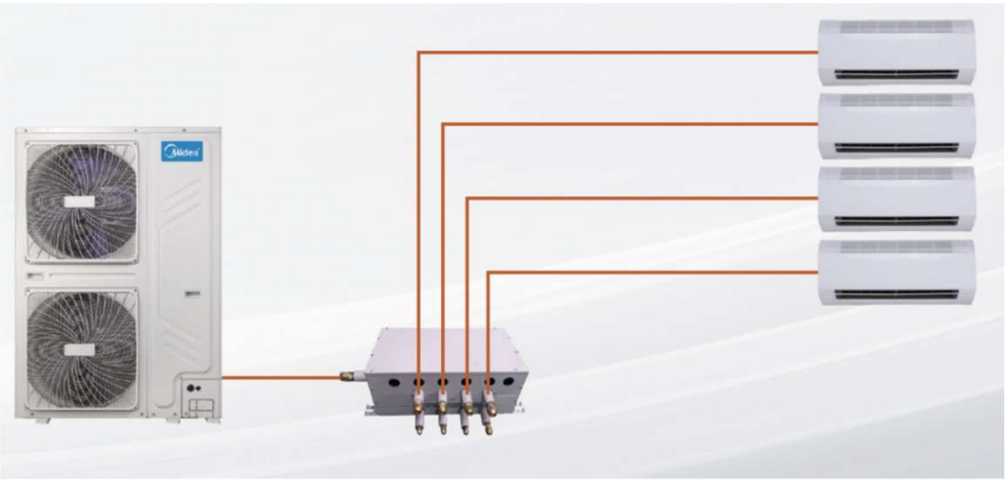
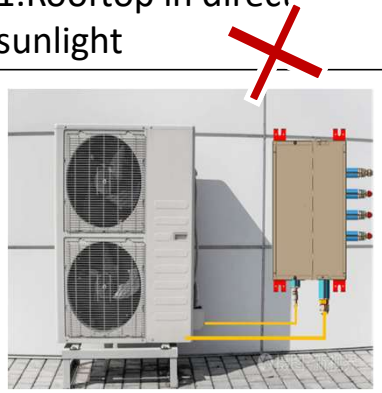
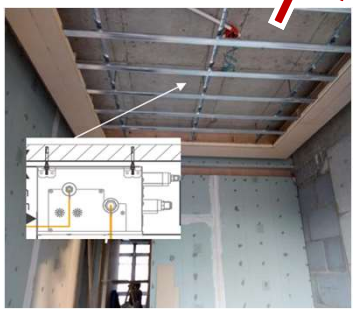
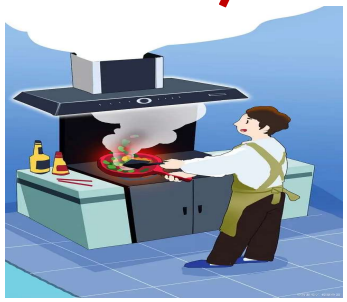
Midea Branch Box Installation & Connection



CONTENT

Branch box installation --Place

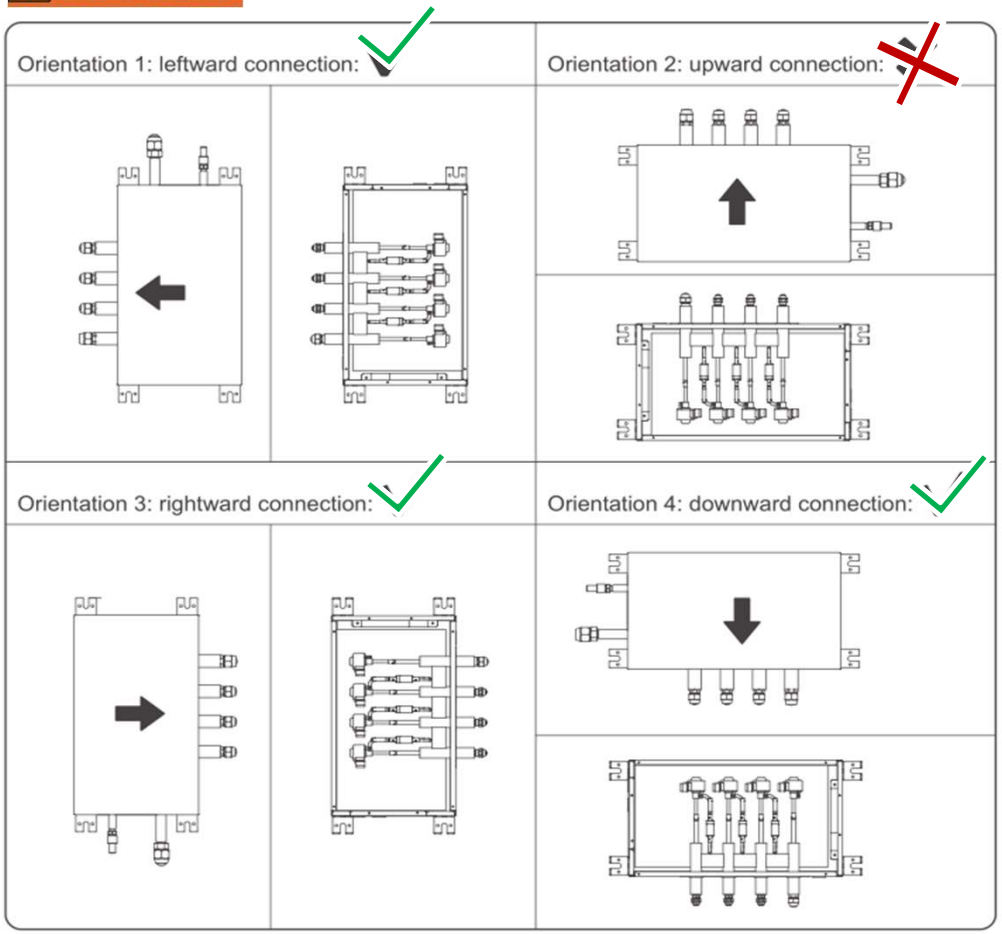
Recommendations	Place	Note
Recommended	Ceiling above corridor/ doorway , toilet area	To minimize the EEV noise affect to people
Acceptable but not recommended	Outdoor with shelter	waterproof required if installed outdoor
Not Acceptable & not recommended	1. Roof in direct sunlight 2. Ceiling space above bedroom 3. Ceiling space above kitchen area 4. Inflammable and explosive places	

