

TWC70 Series Wireless Controls for Fan Coil Units

Features

- Simple to understand user interface control
- Styling for home, office or hotel applications
- Large easy-to-read Liquid Crystal Display (LCD) for digital display of ambient temperature and user set point temperature
- Compact touch keys for ease of operation
- Built-in temperature sensor
- Battery powered, no control wiring required
- Direct connection of valve actuators
- Output relays for direct connection to 3-speed fan to provide reliable performance
- Slim Power Control Unit to fit on narrow fan coil unit
- Portable or suitable for wall-mount display control unit

General

The TWC70 Series wireless controls, employing the latest radio frequency wireless technology, are the most flexible fan coil thermostat solution on the market today. The wireless controls consist of two parts, a display control unit (DCUW) and a power control unit (PCUW). The PCUW provides the wiring connections to the fan coil unit and can be placed wherever the wires are available. The PCUW with receiver and antenna is easy to install and is wired just like a standard thermostat. Once the PCUW is installed, the DCUW can then go anywhere in the room where the fan coil unit is located, and it will transmit radio signals back to the PCUW. The transmission range is

up to 10 m radius without obstruction.

Battery operated, the DCUW uses an unlicensed 315 MHz RF transmitter to send control information to a receiver in the PCUW which provides precision control capability to a wide range of fan coil unit (FCU) applications.

With wireless control, no more conduit and wiring are required between the DCUW and valve set, providing significant savings in installation, engineering supervision and maintenance costs.

The TWC70 Series wireless controls are available with different PCUW models for line voltage on-off control of valves, relays and/or fan motors in 2-pipe or 4-pipe fan coil units for residential, commercial and industrial installations. The pre-wired temperature sensor at the PSUW will be installed in the fan coil return air duct.

At the DCUW, a system switch provides "on-off" control and a fan-speed control switch allows control of a 3-speed fan. In the "Hi", "Med" or "low" position, the fan runs continuously at the selected speed. In the "Auto" mode, the fan speed is temperature dependent and automatically selected. A switch is also provided for manual cooling/heating changeover.

Ordering

To order, specify complete model numbers.



DCUW



PCUW

Specifications

Product Model Numbers	DCUW-02Y	Display control unit
	PCUW-02A	Power control unit, single 2-wire on-off output, manual cooling/heating, 2-pipe system
	PCUW-02B	Power control unit, single 2-wire on-off output, cooling only, 2-pipe system
	PCUW-02C	Power control unit, dual 2-wire on-off outputs, manual cooling/heating, 4-pipe system
Power control unit	Voltage:	220 V \pm 15%, 50/60 Hz
	Consumption:	5 VA maximum
	Wire connections:	Non-removable terminal Blocks
	Fan relay output contacts:	3 A resistive, 1 A inductive, 230 V, 50/60 Hz
	Valve Triac output:	1.5 A resistive, 1 A inductive, 230 V 50/60 Hz
	Operating temperature differential:	Fixed at 1 K
Display control unit	Protection class:	IP20
	Temperature display range:	0-40°C at \pm 0.5 K accuracy
	Temperature set point range:	0-30°C at 0.2 K increments
	Fan speed:	High, Medium, Low and Auto
	Display size:	38 x 38 mm
	Body material:	Fire-retardant , Molded ABS
	Body finish:	Off-white
	Batteries:	2 x AAA
Sensing Element	NTC Thermistor, 10 k Ω @ 25°C	
Wireless Control	RA frequency:	315 MHz
	Signal:	- 98 dB
	Distance:	Within 10 m Radius without obstruction
Ambient/Storage Temperature Limits	2 to 55°C / -20 to 65°C , 10 to 90% RH non-condensing	
Shipping Weights	DCUW: 0.16 kg; PSUW: 1.0 kg	
Dimensions	DCUW: 115 x 72 x 19 mm;	
	PSUW: See Figure 1	

*The performance specifications above are nominal and subject to tolerances and application variables of generally acceptable industry standards.
The Manufacturer shall not be liable for damages resulting from misapplication or misuse of its products.*

