

INSTALLATION MANUAL

AIR-TO-WATER HEAT PUMP

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 Thermal kit
PHLLA



MFL62047302
Rev.02_030921

www.lg.com

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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.
- Do not install the unit in potentially explosive atmospheres.



Disposal of your old appliance

1. This crossed-out wheeled bin symbol indicates that waste electrical and electronic products (WEEE) should be disposed of separately from the municipal waste stream.
2. Old electrical products can contain hazardous substances so correct disposal of your old appliance will help prevent potential negative consequences for the environment and human health. Your old appliance may contain reusable parts that could be used to repair other products, and other valuable materials that can be recycled to conserve limited resources.
3. You can take your appliance either to the shop where you purchased the product, or contact your local government waste office for details of your nearest authorised WEEE collection point. For the most up to date information for your country please see www.lg.com/global/recycling

Part Description

Part Description

Item	Image	Quantity (EA)
Sensor Holder		1
Tee Pipe (Tube Connector)		1
Double Thermistor Sensor (Solar Thermal Sensor)		1
Installation Manual		1

Installation Procedure

Installation Procedure

Before Installing the Solar Thermal Kit

⚠ CAUTION

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

How to Install the Solar Thermal Kit

Follow the procedures in Step 1 ~ Step 5 below.

Step 1. Check what will be installed

- If the DHW tank and solar kit will be installed during installation, go to Step 2-1.
- If the DHW tank is already installed, and only the solar kit will be installed during installation, go to Step 2-2.

Step 2-1. If the DHW tank and Solar kit will be installed,

- DHW tank booster heater can be used up to 3kW.
- Turn off the main power to avoid accident such as electric shock.
- Install the DHW tank and DHW tank kit according to their respective installation manuals. These manuals can be found in the DHW tank packaging box and DHW tank kit packaging box. While installing the DHW tank, use a sensor inside the solar thermal kit. (The sensor inside the DHW tank kit will not be used during installation.)

Step 2-2. If the solar kit will be installed (the DHW tank is already installed),

- DHW tank booster heater can be used up to 3kW.
- Turn off the main power to avoid accident such as electric shock.
- Remove the DHW tank sensor. It will be replaced with a different sensor, which is part of the solar thermal kit. The DHW tank sensor is located at the surface of the DHW tank at the middle height of the tank.
- Open the control box of the indoor unit and disconnect the sensor connected at (CN_TH4 / Solar).

Step 3. Proceed with the water pipe work according to the following directions:

- Connect the tee pipe and sensor holder.
- Inside the tee pipe, metallic particles can be made after connecting the tee plug and sensor plug. Clean the inside of the tee pipe by flushing clean water. As metallic particles can also be made after disconnecting the tee plug and sensor plug, clean the tee pipe again.
- While welding the tee pipe, the sensor plug can be damaged due to welding heat. To avoid thermal defect on the sensor plug while welding, cover the sensor plug with wet clothes.
- Hot water from the solar thermal system should be transferred to the upper inlet port of the heating coil of the DHW tank.
- The tee pipe should be located between the DHW tank and hot water pipe as in Figure 1.
- To fix the tee pipe, welding or other bonding method can be applied. It can be determined by the installer according to the field installation condition.

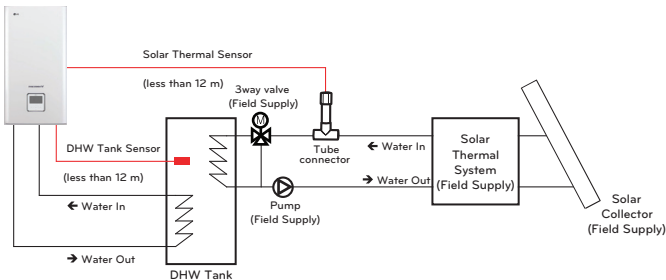


Figure 1

Step 5. Connecting sensors and PCB Dip Switch setting

- Insert the harness into PCB(CN_TH4 / Solar) fully and fix the solar thermal sensor into the tube connector as in Figure 2.

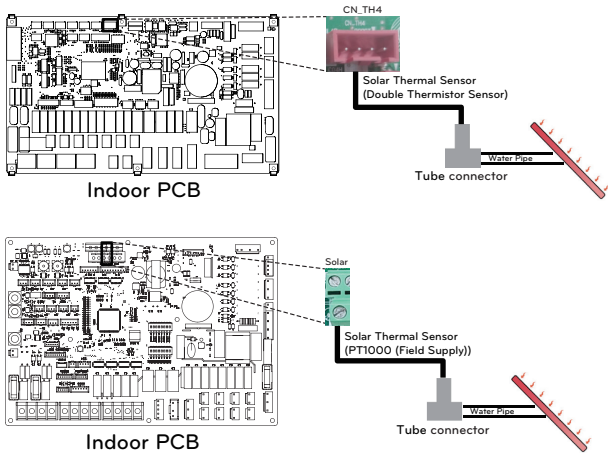


Figure 2

- Insert the sensor up to the cable tie as in Figure 3.

CAUTION

Sensor mounting

Insert the sensor into the sensor socket and bolt it tightly.



Figure 3

Step 4. Installing Field Supply Parts

- A 3way valve is required to operate the solar thermal system. This 3way valve will be used to transfer or stop hot water (generated by the solar thermal system) into the heating coil of the DHW tank. It should be installed as in the figure below.
- Specification of the 3way valve

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

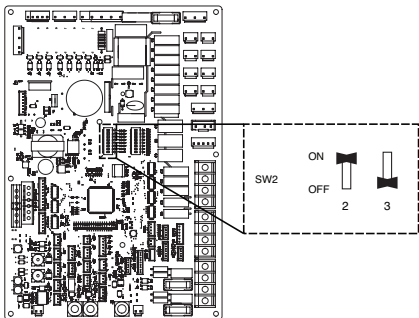
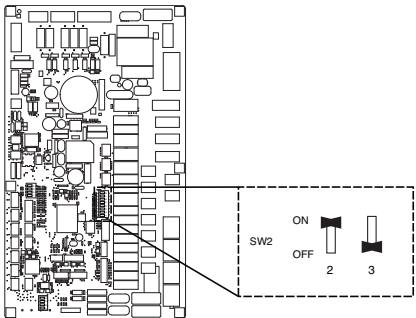
- (1) : SPDT = Single Pole Double Throw. Three wires consist of Live1 (for selecting Flow A), Live 2 (for selecting Flow B), and Neutral (for common).
- (2) : "Flow A" means "water flow from the indoor unit to the underfloor water circuit".
- (3) : "Flow B" means "water flow from the indoor unit to the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



- If necessary, an additional solar pump (field supply) can be installed to transfer hot water when the existing solar thermal system's water pump capacity is not enough.
- Specification of solar pump : 230 V AC 50 Hz

- Find the DIP switch on the PCB and change the DIP switch setting as follows:
 - DIP switch No. 2 : ON
 - DIP switch No. 3 : OFF

※ Details may vary depending on the model. For more information, refer to the **THERMAV** installation manual and wiring diagram.



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