



Dropair Pro6s Product Manual

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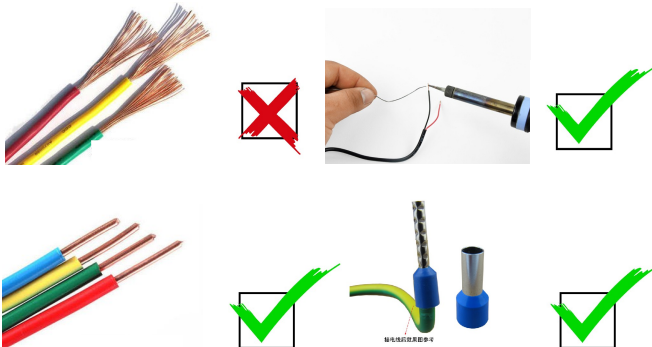
Introduction

Dropair Labs (Dropair Labs Inc.), headquartered in Zhongguancun, Beijing, it has branch laboratories in Wuxi and Tokyo. The company focuses on HVAC intelligent control product development and comfort & energy-saving indoor environment research, and it's one of the national High-tech enterprise of China. The co-founder employed as a part-time master tutor for Beijing Institute of Technology and have a joint laboratory with the BIT. Dropair adapter products are sold in mainland China, Taiwan, Hong Kong and the Middle East. Many team members of Dropair Labs have served in several NASDAQ listed companies and well-known European and American hardware and software enterprises, the industry accumulated deep.

Dropair Labs research and development of American thermostat adapter products for customer, is committed to creating constant temperature, humidity, constant oxygen, constant net of comfortable health, energy saving and environmental protection of the indoor environment. Dropair series products are the world's only can be fully adapted to all kinds of brand HVAC adapter, not only applied to Nest Thermostat, but also for Honeywell 's Lyric, ecobee, Control 4 thermostat, Lutron Thermostat and other third-party thermostat products. Dropair adapter is stable performance, matching function integrity after several iterations of the update, the product has been a number of national intellectual property office of the invention, utility model and appearance of patents.

Important Notes

- This product is use of custom only, the function is not universal. It can't work without any firmware, different function use different firmware.
- All concealed engineering design and construction must be done according to the specification.
- The network cable must use CA 6 cable, single route length of less than 50 meters.
- All control terminals must not exceed the rated capacity or directly with the adapter, if more than or need to control multiple load at the same time, need to buy another power amplifier.
- Do not operate with power on, while the adapter installation process.
- The adapter power input and other control wires must be a single strand of hard wire 0.3-1.0mm²(22-17AWG) or multiple strands of tin or the use of tubular terminal, as shown in the following figure, All other wires that do not conform to the rules may cause the product to not work or even damage the product.



Chapter 1: Product Description

Dropair Pro6s adopt a brand-new appearance design, interior structure, circuit and interface design, the adaptation function is more complete, the adaptation equipment is more extensive, add to the water system as TRANE, special spirit and so on DC brushless fan coil fitting. Realize the perfect three-gear manually and automatic wind speed adjustment.

Refrigeration, heating, air supply, constant temperature mode of the switch, while supporting air-conditioning, warm, fresh air, humidification or dehumidification system of perfect control. It can also choose to support the VRV air-conditioning with the dehumidification function.



- ✓ New shell, ultrasonic welding, beautiful and reliable.
- ✓ High integration circuit design, the core components are all imported, stable operation.
- ✓ 100-240V wide voltage input, global universal.
- ✓ Perfect and Pure 60Hz sine wave power supply, Nest run safely without noise.
- ✓ To built-in overvoltage, over-current, over temperature, short-circuit and other multiple protection circuit, more secure.
- ✓ Multi-color LED, running state at a glance.
- ✓ Standard RJ45 cable interface, simple wiring, plug and play.
- ✓ The fan three-speed control, hand-integrated.
- ✓ Part of the new air can be optional three-speed plug-ins.

