

INSTALLATION MANUAL

AIR CONDITIONER

Please read this installation manual completely before installing the product.
Installation work must be performed in accordance with the national wiring standards by authorized personnel only.
Please retain this installation manual for future reference after reading it thoroughly.

AHU EEV Kit
PRLK048A0 / PRLK096A0



P/NO : MFL50024831

www.lg.com

TIPS FOR SAVING ENERGY

Here are some tips that will help you minimize the power consumption when you use the air conditioner. You can use your air conditioner more efficiently by referring to the instructions below:

- Do not cool excessively indoors. This may be harmful for your health and may consume more electricity.
- Block sunlight with blinds or curtains while you are operating the air conditioner.
- Keep doors or windows closed tightly while you are operating the air conditioner.
- Adjust the direction of the air flow vertically or horizontally to circulate indoor air.
- Speed up the fan to cool or warm indoor air quickly, in a short period of time.
- Open windows regularly for ventilation as the indoor air quality may deteriorate if the air conditioner is used for many hours.
- Clean the air filter once every 2 weeks. Dust and impurities collected in the air filter may block the air flow or weaken the cooling / dehumidifying functions.

For your records

Staple your receipt to this page in case you need it to prove the date of purchase or for warranty purposes. Write the model number and the serial number here:

Model number : _____

Serial number : _____

You can find them on a label on the side of each unit.

Dealer's name : _____

Date of purchase : _____

IMPORTANT SAFETY INSTRUCTIONS

READ ALL INSTRUCTIONS BEFORE USING THE APPLIANCE.

Always comply with the following precautions to avoid dangerous situations and ensure peak performance of your product

WARNING

It can result in serious injury or death when the directions are ignored

CAUTION

It can result in minor injury or product damage when the directions are ignored

WARNING

- Installation or repairs made by unqualified persons can result in hazards to you and others.
- Installation **MUST** conform with local building codes or, in the absence of local codes, with the Nation Electrical Code NFPA 70/ANSI C1-1003 or current edition and Canadian Electrical Code Part1 CSA C.22.1.
- The information contained in the manual is intended for use by a qualified service technician familiar with safety procedures and equipped with the proper tools and test instruments.
- Failure to carefully read and follow all instructions in this manual can result in equipment malfunction, property damage, personal injury and/or death.

Installation

- Don't use a power cord, a plug or a loose socket which is damaged.
 - Otherwise, it may cause a fire or electrical shock.
- For electrical work, contact the dealer, seller, a qualified electrician, or an Authorized Service Center.
 - Do not disassemble or repair the product. There is risk of fire or electric shock.
- Always ground the product.
 - There is risk of fire or electric shock.
- Install the panel and the cover of control box securely.
 - There is risk of fire or electric shock.
- Always install a dedicated circuit and breaker.
 - Improper wiring or installation may cause fire or electric shock.
- Use the correctly rated breaker or fuse.
 - There is risk of fire or electric shock.
- Do not modify or extend the power cable.
 - There is risk of fire or electric shock.
- Do not let the air conditioner run for a long time when the humidity is very high and a door or a window is left open.
 - Moisture may condense and wet or damage furniture.
- Be cautious when unpacking and installing the product.
 - Sharp edges could cause injury. Be especially careful of the case edges and the fins on the condenser and evaporator.
- For installation, always contact the dealer or an Authorized Service Center.
 - There is risk of fire, electric shock, explosion, or injury.

4 SAFETY PRECAUTIONS

- Do not install the product on a defective installation stand.
 - It may cause injury, accident, or damage to the product.
- Be sure the installation area does not deteriorate with age.
 - If the base collapses, the air conditioner could fall with it, causing property damage, product failure, and personal injury.
- There is a risk of fire and explosion.
 - Inert gas (nitrogen) should be used when you check plumbing leaks, cleaning or repairs of pipes etc.
 - If you are using combustible gases including oxygen, product may have the risk of fires and explosions.

Operation

- Do not store or use flammable gas or combustibles near the product.
 - There is risk of fire or failure of product.



