

Content

| | | |
|--------|---|----|
| Part 1 | General information..... | 2 |
| 1. | MCCU introduction | 2 |
| 2. | Features | 2 |
| 3. | Product lineup..... | 3 |
| 4. | Nomenclature | 4 |
| 5. | External appearance | 5 |
| 6. | Refrigerant cycle diagram..... | 6 |
| 7. | Connection accessory list..... | 12 |
| 8. | Specifications | 13 |
| 9. | Dimensions | 17 |
| 10. | Wiring diagram- cooling only..... | 20 |
| 11. | Exploded view- cooling only..... | 36 |
| Part 2 | Installation..... | 58 |
| 1. | Note..... | 58 |
| 2. | Installation steps | 59 |
| 3. | Unit location | 60 |
| 4. | Installation of refrigerant pipes..... | 63 |
| 5. | Piping between outdoor unit and indoor unit | 66 |
| 6. | Field wiring..... | 70 |
| Part 3 | Trouble shooting..... | 71 |
| 1. | Malfunctions..... | 71 |
| 2. | Trouble shooting | 72 |

Part 1 General information

1. MCCU introduction

Midea R407C MCCU (Compressor Condensing Unit) can be free connected with other indoor coils through a set of connection accessories (supplied by factory).

There are 2 air discharge types, 7 sizes and totally 14 models for MCCU. They are designed to work in a wide ambient temperature: 18~45°C in cooling; -10~24°C in heating, to adopt different kinds of applications and climate environment.

Midea R407C MCCU is completely assembled, internally wired, charged with R407C refrigerant at the factory, tested before shipment and ready for installation. They are widely applied in supermarkets, shopping malls, hotels, airport waiting halls, and so on.

2. Features

2.1 Casing

Unit casing is constructed of heavy gauge galvanized steel plate. Both sides of the casing are waterproof and anti-corrosion coated. Unit panel structure is allowed to maintenance on one side of the unit. Service panels are removed easily and reinstalled by removing bolts. The unit is available for fork lifting transportation.

2.2 Compressor

Units are equipped with direct-drive, hermetic, scroll type compressor, and its build-in motor is cooled with suction gas. The voltage utilization range is plus or minus 10% of unit nameplate voltage. The compressors, incorporating a built-in muffler, are mounted on springs within a steel housing to give a low-noise level.

2.3 Heat-exchange coils

Inner-threaded and 9.52mm or 7.94mm copper tubes mechanically bonded to a configured hydrophilic aluminum fin is standard for the heat-exchanger. Coils are leaked tested at 4.2MPa at the factory to ensure the pressure integrity.

2.4 Fan

Fans are multi-blade vane-axial type, quiet operation and durability. It is directly driven by waterproof motor to ensure reliable continuous operations. Statically and dynamically balanced drive motor design with maintenance-free bearing for outdoor installation.

2.5 Three-phase protector

The unit with 3-phase power supply is equipped with phase sequence protector as standard. These devices protect motors and compressors against problems caused by phase lack, phase imbalance and phase reversal indication. When the voltage is above or below the normal range, it works and prevents units from suffering voltage fluctuations.

2.6 Controls

Units are completely factory-wired with necessary controls and wiring terminals for power wiring. Microprocessor controls the cooling, heating and ventilating modes in response to signals from sensors measuring indoor and outdoor temperatures.

3. Product lineup

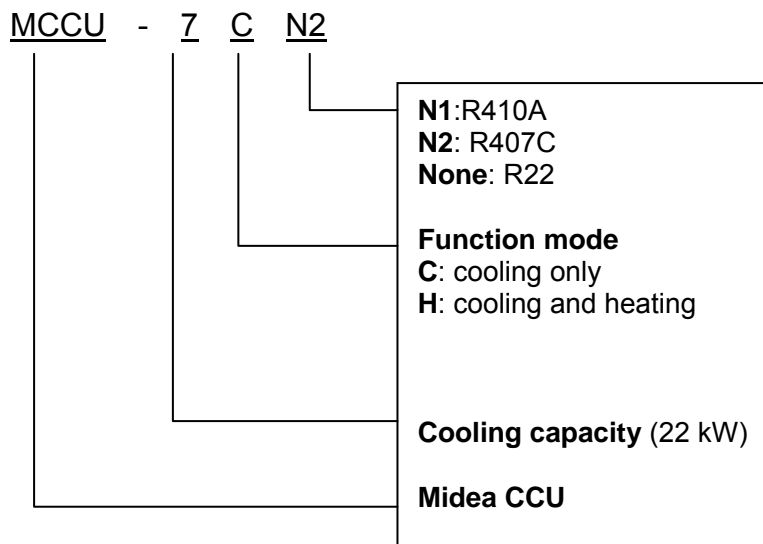
Units with cooling only mode:

| Outdoor unit | | Capacity |
|--------------|------------------|----------|
| Model | Power supply | kW |
| MCCU-7CN2 | 220-240V/1N/50Hz | 7 |
| MCCU-10CN2 | 380V/3N/50Hz | 10 |
| MCCU-14CN2 | | 14 |
| MCCU-16CN2 | | 16 |
| MCCU-22CN2 | | 22 |
| MCCU-28CN2 | | 28 |
| MCCU-35CN2 | | 35 |
| MCCU-45CN2 | | 45 |

Units with cooling and heating modes:

| Outdoor unit | | Capacity |
|--------------|------------------|----------|
| Model | Power supply | kW |
| MCCU-7HN2 | 220-240V/1N/50Hz | 7 |
| MCCU-10HN2 | 380V/3N/50Hz | 10 |
| MCCU-14HN2 | | 14 |
| MCCU-16HN2 | | 16 |
| MCCU-22HN2 | | 22 |
| MCCU-28HN2 | | 28 |
| MCCU-35HN2 | | 35 |
| MCCU-45HN2 | | 45 |

4. Nomenclature

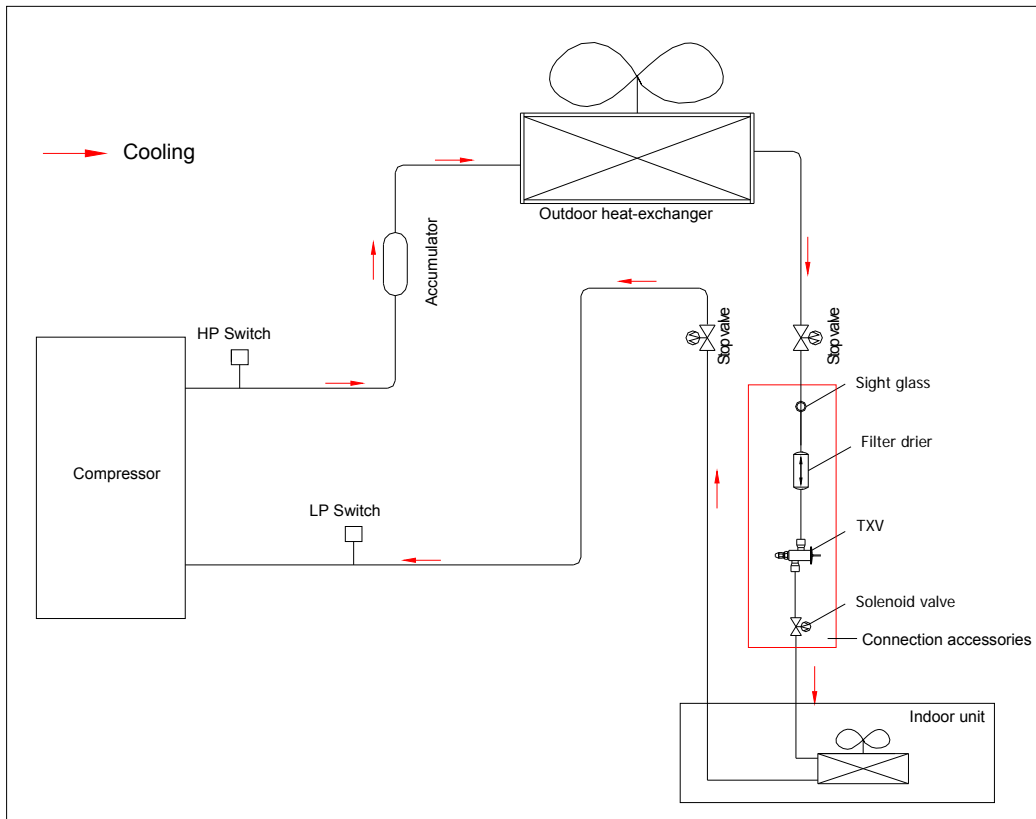


5. External appearance

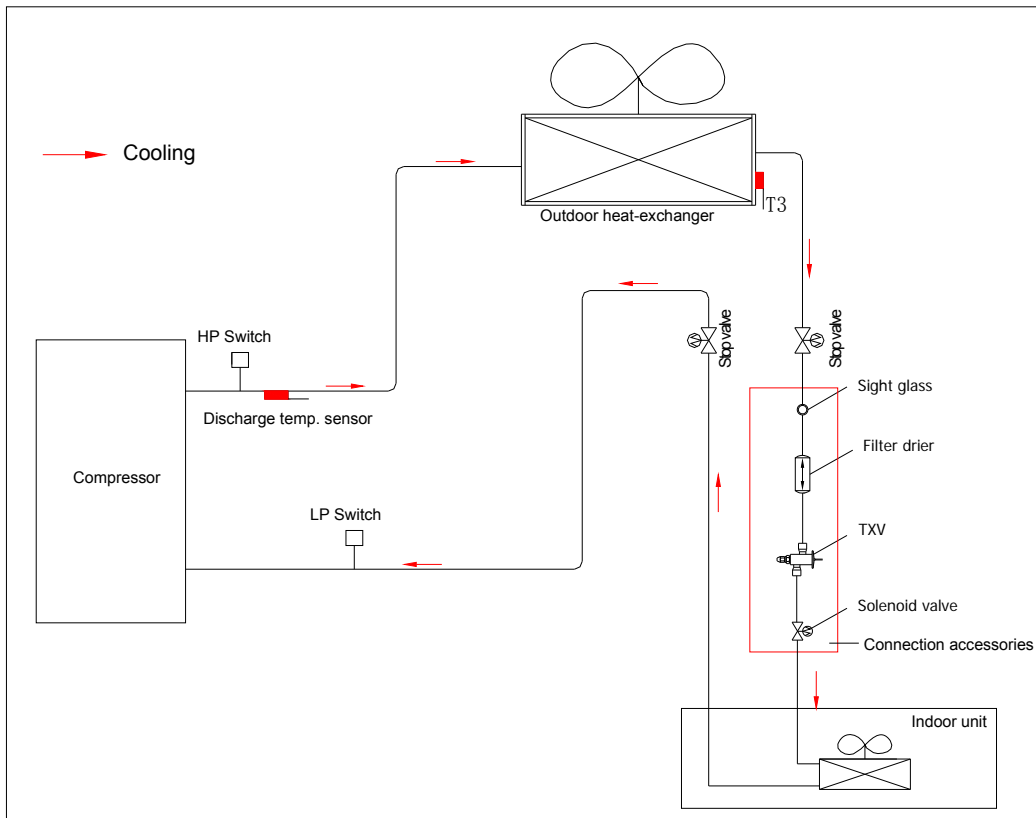
| | |
|---|--|
| <p>MCCU-7C(H)N2</p> | <p>MCCU-10C(H)N2, MCCU-14C(H)N2</p> |
|  |  |
| <p>MCCU-16C(H)N2</p> | <p>MCCU-22CN2, MCCU-28CN2</p> |
|  |  |
| <p>MCCU-22HN2, MCCU-28HN2</p> | <p>MCCU-35C(H)N2</p> |
|  |  |
| <p>MCCU-45C(H)N2</p> | |
|  | |

6. Refrigerant cycle diagram

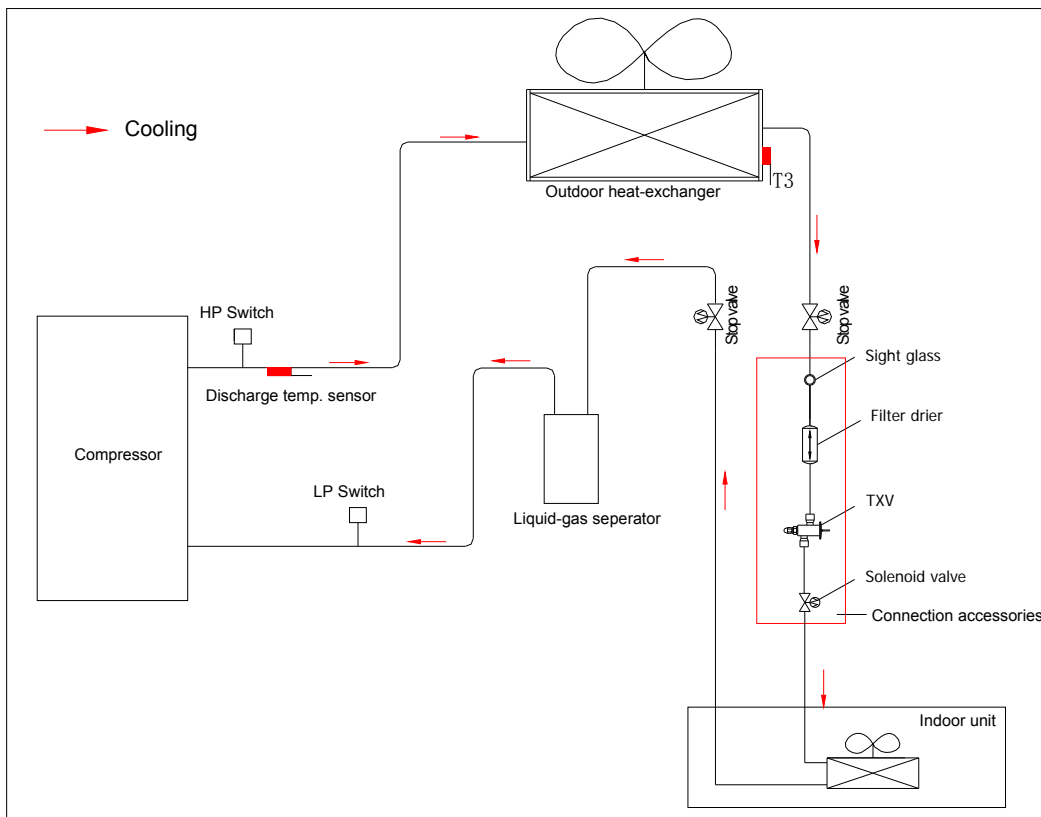
Cooling only:
4.1 MCCU-7CN2



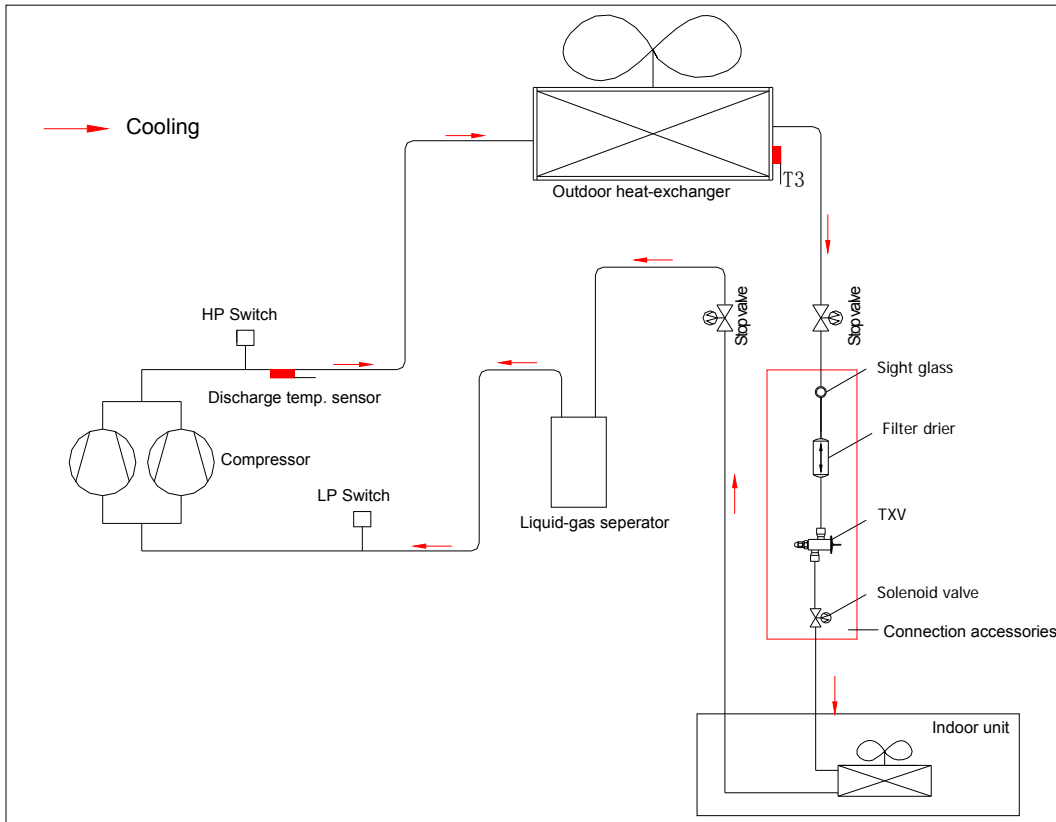
4.2 MCCU-10CN2, MCCU-14CN2



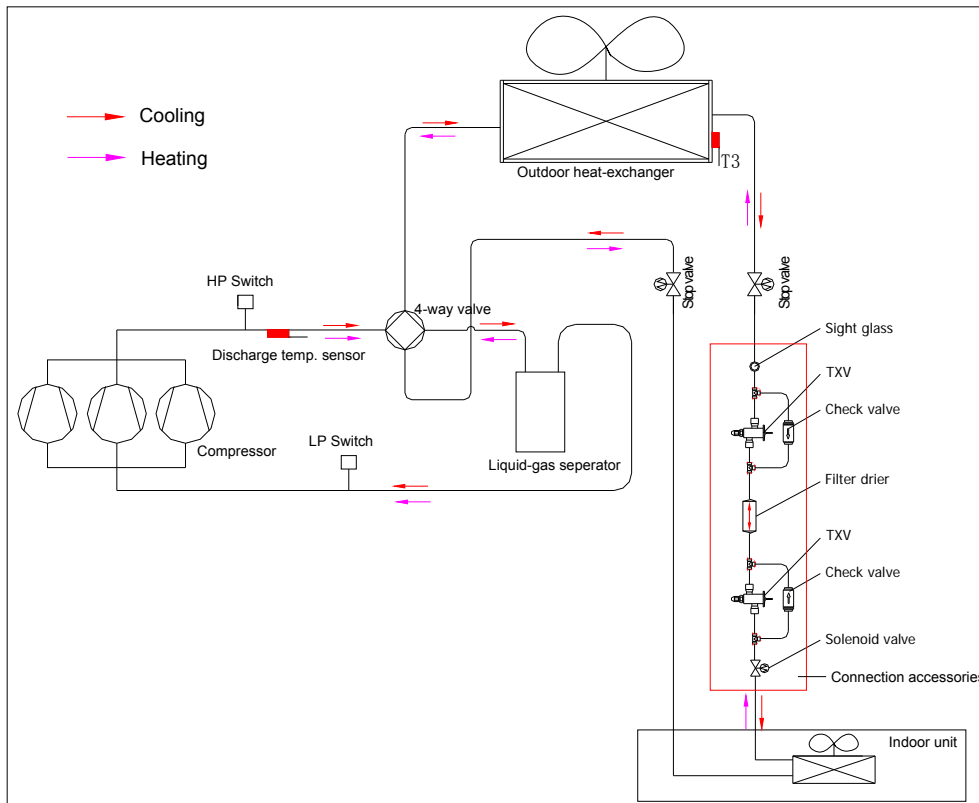
4.3 MCCU-16CN2



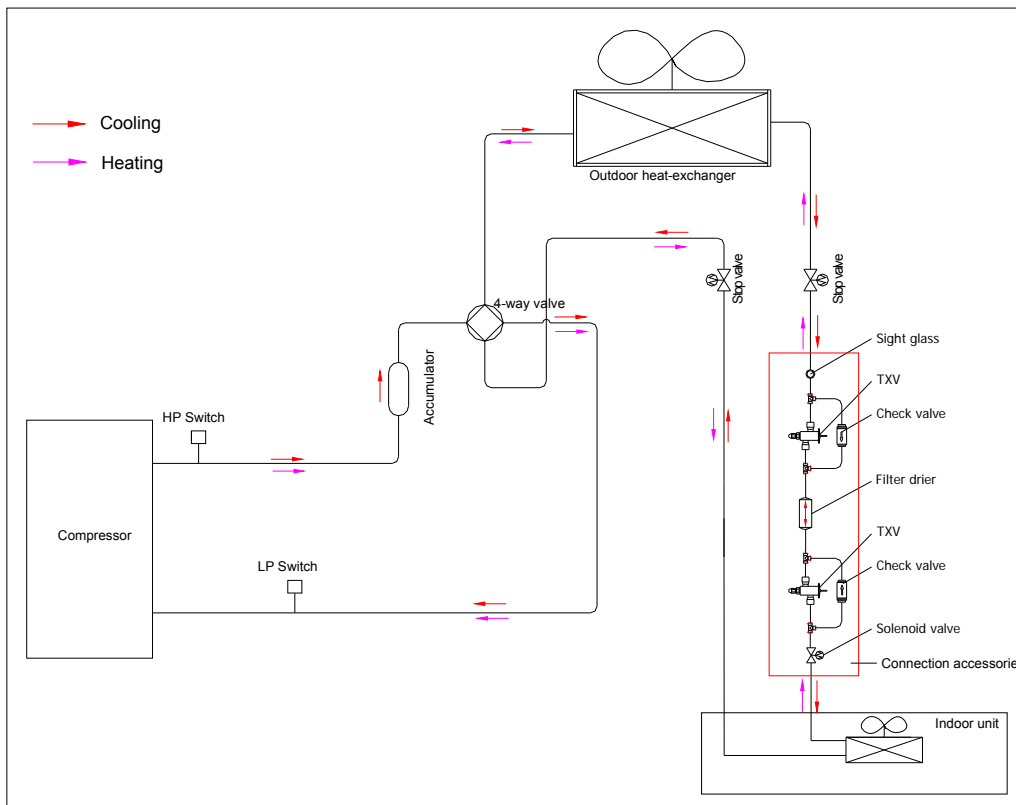
4.4 MCCU-22CN2, MCCU-28CN2, MCCU-35CN2



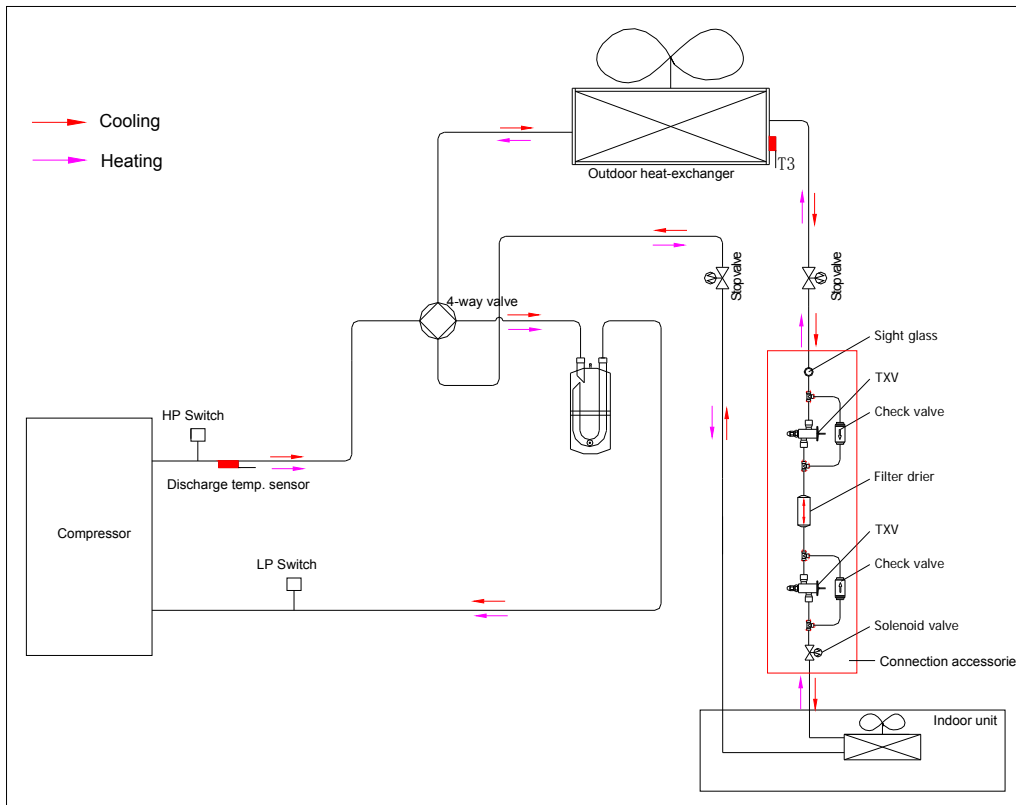
4.5 MCCU-45CN2



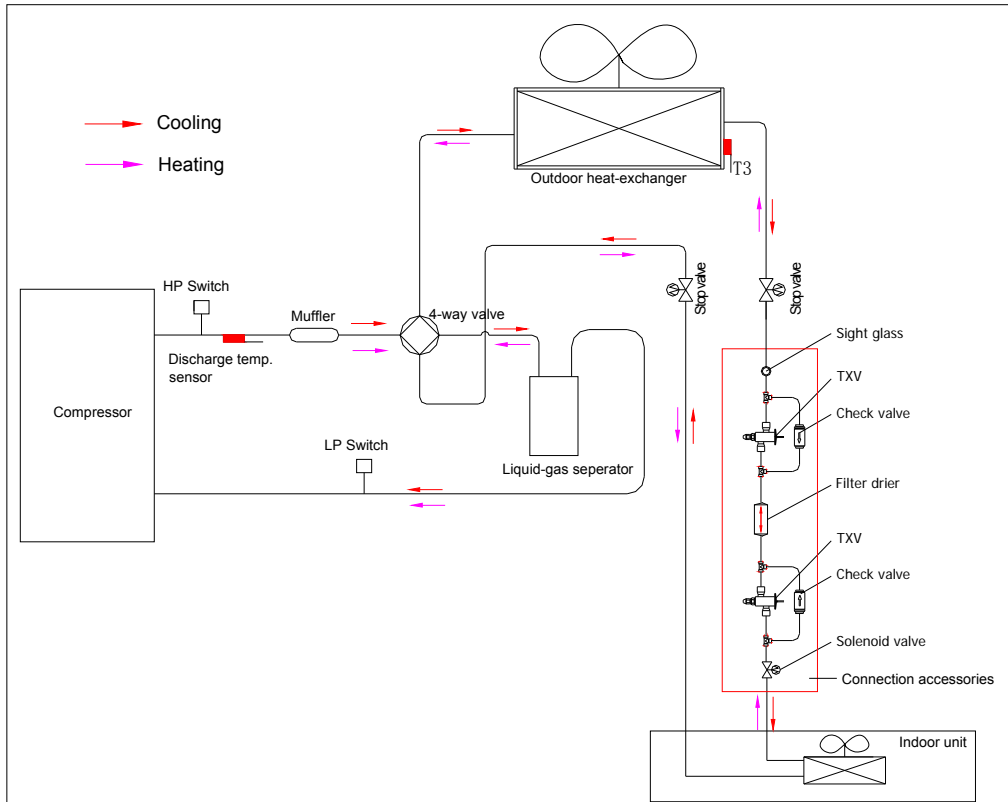
Cooling and heating:
4.6 MCCU-7HN2



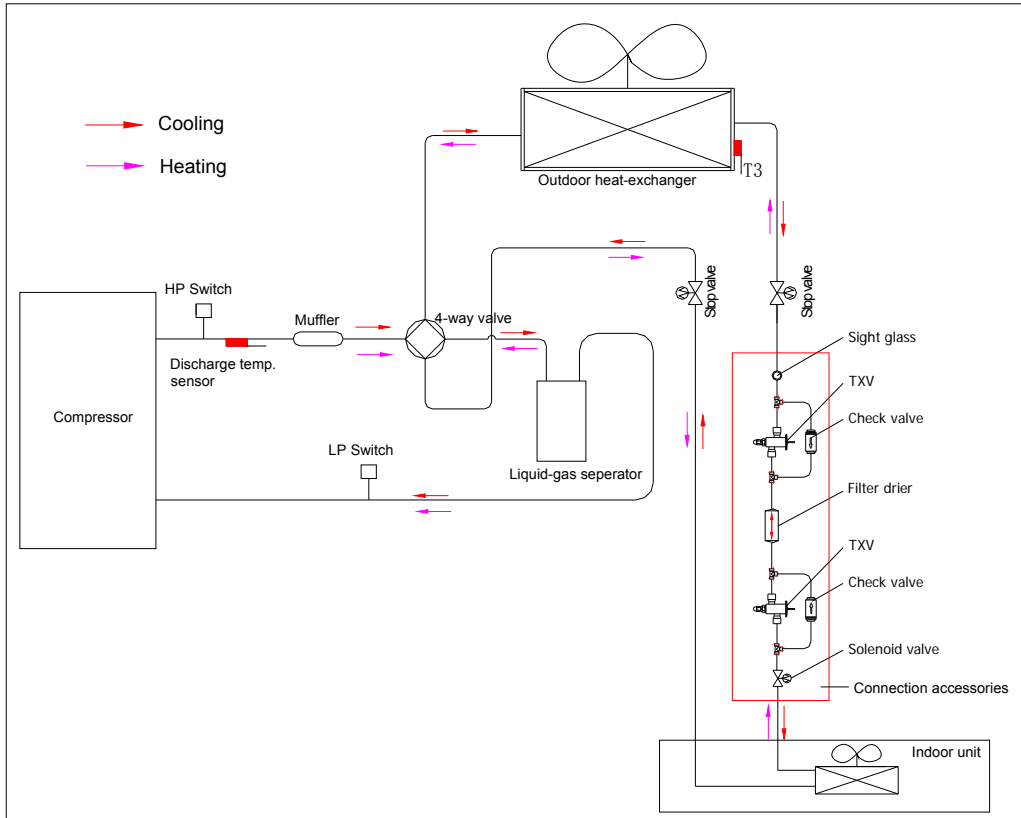
4.7 MCCU-10HN2, MCCU-14HN2



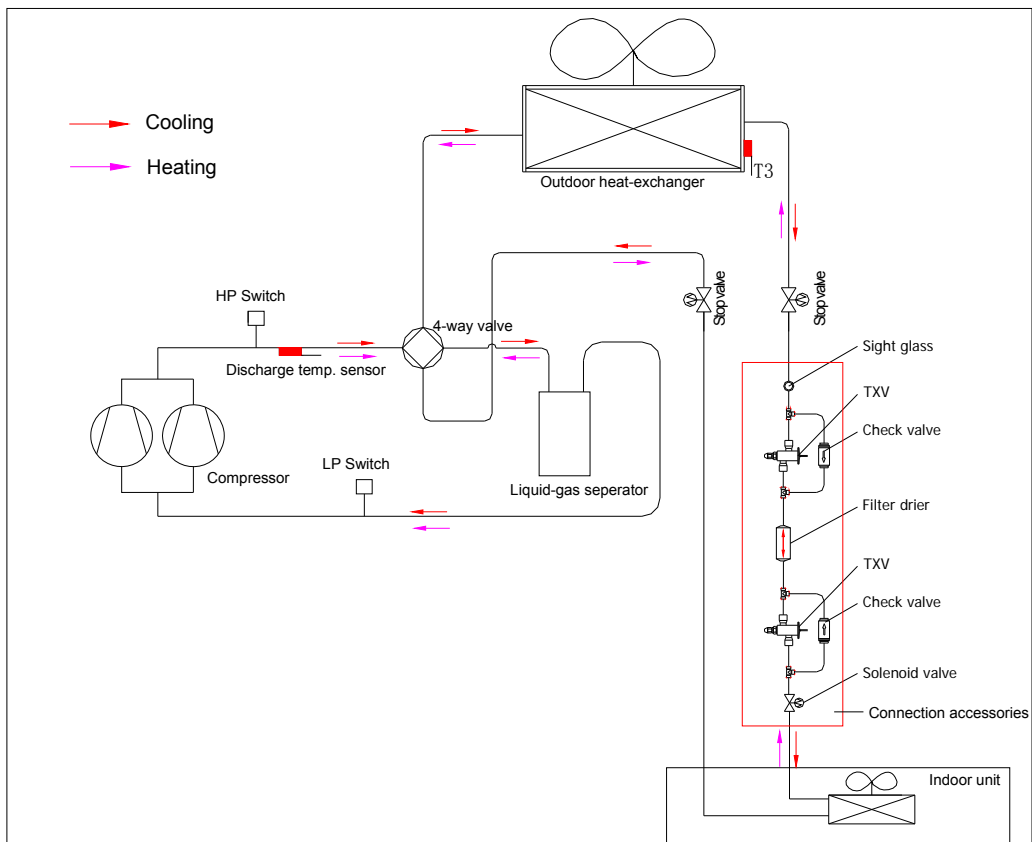
6.8 MCCU-16HN2



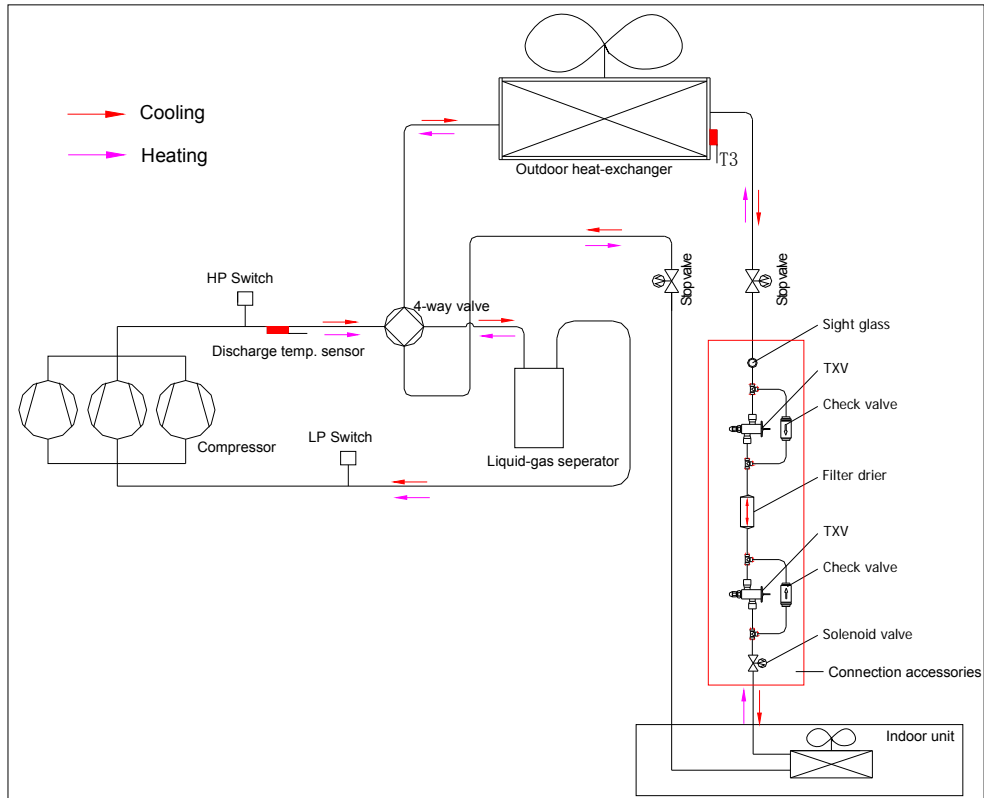
6.9 MCCU-22HN2, MCCU-28HN2



6.10 MCCU-35HN2



6.11 MCCU-45HN2



7. Connection accessory list

For cooling only units:

| Capacity kW | Sight glass | | Solenoid valve | | Solenoid valve coil | | Drier filter | | Thermal expansion valve | |
|-------------|-------------|------|----------------|------|---------------------|------|--------------|------|-------------------------|------|
| | Model | Qty. | Model | Qty. | Model | Qty. | Model | Qty. | Model | Qty. |
| 7 | SGN+10s | 1 | EVR6 | 1 | 018F6251 | 1 | DTG63016-33C | 1 | TGEZ2.5 | 1 |
| 10 | SGN+10s | 1 | EVR6 | 1 | 018F6251 | 1 | DTG63016-33C | 1 | TGEZ2.5 | 1 |
| 14 | SGN+12s | 1 | EVR10 | 1 | 018F6251 | 1 | DTG63016-44C | 1 | TGEZ 3.5 | 1 |
| 16 | SGN+10s | 1 | EVR6 | 1 | 018F6251 | 1 | DTG63016-33C | 1 | TGEZ5 | 1 |
| 22 | SGN+12s | 1 | EVR10 | 1 | 018F6251 | 1 | DTG63016-44C | 1 | TGEZ7 | 1 |
| 28 | SGN+12s | 1 | EVR10 | 1 | 018F6251 | 1 | DTG63016-44C | 1 | TGEZ7 | 1 |
| 35 | | | | | | | | | | |
| 45 | SGN+16s | 1 | EVR15 | 1 | 018F6251 | 1 | DTG63016-55C | 1 | TGEZ12 | 1 |

For cooling and heating units:

| Capacity kW | Sight glass | | Solenoid valve | | Solenoid valve coil | | Drier filter | | Thermal expansion valve | | Check valve | |
|-------------|-------------|------|----------------|------|---------------------|------|--------------|------|-------------------------|------|-------------|------|
| | Model | Qty. | Model | Qty. | Model | Qty. | Model | Qty. | Model | Qty. | Model | Qty. |
| 7 | SGN+10s | 1 | EVR6 | 1 | 018F6251 | 1 | DMB083S | 1 | TGEZ2.5 | 2 | DXF-18 | 2 |
| 10 | SGN+10s | 1 | EVR6 | 1 | 018F6251 | 1 | DMB083S | 1 | TGEZ2.5 | 2 | DXF-18 | 2 |
| 14 | SGN+12s | 1 | EVR10 | 1 | 018F6251 | 1 | DMB084S | 1 | TGEZ3.5 | 2 | DXF-06V | 2 |
| 16 | SGN+10s | 1 | EVR6 | 1 | 018F6251 | 1 | DMB083S | 1 | TGEZ5 | 2 | DXF-18 | 2 |
| 22 | SIG+12s | 1 | EVR10 | 1 | 018F6251 | 1 | DMB164S | 1 | TGEX7.5 | 2 | DXF-06V | 2 |
| 28 | SIG+12s | 1 | EVR10 | 1 | 018F6251 | 1 | DMB164S | 1 | TGEX7.5 | 2 | DXF-06V | 2 |
| 35 | | | | | | | | | | | | |
| 45 | SGN+16s | 1 | EVR15 | 1 | 018F6251 | 1 | DMB165S | 1 | TGEZ12 | 2 | DXF-02V | 2 |

Note:

Midea CCU can be free connected with other indoor units, such as DX AHU, through a set of connection accessories which are listed above. Please install these accessories according to the piping diagram and the installation manual of each accessory.

8. Specifications – Cooling only

| Model | | MCCU-7CN2 | MCCU-10CN2 | MCCU-14CN2 | MCCU-16CN2 | |
|------------------------------|------------------|-------------------|---------------------------|---------------|---------------|-----------------|
| Power supply | | 220-240V/1N/50Hz | 380V/3N/50Hz | 380V/3N/50Hz | 380V/3N/50Hz | |
| Ambient temp. range | | ℃ | 18~45 | 18~45 | 18~45 | |
| Cooling | Capacity | W | 7000 | 10000 | 14000 | 16000 |
| | Rated input | W | 3133 | 4333 | 5500 | 6033 |
| | Max. input | W | 4400 | 6100 | 6580 | 8100 |
| | EER | - | 2.23 | 2.31 | 2.55 | 2.65 |
| | Rated current | A | 11.4 | 5.8 | 7.3 | 8.7 |
| | Max. current | A | 22 | 11 | 11.8 | 14.5 |
| Compressor | Model | - | PG480X3CS-4MU1 | C-SBN303H8A | C-SBN373H8A | C-SBN453H8A |
| | Type | - | Rotary | Scroll | Scroll | Scroll |
| | Brand | - | Toshiba | Sanyo | Sanyo | Sanyo |
| | Capacity | W | 8750 | 11850 | 14500 | 16500 |
| | Input | W | 2820 | 3900 | 4950 | 5430 |
| | Oil volume | ml | 1100 | 1700 | 1700 | 1700 |
| Fan motor | Model | - | YDK53-6H | YDK250-6D | YDK250-6D | YDK65-6F-1(×2) |
| | Type | - | AC | AC | AC | AC |
| | Input | W | 155 | 296 | 296 | 171 |
| | Rated current | A | 0.73 | 1.38 | 1.38 | 0.78 |
| | Speed | r/min | 805 | 740 | 740 | 825 |
| Outdoor coil | Number of rows | - | 1 | 2 | 1 | 2 |
| | Fin spacing | mm | 1.6 | 1.7 | 1.3 | 1.6 |
| | Fin type | - | Hydrophilic aluminum | | | Common aluminum |
| | Tube size | mm | Φ9.52 | Φ9.52 | Φ9.52 | Φ7.94 |
| | Tube type | - | Inner-grooved copper pipe | | | |
| | Coil (L×H) | mm | 770×813 | 845×914 | 845×914 | 837×1100 |
| Performance | Air flow volume | m ³ /h | 4000 | 5000 | 5000 | 6000 |
| | Noise level | dB(A) | 47 | 49 | 50 | 52 |
| Refrigerant | Type | - | R407C | R407C | R407C | R407C |
| | Charge volume | g | 1530 | 2700 | 1700 | 2900 |
| Refrigerant piping | Liquid side | mm | Φ9.53 | Φ12.7 | Φ9.53 | Φ9.53 |
| | Gas side | mm | Φ15.9 | Φ19 | Φ19 | Φ19 |
| | Max. pipe length | m | 20 | 25 | 25 | 30 |
| | Max. high drop | m | 10 | 10 | 10 | 15 |
| Unit dimension (W×H×D) | | mm | 895×862×313 | 990×966×354 | 990×966×354 | 900×1167×340 |
| Packing dimension (W×H×D) | | mm | 1043×915×395 | 1120×1100×435 | 1120×1100×435 | 1032×1307×443 |
| Net/ gross weight | | kg | 59.6/63.5 | 99/104 | 88/95 | 94/102 |
| Shipping Qty (20'/40'/40'HQ) | | pcs. | 62/126/128 | 50/106/108 | 50/106/108 | 27/57/112 |

Notes:

- Nominal cooling capacities are based on the following conditions:
Indoor temp: 27°CDB, 19°CWB; Outdoor temp: 35°CDB; Equivalent refrigerant piping: 7.5m (horizontal)
- Nominal heating capacities are based on the following conditions:
Indoor temp: 20°CDB; Outdoor temp: 7°CDB, 6°CWB; Equivalent ref. piping: 7.5m (horizontal)

(Continued)

| Model | | MCCU-22CN2 | MCCU-28CN2 | MCCU-35CN2 | MCCU-45CN2 | |
|------------------------------|------------------|-------------------|----------------------------------|----------------------------------|--------------------------------------|---------------------------|
| Power supply | | 380V/3N/50Hz | 380V/3N/50Hz | 380V/3N/50Hz | 380V/3N/50Hz | |
| Ambient temp. range | | ℃ | 18~45 | 18~45 | 18~45 | |
| Cooling | Capacity | W | 22000 | 28000 | 34000 | 45000 |
| | Rated input | W | 8250 | 10000 | 13100 | 16000 |
| | Max. input | W | 11500 | 14500 | 18000 | 24000 |
| | EER | - | 2.67 | 2.80 | 2.60 | 2.81 |
| | Rated current | A | 12.4 | 16.9 | 20.7 | 23.4 |
| | Max. current | A | 20.6 | 25.9 | 32.2 | 42.9 |
| Compressor | Model | - | G403DH-64D2Y -X10J1 (×2) | G503DH-83D2Y -X10J1 (×2) | 603DH-95D2Y-X10 (×2) | G603DH-90C2Y -X10 (×3) |
| | Type | - | Scroll | Scroll | Scroll | Scroll |
| | Brand | - | Hitachi | Hitachi | Hitachi | Hitachi |
| | Capacity | W | 12300 | 16000 | 17600 | 17100 |
| | Input | W | 3700 | 4670 | 5300 | 5100 |
| | Oil volume | ml | 1800 | 1800 | 1800 | 1800 |
| Fan motor | Model | - | YDK210-6A(×2) | YDK210-6A(×2) | YDK400-4C(×2) | YDK450-6A(×2) |
| | Type | - | AC | AC | AC | AC |
| | Input | W | 290 | 290 | 400 | 670 |
| | Rated current | A | 1.3 | 1.3 | 1.8 | 3.05 |
| | Speed | r/min | 930 | 930 | 1180 | 810 |
| Outdoor coil | Number of rows | - | 1.7 | 2 | 2 | 3 |
| | Fin spacing | mm | 1.4 | 1.4 | 1.4 | 1.7 |
| | Fin type | - | Hydrophilic aluminum | | | |
| | Tube size | mm | Φ7.94 | Φ7.94 | Φ7.94 | Φ9.52 |
| | Tube type | - | Inner-grooved copper pipe | | | |
| | Coil (L×H) | mm | 2145×880 | 2145×880 | 1376×880(×2) | 2280×610 (×2) |
| Performance | Air flow volume | m ³ /h | 11500 | 11500 | 14076 | 15000 |
| | Noise level | dB(A) | 61 | 61 | 65 | 63 |
| Refrigerant | Type | - | R407C | R407C | R407C | R407C |
| | Charge volume | g | 6200 | 6500 | 10000 | 12000 |
| Refrigerant piping | Liquid side | mm | Φ12.7 | Φ12.7 | Φ15.9 | Φ15.9 |
| | Gas side | mm | Φ22 Φ25(pipe length L≥30m) | Φ25 Φ28(pipe length L≥30m) | Φ28.6/ Φ32(pipe length L≥ 30m) | Φ35 |
| | Max. pipe length | m | 50 | 50 | 50 | 50 |
| | Max. high drop | m | 30 | 30 | 30 | 20 |
| Unit dimension (W×H×D) | | mm | 1255×908×700 | 1255×908×700 | 1255×908×700 | 1380×1630×830 |
| Packing dimension (W×H×D) | | mm | 1320×1060×715 | 1320×1060×715 | 1320×1060×715 | 1434×1790×860 |
| Net/ gross weight | | kg | 161/194 | 177/192 | 193/208 | 356/382 |
| Shipping Qty (20'/40'/40'HQ) | | pcs. | 24/54/54 | 24/54/54 | 24/54/54 | 10/21/21 |

Notes:

1. Nominal cooling capacities are based on the following conditions:

Indoor temp: 27°CDB, 19°CWB; Outdoor temp: 35°CDB; Equivalent refrigerant piping: 7.5m (horizontal)

2. Nominal heating capacities are based on the following conditions:

Indoor temp: 20°CDB; Outdoor temp: 7°CDB, 6°CWB; Equivalent ref. piping: 7.5m (horizontal)

Specifications – Cooling and heating

| Model | | MCCU-7HN2 | MCCU-10HN2 | MCCU-14HN2 | MCCU-16HN2 | |
|------------------------------|------------------|-------------------|----------------------|---------------|-----------------|----------------|
| Power supply | | 220-240V/1N/50Hz | 380V/3N/50Hz | 380V/3N/50Hz | 380V/3N/50Hz | |
| Ambient temp. range | | ℃ | -10~45 | -10~45 | -10~45 | |
| Cooling | Capacity | W | 7000 | 10000 | 14000 | 16000 |
| | Rated input | W | 3133 | 4333 | 4956 | 6033 |
| | Max. input | W | 3500 | 5800 | 6400 | 7400 |
| | EER | - | 2.23 | 2.31 | 2.83 | 2.65 |
| | Rated current | A | 13.3 | 6.73 | 8.92 | 10 |
| | Max. current | A | 18.7 | 10.4 | 11.5 | 13.2 |
| Heating | Capacity | W | 7600 | 12000 | 15000 | 19000 |
| | Input | W | 3333 | 4610 | 5272 | 6418 |
| | COP | - | 2.28 | 2.60 | 2.85 | 2.96 |
| | Rated current | A | 10.69 | 7.3 | 8.28 | 10.55 |
| Compressor | Model | - | PG480X3CS-4MU1 | C-SBN303H8A | ZR61KCE-TFD-522 | C-SBN453H8A |
| | Type | - | Rotary | Scroll | Scroll | Scroll |
| | Brand | - | Toshiba | Sanyo | Copeland | Sanyo |
| | Capacity | W | 8750 | 11850 | 14010 | 16500 |
| | Input | W | 2820 | 3900 | 4460 | 5430 |
| | Oil volume | ml | 1100 | 1700 | 1870 | 1700 |
| Fan motor | Model | - | YDK53-6H | YDK250-6D | YDK250-6D | YDK65-6F-1(×2) |
| | Type | - | AC | AC | AC | AC |
| | Input | W | 155 | 296 | 296 | 171 |
| | Rated current | A | 0.73 | 1.38 | 1.38 | 0.78 |
| | Speed | r/min | 805 | 740 | 740 | 825 |
| Outdoor coil | Number of rows | - | 2 | 2 | 2 | 2 |
| | Fin spacing | mm | 1.7 | 1.7 | 1.7 | 1.6 |
| | Fin type | - | Hydrophilic aluminum | | | |
| | Tube size | mm | Φ9.52 | Φ9.52 | Φ9.52 | Φ7.94 |
| | Tube type | - | Inner-grooved | | | |
| | Coil (Lx H) | mm | 758×813 | 845×914 | 845×914 | 837×1100 |
| Performance | Air flow volume | m ³ /h | 4000 | 5000 | 5000 | 6000 |
| | Noise level | dB(A) | 47 | 49 | 50 | 52 |
| Refrigerant | Type | - | R407C | R407C | R407C | R407C |
| | Charge volume | g | 2300 | 2500 | 3100 | 4200 |
| Piping diameter | Liquid side | mm | Φ9.53 | Φ12.7 | Φ12.7 | Φ9.53 |
| | Gas side | mm | Φ15.9 | Φ19 | Φ19 | Φ19 |
| | Max. pipe length | m | 20 | 25 | 25 | 30 |
| | Max. high drop | m | 10 | 10 | 10 | 15 |
| Unit dimension (W×H×D) | mm | 895×862×313 | 990×966×354 | 990×966×354 | 900×1167×340 | |
| Packing dimension (W×H×D) | mm | 1043×915×395 | 1120×1100×435 | 1120×1100×435 | 1032×1307×443 | |
| Net/ gross weight | kg | 64/66 | 96/106 | 90/96 | 104/112 | |
| Shipping Qty (20'/40'/40'HQ) | pcs. | 62/126/128 | 50/106/108 | 50/106/108 | 27/57/112 | |

Notes:

1. Nominal cooling capacities are based on the following conditions:

Indoor temp: 27°CDB, 19°CWB; Outdoor temp: 35°CDB; Equivalent refrigerant piping: 7.5m (horizontal)

2. Nominal heating capacities are based on the following conditions:

Indoor temp: 20°CDB; Outdoor temp: 7°CDB, 6°CWB; Equivalent ref. piping: 7.5m (horizontal)

(Continued)

| Model | | MCCU-22HN2 | MCCU-28HN2 | MCCU-35HN2 | MCCU-45HN2 | |
|------------------------------|------------------|-------------------|----------------------|-----------------|--------------------------------------|-----------------------|
| Power supply | | 380V/3N/50Hz | 380V/3N/50Hz | 380V/3N/50Hz | 380V/3N/50Hz | |
| Ambient temp. range | | ℃ | -10~45 | -10~45 | -10~45 | |
| Cooling | Capacity | W | 22000 | 28000 | 34000 | 45000 |
| | Rated input | W | 10000 | 10800 | 13300 | 16000 |
| | Max. input | W | 13500 | 14800 | 18500 | 24000 |
| | EER | - | 2.20 | 2.80 | 2.56 | 2.81 |
| | Rated current | A | 14.3 | 19.3 | 20.7 | 28.4 |
| | Max. current | A | 24.1 | 26.5 | 33.1 | 42.9 |
| Heating | Capacity | W | 25000 | 30000 | 41000 | 48000 |
| | Input | W | 10638 | 10638 | 12600 | 16500 |
| | COP | - | 2.35 | 2.82 | 3.25 | 2.91 |
| | Rated current | A | 14.98 | 17.7 | 20.5 | 27.2 |
| Compressor | Model | - | VR125KS-TFP-522 | VR125KS-TFP-522 | 603DH-95D2Y-X10 (×2) | G603DH-90C2Y-X10 (×3) |
| | Type | - | Scroll | Scroll | Scroll | Scroll |
| | Brand | - | Copeland | Copeland | Hitachi | Hitachi |
| | Capacity | W | 31100 | 31100 | 17600 | 17100 |
| | Input | W | 9000 | 9000 | 5300 | 5100 |
| | Oil volume | ml | 3124 | 3124 | 1800 | 1800 |
| Fan motor | Model | - | YDK400-8A | YDK400-8A | YDK400-4C(×2) | YDK450-6A(×2) |
| | Type | - | AC | AC | AC | AC |
| | Input | W | 647 | 647 | 400 | 670 |
| | Rated current | A | 2.95 | 2.95 | 1.8 | 3.05 |
| | Speed | r/min | 670 | 670 | 1180 | 810 |
| Outdoor coil | Number of rows | - | 2 | 2 | 2 | 3 |
| | Fin spacing | mm | 1.7 | 1.7 | 1.4 | 1.7 |
| | Fin type | - | Hydrophilic aluminum | | | |
| | Tube size | mm | Φ9.52 | Φ9.52 | Φ7.94 | Φ9.52 |
| | Tube type | - | Inner-grooved | | | |
| | Coil (Lx H) | mm | 2037×1118 | 2037×1118 | 1376×880(×2) | 2280×610 (×2) |
| Performance | Air flow volume | m ³ /h | 10000 | 10000 | 14076 | 15000 |
| | Noise level | dB(A) | 63 | 63 | 65 | 63 |
| Refrigerant | Type | - | R407C | R407C | R407C | R407C |
| | Charge volume | g | 8500 | 8500 | 9500 | 12000 |
| Piping diameter | Liquid side | mm | Φ12.7 | Φ12.7 | Φ15.9 | Φ15.9 |
| | Gas side | mm | Φ25 | Φ25 | Φ28.6/ Φ32(pipe length L ≥30m) | Φ35 |
| | Max. pipe length | m | 50 | 50 | 50 | 50 |
| | Max. high drop | m | 20 | 20 | 30 | 20 |
| Unit dimension (W×H×D) | | mm | 980×1615×800 | 980×1615×800 | 1255×908×700 | 1380×1630×830 |
| Packing dimension (W×H×D) | | mm | 1044×1790×865 | 1044×1790×865 | 1320×1060×715 | 1434×1790×860 |
| Net/ gross weight | | kg | 280/290 | 280/290 | 196/211 | 356/382 |
| Shipping Qty (20'/40'/40'HQ) | | pcs. | 10/20/22 | 10/20/22 | 10/20/22 | 10/21/21 |

Notes:

1. Nominal cooling capacities are based on the following conditions:

Indoor temp: 27°CDB, 19°CWB; Outdoor temp: 35°CDB; Equivalent refrigerant piping: 7.5m (horizontal)

2. Nominal heating capacities are based on the following conditions:

Indoor temp: 20°CDB; Outdoor temp: 7°CDB, 6°CWB; Equivalent ref. piping: 7.5m (horizontal)

9. Dimensions

9.1 Dimensions of side discharge units

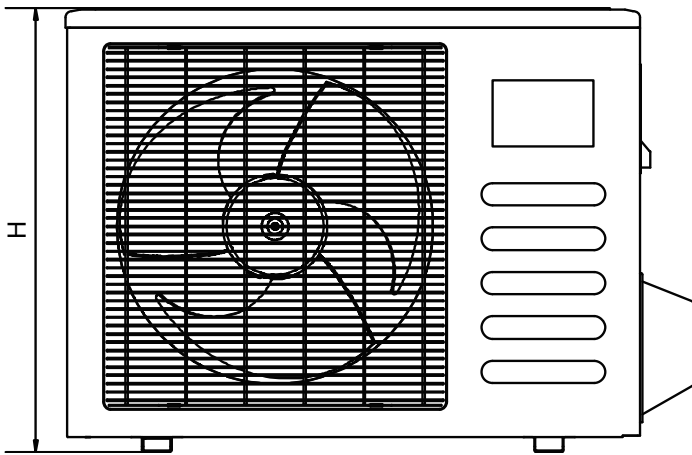


Fig. 1-1

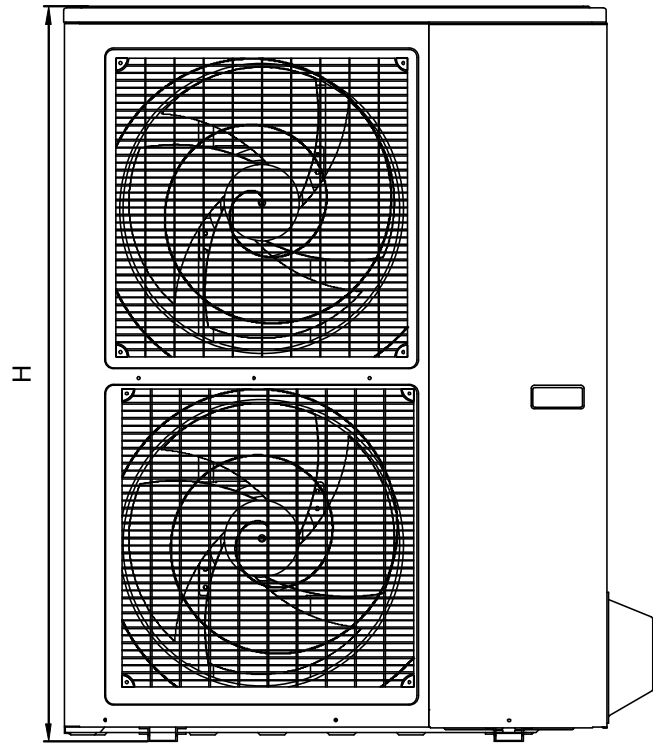


Fig. 1-2

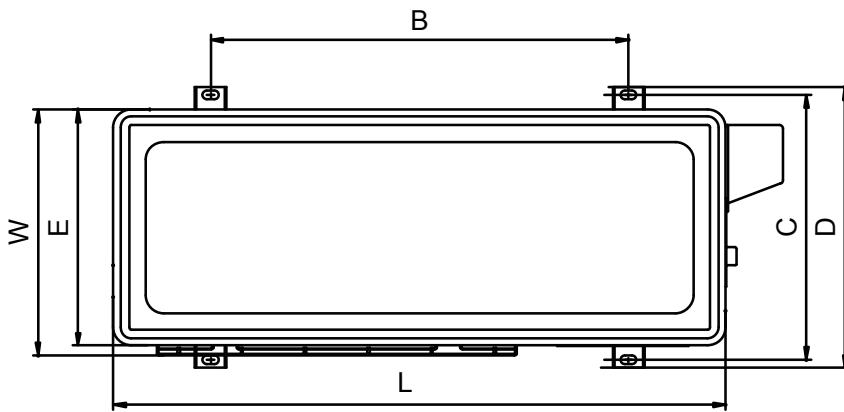


Fig. 1-3

Table 1 (mm)

| Model | L | W | H | B | C | D | E | Remark |
|-------|-----|-----|------|-----|-----|-----|-----|---------|
| 7 kW | 895 | 313 | 862 | 590 | 333 | 355 | 302 | Fig 1-1 |
| 10 kW | 990 | 354 | 966 | 624 | 366 | 396 | 340 | |
| 14 kW | 990 | 354 | 966 | 624 | 366 | 396 | 340 | |
| 16 kW | 900 | 340 | 1167 | 590 | 378 | 400 | 330 | Fig 1-2 |

