

BC controller

CMB-P-V-F  
CMB-P-V-FA  
CMB-P-V-FB

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# 1. Specifications

Model name		CMB-P104V-F	CMB-P105V-F	CMB-P106V-F	CMB-P108V-F	CMB-P1010V-F	CMB-P1013V-F	CMB-P1016V-F	
Number of branch		4	5	6	8	10	13	16	
Power source		~220/230/240V 50Hz/60Hz							
Power input	kW	0.068	0.083	0.098	0.128	0.158	0.203	0.248	
Current	A	0.31/0.30/0.28	0.38/0.36/0.35	0.45/0.43/0.41	0.58/0.56/0.53	0.72/0.69/0.66	0.92/0.88/0.85	1.13/1.08/1.03	
External finish		Galvanizing							
Indoor unit capacity connectable to 1 branch		<p>Model 80 or smaller</p> <ul style="list-style-type: none"> <li>•Use optional joint pipe combining 2-branch when the total unit capacity exceeds 81.</li> <li>•Use the reducer (standard accessory) when the indoor unit Model 40 or smaller is connected.</li> </ul>							
Height	mm	284							
Width	mm	362 + 70 (control box)							
Depth	mm	648					1098		
Refrigerant piping diameter	To outdoor unit	High pressure pipe	φ19.05 Brazed						
		Low pressure pipe	200type : φ25.4 Brazed 250type : φ28.58 Brazed						
	To indoor unit	Liquid pipe	φ9.52 Flare (φ6.35 with attached reducer used, φ12.7 with optional joint pipe used)						
		Gas pipe	φ15.88 Flare (φ12.7 with attached reducer used, φ19.05 with optional joint pipe used)						
Drain pipe		VP-25							
Net weight	kg	24	27	29	34	39	47	54	
Accessories		<ul style="list-style-type: none"> <li>•Drain connection pipe (with flexible hose and insulation)</li> <li>•Reducer</li> </ul>							

Note: 1.Works not included : Installation/foundation work, electrical connection work, duct work, insulation work, power source switch and other items not specified in this specification.

Model name		CMB-P108V-FA	CMB-P1010V-FA	CMB-P1013V-FA	CMB-P1016V-FA	CMB-P108V-FB
Number of branch		8	10	13	16	8
Power source		~220/230/240V 50Hz/60Hz				
Power input	kW	0.138	0.168	0.213	0.258	0.128
Current	A	0.63/0.60/0.58	0.76/0.73/0.70	0.97/0.93/0.89	1.17/1.12/1.08	0.58/0.56/0.53
External finish		Galvanizing				
Indoor unit capacity connectable to 1 branch		<p>Model 80 or smaller</p> <ul style="list-style-type: none"> <li>•Use optional joint pipe combining 2-branch when the total unit capacity exceeds 81.</li> <li>•Use the reducer (standard accessory) when the indoor unit Model 40 or smaller is connected.</li> </ul>				
Height	mm	289				284
Width	mm	450 + 70 (control box)				362 + 70 (control box)
Depth	mm	1110				648
Refrigerant piping diameter	To outdoor unit	High pressure pipe	∅25.4 Brazed			
		Low pressure pipe	∅34.93 Brazed			
	To indoor unit	Liquid pipe	∅9.52 Flare (∅6.35 with attached reducer used, ∅12.7 with optional joint pipe used)			
		Gas pipe	∅15.88 Flare (∅12.7 with attached reducer used, ∅19.05 with optional joint pipe used)			
	To another BC controller	Low press gas pipe	∅28.58 Brazed			
		High press gas pipe	∅19.05 Brazed			
Liquid pipe		∅12.7 Brazed				
Drain pipe		VP-25				
Net weight	kg	44	49	57	64	32
Accessories		<ul style="list-style-type: none"> <li>•Drain connection pipe (with flexible hose and insulation)</li> <li>•Reducer</li> </ul>				

BC controller

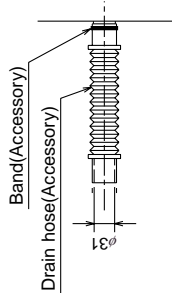
Note: 1.Works not included : Installation/foundation work, electrical connection work, duct work, insulation work, power source switch and other items not specified in this specification.

# 2. External Dimension

CMB-P104,105,106,108,1010,  
1013,1016V-F

Unit : mm

- <Accessories>
- Refrigerant<Low pressure> conn. pipe.....1pc.
  - Reducer<Large,Small>..... Quantity for all connections
  - Drain hose<VP-25 connection>.....1pc.
  - Pipe cover for drain hose.....1pc.
  - Hose band.....1pc.
  - Tie band.....2pcs.
- Note 1. Suspension bolt(φ10), washer(M10) and nut(M10) prepare in the field.  
2. Take notice of service space as follows.  
(Please give attention not to occupy service space by letting ducts and pipes through.)



