

# 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.

**THERMAV** Solar Accessories kit  
PHLLA



www.lg.com

Installation Procedure

## Installation Procedure

### Check following conditions before installation.

#### CAUTION

- Pipe diameter of solar thermal system : Tee pipe of solar kit is 22mm diameter. If diameters between pipe of solar thermal system and tee pipe of solar kit are different, pipe diameter reducer or expander, which is field supplying, will be required.
- Working space for pipe welding or pipe cutting : Tee pipe of solar kit should be inserted into existing pipe of solar thermal system. To do insert job, cutting of existing solar thermal system pipe and welding of existing solar thermal system pipe and tee pipe of solar kit is required after securing enough working space.
- Preparation for working fluid drainage and refilling : While installing solar kit, drainage of working fluid and refilling is required. Be ready to do these jobs.

### Step 1 : Check what will be installed

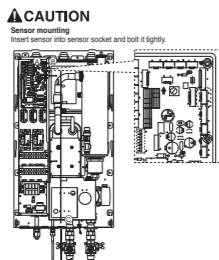
- If **THERMAV** sanitary tank and solar kit are installed while installation, please read Step 2-1.
- If **THERMAV** sanitary tank is already installed and only solar kit is installed while installation, please read Step 2-2.

### Step 2-1 : If Sanitary tank and Solar kit are installed

- Check if sanitary tank model name is LGRTV200VE / LGRTV300VE. If not, solar kit can not be installed.
- Turn off main power to avoid accident such as electric shock.
- Install sanitary tank and sanitary tank kit according to related installation manuals. These manuals can be found sanitary tank packaging box and sanitary tank kit packaging box. Sensor inside sanitary tank kit will not be used while installation. Instead, sensor inside solar kit will be used while installation.

### Step 2-2 : If Solar kit is installed (Sanitary tank is already installed)

- Check if sanitary tank model name is LGRTV200VE / LGRTV300VE. If not, solar kit can not be installed.
- Turn off main power to avoid accident such as electric shock.
- Remove sanitary tank sensor. It will be replaced with different sensor which is a part of solar kit. Sanitary tank sensor is located at the surface of the sanitary tank at middle height of tank.
- Open control box of the indoor unit and disconnect sensor which is connected at 'CN\_TH4'.



Safety Precautions

## Safety Precautions

To prevent injury to the user or other people and property damage, the following instructions must be followed. ■ Incorrect operation due to ignoring instruction will cause harm or damage. The seriousness is classified by the following indications.

**WARNING** This symbol indicates the possibility of death or serious injury.

**CAUTION** This symbol indicates the possibility of injury or damage.

### WARNING

#### Installation

Be sure to request to the service center or installation specialty store when installing products.

Request to the service center or installation specialty store when reinstalling the installed product.

Do not disassemble, fix, and modify products randomly.

Welding operations need attention in the fire.

Installation Procedure

### Step 3 : Pipeworking - Sanitary tank and Solar thermal system

Proceed water pipeworking according to following directions :

1. Connect Tee pipe and sensor plug.
2. Inside Tee pipe, metallic particles can be made after connecting Tee plug and sensor plug. Cleaning inside of Tee pipe by flushing clean water. As metallic particles can be also made after disconnecting Tee plug and sensor plug, do cleaning Tee pipe again.
3. While welding Tee pipe, sensor plug can be damaged due to welding heat. To avoid thermal defect on sensor plug while welding, cover sensor plug with wet clothes.
4. Hot water from solar thermal system should be transferred to the upper inlet port of the heating coil of the sanitary tank.
5. Tee pipe should be located between sanitary tank and hot water pipe.
6. To fix Tee pipe, welding or other bonding method can be applied. It can be determined by installer according to field installation condition.