- ✓ IR protocol and cable control program, almost all brand HVAC equipment fully fit.
- ✓ When heat is produced by multiple heat sources, it can be selected intelligently according to the trend of temperature change by nest.
- ✓ The air conditioning, ground heating, fresh air, humidification or dehumidification can be opened independently, can also be combined to open, flexible control.
- ✓ The construction of the renovation project is simple, and the original control method can be kept unchanged, and the original equipment warranty is not affected.

Chapter 2: Electrical Properties

The input power supply is a wide range of international voltage, and AC/DC power can be. For the thermostat, it is provided AC24V 60Hz perfect power supply, standard 568B cable interface to Nest. And provide optional multi-color signal line interface to adapt to different installation environment and requirements. We provides optional rail clip accessories for standardized rails and rack mounting. Adapters have overvoltage, under-voltage, over current, overheating protection, prevent abnormal conditions damage Dropair adapters and Nest thermostat and terminal equipment.

Input :

L/N : 100-240V 0.15A Max.

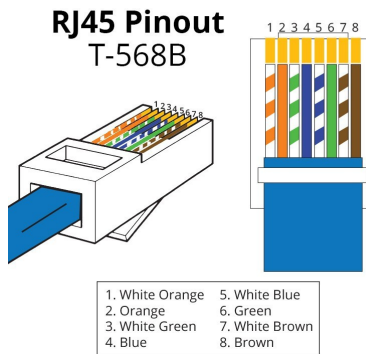
Output :

Lo/Mi/Hi load Capacity : 3A 250V AC (3A 30V DC)

Fk/Fb load Capacity : 0.05A 120-240V AC

L1/L2 load Capacity : 3A 250V AC (3A 30V DC)

RJ45 : T-568B



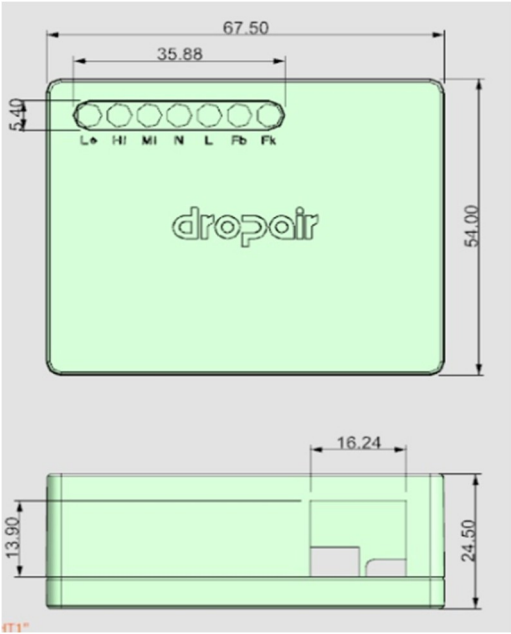
Chapter 3: Size Specifications

The product can be installed in the junction box, or any non-high temperature and humidity area, such as the inspection port, distribution box or other locations.