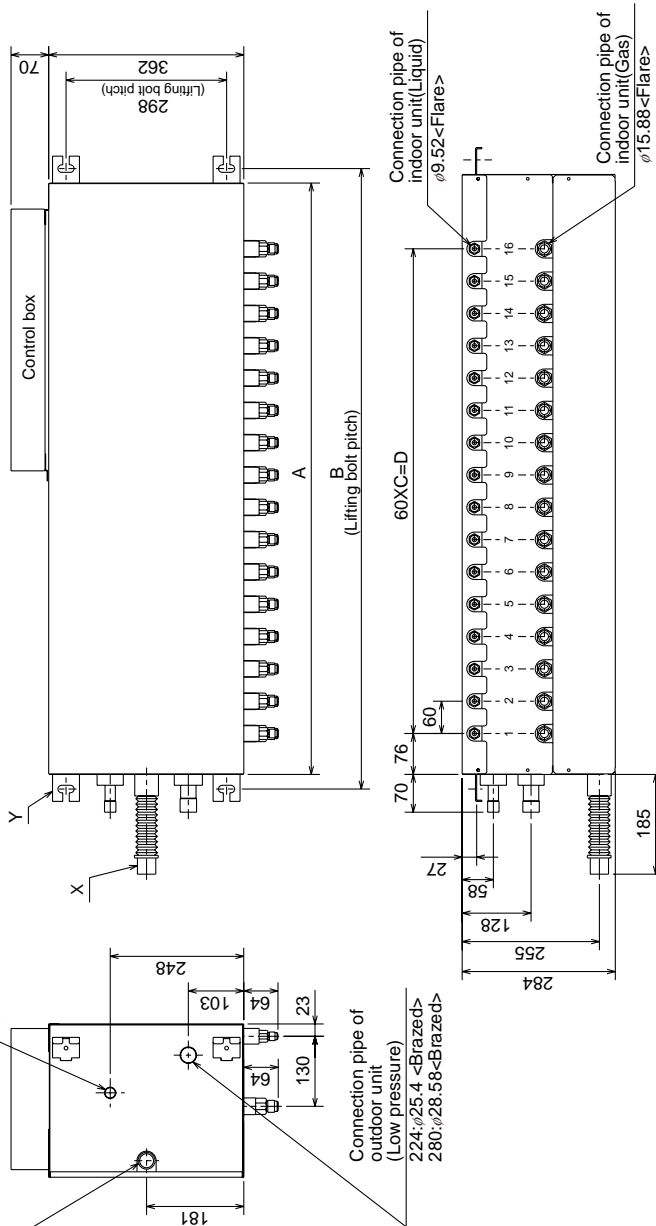
Detail of Y section

Detail of X section

Drain piping  
VP-25 connection

Connection pipe of  
outdoor unit  
(High pressure)  
φ19.05<Brazed>

Connection pipe of  
outdoor unit  
(Low pressure)  
224.φ25.4-<Brazed>  
280.φ28.58-<Brazed>



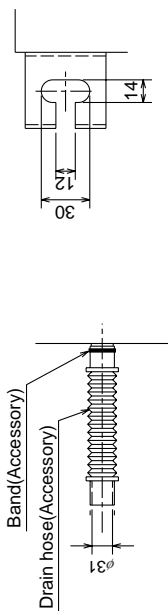
	A	B	C	D
CMB-P104V-F			3	180
CMB-P105V-F			4	240
CMB-P106V-F	648	702	5	300
CMB-P108V-F			7	420
CMB-P1010V-F			9	540
CMB-P1013V-F	1098	1152	12	720
CMB-P1016V-F			15	900

CMB-P108,1010,1013,1016V-FA

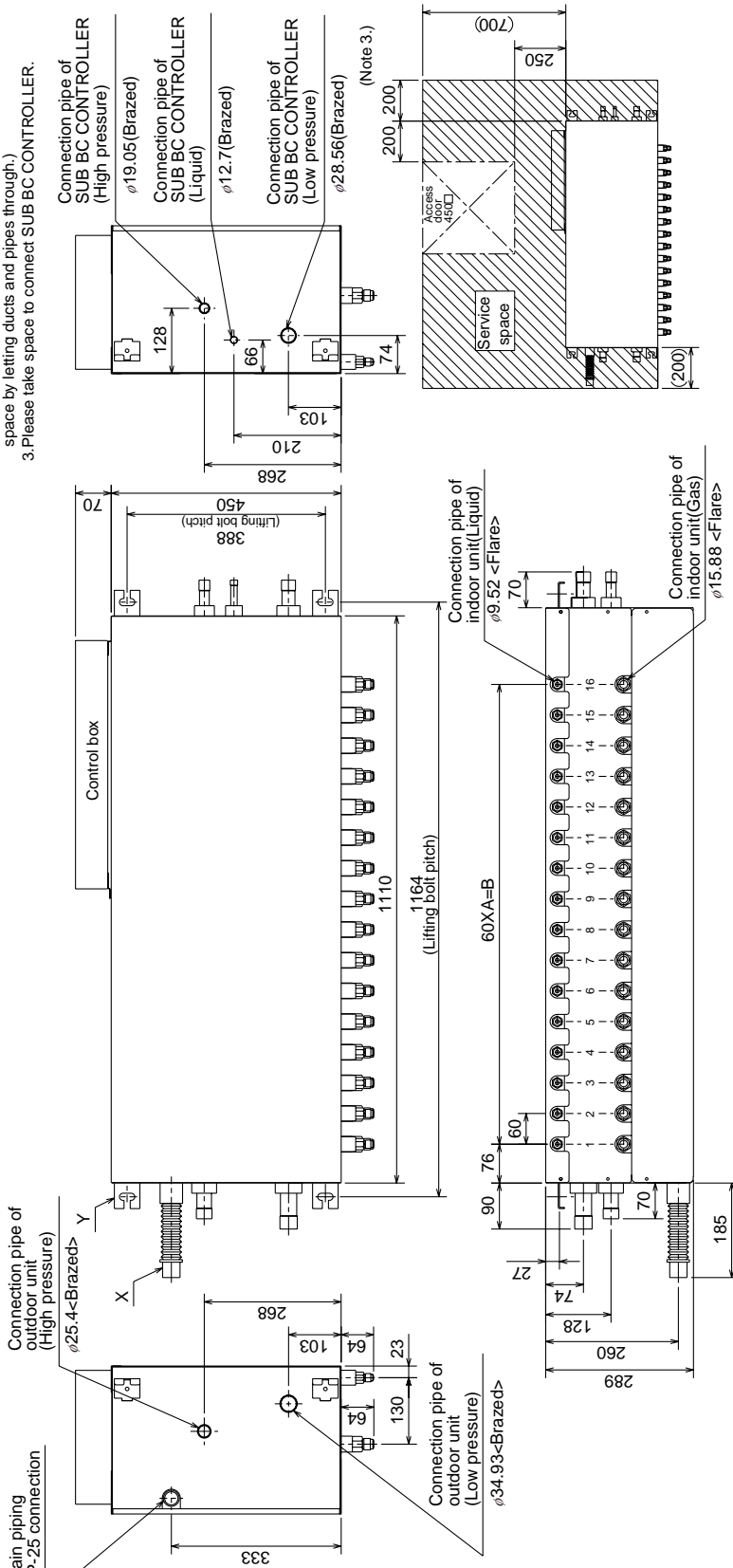
Unit : mm

- <Accessories>
- Reducer(Large,Small).....Quantity for all connections
  - Drain hose(VP-25 connection).....1pc.
  - Pipe cover for drain hose.....1pc.
  - Hose band.....1pc.
  - Tie band.....2pcs.