Improper/ Wrong location	
1.Rooftop in direct sunlight 	2.Ceiling space above bedrooms 
3.Kitchen area with heavy oil fume 	4.Inflammable and explosive places 

Branch box installation –Direction of branches

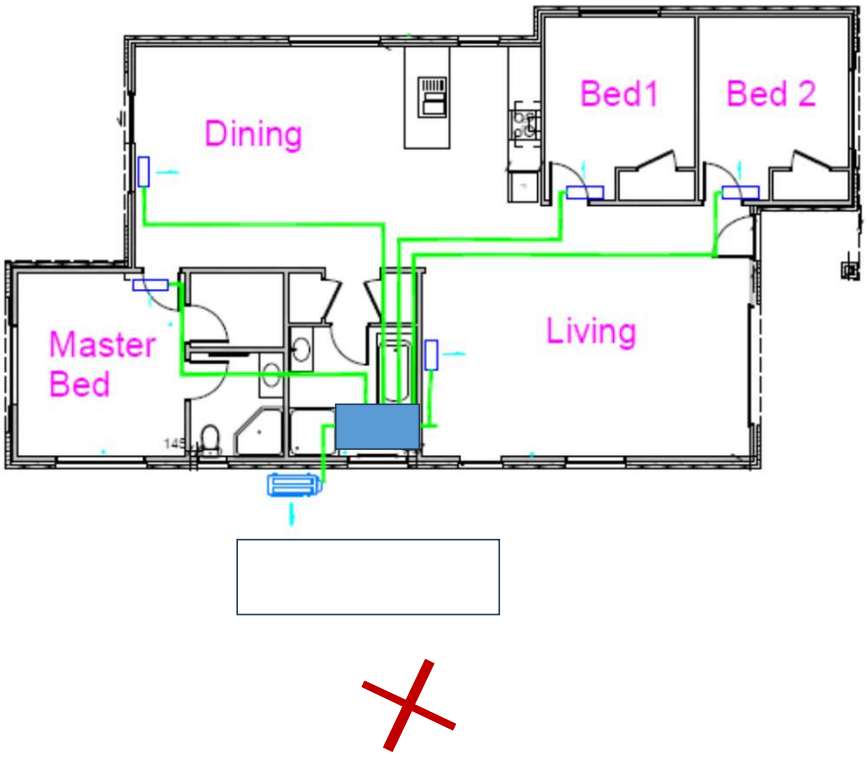
Recommendations	Direction of branches	Note
Recommended	the box being installed horizontally; the branches on the left or right direction	The box need to be fixed to the structure with a base board (wood)
Acceptable but not recommended	The box being installed vertically with branch pipe downward	The box need to be fixed to the structure with a base board (wood)
Not Acceptable & not recommended	The box being installed vertically with branch pipe upward.	

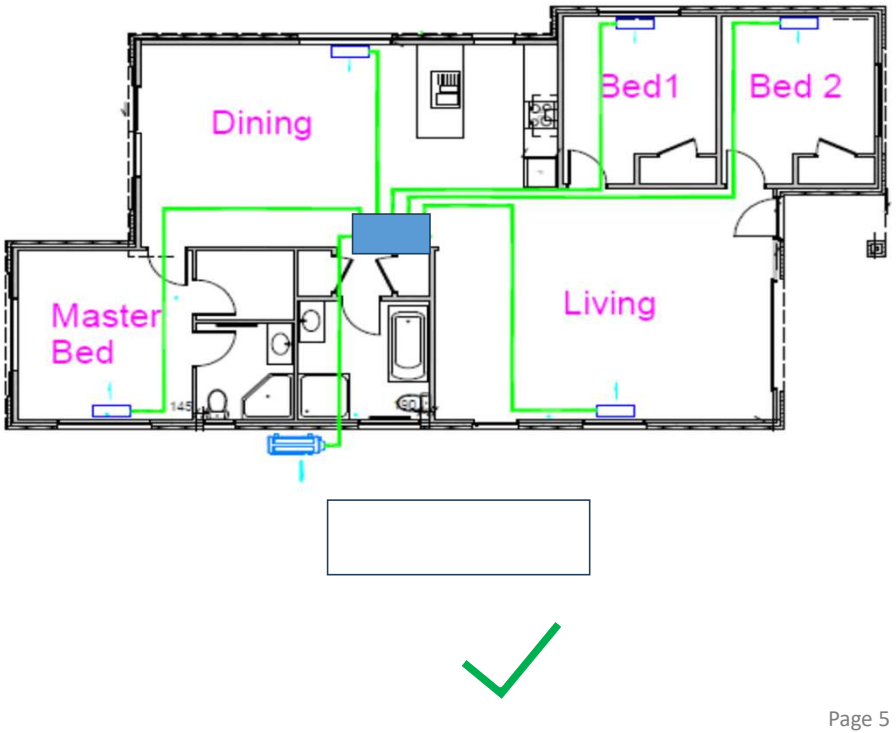
WARNING **Do not install the connecting pipe facing upwards !**



