

SPLIT TYPE
AIR CONDITIONER
SLIM DUCT TYPE (50Hz)

SERVICE MANUAL



| Indoor unit | Outdoor unit |
|-------------|--------------|
| ARYG12LLTB | AOYG12LALL |
| ARYG14LLTB | AOYG14LALL |
| ARYG18LLTB | AOYG18LALL |

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SPECIFICATIONS

ELECTRICAL DATA

| TYPE | | Inverter cooling & heating | | |
|------------------------|---------|----------------------------|------------|------------|
| INDOOR UNIT | | ARYG12LLTB | ARYG14LLTB | ARYG18LLTB |
| OUTDOOR UNIT | | AOYG12LALL | AOYG14LALL | AOYG18LALL |
| COOLING CAPACITY | | 3.50 kW | 4.30 kW | 5.20 kW |
| HEATING CAPACITY | | 4.10 kW | 5.00 kW | 6.00 kW |
| POWER SOURCE | | 230 V, 50 Hz | | |
| RUNNING CURRENT | Cooling | 4.8 A | 6.1 A | 7.2 A |
| | Heating | 5.1 A | 6.1 A | 7.4 A |
| INPUT WATTS | Cooling | 1.05 kW | 1.33 kW | 1.62 kW |
| | Heating | 1.11 kW | 1.34 kW | 1.66 kW |
| E.E.R. | Cooling | 3.33 kW/kW | 3.21 kW/kW | 3.21 kW/kW |
| COP | Heating | 3.69 kW/kW | 3.71 kW/kW | 3.61 kW/kW |
| MOISTURE REMOVAL | | 1.3 L/hr | 1.5 L/hr | 2.0 L/hr |
| AIR CIRCULATION (HIGH) | | 650 m3/hr | 800 m3/hr | 940 m3/hr |
| MAXIMUM CURRENT | Cooling | 7.5 A | 9.0 A | 9.0 A |
| | Heating | 10.0 A | 12.5 A | 12.5 A |

FAN MOTOR

| INDOOR UNIT, Discrimination | | MFG-14WV | | |
|------------------------------|--------|--------------|--------------|--------------|
| INDOOR UNIT | High | 1,340 r.p.m. | 1,560 r.p.m. | 1,380 r.p.m. |
| | Medium | 1,240 r.p.m. | 1,400 r.p.m. | 1,300 r.p.m. |
| | Low | 1,140 r.p.m. | 1,240 r.p.m. | 1,220 r.p.m. |
| | Quiet | 1,030 r.p.m. | 1,030 r.p.m. | 1,140 r.p.m. |
| OUTDOOR UNIT, Discrimination | | MFE-63NOM | | |
| OUTDOOR UNIT (cool) | | 770 r.p.m. | 820 r.p.m. | 860 r.p.m. |
| OUTDOOR UNIT (heat) | | 700 r.p.m. | 750 r.p.m. | 820 r.p.m. |

NOISE LEVEL

| | | | | |
|---------------------|--------|-------|-------|-------|
| INDOOR UNIT (cool) | High | 29 dB | 32 dB | 32 dB |
| | Medium | 28 dB | 30 dB | 30 dB |
| | Low | 26 dB | 28 dB | 29 dB |
| | Quiet | 25 dB | 26 dB | 27 dB |
| INDOOR UNIT (heat) | High | 29 dB | 32 dB | 32 dB |
| | Medium | 28 dB | 30 dB | 30 dB |
| | Low | 26 dB | 28 dB | 29 dB |
| | Quiet | 24 dB | 25 dB | 27 dB |
| OUTDOOR UNIT (cool) | | 47 dB | 49 dB | 50 dB |
| OUTDOOR UNIT (heat) | | 48 dB | 49 dB | 50 dB |

COMPRESSOR AND REFRIGERANT

| | | | | |
|-----------------------|------------------|---------------|---------|---------|
| COMPRESSOR | | DA130A1F-25NA | | |
| WEIGHT (with oil) | | 9.6 kg | | |
| REFRIGERANT TYPE | | R410A | | |
| PRECHARGED | | 1,150 g | 1,250 g | 1,250 g |
| FULL CHARGE | Pipe length 15 m | 1,150 g | 1,250 g | 1,250 g |
| | 20 m | 1,250 g | 1,350 g | 1,350 g |
| | 25 m | 1,350 g | 1,450 g | 1,450 g |
| ADDITIONAL CHARGE | | 20 g/m | | |
| MAXIMUM PIPING HEIGHT | | 15 m | | |

DIMENSIONS

| | | |
|------------------------|--------------------|-----------------|
| INDOOR UNIT H x W x D | 198 x 700 x 620 mm | 198 x 900 x 620 |
| OUTDOOR UNIT H x W x D | 578 x 790 x 300 mm | |

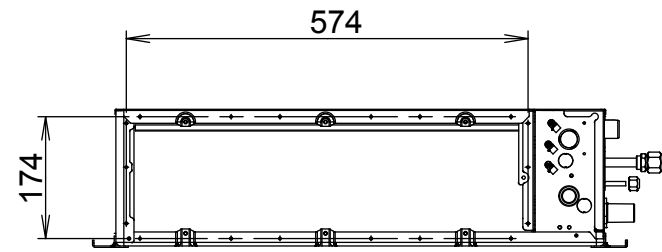
WEIGHT

| | | |
|-----------------------------|---------------|------------|
| INDOOR UNIT Net / Shipping | 19 kg / 26 kg | 23 / 30 kg |
| OUTDOOR UNIT Net / Shipping | 40 kg / 44 kg | |

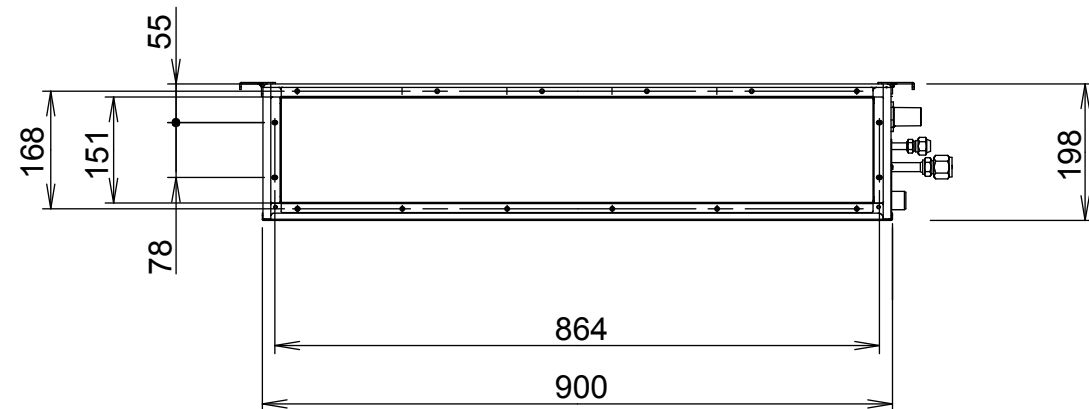
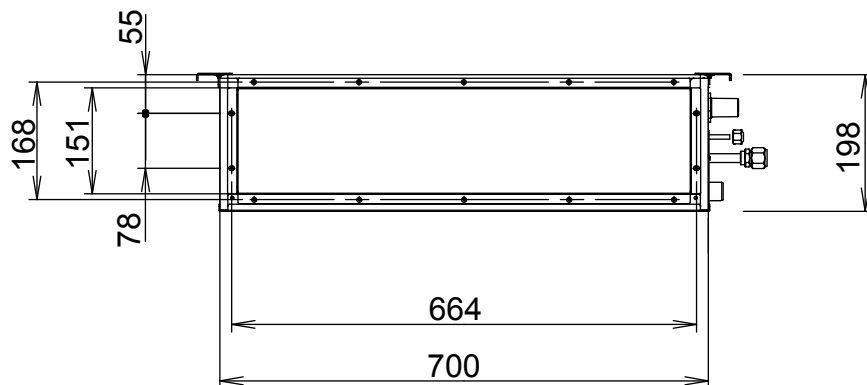
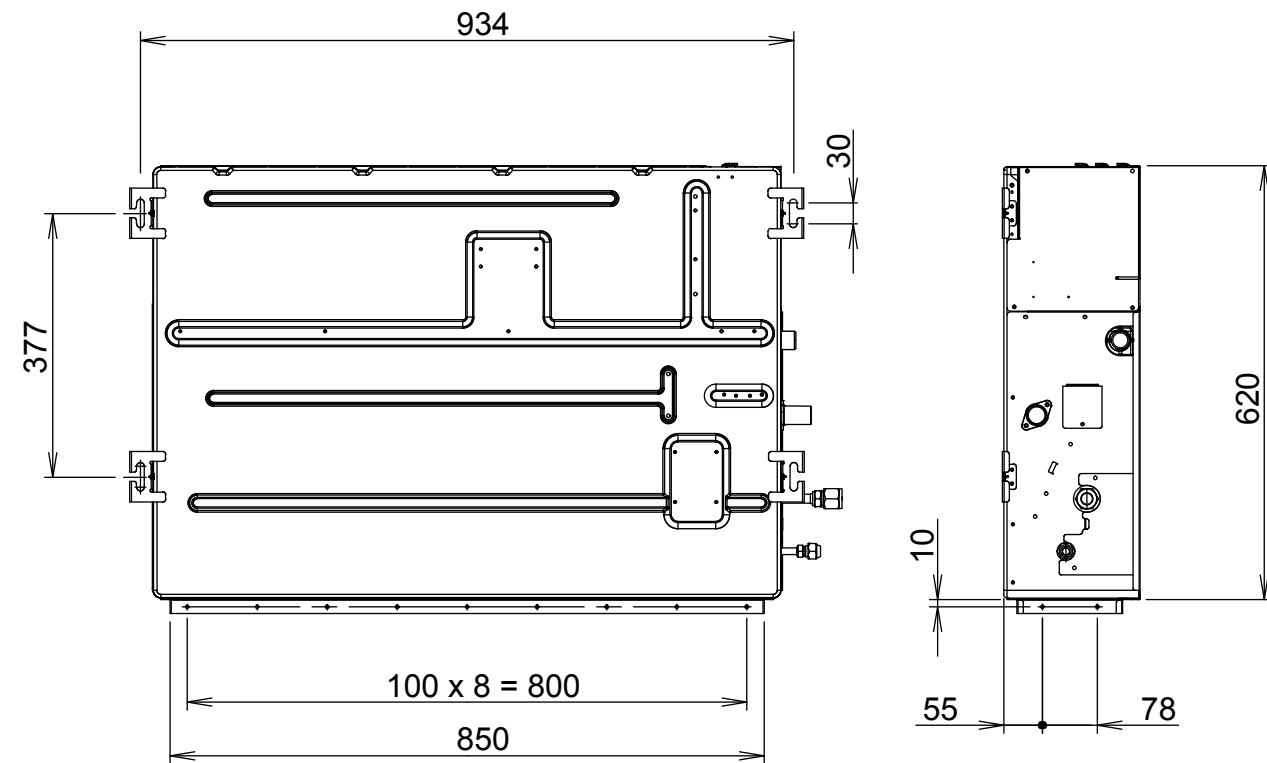
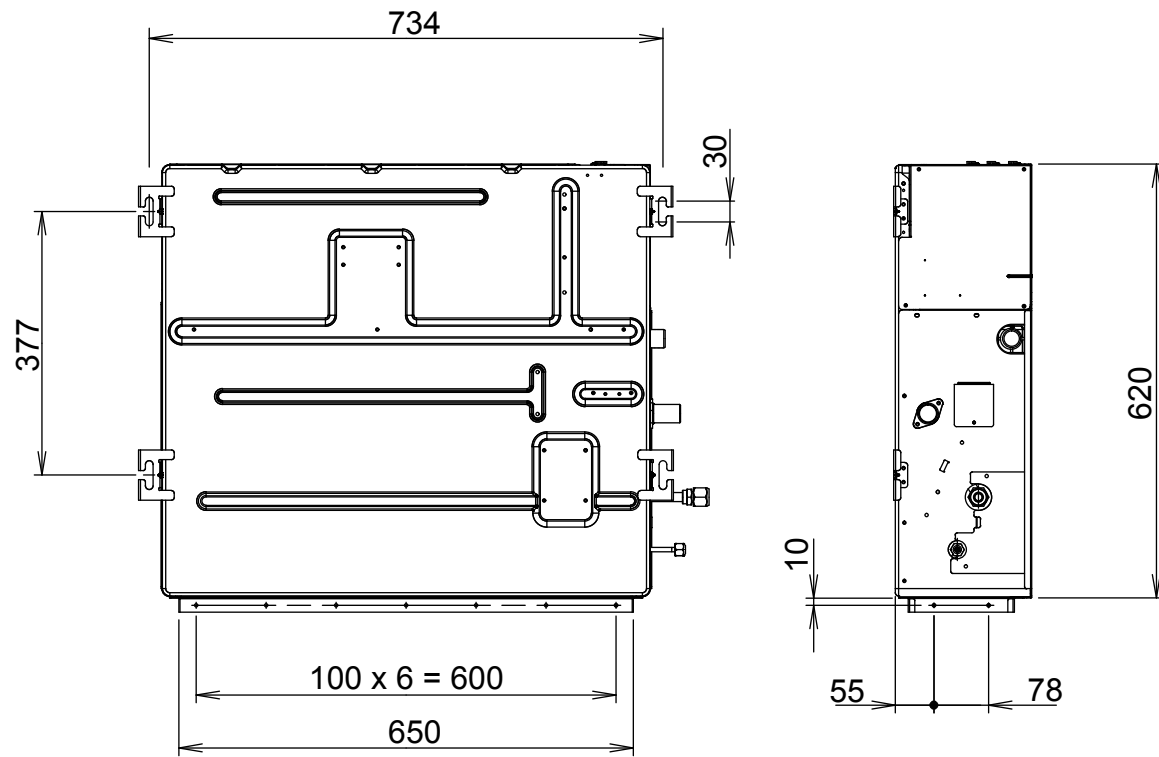
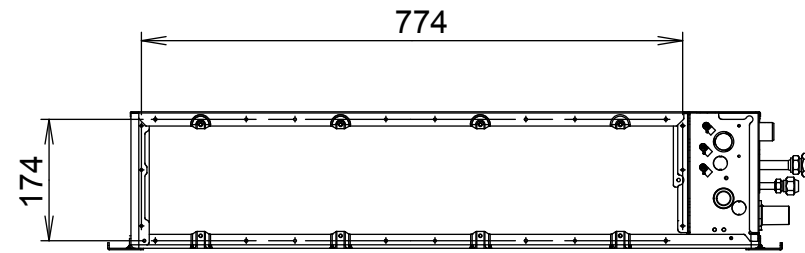
DIMENSIONS

