

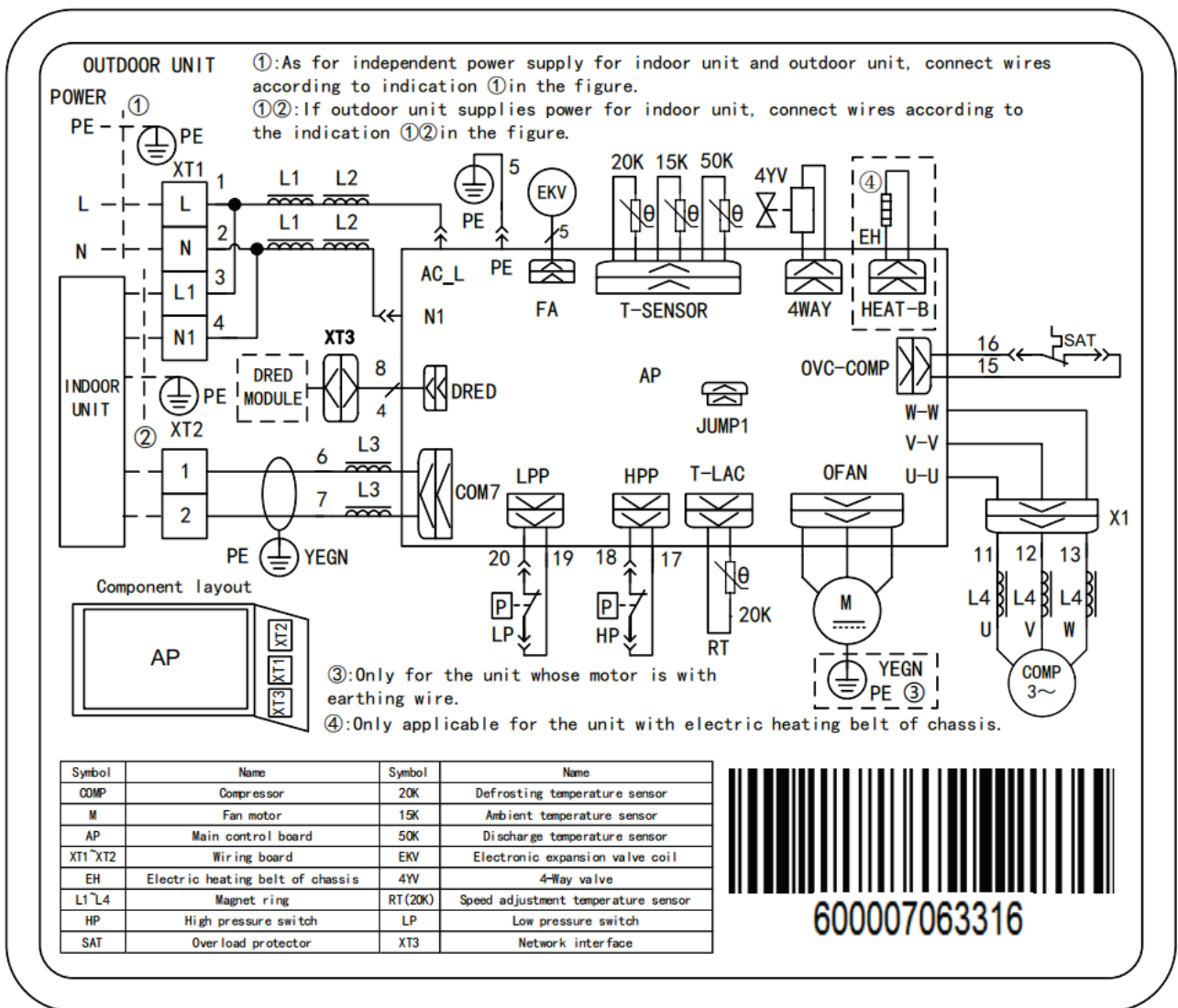
3. Troubleshooting

3.1 Wiring Diagrams

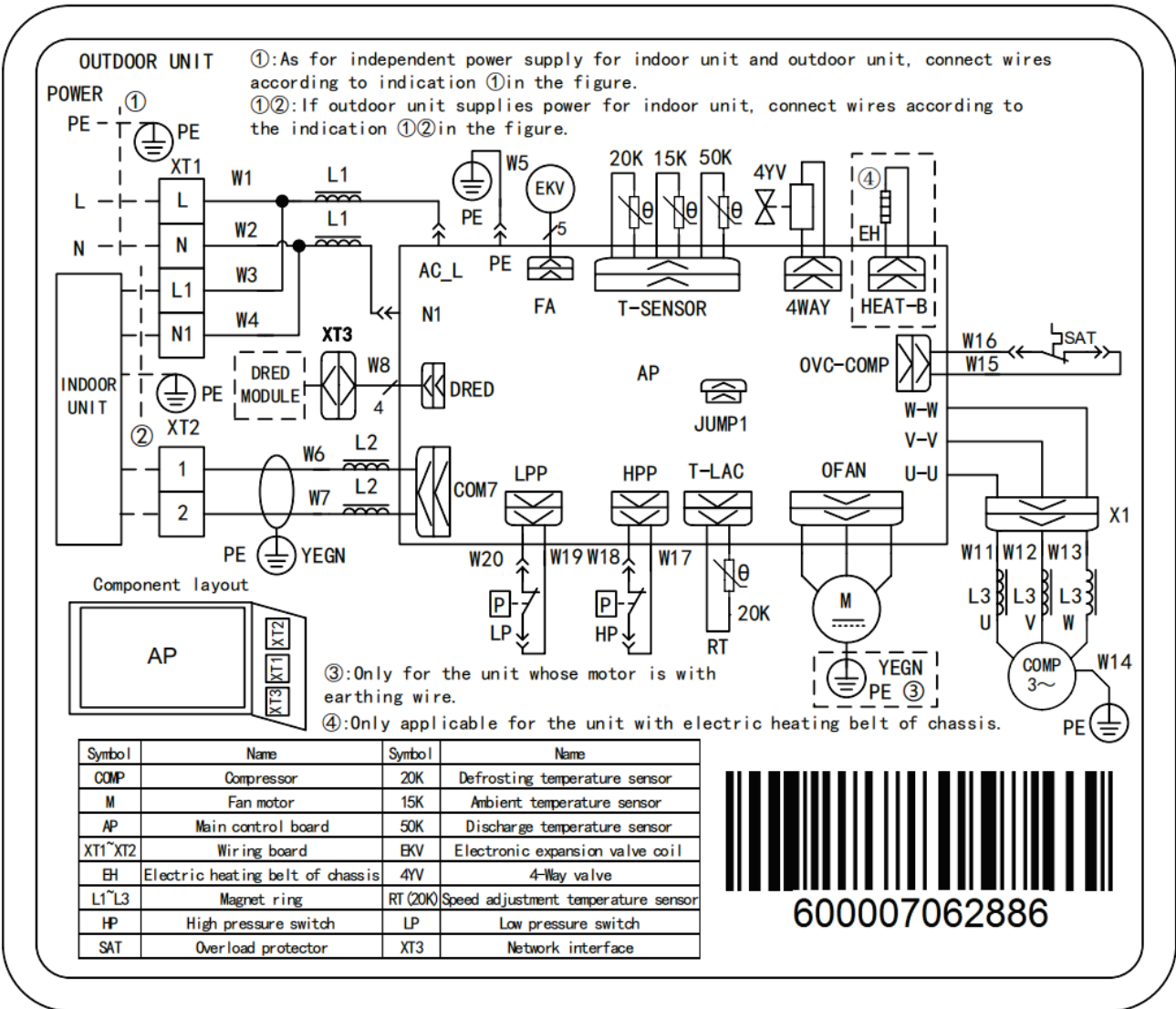
The following electric diagram is for reference only. Please refer to diagram stuck on the unit as the latest version.

3.1.1 Wiring Diagrams of ODUS

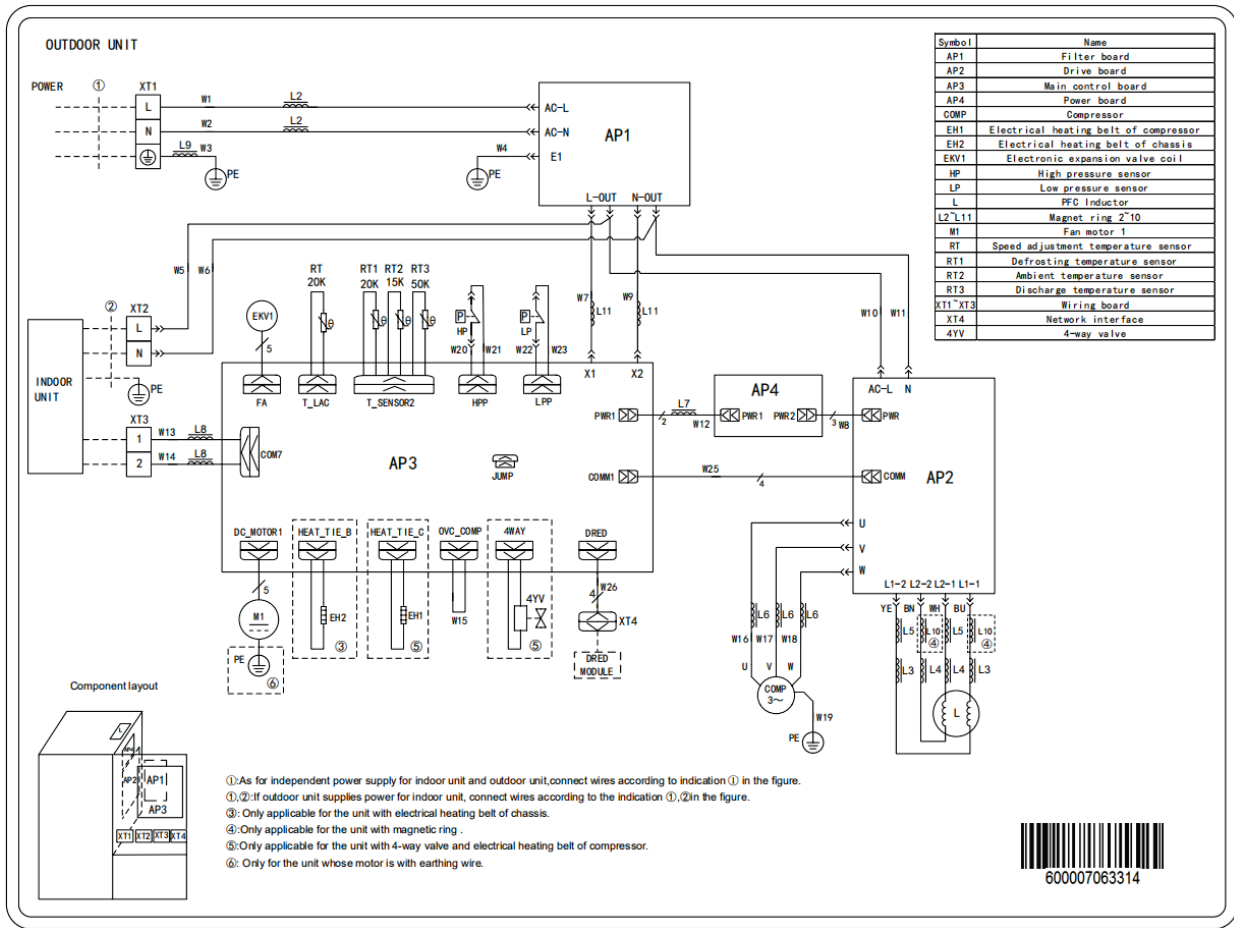
Model: GUD50W/NhB-S



Model: GUD71W/NhB-S

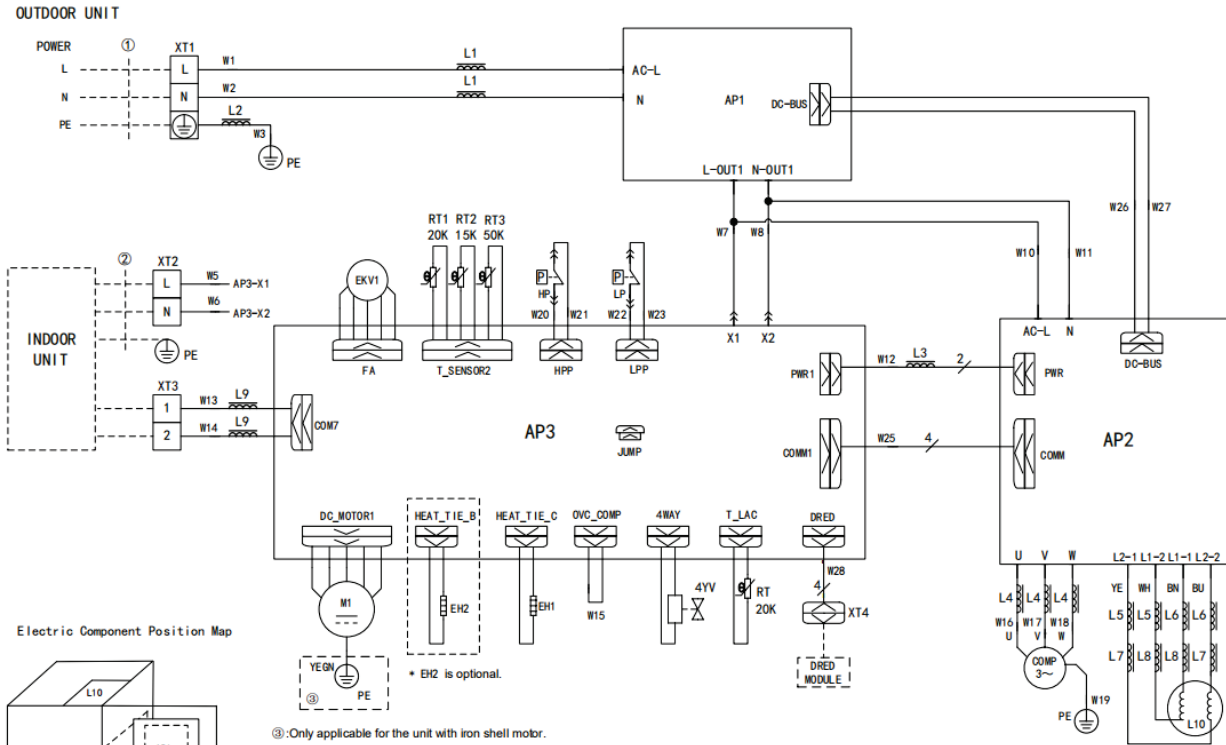


Model:GUD100W/NhB-S

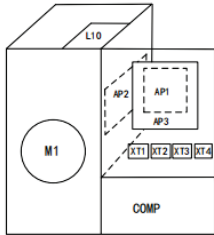


Model: GUD125W/NhB-S

①:As for independent power supply for indoor unit and outdoor unit, connect wires according to indication ① in the figure.
 ②:If outdoor unit supplies power for indoor unit, connect wires according to the indication ② in the figure.