Branch box installation –Location

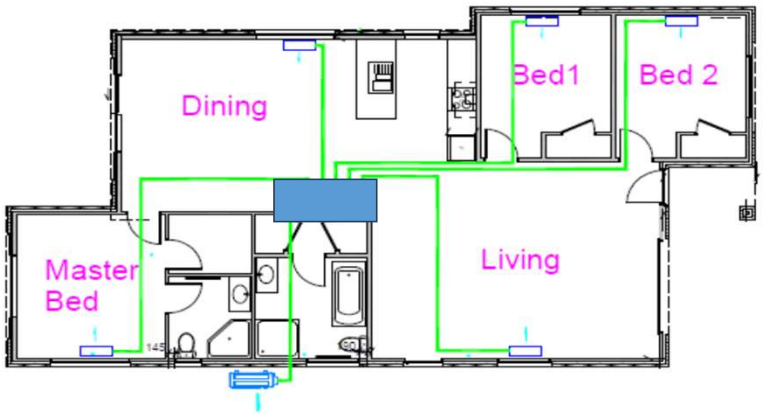
Stay away from ODU and close to IDUs





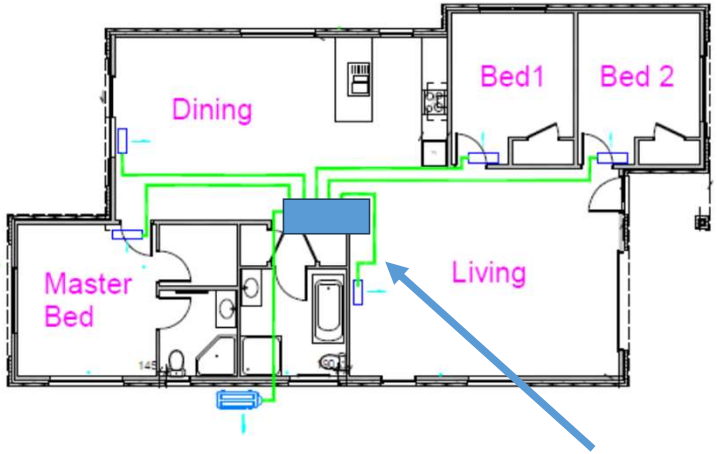
Branch box installation –Location

Close to geometric center of all IDUs to avoid uneven distribution



Option 3

Equal length of branch pipe is the best

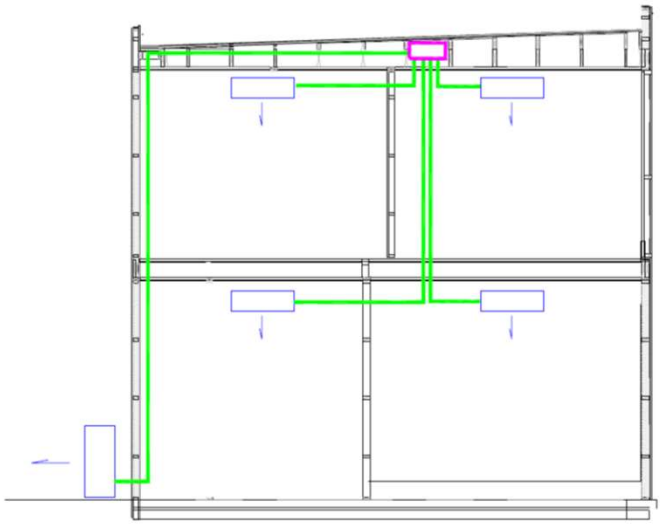


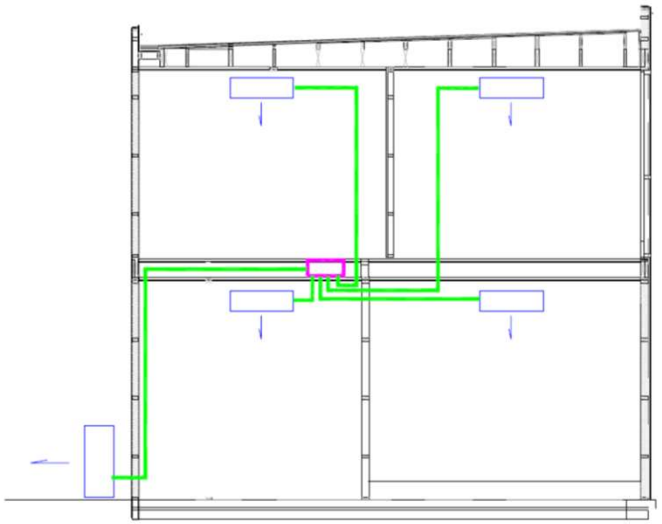
Option 2

This branch pipe is too short

Branch box installation --- Height

Make sure the branch box is always higher than all IDUs.