Unit : mm

INDOOR UNIT
ARYG12LLTB
ARYG14LLTB

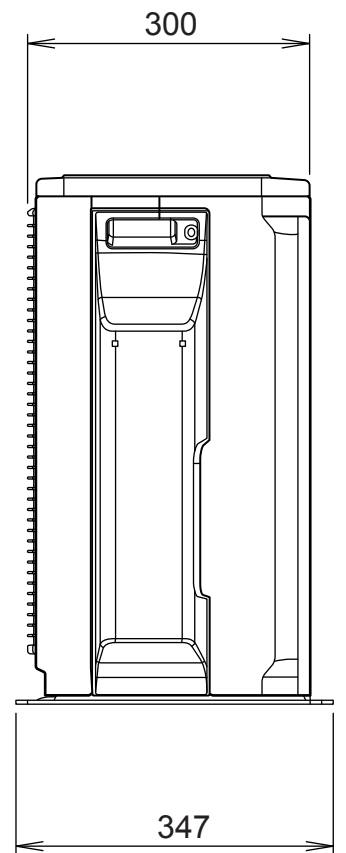
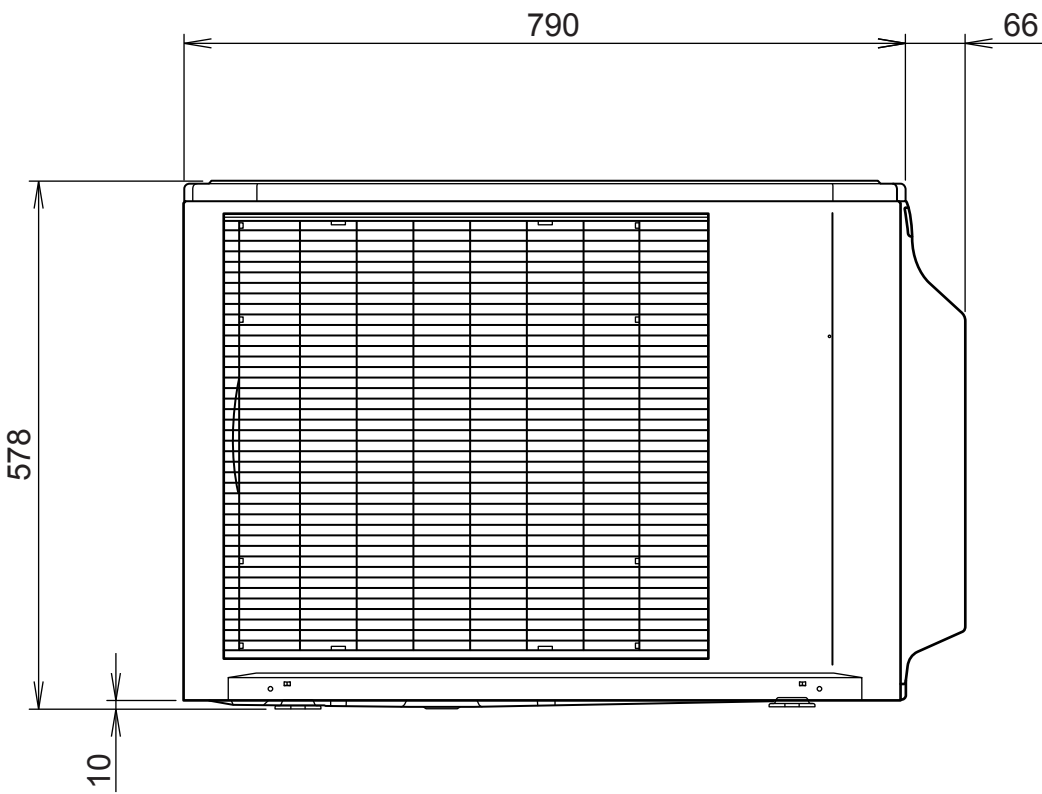
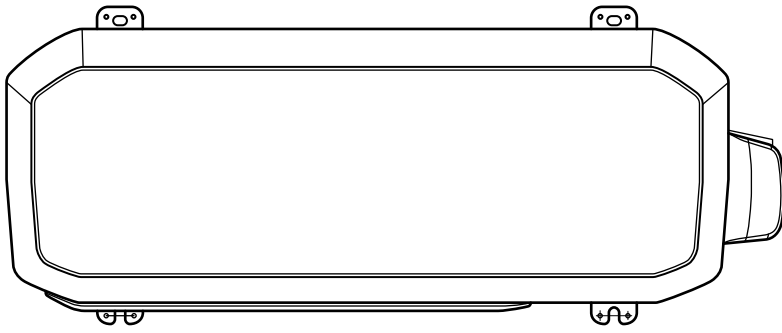


INDOOR UNIT
ARYG18LLTB

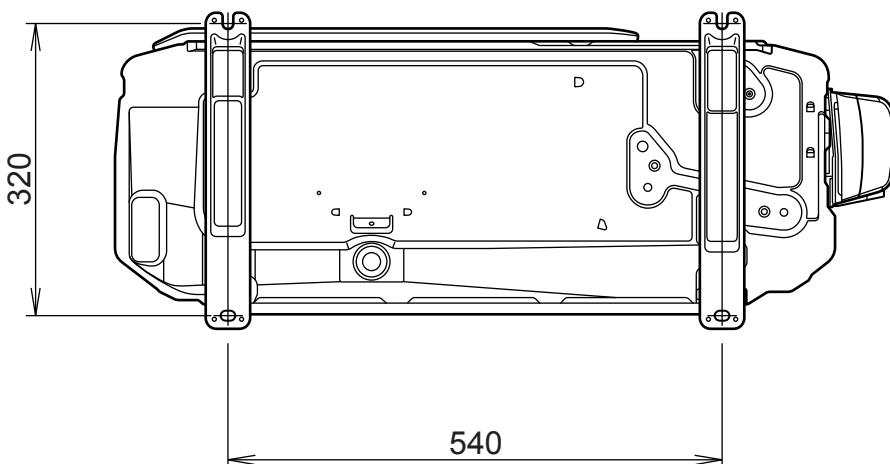


Unit : mm

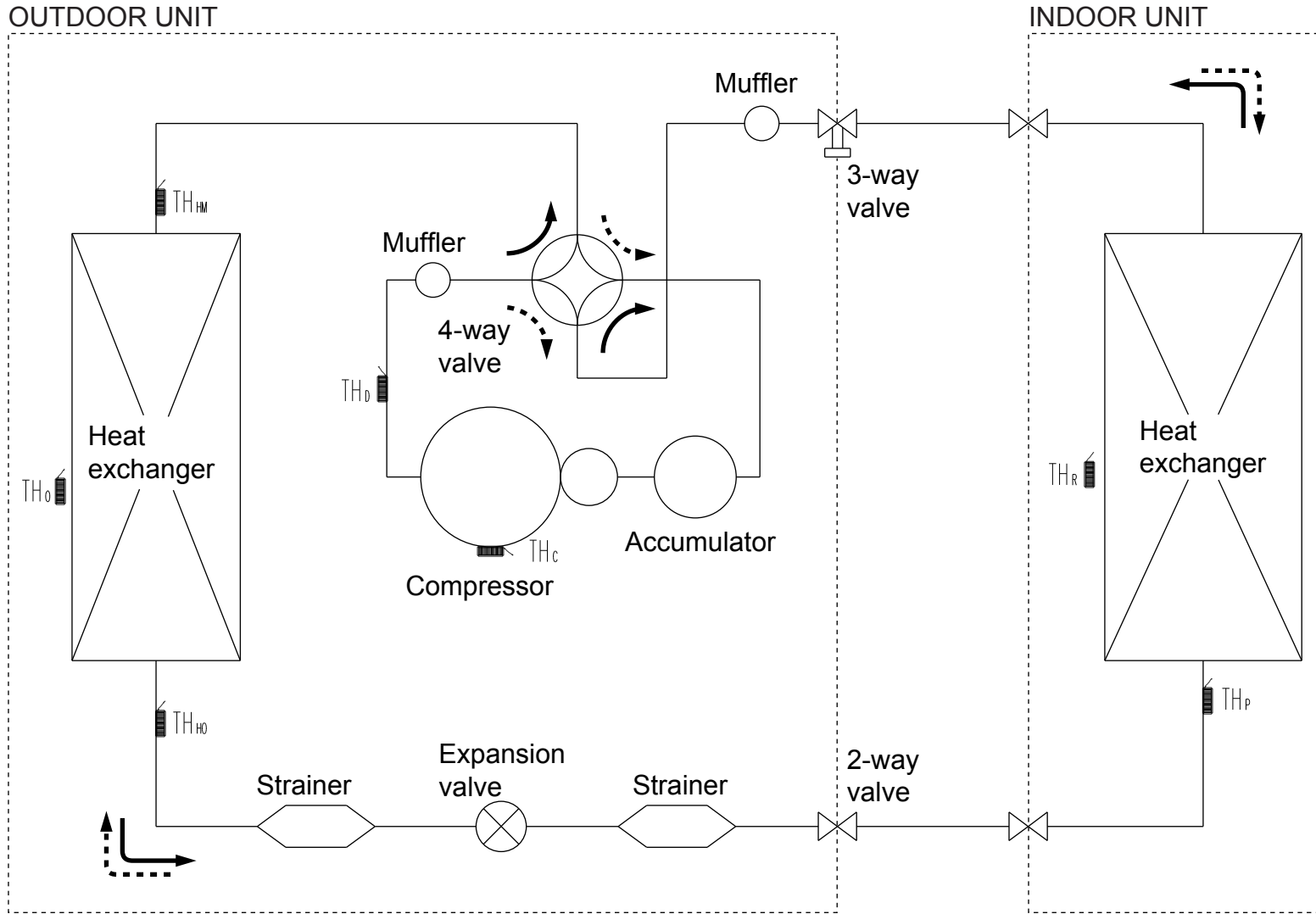
OUTDOOR UNIT



Air flow



REFRIGERANT SYSTEM DIAGRAM



<Refrigerant direction>

—▶ Cooling

⋯▶ Heating

<Refrigerant pipe diameter>

12

Liquid : 1/4" (6.35 mm)