9.2 Dimensions of vertical discharge units—22kW, 28kW cooling only units

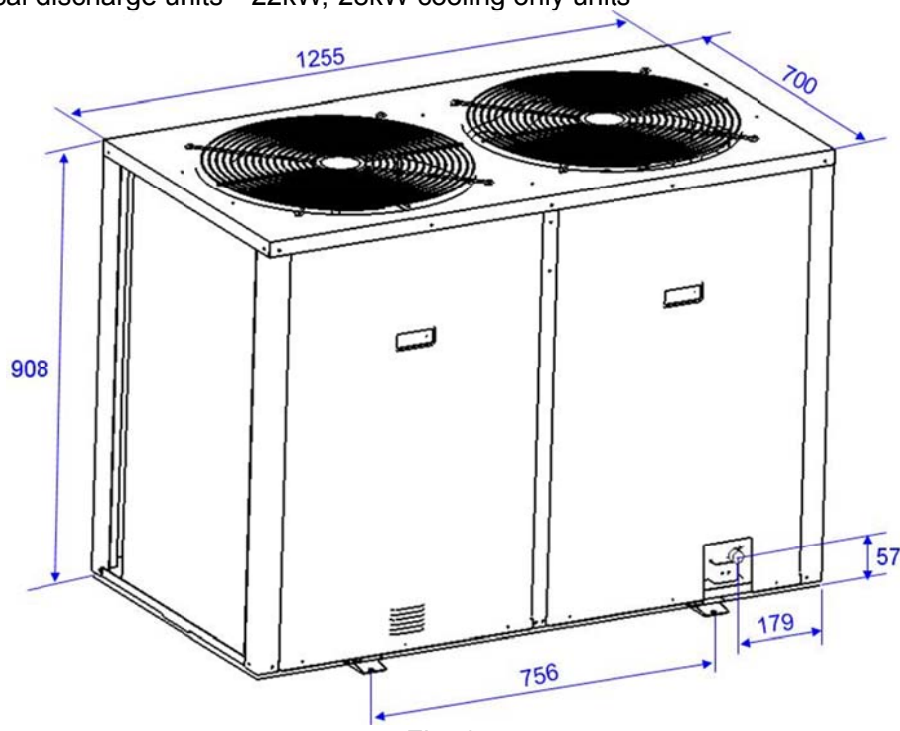


Fig. 1-4

9.3 Dimensions of vertical discharge units—22kW, 28kW cooling and heating units

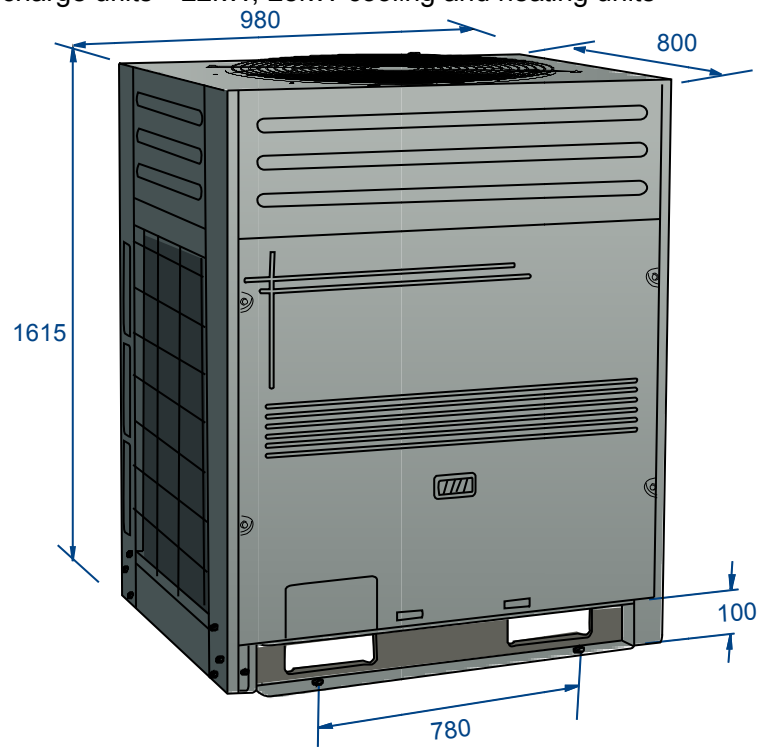


Fig. 1-5

9.4 Dimensions of vertical discharge units—35kW

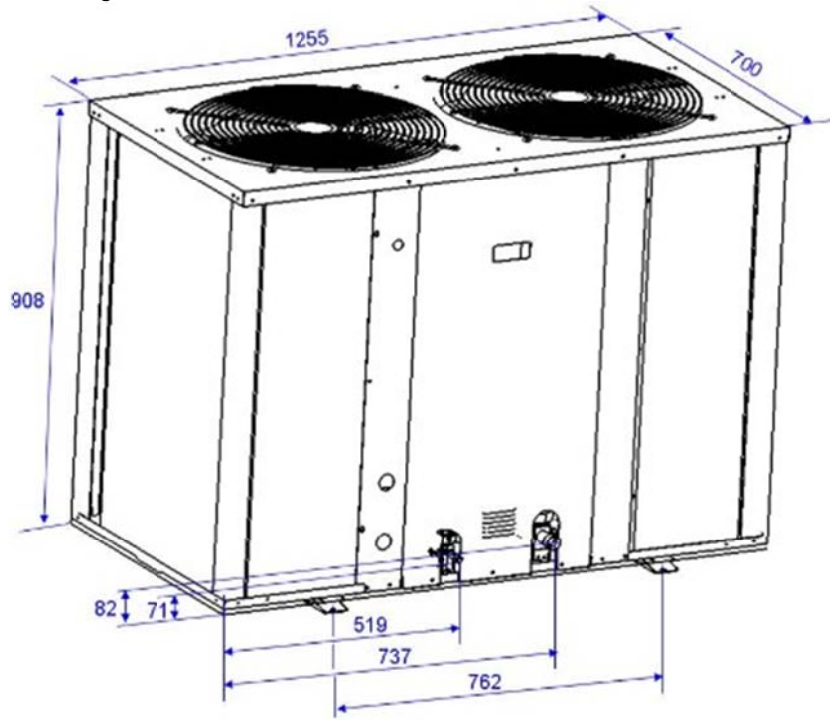


Fig. 1-6

9.5 Dimensions of vertical discharge units—45kW

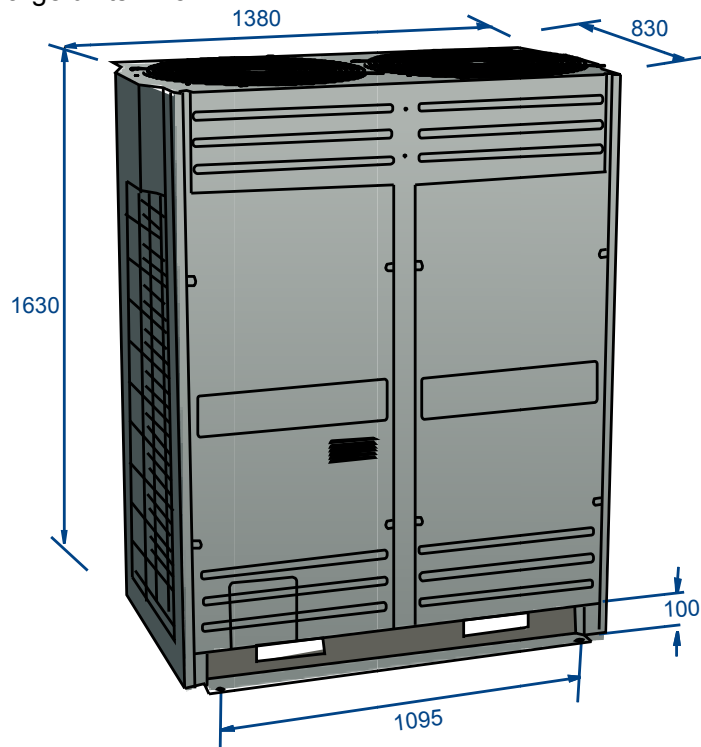
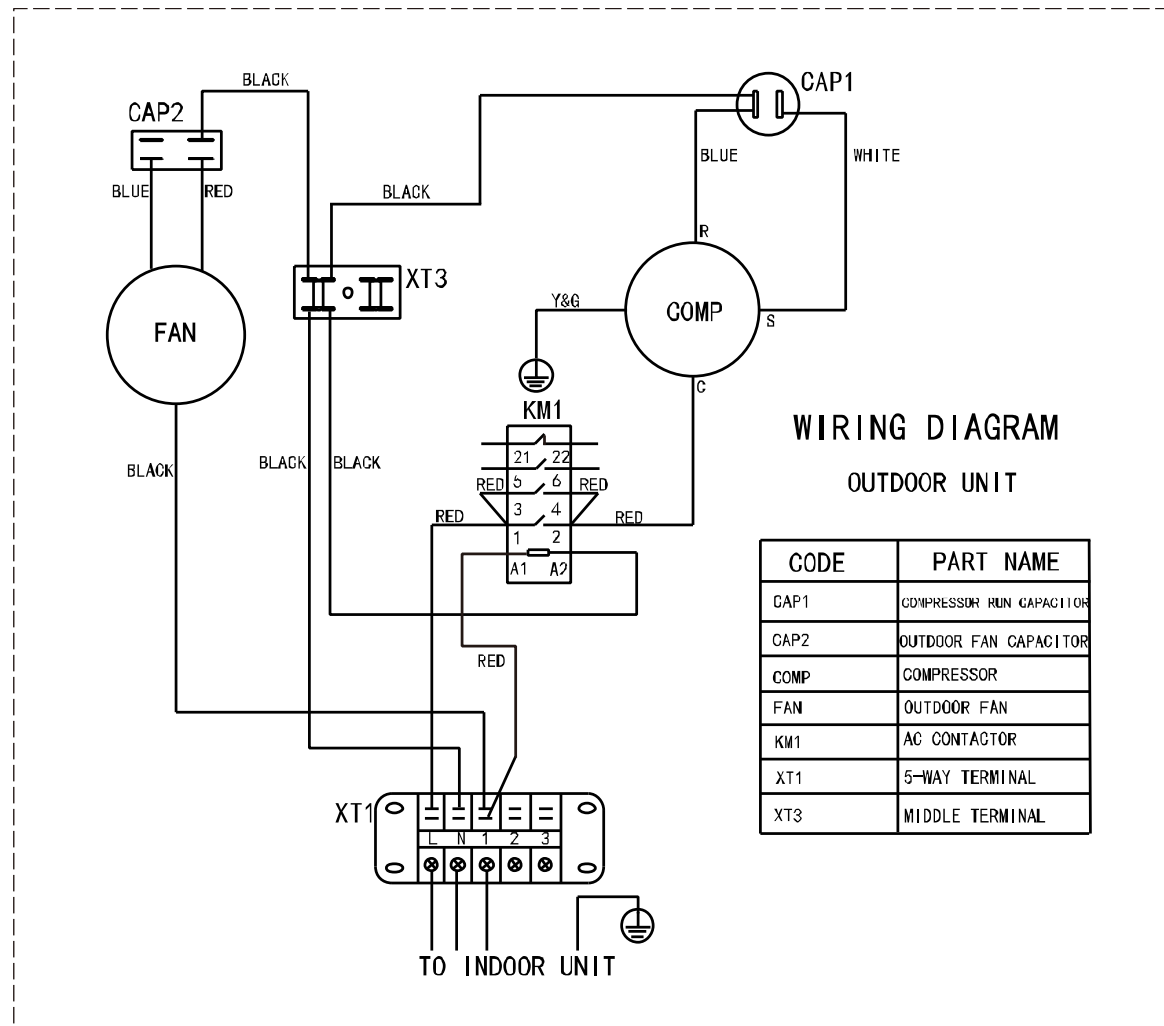


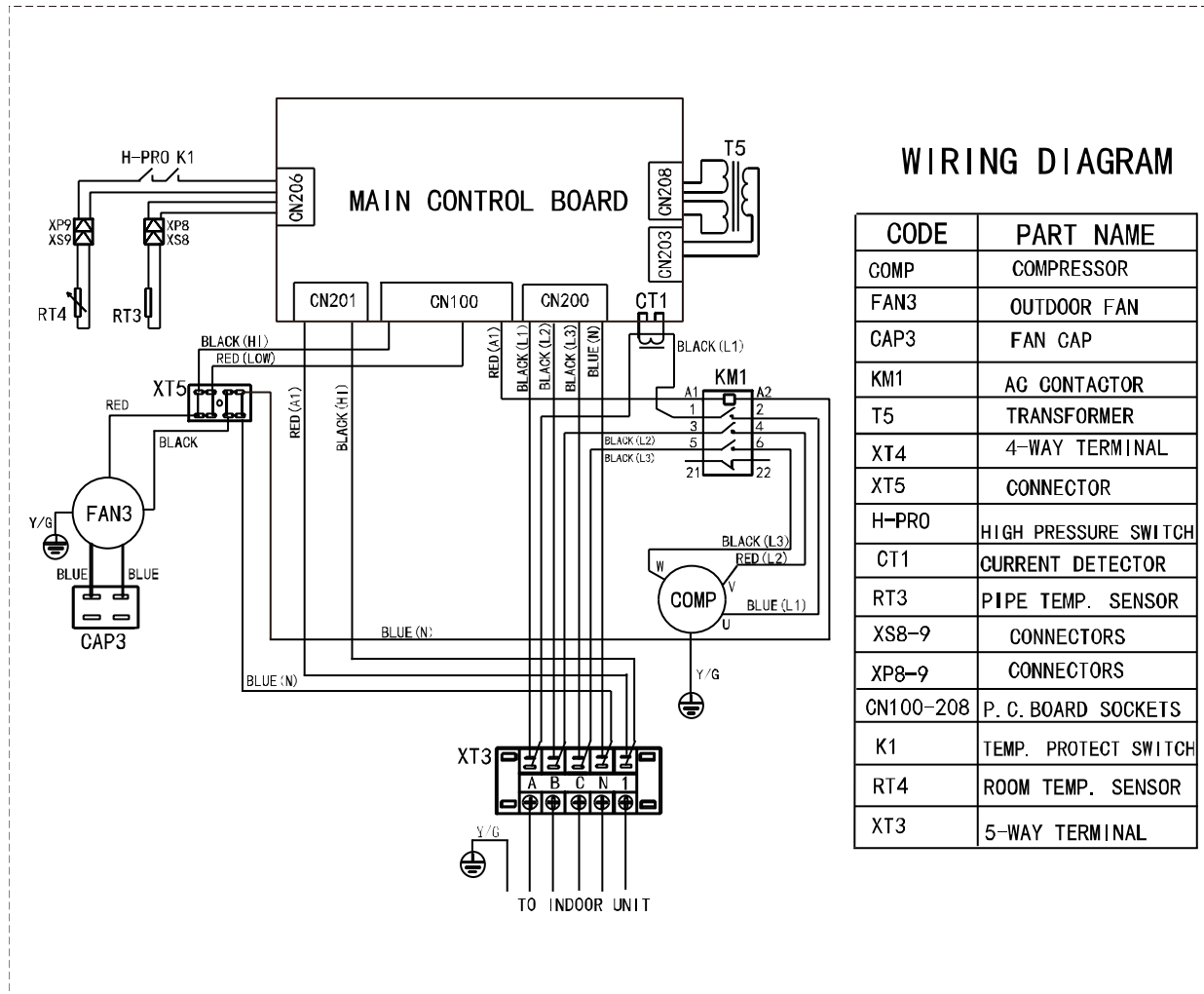
Fig. 1-7

10. Wiring diagram- cooling only

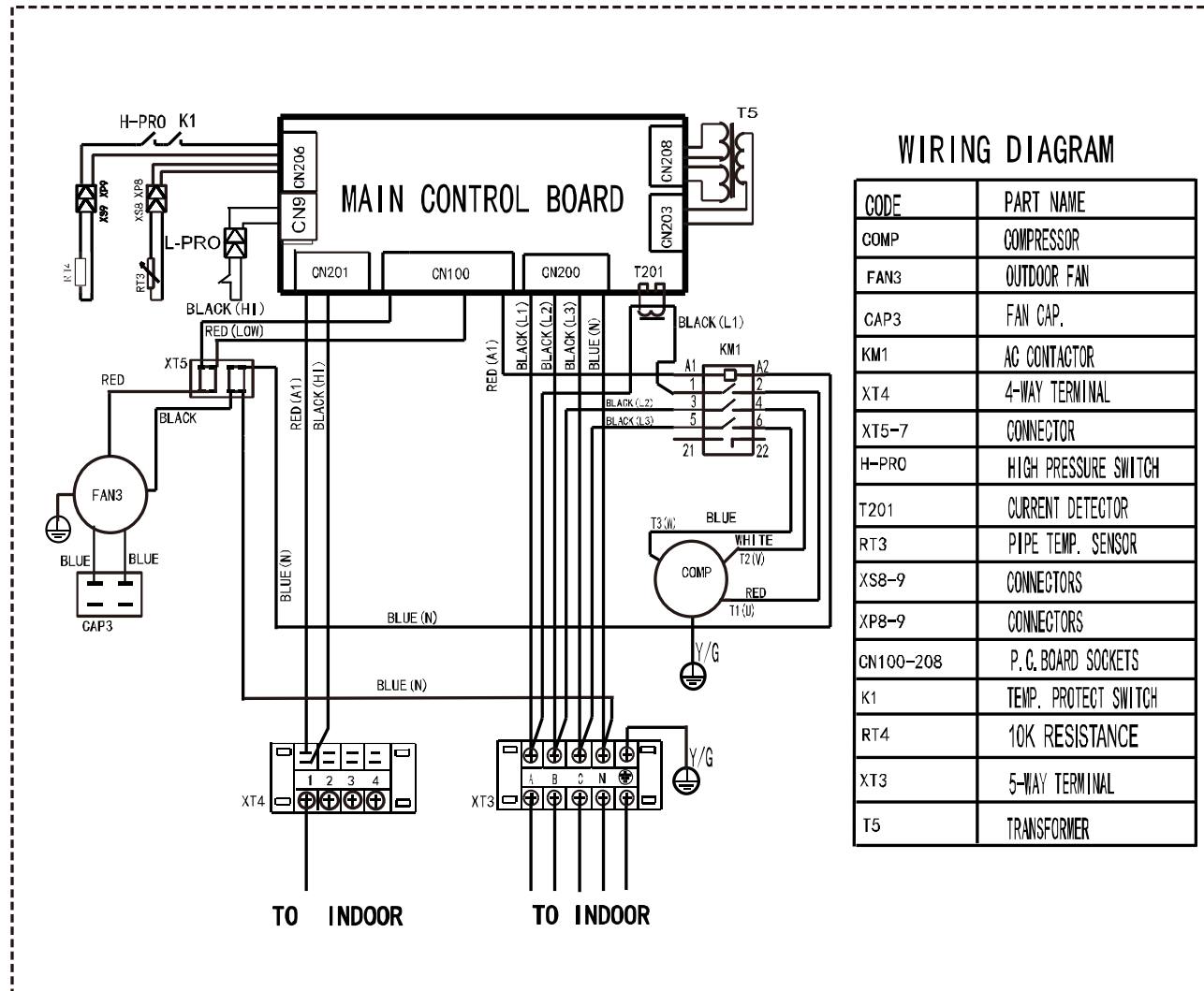
10.1 MCCU-7CN2



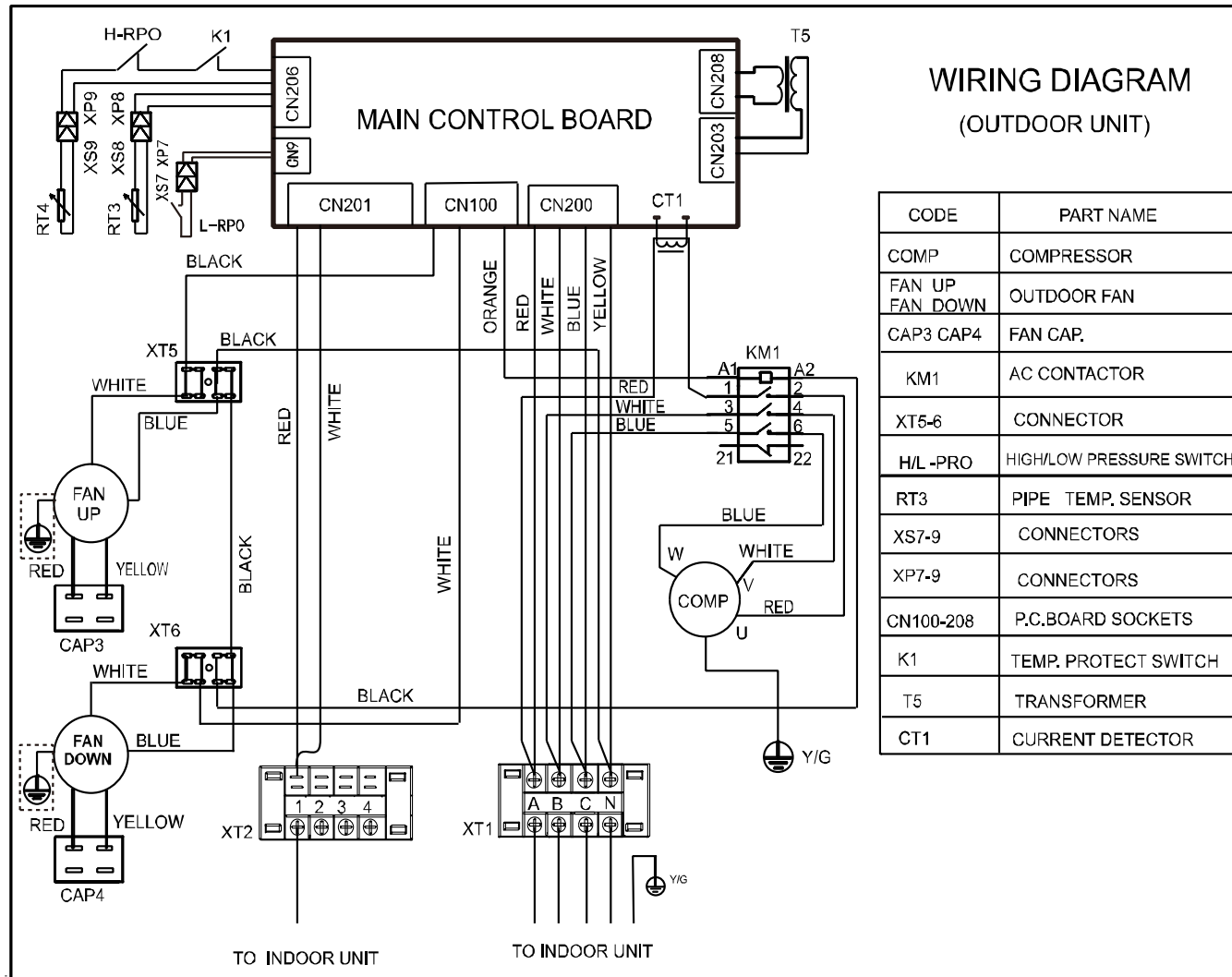
10.2 MCCU-10CN2



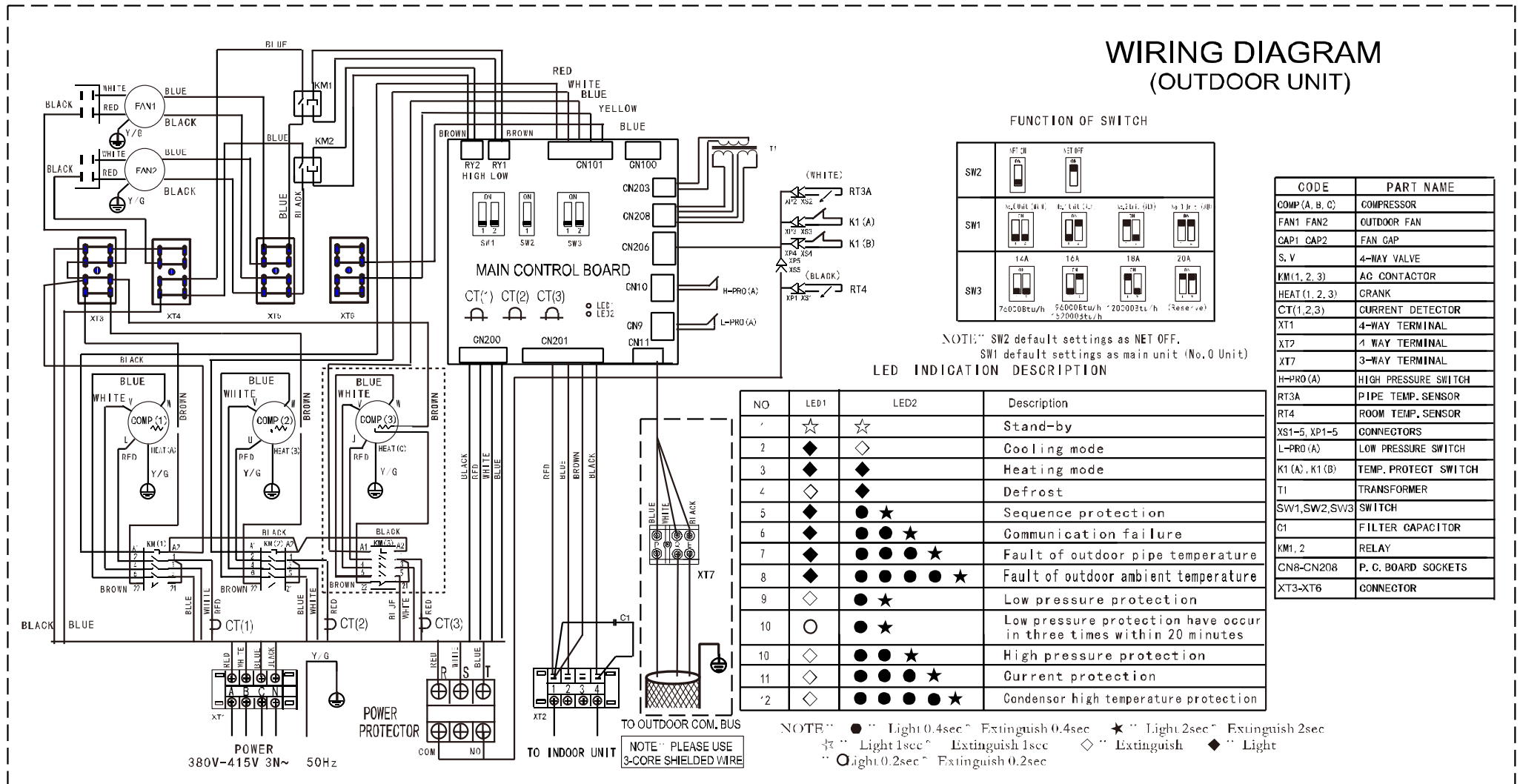
10.3 MCCU-14CN2



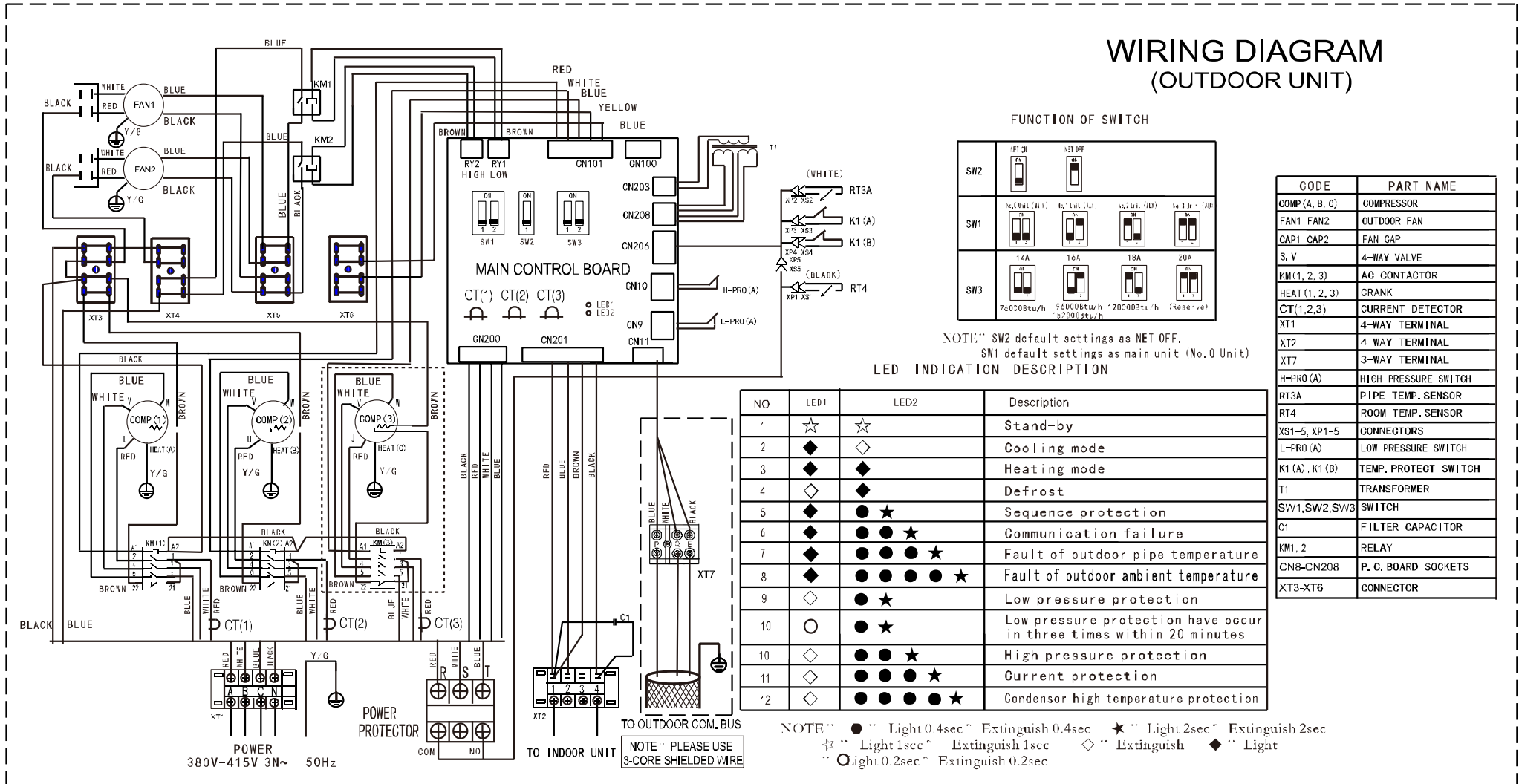
10.4 MCCU-16CN2



10.5 MCCU-22CN2



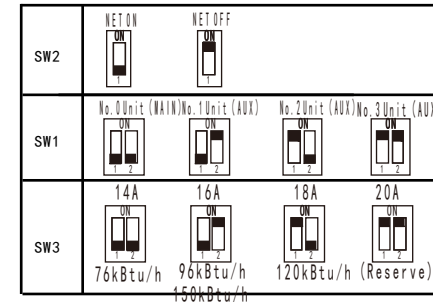
10.6 MCCU-28CN2



10.7 MCCU-35CN2

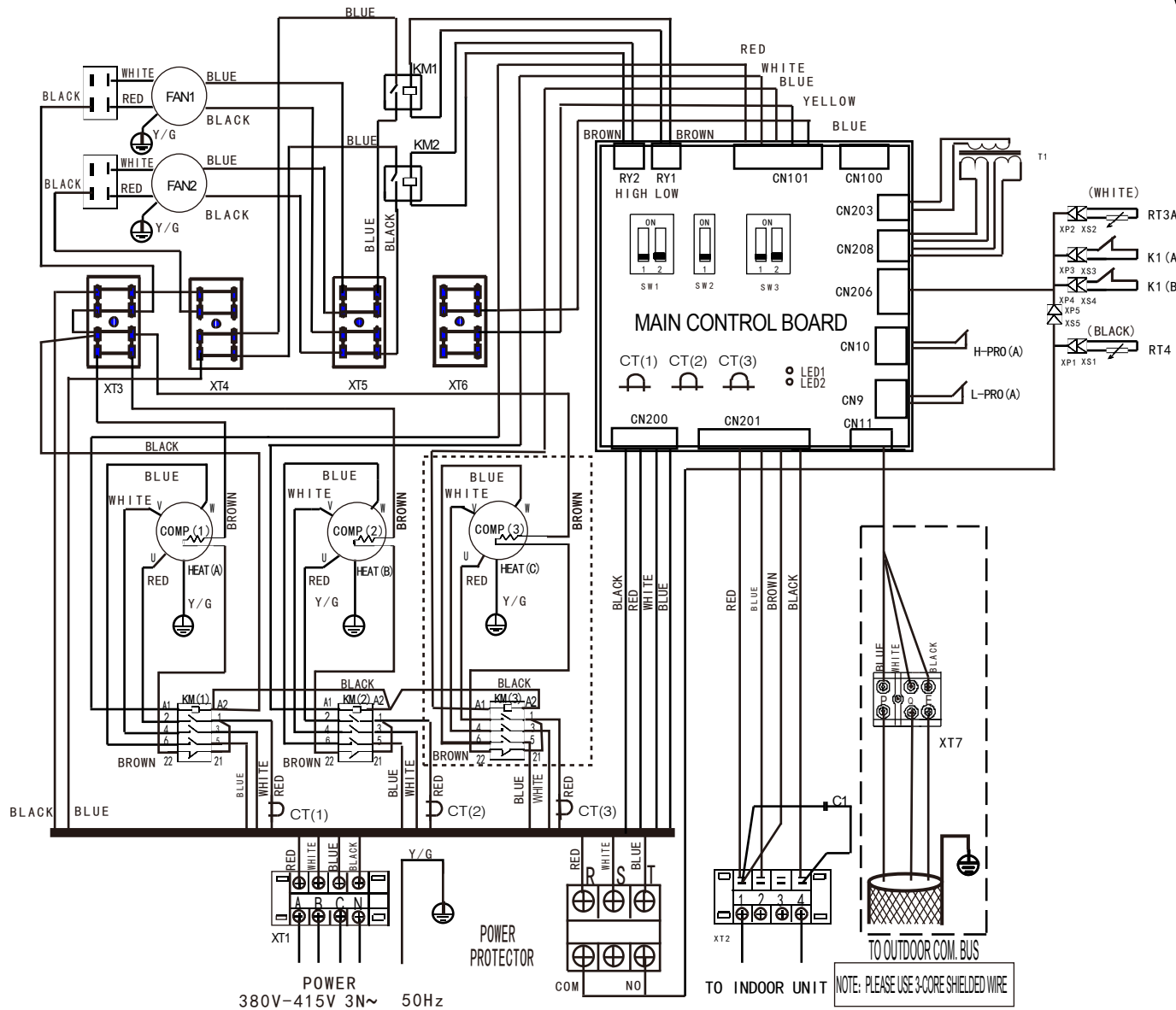
WIRING DIAGRAM (OUTDOOR UNIT)

FUNCTION OF SWITCH



NOTE: SW2 default settings as NET OFF.
SW1 default settings as main unit (No.0 nit)