CAUTION

Installation

- Always check for gas (refrigerant) leakage after installation or repair of product.
 - Low refrigerant levels may cause failure of product.
- Install the drain hose to ensure that water is drained away properly.
 - A bad connection may cause water leakage.
- Keep level even when installing the product.
 - To avoid vibration or water leakage.
- Do not install the product where the noise or hot air from the outdoor unit could damage the neighborhoods.
 - It may cause a problem for your neighbors.
- Do not install the product where it will be exposed to sea wind (salt spray) directly.
 - It may cause corrosion on the product. Corrosion, particularly on the condenser and evaporator fins, could cause product malfunction or inefficient operation.
- Thickness of copper pipes used are as shown "Flaring work" Table.
 - Never use copper pipes thinner than that in the table even when it is available on the market
- Do not use copper pipes having a collapsed.
 - Otherwise, the expansion valve or capillary tube may become blocked with contaminants.
- For R410A model, use piping, flare nut and tools which is specified for R410A refrigerant.
 - Using of (R22) piping, flare nut and tools may cause abnormally high pressure in the refrigerant cycle (piping), and possibly result in explosion and injury.
- It is desirable that the amount of residual oil less than 40 mg/10m.

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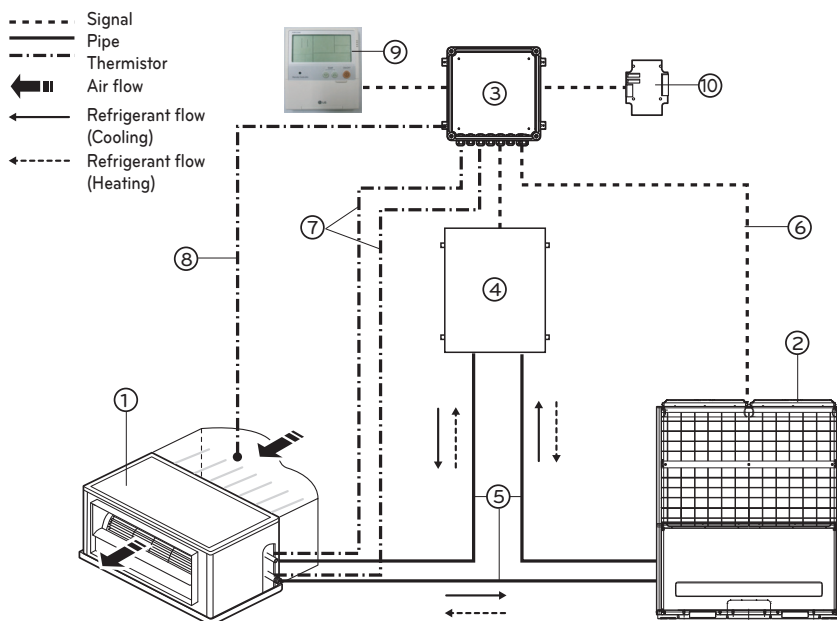
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INSTALLATION SCENE



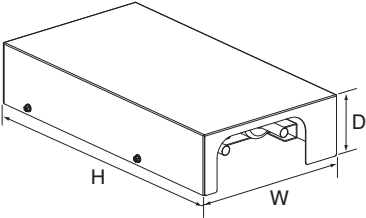
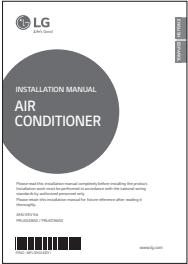
Parts and components

No.	Name	Remarks
1	Air Handling Unit	Field supply
2	Outdoor Unit	Multi V
3	AHU Comm. Kit (PRCKA0/PRDCA0)	-
4	AHU EEV Kit (PRLK048A0 / PRLK096A0)	-
5	Field piping	Field supply

Wiring connections

6	Comm kit wiring	(Power supply and communication between control kit and outdoor unit)
7	Pipe thermistors (EBG61287703 / EBG61287704)	Evaporator (In/Out) control of Air Handling Unit
8	Room thermistor (EBG36949303)	Return air control
9	Remote controller (PQRCUSA0)	Optional accessory
10	Dry contact PCB (PQDSBNGCM0)	Optional accessory