	A	B
CMB-P108V-FA	7	420
CMB-P1010V-FA	9	540
CMB-P1013V-FA	12	720
CMB-P1016V-FA	15	900



Detail of Y section



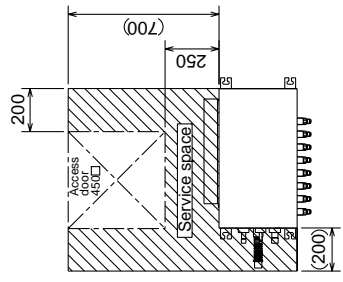
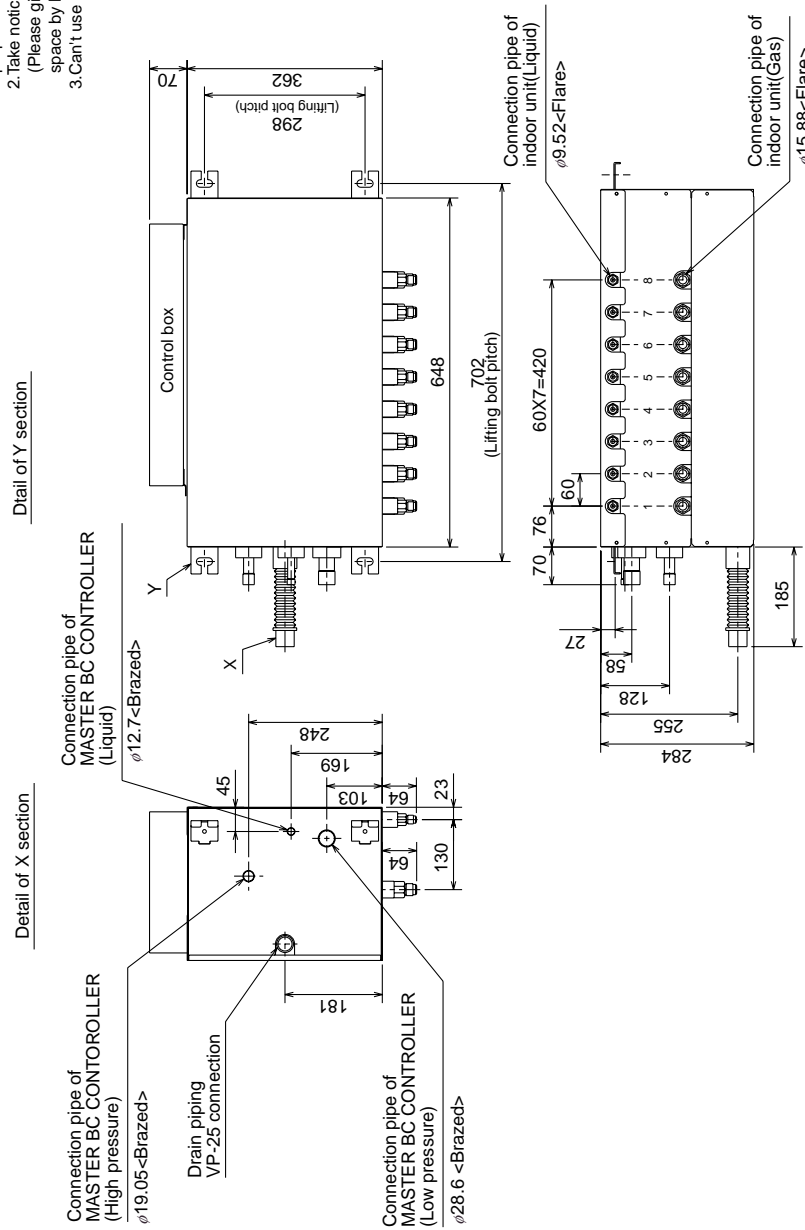
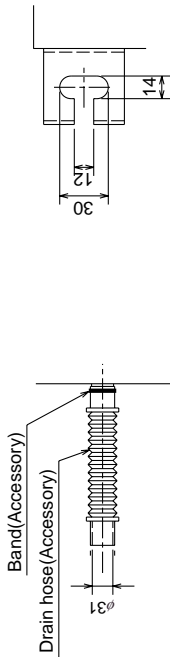
BC controller