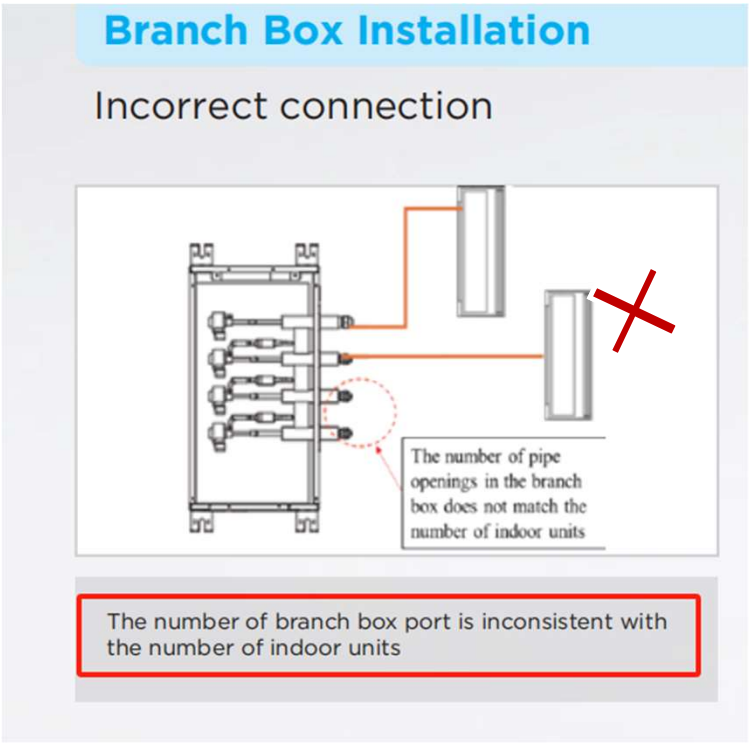




Refrigerant pipe connection

1. ONE BRANCH , ONE IDU ,

The model of the branch box must correspond exactly to the number of indoor units being installed:
FQH-04A: Must connect to 4 indoor units.
FQH-05A: Must connect to 5 indoor units.
FQH-06A: Must connect to 6 indoor units.
Each port of the branch box must be connected to an indoor unit. Leaving any port unconnected can cause refrigerant accumulation or pressure fluctuations over prolonged use, potentially leading to pipe rupture.
Not to leave any branch unconnected



Refrigerant pipe connection

2 . Use proper size of cooper pipe to avoid using reducers/adaptors.

For connection to ODU, pipe size following ODU, Φ19.1/9.52

For connection to IDU with cooling capacity 7.1KW- 8KW, pipe size following IDU, Φ15.9/9.52

For connection to IDUs with cooling capacity 2.2KW- 5.6KW, pipe size following IDUs, Φ12.7/6.35

Refrigerant pipe connection

3 . All flare connections, make sure the flare is made properly .

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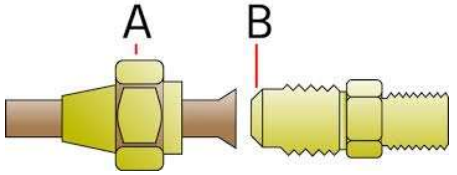


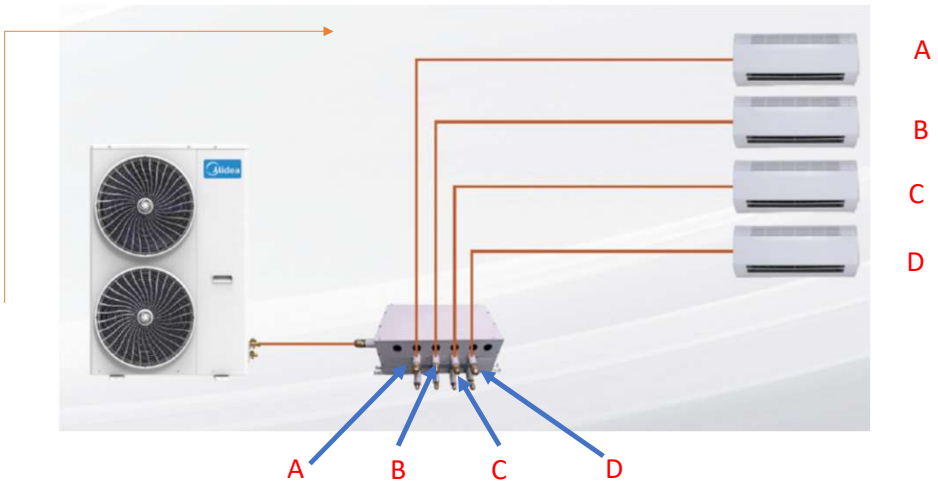
4 . Use torque wrench and right tightening torque to ensure a proper tightness