Gas : 3/8" (9.52 mm)

14, 18

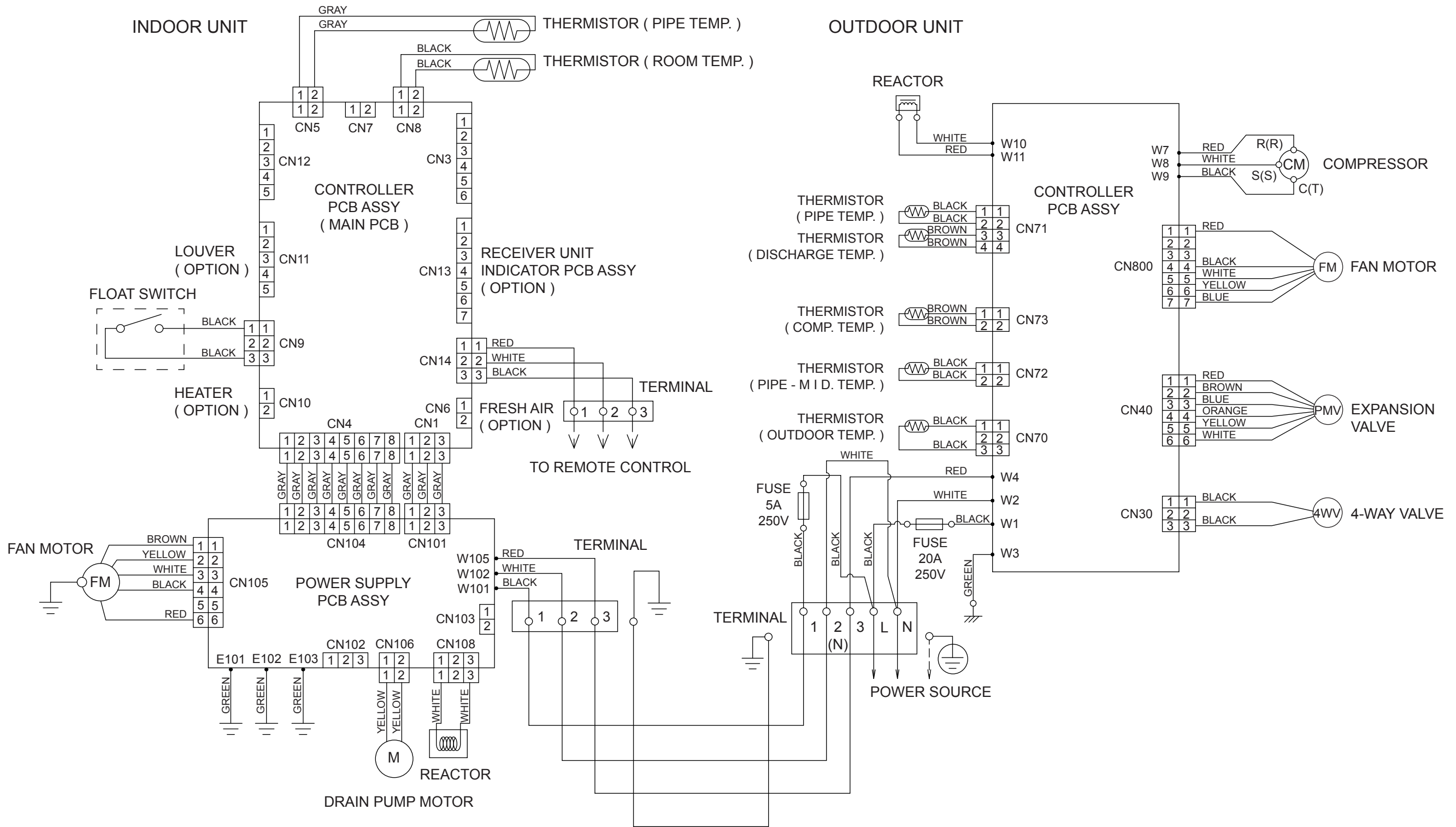
Liquid : 1/4" (6.35 mm)

Gas : 1/2" (12.70 mm)

TH_c : Compressor thermistor
 TH_o : Discharge pipe thermistor
 TH_{HM} : Heat exchanger thermistor (Middle)
 TH_{HO} : Heat exchanger thermistor (Out)
 TH_o : Outdoor thermistor

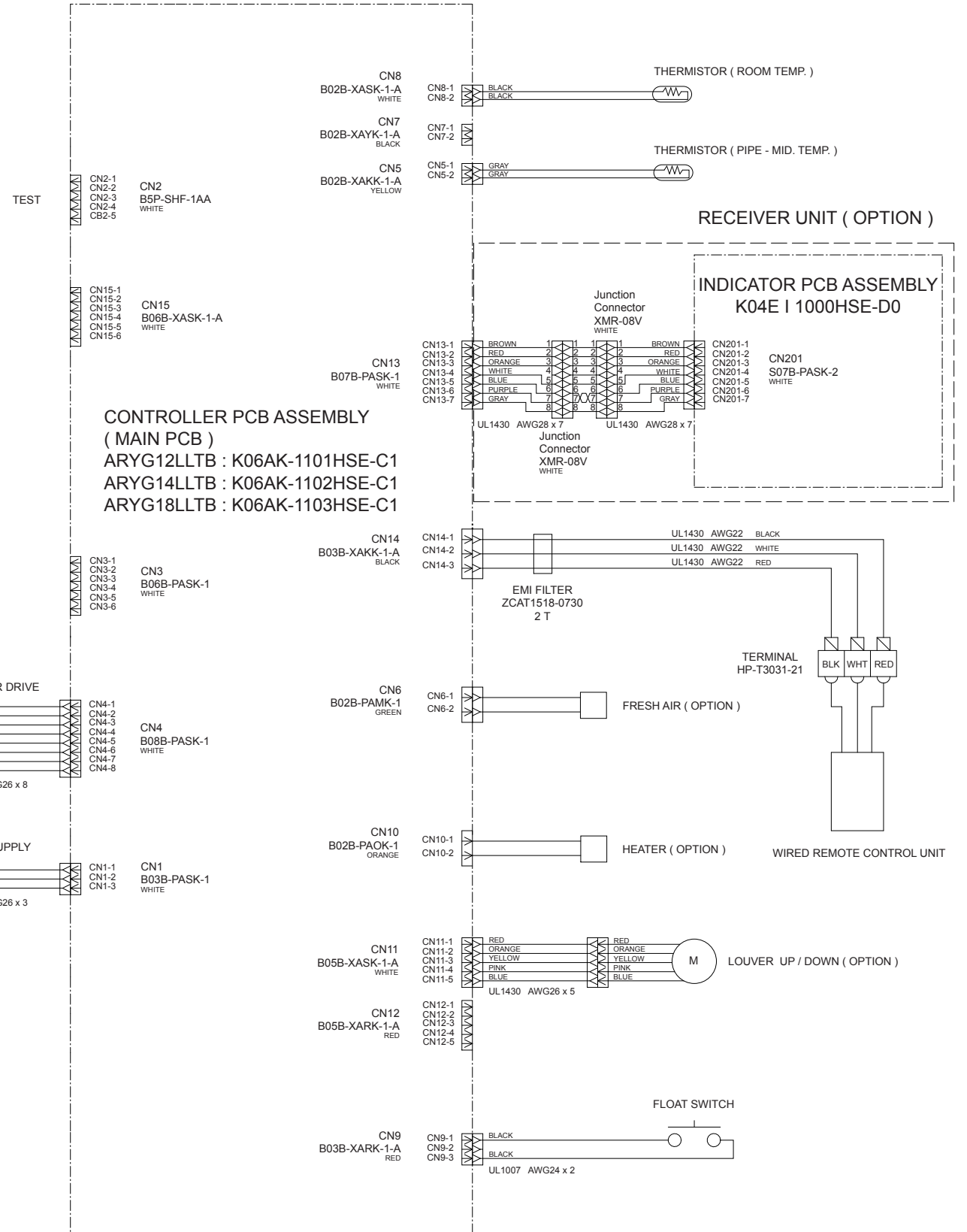
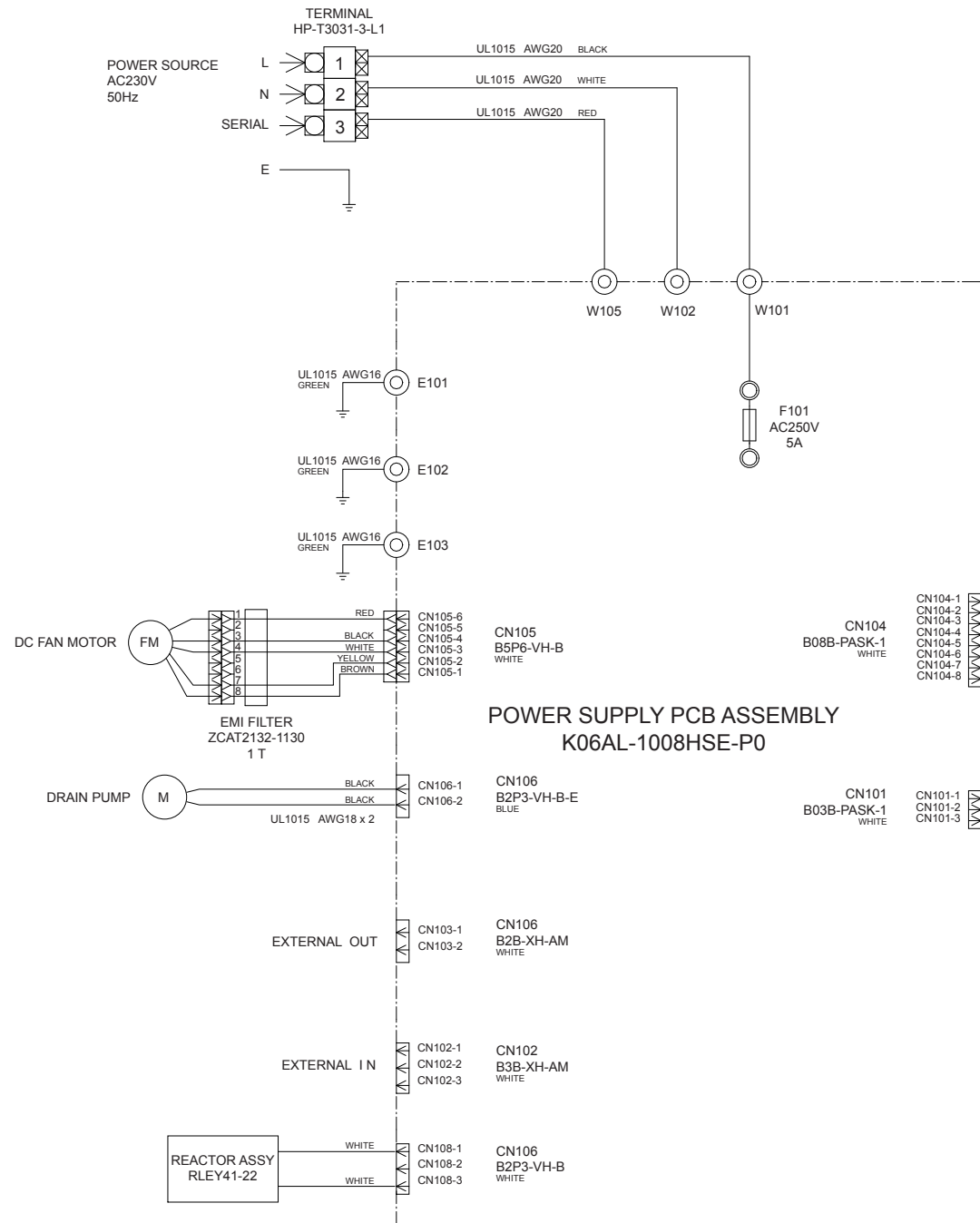
TH_p : Pipe thermistor
 TH_r : Room thermistor