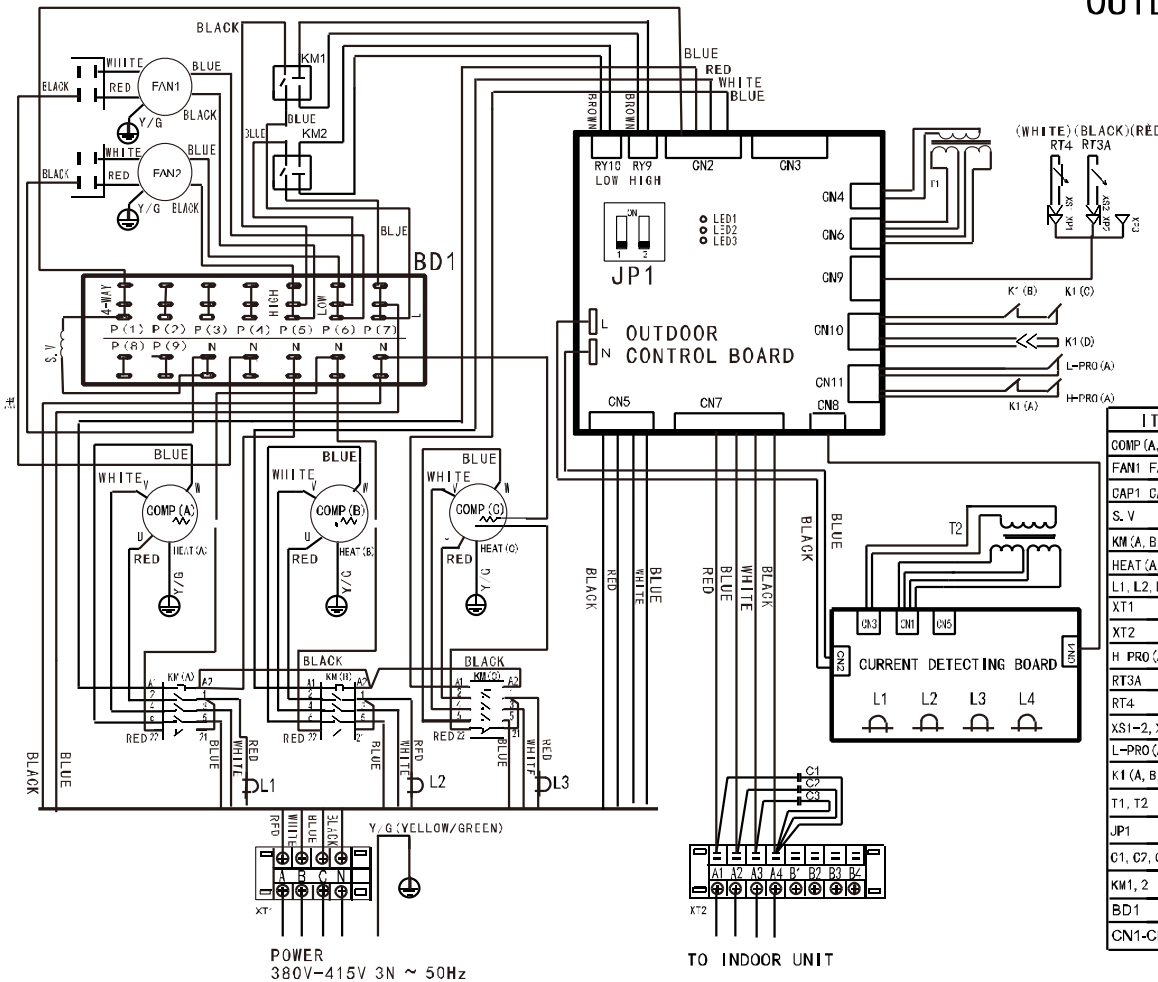
| CODE | PART NAME |
|----------------|----------------------|
| COMP (A, B, C) | COMPRESSOR |
| FAN1 FAN2 | OUTDOOR FAN |
| CAP1 CAP2 | FAN CAP |
| KM (1, 2, 3) | AC CONTACTOR |
| HEAT (1, 2, 3) | CRANK |
| CT (1, 2, 3) | CURRENT DETECTOR |
| XT1 | 4-WAY TERMINAL |
| XT2 | 4-WAY TERMINAL |
| XT7 | 3-WAY TERMINAL |
| H-PRO (A) | HIGH PRESSURE SWITCH |
| RT3A | PIPE TEMP. SENSOR |
| RT4 | ROOM TEMP. SENSOR |
| XS1-5, XP1-5 | CONNECTORS |
| L-PRO (A) | LOW PRESSURE SWITCH |
| K1 (A), K1 (B) | TEMP. PROTECT SWITCH |
| T1 | TRANSFORMER |
| SW1, SW2, SW3 | SWITCH |
| C1 | FILTER CAPACITOR |
| KM1, 2 | RELAY |
| CN8-CN208 | P. C. BOARD SOCKETS |
| XT3-XT6 | CONNECTOR |



NOTE: PLEASE USE 3-CORE SHIELDED WIRE

10.8 MCCU-45CN2

OUTDOOR UNIT WIRING DIAGRAM



FUNCTION OF SWITCH

| LOCATION & EXPLANATION | STATE |
|------------------------|----------------------|
| STATE OF NORMAL USE | Switch in position 1 |
| STATE OF QUICK CHECK | Switch in position 2 |
| STATE OF SELF-CHECK | Switch in position 3 |

LED INDICATION DESCRIPTION

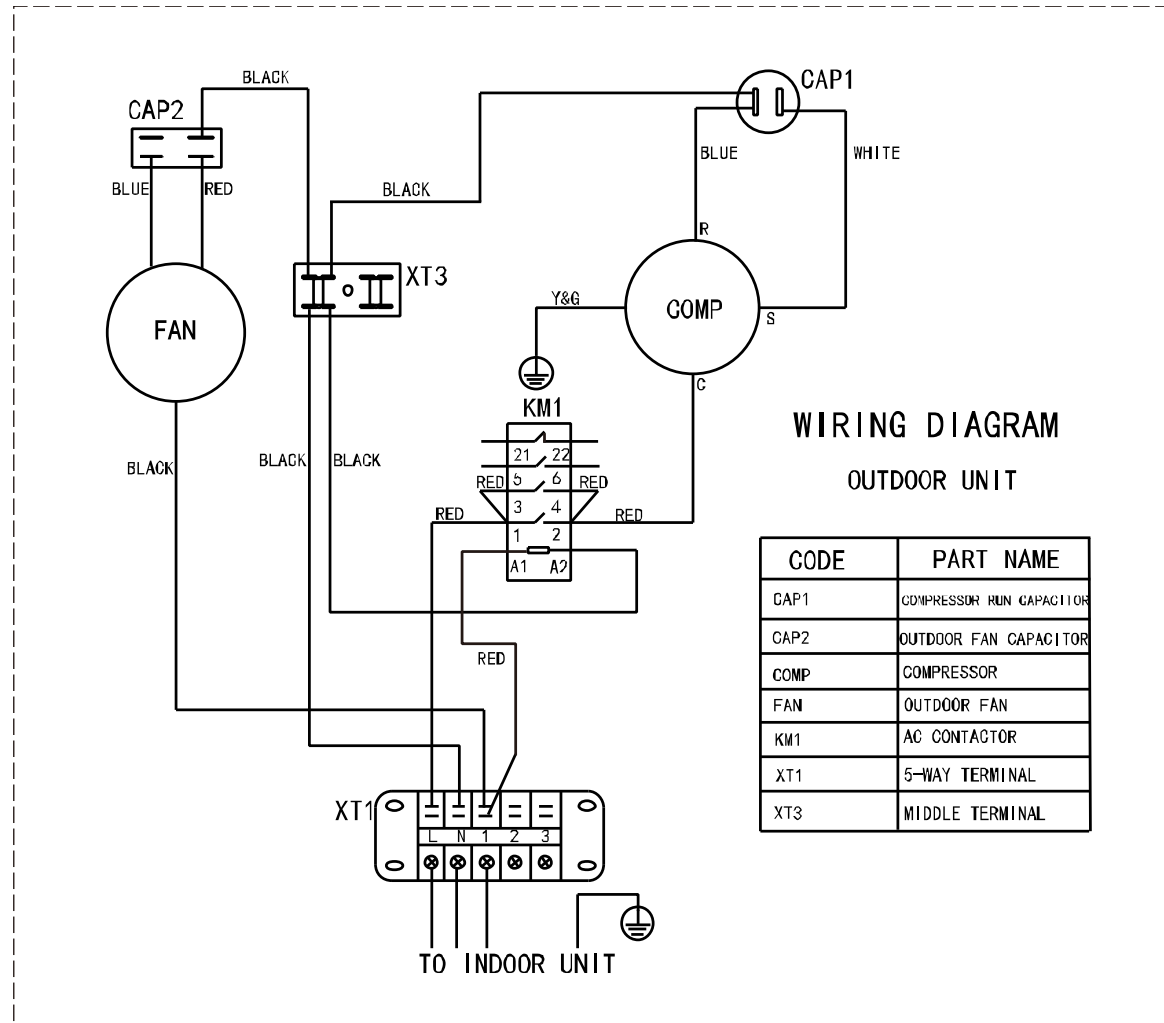
| No. | LED1 | LED2 | LED3 | Description |
|-----|------|------|------|--|
| 1 | ● | ● | ● | Heating mode (After compressor has been started up) |
| 2 | ● | ○ | ● | Cooling mode (After compressor has been started up) |
| 3 | ● | ● | ○ | Heating mode, it is necessary for stopping the fan, when operating high temperature protection of indoor T2. |
| 4 | ● | ○ | ○ | Defrost |
| 5 | ☆ | ☆ | ☆ | Stand-by |
| 6 | ★ | ○ | ● | Fault of outdoor ambient temperature |
| 7 | ○ | ★ | ● | Fault of outdoor pipe temperature |
| 8 | ★ | ★ | ● | Sequence protector |
| 9 | ★ | ★ | ★ | T3 High temperature protection |
| 10 | ★ | ○ | ○ | Low pressure protection 1 |
| 11 | ○ | ★ | ○ | High pressure protection |
| | | | | Air exhaust protection 1 |
| 12 | ★ | ★ | ○ | Current protection 1 |
| 13 | ○ | ○ | ★ | Current protection 2 |
| 14 | ★ | ○ | ★ | Current protection 3 |
| 15 | ○ | ★ | ★ | Current protection 4 |
| 16 | ● | ★ | ○ | Air exhaust protection 2, 3 |
| 17 | ● | ★ | ● | Air exhaust protection 4 |

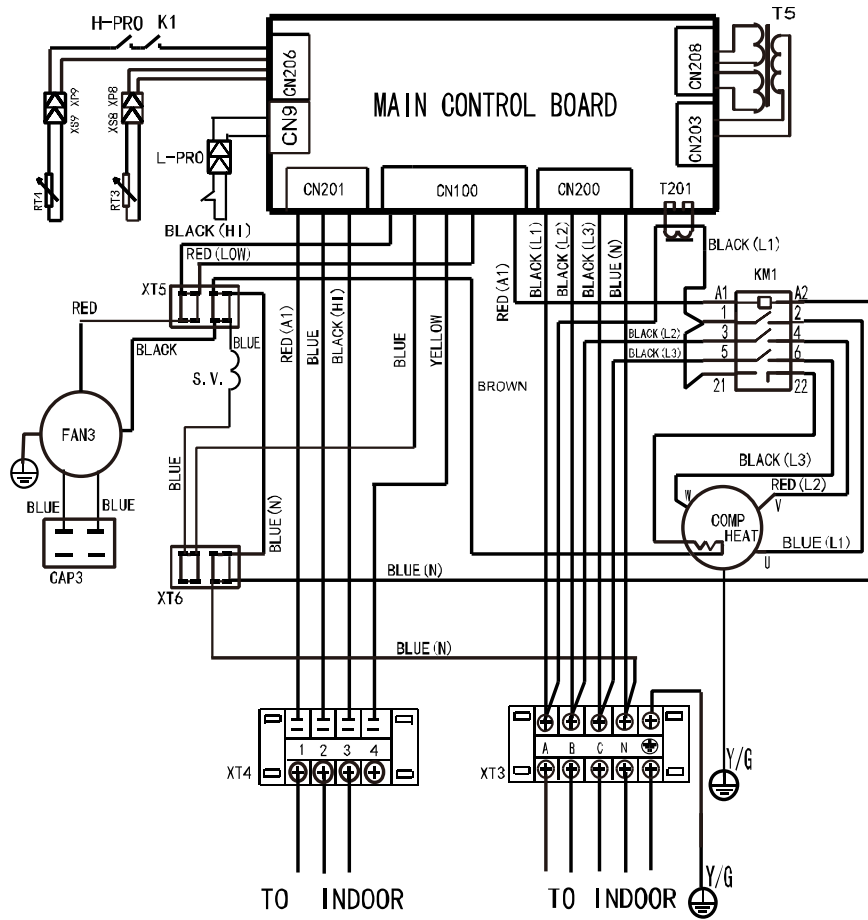
| ITEM | NAME |
|----------------|---------------------------|
| COMP (A, B, C) | COMPRESSOR |
| FAN1 FAN2 | FAN MOTOR |
| CAP1 CAP2 | FAN CAPACITOR |
| S.V | 4-WAY VALVE |
| KM(A, B, C) | AC CONTACTOR |
| HEAT(A, B, C) | HEAT CRANK |
| L1, L2, L3, L4 | CURRENT DETECTOR |
| XT1 | 4-WAY TERMINAL |
| XT2 | 8-WAY TERMINAL |
| H-PRO(A) | HIGH PRESSURE PRO. SWITCH |
| RT3A | PIPE TEMP. SENSOR |
| RT4 | ROOM TEMP. SENSOR |
| XS1-2, XP1-3 | CONNECTORS |
| L-PRO(A) | LOW PRESSURE PRO. SWITCH |
| K1(A, B, C, D) | TEMP PROTECT SWITCH |
| T1, T2 | TRANSFORMER |
| JP1 | SWITCH |
| C1, C2, C3 | FILTER CAPACITOR |
| KM1, 2 | RELAY |
| BD1 | CONNECTOR BOARD |
| CN1-CN11 | P. C BOARD SOCKETS |

●:Light, ○:Extinguish, ★:Quick-flashing, ☆:Slow-flashing

Cooling and heating

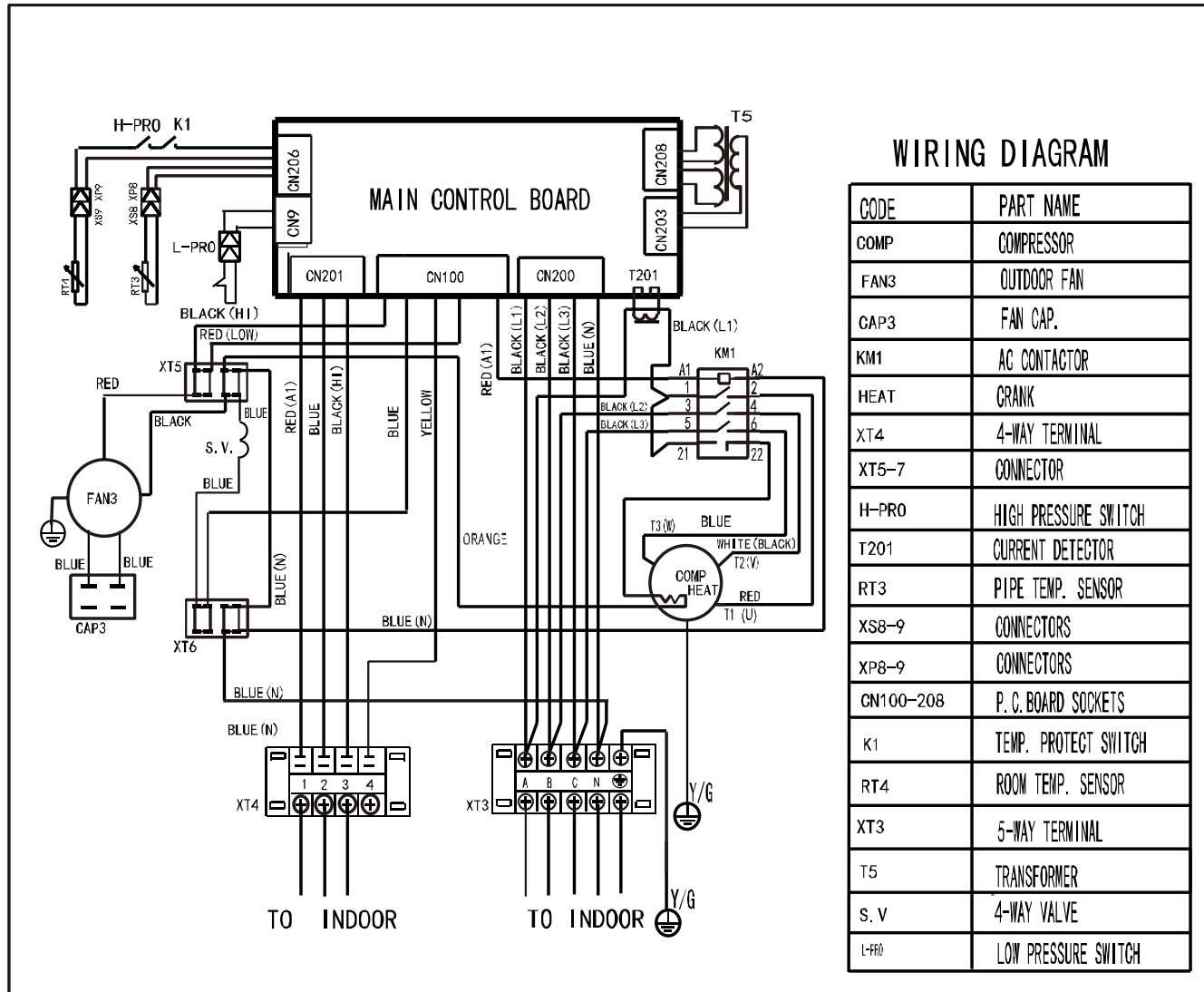
10.9MCCU-7HN2





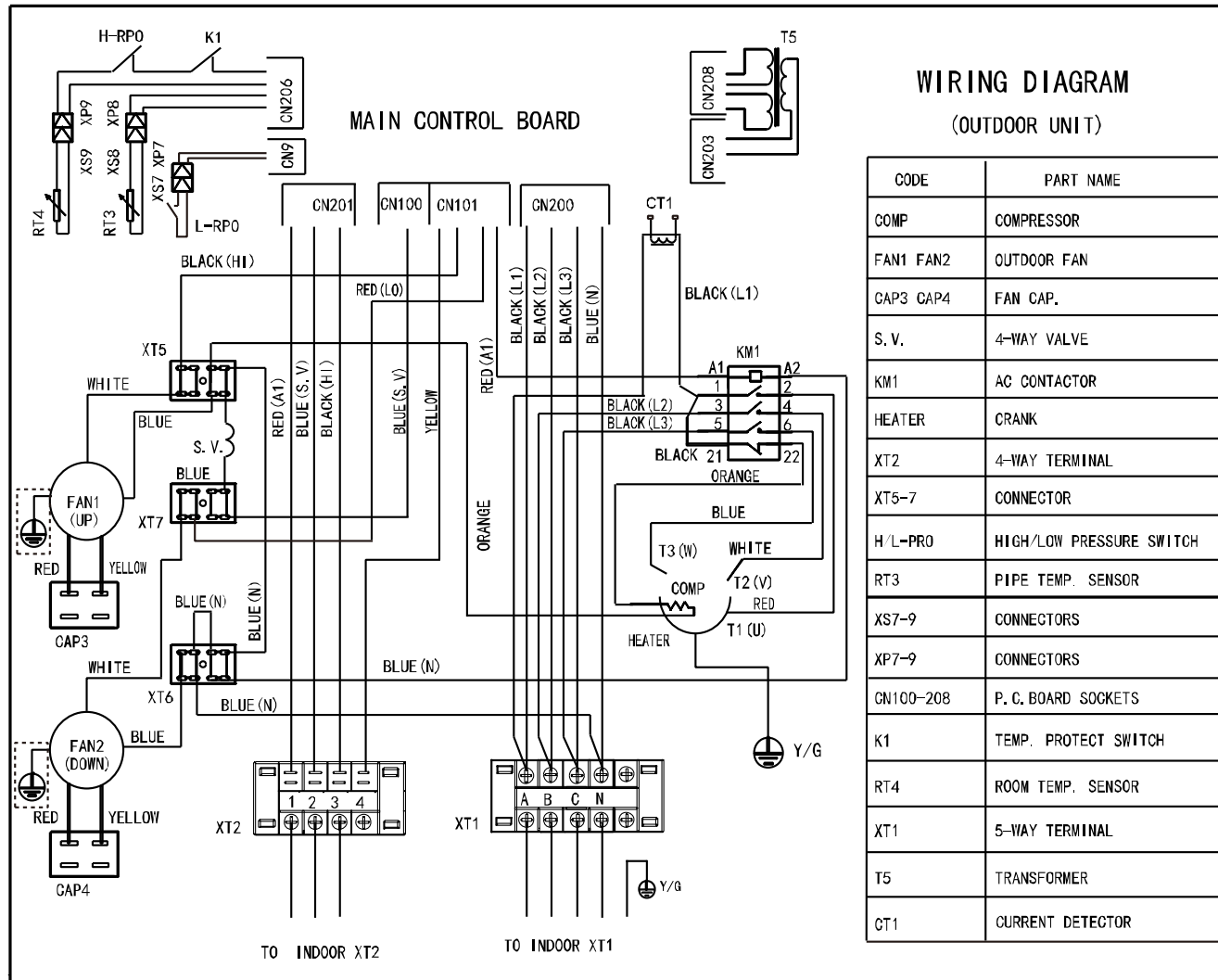
WIRING DIAGRAM

| CODE | PART NAME |
|-----------|----------------------|
| COMP | COMPRESSOR |
| FAN3 | OUTDOOR FAN |
| CAP3 | FAN CAP. |
| KM1 | AC CONTACTOR |
| HEAT | CRANK |
| XT4 | 4-WAY TERMINAL |
| XT5-6 | CONNECTOR |
| H-PRO | HIGH PRESSURE SWITCH |
| T201 | CURRENT DETECTOR |
| RT3 | PIPE TEMP. SENSOR |
| XS8-9 | CONNECTORS |
| XP8-9 | CONNECTORS |
| CN100-208 | P. C. BOARD SOCKETS |
| K1 | TEMP. PROTECT SWITCH |
| RT4 | ROOM TEMP. SENSOR |
| XT3 | 5-WAY TERMINAL |
| T5 | TRANSFORMER |
| S.V | 4-WAY VALVE |
| L-PRO | LOW PRESSURE SWITCH |

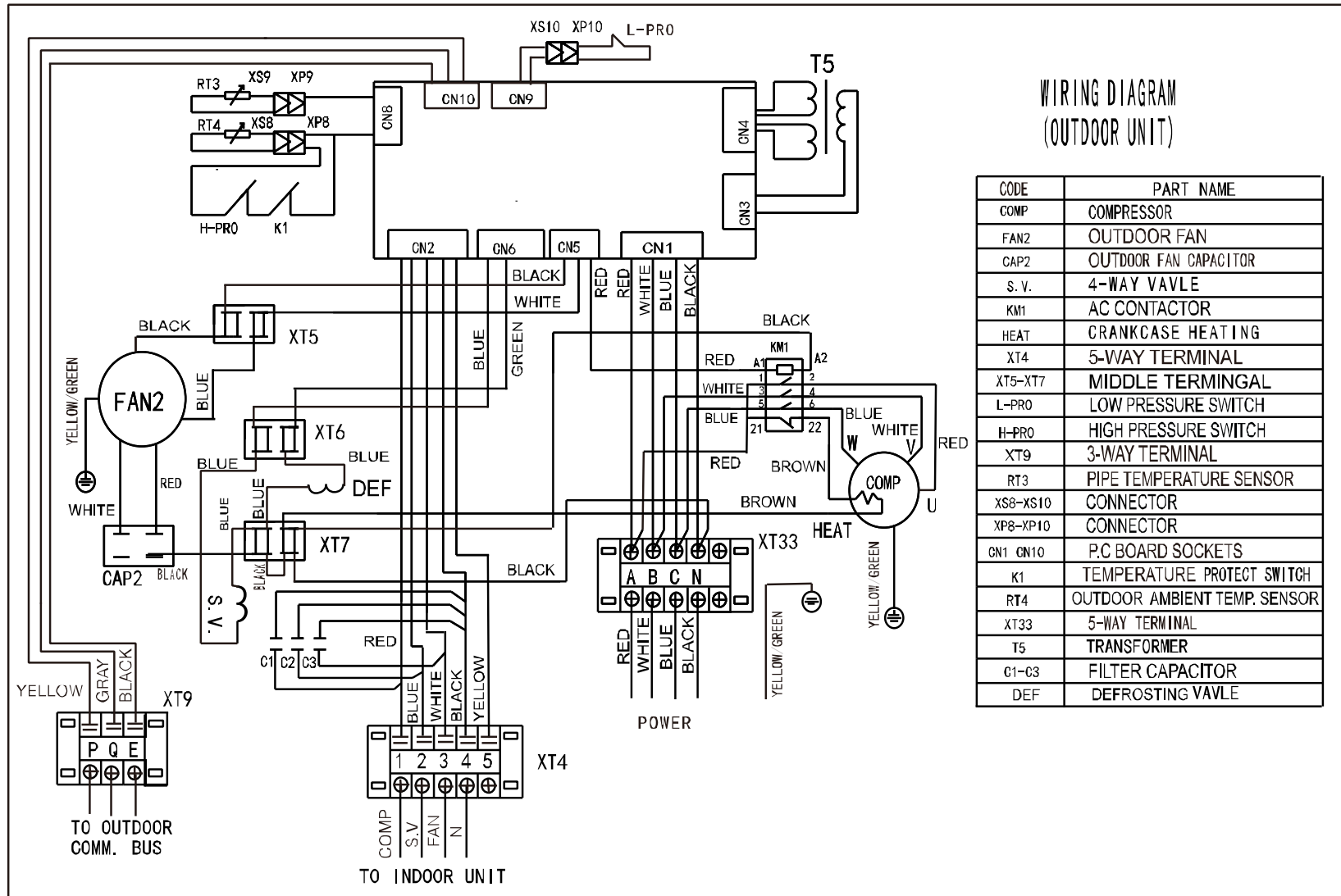


WIRING DIAGRAM

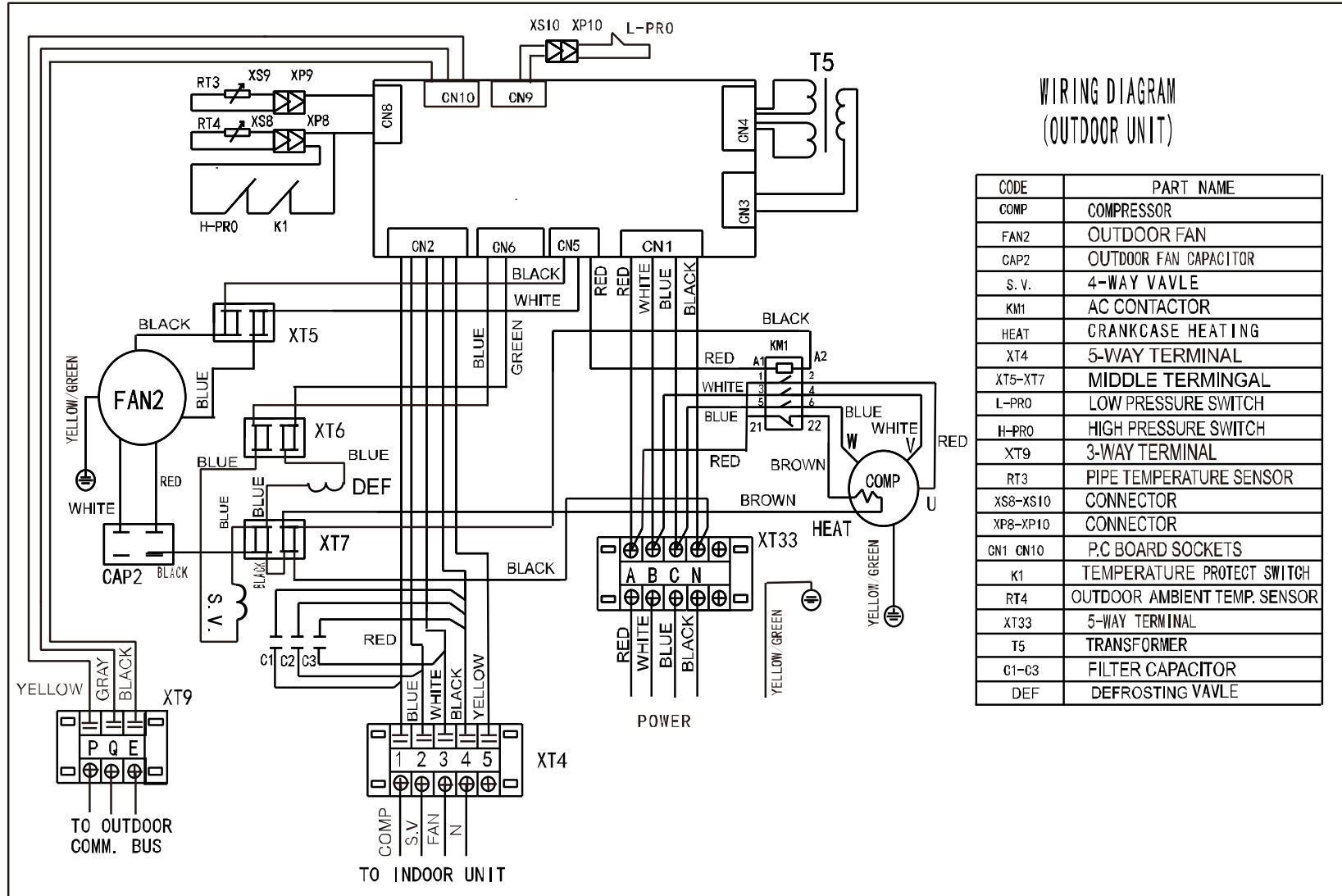
| CODE | PART NAME |
|-----------|----------------------|
| COMP | COMPRESSOR |
| FAN3 | OUTDOOR FAN |
| CAP3 | FAN CAP. |
| KM1 | AC CONTACTOR |
| HEAT | CRANK |
| XT4 | 4-WAY TERMINAL |
| XT5-7 | CONNECTOR |
| H-PRO | HIGH PRESSURE SWITCH |
| T201 | CURRENT DETECTOR |
| RT3 | PIPE TEMP. SENSOR |
| XS8-9 | CONNECTORS |
| XP8-9 | CONNECTORS |
| CN100-208 | P. C. BOARD SOCKETS |
| K1 | TEMP. PROTECT SWITCH |
| RT4 | ROOM TEMP. SENSOR |
| XT3 | 5-WAY TERMINAL |
| T5 | TRANSFORMER |
| S.V | 4-WAY VALVE |
| L-PRO | LOW PRESSURE SWITCH |