Outer dia. Of copper pipe (mm)	Tightening torque N.m (kgf. cm)
Φ6. 4	14. 2～17. 2(144～176)
Φ9. 5	32. 7～39. 9(333～407)
Φ12. 7	49. 5～60. 3(504～616)
Φ15. 9	61. 8～75. 4(630～770)
Φ19. 1	97. 2～118. 6(990～1210)

Note : use 2 wrenches to protect the joint when tightening the flare

Refrigerant pipe connection

5. After connection , name each IDU in a proper sequence, such as A, B, C, D



6 . Mark the branch with same Name , such as A, B, C, D

EEV Cable connection

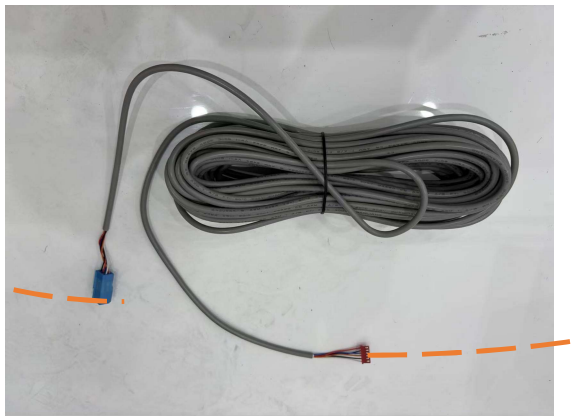
1 EEV Cable come along with the branch box (one branch one cable, each 20m) .

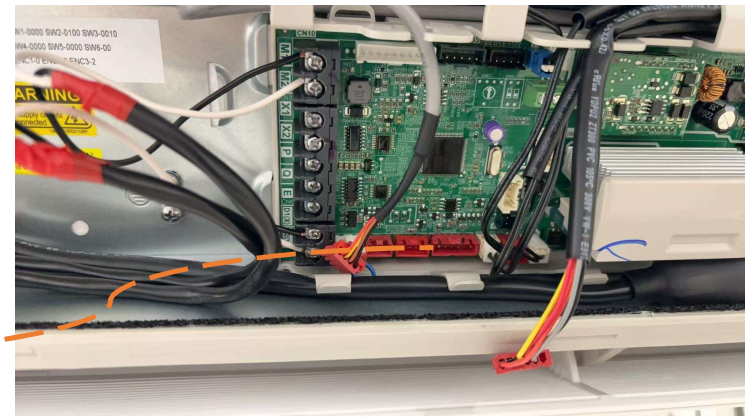
Connect to IDU
(plug in to CN8 port)

Connect to branch box
(plug in)

EEV Cable connection

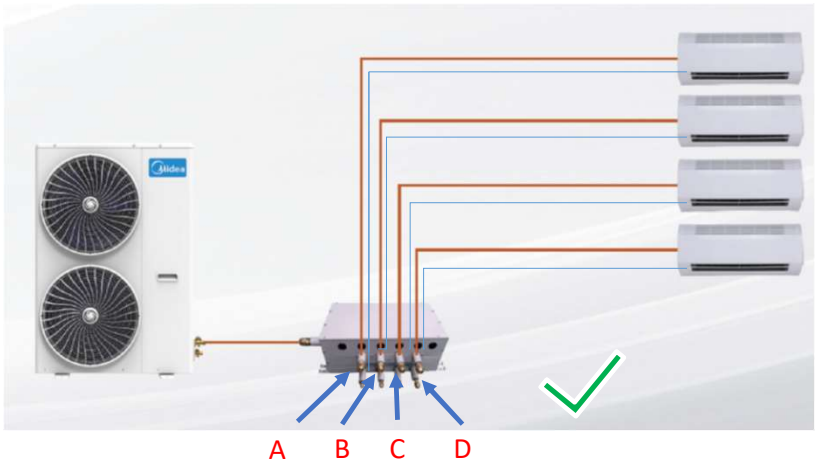
2 Use the EEV cable to connect the branch box and the IDU (both plug in on each side.

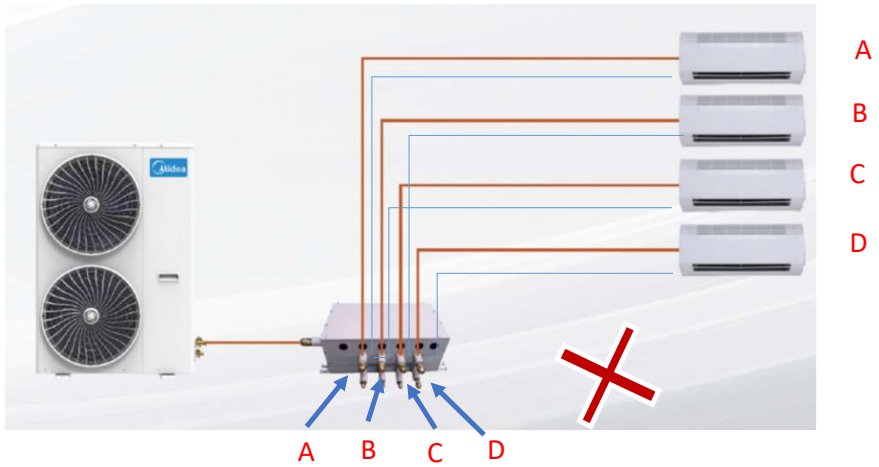




EEV Cable connection

3 Ensure the consistency with refrigerant pipe





Note: EEV (Electronic Expansion Valve) lines of the branch box must match the refrigerant piping to the corresponding indoor unit. Mismatched connections may result in problems such as indoor unit icing, water leakage, reduced performance, or even outdoor unit malfunctions.

