Honeywell

THERMOSTAT

WTS6 series

User Manual

Operation Guide

⏻ ········ Power

Tap“⏻”to power on/off the product.

Shutdown timer function: When the system is powered up, long touch “⏻”to enter the shutdown timer setting screen. Tap “+” or “-” to set the timer ranged from 0.5 to 12 hours (adjusted in 0.5 hour increments) , and tap “ ⏻ ”again to save the change. If there is no operation in 5 seconds, the system will exit automatically without saving settings.

+ — ········· Temperature Setting

In ☼ 、❄ 、☼ mode,

Tap "+ " and "- "at the same time for 5 seconds display "LC" to lock buttons and tap "+ " and "- "at the same time for 5 seconds to unlock the buttons.

Operation Guide

▦ ·········· Operating Mode

☼ Heating ❄ Cooling ☼ Automatic ✕ Ventilation

Touch“ ▦ ” for 3 seconds to enter the energy saver mode (only when the value is set to 3, the energy saver mode can be activated.). Tap any button to exit. Or link to the remote room card to enter the energy saver mode.Short press“▦”to cycle switch heating, cooling, automatic, ventilation mode.

Note: No automatic mode in two-pipe system.

················· Switching Fan Speed

Auto

Auto

Ultra low speed

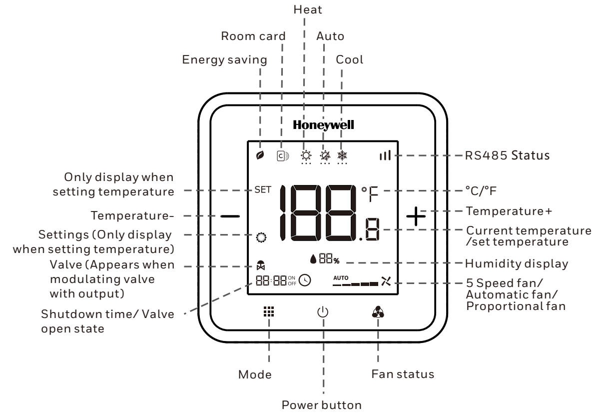
Low speed

Medium speed

Medium high speed

High speed

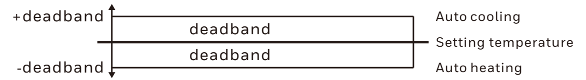
Display



The screen dispaly "LC" means the buttons is locked, and tap "+ " and "- "at the same time for 5 seconds to unlock the buttons.

Four pipe automatic mode description

Four-pipe automatic cooling and heating change over, the automatic adjustment range can be set in Configuration Menu Index 29 (deadband setting). In automatic heating mode, when the current temperature reach setting temperature+ deadband set point temperature, it will automatically change over to automatic cooling mode. In the automatic cooling mode, when the current temperature reach setting temperature- deadband set point temperature, it will automatically change over to the automatic heating mode.



Four-pipe automatic cooling and heating switching logic

Auto change Over heating / cooling, the the status of the deadband is determined by the last control mode.

Trouble shooting

Abnormal	Solution
☼ Not activated	Tap“ ▦ ” to set the operating mode to“ ☼ ” (heating mode). To check if the setting temperature is higher than the current room temperature. To check if the valve status “ ☼ (or ⧓)” is displayed. 5 minutes later, please check if the heating system is responsive.
❄ Not activated	Tap“ ▦ ” to set the operating mode to“ ❄ ” (cooling mode). To check if the setting temperature is higher than the current room temperature. To check if the valve status “ ⧓ ” is displayed. 5 minutes later, please check if the cooling system is responsive.
▦ Disabled	To check if the key is locked. To check if the mode is power OFF.
+ — Disabled	To check if the key is locked To check if the mode is ventilation mode . To check if the mode is power OFF.

Installation Instructions

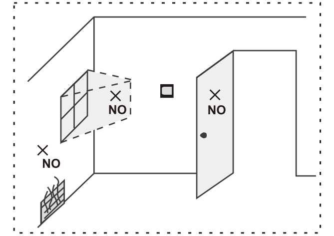
The product should be installed by a trained, experienced technical person.

- Please read this manual carefully before installation. Failure to follow them could damage the product or cause a hazardous condition.
- Check the ratings given in the instructions and on the product to make sure it is suitable for your application.
- Always conduct a thorough checkout after installation.

