Valve Coil (White connector) | 9900197018  |  |
| 46   | Expansion Valve Coil (Red connector)   | 9900057022  |  |

## ACCESSORIES

### INDOOR UNIT

| Name and Shape                                                                                                                   | Q'ty | Use                                         | Part number |
|----------------------------------------------------------------------------------------------------------------------------------|------|---------------------------------------------|-------------|
| Wall hook bracket<br>                           | 1    | To install indoor unit                      | 9310001004  |
| Remote control<br>                              | 1    | To operate air conditioner                  | 9315027030  |
| Battery (penlight)<br>                          | 2    | For remote control unit                     | 0600185527  |
| Cloth tape<br>                                  | 1    | For indoor unit installation                | 9310519004  |
| Remote control holder<br>                     | 1    | To hold remote control                      | 9305642045  |
| Ttpping screw (big)<br>( $\phi$ 4 x 25)<br>   | 8    | For wall hook bracket installation          | 0700076046  |
| Ttpping screw (small)<br>( $\phi$ 3 x 12)<br> | 2    | For remote control unit holder installation | 0700019036  |

### OUTDOOR UNIT

| Name and Shape                                                                                                                                              | Q'ty | Use                                                   | Part number  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-------------------------------------------------------|--------------|
| Drain pipe<br>                                                           | 1    | For outdoor unit drain piping work                    | 9303029015   |
| Drain cap<br>                                                            | 1    |                                                       | 313166024302 |
| Adapter assy<br>12.7 mm $\rightarrow$ 9.52 mm<br>(1/2 in.) (3/8 in.)<br> | 1    | For use when connecting models 9-12 to outdoor port A | 9370244007   |

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