10.13 MCCU-22HN2

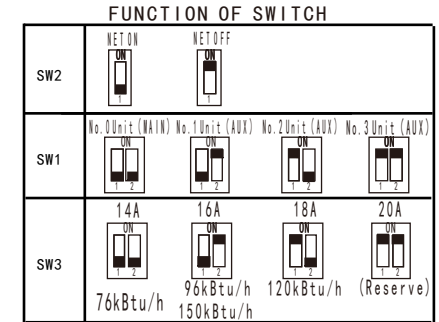
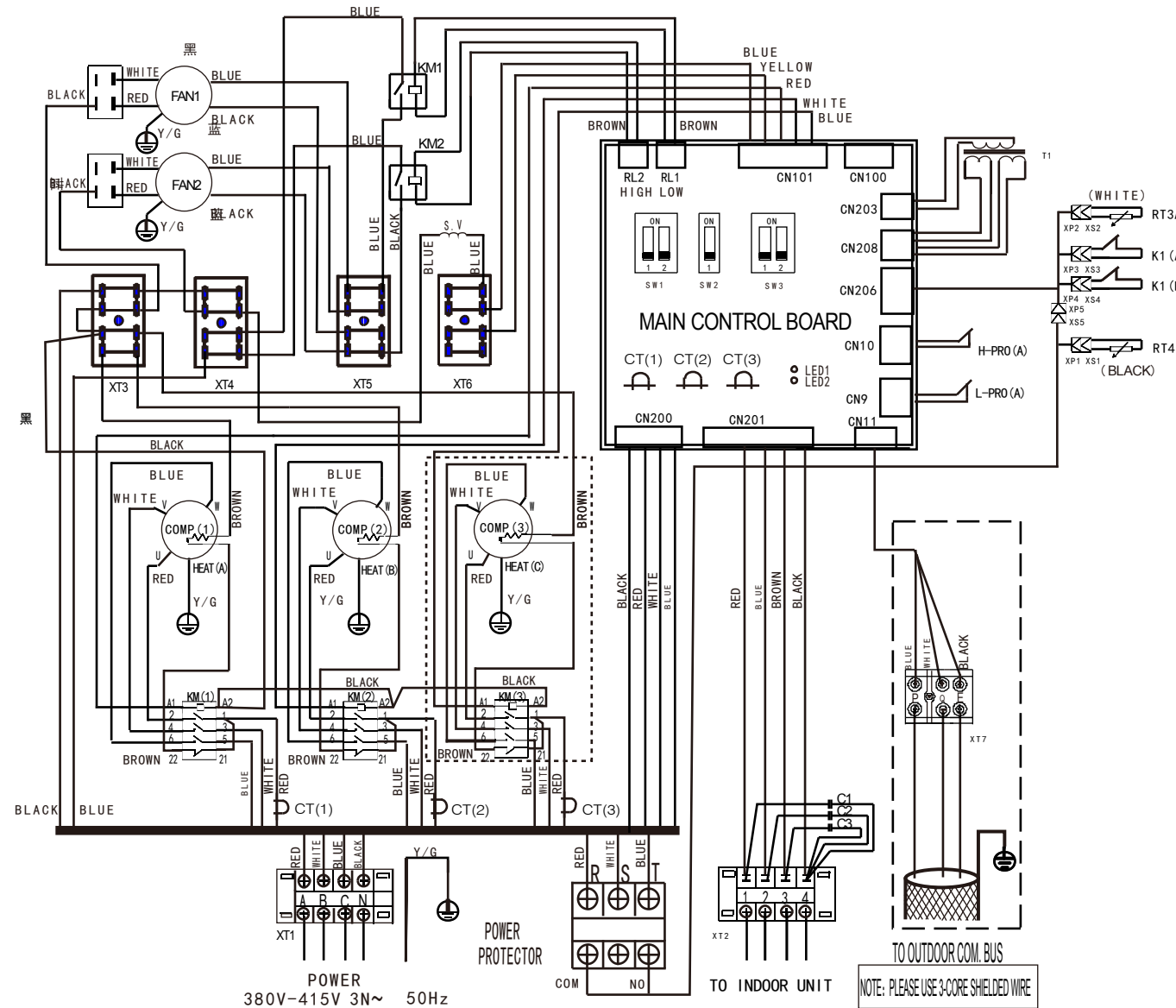


10.14 MCCU-28HN2



10.15 MCCU-35HN2

WIRING DIAGRAM (OUTDOOR UNIT)

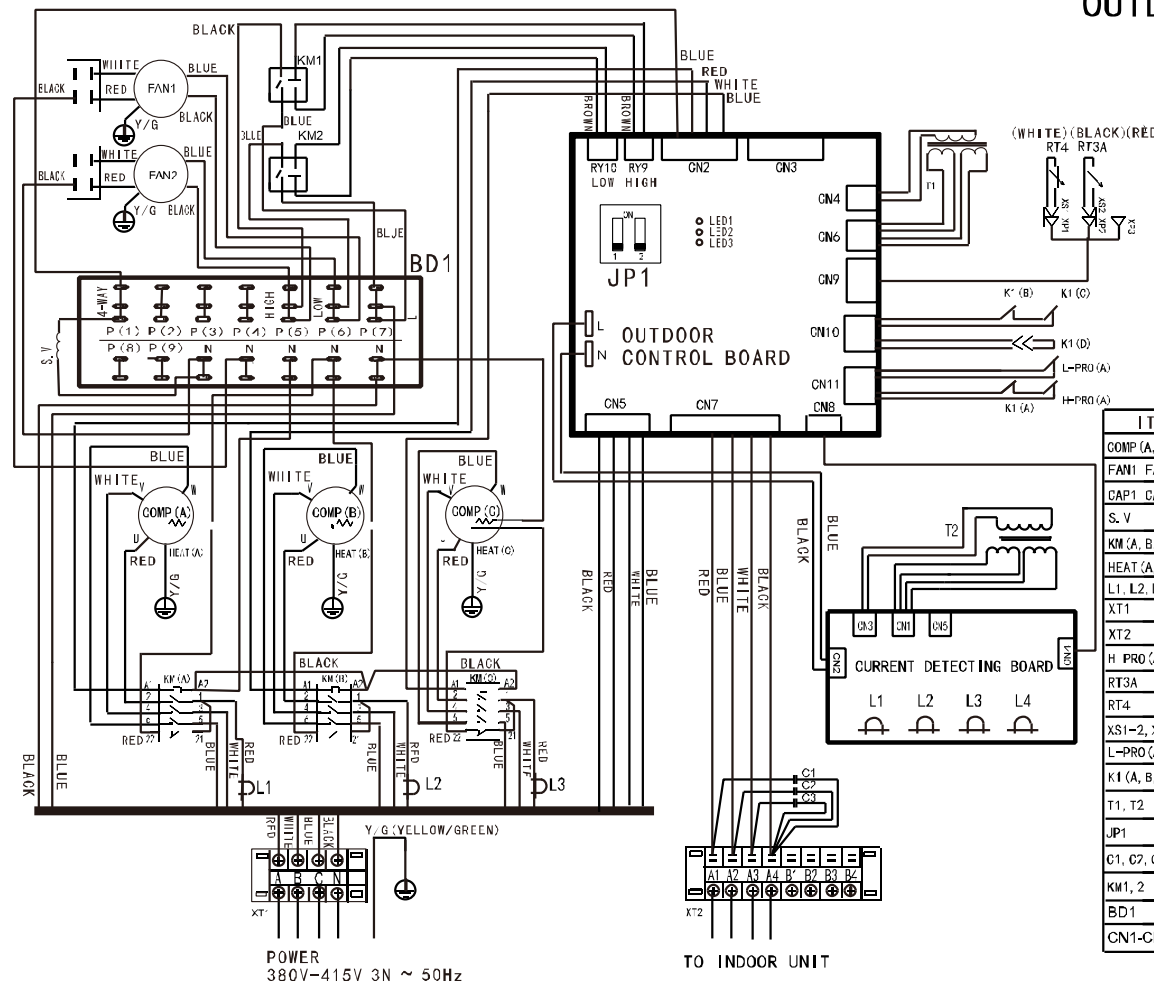


NOTE: SW2 default settings as NET OFF.
SW1 default settings as main unit (No. 0 unit)

| CODE | PART NAME |
|----------------|----------------------|
| COMP (A, B, C) | COMPRESSOR |
| FAN1 FAN2 | OUTDOOR FAN |
| CAP1 CAP2 | FAN CAP |
| S. V | 4-WAY VALVE |
| KM(1, 2, 3) | AC CONTACTOR |
| HEAT(1, 2, 3) | CRANK |
| CT(1,2,3) | CURRENT DETECTOR |
| XT1 | 4-WAY TERMINAL |
| XT2 | 4-WAY TERMINAL |
| XT7 | 3-WAY TERMINAL |
| H-PRO (A) | HIGH PRESSURE SWITCH |
| RT3A | PIPE TEMP. SENSOR |
| RT4 | ROOM TEMP. SENSOR |
| XS1-5, XP1-5 | CONNECTORS |
| L-PRO (A) | LOW PRESSURE SWITCH |
| K1 (A), K1 (B) | TEMP. PROTECT SWITCH |
| T1 | TRANSFORMER |
| SW1, SW2, SW3 | SWITCH |
| C1, C2, C3 | FILTER CAPACITOR |
| KM1, 2 | RELAY |
| CN8-CN208 | P. C. BOARD SOCKETS |
| XT3-XT6 | CONNECTOR |

10.16 MCCU-45HN2

OUTDOOR UNIT WIRING DIAGRAM



FUNCTION OF SWITCH

| LOCATION & EXPLANATION | STATE OF NORMAL USE | STATE OF QUICK CHECK | STATE OF SELF-CHECK |
|---------------------------------|---------------------|----------------------|---------------------|
| (Image of switch in position 1) | ON | OFF | OFF |
| (Image of switch in position 2) | OFF | ON | OFF |
| (Image of switch in position 3) | OFF | OFF | ON |

LED INDICATION DESCRIPTION

| No. | LED1 | LED2 | LED3 | Description |
|-----|------|------|------|--|
| 1 | ● | ● | ● | Heating mode (After compressor has been started up) |
| 2 | ● | ○ | ● | Cooling mode (After compressor has been started up) |
| 3 | ● | ● | ○ | Heating mode, it is necessary for stopping the fan, when operating high temperature protection of indoor T2. |
| 4 | ● | ○ | ○ | Defrost |
| 5 | ☆ | ☆ | ☆ | Stand-by |
| 6 | ★ | ○ | ● | Fault of outdoor ambient temperature |
| 7 | ○ | ★ | ● | Fault of outdoor pipe temperature |
| 8 | ★ | ★ | ● | Sequence protector |
| 9 | ★ | ★ | ★ | T3 High temperature protection |
| 10 | ★ | ○ | ○ | Low pressure protection 1 |
| 11 | ○ | ★ | ○ | High pressure protection |
| | | | | Air exhaust protection 1 |
| 12 | ★ | ★ | ○ | Current protection 1 |
| 13 | ○ | ○ | ★ | Current protection 2 |
| 14 | ★ | ○ | ★ | Current protection 3 |
| 15 | ○ | ★ | ★ | Current protection 4 |
| 16 | ● | ★ | ○ | Air exhaust protection 2, 3 |
| 17 | ● | ★ | ● | Air exhaust protection 4 |

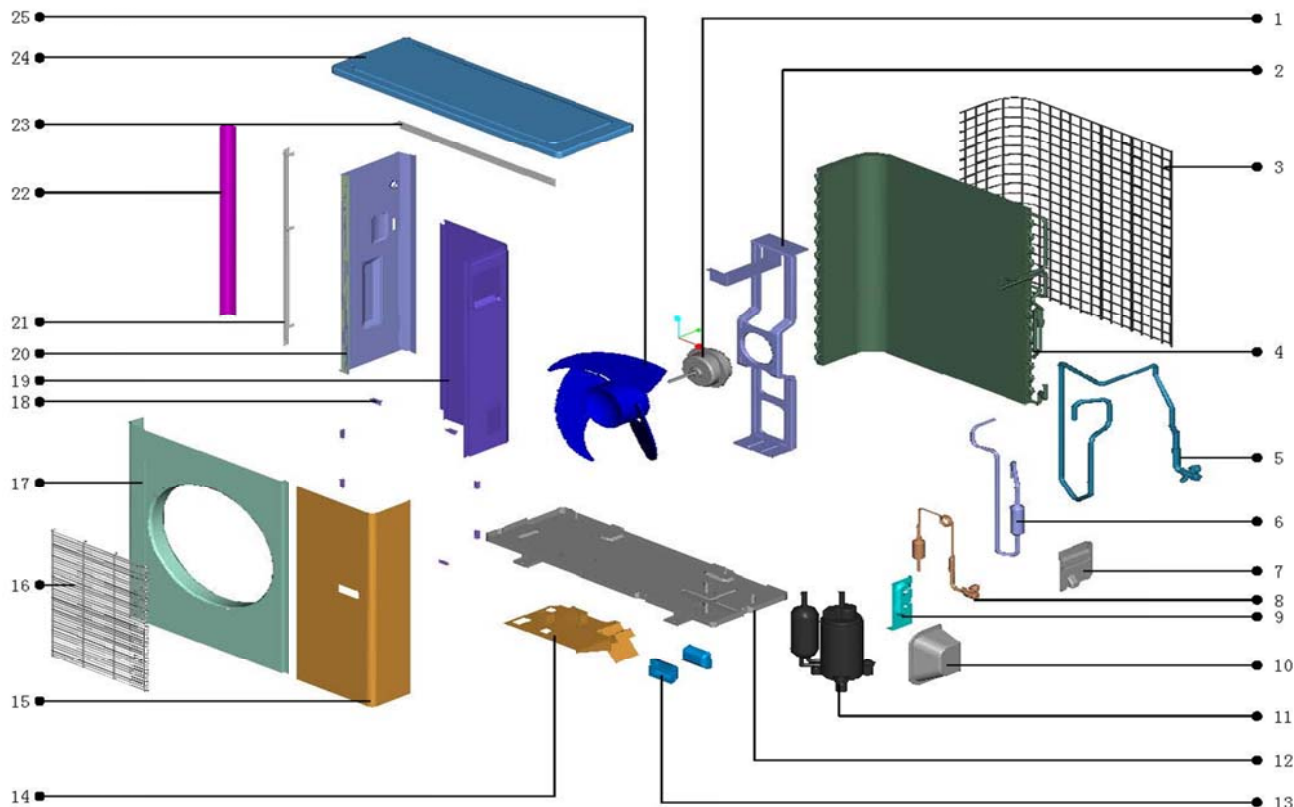
ITEM NAME

| | |
|----------------|---------------------------|
| COMP (A, B, C) | COMPRESSOR |
| FAN1 FAN2 | FAN MOTOR |
| CAP1 CAP2 | FAN CAPACITOR |
| S.V. | 4-WAY VALVE |
| KM(A, B, C) | AC CONTACTOR |
| HEAT(A, B, C) | HEAT CRANK |
| L1, L2, L3, L4 | CURRENT DETECTOR |
| XT1 | 4-WAY TERMINAL |
| XT2 | 8-WAY TERMINAL |
| H-PRO(A) | HIGH PRESSURE PRO. SWITCH |
| RT3A | PIPE TEMP. SENSOR |
| RT4 | ROOM TEMP. SENSOR |
| XS1-2, XP1-3 | CONNECTORS |
| L-PRO(A) | LOW PRESSURE PRO. SWITCH |
| K1(A, B, C, D) | TEMP PROTECT SWITCH |
| T1, T2 | TRANSFORMER |
| JP1 | SWITCH |
| C1, C2, C3 | FILTER CAPACITOR |
| KM1, 2 | RELAY |
| BD1 | CONNECTOR BOARD |
| CN1-CN11 | P.C BOARD SOCKETS |

●:Light, ○:Extinguish, ★:Quick-flashing, ☆:Slow-flashing

11 Exploded view- cooling only

11.1 MCCU-7CN2



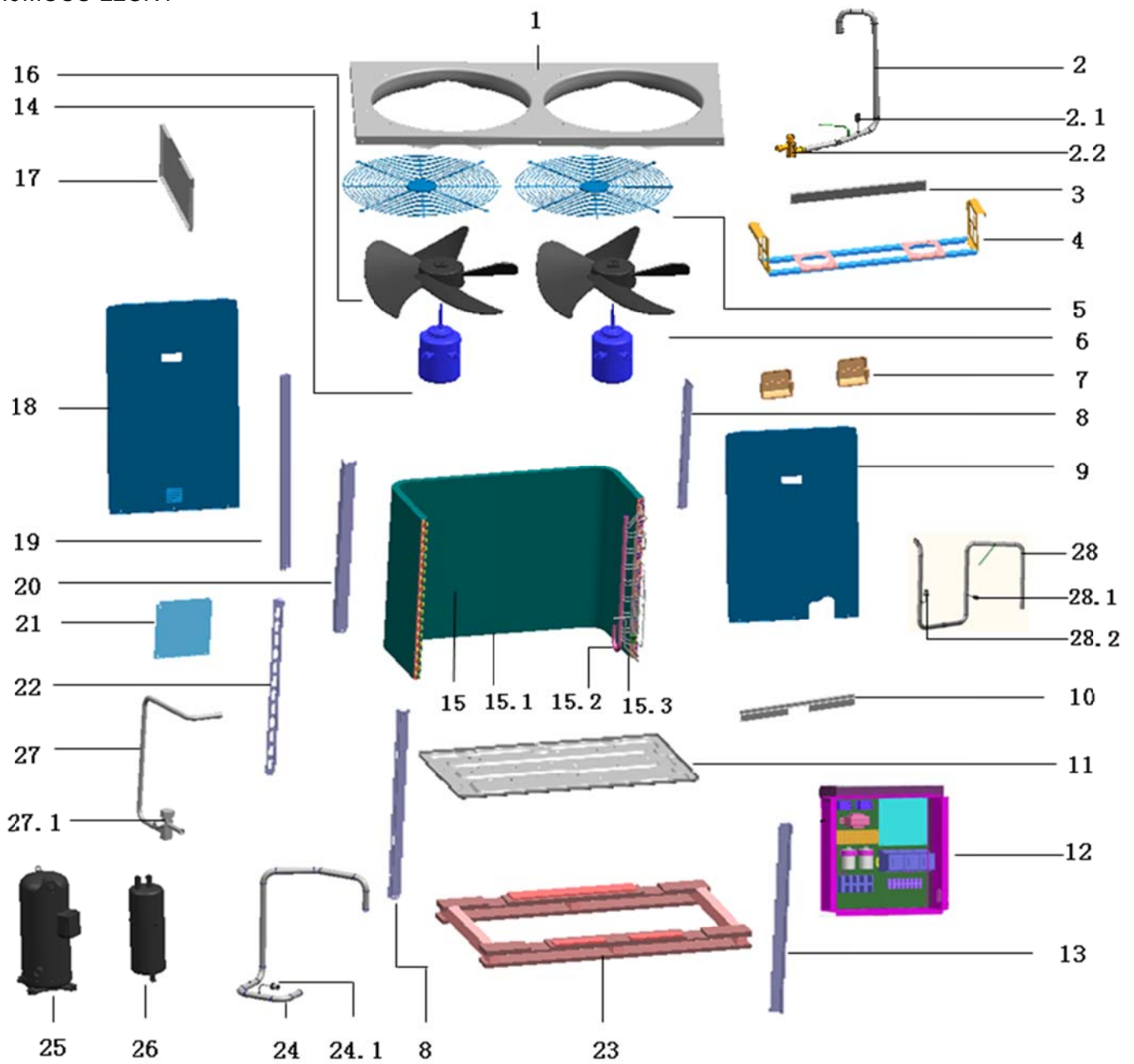
| No. | Part Name | QTY | BOM Code | No. | Part Name | QTY | BOM Code |
|------|--------------------------|-----|--------------|------|-----------------------------|-----|--------------|
| 1 | Motor | 1 | 202400400724 | 14.2 | E-part box | 1 | 201248200009 |
| 2 | Motor bracket | 1 | 201245320906 | 14.3 | Motor capacitor | 1 | 202401100353 |
| 3 | Rear net | 1 | 201148200003 | 14.4 | Contactora | 1 | 202300850047 |
| 4 | Condenser assy' | 1 | 201545370910 | 14.5 | Compressor capacitor | 1 | 202401090058 |
| 5 | Low pressure valve assy' | 1 | 201645370908 | 14.6 | Terminal board | 1 | 201247010643 |
| 5.1 | Low pressure valve | 1 | 201600720215 | 14.7 | Wire joint | 1 | 202301450122 |
| 6 | Discharge pipe assy' | 1 | 201645370907 | 14.8 | Wire joint | 1 | 202301450125 |
| 6.1 | Accumulator cylinder | 1 | 201601000003 | 15 | Front right clapboard assy' | 1 | 201248200082 |
| 7 | Big handle | 1 | 201148200005 | 16 | Grille | 1 | 201248100090 |
| 8 | Capillary assy' | 1 | 201675390056 | 17 | Front panel | 1 | 201248200027 |
| 8.1 | High pressure valve | 1 | 201600740220 | 18 | Net clamp | 8 | 201135110801 |
| 8.2 | Strainer | 1 | 201600900015 | 19 | Rear right clapboard assy' | 1 | 201238090017 |
| 9 | Valve plate | 1 | 201248300031 | 20 | Partition board assy' | 1 | 201247500001 |
| 10 | Drainage cover | 1 | 201138090001 | 21 | Condenser side board | 1 | 201245300902 |
| 11 | Compressor | 1 | 201400410610 | 22 | Left holder | 1 | 201248400023 |
| 12 | Base assy' | 1 | 201248300033 | 23 | Rear supporter | 1 | 201245320912 |
| 13 | Handle | 2 | 201148700009 | 24 | Top cover assy' | 1 | 201248200026 |
| 14 | E-part box assy' | 1 | 203375390011 | 25 | Axial flow fan | 1 | 201100300202 |
| 14.1 | Wire joint, 5p | 1 | 202301450039 | - | - | - | - |

| No. | Part Name | QTY | BOM Code | No. | Part Name | QTY | BOM Code |
|------|-----------------------------|-----|--------------|------|-----------------------------|-----|--------------|
| 1 | Motor | 1 | 202400440401 | 11.4 | Wire joint, 5p | 1 | 202301450039 |
| 2 | Motor bracket assy' | 1 | 201275590020 | 11.5 | AC contactor | 1 | 202300850046 |
| 3 | Rear net | 1 | 201148700000 | 11.6 | Main control board assy' | 1 | 201347890001 |
| 4 | Condenser assy' | 1 | 201547010621 | 11.7 | Transformer | 1 | 202300900551 |
| 5 | Compressor | 1 | 201400710500 | 11.8 | Wire joint,4p | 1 | 202301450003 |
| 6 | Big handle | 1 | 201148200005 | 12 | Base assy' | 1 | 201248700125 |
| 7 | Valve plate | 1 | 201248790001 | 13 | Front right clapboard assy' | 1 | 201248700056 |
| 8 | High pressure valve assy' | 1 | 201675590096 | 14 | Front net assy' | 1 | 201248700055 |
| 8.1 | Strainer | 1 | 201600900075 | 15 | Front panel | 1 | 201248700052 |
| 8.2 | High pressure valve | 1 | 201600740620 | 16 | Net clamp | 10 | 201135110801 |
| 9 | Suction pipe assy' | 1 | 201675590101 | 17 | Rear right clapboard assy' | 1 | 201248700053 |
| 9.1 | Pressure controller | 1 | 202301820031 | 18 | Sealing parts for condenser | 1 | 201245420701 |
| 9.2 | Low pressure valve | 1 | 201600720415 | 19 | Partition board assy' | 1 | 201248700006 |
| 9.3 | Strainer | 1 | 201600900014 | 20 | Left holder | 1 | 201248700050 |
| 10 | Discharge pipe assy' | 1 | 201675590098 | 21 | Rear Supporter | 1 | 201245420620 |
| 10.1 | Pressure controller | 1 | 202301820025 | 22 | Top cover assy' | 1 | 201248700051 |
| 11 | E-part box assy' | 1 | 203347890002 | 23 | Axial flow fan | 1 | 201195000001 |
| 11.1 | Capacitor | 1 | 202300320025 | 24 | Temp. sensor assy' | 1 | 202440500002 |
| 11.2 | Electric installation board | 1 | 201275590077 | 25 | Discharge temp sensor | 1 | 202301610024 |
| 11.3 | Wire joint | 1 | 202301450117 | 26 | Temp sensor | 1 | 202445410003 |

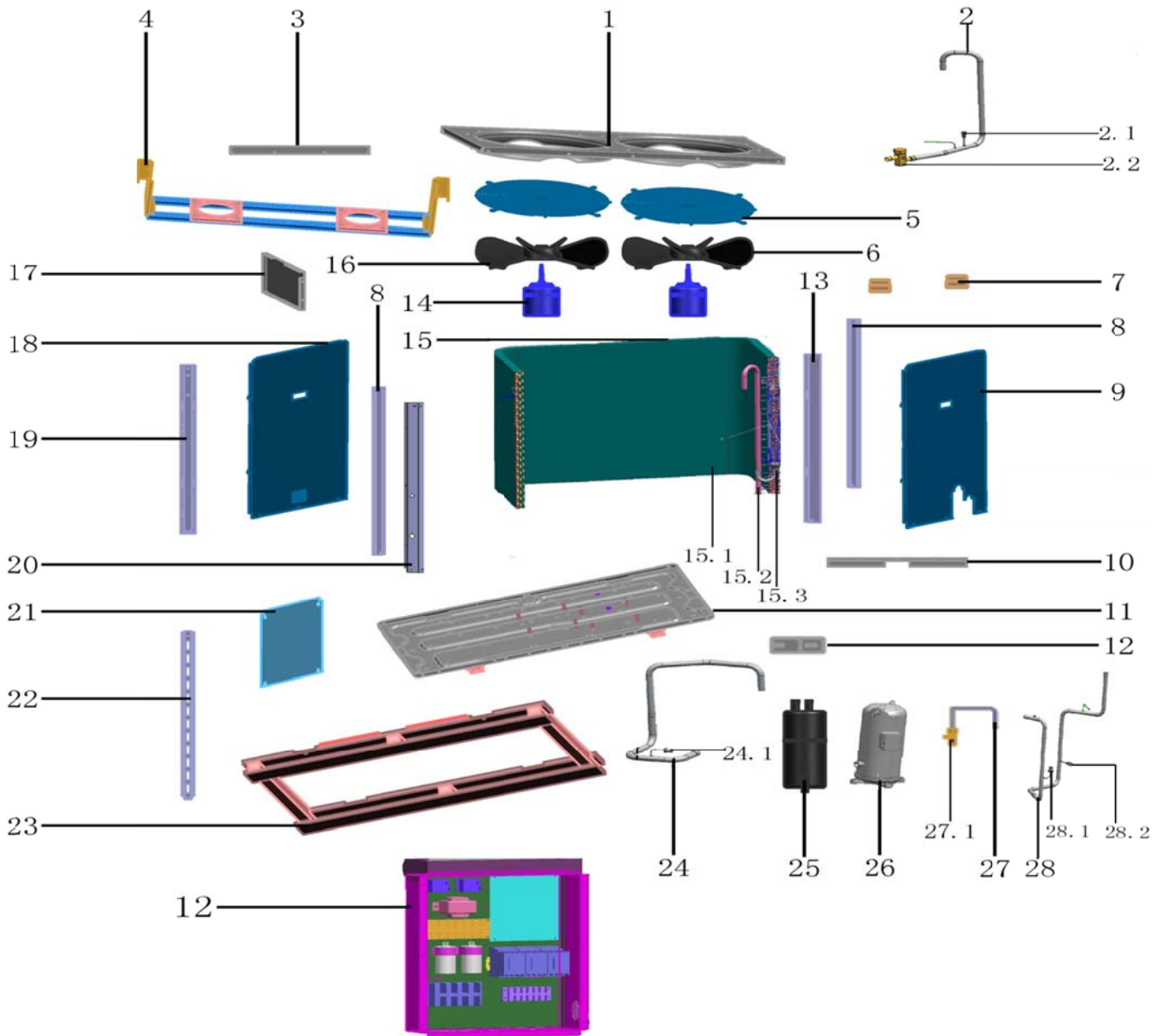
11.3MCCU-14CN2

| No. | Part Name | QTY | BOM Code | No. | Part Name | QTY | BOM Code |
|------|-----------------------------|-----|--------------|------|-----------------------------|-----|--------------|
| 1 | Motor | 1 | 202400440401 | 11.5 | AC contactor | 1 | 202300850046 |
| 2 | Motor bracket assy' | 1 | 201275590020 | 11.6 | Main control board assy' | 1 | 201347890001 |
| 3 | Rear net | 1 | 201148700000 | 11.7 | Wire joint,4p | 1 | 202301450003 |
| 4 | Condenser assy' | 1 | 201575690018 | 11.8 | Transformer | 1 | 202300900551 |
| 5 | Compressor | 1 | 201400710470 | 12 | Base assy' | 1 | 201248700125 |
| 6 | Big handle | 1 | 201148200005 | 13 | Front right clapboard assy' | 1 | 201248700056 |
| 7 | Valve plate | 1 | 201248790001 | 14 | Front net assy' | 1 | 201248700055 |
| 8 | High pressure valve assy' | 1 | 201675790354 | 15 | Front panel | 1 | 201248700052 |
| 8.1 | Low pressure valve | 1 | 201600720098 | 16 | Net clamp | 10 | 201135110801 |
| 9 | Suction pipe assy' | 1 | 201675590547 | 17 | Rear right clapboard assy' | 1 | 201248700053 |
| 9.1 | Pressure controller | 1 | 202301820031 | 18 | Sealing parts for condenser | 1 | 201245420701 |
| 9.2 | Low pressure valve | 1 | 201600720415 | 19 | Partition board assy' | 1 | 201248700006 |
| 9.3 | Strainer | 1 | 201600900014 | 20 | Left holder | 1 | 201248700050 |
| 10 | Discharge pipe assy' | 1 | 201675790356 | 21 | Rear Supporter | 1 | 201245420620 |
| 10.1 | Pressure controller | 1 | 202301820025 | 22 | Top cover assy' | 1 | 201248700051 |
| 10.2 | Muffler | 1 | 201601000031 | 23 | Axial flow fan | 1 | 201195000001 |
| 11 | E-part box assy' | 1 | 203347890002 | 24 | Temp.sensor assy' | 1 | 202440500002 |
| 11.1 | Capacitor | 1 | 202300320025 | 25 | Discharge temp sensor | 1 | 202301610024 |
| 11.2 | Electric installation board | 1 | 201275590077 | 26 | Drainage cover | 1 | 201148790000 |
| 11.3 | Wire joint | 2 | 202301450117 | 27 | Compressor wire joint assy' | 1 | 202445400405 |
| 11.4 | Wire joint, 5p | 1 | 202301450039 | - | - | - | - |