Volume: 67.5mm x 54mm x 24.5mm

Weight: approx. 75 g

Color: Apple White



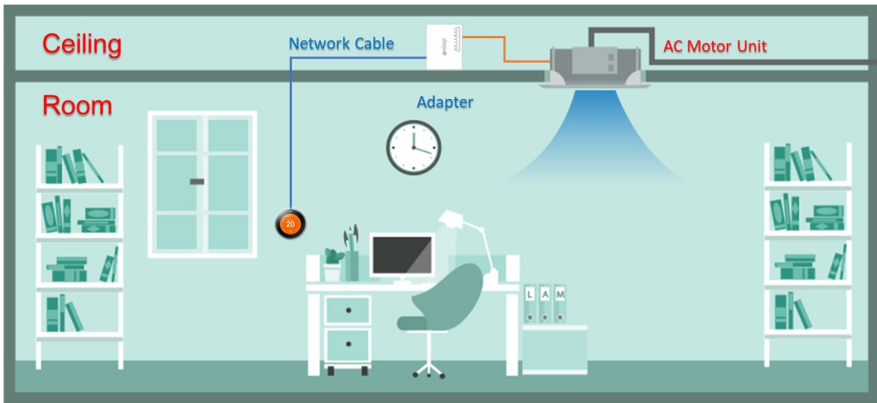
Chapter 4: Application Scenarios

The Nest thermostat can realize the whole house of the HVAC intelligent management via the Dropair adapter, such as radiant system, convection system, the whole air system, fresh air system, humidification or dehumidification system, a variety of boilers, The hot and cold sources, such as a series of equipment for intelligent linkage control, without the operation of each system to adjust, switch, it can be directly controlled by the Nest , can not only realize the HVAC system Intelligent control, can also be integrated into the intelligent home system to achieve intelligent joint control. It can be seamless docking Control 4, Lutron, Crestron, Elan and other intelligent home systems.

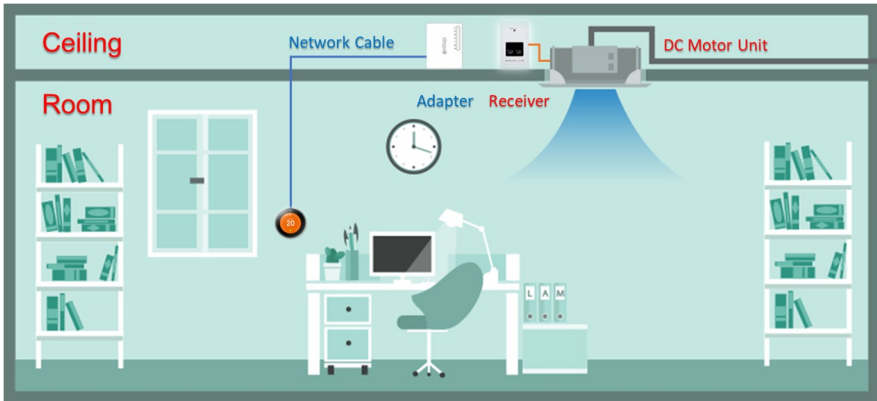


New setup project:

1. AC motor unit

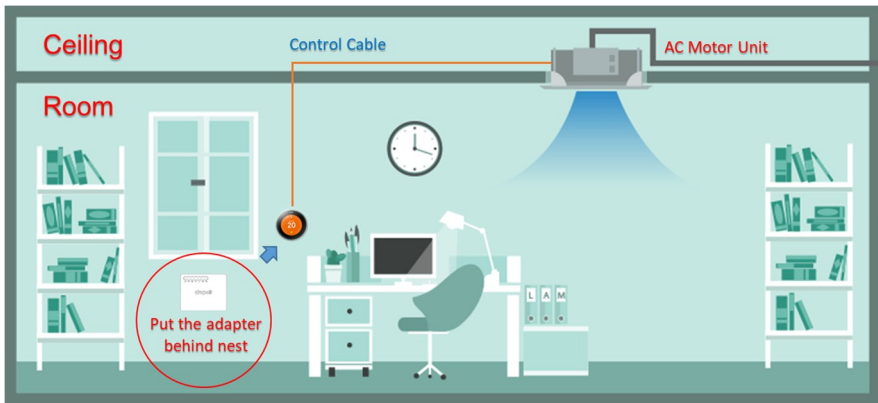


2. DC motor unit

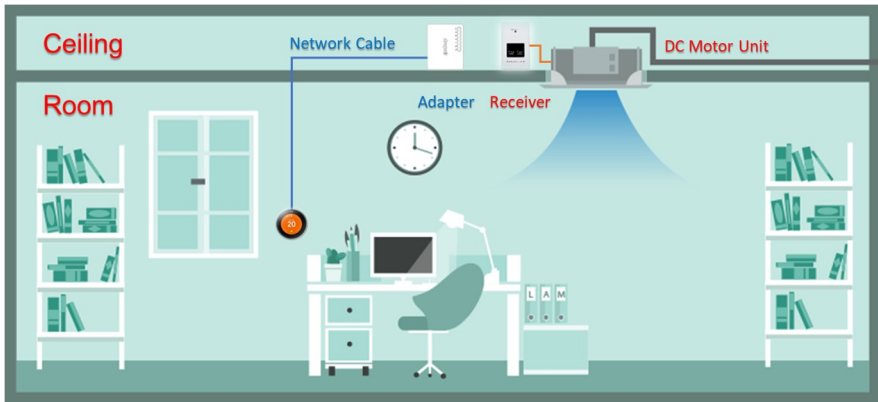


Refit project:

1. AC motor unit



2. DC motor unit



Chapter 5: New Install Application

For new project installation please following.