Electric Component Position Map

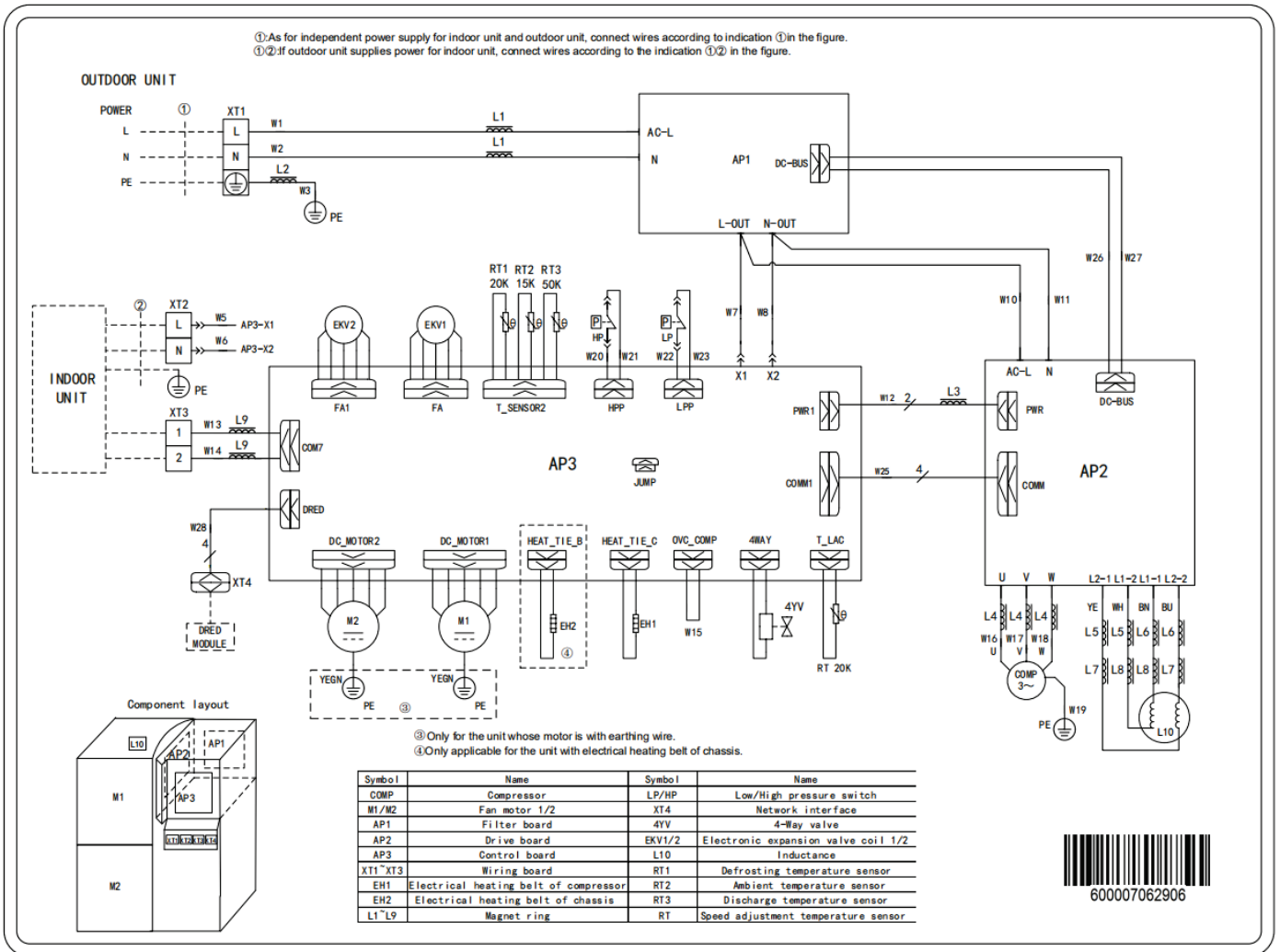


③:Only applicable for the unit with iron shell motor.

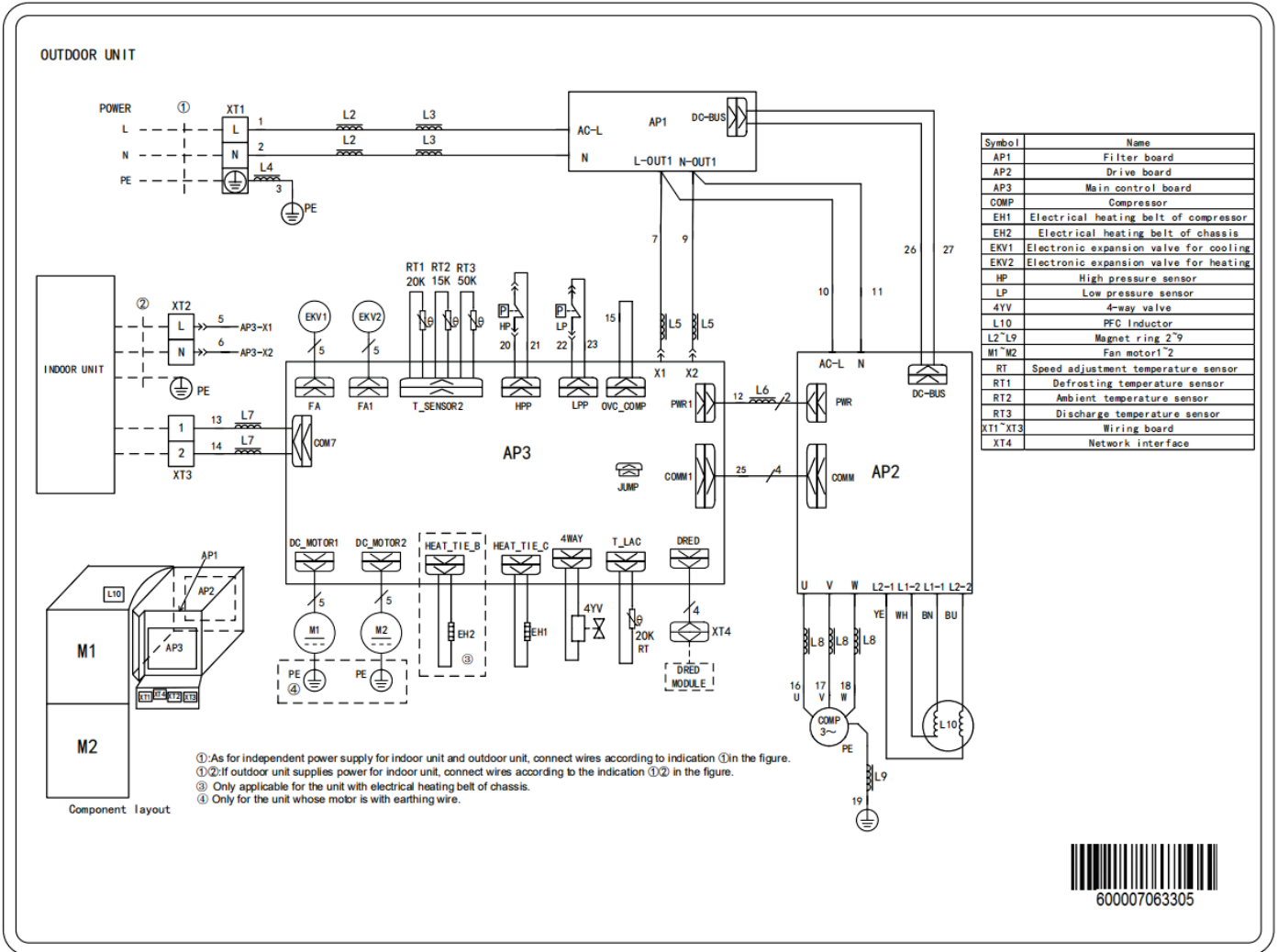
Symbol	Name	Symbol	Name
COMP	Compressor	LP/HP	Low/High pressure switch
M1	Fan motor	XT4	Network interface
AP1	Filter board	4YV	4-Way valve
AP2	Drive board	EKV1	Electronic expansion valve coil
AP3	Control board	L10	Inductance
XT1~XT3	Wiring board	RT1	Defrosting temperature sensor
EH1	Electrical heating belt of compressor	RT2	Ambient temperature sensor
EH2	Electric Heating Belt of chassis	RT3	Discharge temperature sensor
L1~L9	Magnet ring	RT	Speed adjustment temp. Sensor