Communication Cable connection

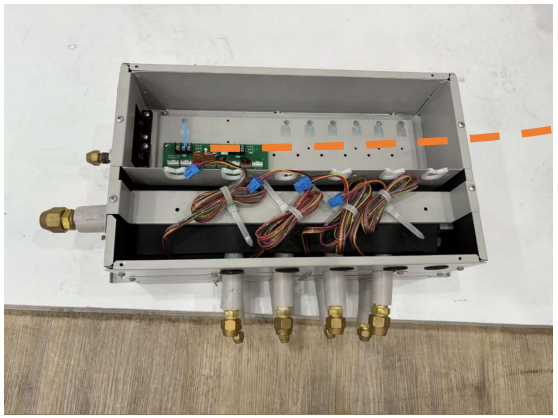
1 Communication Cable (for IDUs) come along with the branch box (one branch , one cable, 20m each) .

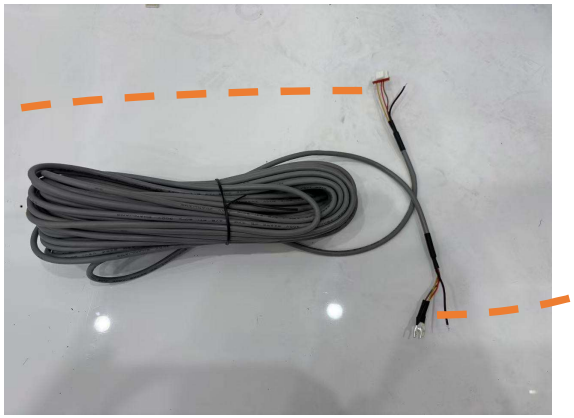
Connect to branch box (plug in PQE port)

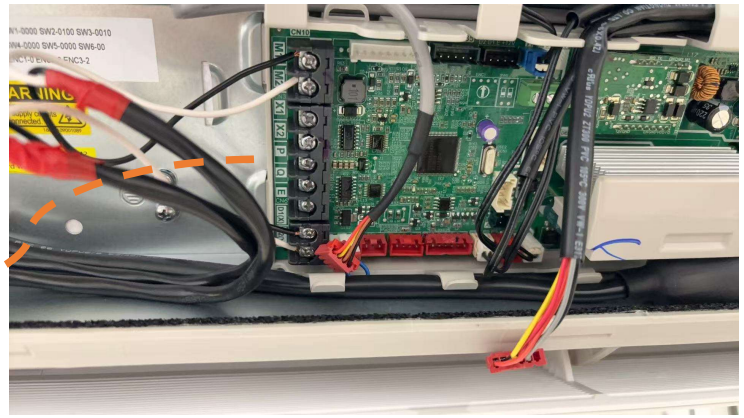
Connect to IDU (PQE port)