1. If the Nest base is mounted directly on the wall, it is recommended that the cable be left or right into the line to avoid the screw breaking the wire.
2. The multi VRV system terminal fan coils control will be the same status, more than one internal control cables are arranged to nest to the adapter, more AC water system fan coil need to install extra power amplifier.

3. Installation guide of AC Motor Unit

Step 1. Place a network cable from the air conditioner internal terminal to the nest installation position, and make the joint according to the T568B standard and test the continuity.

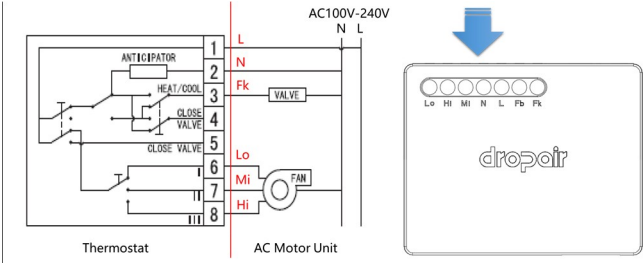
Step 2. Install the original thermostat in the inspection port of the ceiling of the air conditioner and test whether the equipment is running normally.



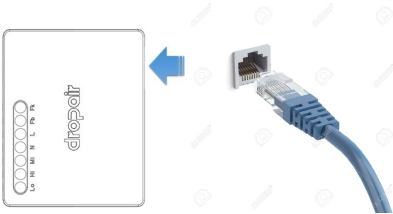
Step 3. Turn off the air conditioner power supply.

Step 4. Before remove the original thermostat, you should see labels next to the wires that are plugged into the back of the original thermostat. It's important to do this before you unplug the wires from the original thermostat, as plugging the wrong wire into the wrong connector could short out the system. The wires are marked as below, and connect it to

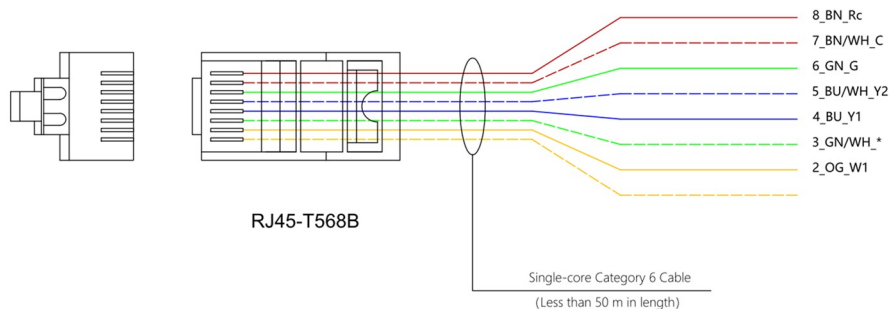
the adapter correctly according to the wire identification.



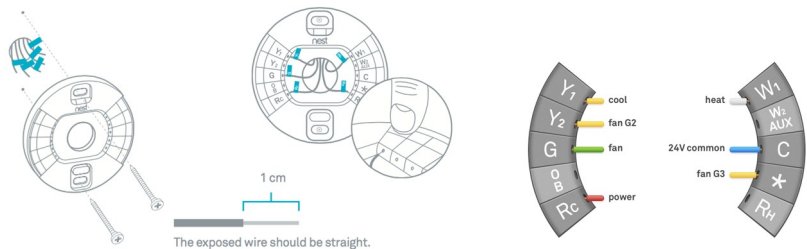
Step 5. Insert the network connector into the adapter.