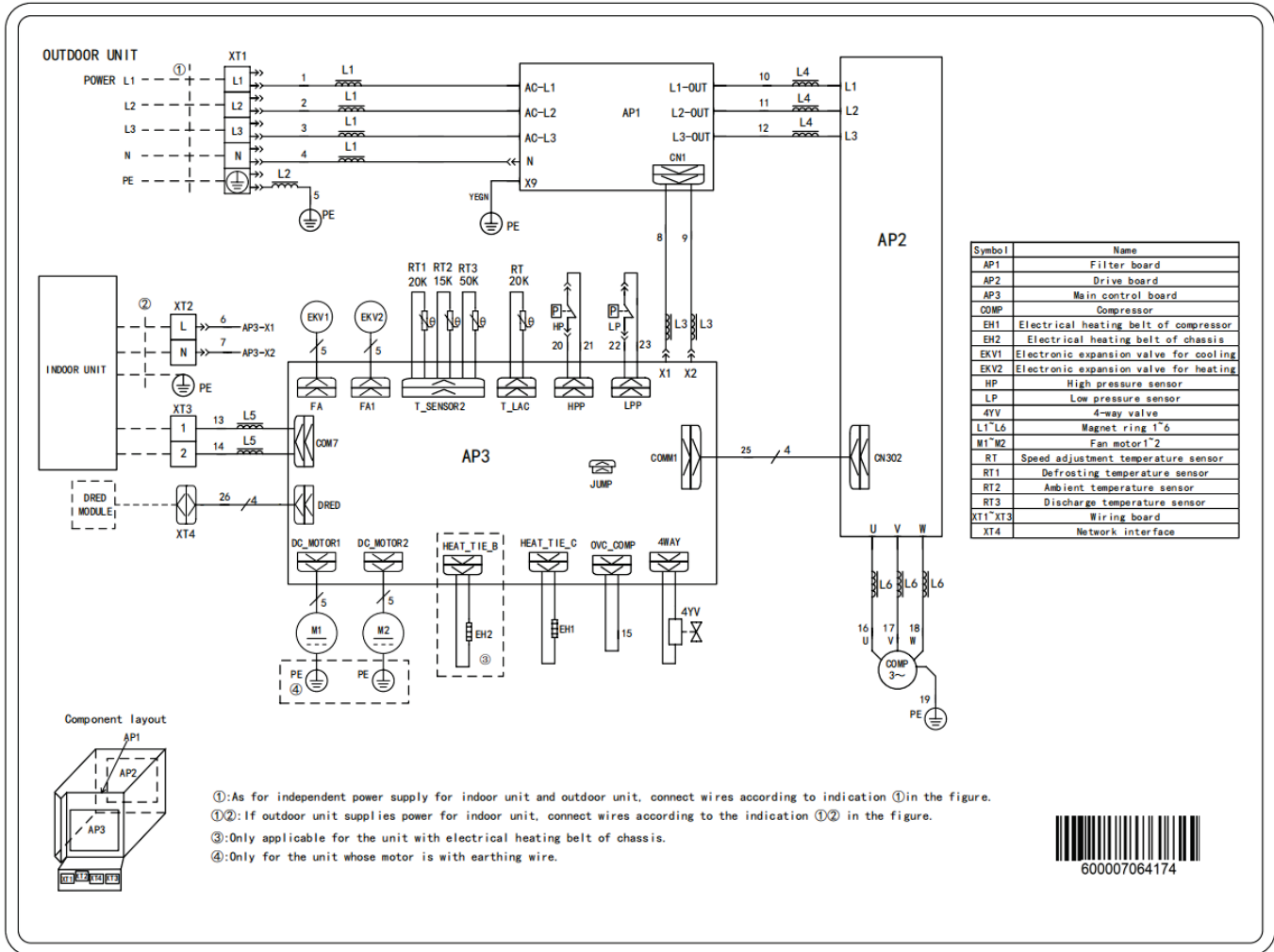
Model: GUD140W/NhB-S



Model: GUD160W/NhB-S

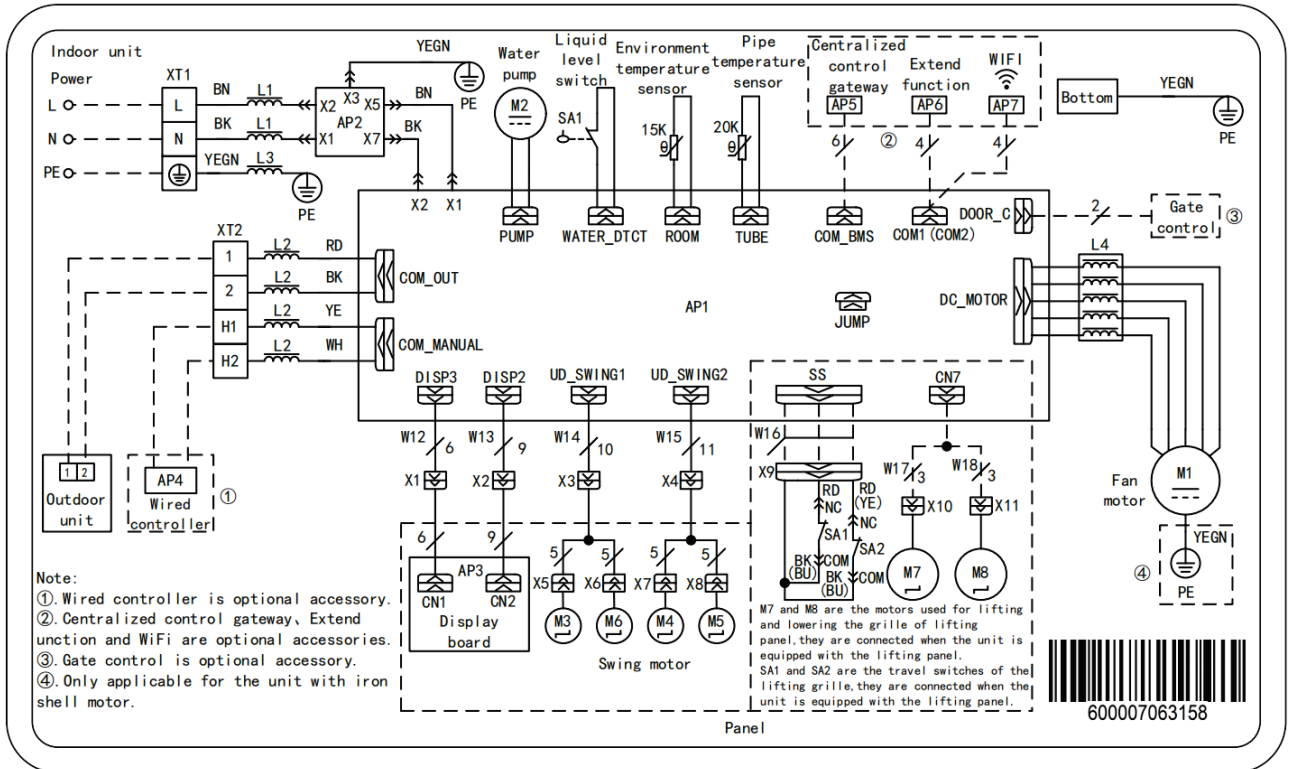


Model: GUD160W/NhB-X



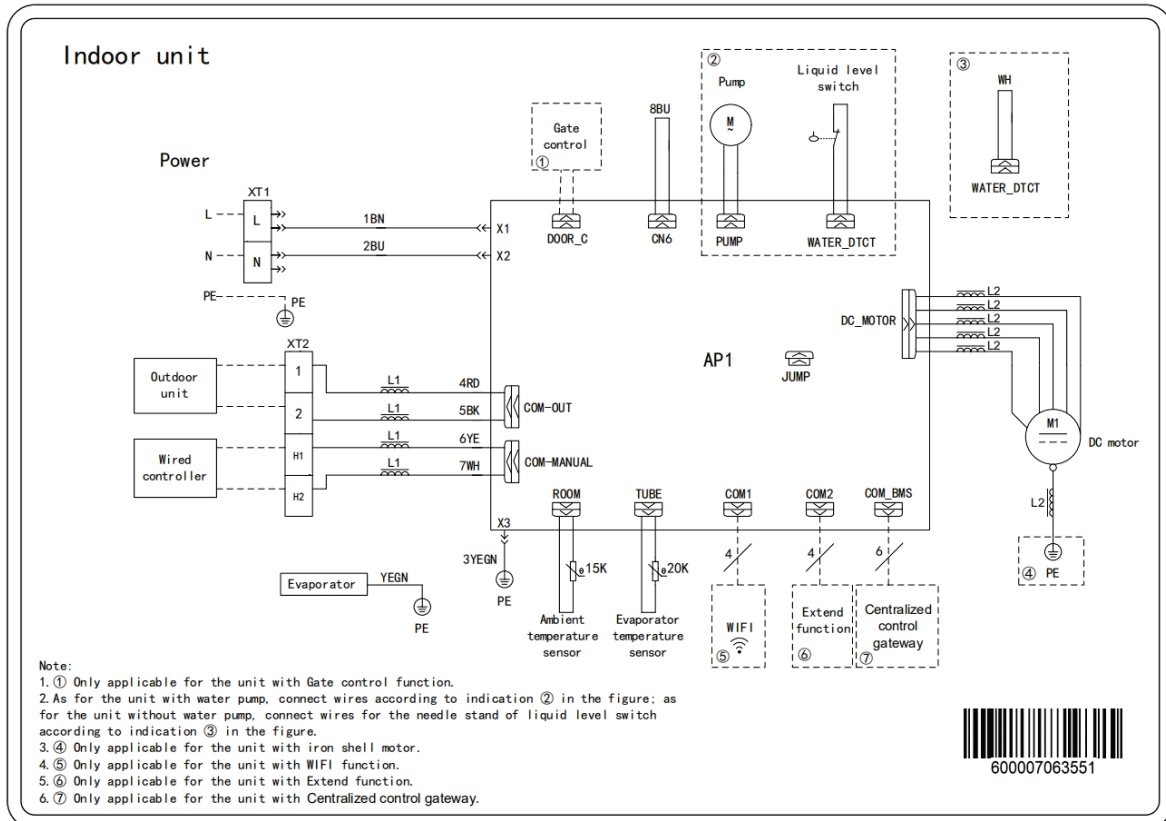
3.1.2 Wiring Diagrams of IDUs

Model: GUD50T/B-S, GUD71T/B-S, GUD100T/B-S, GUD125T/B-S, GUD140T/B-S

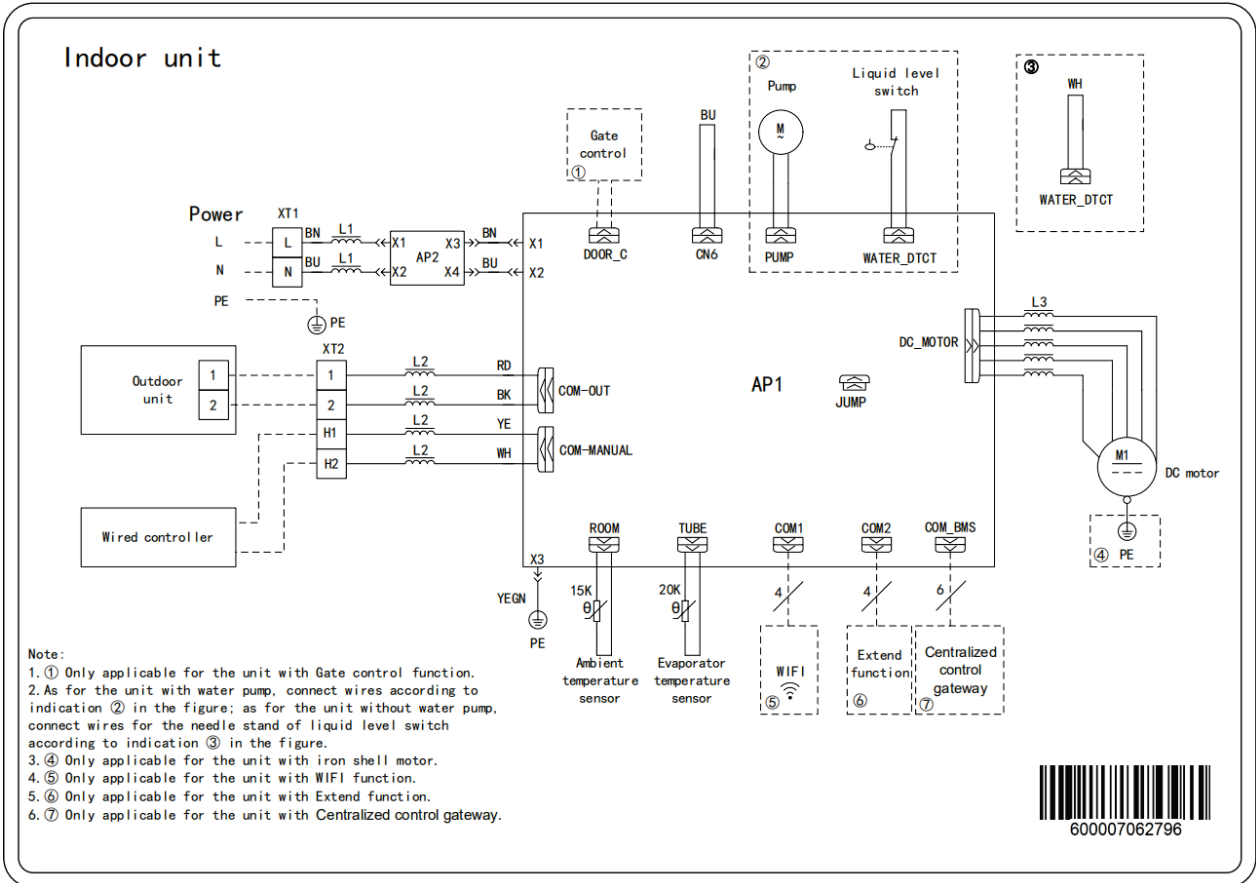


Duct Type

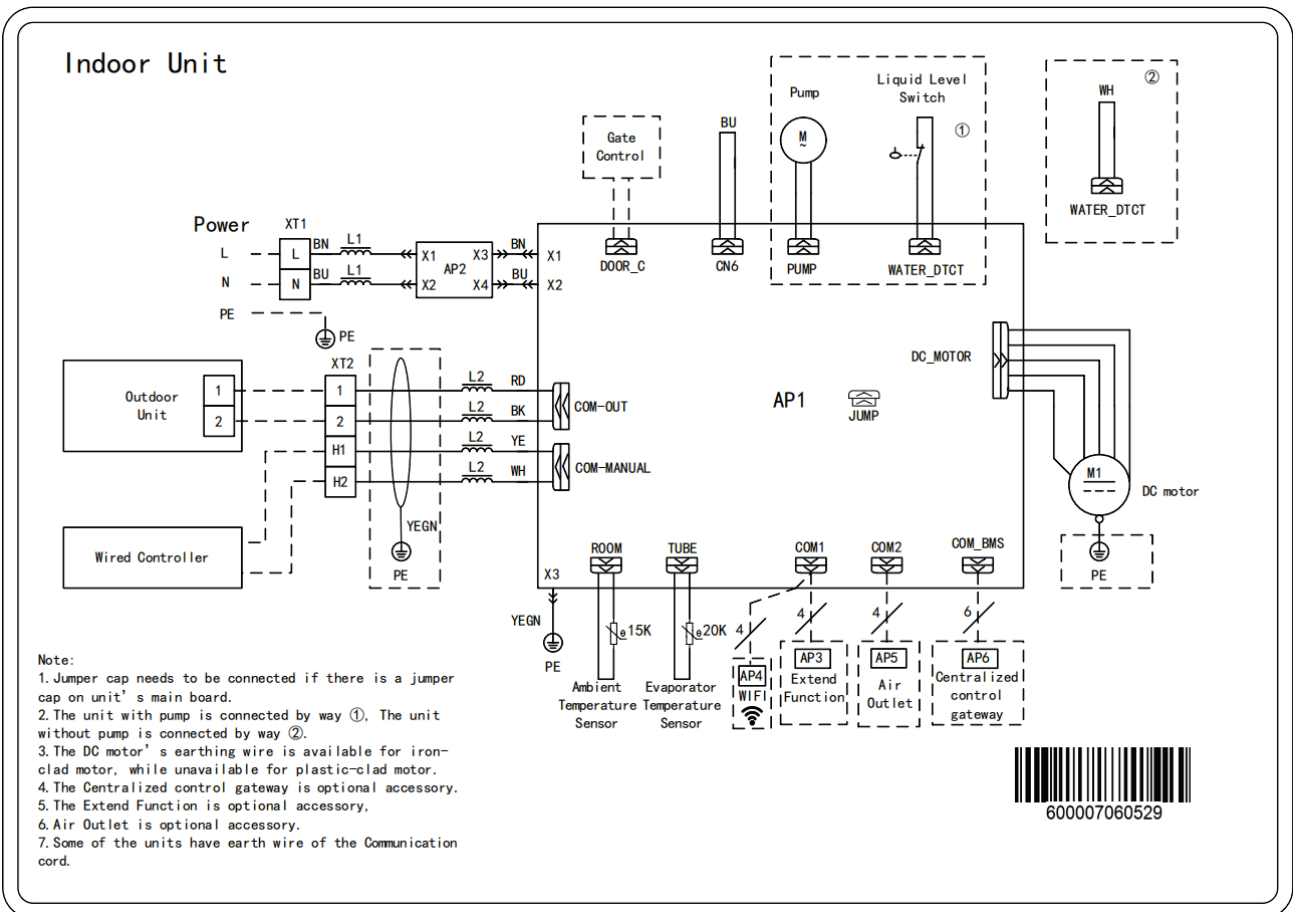
Model: GUD50P/B-S, GUD50PS/B-S,



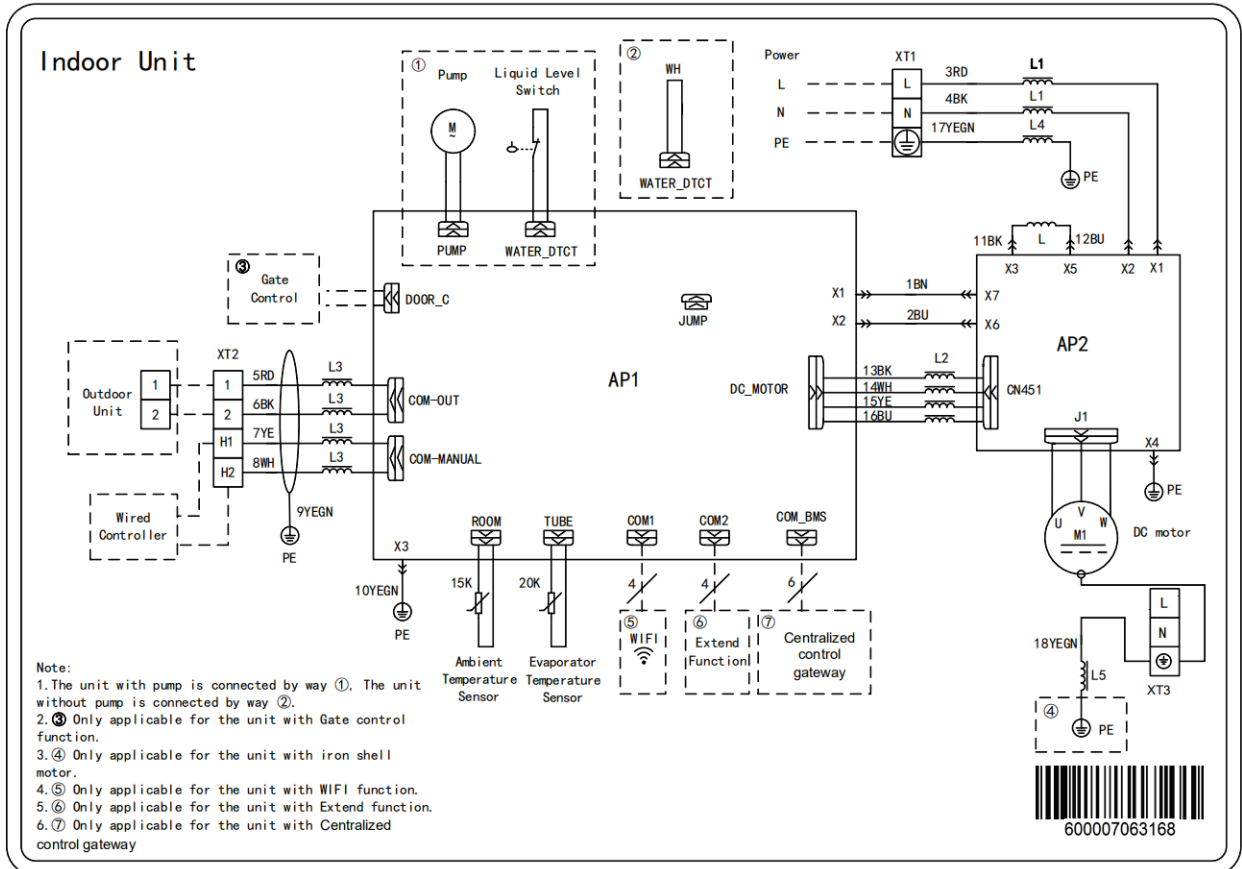
Model: GUD71PH/B-S, GUD71PHS/B-S



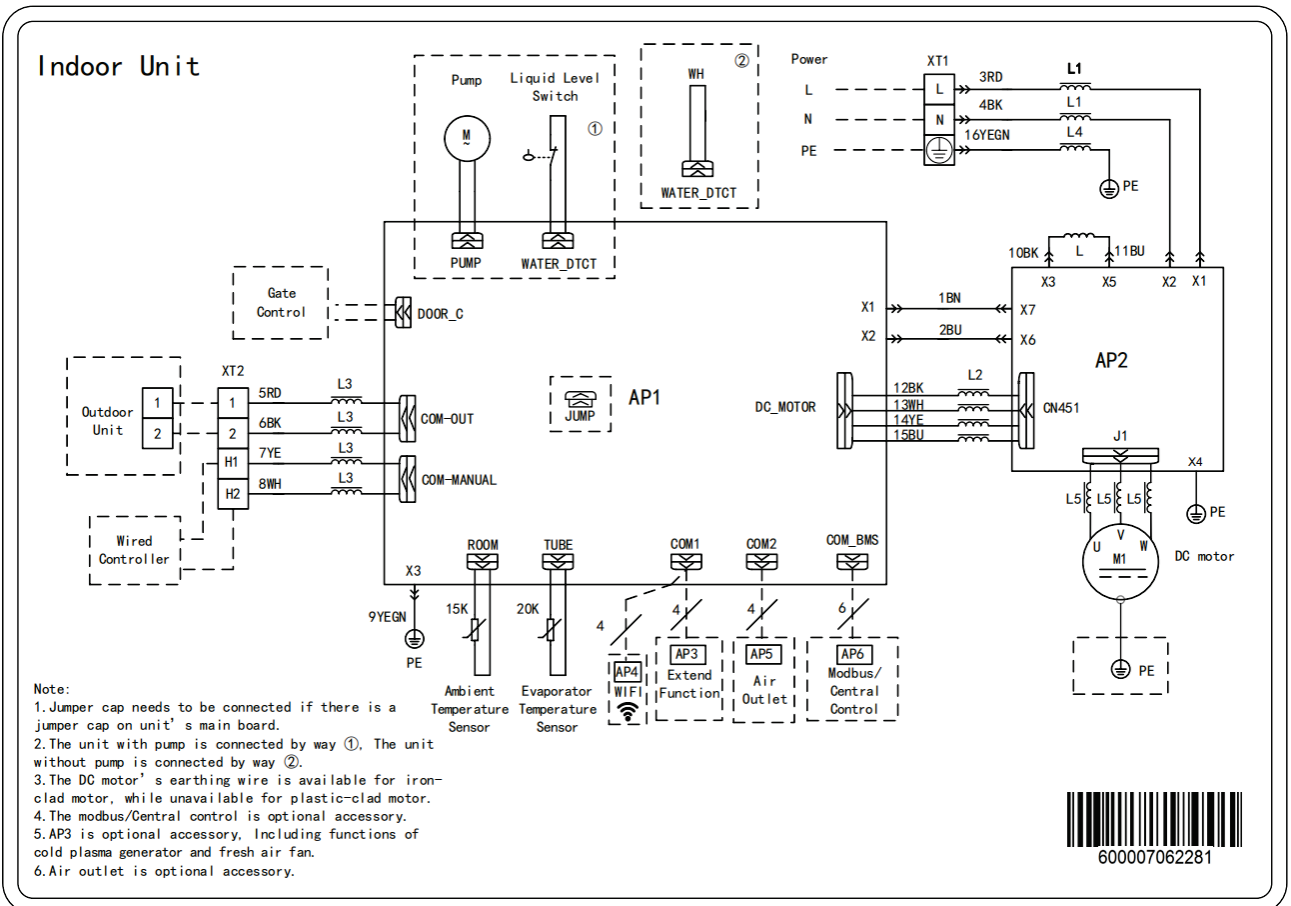
Model: GUD100PH/B-S, GUD100PHS/B-S



Model: GUD125PH/B-S, GUD140PH/B-S, GUD125PHS/B-S, GUD140PHS/B-S

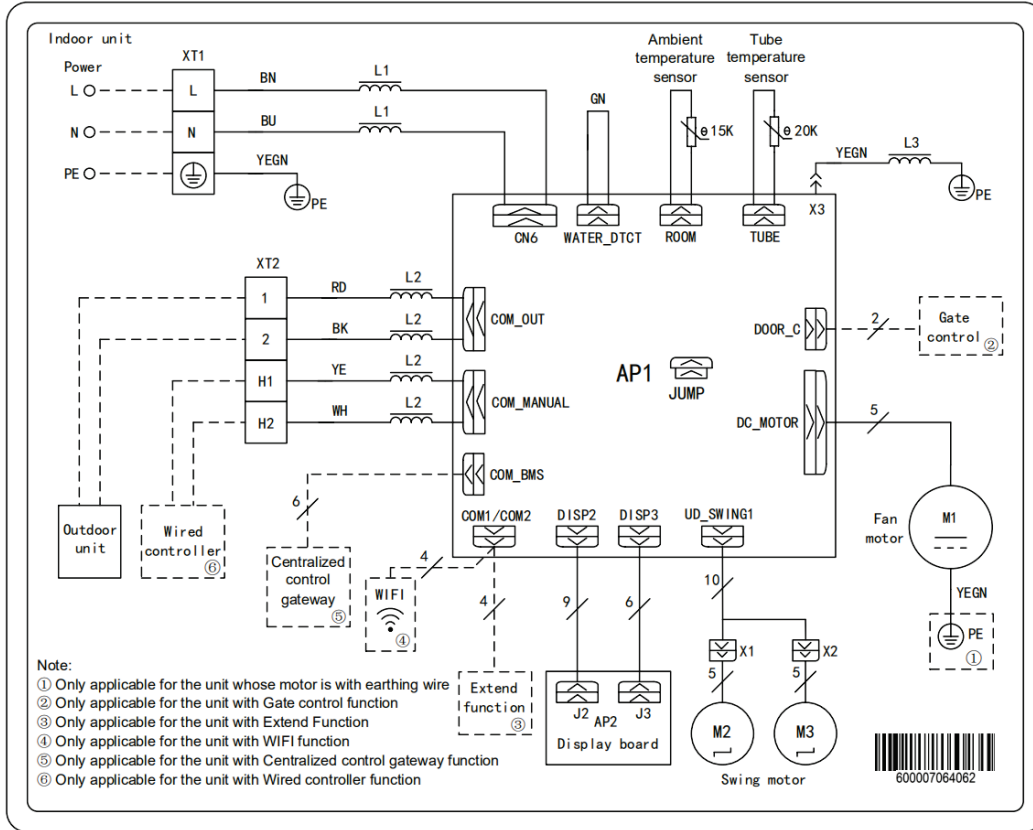


Model: GUD160PH/B-S, GUD160PHS/B-S

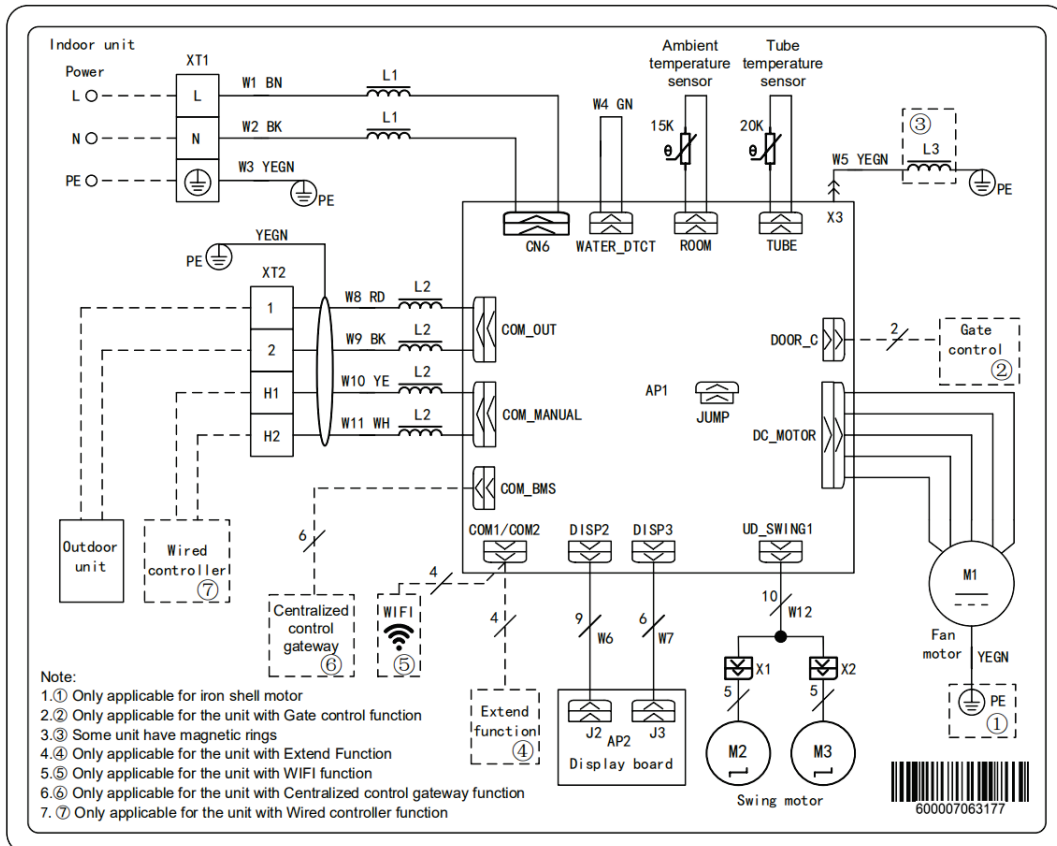


Floor Ceiling Type

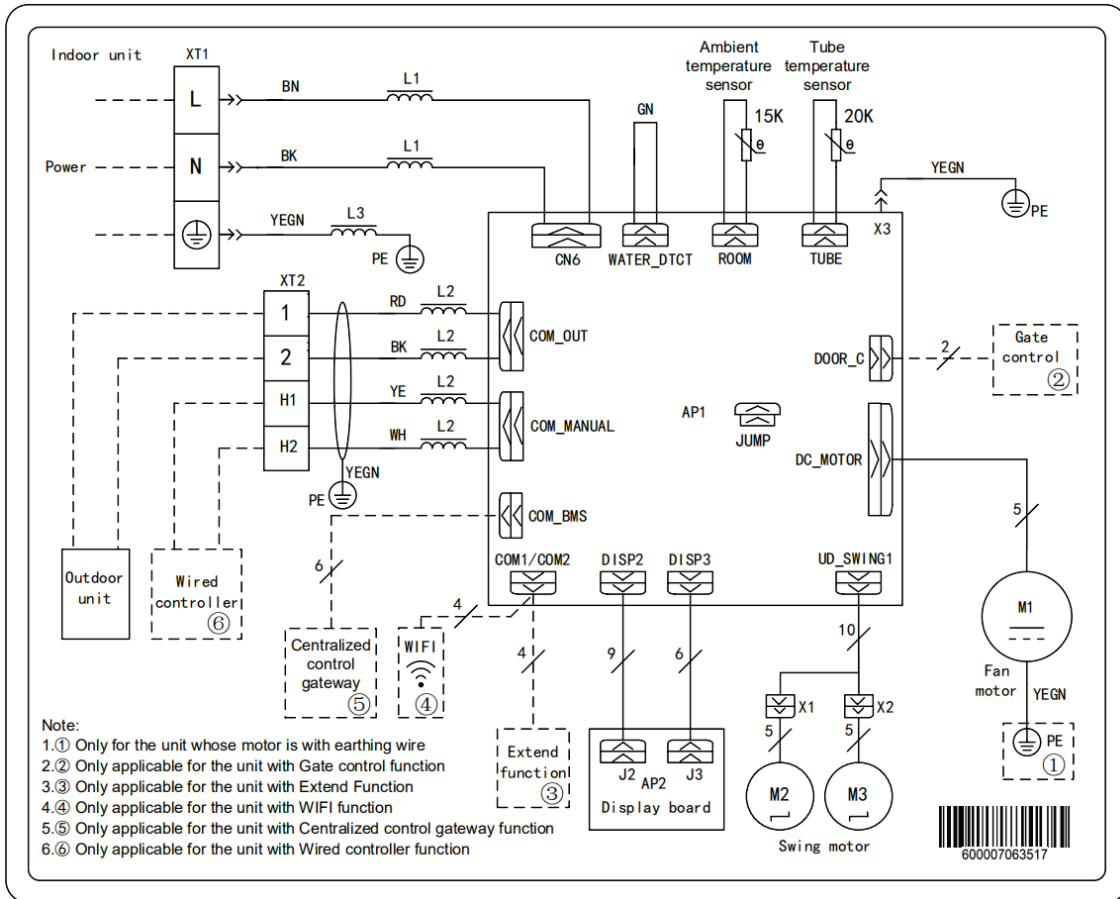
Model: GUD50ZD/B-S



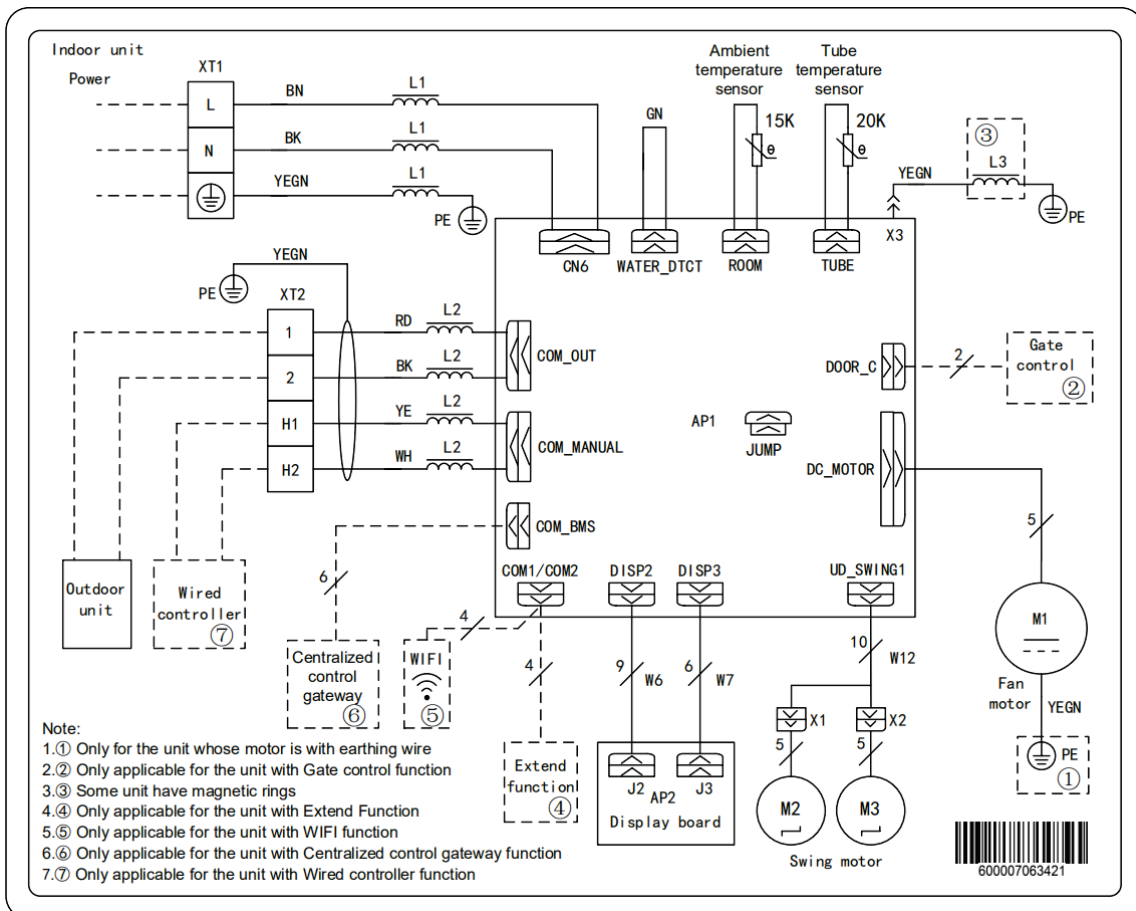
Model: GUD71ZD/B-S



