

INSTALLATION MANUAL Variable Water Flow Control Kit

- 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.

MODEL : PRVCO

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ENGLISH

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.



■ Meanings of symbols used in this manual are as shown below.



AWARNING

During installation

Please install the designated location in the Control box.

Do not touch the board when the power is connected.

- It can cause the breakdown or accident.
- It can cause a fire, electric shock, explosion, injury and problem to the product.

Always request for installation of the product to the service center or the installation service provider.

• It can cause a fire, electric shock, explosion and injury.

When reinstalling the previously installed product, request for service to the service center or the installation service provider.

• It can cause a fire, electric shock, explosion and injury.

During use ———		
Do not modify or extend the power cord.	Do not pour water inside the product.	When the product is submersed in water, always request for service to the service center or the installation service provider.
 It can cause a fire and electric shock. 	 It can cause an electric shock and problem to the product. 	 It can cause a fire and electric shock.
Make the children and the elderly use the product with the help of a guardian.	Do not give impact to the product.	
 It can cause a safety accident and problems to the product. 	 It can cause problem to the product. 	

Accessory Parts



Name of each part



Variable Water Flow Control Kit

- 1. CN_PWR : Power input terminal(DC 12V)
- 2. CN_AO : Signal output terminal to control a water flow control valve(DC 0~10V)
- 3. CN_OUT : Outdoor unit connector
- 4. BUS_A : RS-485 (+) terminal
- 5. BUS_B : RS-485 (-) terminal
- 6. SWDIP : Switch to select main function
- 7. SW1 : Reset switch

Installation Method

- 1. Shut off the main power line of outdoor unit.
- 2. Install the VWFC(Variable Water Flow Control) PCB in the C/BOX by using screws.
- 3. Install the transformer in the C/BOX by using screws.
- 4. Install the terminal block in the C/BOX by using screws.
- 5. Connect the Main $\mbox{PCB}(\mbox{CN41})$ to $\mbox{VWFC}(\mbox{CN}_\mbox{OUT})$ by using the cable assy.
- 6. Connect the blue wire of transformer to the Main PCB (JIG1(L), JIG2(N)).
- 7. Connect the red wire of transformer to the terminal block (2Pin Yellow terminal block).
- 8. Connect a power cable (DC 12V) to CN_PWR(12V, GND) of VWFC.
- 9. Connect a signal cable (DC 0~10V) of water flow control valve to CN_AO(AO_01(A+), GND(A-)) of VWFC.
- 10. Case of two water flow control valve, Connect a signal cable (DC 0~10V) of water flow control valve to CN_AO(AO_02(B+), GND(B-)) of VWFC.
- 11. Connect a power cable (AC 24V) of water flow control valve to the terminal block (2Pin Yellow terminal block, Max current 0.42A).
- 12. Connect the RS-485 communication cable to CN_COMM(BUS_A, BUS_B) of VWFC
- 13. Set up the main function Dip S/W of VWFC PCB.
- 14. Set up the Dip SW of outdoor main PCB.
- 15. Turn on the main power line of outdoor unit.
- 16. Check the signal of water flow control valve to CN_AO(AO_01, GND) of VWFC and the water flow rate.



ACAUTION

- 1. Install the product on flat surface and screw at least 2 places. Otherwise the VWFC PCB may not be anchored properly.
- 2. Do not deform the case at random. It may cause malfunction of the Variable Water Flow Control PCB
- 3. This is a class A product. In a non-industrial environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

Setting and using method

1. Wiring Diagram



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2. Power source input

When wiring power source from outdoor unit



When using external power source



Notes

This device can accept only DC Power input.

Do not input 220VAC. Otherwise It will cause a serious damage.

Using external power source is recommended.

■ When using ODU Dry contact with Central Control Devices



3. Wiring for variable water flow control PCB and transformer



Notes

This device can accept only DC 12V power input.

Do not input AC power. Otherwise it will cause a serious damage.

The power(DC 12V) line is recommended by AWG 23 (0.573mm, 0.0668 $\Omega/m)$.

4. Wiring for Variable Water Flow Valve



Notes

The variable water flow valve control PCB can control maximum two valves.

Case of one valve, the slave signal connecter must not use.

The power (AC 24V) and signal (DC 0~10V) line is recommended by AWG 23 (0.573mm, 0.0668 Ω /m) .

5. Wiring Method

Installation picture



- 1 : Terminal Block
- 2 : Transformer
- 3 : VWFC PCB

Wiring Method



Wiring Method



Signal for Central Control

Power for Variable Water Flow Control Valve (AC 24V) Signal for Variable Water Flow Control Valve (DC 0~10V)

Wiring Method



Hole for Indoor Unit Communication Cable

6. Setting of 'SWDIP'

Using 'SWDIP', select the option of control function as described below



Output signal setting

Position	Function
ON	Control signal : DC 0V(OFF), DC 8~10V(ON)
	Control signal : DC 0V(OFF), DC 6~10V(ON)
ON	Control signal : DC 0V(OFF), DC 4~10V(ON) Default status
	Control signal : DC 0V(OFF), DC 2~10V(ON)

RS-485 communication function setting

Position	Function
ON L1 2 3 4	RS-485 communication function enable
ON L1 2 3 4	RS-485 communication function disable

Notes

After change 'SWDIP' setting, then you must press reset switch to reflect the setting. Before operating the outdoor unit, check the flow rate of water and voltage signal of PCB. Minimum flow rate of water is recommended 40% of rated flow rate. Otherwise, the outdoor unit get damage.

7. Setting of outdoor unit dip SW





Notes

After change 'SWDIP' setting, then you must press reset switch to reflect the setting. Before operating the outdoor unit, check the flow rate of water and voltage signal of PCB. Minimum flow rate of water is recommended 40% of rated flow rate.