Figure 1: PCUW Dimensions in mm

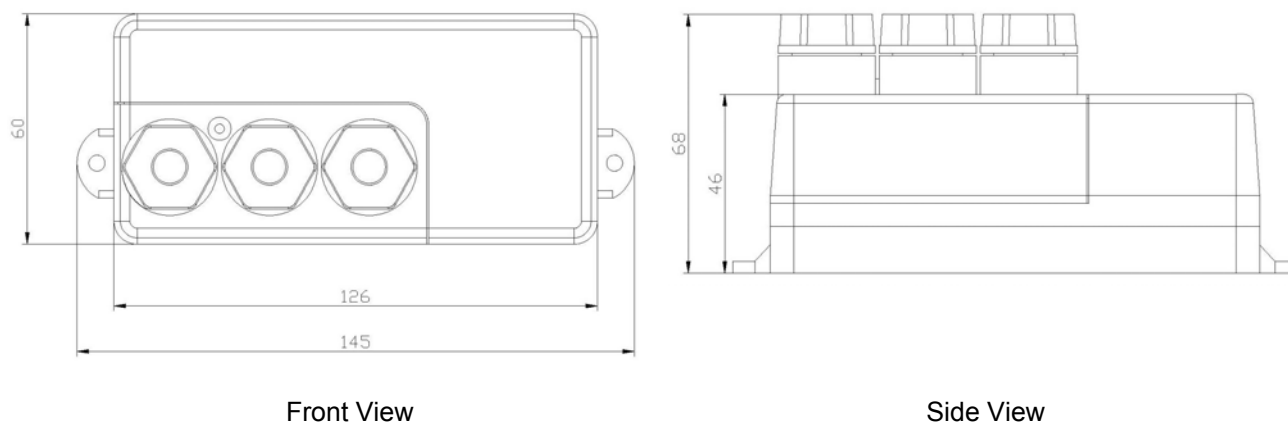


Figure 2: Display Control Unit Layout

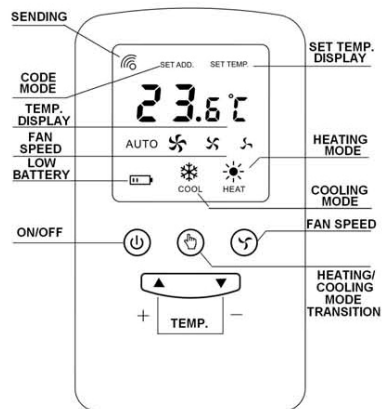
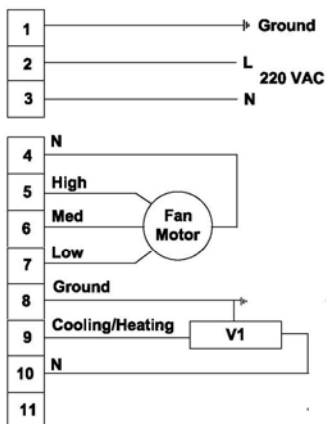
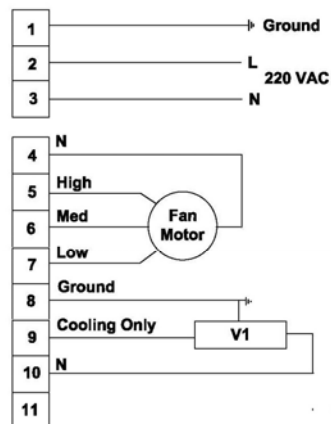


Figure 3: TWC70 Series Wireless FCU Controls Wiring Diagrams

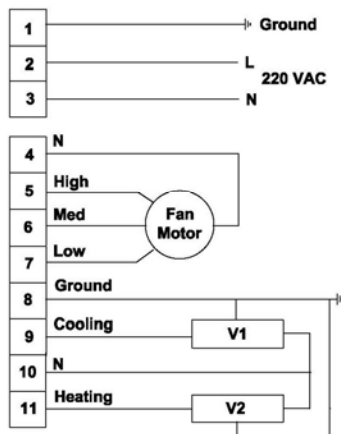
Model PCUW-02A: Manual Cooling/Heating Changeover, 2-Pipe System



Model PCUW-02B: Cooling Only, 2-Pipe



Model PCUW-02C: Manual Cooling/Heating Changeover, 4-Pipe System



Note: All valves are 2-wire on-off spring-return valves.

Encoding Procedure

The PCUW and DCUW were encoded as a matching pair when shipping out of the factory. In the event that the user wants to do encoding again, follow the following procedures:

- Disconnect and re-connect the power to the PCUW.
- Make sure that the batteries of the DCUW is in good working condition and switch on the DCUW.
- 10 s after re-connecting the power to PCUW, press the “SET ADD” button on top of the PCUW until a “beep” is heard.
- Immediately press the hidden “SET ADD” button on the back of the DCUW, observe the transmission icon on the upper left corner of the LCD screen and then a long “beep” from the PCUW will confirm completion of the encoding work.
- Consult the supplier if the above procedures cannot be completed. Do not attempt to repair any parts of the units.

Operation Notes

1. When the unit is selected to operate in the “Auto” mode, the fan speed in operation will be determined automatically according to the temperature differential between the room and set point temperatures.
2. Remove the batteries from the DCUW if the DCUW is not used for a long period of time.
3. The DCUW may be wall mounted or work as a portable unit. In the wall-mounted application, make sure not to over tighten the wall mounting screws.
4. When flexible conduit is required for installation of power cable and/or fan motor connections to the PCUW, replace the plastic cable glands with flexible conduit fittings before installing the conduits.

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