## CMB-P108V-FB

Unit : mm

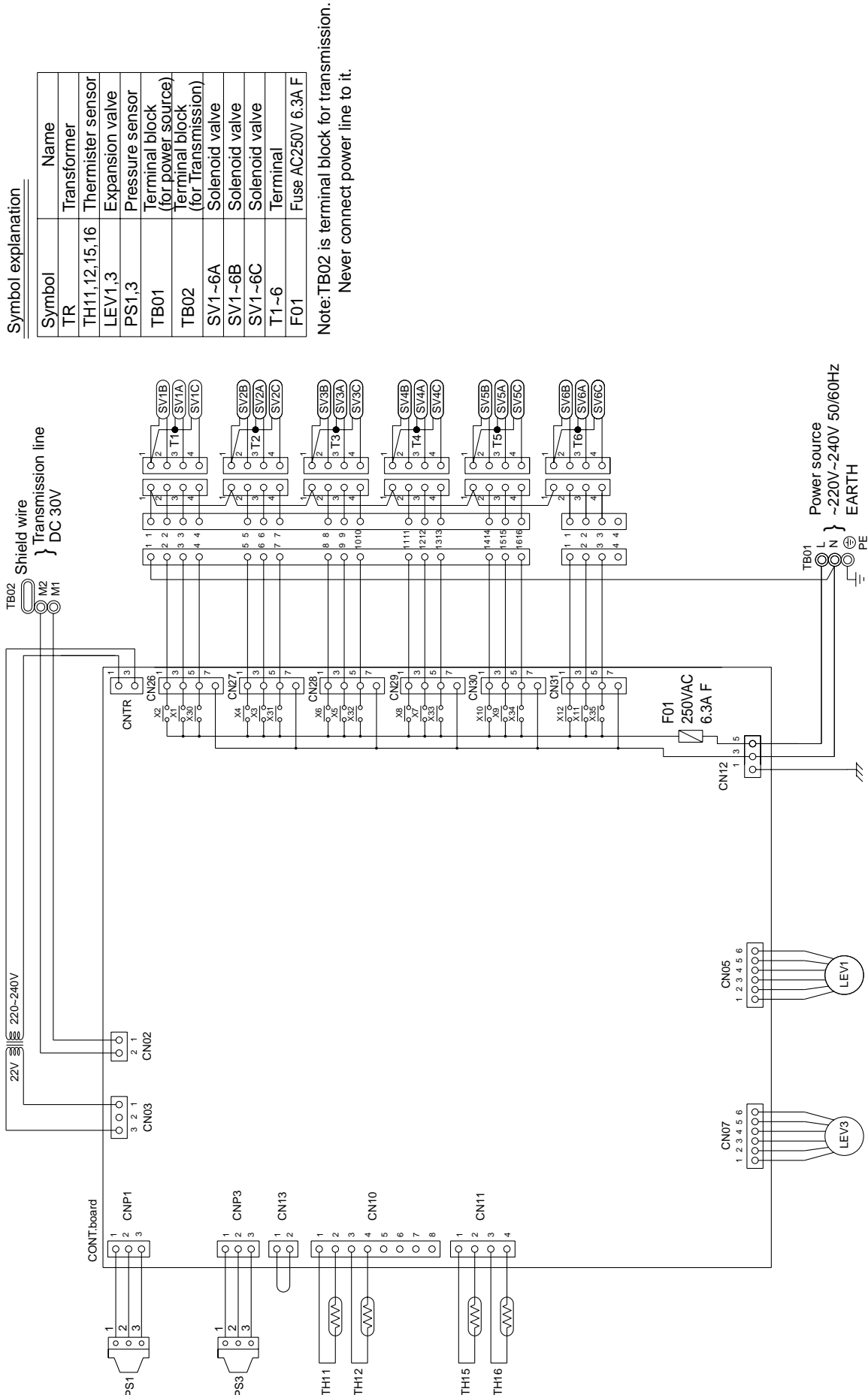
- <Accessories>
- Reducer(Large, Small).....Quantity for all connections
  - Drain hose(VP-25 connection).....1pc.
  - Pipe cover for drain hose.....1pc.
  - Hose band.....1pc.
  - Tie band.....2pcs.
- Note 1. Suspension bolt( $\phi$ 10), washer(M10), and nut(M10) prepare in the field.

2. Take notice of service space as follows.  
(Please give attention not to occupy service space by letting ducts and pipes through.)
3. Can't use singleness. (MASTER BC CONTROLLER is necessary.)



### 3. Wiring Diagrams

CMB-P104, P105, P106V-F

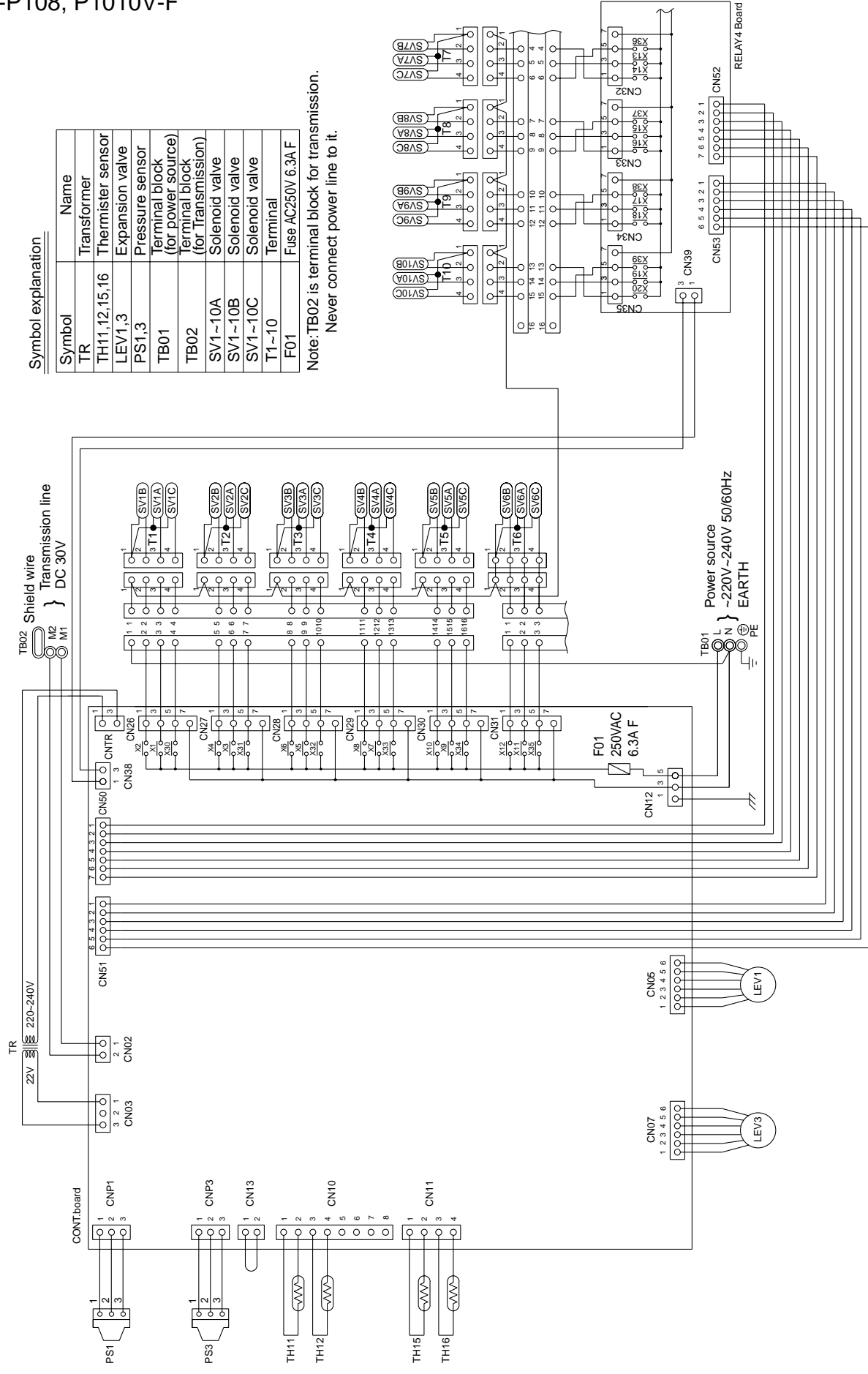


Symbol explanation

Symbol	Name
TR	Transformer
TH11,12,15,16	Thermister sensor
LEV1,3	Expansion valve
PS1,3	Pressure sensor
TB01	Terminal block (for power source)
TB02	Terminal block (for transmission)
SV1~6A	Solenoid valve
SV1~6B	Solenoid valve
SV1~6C	Solenoid valve
T1~6	Terminal
F01	Fuse AC250V 6.3A F

Note:TB02 is terminal block for transmission.  
Never connect power line to it.