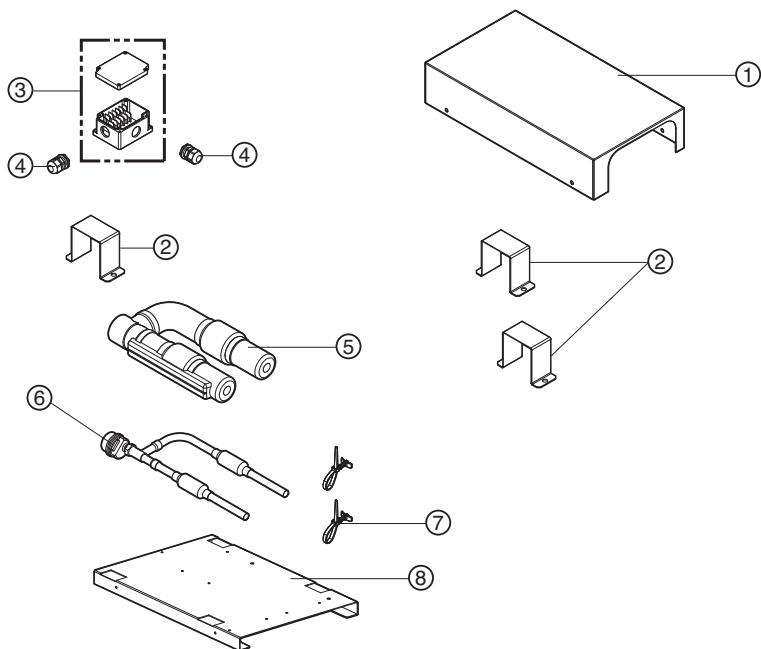
SUPPLIES

PRLK048A0 / PRLK096A0		
Components	AHU EEV Kit	Installation manual
P/NO	AAA57851115 : PRLK048A0 AAA57851116 : PRLK096A0	MFL50024831
Shape		
Quantity(EA)	1	1

Model Name	Weight(kg)		Dimension(mm)			POWER
	NET	Gross	W	D	H	
PRLK048A0	3.1	3.6	217	83	404	DC 12V
PRLK096A0	3.3	3.8	217	83	404	DC 12V

PART DESCRIPTION

EEV Kit(PRLK048A0 / PRLK096A0)

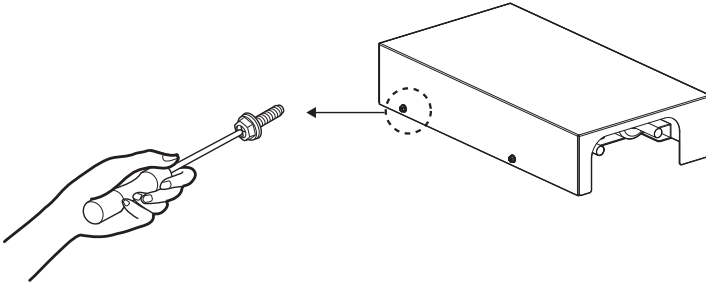


No.	Part Name	Quantity(EA)
1	Panel upper	1
2	Bracket	3
3	Terminal box	1
4	Cable gland	2
5	Insulator tube	1
6	EEV assembly (EEV, Strainer, Tube)	1
7	Support tie wrap	2
8	Panel base	1

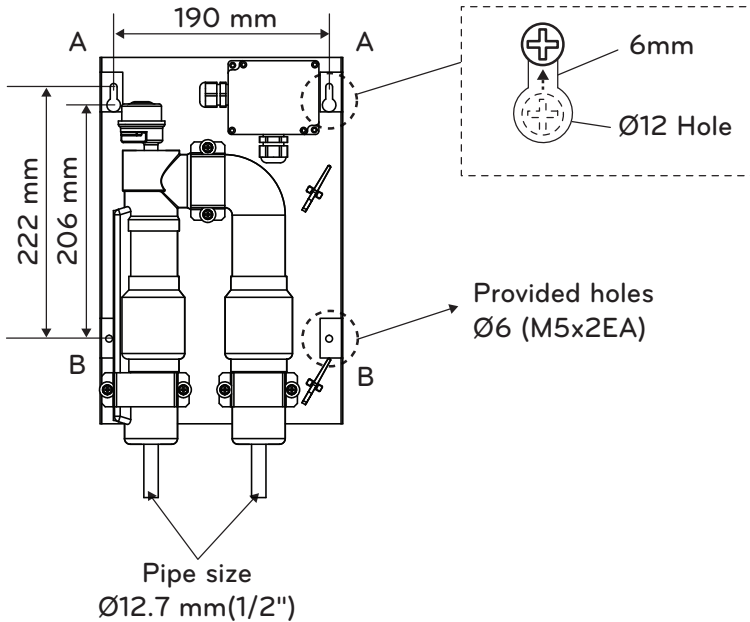
EEV KIT INSTALLATION

Mechanical Installation

- 1 Remove the EEV Kit box cover by unscrewing the screw(4EA).