Step 6. Cut off the network connector of the location where the nest controller is installed, and insert the wires according to the following line sequence.



Step 7. Install the nest and setup the parameters correctly.



Step 8. Turn on the power and test the air condition system according to charter 7.

4. Installation guide of DC Motor Unit

Step 1. Place a network cable from the air conditioner internal terminal to the nest installation position, and make the joint according to the T568B standard and test the continuity.

Step 2. Install the original thermostat in the inspection port of the ceiling of the air conditioner and test whether the equipment is running normally.

Step 3. Turn off the air conditioner power supply.

Step 4. Confirm whether the original thermostat has its own infrared receiving function. If not, please purchase and replace the same brand of thermostat with infrared receiving function or independent infrared receiving module. Probably the look of the picture below.



Step 5. Connect the power supply cable to the adapter L and N port, plug in the network connector, and place the adapter next to the temperature controller or the infrared receiver module.

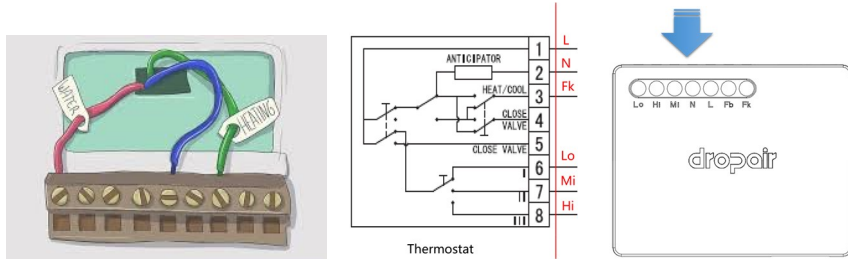
From step 6 to step 8 are same as AC motor unit.

Chapter 6: Modified Application

1. Installation guide of AC Motor Unit

Step 1. Turn off the air conditioner power supply.

Step 2. Remove the original thermostat after the wires are marked as below, and connect it to the adapter correctly according to the wire identification.

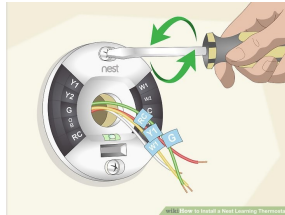


Step 3. Connect the special professional wiring to the adapter port.

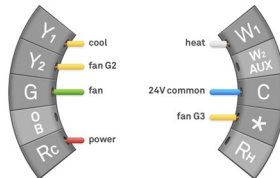


Step 4. Place the adapter in the electrical box behind the thermostat.

Step 5. Install the nest base and connect the wiring to the nest.



Step 6. Install the nest and setup the parameters correctly.

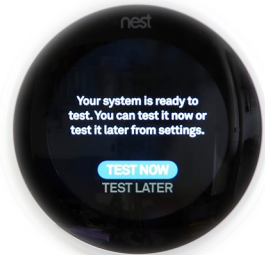
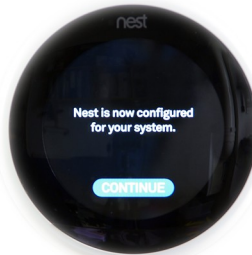


Step 7. Turn on the power and test the air condition system according to charter 7.

2. Installation guide of DC Motor Unit

Whether the control cable of the existing thermostat can draw swap CA6 network cable. If you can change the cable, please refer to Chapter 5 new install application. If you cannot, please contact us technical service support, to seek more detailed solutions.

Chapter 7. Function Test



1. In the setup step interface, select "System test".
2. The Nest show "Nest is now configured for your system", please choose to "CONTINUE".
3. The Nest show "Your system is ready to test, you can test it now later for setting." choose to "TEST LATER".
4. Next are two prompts, press to continue.
5. Finally press the screen to "FINISH".
6. Any questions, please contact us Technical Service support, seek free remote assistance or paid door-to-door service.

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Statement :

For Nest thermostat firmware and dropair adapter will be updated at any time, all information is subject to official release, this manual is for informational purposes only.

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