Model: GUD100ZD/B-S



Model: GUD125ZD/B-S, GUD140ZD/B-S

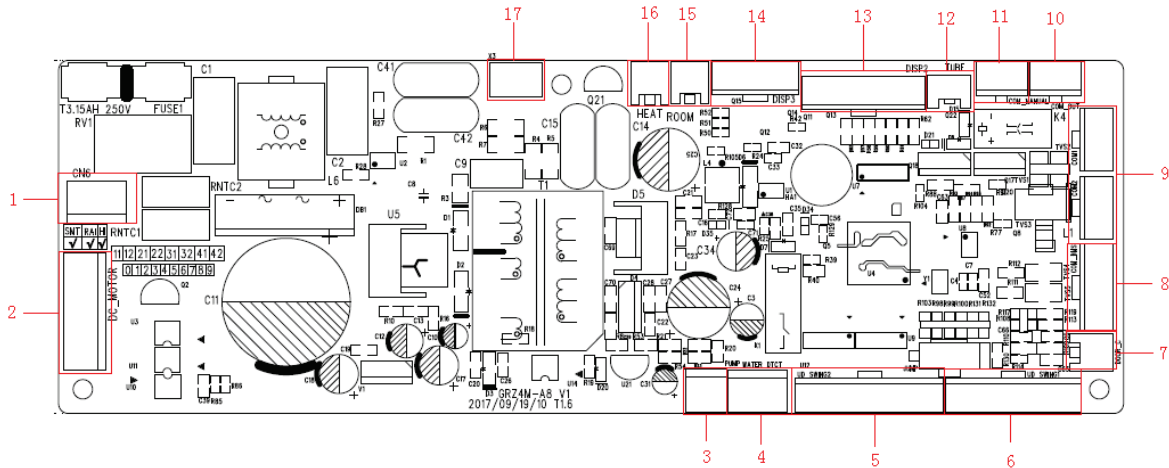


3.2 PCB Layout

3.2.1 Interface

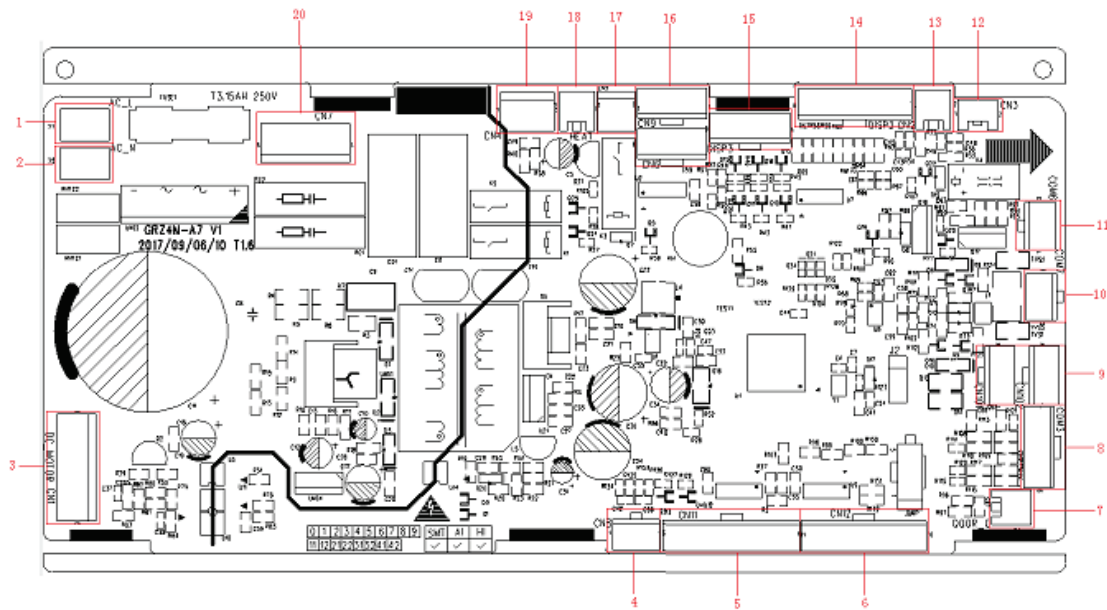
Indoor unit:

Model: GUD50ZD/B-S, GUD71ZD/B-S, GUD100ZD/B-S, GUD125ZD/B-S, GUD140ZD/B-S



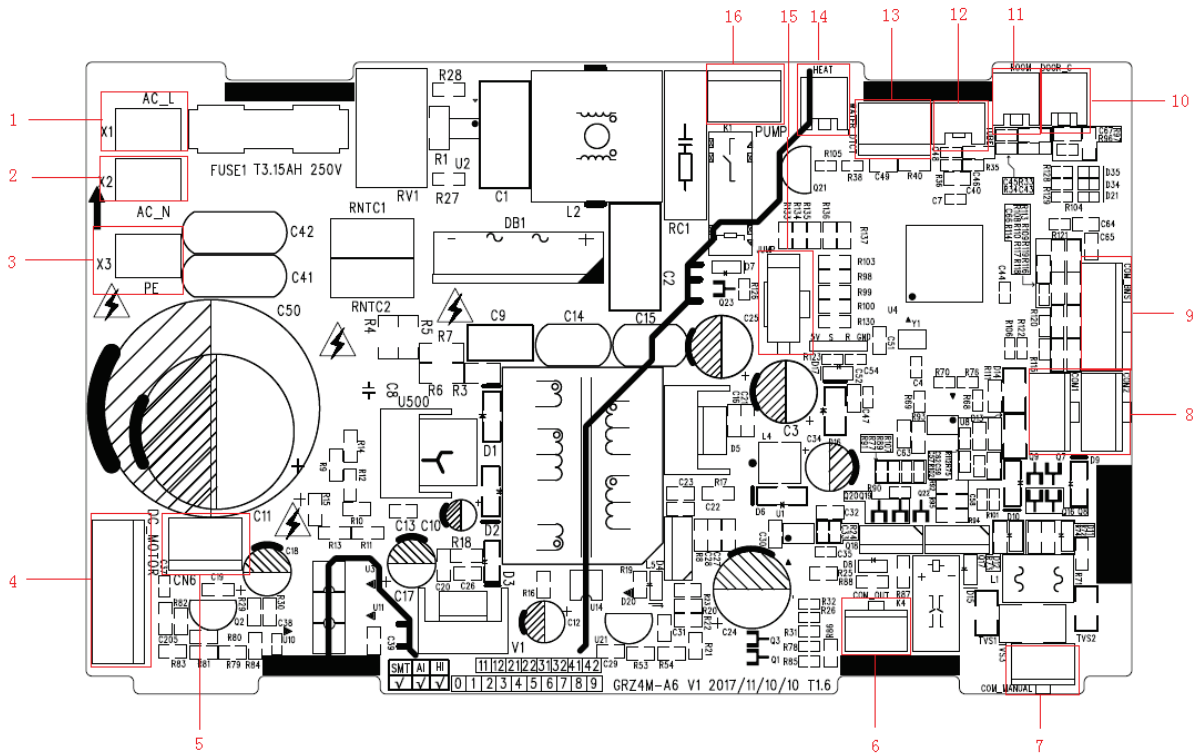
No.	Printing	Interface	No.	Printing	Interface
1	CN6	Power supply	2	DC_MOTOR	DC motor output
3	PUMP	DC water pump	4	WATER_DTCT	Water level switch
5	UD_SWING2	Vertical swing output 2	6	UD_SWING1	Vertical swing output 1
7	DOOR_C	Access control interface	8	COM_BMS	MODBUS gateway interface
9	COM1,COM2	Accessories communication interface	10	COM_OUT	ODU communication interface
11	COM_MANAUL	Wired control communication interface	12	TUBE	Evaporator temperature sensor
13	DISP2	Light board interface 2	14	DISP3	Light board interface 3
15	ROOM	Ambient temperature sensor interface	16	HEAT	Electric heating interface
17	X3	Ground wire			

Model: GUD50T/B-S, GUD71T/B-S, GUD100T/B-S, GUD125T/B-S, GUD140T/B-S



No.	Printing	Interface	No.	Printing	Interface
1	AC-L	Live wire input	2	AC-N	Neutral wire input
3	DC_MOTOR	DC motor output	4	SS	Limit switch sensing interface
5	UD_SWING2	Vertical swing output 2	6	UD_SWING1	Vertical swing output 1
7	DOOR_C	Access control interface	8	COM_BMS	MODBUS gateway interface
9	COM1, COM2	Accessories communication interface	10	COM_MANUAL	Wired control communication interface
11	COM_OUT	ODU communication interface	12	TUBE	Indoor tube temperature sensor interface
13	ROOM	Ambient temperature sensor interface	14	DISP2	Light board interface 2
15	DISP3	Light board interface 3	16	SWING_OUT1 SWING_OUT2	Air outlet lifting output 1 Air outlet lifting output 2
17	PUMP	DC water pump interface	18	HEAT	Electric heating interface
19	WATER_DTCT	Water level switch	20	CN7	Air return lifting output