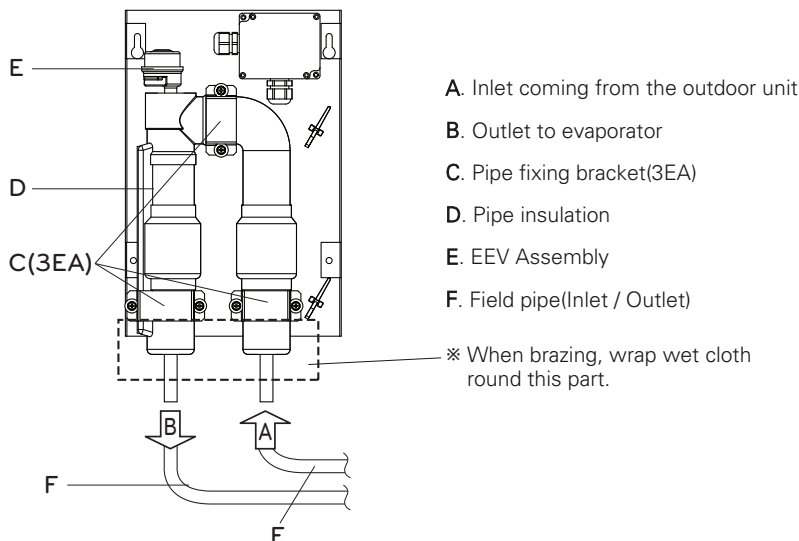


- 2 Drill 4 holes on correct position and fix the EEV Kit box securely with 2 screws(M5, Field supply) at the 'A' position and then fix the EEV Kit box with other screws(M5x2EA) at the 'B' position.



Mechanical Installation

- 3 Prepare the inlet/outlet field piping just in front of the connection.
- 4 Braze the field piping.
- 5 Make sure that field pipes are fully insulated. Field pipe insulation must reach up to the pipe insulation(D). Make sure that there is no gap between both ends in order to avoid condensation dripping(Finish the connection with tape eventually)



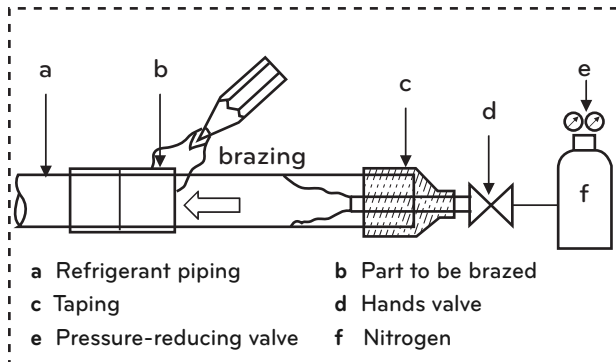
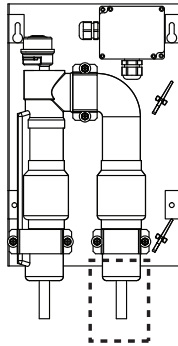
! CAUTION

- Make sure to cool the filters and EEV body with a wet cloth and make sure the body temperature does not exceed 120°C during brazing.
- Make sure that the other parts such as electrical box, tie wraps and wires protected from direct brazing flames during brazing.

Brazing Work

⚠ CAUTION

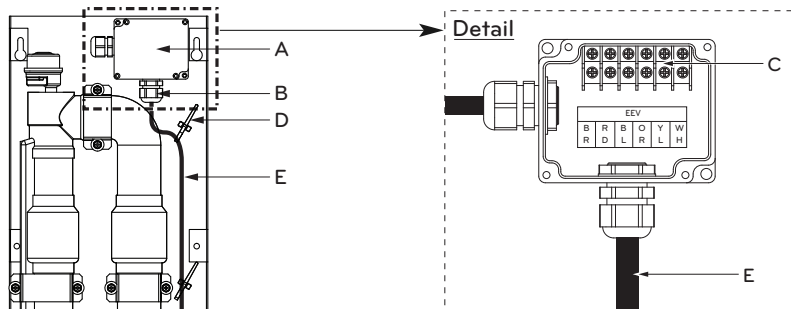
- Be sure to carry out a nitrogen blow when brazing.
Brazing without carrying out nitrogen replacement or releasing nitrogen into the piping will create large quantities of oxidized film on the inside of the pipes, adversely affecting valves and compressors in the refrigerating system and preventing normal operation.
- When brazing while inserting nitrogen into the piping, nitrogen must be set to 0.02 MPa with a pressure-reducing valve(just enough so that it can be felt on the skin).