CIRCUIT DIAGRAM

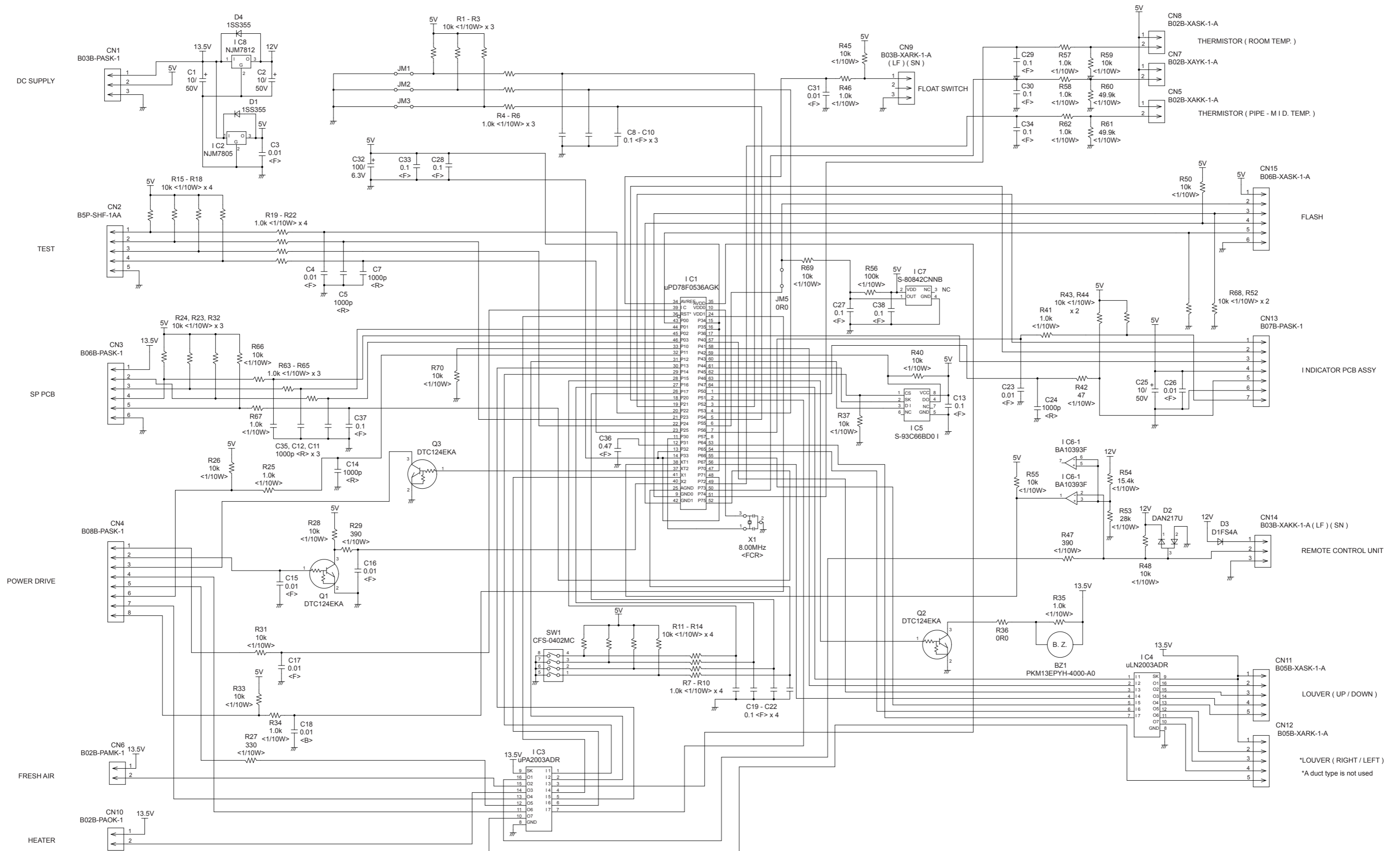


INDOOR PCB CIRCUIT DIAGRAM

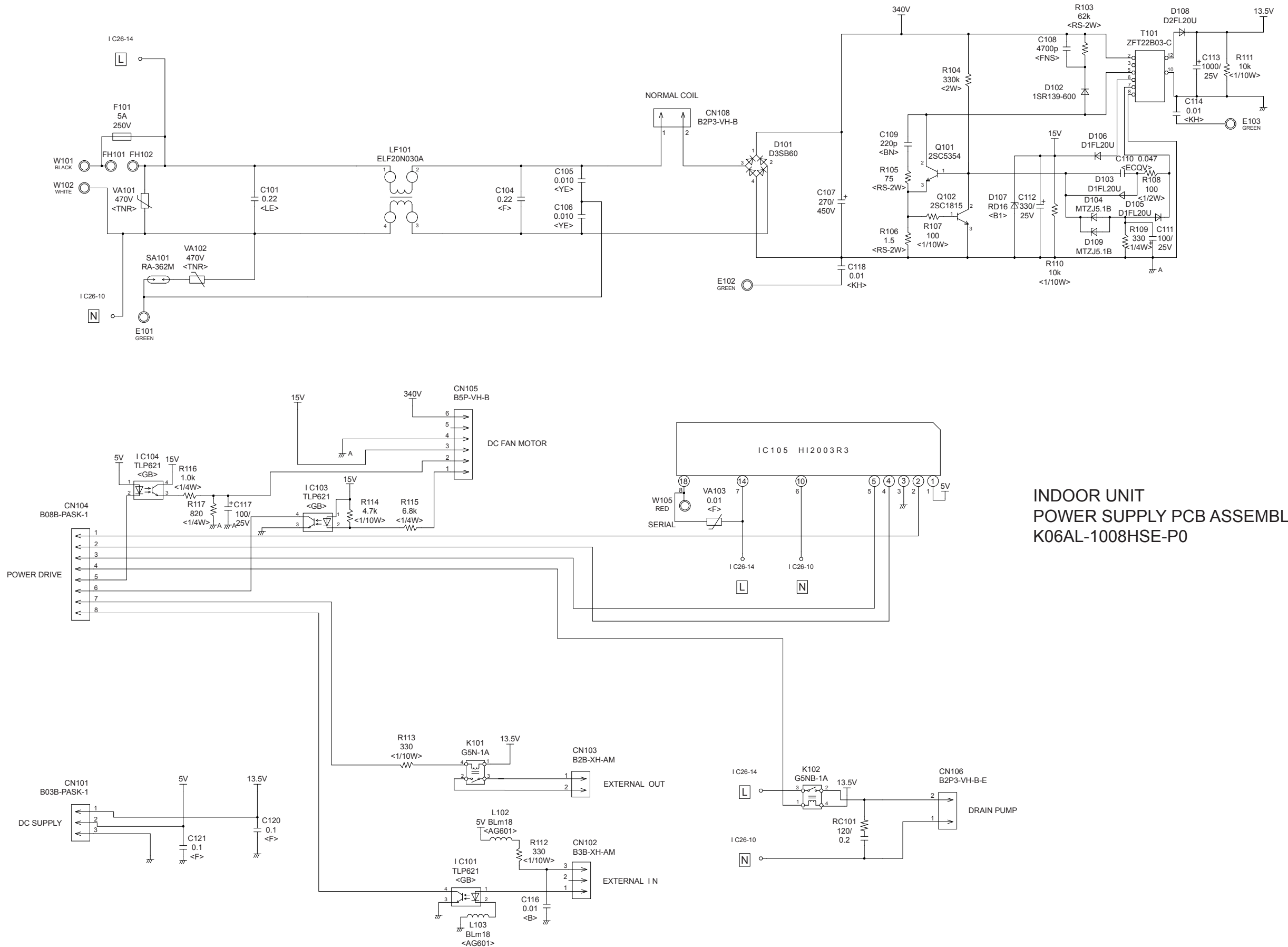
CONTROL UNIT
 ARYG12LLTB : EZ-01110HSE
 ARYG14LLTB : EZ-01111HSE
 ARYG18LLTB : EZ-01112HSE



INDOOR UNIT
 CONTROLLER PCB ASSEMBLY (MAIN PCB)
 ARYG12LLTB : K06AK-1101HSE-C1
 ARYG14LLTB : K06AK-1102HSE-C1
 ARYG18LLTB : K06AK-1103HSE-C1

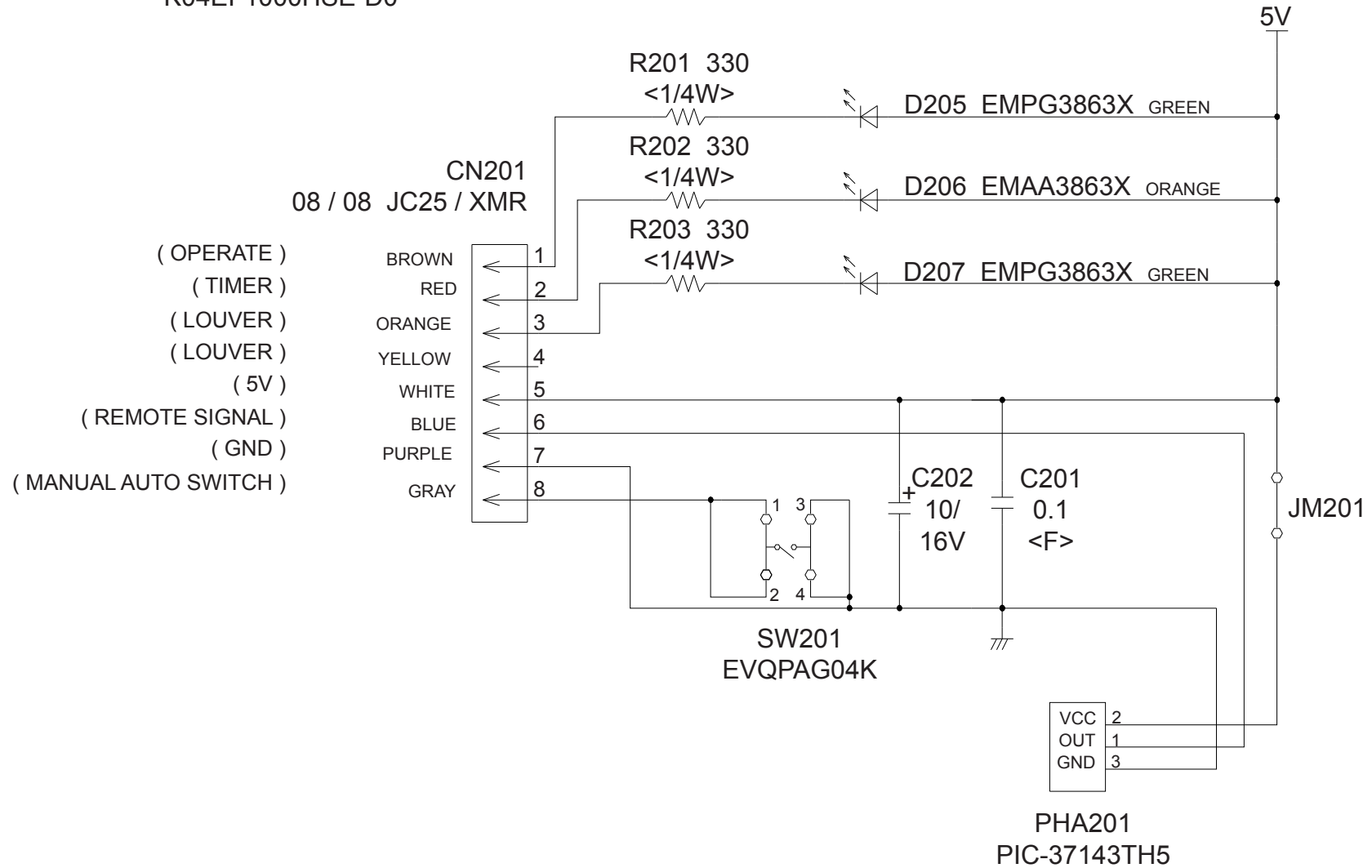


*LOUVER (RIGHT / LEFT)
 *A duct type is not used



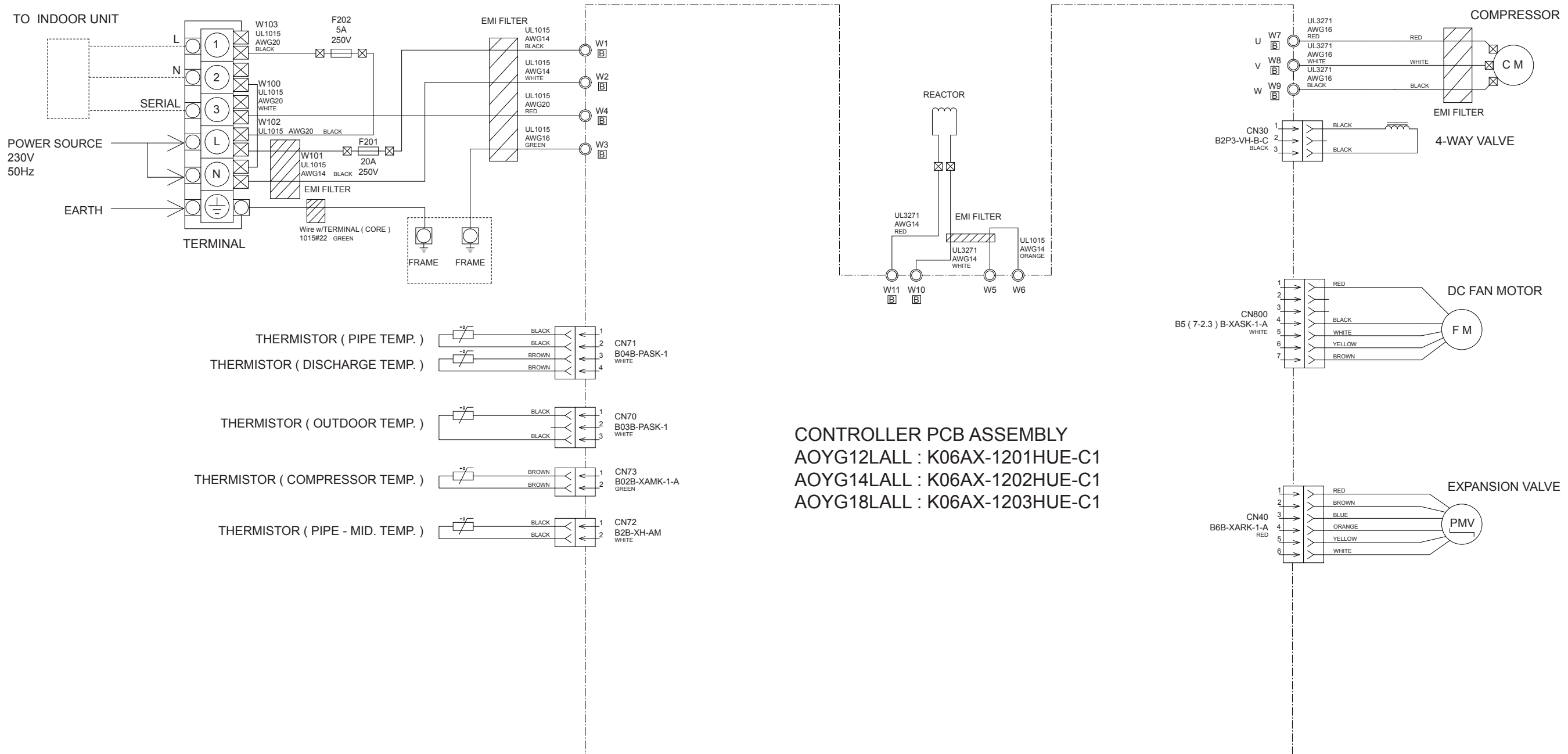
**INDOOR UNIT
POWER SUPPLY PCB ASSEMBLY
K06AL-1008HSE-P0**

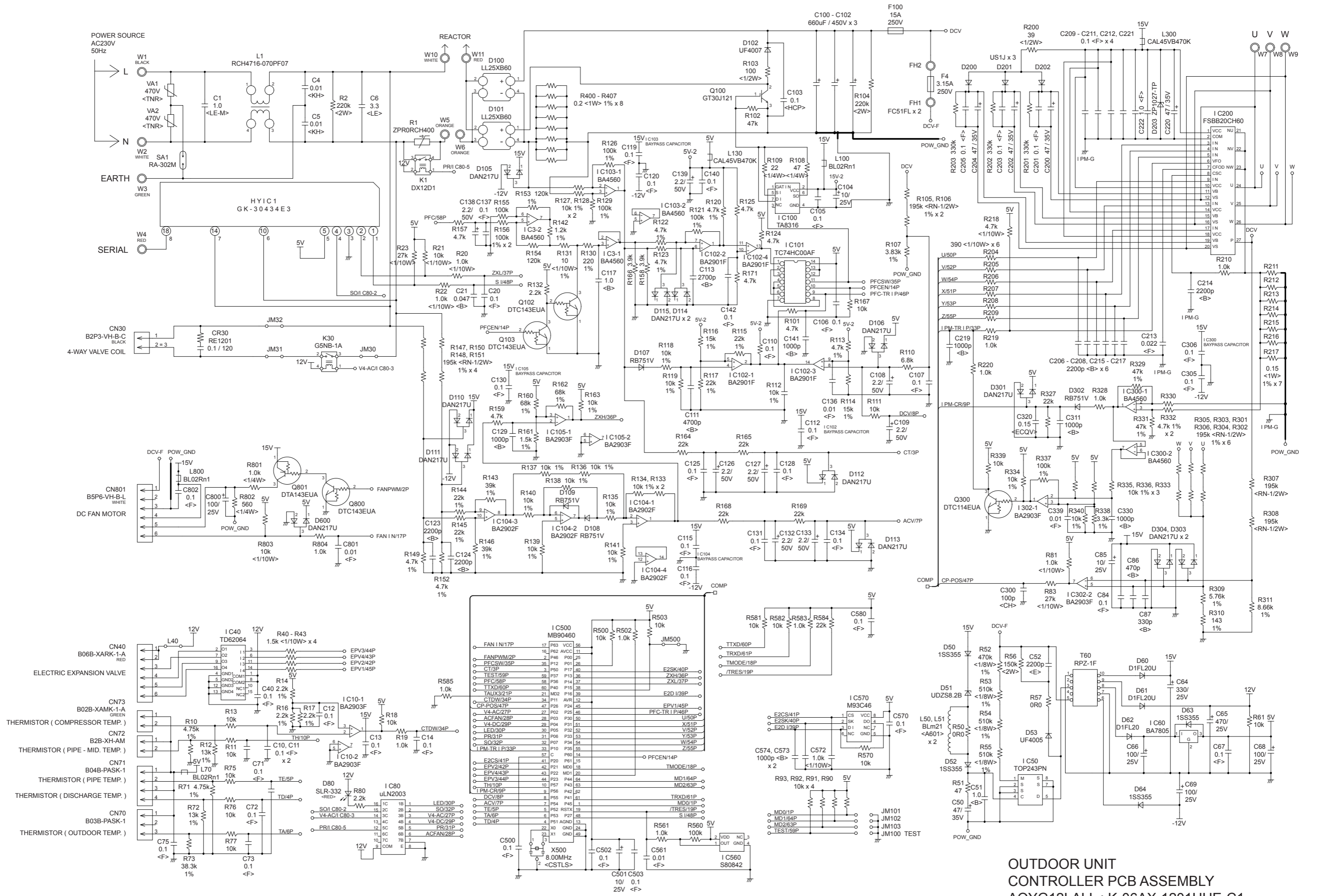
INDOOR UNIT
 INDICATOR PCB ASSEMBLY (OPTION)
 K04EI-1000HSE-D0



OUTDOOR PCB CIRCUIT DIAGRAM

INVERTER ASSEMBLY
 AOYG12LALL : EZ-0121PHUE
 AOYG14LALL : EZ-0121RHUE
 AOYG18LALL : EZ-0121SHUE





OUTDOOR UNIT
CONTROLLER PCB ASSEMBLY
 AOYG12LALL : K-06AX-1201HUE-C1
 AOYG14LALL : K-06AX-1202HUE-C1
 AOYG18LALL : K-06AX-1203HUE-C1

- : 0.5s on / 0.5s off
- ◇ : 0.1s on / 0.1s off
- () : Number of flashing

ERROR DETECTION

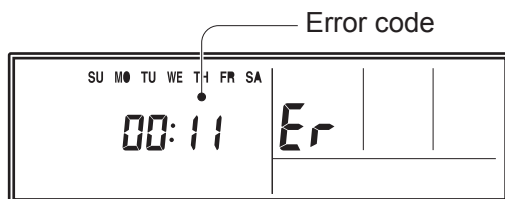
INDOOR UNIT and WIRED REMOTE CONTROL

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 type 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 running.

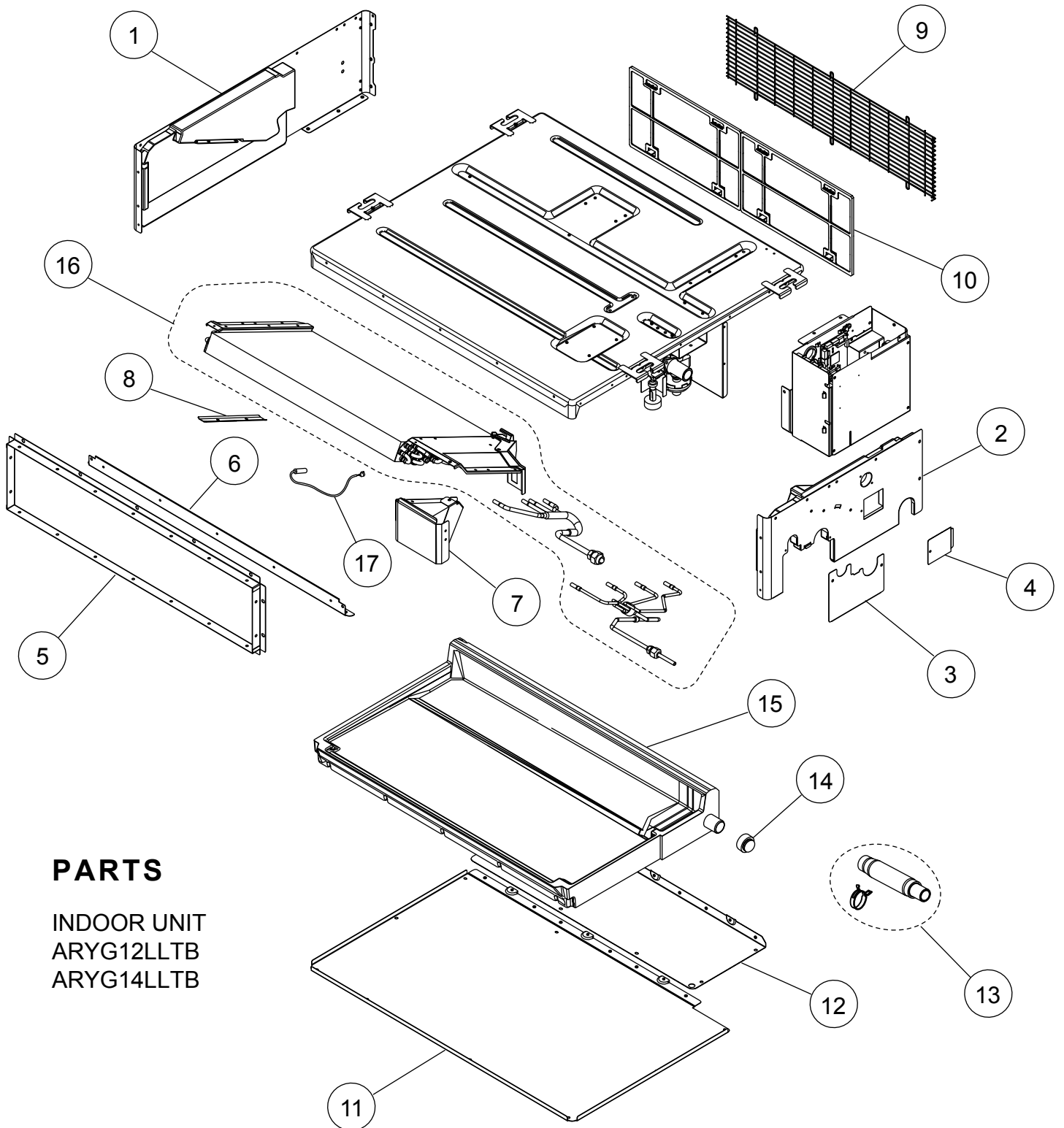
This is possible only on a wired remote control.

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



EX. Self-diagnosis

| 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) | ●(1) | ◇ | 21 | Unit number or Refrigerant circuit address setting error [Simultaneous Multi] |
| ●(2) | ●(2) | ◇ | 22 | Indoor unit capacity error |
| ●(2) | ●(3) | ◇ | 23 | Combination error |
| ●(2) | ●(4) | ◇ | 24 | • Connection unit number error (indoor slave unit) [Simultaneous Multi] • Connection unit number error (indoor unit or branch unit) [Flexible Multi] |
| ●(2) | ●(7) | ◇ | 27 | Master unit, slave unit set-up error [Simultaneous Multi] |
| ●(3) | ●(2) | ◇ | 32 | Indoor unit PCB model information error |
| ●(3) | ●(5) | ◇ | 35 | Manual auto switch error |
| ●(4) | ●(1) | ◇ | 41 | Inlet air temp. sensor error |
| ●(4) | ●(2) | ◇ | 42 | Indoor unit Heat Ex. Middle temp. sensor error |
| ●(5) | ●(1) | ◇ | 51 | Indoor unit fan motor error |
| ●(5) | ●(3) | ◇ | 53 | Drain pump error |
| ●(5) | ●(7) | ◇ | 57 | Damper 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 |
| ●(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 |
| ●(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 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 |
| ●(13) | ●(2) | ◇ | J2 | Branch boxes error [Flexible Multi] |

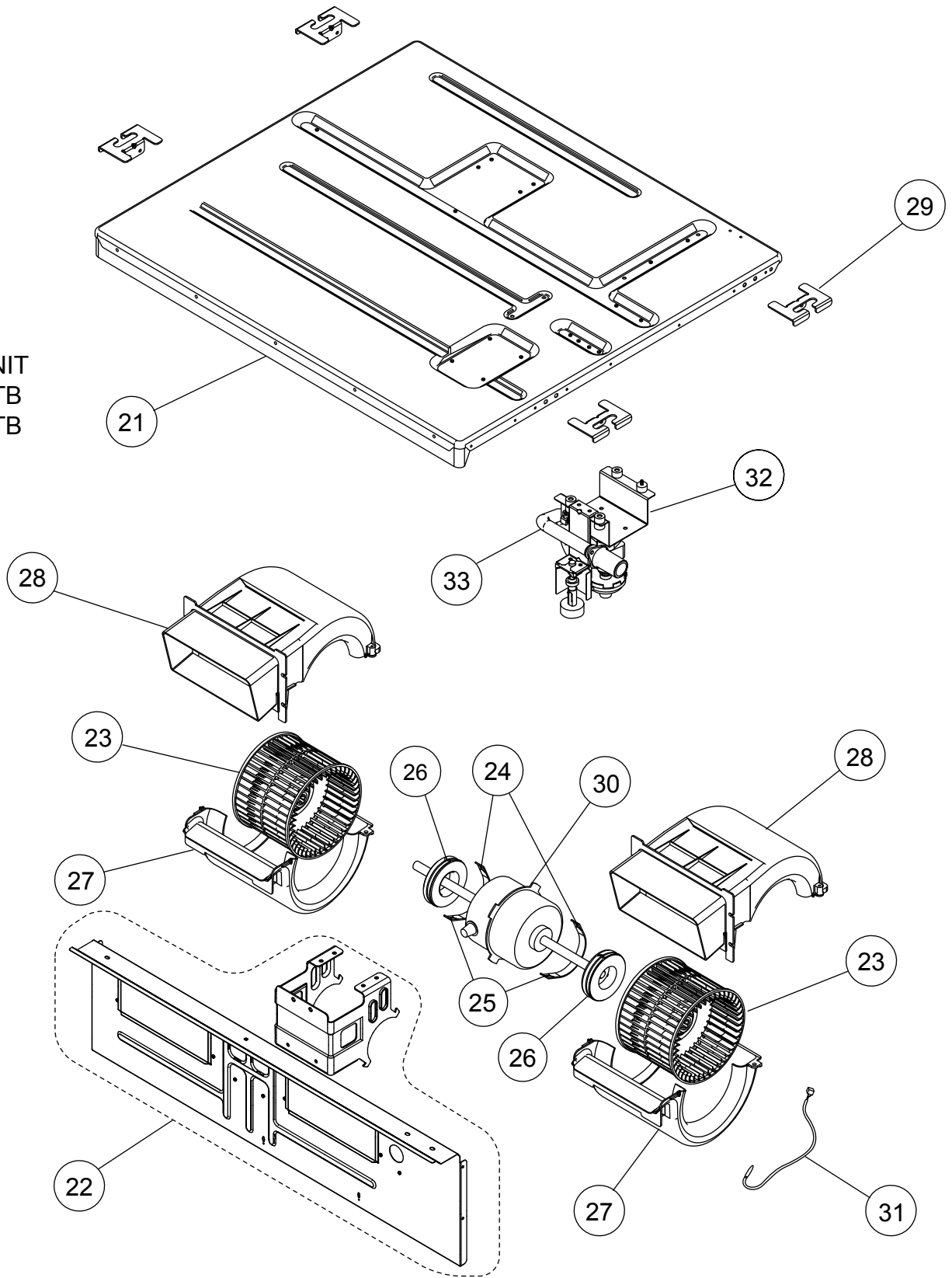


PARTS

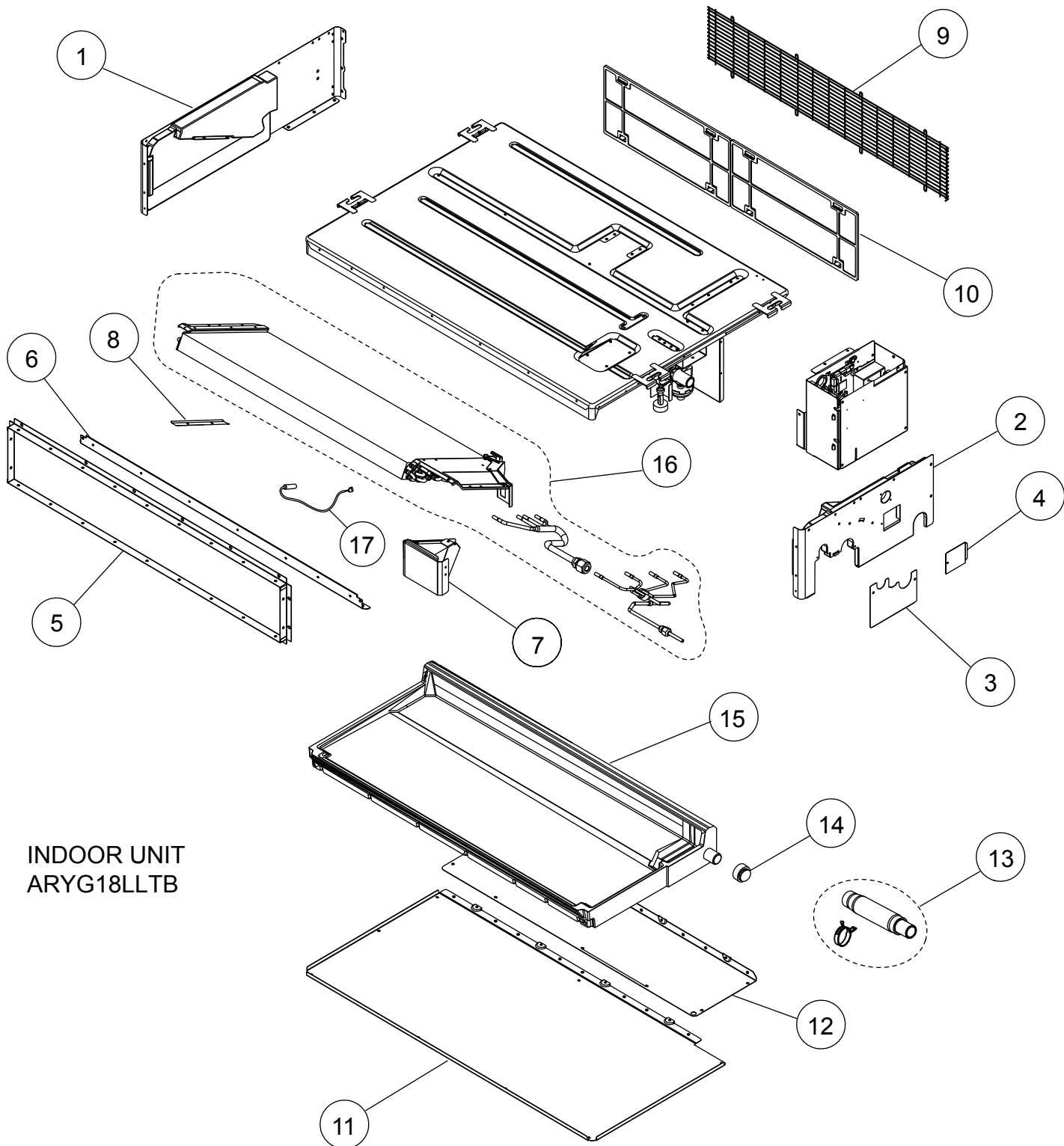
INDOOR UNIT
ARYG12LLTB
ARYG14LLTB

| Ref | Description | Parts number | Ref | Description | Parts number |
|-----|-------------------------|--------------|-----|--------------------------|--------------|
| 1 | Side Panel R Sub Assy | 9379906005 | 10 | Air Filter | 9379574006 |
| 2 | Side Panel L Sub Assy | 9379907002 | 11 | Main Panel Sub Assy | 9379902007 |
| 3 | Pipe Panel Sub Assy | 9379900003 | 12 | Cabinet Panel (2 Fan) | 9379596008 |
| 4 | Panel (Window) Sub Assy | 9379915007 | 13 | Hose Sub Assy | 9378450103 |
| 5 | Outlet Frame Sub Assy | 9379909006 | 14 | Drain Cap | 9358746004 |
| 6 | Front Panel (2 Fan) | 9379593007 | 15 | Drain Pan Sub Assy | 9379901000 |
| 7 | Valve Cover Sub Assy | 9379576000 | 16 | Evaporater Sub Assy (12) | 9364499581 |
| 8 | Cover Pipe Sub Assy | 9380033004 | 16 | Evaporater Sub Assy (14) | 9364499673 |
| 9 | Fan Guard (2 Fan) | 9379637008 | 17 | Pipe Thermistor | 9900623005 |

INDOOR UNIT
ARYG12LLTB
ARYG14LLTB



| Ref | Description | Parts number | Ref | Description | Parts number |
|-----|--------------------------|--------------|-----|---------------------|--------------|
| 21 | Top Panel Sub Assy | 9379908009 | 28 | Casing U | 9379571005 |
| 22 | Separator Sub Assy | 9379898003 | 29 | Hook Metal | 9379889001 |
| 23 | Sirroco Fan Assy | 9379570015 | 30 | Fan Motor Assy | 9602967018 |
| 24 | Motor Band Assy | 9379613002 | 31 | Room Thermistor | 9703299247 |
| 25 | Motor Band | 9379614009 | 32 | Drain Pump Sub Assy | 9379914000 |
| 26 | Rubber (Vibration Proof) | 9379644006 | 33 | Drain Hose Assy | 9379913003 |
| 27 | Casing B | 9379572002 | | | |

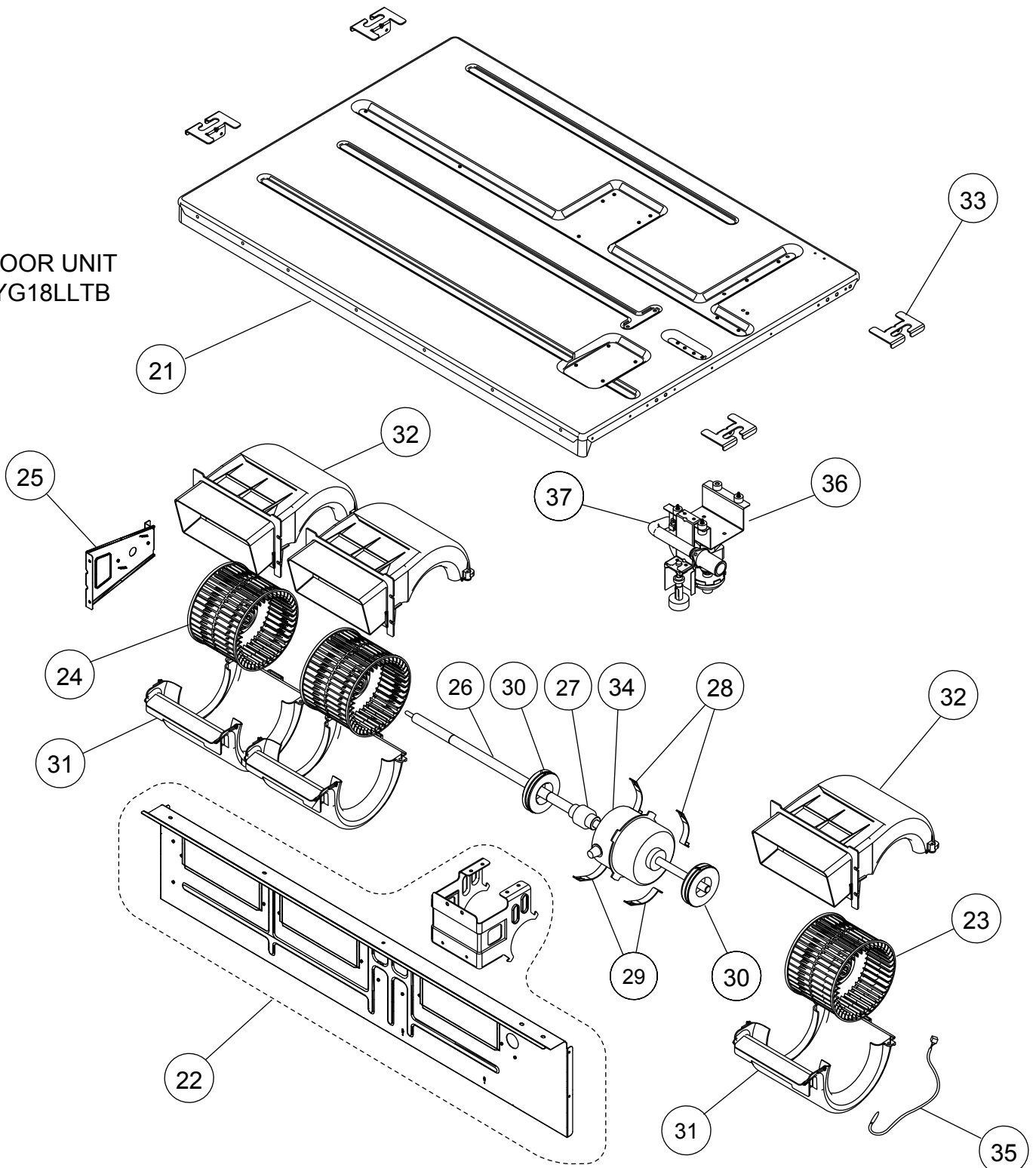


INDOOR UNIT
ARYG18LLTB

| Ref | Description | Parts number |
|-----|-------------------------|--------------|
| 1 | Side Panel R Sub Assy | 9379906005 |
| 2 | Side Panel L Sub Assy | 9379907002 |
| 3 | Pipe Panel Sub Assy | 9379900003 |
| 4 | Panel (Window) Sub Assy | 9379915007 |
| 5 | Outlet Frame Sub Assy | 9379909013 |
| 6 | Front Panel (3 Fan) | 9379594004 |
| 7 | Valve Cover Sub Assy | 9379576000 |
| 8 | Cover Pipe Sub Assy | 9380033004 |
| 9 | Fan Guard (3 Fan) | 9379638005 |

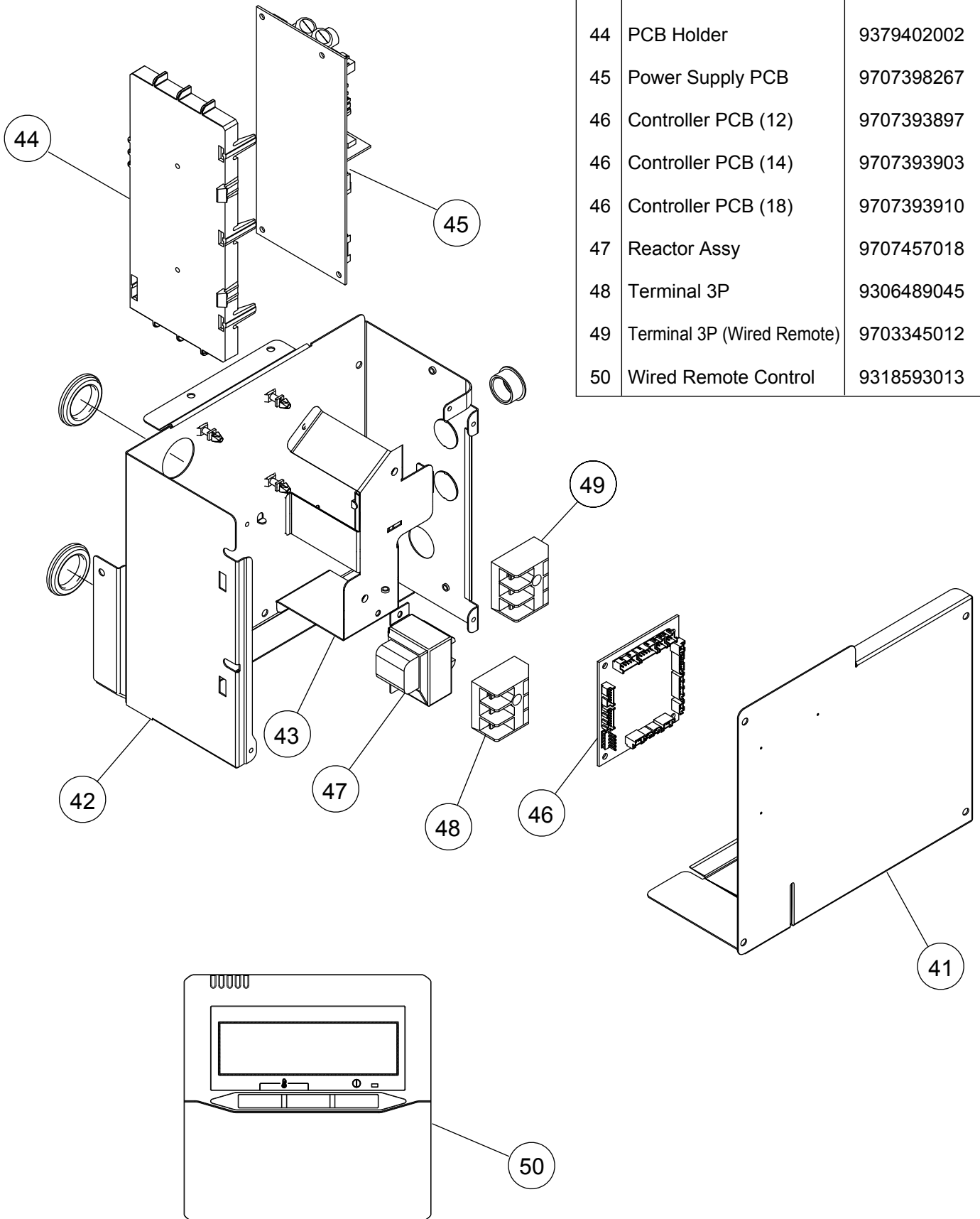
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|-----|-----------------------|--------------|
| 10 | Air Filter | 9379575003 |
| 11 | Main Panel Sub Assy | 9379902014 |
| 12 | Cabinet Panel (3 Fan) | 9379597005 |
| 13 | Hose Sub Assy | 9378450103 |
| 14 | Drain Cap | 9358746004 |
| 15 | Drain Pan Sub Assy | 9379901017 |
| 16 | Evaporator Sub Assy | 9364499604 |
| 17 | Pipe Thermistor | 9900623005 |

INDOOR UNIT
ARYG18LLTB



| Ref | Description | Parts number | Ref | Description | Parts number |
|-----|----------------------------|--------------|-----|--------------------------|--------------|
| 21 | Top Panel Sub Assy | 9379908016 | 30 | Rubber (Vibration Proof) | 9379644006 |
| 22 | Separator Sub Assy | 9379898010 | 31 | Casing B | 9379572002 |
| 23 | Sirroco Fan Assy | 9379570022 | 32 | Casing U | 9379571005 |
| 24 | Sirroco Fan Assy | 9379570039 | 33 | Hook Metal | 9379889001 |
| 25 | Bracket (Bearing Sub Assy) | 9379627009 | 34 | Fan Motor Assy | 9602968015 |
| 26 | Shaft | 9380398004 | 35 | Thermistor (Room) | 9703299247 |
| 27 | Joint Assy | 9378038011 | 36 | Drain Pump Sub Assy | 9379914000 |
| 28 | Motor Band Assy | 9379613002 | 37 | Drain Hose Assy | 9379913003 |
| 29 | Motor Band | 9379614009 | | | |

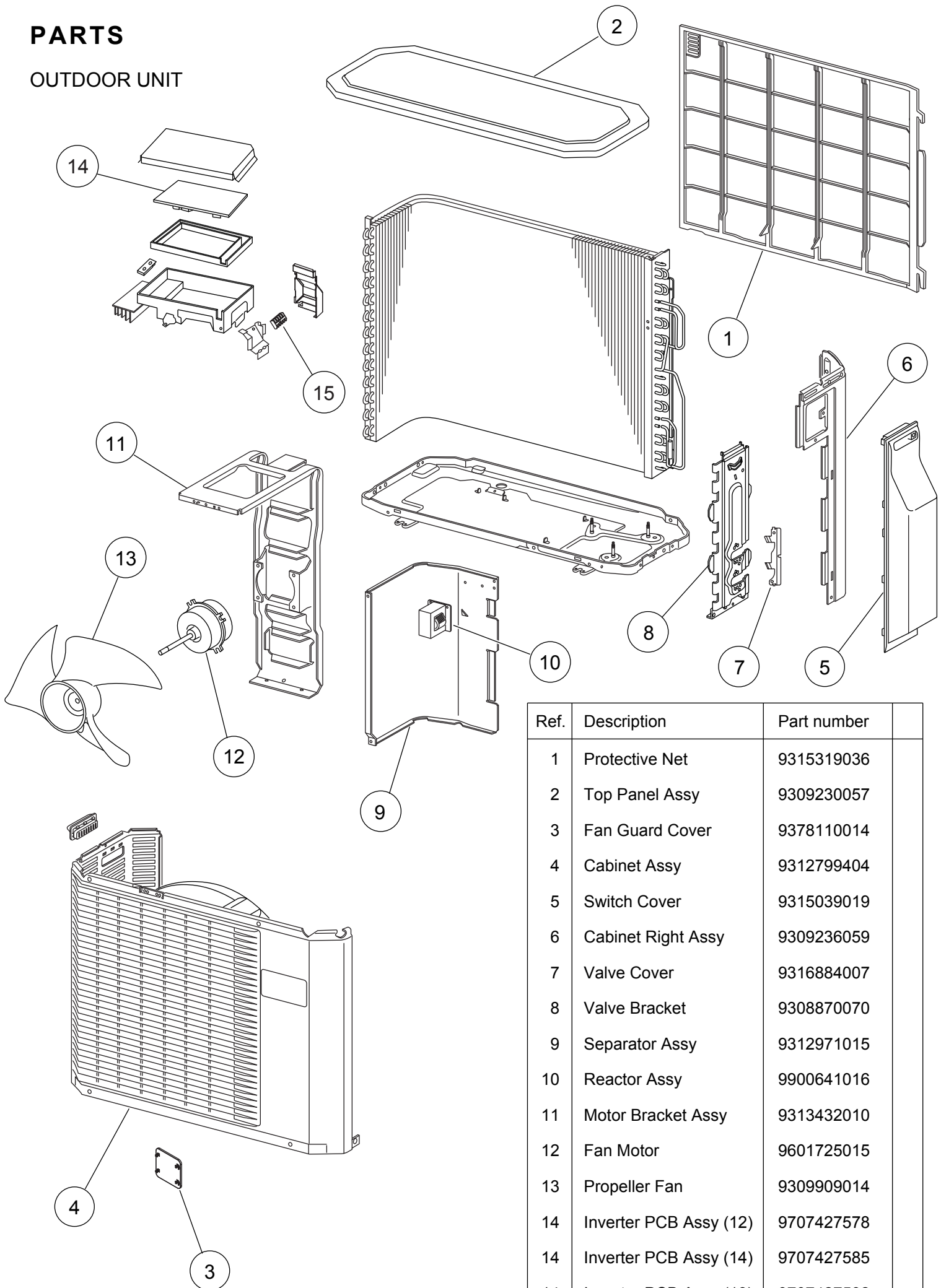
INDOOR UNIT
 ARYG12LLTB
 ARYG14LLTB
 ARYG18LLTB



| Ref | Description | Parts number |
|-----|----------------------------|--------------|
| 41 | Control Cover Sub Assy | 9379806039 |
| 42 | Control Box Assy | 9380041023 |
| 43 | Terminal Bracket | 9380132011 |
| 44 | PCB Holder | 9379402002 |
| 45 | Power Supply PCB | 9707398267 |
| 46 | Controller PCB (12) | 9707393897 |
| 46 | Controller PCB (14) | 9707393903 |
| 46 | Controller PCB (18) | 9707393910 |
| 47 | Reactor Assy | 9707457018 |
| 48 | Terminal 3P | 9306489045 |
| 49 | Terminal 3P (Wired Remote) | 9703345012 |
| 50 | Wired Remote Control | 9318593013 |

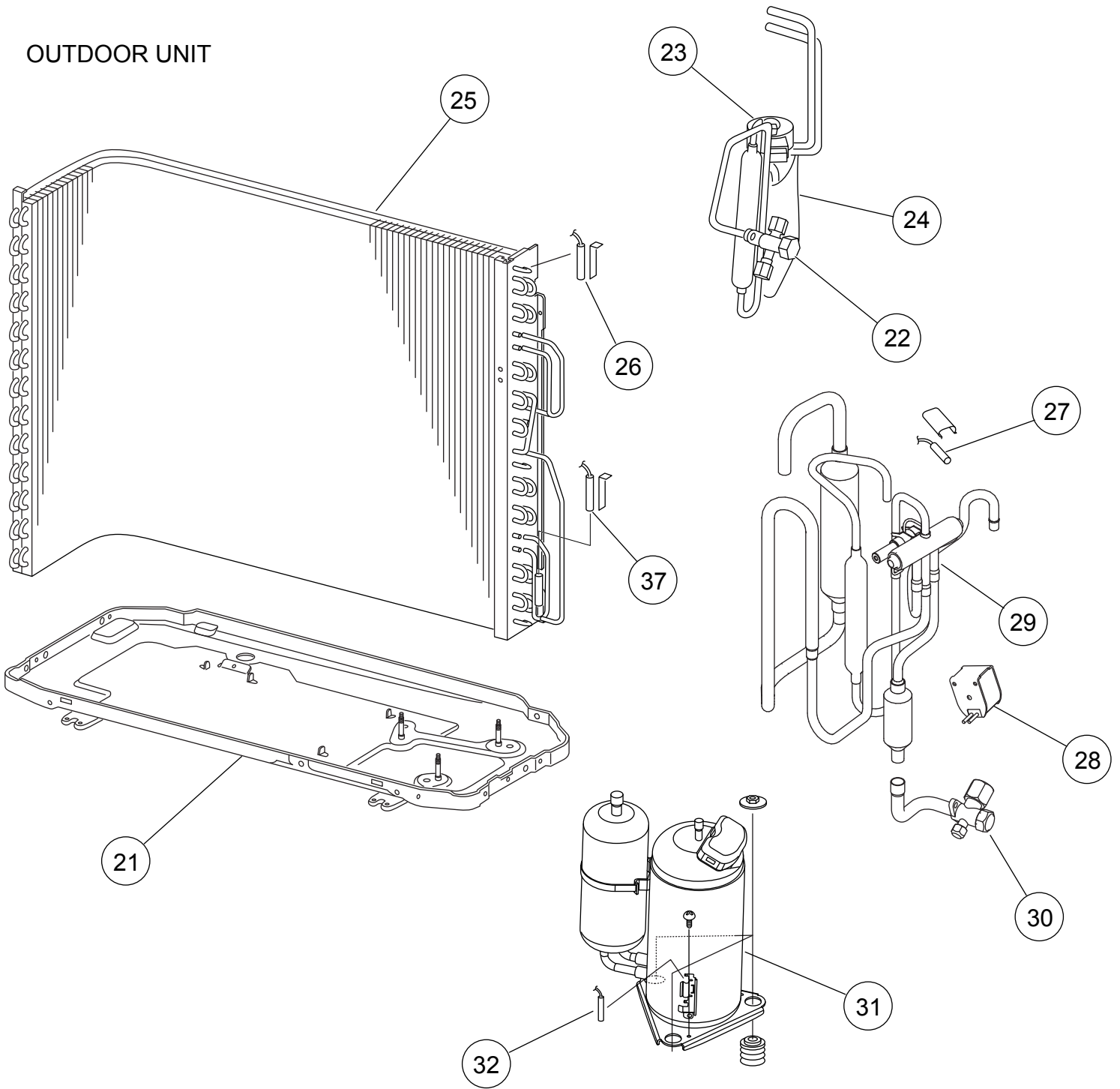
PARTS

OUTDOOR UNIT



| Ref. | Description | Part number |
|------|------------------------|-------------|
| 1 | Protective Net | 9315319036 |
| 2 | Top Panel Assy | 9309230057 |
| 3 | Fan Guard Cover | 9378110014 |
| 4 | Cabinet Assy | 9312799404 |
| 5 | Switch Cover | 9315039019 |
| 6 | Cabinet Right Assy | 9309236059 |
| 7 | Valve Cover | 9316884007 |
| 8 | Valve Bracket | 9308870070 |
| 9 | Separator Assy | 9312971015 |
| 10 | Reactor Assy | 9900641016 |
| 11 | Motor Bracket Assy | 9313432010 |
| 12 | Fan Motor | 9601725015 |
| 13 | Propeller Fan | 9309909014 |
| 14 | Inverter PCB Assy (12) | 9707427578 |
| 14 | Inverter PCB Assy (14) | 9707427585 |
| 14 | Inverter PCB Assy (18) | 9707427592 |
| 15 | Terminal | 9703874031 |

OUTDOOR UNIT

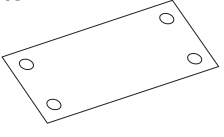




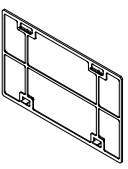
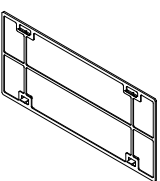


| Ref. | Description | Part number |
|------|---------------------------|-------------|
| 21 | Base Assy | 9308869081 |
| 22 | 2-way Valve Assy | 9970093012 |
| 23 | Expansion Valve Coil | 9900057039 |
| 24 | Pulse Motor Valve Assy | 9311641018 |
| 25 | Condenser Total Assy | 9311381068 |
| 26 | Heat Exchanger Thermistor | 9900403010 |
| 27 | Thermistor Assy | 9900148027 |

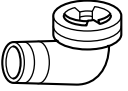
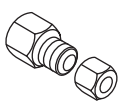
| Ref. | Description | Part number |
|------|-----------------------|-------------|
| 28 | Solenoid | 9970033018 |
| 29 | 4-way Valve Assy | 9315311030 |
| 30 | 3-way Valve Assy | 9970092015 |
| 31 | Compressor Assy | 9313763039 |
| 32 | Compressor Thermistor | 9900156046 |
| -- | Outdoor Thermistor | 9900210045 |
| -- | Drain Assy | 9303029015 |

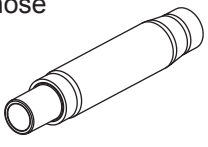


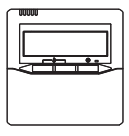


ACCESSORIES

INDOOR UNIT

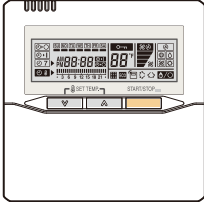


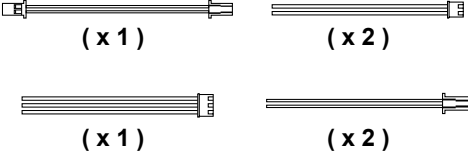


| Name and Shape | Q'ty | Application |
|--|-------------|--|
| Installation template  | 1 | For positioning the indoor unit |
| Washer  | 8 | For installing indoor unit |
| Coupler heat insulation (Large)  | 1 | For indoor side pipe joint (Large pipe) |
| Coupler heat insulation (Small)  | 1 | For indoor side pipe joint (Small pipe) |
| Binder  | Medium 3 | For power supply and remote control cable binding. |
| | Large 4 | For fixing the coupler heat insulation. |
| Filter (Small)  | 2 | (ARYG12LLTB ARYG14LLTB) |
| Filter (Big)  | 2 | (ARYG18LLTB) |

OUTDOOR UNIT

| Name and Shape | Q'ty | Application |
|---|------|--|
| Drain pipe  | 1 | For drain piping work. 9303029015 |
| Adapter assy  | 1 | To connect 12,000 BTU model 9370244007 |

| Name and Shape | Q'ty | Application |
|---|------|---|
| Drain hose  | 1 | For installing drain pipe VP25 (O.D.32 I.D.26) |
| Hose band  | 1 | For installing drain hose |
| Drain hose insulation B  | 1 | Insulates a drain hose |
| Wired remote control  | 1 | |
| Remote control cable  | 1 | For connecting the remote control |
| Tapping screw (M4 × 16 mm)  | 2 | For installing the remote control |

OPTIONAL PARTS

| Exterior | Parts name | Model number | Summary |
|--|--------------------------|--------------|---|
|  | Wired remote controller | UTY-RNNYM | Unit control is performed by wired remote controller . |
|  | Simple remote controller | UTY-RSNYM | Unit control is performed by simple remote controller. |
|  | IR receiver unit | UTY-LRHYM | Unit control is performed by wired remote controller. |
|  <p>(x 1) (x 2) (x 1) (x 2)</p> | External control set | UTD-ECS5A | Use to connect with various peripheral devices and air conditioner PC board. (Set of 6) |
|  | Remote sensor unit | UTY-XSZX | New amenity space can be offered by installing the Remote sensor in the remote controller. |
|  | Auto louver grille kit | UTD-GXSA-W | (ARYG12LLTB ARYG14LLTB) |
| | | UTD-GXSB-W | (ARYG18LLTB) |

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