CMB-P108, P1010V-F



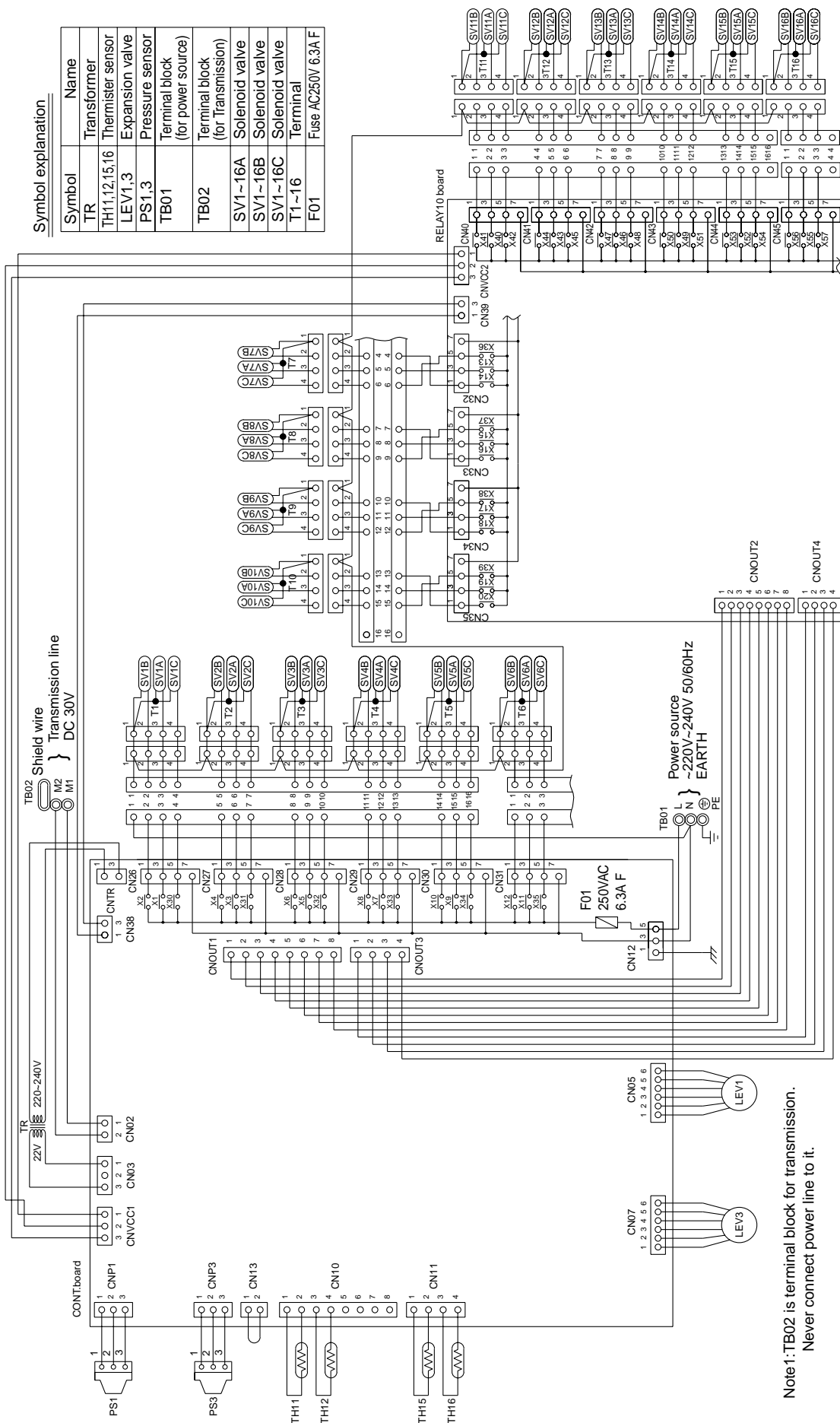
Symbol explanation

Symbol	Name
TR	Transformer
TH11,12,15,16	Thermister sensor
LEV1,3	Expansion valve
PS1,3	Pressure sensor
TB01	Terminal block (for power source)
TB02	Terminal block (for Transmission)
SV1~10A	Solenoid valve
SV1~10B	Solenoid valve
SV1~10C	Solenoid valve
T1~10	Terminal
F01	Fuse AC250V 6.3A F

Note: TB02 is terminal block for transmission.  
Never connect power line to it.



CMB-P1013, P1016V-F

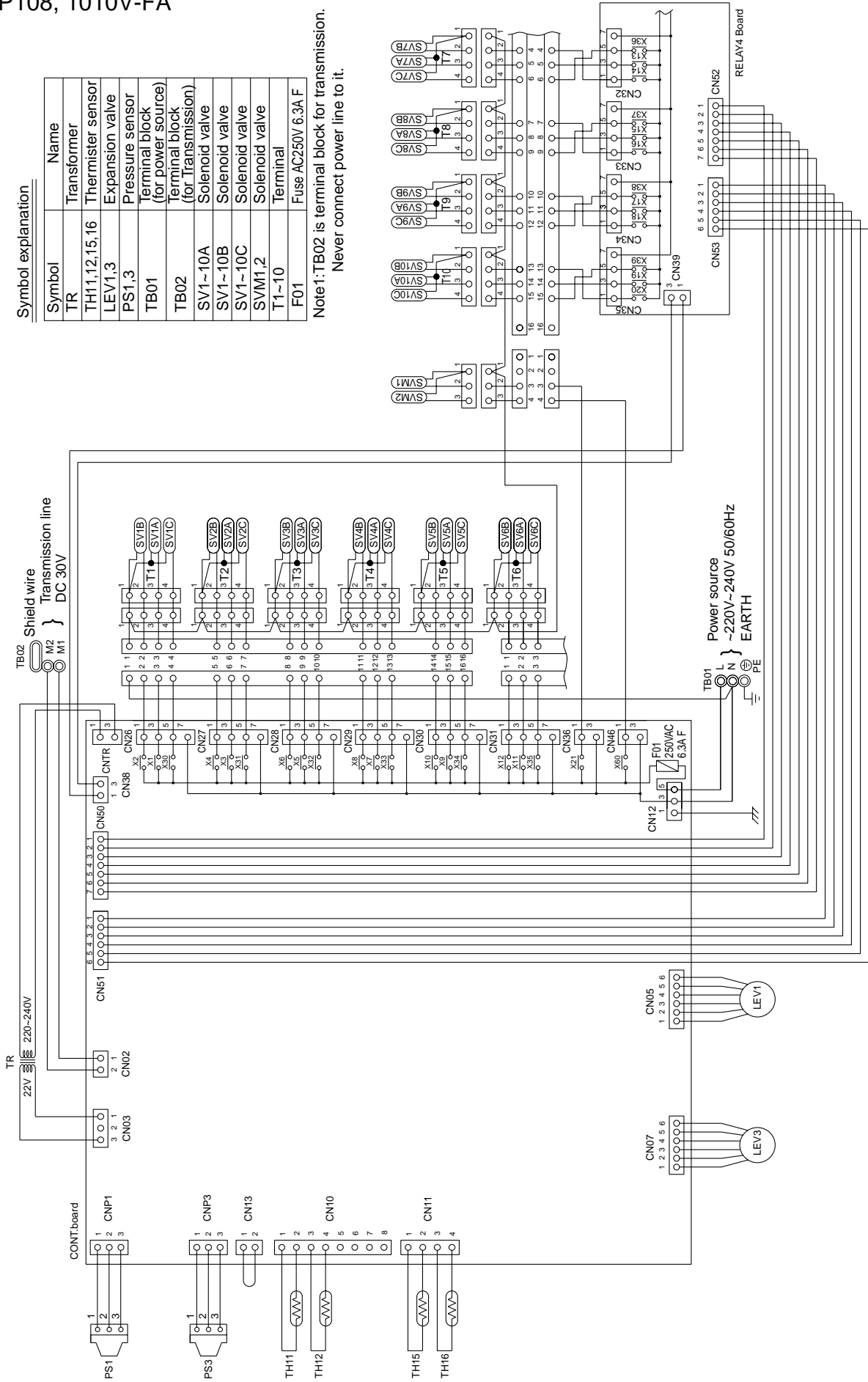


Note 1: TB02 is terminal block for transmission.  
Never connect power line to it.

**CMB-P108, 1010V-FA**

Symbol	Name
TR	Transformer
TH11,12,15,16	Thermister sensor
LEV1,3	Expansion valve
PS1,3	Pressure sensor
TB01	Terminal block (for power source)
TB02	Terminal block (for Transmission)
SV1~10A	Solenoid valve
SV1~10B	Solenoid valve
SV1~10C	Solenoid valve
SVM1,2	Solenoid valve
T1~10	Terminal
F01	Fuse AC250V 6.3A F

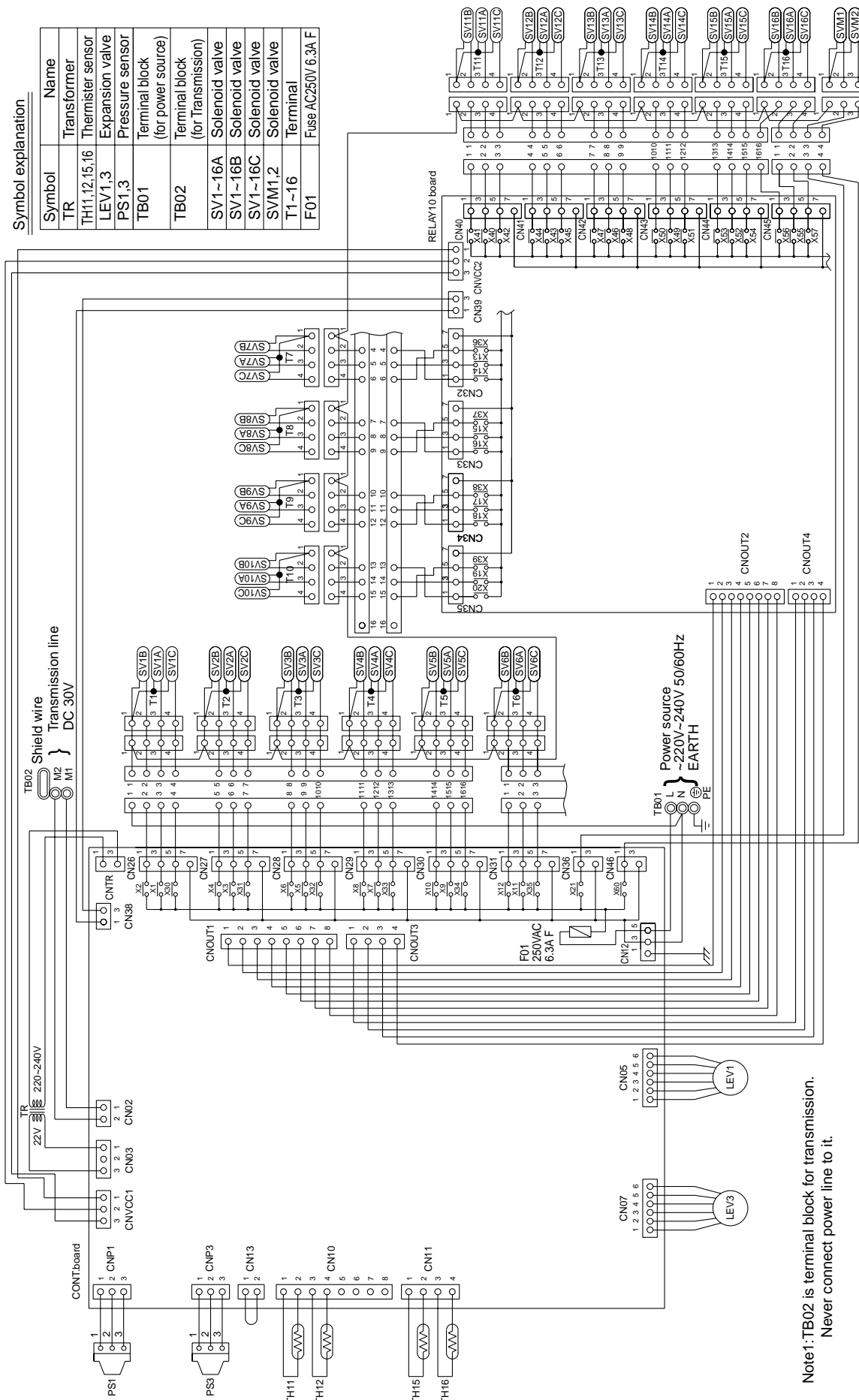
Note: TB02 is terminal block for transmission.  
Never connect power line to it.



CMB-P1013, P1016V-FA

Symbol	Name
TR	Transformer
TH1,12,15,16	Thermister sensor
LEV1,3	Expansion valve
PS1,3	Pressure sensor
TB01	Terminal block (for power source)
TB02	Terminal block (for Transmission)
SV1~16A	Solenoid valve
SV1~16B	Solenoid valve
SV1~16C	Solenoid valve
SVM1,2	Solenoid valve
T1~16	Terminal
F01	Fuse AC250V/6.3A F

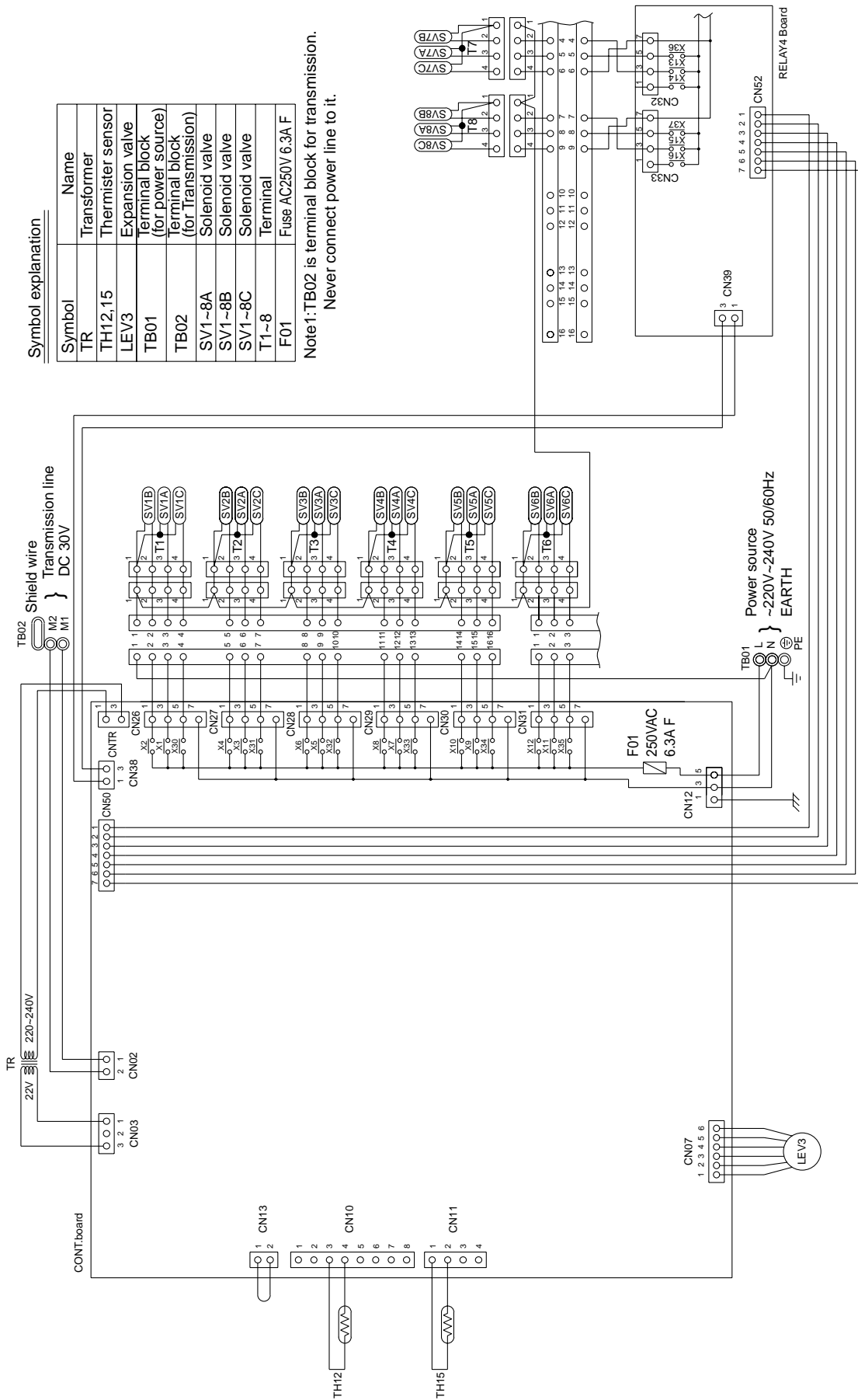
Symbol explanation



Note1: TB02 is terminal block for transmission.  
Never connect power line to it.

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CMB-P108V-FB



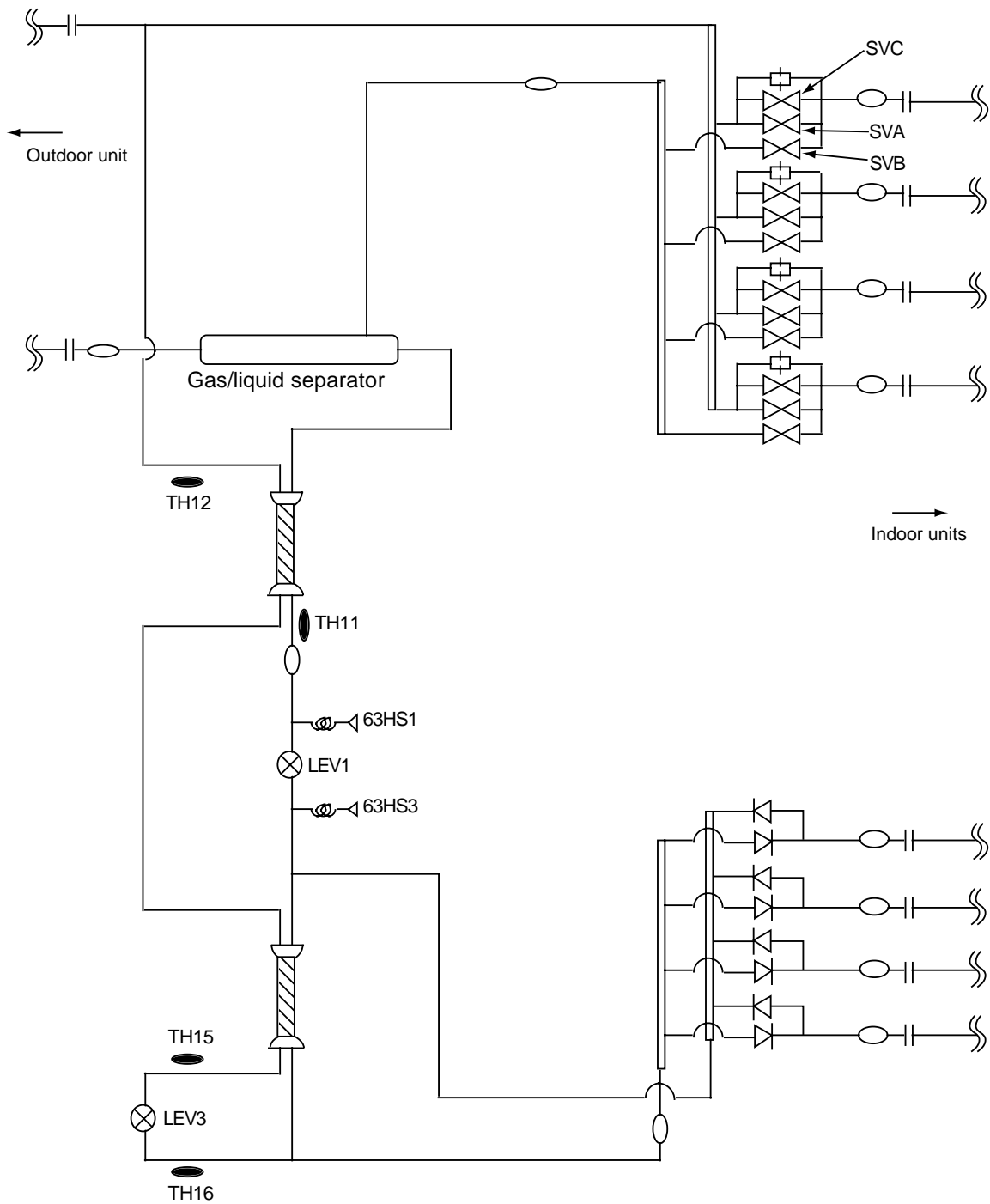
Symbol explanation

Symbol	Name
TR	Transformer
TH12,15	Thermister sensor
LEV3	Expansion valve
TB01	Terminal block (for power source)
TB02	Terminal block (for Transmission)
SV1-8A	Solenoid valve
SV1-8B	Solenoid valve
SV1-8C	Solenoid valve
T1-8	Terminal
F01	Fuse AC250V 6.3A F

Note1: TB02 is terminal block for transmission.  
Never connect power line to it.

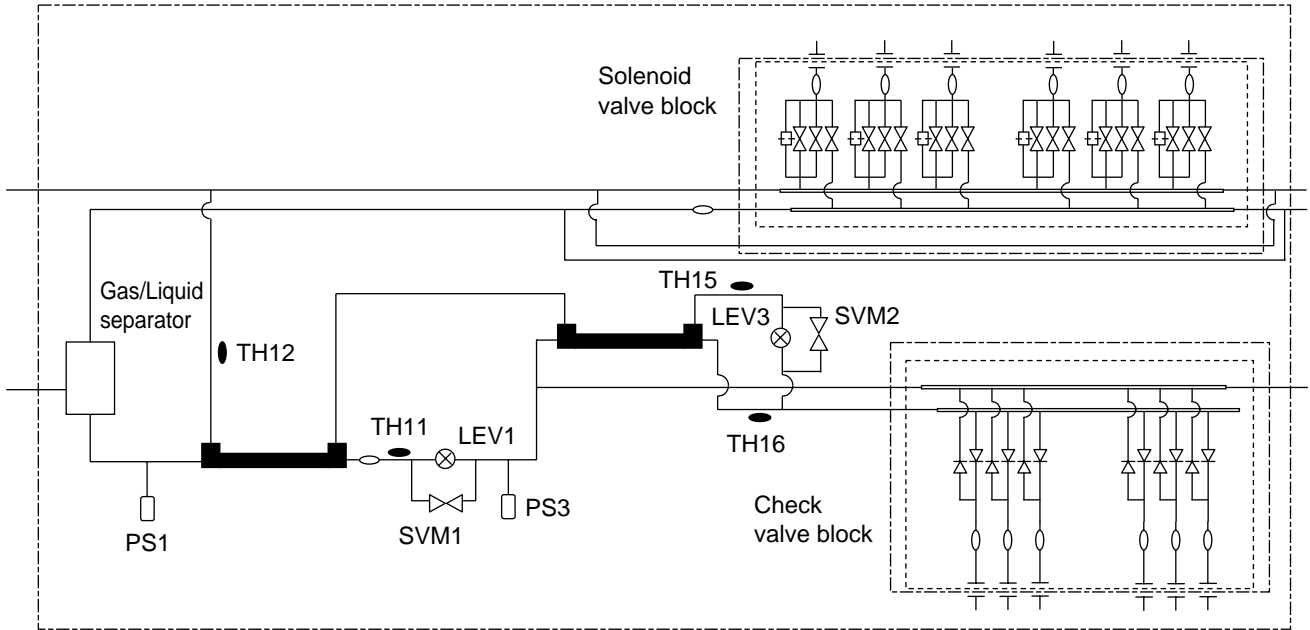
## 4. Refrigerant Circuit

CMB-P104, P105, P106, P108, P1010, P1013, P1016V-F



BC controller

CMB-P108, P1010, P1013, P1016V-FA



BC controller

CMB-P108V-FB