Communication Cable connection

2 Use the communication cable to connect the branch box and the IDU .

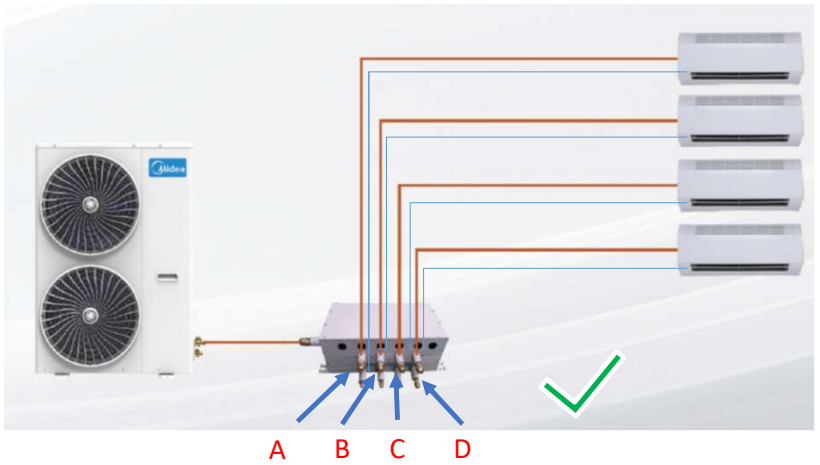


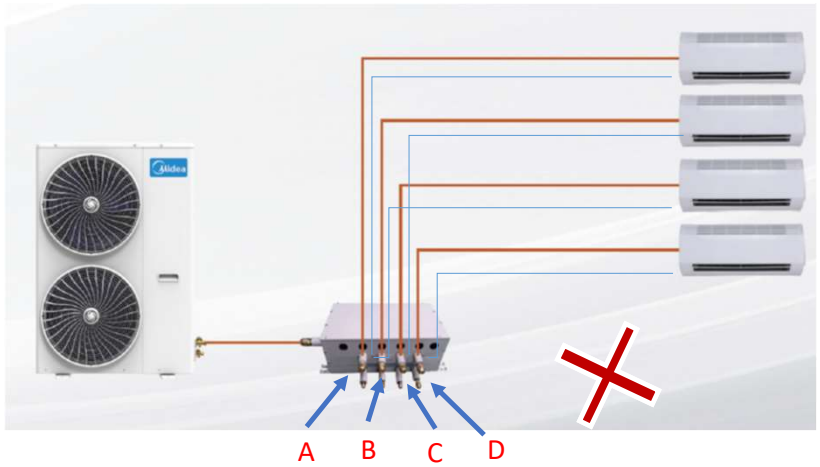




Communication Cable connection

3 Ensure the consistency with refrigerant pipe





Note: Communication cable of the branch box must match the refrigerant piping to the corresponding indoor unit. Mismatched connections may result in problems such as indoor unit icing, water leakage, reduced performance, or even outdoor unit malfunctions.

Communication Cable connection

Plug in the PQE port according to the sequence if IDUs (A, B, C, D…)

If the PQE ports are connected at intervals, make sure install the jumpers between 2 connected PQE port.

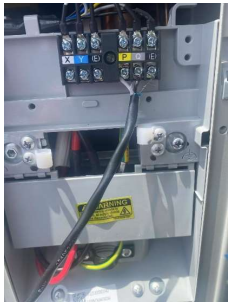
D

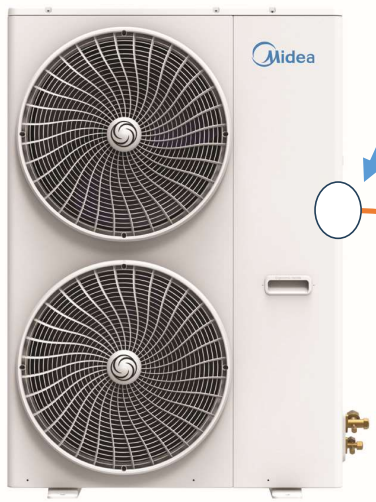
C

A

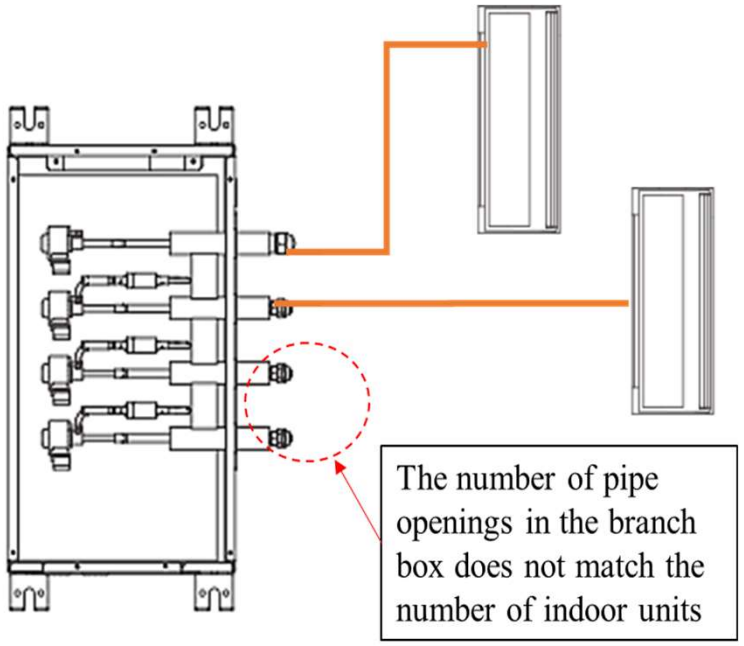
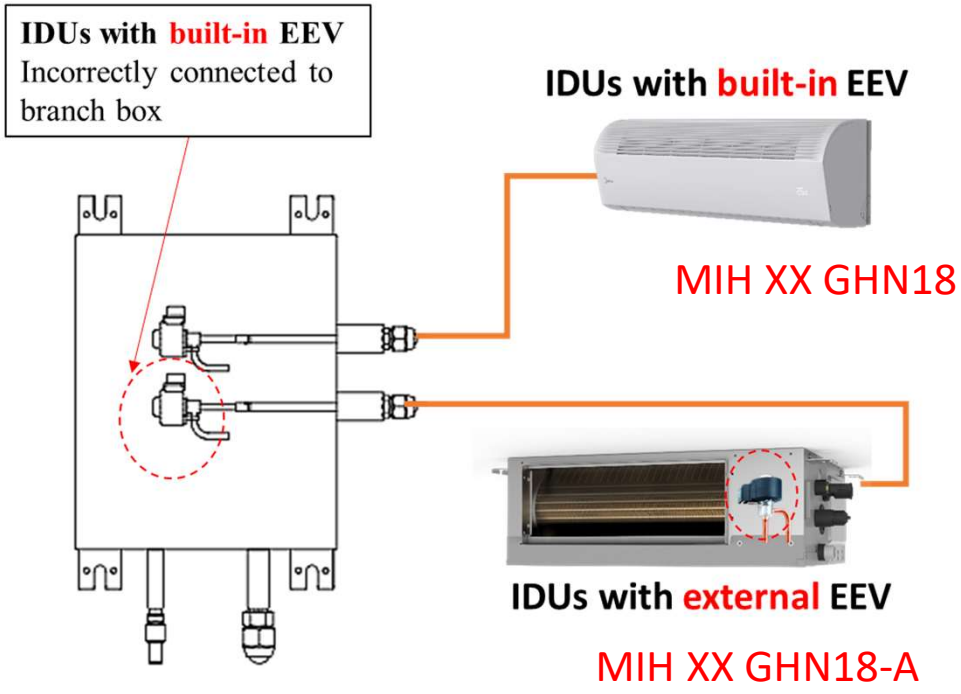
B