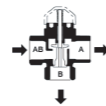
### Step 4 : Installing required parts (field supply)

**3way valve(field supply) is required. This 3way valve will be used to transfer or stop hot water(generated by Solar thermal system) into heating coil of the sanitary tank. It should be installed like below figure.**

• Specification of 3way valve :

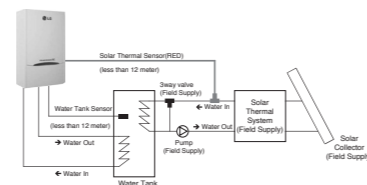
Type	Power	Operating Mode	Supported
SPDT 3-wire (1)	230V AC	Selecting "Flow A" between "Flow A" and "Flow B" (2)	Yes
		Selecting "Flow B" between "Flow A" and "Flow B" (3)	Yes

- (1) : SPDT = Single Pole Double Throw. Three wires consist of Live1 (for selecting Flow A), Live 2 (for selecting Flow B), and Neutral (for common).
- (2) : "Flow A" means 'water flow from the indoor unit to under floor water circuit.'
- (3) : "Flow B" means 'water flow from the indoor unit to sanitary water tank.'



If necessary, additional water pump(field supply) can be installed to transfer hot water when existing solar thermal system's water pump capacity is not enough.

• Specification of the water pump is : 220V AC 50Hz



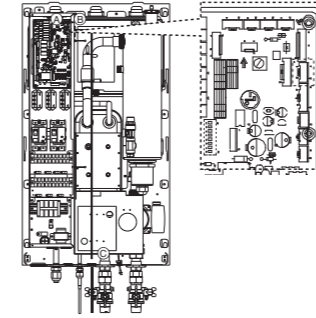
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### Step 5 : Connecting sensors and PCB setting

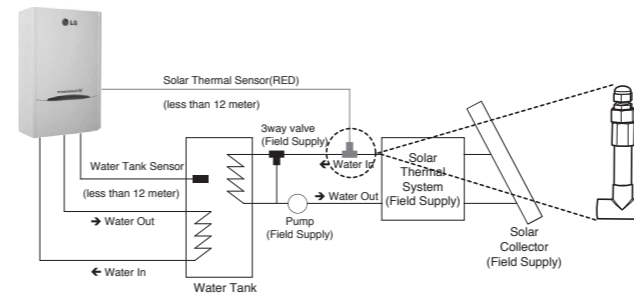
Open control box of the indoor unit and find connector 'CN\_TH4' on the PCB. Connect sensor into 'CN\_TH4'.

#### CAUTION

**Sensor mounting**  
Insert sensor into sensor socket and bolt it tightly.



Insert sensor with RED wire into Tee pipe. Also, insert sensor with BLACK wire into sanitary tank.



Find DIP switch on the PCB. Change DIP switch setting as following :

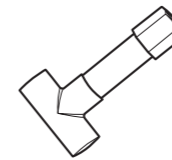
- DIP switch No. 2 : ON (white bar should be located on the right side)
- DIP switch No. 3 : OFF (white bar should be located on the left side)

Part Description

## Part Description



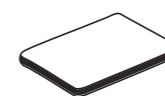
Holder sensor



Tube Connector



Double Thermistor sensor  
12m(1EA)



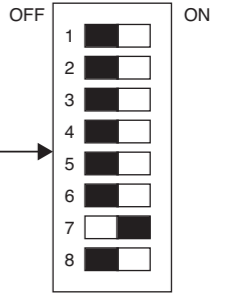
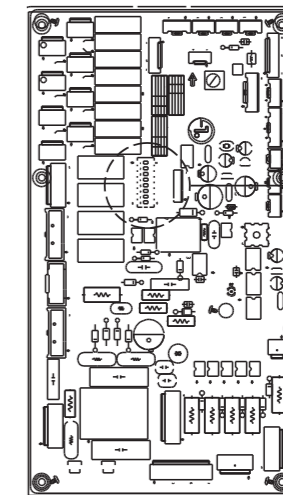
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### Step 5 : Connecting sensors and PCB setting

Find DIP switch on the PCB. Change DIP switch setting as following :

- DIP switch No. 2 : ON (white bar should be located on the right side)
- DIP switch No. 3 : OFF (white bar should be located on the left side)
- Close control box.



OFF is selected (white bar on left)  
ON is selected (white bar on right)