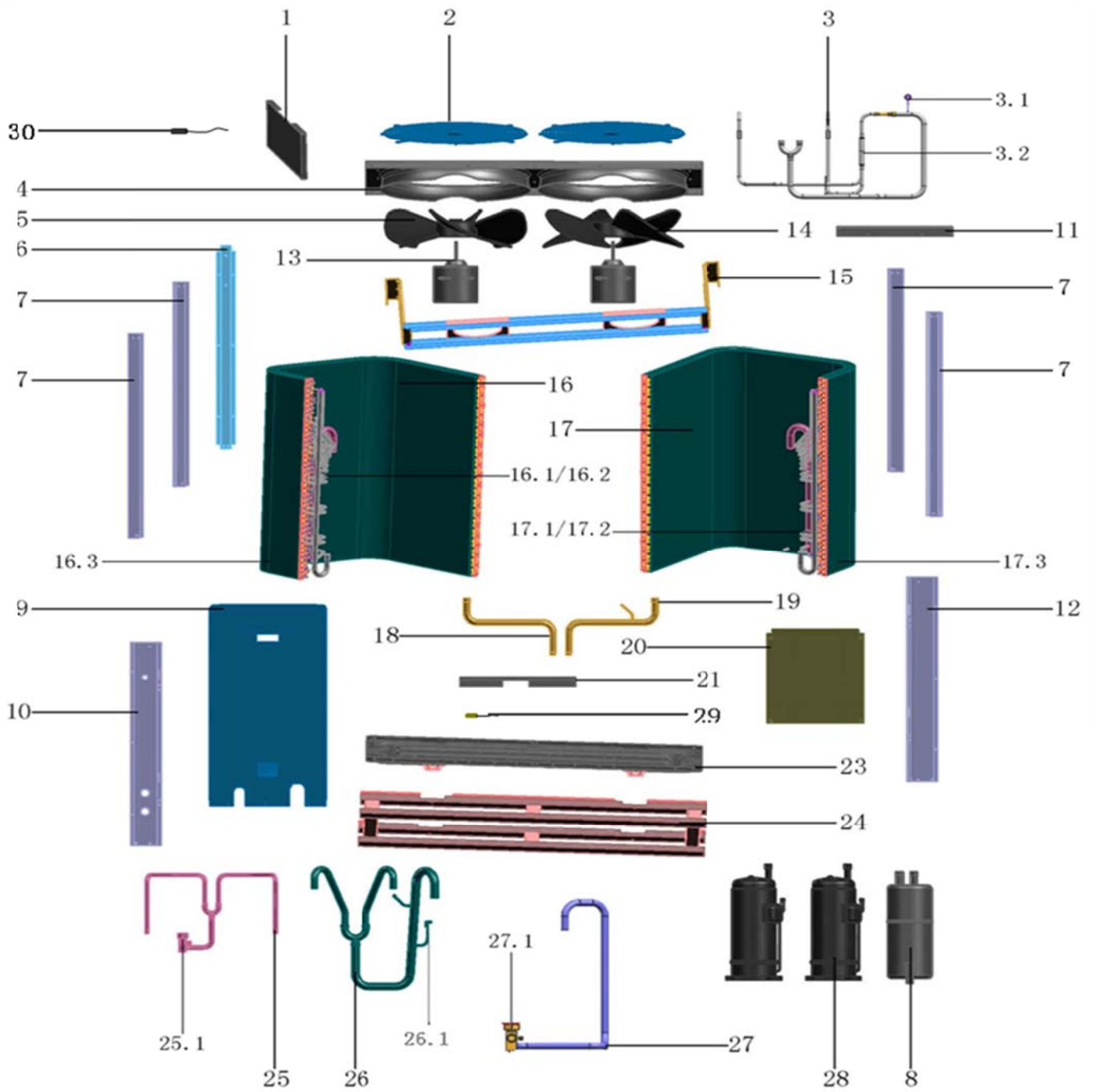
| No. | Part Name | QTY | BOM Code | No. | Part Name | QTY | BOM Code |
|------|----------------------------|-----|--------------|------|-----------------------------|-----|--------------|
| 1 | Condenser assy' | 1 | 201575890056 | 19 | High pressure valve assy' | 1 | 201675890381 |
| 2 | Motor bracket assy' | 1 | 201275600085 | 19.1 | Low pressure valve | 1 | 201600720098 |
| 3.1 | Motor | 1 | 202400400185 | 20 | Discharge pipe assy' | 1 | 201675890383 |
| 3.2 | Motor | 1 | 202400400186 | 20.1 | Pipe joint | 1 | 201601200001 |
| 4 | Front panel | 1 | 201275600092 | 20.2 | Pressure controller | 1 | 202301820025 |
| 5 | Axial flow fan | 2 | 201100300102 | 21 | Handle | 2 | 201148700009 |
| 6 | Front net assy' | 2 | 201275890056 | 22 | E-part box assy' | 1 | 203375890099 |
| 7 | Front-right panel assy' | 1 | 201275890054 | 22.1 | Electric installation board | 1 | 201275600094 |
| 8 | Valve plate | 1 | 201248790001 | 22.2 | Wire joint | 1 | 202301450101 |
| 9 | Rear-right panel | 1 | 201275600089 | 22.3 | Wire joint | 2 | 202301450117 |
| 10 | Separator | 1 | 201601100060 | 22.4 | AC contactor | 1 | 202300850045 |
| 11 | Partition board assy' | 1 | 201275600090 | 22.5 | Wire joint,4p | 1 | 202301450003 |
| 12 | Compressor | 1 | 201400710460 | 22.6 | Transformer | 1 | 202300900083 |
| 13 | Base | 1 | 201275600095 | 22.7 | Motor capacitor | 2 | 202401100407 |
| 14 | Rear supporter | 1 | 201275600086 | 22.8 | Main control board assy' | 1 | 201375890082 |
| 15 | Top cover | 1 | 201275600087 | 23 | Discharge temp sensor | 1 | 202301610500 |
| 16 | Rear-left supporting board | 1 | 201275600088 | 24 | Room temp sensor assy' | 1 | 202301300196 |
| 17 | Low pressure valve assy' | 1 | 201675600222 | 25 | Temp sensor assy' | 1 | 202450200331 |
| 17.1 | Low pressure valve | 1 | 201600720414 | 26 | Compressor wire joint assy' | 1 | 202445400405 |
| 18 | Suction pipe assy' | 1 | 201675600220 | 27 | Drainage cover | 1 | 201148790000 |
| 18.1 | Pressure controller | 1 | 202301820026 | 28 | Big handle | 1 | 201157390002 |



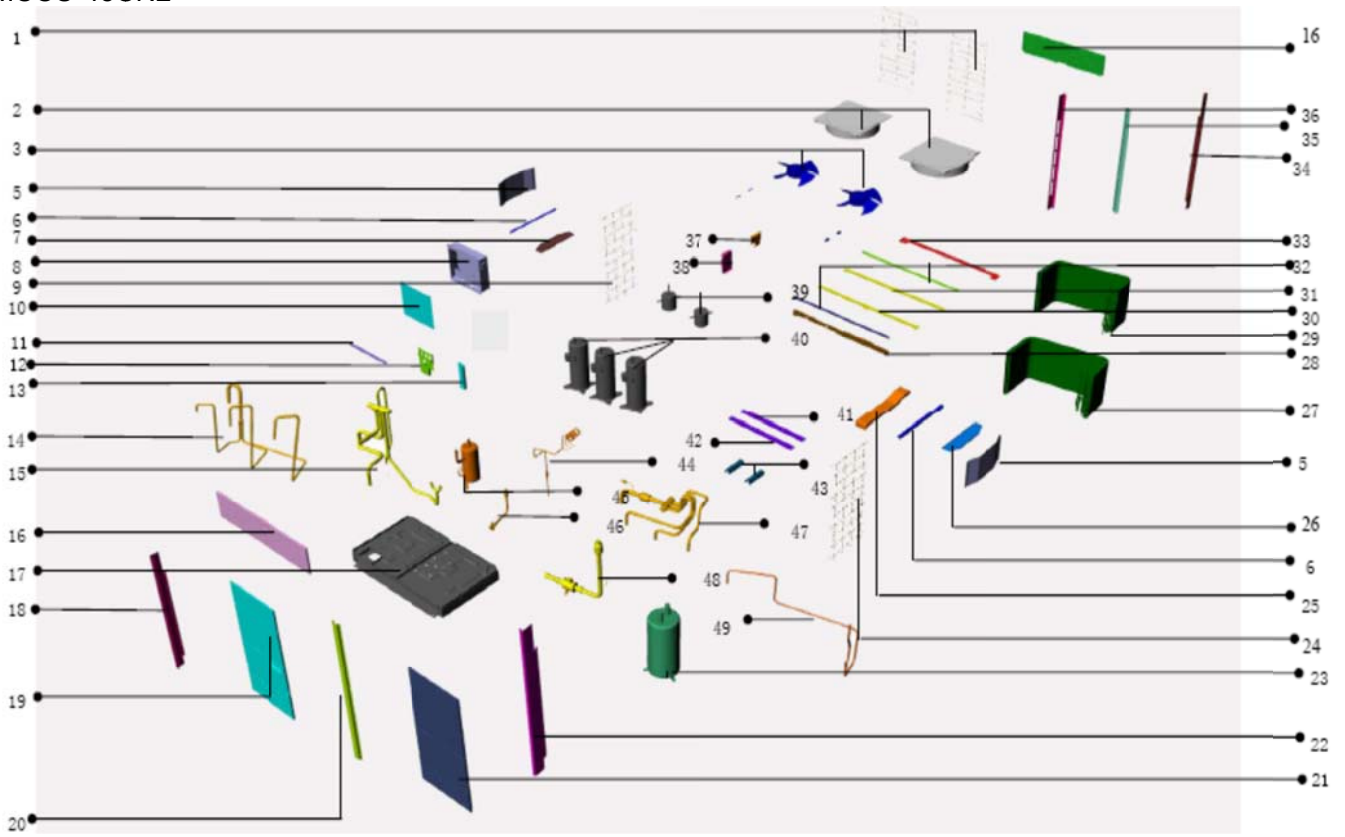
| No. | Part Name | QTY | BOM Code | No. | Part Name | QTY | BOM Code |
|-------|---|-----|--------------|-------|--------------------------------------|-----|--------------|
| 1 | top cover welding part | 1 | 201275990072 | 12.12 | Three-phase power protection devices | 1 | 202301600518 |
| 2 | low pressure valve assy' | 1 | 201675990295 | 13 | front-right support pillar | 1 | 201275990070 |
| 2.1 | Pipe joint | 1 | 201601200004 | 14 | asynchronism fan motor | 2 | 202400400563 |
| 2.2 | Valve body | 1 | 201601600314 | 15 | condenser assy' | 1 | 201575990016 |
| 3 | Electronic control box mounting plate | 1 | 201275990060 | 15.1 | condenser | 1 | 201575990007 |
| 4 | fan motor supproting assy' | 1 | 201275990073 | 15.2 | condenser input pipe assy' | 1 | 201675990282 |
| 5 | The air grille | 2 | 201275990062 | 15.3 | condenser output assy' | 1 | 201675990281 |
| 6 | Axial fan | 1 | 201200300014 | 16 | Axial fan | 1 | 201200300035 |
| 7 | Handle | 2 | 201148700003 | 17 | The partition | 1 | 201275990066 |
| 8 | After the column about | 2 | 201275990068 | 18 | Left panel | 1 | 201275990064 |
| 9 | Right front panel | 1 | 201275990063 | 19 | Before the column | 1 | 201275990069 |
| 10 | Under electronic control box mounting plate | 1 | 201275990061 | 20 | front-left pillar assy' | 1 | 201275990095 |
| 11 | Chassis Parts | 1 | 201275990097 | 21 | Electronic control box cover | 1 | 201275990065 |
| 12 | outdoor electric box assy' | 1 | 203375990017 | 22 | back middle pillar | 1 | 201275990092 |
| 12.1 | electric box welding assy' | 1 | 201275990107 | 23 | Wooden chassis | 1 | 202675990010 |
| 12.2 | wiring base installation assy' | 1 | 201275990087 | 24 | compressor suction pipe assy' | 1 | 201675990302 |
| 12.3 | Outdoor control board assembly | 1 | 201375990006 | 24.1 | pressure controller | 1 | 202301800953 |
| 12.4 | Capacitor | 2 | 202300320025 | 25 | Gas-liquid separator | 1 | 201601100097 |
| 12.5 | Relay | 2 | 202300800071 | 26 | copeland compressor | 1 | 201401400710 |
| 12.6 | AC contactor | 1 | 202300850050 | 27 | high pressure valve assy' | 1 | 201675990293 |
| 12.7 | Transformer | 1 | 202300900093 | 27.1 | Valve body | 1 | 201601600312 |
| 12.8 | Wire joint | 1 | 202301450110 | 28 | Discharge pipe of compressor | 1 | 201675990297 |
| 12.9 | Wire joint | 1 | 202301450121 | 28.1 | Pipe joint | 1 | 201601200004 |
| 12.10 | Wire joint | 7 | 202301450122 | 28.2 | Pressure controller | 1 | 202301820042 |
| 12.11 | Wire joint | 1 | 202301450130 | - | - | - | - |



| No. | Part Name | QTY | BOM Code | No. | Part Name | QTY | BOM Code |
|-------|---|-----|--------------|------|--|-----|--------------|
| 1 | Welding together pieces of roof | 1 | 201275990102 | 13 | Front right column | 1 | 201275990109 |
| 2 | Low-pressure valve assembly | 1 | 201675990276 | 14 | Induction motor | 2 | 202400400456 |
| 2.1 | Pipe joint | 1 | 201601200004 | 15 | Condenser components | 1 | 201575990014 |
| 2.2 | Cube Valve | 1 | 201601601291 | 15.1 | Condenser | 1 | 201575990015 |
| 3 | Electronic control box mounting plate | 1 | 201275990060 | 15.2 | Input tube condenser components | 1 | 201675990258 |
| 4 | Motor bracket assembly | 1 | 201275990106 | 15.3 | Output tube condenser components | 1 | 201675990244 |
| 5 | The air grille | 2 | 201275990062 | 16 | Axial fan | 1 | 201200300035 |
| 6 | Axial fan | 1 | 201200300014 | 17 | The partition | 1 | 201275990066 |
| 7 | Handle | 2 | 201148700003 | 18 | Left panel | 1 | 201275990064 |
| 8 | After the column about | 2 | 201275990068 | 19 | Before the column | 1 | 201275990069 |
| 9 | Right front panel | 1 | 201275990063 | 20 | Components before the left column | 1 | 201275990104 |
| 10 | Under electronic control box mounting plate | 1 | 201275990061 | 21 | Electronic control box cover | 1 | 201275990065 |
| 11 | Chassis Parts | 1 | 201275990097 | 22 | After the column | 1 | 201275990067 |
| 12 | Outdoor electronic control box components | 1 | 203375990016 | 23 | Wooden chassis | 1 | 202675990010 |
| 12.1 | Outdoor control board assembly | 1 | 201375990006 | 24 | Components of the compressor back to the trachea | 1 | 201675990267 |
| 12.2 | Relay | 2 | 202300800071 | 24.1 | pressure controller | 1 | 202301800953 |
| 12.3 | Contactora | 1 | 202300850034 | 25 | Gas-liquid separator | 1 | 201601100097 |
| 12.4 | Transformer | 1 | 202300900093 | 26 | copeland compressor (with accessory) | 1 | 201401400720 |
| 12.5 | Wire joint | 1 | 202301450110 | 27 | High-pressure valve assembly | 1 | 201675990269 |
| 12.6 | Wire joint | 1 | 202301450121 | 27.1 | Cube Valve | 1 | 201601600316 |
| 12.7 | Wire joint | 7 | 202301450122 | 28 | Discharge pipe of compressor | 1 | 201675990278 |
| 12.8 | Wire joint | 1 | 202301450130 | 28.1 | Pressure controller | 1 | 202301820042 |
| 12.9 | Three-phase power protection devices | 1 | 202301600518 | 28.2 | Pipe joint | 1 | 201601200004 |
| 12.10 | Compressor capacitor | 2 | 202401000410 | - | - | - | - |



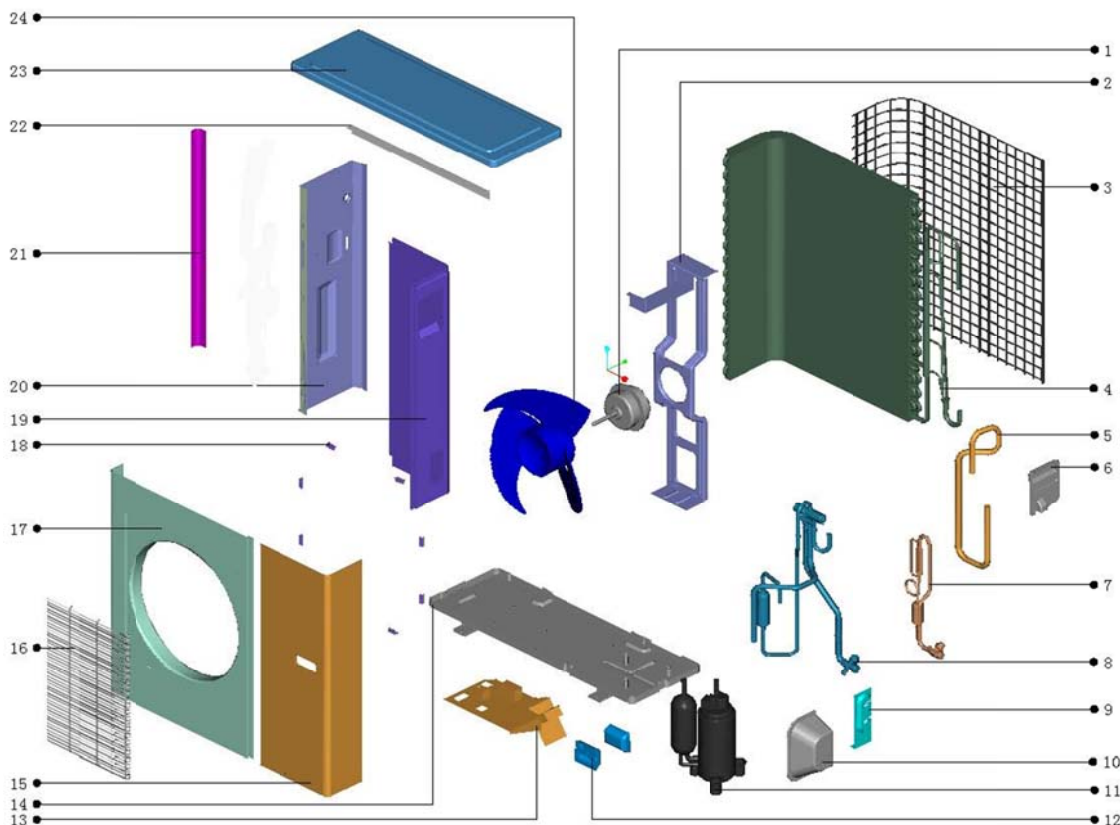
| No. | Part Name | Qty | No. | Part Name | Qty |
|------|--------------------------------|-----|-------|---------------------------------|-----|
| 1 | Vertical plate | 1 | 19 | Inlet pipe ass'y of condenser | 1 |
| 2 | Air outlet grille | 2 | 20 | Cover to E-box | 1 |
| 3 | Discharge pipe ass'y | 1 | 21 | Fixing plate of E-box | 1 |
| 4 | Cover ass'y | 1 | 22 | E-box ass'y | 1 |
| 5 | Axial fan | 1 | 22.1 | E-box | 1 |
| 6 | Middle rear vertical plate | 1 | 22.2 | Transformer | 1 |
| 7 | Rear vertical plate | 4 | 22.3 | PCB ass'y | 1 |
| 8 | Liquid-gas seperator | 1 | 22.4 | Three-phase protector | 1 |
| 9 | Front panel | 1 | 22.5 | Compressor capacitor | 2 |
| 10 | Left front vertical plate | 1 | 22.6 | Fixing board of wiring terminal | 1 |
| 11 | Fixing plate of E-box | 1 | 22.7 | Wiring terminal | 4 |
| 12 | Right front vertical plate | 1 | 22.8 | Wiring terminal | 1 |
| 13 | Three-phase asynchronous motor | 2 | 22.9 | Relay | 2 |
| 14 | Axial fan | 1 | 22.10 | Contactora | 2 |
| 15 | Motor supporter | 1 | 22.11 | Wiring terminal | 1 |
| 16 | Condenser ass'y II | 1 | 23 | Bottom panel | 1 |
| 16.1 | Inlet pipe ass'y of condenser | 1 | 24 | Wooden basement | 1 |
| 16.2 | Outlet pipe ass'y of condenser | 1 | 25 | High pressure valve ass'y | 1 |
| 16.3 | Condenser II | 1 | 26 | Suction pipe ass'y | 1 |
| 17 | Condenser ass'y I | 1 | 26.1 | Pressure controller | 1 |
| 17.1 | Inlet pipe ass'y of condenser | 1 | 27 | Low pressure valve ass'y | 1 |
| 17.2 | Outlet pipe ass'y of condenser | 1 | 28 | Scroll compressor | 2 |
| 17.3 | Condenser I | 1 | 29 | Pipe temp. sensor | 1 |
| 18 | Inlet pipe of condenser | 1 | — | — | — |



| No. | Part Name | QTY | BOM Code | No. | Part Name | QTY | BOM Code |
|------|-------------------------------|-----|--------------|------|---|-----|--------------|
| 1 | Rear net | 2 | 201295100172 | 22 | Front-right supporting board | 1 | 201295100163 |
| 2 | Top cover | 2 | 201195100000 | 23 | Separator | 1 | 201601100036 |
| 3 | Axial flow fan | 2 | 201100300205 | 24 | Net | 1 | 201295100157 |
| 5 | Cover board | 2 | 201295100149 | 25 | Motor bracket assy' | 1 | 201295100171 |
| 6 | Middle supporting assy' | 2 | 201295100167 | 26 | Baffle assy' | 1 | 201295030810 |
| 7 | Wind baffle assy' | 1 | 201295030814 | 27 | Below condenser assy' | 1 | 201575990001 |
| 8 | E-part box assy' | 1 | 203375990000 | 29 | Up condenser assy' | 1 | 201575990000 |
| 8.1 | Main control board assy' | 1 | 201375990000 | 30 | Motor bracket assy' | 1 | 201295100168 |
| 8.2 | Current detecting board assy' | 1 | 201390000827 | 31 | Motor bracket assy' | 1 | 201295100169 |
| 8.3 | Middle connection board assy' | 1 | 201390500120 | 32 | Support board | 2 | 201295030841 |
| 8.4 | Relay | 2 | 202300800071 | 33 | Rear clapboard assy' | 1 | 201295030812 |
| 8.5 | Contactora | 3 | 202300850043 | 34 | Rear-right supporting board | 1 | 201295100165 |
| 8.6 | Transformer | 1 | 202300900093 | 35 | Support board | 1 | 201295100158 |
| 8.7 | Transformer | 1 | 202300900550 | 36 | Rear-left supporting board | 1 | 201295100164 |
| 8.8 | Compressor capacitor | 2 | 202401000303 | 37 | Cover supporter | 1 | 201295030829 |
| 8.9 | Surge suppresser | 3 | 202301610601 | 38 | Cover supporter | 1 | 201295030828 |
| 9 | Net | 1 | 201295100156 | 39 | Motor | 2 | 202400420231 |
| 10 | E-Part box cover | 1 | 201295500179 | 40 | Compressor | 3 | 201400410920 |
| 11 | E-part box Support board | 1 | 201295000011 | 41 | Compressor supporter assy' | 1 | 201275990053 |
| 12 | Valve plate | 1 | 201295100150 | 42 | Compressor supporter assy' | 1 | 201275990054 |
| 13 | Ball valve supporter assy' | 1 | 201295100161 | 43 | Compressor supporter assy' | 2 | 201275990055 |
| 14 | Discharge pipe assy' | 1 | 201675990035 | 44 | Capillary assy' | 1 | 201695030852 |
| 14.1 | Pressure controller | 1 | 202301820005 | 45 | Oil separator | 1 | 201601100031 |
| 15 | 4-way valve assy' | 1 | 201675990014 | 46 | High pressure valve | 1 | 201695030820 |
| 15.1 | 4-way valve | 1 | 201600600065 | 46.1 | Low pressure valve | 1 | 201600770304 |
| 15.2 | 4-Ways valve solenoid | 1 | 201600600103 | 47 | Suction pipe assy' | 1 | 201675990008 |
| 16 | Cover plate | 2 | 201295100159 | 47.1 | Pressure controller | 1 | 202301820008 |
| 17 | Base | 1 | 201295100176 | 48 | Low pressure valve assy' | 1 | 201675990004 |
| 18 | Front-left supporting board | 1 | 201295100162 | 48.1 | Ball valve | 1 | 201600810006 |
| 19 | Front-left clapboard | 1 | 201295100151 | 49 | High pressure valve connecting pipe assy' | 1 | 201675990000 |
| 21 | Front-right board | 1 | 201295100170 | - | - | - | - |

Cooling and heating

11.9MCCU-7HN2



| No. | Part Name | QTY | BOM Code | No. | Part Name | QTY | BOM Code |
|-----|--------------------------|-----|--------------|------|-----------------------------|-----|--------------|
| 1 | Motor | 1 | 202400400724 | 13 | E-part box assy' | 1 | 203375390013 |
| 2 | Motor bracket | 1 | 201245320906 | 13.1 | AC contactor | 1 | 202300850045 |
| 3 | Rear net | 1 | 201148200003 | 13.2 | Wire joint, 5p | 1 | 202301450039 |
| 4 | Condenser assy' | 1 | 201547000511 | 13.3 | Motor capacitor | 1 | 202401100353 |
| 4.1 | Condensator | 1 | 201575300131 | 13.4 | Compressor capacitor | 1 | 202401090058 |
| 5 | Suction pipe assy' | 1 | 201645370902 | 13.5 | Wire joint | 1 | 202301450122 |
| 6 | Big handle | 1 | 201148200005 | 13.6 | Wire joint | 1 | 202301450125 |
| 7 | Capillary assy' | 1 | 201647000511 | 13.7 | Wire joint | 1 | 202301450121 |
| 7.1 | Strainer | 1 | 201600900013 | 14 | Axial flow fan | 1 | 201248300033 |
| 7.2 | One way valve | 1 | 201600800004 | 15 | Front right clapboard assy' | 1 | 201248200082 |
| 7.3 | High pressure valve | 1 | 201600740220 | 16 | Grille | 1 | 201248100090 |
| 8 | Low pressure valve assy' | 1 | 201645370903 | 17 | Front panel | 1 | 201248200027 |
| 8.1 | 4-way valve | 1 | 201600600017 | 18 | Net Clamp | 8 | 201135110801 |
| 8.2 | Low pressure valve | 1 | 201600720215 | 19 | Rear right clapboard assy' | 1 | 201238090017 |
| 8.3 | Accumulator cylinder | 1 | 201601000003 | 20 | Partition board assy' | 1 | 201247500001 |
| 9 | Valve plate | 1 | 201248300031 | 21 | Left holder | 1 | 201248400023 |
| 10 | Drainage cover | 1 | 201138090001 | 22 | Rear Supporter | 1 | 201245320912 |
| 11 | Compressor | 1 | 201400410610 | 23 | Top cover assy' | 1 | 201248200026 |
| 12 | Handle | 2 | 201148700009 | 24 | Axial flow fan | 1 | 201100300202 |

11.10 MCCU-10HN2

| No. | Part Name | QTY | BOM Code | No. | Part Name | QTY | BOM Code |
|------|-----------------------------|-----|--------------|------|-----------------------------|-----|--------------|
| 1 | Motor | 1 | 202400440401 | 13.3 | Wire joint | 1 | 202301450117 |
| 2 | Motor bracket assy' | 1 | 201275590020 | 13.4 | Wire joint, 5p | 1 | 202301450039 |
| 3 | Rear net | 1 | 201148700000 | 13.5 | AC contactor | 1 | 202300850046 |
| 4 | Condenser assy' | 1 | 201575600020 | 13.6 | Main control board assy' | 1 | 201347890001 |
| 5 | Compressor | 1 | 201400710500 | 13.7 | Wire joint,4p | 1 | 202301450003 |
| 6 | Big handle | 1 | 201148200005 | 13.8 | Transformer | 1 | 202300900551 |
| 7 | Valve plate | 1 | 201248790001 | 14 | Fixing ring | 1 | 201245000901 |
| 8 | Suction pipe assy' | 1 | 201675590094 | 15 | Accumulator cylinder | 1 | 201601000149 |
| 8.1 | Pressure controller | 1 | 202301820031 | 16 | Base assy' | 1 | 201248700125 |
| 9 | 4-way valve assy' | 1 | 201675690013 | 17 | Front right clapboard assy' | 1 | 201248700056 |
| 9.1 | 4-way valve | 1 | 201600600114 | 18 | Front net assy' | 1 | 201248700055 |
| 9.2 | Low pressure valve | 1 | 201600720414 | 19 | Front panel | 1 | 201248700052 |
| 9.3 | Solenoid | 1 | 201600600045 | 20 | Net clamp | 10 | 201135110801 |
| 10 | Branch pipe assy' | 1 | 201647010225 | 21 | Axial flow fan | 1 | 201195000001 |
| 11 | Discharge pipe assy' | 1 | 201675590438 | 22 | Rear right clapboard assy' | 1 | 201248700053 |
| 11.1 | Pressure controller | 1 | 202301820025 | 23 | Partition board assy' | 1 | 201248700006 |
| 12 | High pressure valve assy' | 1 | 201675590089 | 24 | Left holder | 1 | 201248700050 |
| 12.1 | High pressure valve | 1 | 201600740619 | 25 | Rear Supporter | 1 | 201245420620 |
| 12.2 | Strainer | 1 | 201600900023 | 26 | Top cover assy' | 1 | 201248700051 |
| 12.3 | One way valve | 1 | 201600800029 | 27 | Discharge temp sensor | 1 | 202301610024 |
| 12.4 | Strainer | 1 | 201600900075 | 28 | Temp.sensor assy' | 1 | 202440500002 |
| 13 | E-part box assy' | 1 | 203347890001 | 29 | Compressor electric heater | 1 | 202447090021 |
| 13.1 | Capacitor | 1 | 202300320025 | 30 | Room temp sensor assy' | 1 | 202301300196 |
| 13.2 | Electric installation board | 1 | 201275590077 | - | - | - | - |

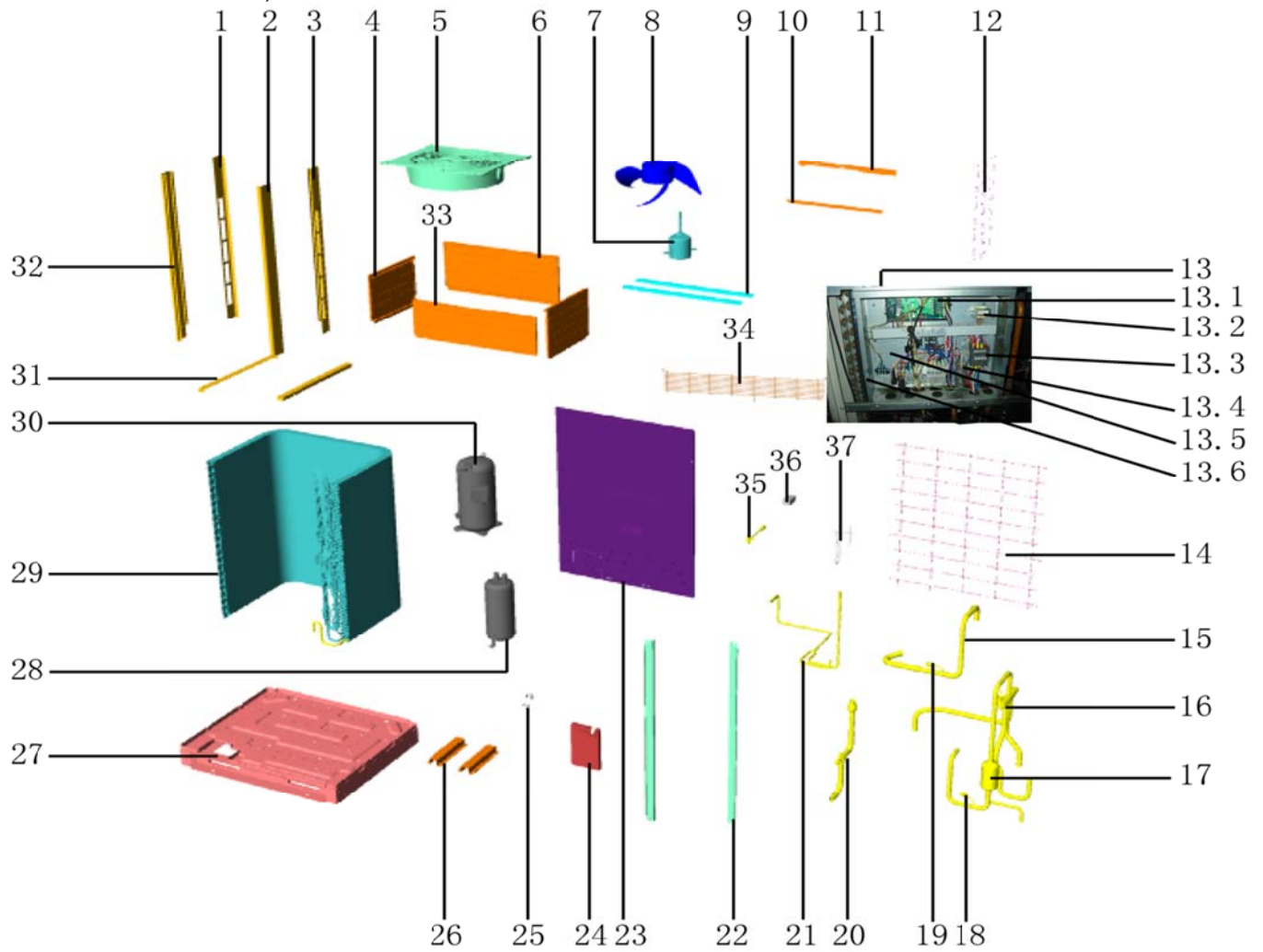
11.11 MCCU-14HN2

| No. | Part Name | QTY | BOM Code | No. | Part Name | QTY | BOM Code |
|------|-----------------------------|-----|--------------|------|-----------------------------|-----|--------------|
| 1 | Motor | 1 | 202400440401 | 13.4 | Wire joint, 5p | 1 | 202301450039 |
| 2 | Motor bracket assy' | 1 | 201275590020 | 13.5 | AC contactor | 1 | 202300850046 |
| 3 | Rear net | 1 | 201148700000 | 13.6 | Main controller assy' | 1 | 201347890001 |
| 4 | Condenser assy' | 1 | 201575790015 | 13.7 | Wire joint,4p | 1 | 202301450003 |
| 5 | Compressor | 1 | 201401410920 | 13.8 | Transformer | 1 | 202300900551 |
| 6 | Big handle | 1 | 201148200005 | 14 | Fixing ring | 1 | 201245000901 |
| 7 | Valve plate | 1 | 201248790001 | 15 | Accumulator cylinder | 1 | 201601000109 |
| 8 | Suction pipe assy' | 1 | 201647010645 | 16 | Base assy' | 1 | 201248700126 |
| 8.1 | Pressure controller | 1 | 202301820031 | 17 | Front right clapboard assy' | 1 | 201248700056 |
| 9 | 4-way valve assy' | 1 | 201647090292 | 18 | Front net assy' | 1 | 201248700055 |
| 9.1 | 4-way valve | 1 | 201600600114 | 19 | Front panel | 1 | 201248700052 |
| 9.2 | Low pressure valve | 1 | 201600720414 | 20 | Net Clamp | 10 | 201135110801 |
| 10 | Branch pipe assy' | 1 | 201647010225 | 21 | Axial flow fan | 1 | 201195000001 |
| 11 | High pressure valve assy' | 1 | 201675790050 | 22 | Rear right clapboard assy' | 1 | 201248700053 |
| 11.1 | High pressure valve | 1 | 201600740619 | 23 | Partition board assy' | 1 | 201248700006 |
| 11.2 | Strainer | 1 | 201600900075 | 24 | Left holder | 1 | 201248700050 |
| 12 | Discharge pipe assy' | 1 | 201675790131 | 25 | Rear Supporter | 1 | 201245420620 |
| 12.1 | Muffler | 1 | 201601000031 | 26 | Top cover assy' | 1 | 201248700051 |
| 12.2 | Pressure controller | 1 | 202301820025 | 27 | Discharge temp sensor | 1 | 202301610024 |
| 13 | E-part box assy' | 1 | 203347890001 | 28 | Temp.sensor assy' | 1 | 202440500002 |
| 13.1 | Capacitor | 1 | 202300320025 | 29 | Compressor electric heater | 1 | 202495030103 |
| 13.2 | Electric installation board | 1 | 201275590077 | 30 | Temp sensor | 1 | 202445410003 |
| 13.3 | Wire joint | 1 | 202301450117 | - | - | - | - |