Communication Cable connection

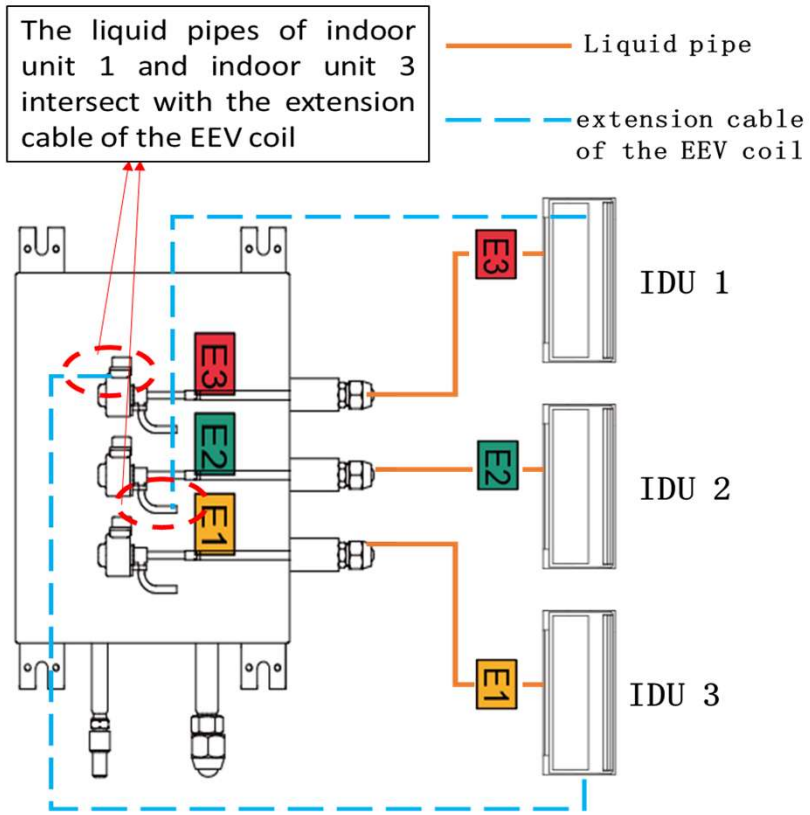
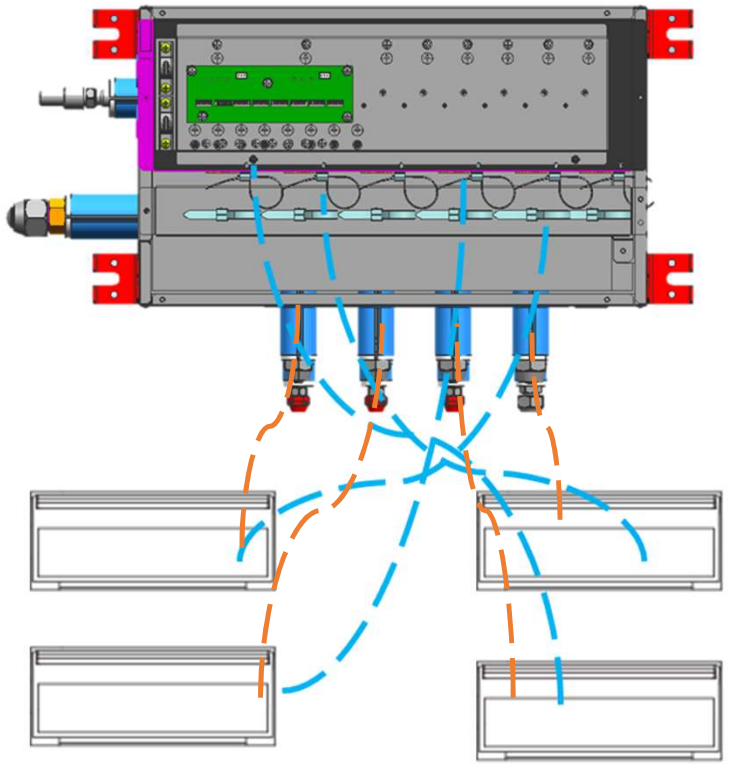




Possible Errors in Installation & Connection

ERROR 1. Leave branch(s) unconnected to IDU	ERROR 2.Connect IDU with built-in EEV to the branch box.
	

Possible Errors in Installation & Connection

ERROR 3： EEV cable mismatch with refrigerant pipe	ERROR 4： EEV Cable mismatch with Communication cable
	

Possible Errors in Installation & Connection

ERROR 5： Branch pipe length＞20m	ERROR 6： The U-shaped connection of the copper pipe will produce refrigerant deposition, and the indoor unit will produce refrigerant noise when it is turned on during cooling operation.