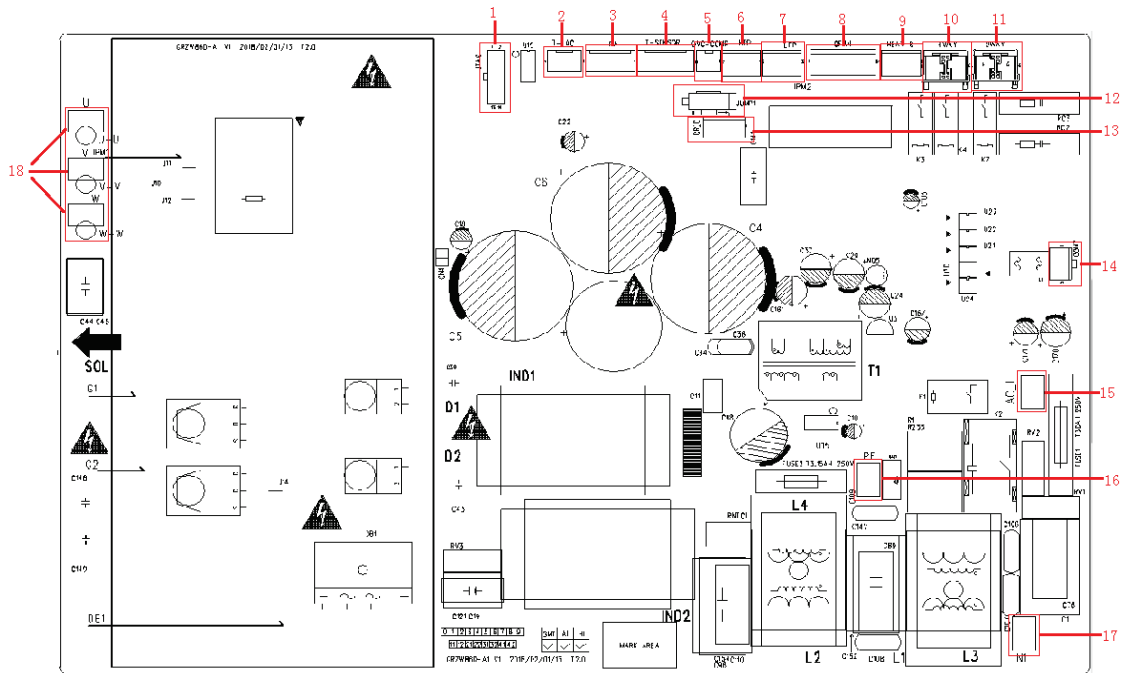
Model: GUD50P/B-S, GUD71PH/B-S, GUD100PH/B-S, GUD125PH/B-S, GUD140PH/B-S, GUD160PH/B-S
 GUD50PS/B-S, GUD71PHS/B-S, GUD100PHS/B-S, GUD125PHS/B-S, GUD140PHS/B-S,
 GUD160PHS/B-S;



No.	Printing	Interface	No.	Printing	Interface
1	AC-L	Live wire input	2	AC-N	Neutral wire input
3	PE	Ground wire	4	DC-MOTOR	DC motor output
5	CN6	Motor type selection interface	6	COM-OUT	ODU communication interface
7	COM-MANUAL	Wired control communication interface	8	COM1, COM2	Accessories communication interface
9	COM_BMS	MODBUS gateway interface	10	DOOR_C	Access control sensing interface
11	ROOM	Room ambient temperature sensor interface	12	TUBE	Indoor tube temperature sensor interface
13	WATER_DTCT	Water overflow detection	14	HEAT	Auxiliary heating interface (reserved)
15	JUMP	Jumper cap	16	PUMP	Water pump interface

Model: GUD50W/NhB-S, GUD71W/NhB-S

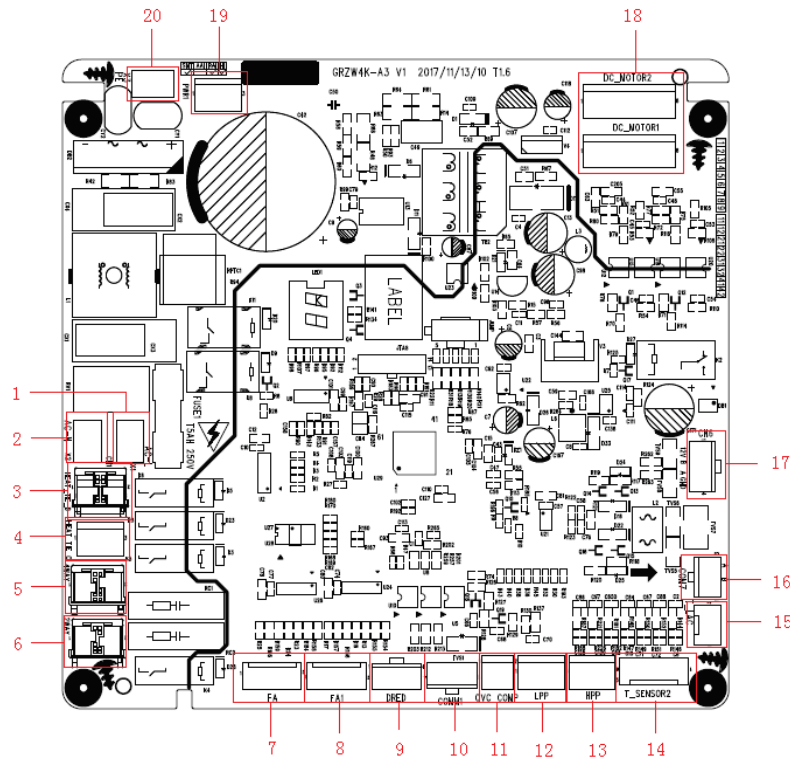
Mainboard:



No.	Printing	Interface	No.	Printing	Interface
1	JTAG	Programming interface	10	2WAY	2-way valve
2	T-LAC	Low temperature cooling temperature sensing interface	11	HEAT-B	Chassis electric heating
3	FA	Electronic expansion valve	12	JUMP1	Jumper cap
4	T-SENSOR	Temperature sensor	13	DRED	DRED
5	OVC-COMP	Compressor overload detection	14	COM7	IDU and ODU communication interface
6	HPP	High pressure switch	15	AC-L	AC input live wire
7	LPP	Low pressure switch	16	N1	AC input neutral wire
8	OFAN	DC fan interface	17	PE	AC input ground wire
9	4WAY	4-way valve	18	U/V/W	Compressor interface

Model: GUD100W/NhB-S, GUD125W/NhB-S, GUD140W/NhB-S, GUD160W/NhB-S, GUD160W/NhB-X

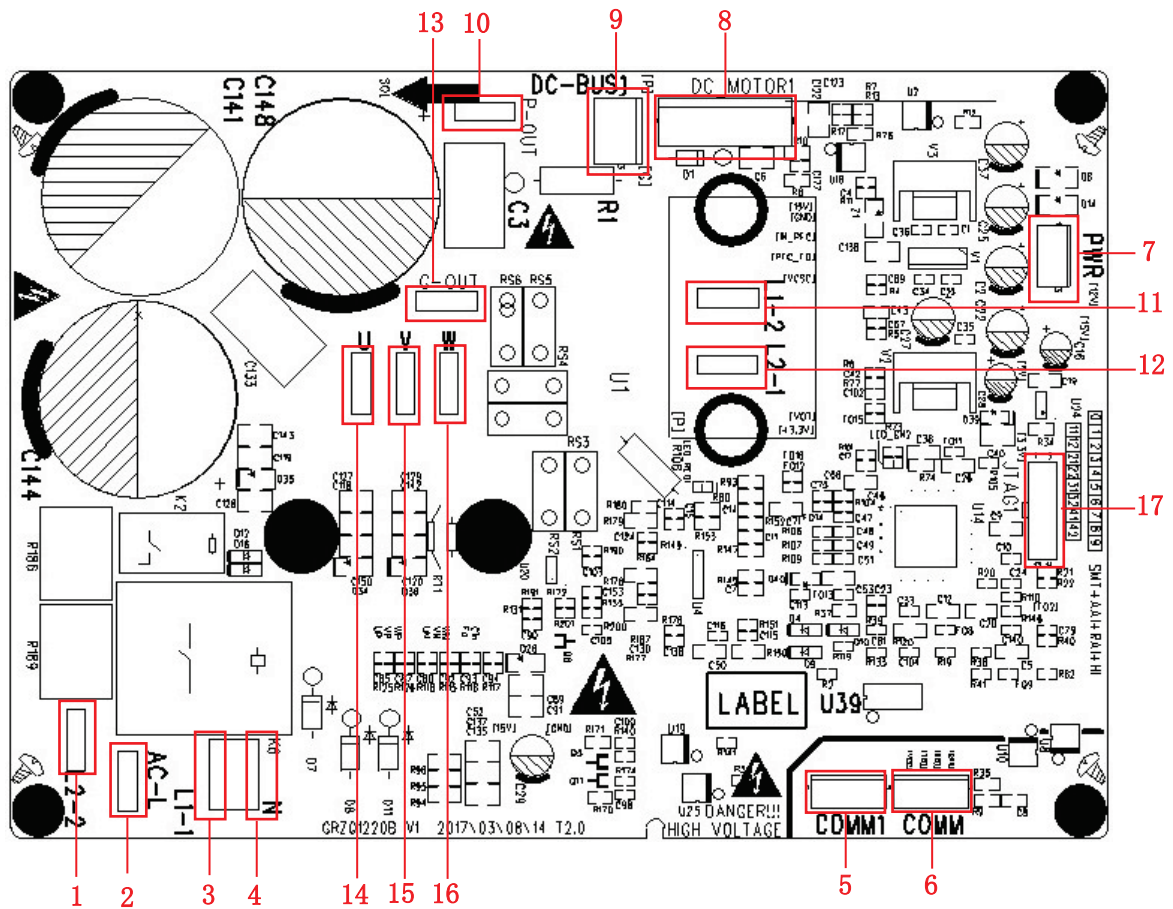
Mainboard:



No.	Printing	Interface	No.	Printing	Interface
1	AC-L	Live wire input	2	AC-N	Neutral wire input
3	HEAT_TIE_B	Chassis electric heating belt	4	HEAT_TIE_C	Compressor electric heating belt
5	4WAY	4-way valve	6	2WAY	2-way valve
7	FA	Electronic expansion valve interface	8	FA1	Electronic expansion valve 1 interface Refrigerant heat dissipation
9	DRED	DRED communication interface	10	COMM1	Drive communication interface
11	OVC_COMP	Compressor overload protection interface	12	LPP	System low pressure protection interface
13	HPP	System high pressure protection interface	14	T_SENSOR2	2. Outdoor tube temperature sensor interface 4. Outdoor ambient temperature sensor interface 6. Discharge temperature sensor interface
15	T_LAC	Low temperature cooling temperature sensing	16	COM7	Unit communication interface
17	CN6	GPRS communication interface	18	DC_MOTOR1 DC_MOTOR2	DC motor output
19	PWR1	310V DC power supply interface	20	PE	Ground wire interface

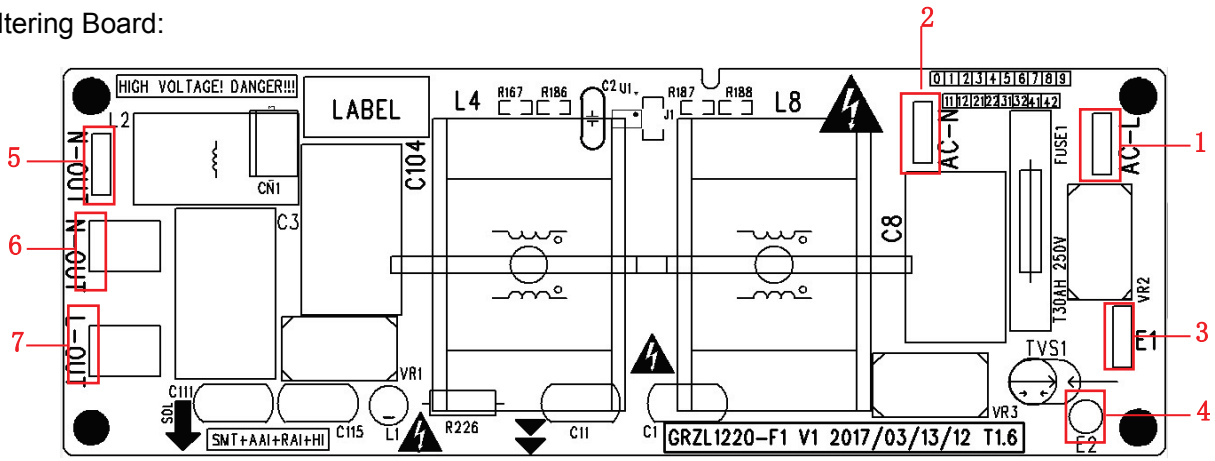
Model: GUD100W/NhB-S

Drive Board:



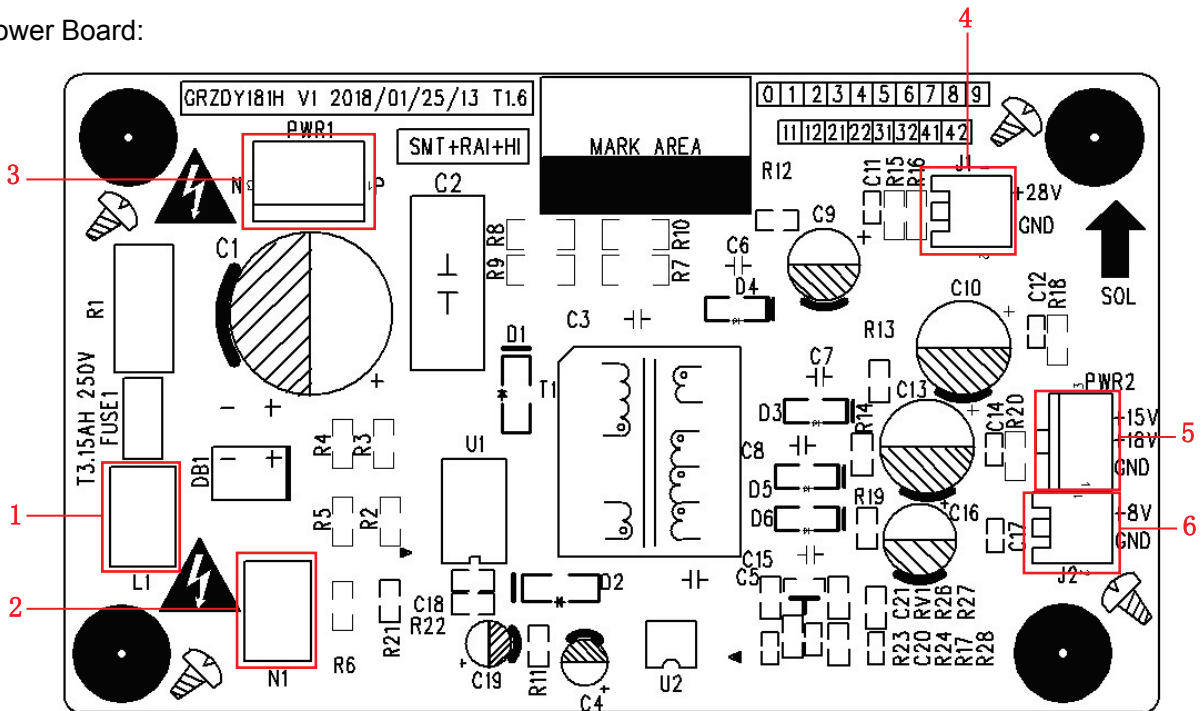
No.	Printing	Interface	No.	Printing	Interface
1	L2-2	PFC induction wire (blue)	10	P-OUT	Reserved
2	AC-L	Live wire	11	L1-2	PFC induction wire (white)
3	L1-1	PFC induction wire (brown)	12	L2-1	PFC induction wire (yellow)
4	N	Neutral wire	13	G-OUT	Reserved
5	COMM1	Communication terminal, same with COMM	14	U	Compressor U phase terminal
6	COMM	Communication terminal, same with COMM1	15	V	Compressor V phase terminal
7	PWR	Drive power supply terminal	16	W	Compressor W phase terminal
8	DC-MOTOR1	DC fan terminal	17	JTAG1	Programming interface (for testing)
9	DC-BUS1	Power discharge terminal (for testing)			

Filtering Board:



No.	Printing	Interface	No.	Printing	Interface
1	AC-L	Power input live wire terminal	5	N-OUT	Power output neutral wire terminal (reserved)
2	AC-N	Power input neutral wire terminal	6	N-OUT	Power output neutral wire terminal
3	E1	Filtering board ground wire terminal	7	L-OUT	Power output live wire terminal
4	E2	Filtering board grounding hole (reserved)			

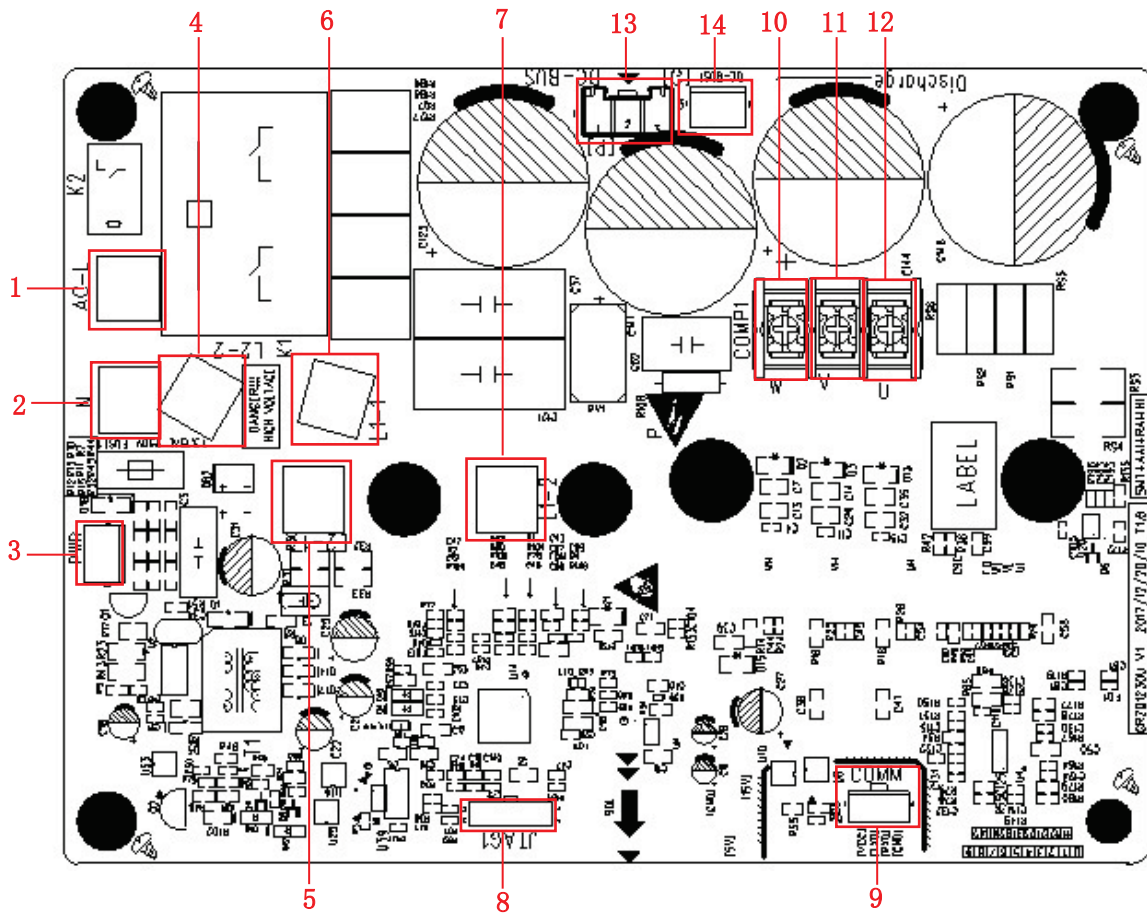
Power Board:



No.	Printing	Interface	No.	Printing	Interface
1	L1	Power live wire terminal (reserved)	4	J1	+28V terminal (reserved)
2	N1	Power neutral wire terminal (reserved)	5	PWR2	Drive power supply terminal
3	PWR1	DC busbar terminal	6	J2	+8V terminal (reserved)

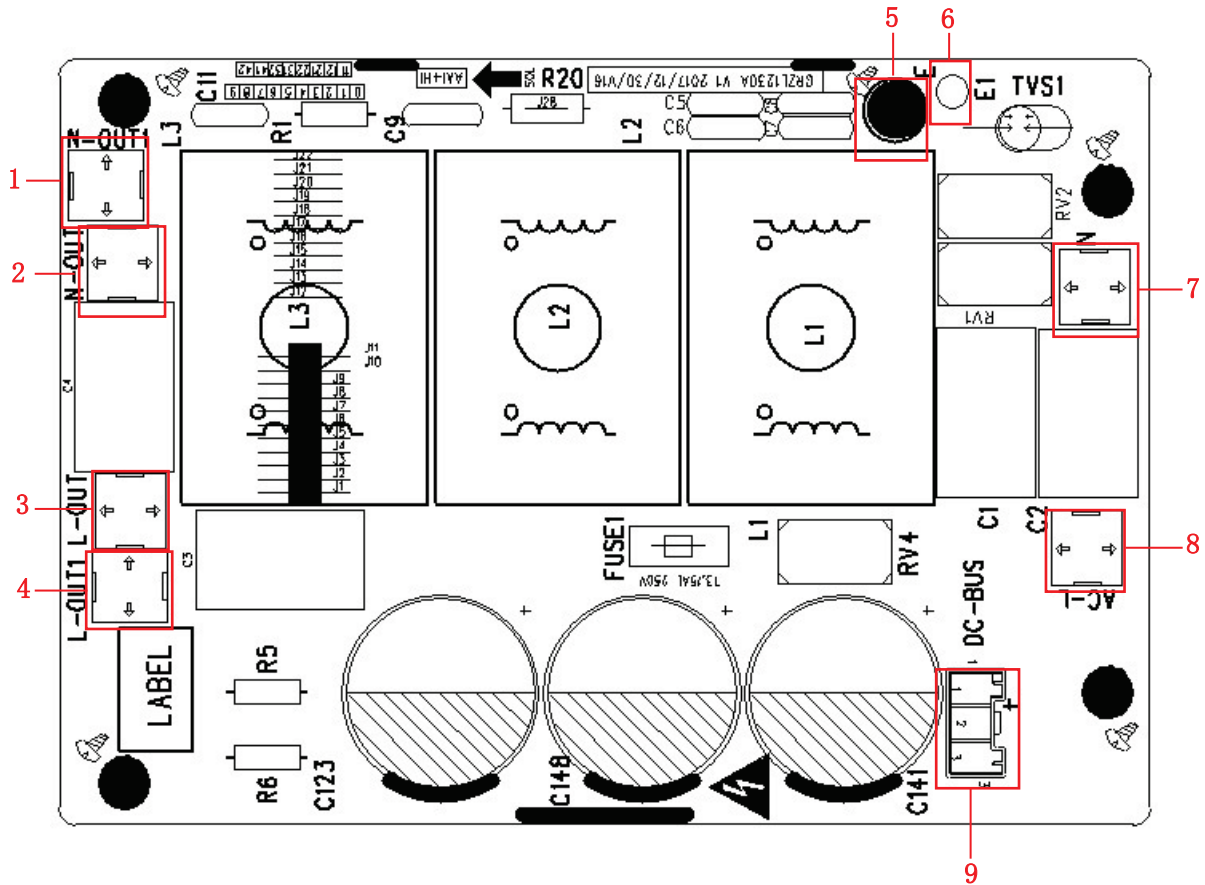
Model: GUD125W/NhB-S, GUD140W/NhB-S, GUD160W/NhB-S

Drive Board:



No.	Printing	Interface	No.	Printing	Interface
1	AC-L	Live wire	8	JTAG1	Programming interface (for testing)
2	N	Neutral wire	9	COMM	Communication interface
3	PWR	Drive power supply busbar terminal	10	W	Compressor W phase
4	L2-2	PFC induction wire (white)	11	V	Compressor V phase
5	L2-1	PFC induction wire (white)	12	U	Compressor U phase
6	L1-1	PFC induction wire (white)	13	DC-BUS	DC busbar terminal
7	L1-2	PFC induction wire (white)	14	DC-BUS1	Power discharge terminal (for testing)

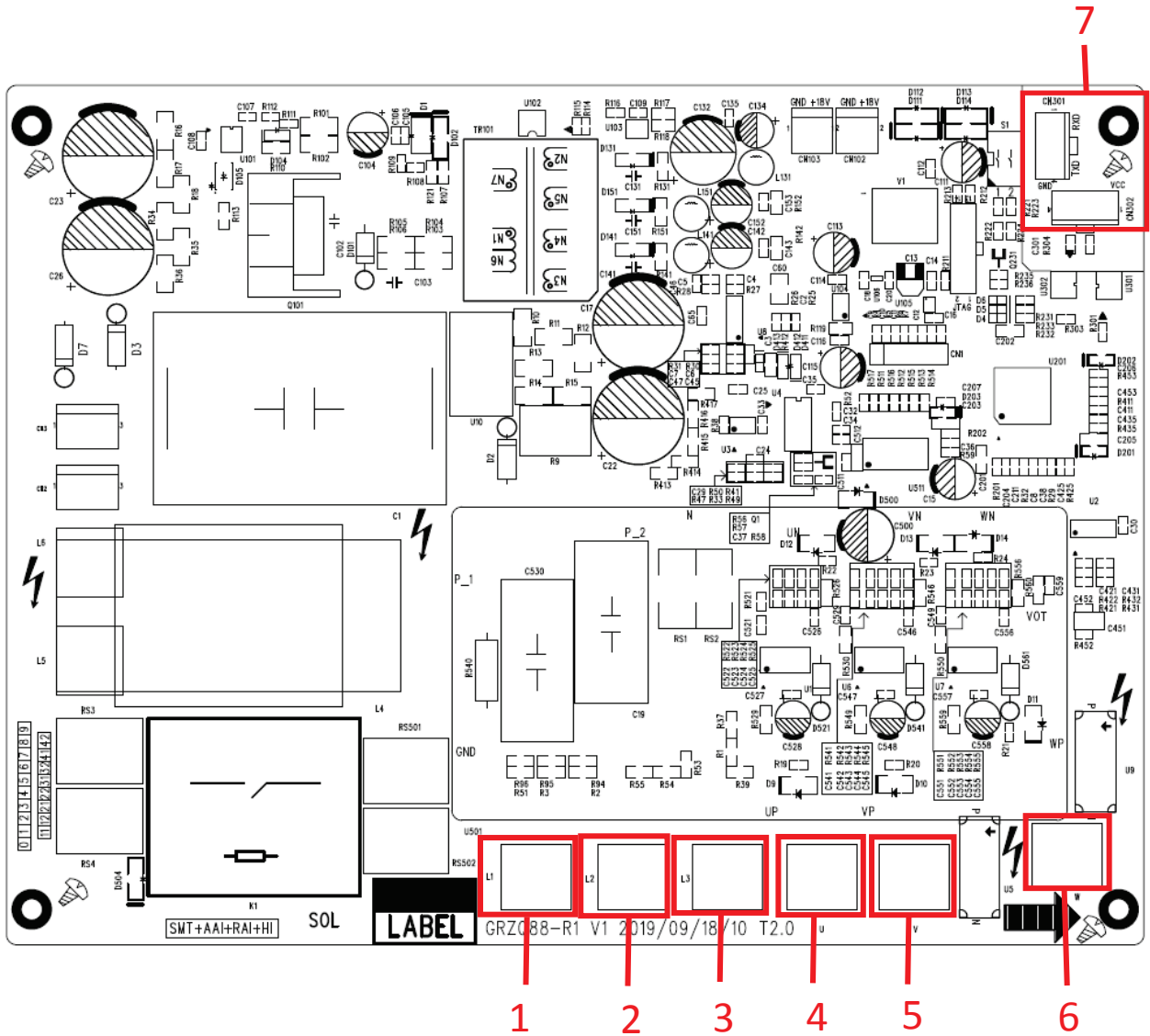
Filtering Board:



No.	Printing	Interface	No.	Printing	Interface
1	N-OUT1	Power output neutral wire terminal (for U-MATCH)	6	E1	Filtering board grounding hole (reserved)
2	N-OUT	Power output neutral wire terminal (reserved for other models)	7	N	Power input neutral wire terminal
3	L-OUT	Power output live wire terminal (reserved for other models)	8	AC-L	Power input live wire terminal
4	L-OUT1	Power output live wire terminal (for U-MATCH)	9	DC-BUS	DC busbar terminal
5	E	Filtering board grounding hole			

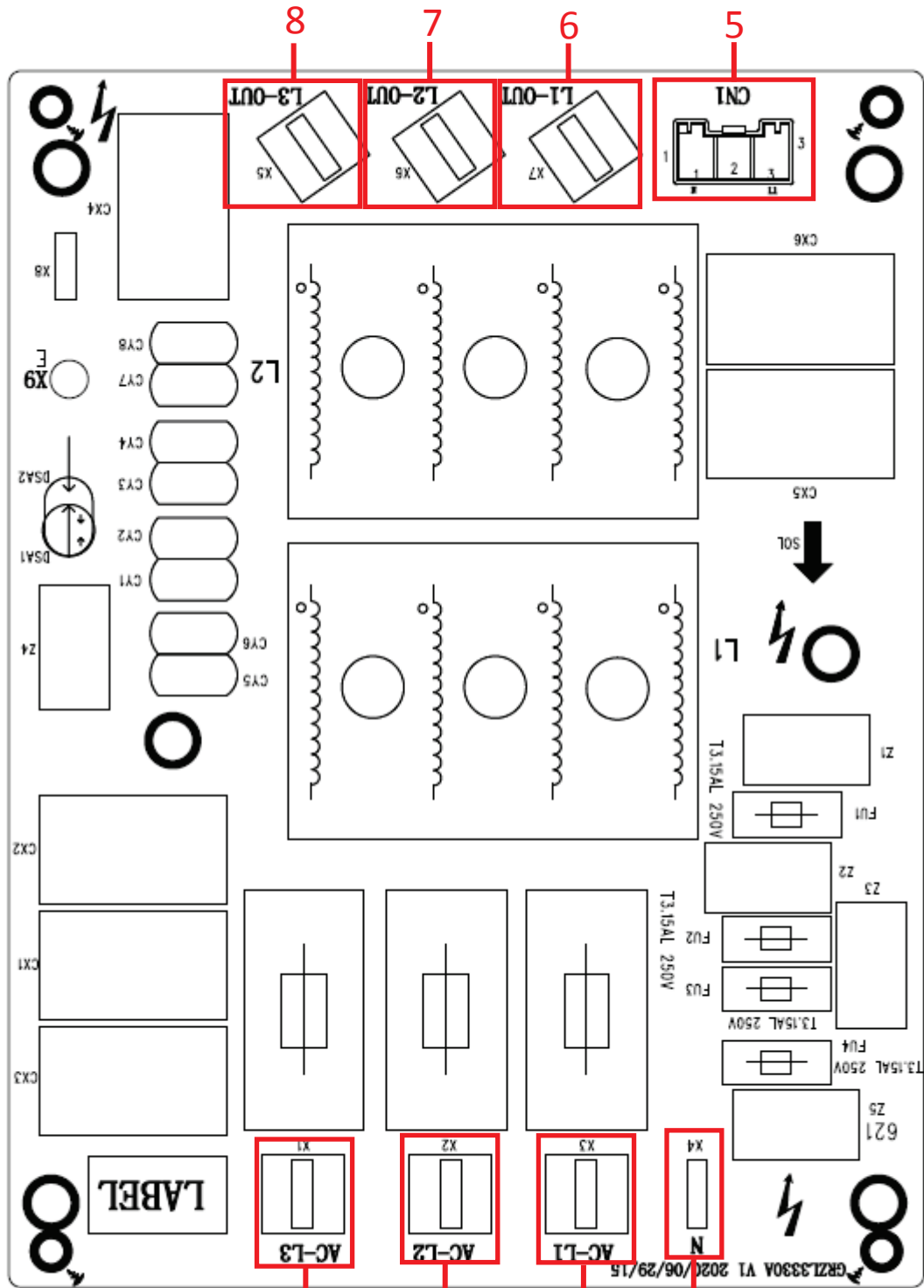
Model: GUD160W/NhB-X

Drive Board:



No.	Printing	Interface	No.	Printing	Interface
1	L1	Power L1 phase input (connect the filtering board L1-OUT)	5	V	Compressor V phase terminal
2	L2	Power L2 phase input (connect the filtering board L2-OUT)	6	W	Compressor W phase terminal
3	L3	Power L3 phase input (connect the filtering board L3-OUT)	7	CN301/CN302	Communication interface
4	U	Compressor U phase terminal			

Filtering Board:



No.	Printing	Interface	No.	Printing	Interface
1	N	Neutral wire	5	CN1	Power supply terminal for main board
2	AC-L1	Power L1 phase input	6	L1-OUT	Power L1 phase output(connect drive board L1 interface)
3	AC-L2	Power L2 phase input	7	L2-OUT	Power L2 phase output(connect drive board L2 interface)
4	AC-L3	Power L3 phase input	8	L3-OUT	Power L3 phase output(connect drive board L3 interface)

3.2.2 IPM, PFC Testing Method

3.2.2.1 Method of Testing IPM Module

(1) Preparation before test: prepare a universal meter and turn to its diode option, and then remove the wires U, V, W of the compressor after it is powered off for one minute.

(2) Testing Steps

Step 1: put the black probe on the place P and the red one on the wiring terminal U, V, W respectively as shown in the following figure to measure the voltage between UP, VP and WP.

Step 2: put the red probe on the place N and the black one on the wiring terminal U, V, W respectively as shown in the following figure to measure the voltage between NU, NV and NW.

(3) If the measured voltages between UP, VP, WP, NU, NV, NV are all among 0.3V-0.7V, then it indicates the IPM module is normal; If any measured value is 0, it indicates the IPM is damaged.

3.2.2.2 Method of Testing PFC Module Short Circuit (only for GUD100W/NhB-S, GUD125W/NhB-S, GUD140W/NhB-S)

(1) Preparation before test: prepare a universal meter and turn to its diode option, and then remove the wires L1-2, L2-1 after it is powered off for one minute.

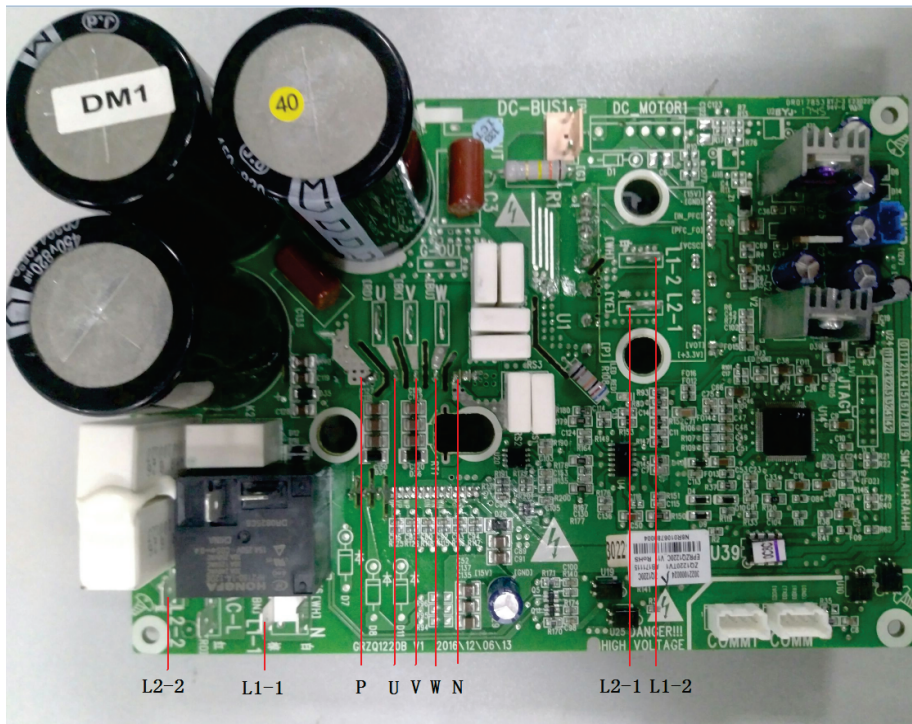
(2) Testing Steps:

Step 1: Put the black probe on the place P and the red one on the wiring terminal L1-2, L2-1 respectively as shown in the following figure to measure the voltage between L1-2 and P; L2-1 and P.

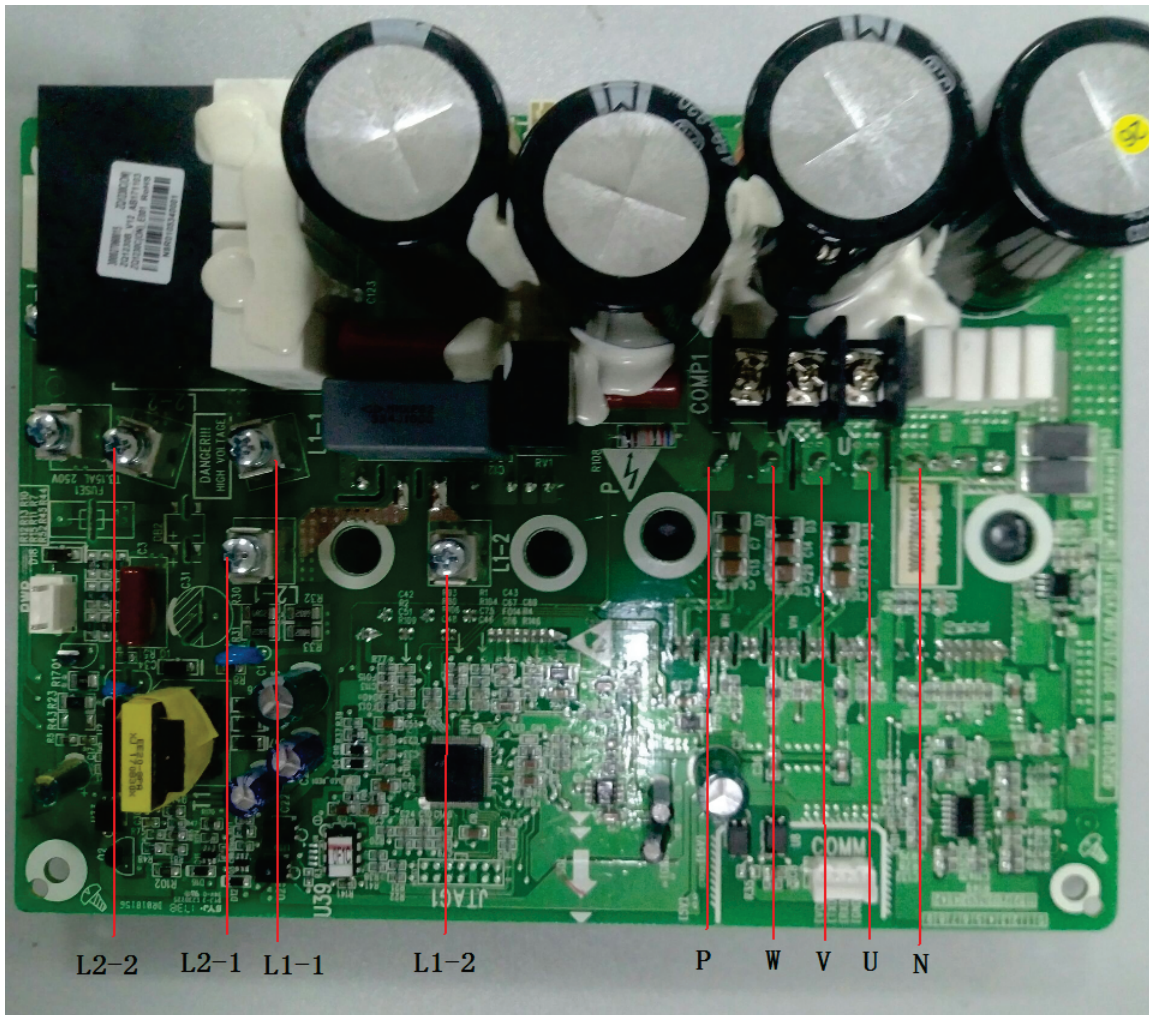
Step 2: Put the red probe on the place N and the black one on the wiring terminal L1-2, L2-1 respectively as shown in the following figure to measure the voltage between N and L1-2 ; N and L2-1.

(3) If the measured voltages between L1-2 and P ; L2-1 and P ; N and L1-2 , N and L2-1 are all among 0.3V-0.7V, then it indicates the PFC module is normal; If any measured value is 0, it indicates the PFC is damaged.

GUD100W/NhB-S



GUD125W/NhB-S , GUD140W/NhB-S



3.3 Error Code

Number	Error code	Error
1	E1	Compressor high pressure protection
2	E2	Indoor anti-freeze protection
3	E3	Compressor low pressure protection, refrigerant lack protection and refrigerant collection mode
4	E4	Compressor air discharge high-temperature protection
5	E6	Communication error
6	E8	Indoor fan error
7	E9	Water-full protection
8	F0	Indoor ambient temperature sensor error
9	F1	Evaporator temperature sensor error
10	F2	Condenser temperature sensor error
11	F3	Outdoor ambient temperature sensor error
12	F4	Discharge temperature sensor error
13	F5	Wired controller temperature sensor error