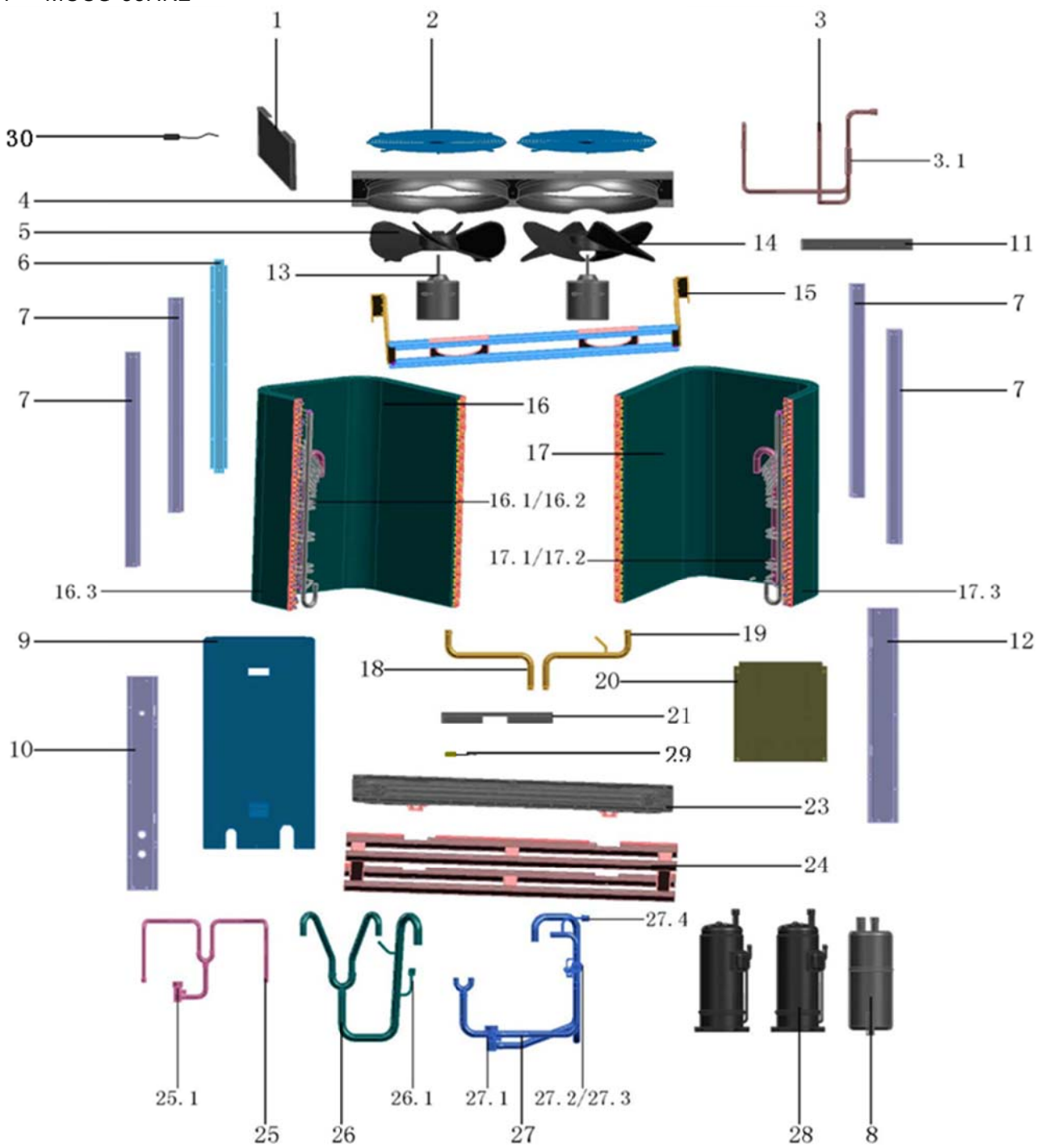
11.12 MCCU-16HN2

| No. | Part Name | QTY | BOM Code | No. | Part Name | QTY | BOM Code |
|------|----------------------------|-----|--------------|------|-----------------------------|-----|--------------|
| 1 | Condenser assy' | 1 | 201575890058 | 19.1 | Low pressure valve | 1 | 201600720098 |
| 2 | Motor bracket assy' | 1 | 201275600085 | 20 | Discharge pipe assy' | 1 | 201675890379 |
| 3.1 | Motor | 1 | 202400400185 | 20.1 | Branch pipe | 1 | 201600500210 |
| 3.2 | Motor | 1 | 202400400186 | 20.2 | Pressure controller | 1 | 202301820025 |
| 4 | Front panel | 1 | 201275600092 | 20.3 | Muffler | 1 | 201601000041 |
| 5 | Axial flow fan | 2 | 201100300102 | 21 | Handle | 2 | 201148700009 |
| 6 | Front net assy' | 2 | 201275890056 | 22 | E-part box assy' | 1 | 203375890098 |
| 7 | Front-right panel assy' | 1 | 201275890054 | 22.1 | Electric installation board | 1 | 201275600094 |
| 8 | Valve plate | 1 | 201248790001 | 22.2 | Wire joint,4p | 1 | 202301450003 |
| 9 | Rear-right panel | 1 | 201275600089 | 22.3 | Wire joint | 3 | 202301450117 |
| 10 | Separator | 1 | 201601100066 | 22.4 | AC contactor | 1 | 202300850045 |
| 11 | Partition board assy' | 1 | 201275890038 | 22.5 | Transformer | 1 | 202300900551 |
| 12 | Compressor | 1 | 201400710460 | 22.6 | Motor capacitor | 2 | 202401100407 |
| 13 | Base | 1 | 201275600095 | 22.7 | Main control board assy' | 1 | 201347890001 |
| 14 | Rear supporter | 1 | 201275600086 | 22.8 | Wire joint, 5p | 1 | 202301450039 |
| 15 | Top cover | 1 | 201275600087 | 23 | Discharge temp sensor | 1 | 202301610500 |
| 16 | Rear-left supporting board | 1 | 201275600088 | 24 | Room temp sensor assy' | 1 | 202301300196 |
| 17 | 4-way valve assy' | 1 | 201675890410 | 25 | Temp sensor assy' | 1 | 202450200331 |
| 17.1 | 4-way valve | 1 | 201600600009 | 26 | Compressor electric heater | 1 | 202495020901 |
| 17.2 | Low pressure valve | 1 | 201600720414 | 27 | Compressor wire joint assy' | 1 | 202445400405 |
| 18 | Suction pipe assy' | 1 | 201675890408 | 28 | Drainage cover | 1 | 201148790000 |
| 18.1 | Pressure controller | 1 | 202301820026 | 29 | Big handle | 1 | 201157390002 |
| 19 | High pressure valve assy' | 1 | 201675890381 | - | - | - | - |

11.13 MCCU-22HN2, MCCU-28HN2

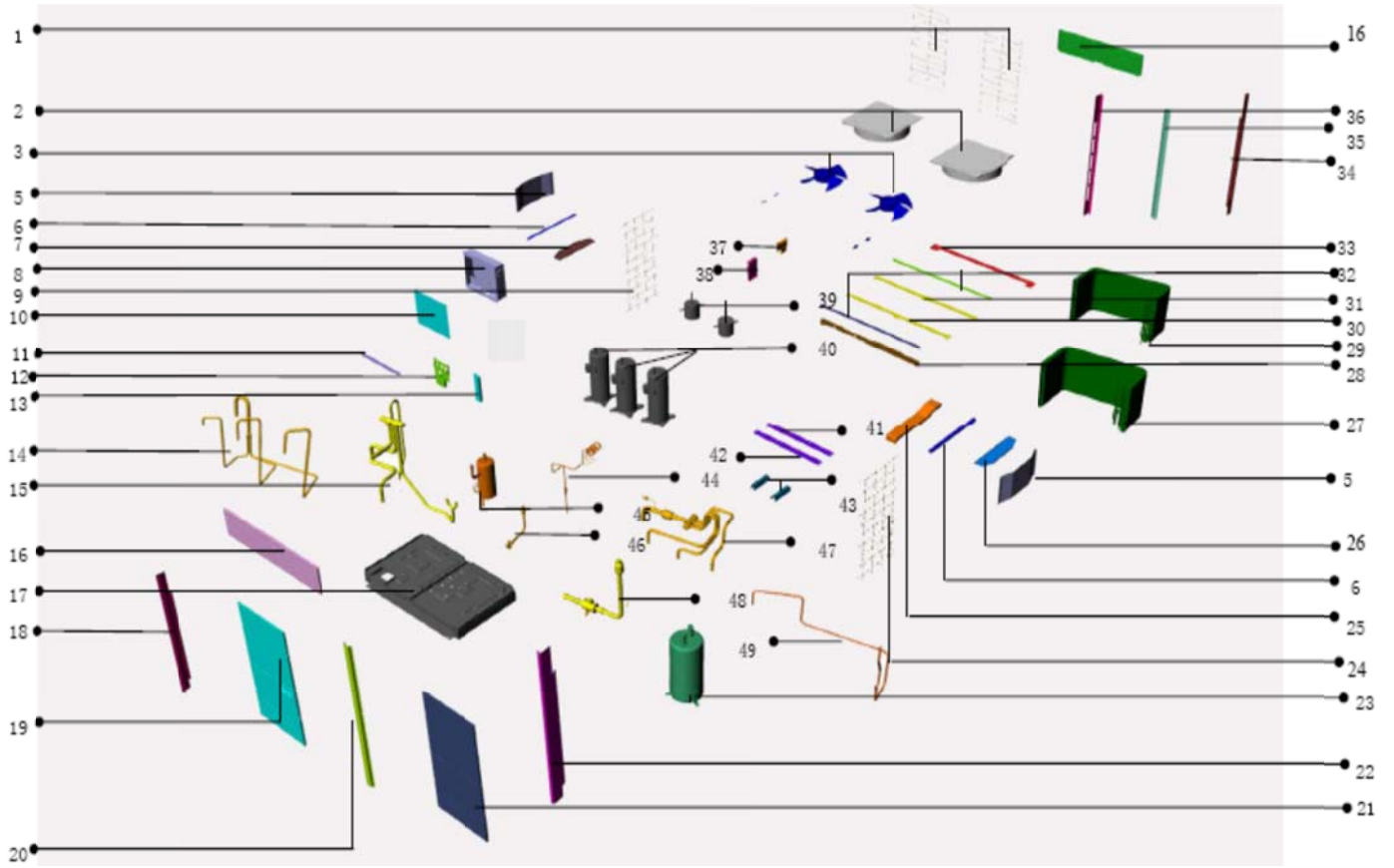


| | | | | | | | |
|------|--------------------------------|---|--------------|------|----------------------------|---|--------------|
| 1 | Rear left vertical supporter | 1 | 201295590027 | 18 | High pressure valve | 1 | 202301820005 |
| 2 | Front right vertical supporter | 1 | 201295590030 | 19 | High temp. switch | 1 | 202301820008 |
| 3 | Rear right vertical supporter | 1 | 201295590028 | 20 | Low pressure valve assy' | 1 | 201657600010 |
| 4 | Side cover panel | 2 | 201295590012 | 20.1 | Low pressure valve | 1 | 201600710100 |
| 5 | Top cover | 1 | 201195590002 | 20.2 | Filter | 1 | 201600910108 |
| 6 | Rear cover | 1 | 201295590013 | 21 | High pressure valve assy' | 1 | 201657600015 |
| 7 | Motor | 1 | 202400400031 | 22 | Seal plate of condenser | 2 | 201295590026 |
| 8 | Axial fan | 1 | 201100300203 | 23 | Front cover | 1 | 201295590054 |
| 9 | Fan supporter | 2 | 201295590017 | 24 | Valve fixing board | 1 | 201257600004 |
| 10 | Fixing board of E-box | 1 | 201295590025 | 25 | Coil of low pressure valve | 2 | 201295000016 |
| 11 | Upper fixing board of E-box | 1 | 201295590024 | 26 | Basement of compressor | 2 | 201257600001 |
| 12 | Grille | 2 | 201295590009 | 27 | Basement | 1 | 201257600003 |
| 13 | E-box | 1 | 203357600000 | 28 | Gas- liquid seperator | 1 | 201601100045 |
| 13.1 | PCB assy' | 1 | 201395020640 | 29 | Condenser | 1 | 201557600003 |
| 13.2 | Transformer | 1 | 202300900551 | 30 | Compressor | 1 | 201401430110 |
| 13.3 | Contacto | 1 | 202300850050 | 31 | Left fixing board of fan | 1 | 201295590018 |
| 13.4 | Capacitor of compressor | 1 | 202401000410 | 32 | Left supporter | 1 | 201295590029 |
| 13.5 | Installing panel | 1 | 201295500187 | 33 | Top front cover | 1 | 201295590053 |
| 13.6 | E-box cabinet | 1 | 201295500188 | 34 | Guide net of fan | 1 | 201295590043 |
| 14 | Grille | 1 | 201295590010 | 35 | High pressure valve assy' | 1 | 201657600029 |
| 15 | Suction pipe | 1 | 201657600026 | 35.1 | High pressure valve | 1 | 201600710512 |
| 16 | 4-way valve assy' | 1 | 201657600019 | 35.2 | Filter | 1 | 201600900055 |
| 16.1 | 4-way valve | 1 | 201600620004 | 36 | Rubber pad | 2 | 202790150330 |
| 16.2 | Coil of 4-way valve | 1 | 201600600113 | 37 | Solenoid valve | 1 | 201657600012 |
| 17 | Muffle | 1 | 201601000046 | - | - | - | - |



| No. | Part Name | Qty | No. | Part Name | Qty |
|------|--------------------------------|-----|-------|---------------------------------|-----|
| 1 | Vertical plate | 1 | 21 | Fixing plate of E-box | 1 |
| 2 | Air outlet grille | 2 | 22 | E-box ass'y | 1 |
| 3 | Discharge pipe ass'y | 1 | 22.1 | E-box | 1 |
| 3.1 | Check valve | 2 | 22.2 | Transformer | 1 |
| 4 | Cover ass'y | 1 | 22.3 | PCB ass'y | 1 |
| 5 | Axial fan | 1 | 22.4 | Three-phase protector | 1 |
| 6 | Middle rear vertical plate | 1 | 22.5 | Compressor capacitor | 2 |
| 7 | Rear vertical plate | 4 | 22.6 | Fixing board of wiring terminal | 1 |
| 8 | Liquid-gas seperator | 1 | 22.7 | Wiring terminal | 4 |
| 9 | Front panel | 1 | 22.8 | Wiring terminal | 1 |
| 10 | Left front vertical plate | 1 | 22.9 | Relay | 2 |
| 11 | Fixing plate of E-box | 1 | 22.10 | Contactora | 2 |
| 12 | Right front vertical plate | 1 | 22.11 | Wiring terminal | 1 |
| 13 | Three-phase asynchronous motor | 2 | 23 | Bottom panel | 1 |
| 14 | Axial fan | 1 | 24 | Wooden basement | 1 |
| 15 | Motor supporter | 1 | 25 | High pressure valve ass'y | 1 |
| 16 | Condenser ass'y II | 1 | 25.1 | Cubic valve | 1 |
| 16.1 | Inlet pipe ass'y of condenser | 1 | 26 | Suction pipe ass'y | 1 |
| 16.2 | Outlet pipe ass'y of condenser | 1 | 26.1 | Pressure controller | 1 |
| 16.3 | Condenser II | 1 | 27 | Four way valve ass'y | 1 |
| 17 | Condenser ass'y I | 1 | 27.1 | Cubic valve | 1 |
| 17.1 | Inlet pipe ass'y of condenser | 1 | 27.2 | Four way valve | 1 |
| 17.2 | Outlet pipe ass'y of condenser | 1 | 27.3 | Coil of four way valve | 1 |
| 17.3 | Condenser I | 1 | 27.4 | Pressure controller | 1 |
| 18 | Inlet pipe of condenser | 1 | 28 | Scroll compressor | 2 |
| 19 | Inlet pipe ass'y of condenser | 1 | 29 | Pipe temp. sensor | 1 |
| 20 | Cover to E-box | 1 | 30 | Room temp. sensor | 1 |

11.15 MCCU-45HN2



| | | | | | | | |
|------|-------------------------------|---|--------------|------|---|---|--------------|
| 1 | Rear net | 2 | 201295100172 | 22 | Front-right supporting board | 1 | 201295100163 |
| 2 | Top cover | 2 | 201195100000 | 23 | Separator | 1 | 201601100036 |
| 3 | Axial flow fan | 2 | 201100300205 | 24 | Net | 1 | 201295100157 |
| 5 | Cover board | 2 | 201295100149 | 25 | Motor bracket assy' | 1 | 201295100171 |
| 6 | Middle supporting assy' | 2 | 201295100167 | 26 | Baffle assy' | 1 | 201295030810 |
| 7 | Wind baffle assy' | 1 | 201295030814 | 27 | Below condenser assy' | 1 | 201575990001 |
| 8 | E-part box assy' | 1 | 203375990000 | 28 | E-part box Support board | 1 | 201295000076 |
| 8.1 | Main control board assy' | 1 | 201375990000 | 29 | Up condenser assy' | 1 | 201575990000 |
| 8.2 | Current detecting board assy' | 1 | 201390000827 | 30 | Motor bracket assy' | 1 | 201295100168 |
| 8.3 | Middle connection board assy' | 1 | 201390500120 | 31 | Motor bracket assy' | 1 | 201295100169 |
| 8.4 | Relay | 2 | 202300800071 | 32 | Support board | 2 | 201295030841 |
| 8.5 | Contactora | 3 | 202300850043 | 33 | Rear clapboard assy' | 1 | 201295030812 |
| 8.6 | Transformer | 1 | 202300900093 | 34 | Rear-right supporting board | 1 | 201295100165 |
| 8.7 | Transformer | 1 | 202300900550 | 35 | Support board | 1 | 201295100158 |
| 8.8 | Compressor capacitor | 2 | 202401000303 | 36 | Rear-left supporting board | 1 | 201295100164 |
| 8.9 | Surge suppresser | 3 | 202301610601 | 37 | Cover supporter | 1 | 201295030829 |
| 9 | Net | 1 | 201295100156 | 38 | Cover supporter | 1 | 201295030828 |
| 10 | E-Part box cover | 1 | 201295500179 | 39 | Motor | 2 | 202400420231 |
| 11 | E-part box Support board | 1 | 201295000011 | 40 | Compressor | 3 | 201400410920 |
| 12 | Valve plate | 1 | 201295100150 | 41 | Compressor supporter assy' | 1 | 201275990053 |
| 13 | Ball valve supporter assy' | 1 | 201295100161 | 42 | Compressor supporter assy' | 1 | 201275990054 |
| 14 | Discharge pipe assy' | 1 | 201675990035 | 43 | Compressor supporter assy' | 2 | 201275990055 |
| 14.1 | Pressure controller | 1 | 202301820005 | 44 | Capillary assy' | 1 | 201675990006 |
| 15 | 4-way valve assy' | 1 | 201675990014 | 45 | Oil separator | 1 | 201601100031 |
| 15.1 | 4-way valve | 1 | 201600600065 | 46 | High pressure valve | 1 | 201695030820 |
| 15.2 | 4-Ways valve solenoid | 1 | 201600600103 | 46.1 | Low pressure valve | 1 | 201600770304 |
| 16 | Cover plate | 2 | 201295100159 | 47 | Suction pipe assy' | 1 | 201675990008 |
| 17 | Base | 1 | 201295100176 | 47.1 | Pressure controller | 1 | 202301820008 |
| 18 | Front-left supporting board | 1 | 201295100162 | 48 | Low pressure valve assy' | 1 | 201675990004 |
| 19 | Front-left clapboard | 1 | 201295100151 | 48.1 | Ball valve | 1 | 201600810006 |
| 20 | Mid-front holder | 1 | 201295100166 | 49 | High pressure valve connecting pipe assy' | 1 | 201675990000 |
| 21 | Front-right board | 1 | 201295100170 | - | - | - | - |

Part 2 Installation

1. Note

- Install the unit where enough space of installation and maintenance is available.
- Install the unit where the ceiling is horizontal and enough for bearing the weight of the indoor unit.
- Install the unit where the air inlet and outlet are not baffled and are the least affected by external air.
- Install the unit where the supply air flow can be sent to all parts in the room.
- Install the unit where it is easy to lead out the connective pipe and the drain pipe.
- Install the unit where no heat is emitted from a heat source directly.
- Installing the equipment in any of the following places may lead to faults of the equipment (if that is inevitable, consult the supplier):
 - The site contains mineral oils such as cutting lubricant.
 - Seaside where the air contains much salt.
 - Hot ring area where corrosive gases exist, e.g., sulfide gas.
 - Factories where the supply voltage fluctuates seriously.
 - Inside a car or cabin.
 - Place like kitchen where oil permeates.
 - Place where strong electromagnetic waves exist.
 - Place where flammable gases or materials exist.
 - Place where acid or alkali gases evaporate.
 - Other special environments.
- Install the unit where enough space of installation and maintenance is available.
- Install the unit where the air inlet and air outlet are free from obstacles and strong wind.
- Install the unit in a dry and well ventilated place.
- Install the unit where the bearing surface is level and can bear weight of the unit, and is suitable for installing the unit horizontally without increasing noise or vibration.
- Install the unit where the operation noise and the expelling of air do not affect neighbors.
- Install the unit where no flammable gas is leaked.
- Install the unit where it is convenient for pipe connection and electric connection.

2. Installation steps

2.1 Installation

Check the model and name to avoid mistaken installation.

2.2 Refrigerant pipe

- The refrigerant pipes must have the specified diameter.
- Nitrogen of a certain pressure must be filled into the refrigerant pipe before welding.
- The refrigerant pipe must undergo heat insulation treatment.
- After the refrigerant pipe is installed completely, the indoor unit cannot be powered on before performing the airtight test and creating a vacuum.

2.3 Pressure test

The refrigerant pipe must undergo the airtight test [with 2.94MPa (29.4kgf/cm²G) nitrogen].

2.4 Creating a vacuum

Be sure to use the vacuum pump to create a vacuum of the connective pipe at both air side and liquid side concurrently.

2.5 Refrigerant replenishment

- If the pipe is longer than the reference pipe, the refrigerant replenishment quantity for each outdoor unit should be calculated through the formula obtained according to the actual length of the pipe.
- Record the refrigerant replenishment quantity, actual length of pipe and the height difference of the indoor & outdoor units onto the operation confirmation table (on the electric control box) of the outdoor unit in advance for future reference.

2.6 Electric wiring

- Select the power supply wire according to the design manual. The power wire size of the air conditioner should be greater than that of ordinary motors.
- In order to prevent disoperation of the air conditioner, do not interleave or entwine the power cable (380~415V/3N/50Hz) with the connection wires (low-voltage wires) of the indoor/outdoor unit.
- Power on the indoor unit after performing the airtight test and making a vacuum.

2.7 Trial run

Perform the trial run only after the electric heater of the outdoor unit compressor has been powered on over 12 hours.

3. Unit location

3.1 When installing the unit, leave a space for maintenance shown in the following figure. Install the power supply at the side of the outdoor unit.

3.2 Ensure enough space for installation and maintenance.

Side discharge units (Fig 2-1 and Fig 2-2):

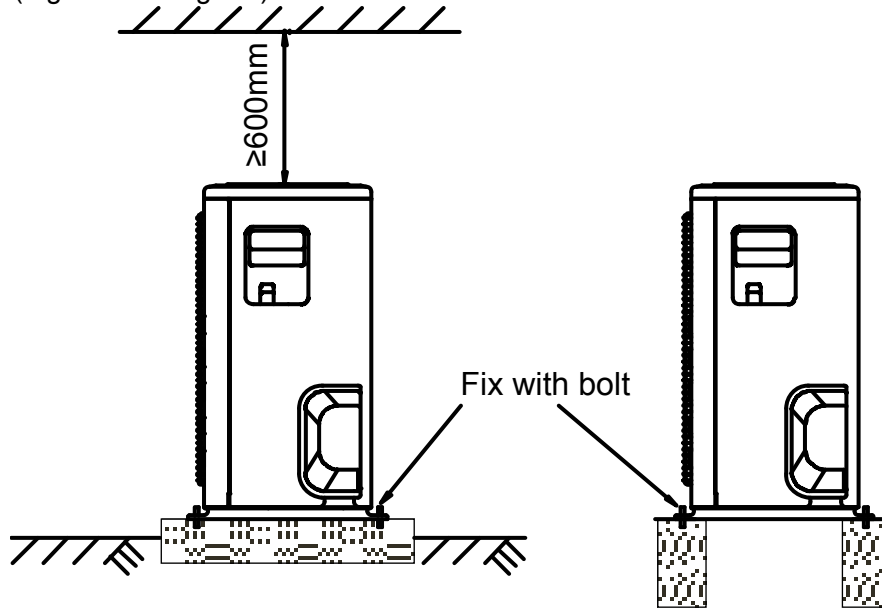


Fig 2-1

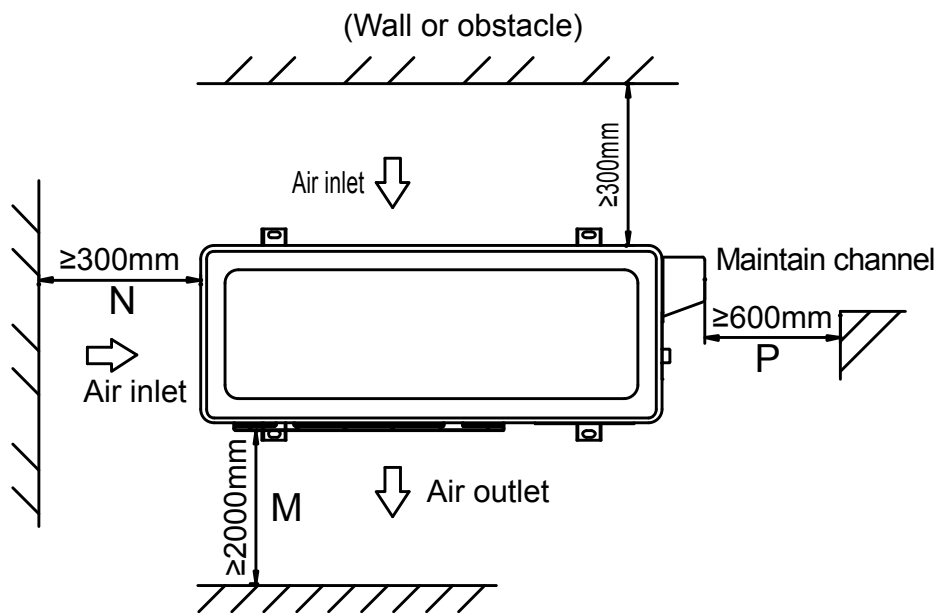


Fig 2-2

Vertical discharge units (Fig 2-3 and Fig 2-4):

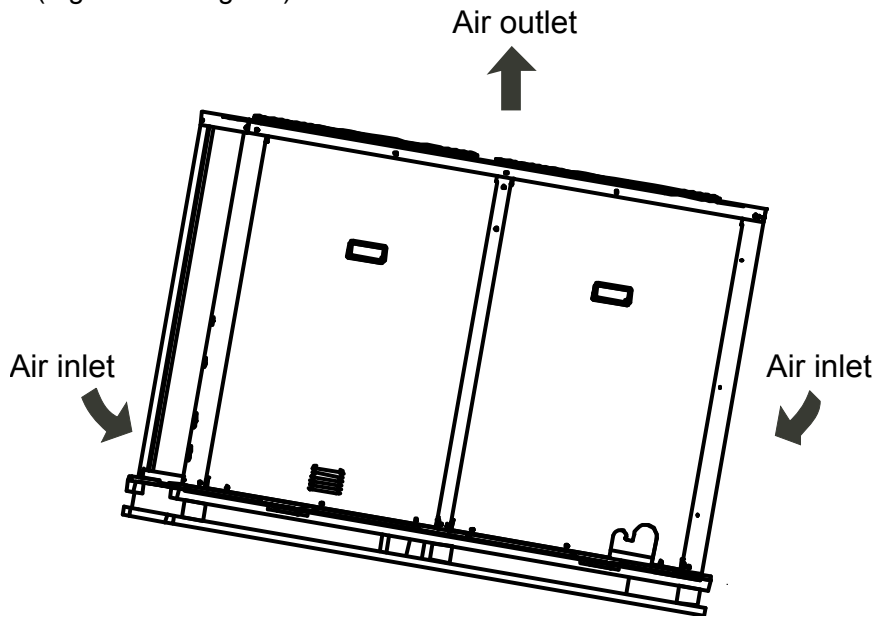


Fig 2-3

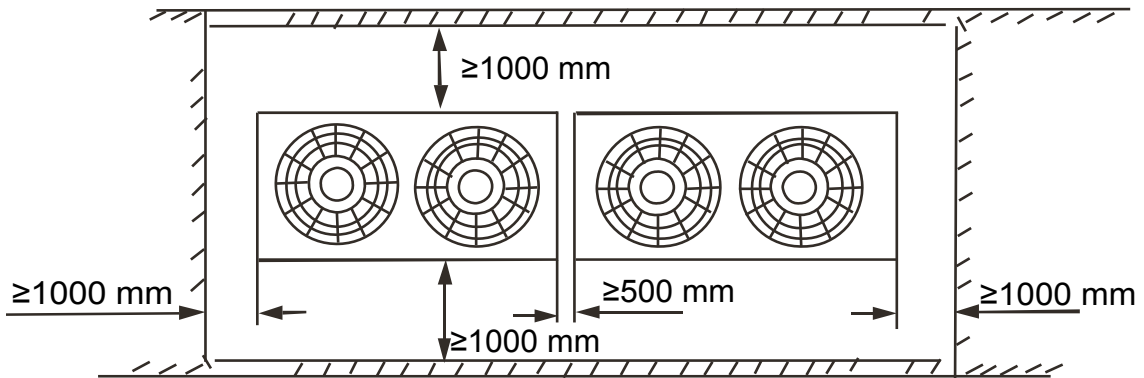


Fig 2-4

Note:

1. In case any obstacles exist above the outdoor unit, such obstacles must be 2000mm above the outdoor unit.
2. If miscellaneous articles are piled around the outdoor unit, such articles must be 400mm below the top of the outdoor unit.
- 3.3 As shown in Fig 2-5, leave an interval of 500mm between the outdoor units.