Note: Disconnect power supply before wire connection to prevent electrical shock and equipment damage.

Installation

- It is suitable for the installation with standard 86 junction box 75*75*50mm or junction box 70*70*50mm.
- The standard height to install this product is 1.5 meter from the floor with good air circulation.



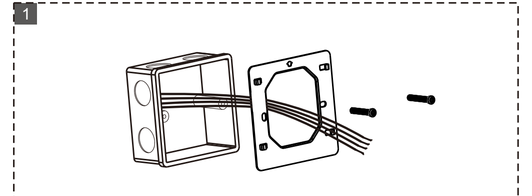
Do not install the thermostat at the locations below:

- Unventilated locations such as the places behind the door or in corners
- Locations close to heating or cooling pipes
- Locations exposed to sunlight or close to heat sources
- Other locations where the indoor temperature is low or high, such as walls connected to the outside.

Wiring and Installation

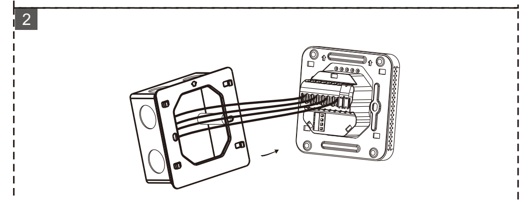
Please follow below drawings to do wiring and ensure the connection is reliable.
Ensure to tighten the terminal screws to prevent the wire from falling off.

1



Install the iron plate and tighten screws.

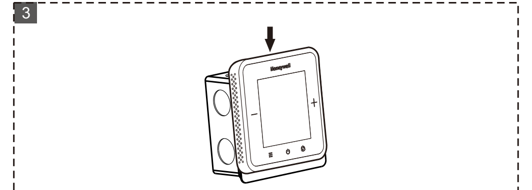
2



Connect the cables according to the wiring diagram.

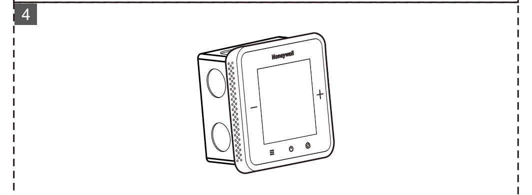
Please follow below drawings to do wiring and ensure the connection is reliable.
Ensure to tighten the terminal screws to prevent the wire from falling off.

3



Install the thermostat onto the iron plate, and slide down to secure the thermostat.

4



The installation has been finished.

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version B
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封面

成品尺寸：整体尺寸：860*89mm,成品尺寸86*89mm，风琴折，105g铜版纸，黑白印刷

封底

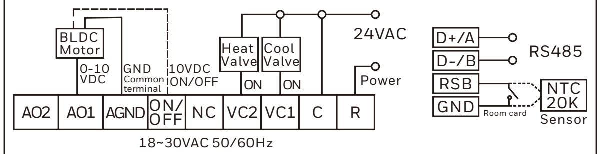
Terminal Description (WTS6EXXXXX/WTS6BXXXXX series)

No.	BLDC (Brushless DC) Motor, Modulating Valve / On-off Valve	
	Symbol	Description
1	L or R	Live wire(220/24VAC)
2	N or C	Neutral wire
3	VC1	Cooling valve on/ Valve on
4	VC2	Heating valve on/ Valve off
5	ON/OFF	BLDC motor (10VDC switch), no switch and no need to connect
6	NC	Standby
7	AGND	Analog signal ground wire
8	AO1	BLDC motor (Analog PI 0-10 VDC output 1)
9	AO2	Valve on (Analog PI 0-10 VDC output 2)
10	(D+/A)	RS485 A+
11	(D-/B)	RS485 B-
12	RSB	Room card signal/external sensor(NTC20K B4200, RVVP 2 x 0.75mm² cable type, recommended maximum lenght of sensor is no more than 50m)
13	GND	Room card/sensor common terminal. not RS485 common terminal.

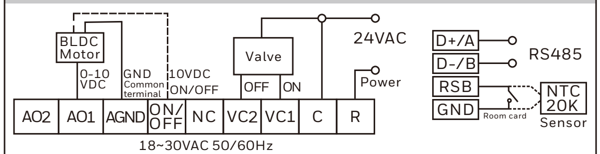
Note :

- Input voltage: 100~240VAC(18~30VAC)50/60Hz, the thermostat must be equipped with overload protection.
- Communication cable: RVSP2*1.0mm², connected no more than 32 thermostats in one RS485 loop.
- Don't route signal / communication cables with high voltage cables in a same conduit. Refer to Electrical Wiring Safety Regulations.
- All device in the same RS485 loop, not mix connect R and C cable, Otherwise, it may lead to device damage.
- Recommended Modbus Gateway Configuration: Response timeout≥1s, retry count≥2, single read /write register, Max Rx Inter Character Delay≥500ms.
- Recommended to connect only the same type of thermostat on a rs485 bus.

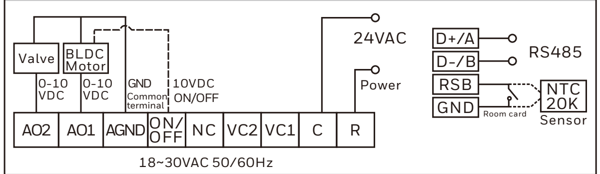
4-Pipe, 2-Wire Valve, BLDC Motor, 24VAC Power Supply



2-Pipe , 3-Wire Valve, BLDC Motor, 24VAC Power Supply

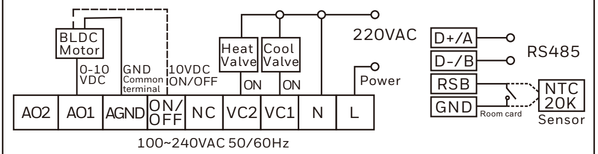


2-Pipe, PI(0-10V) Valve, BLDC Motor, 24VAC Power Supply

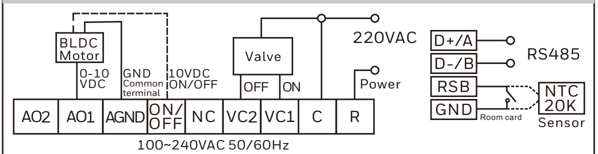


The Wiring diagram applicable models: WTS6EXXXXX

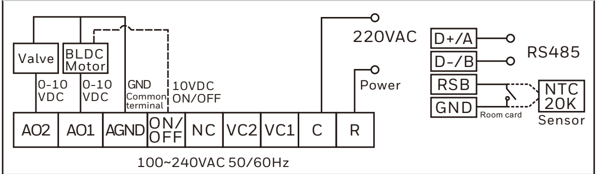
4-Pipe, 2-Wire Valve, BLDC Motor, 220VAC Power Supply



2-Pipe , 3-Wire Valve, BLDC Motor, 220VAC Power Supply



2-Pipe, PI(0-10V) Valve, BLDC Motor, 220VAC Power Supply



The Wiring diagram applicable models: WTS6BXXXXX

Security Instructions

This section lists the few security guidelines and tips that you must follow for the Honeywell Touch Screen Thermostat.

- Ensure the physical security of the device. Only authorized personnel can access the device and bus.
- Ensure the security of equipment installation, operation and maintenance management.
- Ensure that the device is on an isolated internal network.
- Do not open the device or damage the appearance, resulting in internal exposure.

Note: These are the tips that Honeywell recommends. But is not limited to. If you find any security vulnerability. Report it to security@honeywell.com

Configuration Menu Setting

After shutting down, touch“⏻” for 5 seconds to enter the parameter setting screen with “ ⚙ ”displayed. You can tap “+”, “-” to switch the menu number, and tap“ ▦ ” to enter the corresponding screen. (The icon“ ⚙ ” disappears.) Tap“ ▦ ” again to display “ ⚙ ”, and tap “+”, “-” to set the relevant function. After the setting is completed, tap “ ⏻ ” to save settings and exit.
In parameter setting screen, touch“ ▦ ” for 5 seconds and release will display “ DEF ” and flash 3 times, configuration menu will restore the factory setting.
During setup, if no button is tapped in 10 seconds, the system will exit the parameter setting screen without saving current settings.

Freezing protection mode:

If freezing protection is enabled and thermostat is in OFF mode while the room temperature is below 5 ℃, the thermostat will open heating device before the temperature rises to 8℃. (it is not available in cool only application).

Index	Description	Option
00	Modbus address (default 1)	1-64
01	Temperature Compensation (default 0°C)	When it is Celsius, the setting range will be from -2°C to 2°C adjusted in 0.5°C increments When it is Fahrenheit, the setting range will be from -4°F to 4°F adjusted in 1°F increments
02	Fahrenheit /Celsius (default °C)	℃: Celsius, °F: Fahrenheit
03	Temperature display (default 1)	1: When selecting "1"(the default setting), the room temperature is displayed by default. (It will display setting temperature when you touch up/down in this state, and exit after 5 seconds. 2: When selecting "2", the room temperature is displayed by default.(It will display room temperature when you press up/down in this state, and quit out after 5 seconds.

Index	Description	Option
04	Humidity display (default 1) (This setting is invalid for without humidity type)	1: Display the humidity (for example: 50%) 2: No display
05	Fan coil control mode setting after reaching to the setting temperature (default 1)	1: Turn off the fan coil when the temperature reaches the set point. 2: Fan coil keep working when the temperature reaches the set point.
06	Freezing protection mode (default 1)	1: Enable freezing protection function 2: Disable freezing protection function
07	Setting the upper temperature limit (default 32 °C)	When it is Celsius, the setting range will be from 10°C to 32°C adjusted in 0.5°C increments When it is Fahrenheit, the setting range will be from 50°F to 90°F adjusted in 1°F increments
08	Setting the lower temperature limit (default 10 °C)	When it is Celsius, the setting range will be from 10°C to 32°C adjusted in 0.5°C increments When it is Fahrenheit, the setting range will be from 50°F to 90°F adjusted in 1°F increments

Index	Description	Option
09	Selecting operating mode (default 6)	1: Only cooling mode is available. 2: Only heating mode is available. 3: Only cooling and ventilation modes are available. 4: Only heating and ventilation modes are available. 5: Cooling, heating and ventilation modes are available. 6: Auto, Cooling, Heating, Ventilation modes are available. No automatic mode in two-pipe system.
10	Two-pipe/four-pipe system working setting (default 2)	2: Two-pipe system working 4: Four-pipe system working
11	Energy saver mode activated (default 3)	1: Room key card normally open 2: Room key card normally closed 3: Long touch operating mode button for 3 seconds
12	Heating temperature setting in energy saver mode (default 18°C or 64°F)	Range: 10~21°C in 0.5°C increments/ 50~70°F in 1°F increments
13	Cooling temperature setting in energy saver mode (default is 26°C or 79°F)	Range: 22~32°C in 0.5°C increments / 72-90°F in 1°F increments

Index	Description	Option
14	Fan speed setting in energy saver mode (default 2)	1: Low speed 2: Auto speed
15	External / Internal sensor (default 2)	1: Use the external sensor 2: Use the internal sensor
16	Keycard or external sensor (NTC 20K) selection (default 1)	1: Keycard card access 2: External sensor access
17	Modbus Baud rate (default 2)	0: baud rate 38400 bps 1: baud rate 19200 bps 2: baud rate 9600 bps 3: baud rate 4800 bps
18	Keypad lock mode (default 4) Factory settings: All buttons are not locked	1: System button is locked 2: Fan and system button are locked 3: All buttons are locked except power button 4: All buttons are locked
19	Power recovery status (default 1)	1: Keep previous status 2: Off
20	Valve type (default 1)	1: ON/OFF valve 2: PI (0-10V) modulating valve (Only for 2 pipe system)

Index	Description	Option
21	Auto fan maximum voltage range (default 10)	1~10V
22	Auto fan minimum voltage range (default 1)	1~10V
23	Ultra low speed fan voltage (default 2)	1~10V
24	Low speed fan voltage (default 4)	1~10V
25	Medium speed fan voltage (default 6)	1~10V
26	Medium high speed fan voltage (default 8)	1~10V
27	High speed fan voltage (default 10)	1~10V
28	Valve output status (default 0)	0: Display the valve icon 1: Not display the valve icon
29	4-Pipe auto change over setting range – dead band (default 3)	2- 1℃ (2°F) 3-1.5℃ (3°F) 4- 2℃ (4°F) 5-3℃ (5°F)