- The leakage test is executed by pressurizing nitrogen gas up to 3.8MPa(38.7kgf/cm²) (The test must be done with the service valve of the outdoor unit closed and the gas must be pressurized at the liquid pipe, gas pipe and high/low pressure common pipe of the outdoor unit), and the pressure of the nitrogen gas must not drop for 24 hours.
- Make sure that field pipes are fully insulated. Field pipe insulation must reach up to the pipe insulation(D). Make sure that there is no gap between both ends in order to avoid condensation dripping(Finish the connection with tape eventually)
- Make sure to cool the filters and EEV body with a wet cloth and make sure the body temperature does not exceed 120°C during brazing.
- For more details, refer to the manual of the outdoor unit.

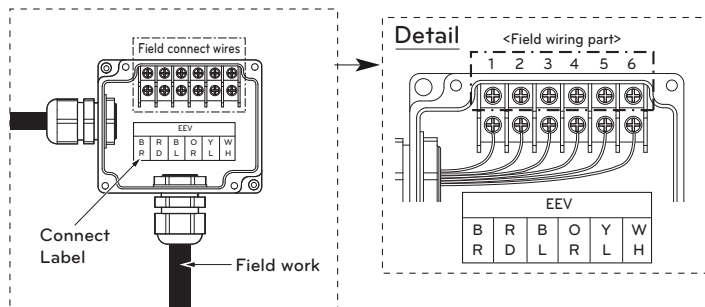
Electrical Work

- 1 Open the terminal box cover(A).
- 2 Pass EEV cable(Field supply, 6 wires) from the AHU Control Kit through cable gland and connect the cable wires into the terminal connector(C) following instructions as describe in step
- 3 Route the cable out of the EEV Kit box according to figure below and fix with the support tie wrap(D).



- A. Terminal box cover
 B. Cable gland
 C. Terminal connector
 D. Support tie wrap
 E. Electric wiring work(Field supply, 6 wires)

- 4 Use a screwdriver(+) and follow indicated instructions for connecting cable wires into the terminal connector according to the circuit diagram of Comm. Kit(PRCKA0/PRDCA0).



NOTE

1. BR : BROWN
2. RD : RED
3. BL : BLUE
4. OR : ORANGE
5. YL : YELLOW
6. WH : WHITE



CAUTION

- Before connecting the wires(Field supply), make sure to compare with the Connect label between EEV Kit and Comm. Kit(PRCKA0/PRDCA0).
- Make sure to connect the wires according to the circuit diagram in Comm. Kit(PRCKA0/PRDCA0)
- Use the ring type to connect to the terminal block.

- 5 Make sure that field wiring and insulation is not squeezed when closing the EEV Kit box cover.
- 6 Close the EEV Kit box cover(4 x M4).

THERMISTORS INSTALLATION

Pipe thermistors Installation

Location of the pipe thermistors

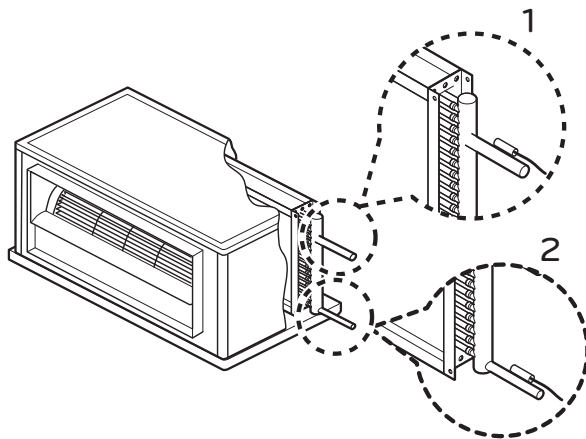
A correct installation of the thermistors is required to ensure a good operation :

- 1 Pipe_In (EBG61287703)
: Install the thermistor behind the distributor on the coldest pass the heat exchanger (contact your heat exchanger dealer).
- 2 Pipe_Out (EBG61287704)
: Install the thermistor at the outlet of the heat exchanger as close as possible to the heat exchanger.

Evaluation must be done to check if the evaporator is protected against freeze-up.

Execute test operation and check for freeze-up.

- 1 Pipe_In(Suction pipe)
- 2 Pipe_Out(Discharge pipe)



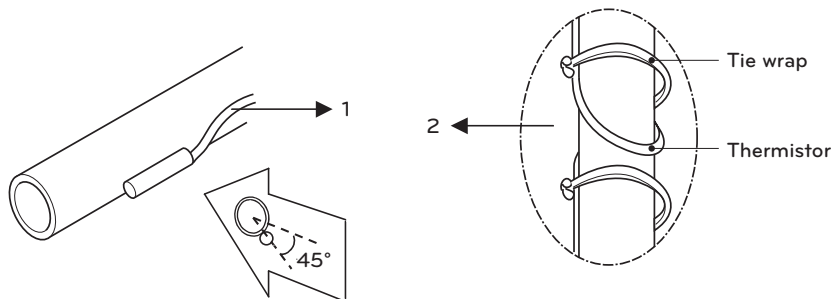
(Air Handling Unit)

※ Location of suction & discharge pipes can differ according to the product type.

Pipe Thermistors Installation

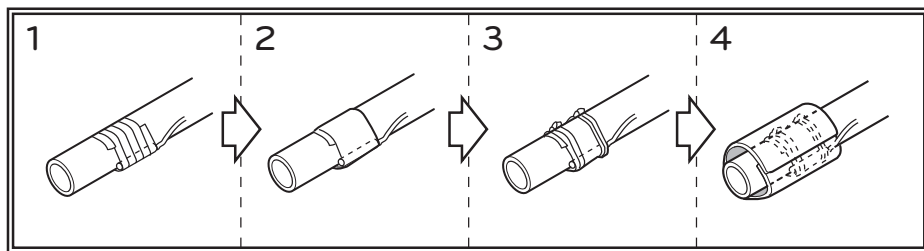
Installation of the pipe thermistor cable

- 1 Put the thermistor cable in a separate protective tube.
- 2 Always add a pull-relief to the thermistor cable to avoid strain on the thermistor cable and loosening of the thermistor. Strain on the thermistor cable or loosening of the thermistor may result in bad contact and incorrect temperature measurement.



Fixation of the pipe thermistors (Field work)

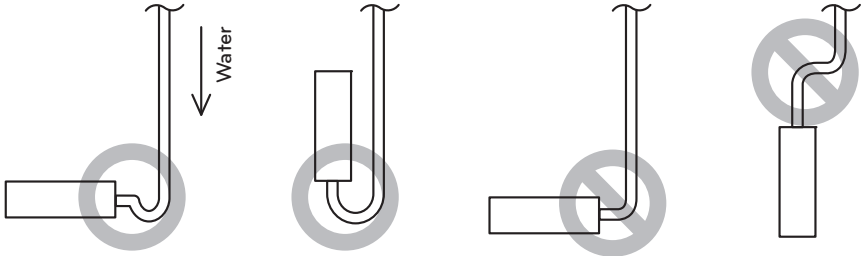
- 1 Fix the thermistor with insulating aluminum tape (Field supply) in order to ensure a good heat transference.
- 2 Put the supplied piece of rubber around the thermistor (EBG61287703/04) in order to avoid loosening of the thermistor after some years.
- 3 Fasten the thermistor with 2 tie wraps(Field Supply)
- 4 Insulate the thermistor with insulation sheet(Over 5t, Field Supply)



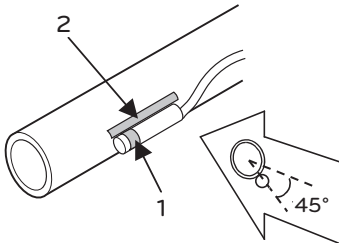
Pipe Thermistors Installation

! INSTRUCTION

- Put the thermistor wire slightly top to avoid water accumulation on down of the thermistor.



- For sensing the evaporator's temp. in thermistor, Put the top of the thermistors on the evaporator, this is the most sensitive point of the thermistor.



- 1 Most sensitive point of the thermistor
- 2 Maximize the contact

TROUBLESHOOTING

Problem	Cause	Remedy
AHU EEV Kit does not work	Wiring is wrong	Check the electrical connection of the EEV Kit
	Piping is wrong	Check the piping connection between the EEV Kit and outdoor unit