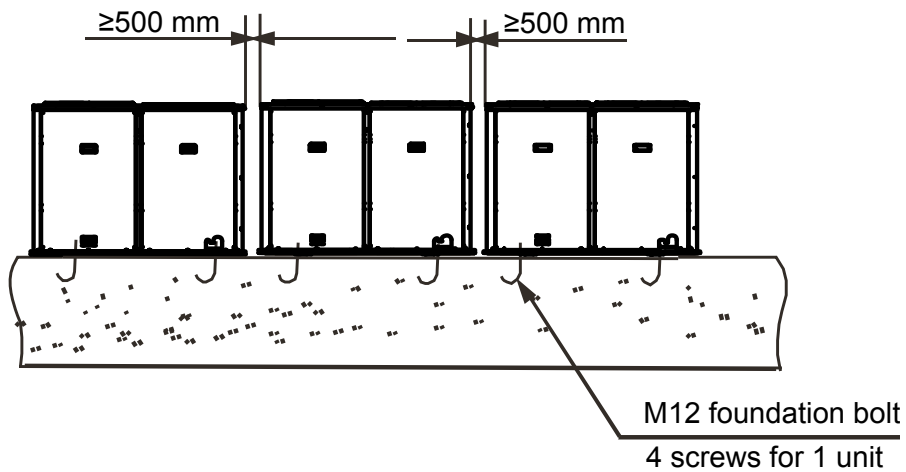


Fig 2-5

3.4 Unit transportation

- Use 4 steel ropes of a $\Phi 6\text{mm}$ or bigger size to hoist the unit and convey it into the room.
- In order to prevent scratch and deformity the unit, apply a guard board to the surface of contact between the steel ropes and the air conditioner.
- Remove the cushion for use in the transport after finishing the transport. (Fig 2-6)
- Fork-lift truck can be used for conveying.

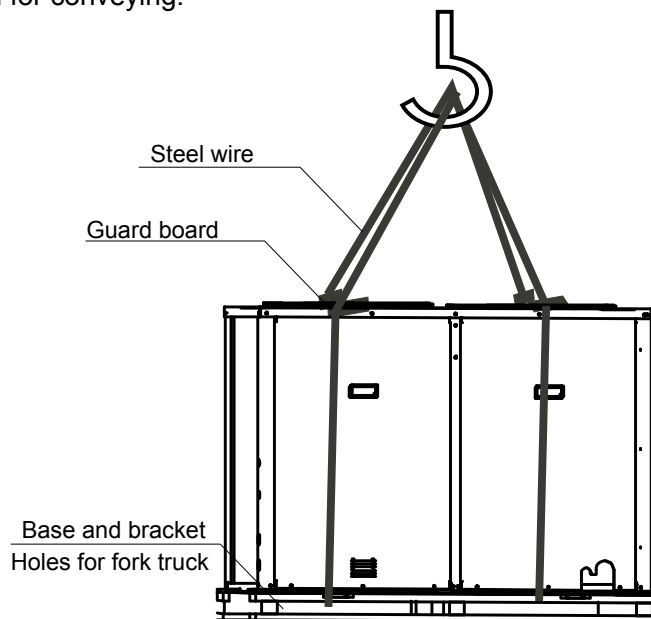


Fig 2-6

3.6 Snow protection facilities must be installed in the snowfall areas. (Fig 2-7) In case the snow protection facilities are incomplete, faults may occur. In order to prevent influence caused by snow, set up raised pavilion, and install snow protection sheds at the air inlet and air outlet.

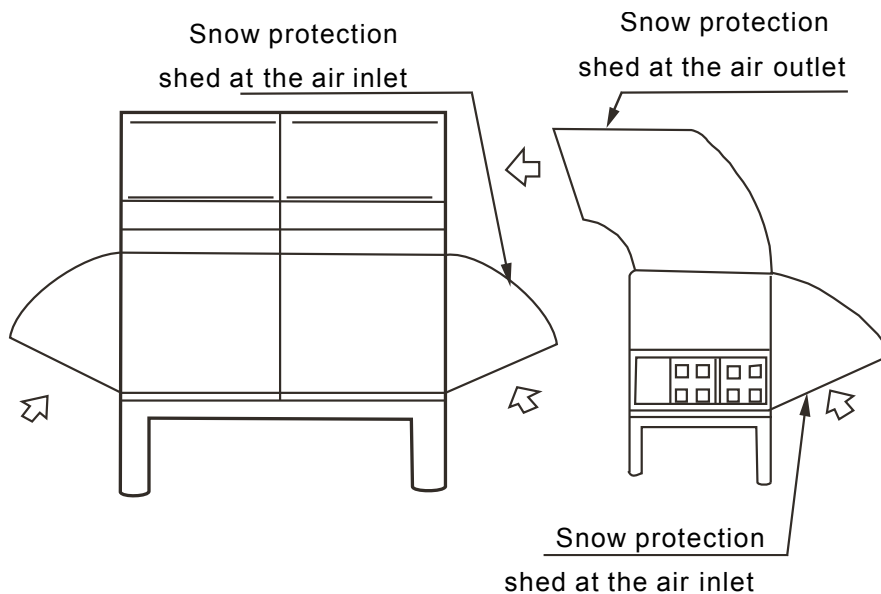


Fig 2-7

4. Installation of refrigerant pipes

4.1 The refrigerant pipe adapter is located inside the outdoor unit. When the pipe is connected from the front side, the pipe can be let out through the right front board. (Fig 2-8 and Fig 2-9) So remove the left front board first.

(Three M5 screws)

4.2 The pipe can be connected from the front left lower side or the bottom notch of the outdoor unit.

4.3 When the pipe is connected from the front side, the pipe can be led out through the pipe & wire panel.

4.4 In case the pipe is connected from the bottom notch, install it leftward, rightward or backward after leading it out.

4.5 When the pipe is led from the front, use a cover plate to seal the bottom notch in order to prevent intrusion of dust or trash.

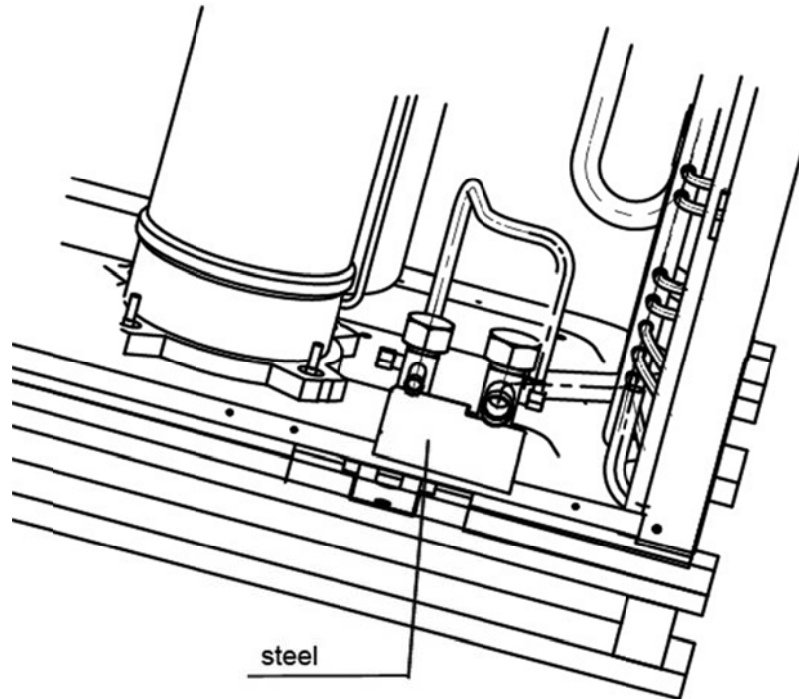


Fig 2-8

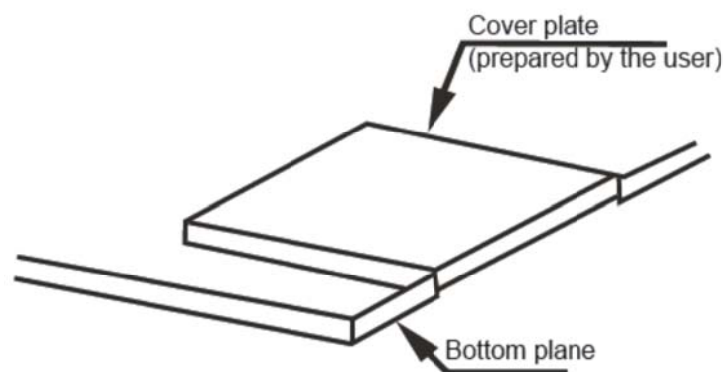


Fig 2-9

Note:

When welding the refrigerant pipe, in order to prevent internal oxidation of the pipe, nitrogen must be filled in. Otherwise, the oxidized chips may block refrigerating circulatory system.

4.6 Size of refrigerant pipes

| | Model | Gas side | Liquid side |
|---------------------|------------|--------------------------------|-------------|
| Cooling only | MCCU-7CN2 | Φ15.9 | Φ9.52 |
| | MCCU-10CN2 | Φ19 | Φ12.7 |
| | MCCU-14CN2 | Φ19 | Φ9.52 |
| | MCCU-16CN2 | Φ19 | Φ9.52 |
| | MCCU-22CN2 | Φ22 (Φ25, pipe length ≥ 30m) | Φ12.7 |
| | MCCU-28CN2 | Φ25 (Φ28, pipe length ≥ 30m) | Φ12.7 |
| | MCCU-35CN2 | Φ28.6 (Φ32, pipe length ≥ 30m) | Φ15.9 |
| | MCCU-45CN2 | Φ35 | Φ15.9 |
| Cooling and heating | MCCU-7HN2 | Φ15.9 | Φ9.52 |
| | MCCU-10HN2 | Φ19 | Φ12.7 |
| | MCCU-14HN2 | Φ19 | Φ12.7 |
| | MCCU-16HN2 | Φ19 | Φ9.52 |
| | MCCU-22HN2 | Φ28.6 | Φ12.7 |
| | MCCU-28HN2 | Φ28.6 | Φ12.7 |
| | MCCU-35HN2 | Φ28.6 (Φ32, pipe length ≥ 30m) | Φ15.9 |
| | MCCU-45HN2 | Φ35 | Φ15.9 |

4.7 Connection between outdoor unit and indoor unit (Fig 2-10).

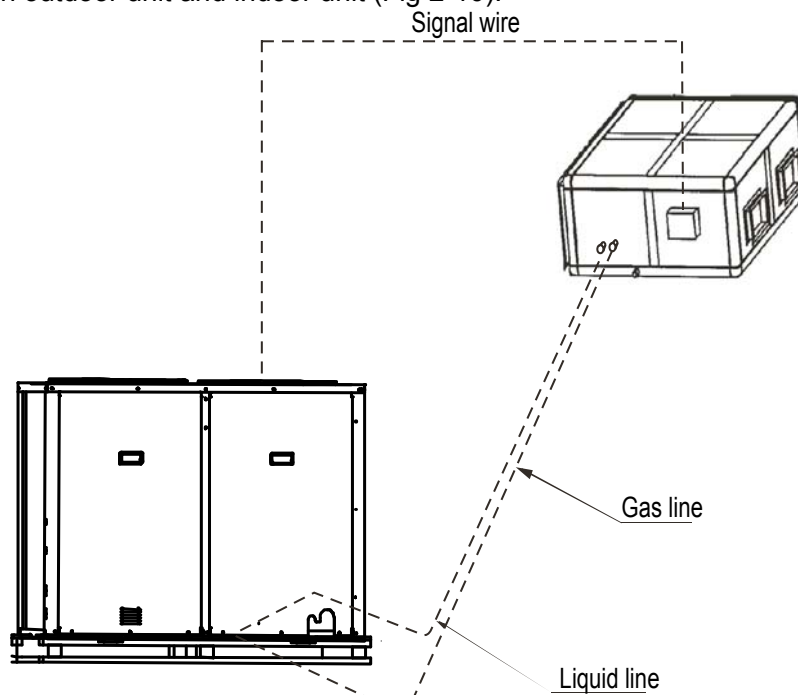


Fig 2-10

4.8 The max. equivalent length of piping and the max. height difference between indoor unit and outdoor unit should check the following table and sketch. (Fig 2-11)

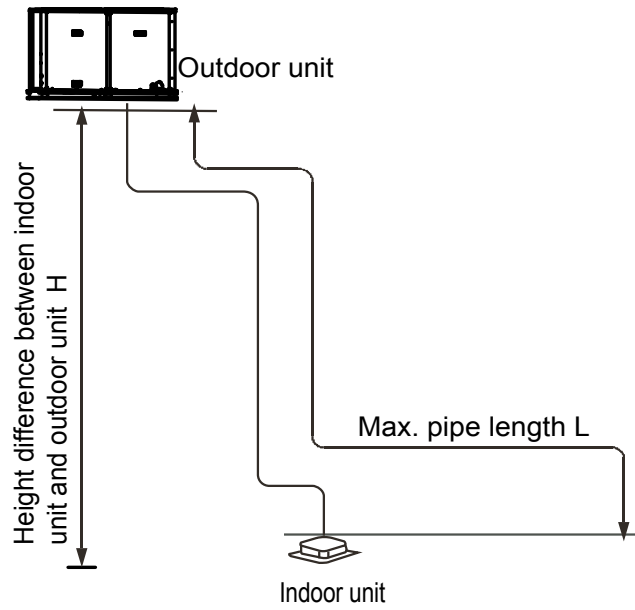


Fig 2-11

Table 1 (Unit: m)

| | Model | Max. pipe length L | Max. high drop H |
|--------------|------------|--------------------|------------------|
| Cooling only | MCCU-7CN2 | 20 | 10 |
| | MCCU-10CN2 | 25 | 10 |
| | MCCU-14CN2 | 25 | 10 |
| | MCCU-16CN2 | 30 | 15 |
| | MCCU-22CN2 | 50 | 30 |
| | MCCU-28CN2 | 50 | 30 |
| | MCCU-35CN2 | 50 | 30 |
| Heating only | MCCU-45CN2 | 50 | 20 |
| | MCCU-7HN2 | 20 | 10 |
| | MCCU-10HN2 | 25 | 10 |
| | MCCU-14HN2 | 25 | 10 |
| | MCCU-16HN2 | 30 | 15 |
| | MCCU-22HN2 | 50 | 20 |
| | MCCU-28HN2 | 50 | 20 |
| | MCCU-35HN2 | 50 | 30 |
| MCCU-45HN2 | 50 | 20 | |

5. Piping between outdoor unit and indoor unit

5.1 Preparation before Installation

Check the height difference between the indoor unit and the outdoor unit, and check the length and number of bends of the refrigerant pipeline, which must meet the following requirements:

- Max. Height difference....30m (If the height difference is greater than 5m, it is better to put the outdoor unit above the indoor unit).
- Max. Pipeline length.....50m.
- Max. Number of bends....15.
- In the piping process, do not let the air, dust or foreign substance intrudes into the pipeline system.
- Start piping only after fixing the indoor and outdoor units.
- Keep dry when piping. Do not let moist intrude into the pipeline system.

5.2 Procedure of Connecting Pipes

5.2.1 Measure the required length of the connective pipe, and make the pipes in the following procedure:

- Connect the indoor unit first, and then connect the outdoor unit.

The pipe bend should be handled carefully, without damaging the pipe.

- The valve of the outdoor unit should be closed completely.

Every time when connecting the pipe, screw off the nut at the valve, and connect the flared pipe (within 5 minutes). If the nut is put away for a long time after being screwed off the valve, dust and other foreign substance may intrude into the pipeline system and lead to fault. Before connecting the pipe, use the refrigerant to expel air out of the pipe.

- After complete piping, expel air as instructed in the “Expel air” section.

After expelling the air, screw up the nut at the maintenance orifice.

- The bend angle shall not exceed 90°.

The bend shall be preferably in the middle of the pipe length, and higher bend radiuses are preferred. Do not bend the flexible pipe for over 3 times.

- Bend the thin-wall connective pipe

When bending the pipe, cut out a notch of the desired size at the bend of the adiabatic pipe, and then expose the pipe (wrap the pipe with the wrapping tape after bending it).

The radio of the elbow pipe should be as large as possible to prevent flattening or crush.

Use the pipe bender to make close elbow pipe.

- Use purchased copper pipe

When the cooper pipe is purchased from the market, be sure to use the heat insulation materials of the same type (with a thickness of over 9mm).

5.2.2 Lay the pipelines

- Drill a hole on the wall, and put the hole sheath and hole cover through the wall.
- Place the connective pipe together with the indoor & outdoor connection wires. Use wrapping tape to tie them tight. Do not let air penetrate into it lest condensation and drips of moist.
- Pull the connective wrapped connective pipe from outdoor through the sheath which gets through the wall, and lead it into the room. Lay out the pipelines carefully to avoid damage.

5.2.3 Make a vacuum of connective pipeline.

5.2.4 After the above steps are completed, the spool of the valve of the outdoor unit should be completely open, and the refrigerant pipeline of the indoor unit and the outdoor unit should be smooth.

5.2.5. Use leak detector or soap water detect leak carefully to prevent leakage.

5.2.6. Put on an heat resistance envelope at connective pipe adapter of the indoor unit, and wrap it tight with the wrapping tape lest condensate and leakage.

5.3 Expelling Air

5.3.1 Select a method to expel air from the following table:

| Length of connective pipe (single pass) | Procedure of expelling air |
|---|--------------------------------------|
| Less than 5m | Use refrigerant in the outdoor unit |
| 5~15m | Use vacuum pump or refrigerant tank. |

Note: If the air conditioner is relocated, be sure to use a vacuum pump or refrigerant tank to expel air.

5.3.2 Use the refrigerant in the outdoor unit to expel air (Fig 2-12)

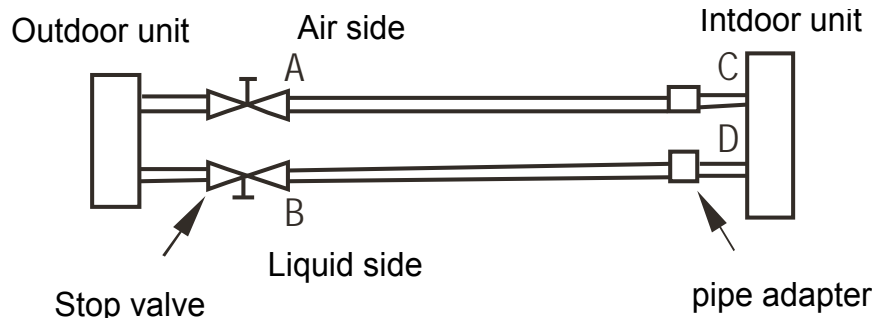


Fig 2-12

- Screw up the pipe nuts at A, B, C and D completely.
- Loosen and remove the square-head cover of valves A and B, rotate the square-head spool of valve B counterclockwise for 45 degrees and stay for about 10 seconds, and then close the spool of valve B tightly.
- Detect leak for all adapters at A, B, C and D. After making sure that no leak exists, open the maintenance orifice nut of valve A. After all air is expelled, tighten the maintenance orifice nut of valve A.
- Open the spools of valves A and B completely.
- Tighten the square-head cover of valves A and B completely.

5.3.3 Use refrigerant tank to expel air

- Screw up the pipe nuts at A, B, C and D completely.
- Loosen and remove the square-head cover and the maintenance orifice nut of valves A and B.
- Connect the filler hose of the refrigerant tank with the maintenance orifice of valve A.
- Loosen the valve of the refrigerant tank, continue filling refrigerant for 6 seconds to expel the air, and tighten the nut of valve B quickly.
- Loosen the valve of the refrigerant tank again, and fill the refrigerant for 6 seconds. Detect leak for all adapters at A, B, C and D. After making sure that no leak exists, screw off the filler hose. After all the filled refrigerant is expelled, screw up the maintenance orifice nut of valve A quickly.
- Open the square-head spools of valves A and B completely.
- Tighten the square-head cover of valves A and B.

5.3.4 Use a vacuum pump to expel the air (Fig 2-13)

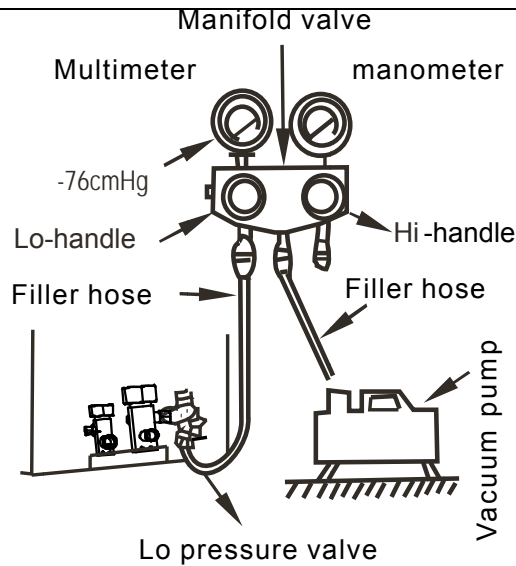


Fig 2-13

- Loosen and remove the maintenance orifice nut of valve A, and connect the filler hose of the manifold valve to the maintenance orifice of valve A (tighten both valve A and valve B).
- Connect the filler hose adapter to the vacuum pump.
- Open the low pressure (Lo) handle of the manifold valve completely.
- Start the vacuum pump to extract air. At the beginning of extracting air, slightly loosen the maintenance orifice nut of valve B, check whether any air enters it (the vacuum pump noise changes and the multi-meter indicate from negative to 0). Then tighten this maintenance orifice nut.
- Upon completion of vacuuming, tighten the low pressure (Lo) handle of the manifold valve completely and stop the vacuum pump. Keep extracting air for over 15 minutes. Check whether the multi-meter points at -1.0×10^5 Pa (-76cmHg).
- Loosen and remove the square-head cover of valves A and B. After opening valves A and B completely, tighten the square head cover of valves A and B.
- Remove the filler hose off the maintenance orifice of valve A, and then tighten the nut.

5.3.5 Procedure of using stop valve

- Open the spool until it touches the stop block. Do not attempt to open further.
- Use a spanner or a similar tool to tighten the bonnet. The bonnet tightening torque is shown in Table 3 "Tightening torque".
- Upon completion of installation, open all valves before trial run. Each unit has two valves of different sizes located at the outdoor unit side. Of the two valves, one is gas valve and the other is liquid valve. The procedure of opening/closing the valve is shown in the right figure (Fig 2-14).
- Procedure of opening the valve: Open the square-head cover, use a spanner to capture the square head and open it thoroughly. Then tighten the square-head cover.
- Procedure of closing the valve: Same as the procedure of opening the valve, but rotate the spanner clockwise thoroughly.

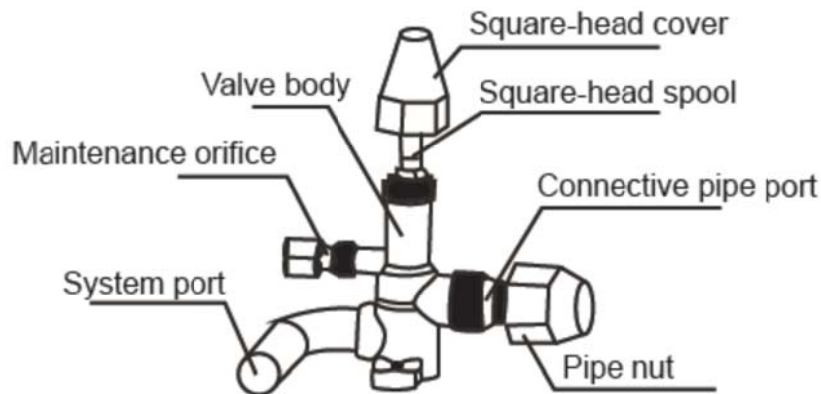


Fig 2-14

5.4 Leak Detection

Use soap water or a leak detector to check whether gas leakage exists at the adapters.

5.5 Heat Insulation

- Use heat insulation materials to wrap the part protruding outside the flared pipe joint and the refrigerant pipe of the liquid pipe and the gas pipe, and ensure that no gap exists between them.
- Imperfect heat insulation may lead to condensate drips.

6. Field wiring

CAUTION:

- Use special power supply for the air conditioner. Design power supplies specific to the indoor unit and outdoor unit. The supply voltage must comply with the nominal voltage.
- The external supply circuit of the air conditioner must have a ground wire, and the power supply ground wire of the indoor unit must be connected with the external ground wire firmly.
- The wiring must be performed by professional technicians according to the circuit diagram labels.
- Distribute the wires according to the relevant electric technical standards promulgated by the State, and set the Residual Current-operated Circuit Breaker (RCCB) properly.
- The power wire and the signal wire shall be laid out neatly and properly, without mutual interference or contacting the connection pipe or valve.
- No power cable is attached to this equipment. The user can select the power cable by reference to the stipulated power supply specifications. No joint of wires is allowed.
- Upon completion of wire connection, double check it and then connect the power supply.

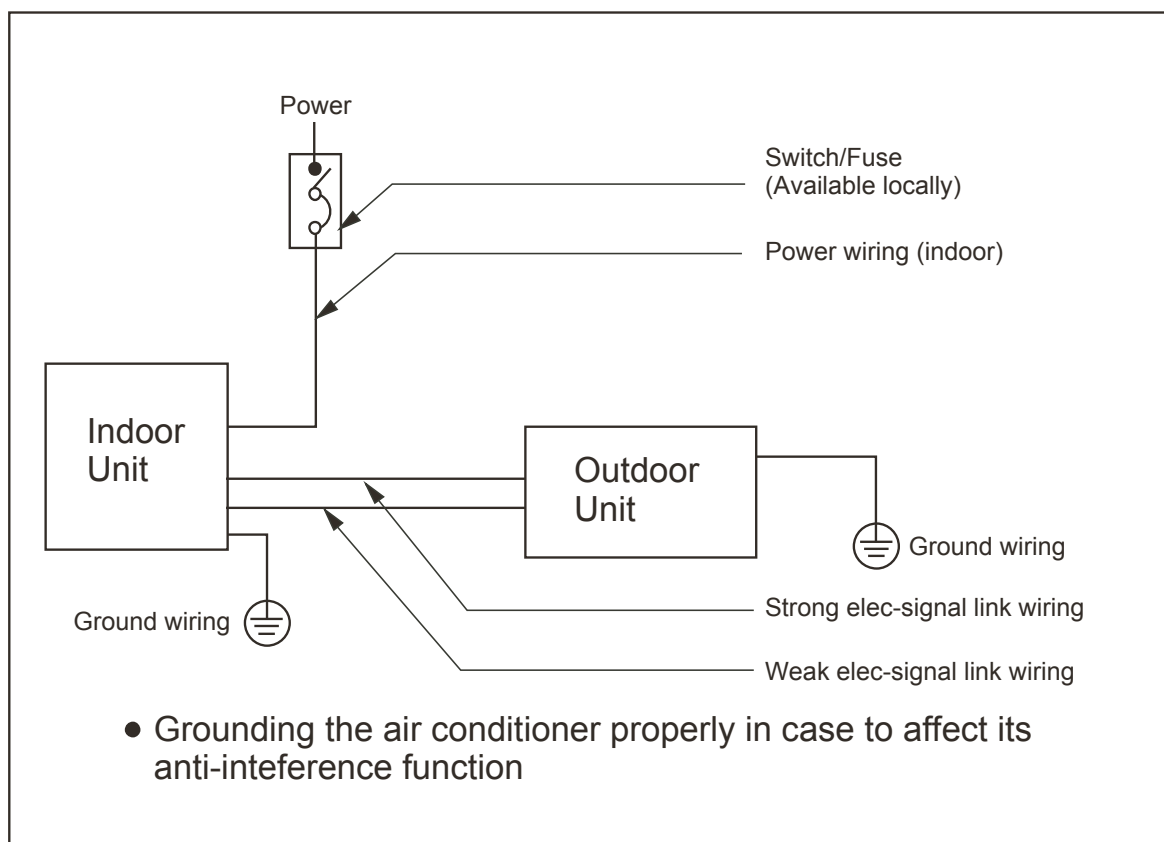


Fig 2-15 Wiring between outdoor unit and indoor unit

Part 3 Trouble shooting

1. Malfunctions

If any of the following malfunctions occur, stop operation of the air conditioner immediately. Turn off the power switch, and contact the local after sales service center of manufacturer:

- The fuse blows out frequently, or the circuit breaker protection occurs frequently.
- Obstacles or water enter the air conditioner.
- Condensing water leaks from indoor unit.
- Other malfunctions occur.

If the air conditioner fails and does not meet the above phenomena, check the system as the following table:

| Symptoms | Causes | Handling methods |
|---|--|---|
| The unit does not work | Power supply fails. | Operate after power resumes. |
| | Power switch is not connected. | Connect the power supply properly. |
| | Fuse blows out or circuit breaker snaps off. | Replace the fuse or check whether electric leakage occurs. |
| Air flowing normally but completely can't cooling | Temperature setting is improper. | Temperature setting is higher than the room temperature in cooling mode. Or temperature setting is lower than the room temperature in heating mode. |
| | 3-minute protection of compressor. | Waiting for 3 minutes. |
| The unit starts or stops frequently | The system is lack of refrigerant. Or there is too much refrigerant in the system. | Fix the leakage places, and charge the proper quantity of refrigerant. |
| | Air or non-condensable gas exists in the refrigerant system. | Vacuum the system and charge refrigerant again. |
| | Compressor fails. | Repair or replace the compressor. |
| | The voltage is too high or too low. | Install a voltage regulator. |
| | The refrigerant pipe is obstructed. | Locate and replace that part. |
| Poor cooling effect | The heat exchanger of outdoor unit or indoor unit is too dirty. | Clean the heat exchanger. |
| | The filter is too dirty. | Clean the filter. |
| | Air inlet or air outlet of the indoor/ outdoor unit is blocked. | Remove obstacles to keep well ventilating. |
| | Doors or windows of the room are open. | Close all the windows and doors. |
| | Directly exposed to sunlight. | Use curtain to obstruct sunlight. |
| | Too many heat sources in the room. | Reduce the heat sources. |
| | The outdoor ambient temperature is too high. | The cooling effect is poor but normal. |
| The system is lack of refrigerant. | Fix the leakage places, and charge the proper quantity of refrigerant. | |
| Poor heating effect | The outdoor ambient temperature is lower than -10°C. | Use an assistance heating device. |
| | Doors or windows of the room are not closed tightly. | Close the doors and windows properly. |
| | The system is lack of refrigerant. | Fix the leakage places, and charge the proper quantity of refrigerant. |

2. Trouble shooting

About the Fault of temperature sensor, high pressure protection, low pressure protection. Please refer to the following:

