# WTS SERIES

## Touch Button Thermostats for FCU Applications

**The WTS Series Touch Button thermostat is a temperature control device with an extra-large LCD display, capacitive touch interface with color icons and manual or automatic fan speed selection.**




*The WTS Touch Button thermostat is the perfect blend of functionality, energy efficiency, attractive design and ease of use.*

The units monitor the actual room temperature, humidity* and the set temperature in real-time to control the opening / closing of the valves in the fan coil units to regulate the room temperature to the occupant's desired comfort.

Chose from a variety of options including white or black color shell, humidity display, Modbus communications and ECM fan support.

Its ultra-thin design fits any standard 86 x 86mm or smaller wall-mounted installation box. It features built-in temperature and humidity* sensor, anti-freeze protection, lock/unlock operating buttons and timed shutdown function.

## FEATURES AND BENEFITS

pipsa.com.mx

Built-in temperature and humidity* sensor. The unit monitors in real-time the actual room temperature and the set temperature to regulate the room temperature by controlling the opening/closing of the fan coil unit valve and the fan speed.

Extra-large LCD and intuitive interface making it easy to set temperature to the occupant's desired comfort. Ultra-thin, sleek design with capacitive touch color icons. Available in Black or White shell.

Enhanced energy efficiency through modulating control of the fan coil unit valve and ECM Fan support*.

Automatic fan speed control algorithm calculates the difference between the room and the set value and automatically adjust the fan speed for greater energy saving.

Wide range of options to meet most of the requirements in buildings control. Additional functions include keypad lockout, timed shutdown and Modbus communications*.

*On selected models, please refer to the part number selection table.

## VALVE AND FAN CONTROL

The WTS Series thermostat reads the room temperature from its built-in sensor and maintains the set temperature by sending on/off commands to the valve. There are three fan speeds which can be set manually or automatically. In manual mode, the fan speed is adjusted by FH, FM and FL outputs. In automatic mode, the fan speed will be decided by the difference between the room temperature and the set value. The fan will shut down when the valve is not operating.

Note : WTS3B4RXXX Models have Low and High Fan Speed only.

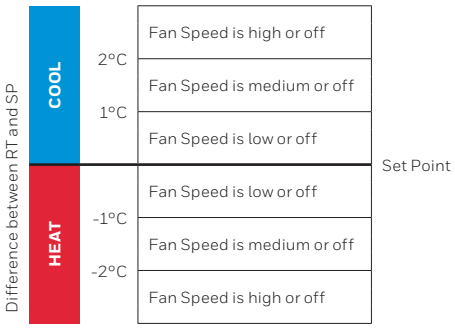



Figure 1. Automatic Fan Speed Control Algorithm

Honeywell

# **WTS SERIES** Technical Specifications

**TECHNICAL PARAMETERS**

**Communication:** RS485 MODBUS*
**Protocol & Baud Rate:** 4800/9600 (Default)/19200/38400 bps
**Operating Voltages:** 100-240VAC 50/60Hz / 24VAC±10% 50/60Hz
**Temperature Setting Range:** 10°C-32°C
**Temperature Display Range:** 0°C-50°C
**Control Accuracy:** 25°C±1°C
**Humidity Measurement Accuracy:** 0% ~99% RH; ±10% (Only for "/H" models)
**Control Signal:** Modulating Output
**Load Capacity Fan:** Resistive Load 5A; Inductive Load 2A
**Valve:** Resistive Load 5A; Inductive Load 2A
**Remote Sensor Type:** NTC20K

**ENVIRONMENTAL**

**Operating Temperature:** -10°C to 60°C
**Shipping Temperature:** -10°C to 60°C
**Relative Humidity:** 0 to 95% relative humidity (non-condensing)
**Relative Humidity:** 0 to 95% relative humidity (non-condensing)
**Protection Rating:** IP20

*On selected models, please refer to the part number selection table.

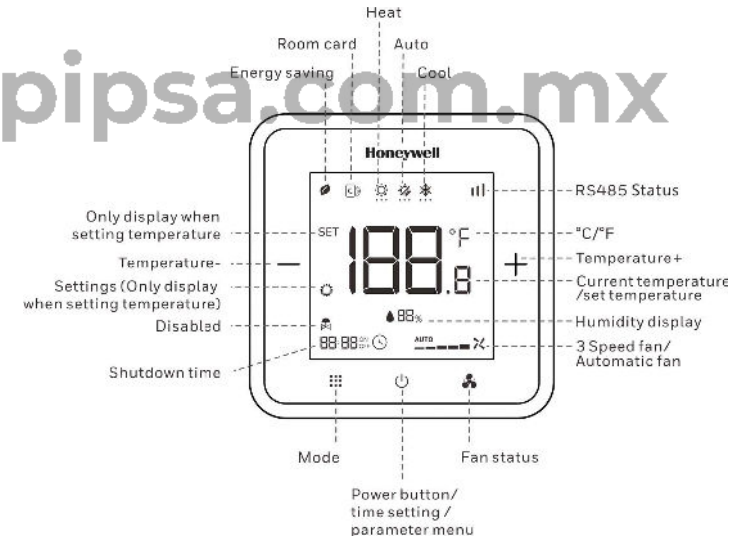
## PERFORMANCE HIGHLIGHTS

- Extra-large LCD display and operating interface
- Temperature display selection (room temperature or set temperature)
- Built-in temperature sensor
- Manual or automatic fan speed selection
- Anti-freeze protection
- Operating buttons lock/unlock
- Timed Shutdown

## OUTLOOK DESIGN AND DISPLAY

Either the real-time room temperature or the set temperature can be displayed. This can be selected while installing and setting up the thermostat.




## TIMED SHUTDOWN

In shutdown state, enter the timed shutown setting through the combination of keys. Timed shutdown time can be set from 0.5 to 12 hours, with every 0.5 hours in between.

## KEYPAD LOCKOUT

It is possible to lock or unlock the keypad while the device is not in setting mode. When locked out, the keypad will not respond when any of the buttons are pressed.

## HUMIDITY DISPLAY

On selected models with humidity sensor, the room humidity can be displayed on the main screen, or this parameter can be hidden through the device setting.

pipsa.com.mx

# OPERATION MODES

## COMFORT MODE

In comfort mode, the setpoint can be changed by pressing up or down button. Different applications include cool only, heat only and manual heat/cool changeover.










## VENTILATION MODE

In ventilation mode, fan only support manual speed control.



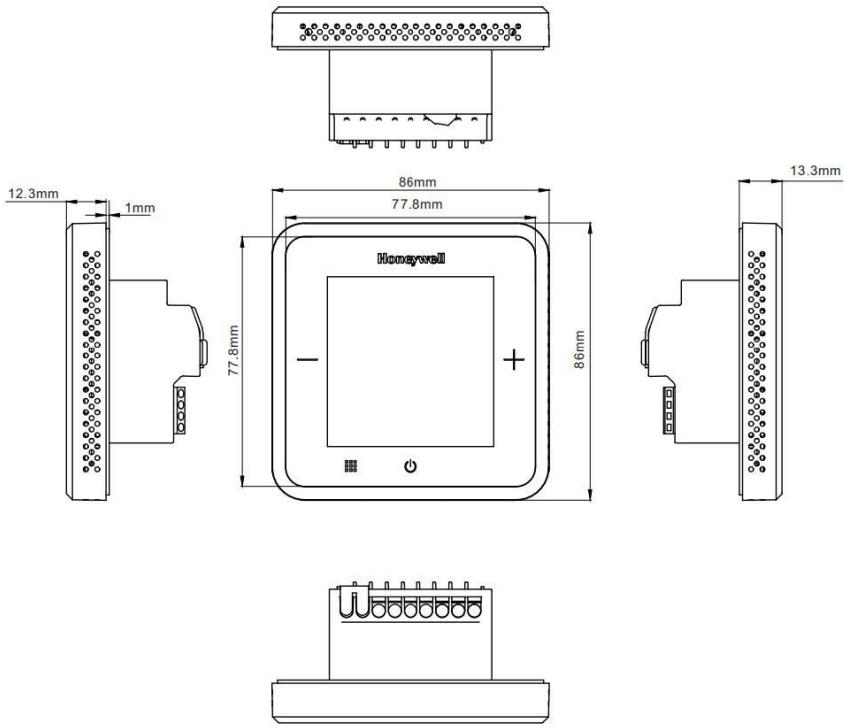

pipsa.com.mx

## ANTI-FREEZE MODE

Freezing protection can be disabled (default) or enabled.If freezing protection is enabled (it is not available in cool only application) and thermostat is in OFF mode while the room temperature is below 6°C, the thermostat will open heating device before the temperature rises to 8°C.



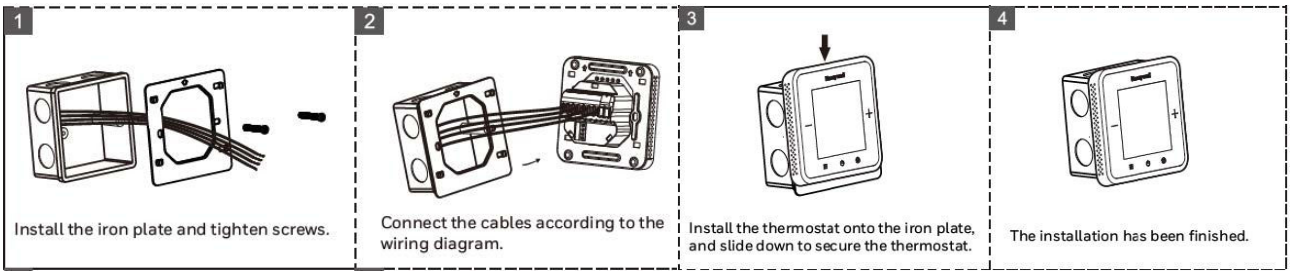
## DIMENSIONS




pipsa.com.mx

## INSTALLATION

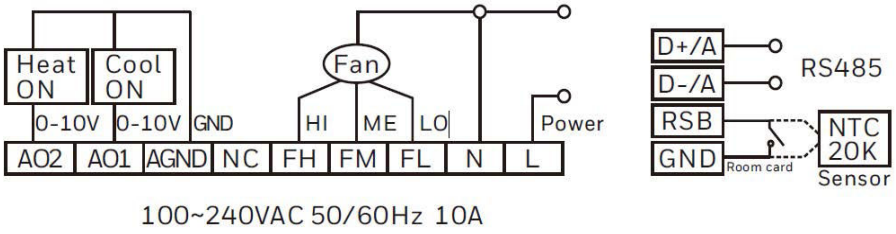
Please follow below drawings for wiring and ensure the connection reliable.
Ensure to tighten the terminal screws to prevent the wire from falling off.



# WIRING DIAGRAMS

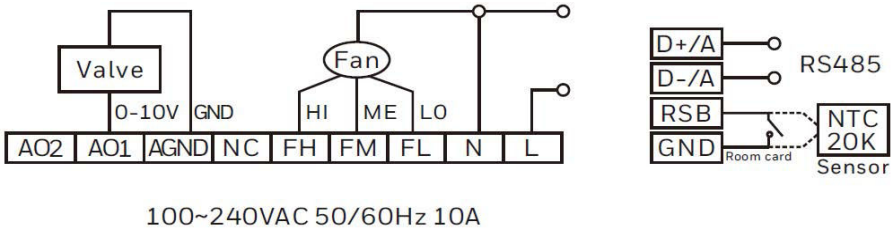
## PART NUMBER: WTS3B4XXXX

4-Pipe, PI (0-10V) Valve, 3-Speed fan, 220 VAC power supply




100~240VAC 50/60Hz 10A

2-Pipe, PI(0-10V) Valve, 3-Speed fan, 220 VAC power supply

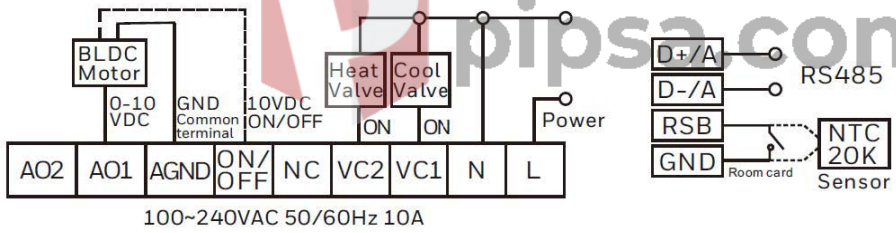



100~240VAC 50/60Hz 10A

Note: WTS3B4XMB/N does not support RS485 communication

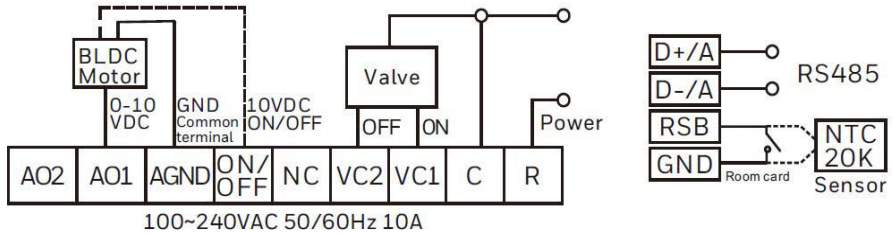
## PART NUMBER: WTS6B4XXXX

4-Pipe, 2-Wire Valve, BLDC Motor, 220 VAC power supply

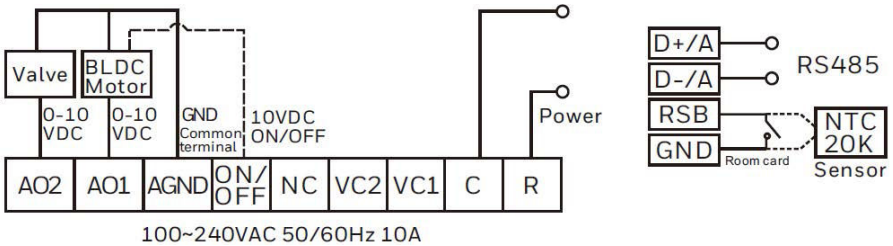



100~240VAC 50/60Hz 10A

2-Pipe, 3-Wire Valve/2-Wire Valve, BLDC Motor, 220 VAC power supply




100~240VAC 50/60Hz 10A




100~240VAC 50/60Hz 10A

# TERMINAL DEFINITION

### SYMBOL DESCRIPTION

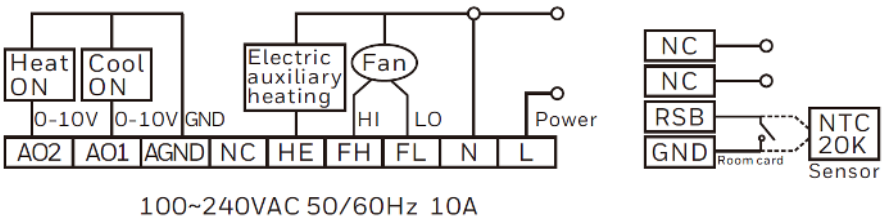
| SYMBOL | DESCRIPTION |
|---|---|
| L or R | Live Wire (220/24V) |
| N or C | Neutral Wire |
| FL | Low Fan Speed |
| FM | Medium Fan Speed |
| FH | High Fan Speed |
| AO1 | Cooling Valve (Analogue PI 0-10V Output 1) |
| AO2 | Heating Valve (Analogue PI 0-10V Output 2) |
| NC | Standby |
| AGND | Analog Signal Ground Wire |
| (D+/A)/NC | RS485 A+/Standby |
| (D-/B)/NC | RS485 B-/Standby |
| RSB | Room Card Signal / External Sensor (NTC20K) |
| GND | Room Card / Sensor Common Grounding |

pipsa.com.mx

# WIRING DIAGRAMS

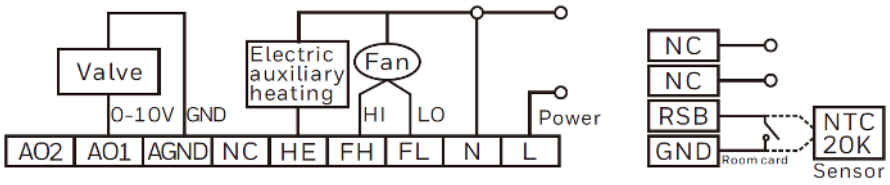
## PART NUMBER: WTS3B4RMX/X

4-Pipe, PI(0-10V) Valve, 2-Speed Fan, Electric auxiliary heating, 220VAC Power Supply




100~240VAC 50/60Hz 10A

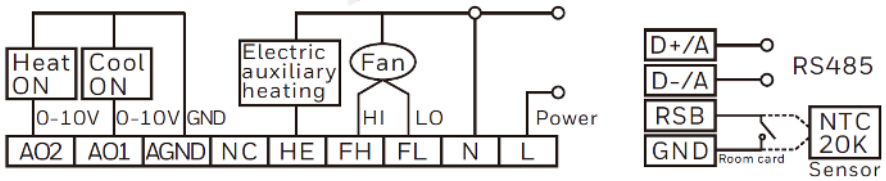
2-Pipe, PI(0-10V) Valve, 2-Speed Fan, Electric auxiliary heating, 220VAC Power Supply




100~240VAC 50/60Hz 10A

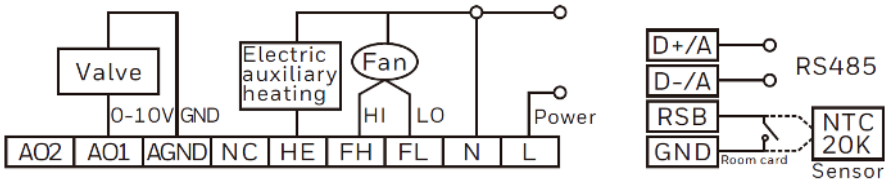
## PART NUMBER: WTS3B4RME/X

4-Pipe, PI(0-10V) Valve, 2-Speed Fan, Electric auxiliary heating, 220VAC Power Supply, with RS485




100~240VAC 50/60Hz 10A

2-Pipe, PI(0-10V) Valve, 2-Speed Fan, Electric auxiliary heating, 220VAC Power Supply, with RS485




100~240VAC 50/60Hz 10A

pipsa.com.mx

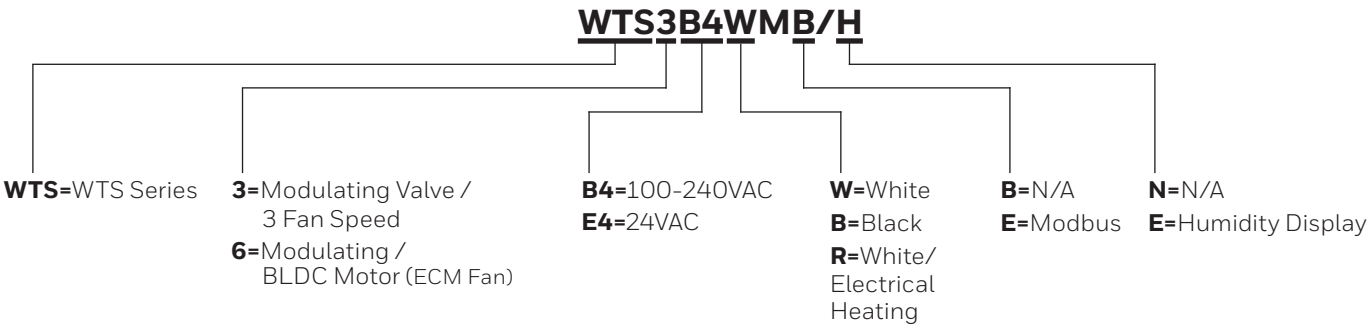
## TERMINAL DEFINITION

### SYMBOL DESCRIPTION

| SYMBOL | DESCRIPTION |
|---|---|
| L or R | Live Wire (220/24V) |
| N or C | Neutral Wire |
| FL | Low Fan Speed |
| FH | High Fan Speed |
| HE | Electric auxiliary heating |
| NC | Standby |
| AGND | Analog Signal Ground Wire |
| AO1 | Cooling valve (Analog PI 0-10 VDC output 1) |
| AO2 | Heating valve ( Analog PI 0-10 VDC output 2) |
| (D+/A)/NC | RS485 A+/Standby |
| (D-/B)/NC | RS485 B-/Standby |
| RSB | Room Card Signal / External Sensor (NTC20K) |
| GND | Room Card / Sensor Common Grounding |

# PART NUMBER SELECTION

## WTS3/6




| PART NUMBER | OPERATING VOLTAGE | APPLICATION | CONTROL SIGNAL | FAN SPEED | SHELL COLOR | MODBUS | BLDC | HUMIDITY DISPLAY |
|---|---|---|---|---|---|---|---|---|
| **WTS3** | | | | | | | | |
| WTS3B4WMB/H | 100-240VAC | 2/4pipe | Modulating | Low / Medium / High / Auto | White | No | No | Yes |
| WTS3B4WMB/N | | | | | | | | No |
| WTS3B4WME/H | | | | | | Yes | | Yes |
| WTS3B4WME/N | | | | | | | | No |
| WTS3E4WMB/H | 24VAC | | | | White | No | | Yes |
| WTS3E4WMB/N | | | | | | | | No |
| WTS3E4WME/H | | | | | | Yes | | Yes |
| WTS3E4WME/N | | | | | | | | No |
| WTS3B4BMB/H | 100-240VAC | | | | Black | No | | Yes |
| WTS3B4BMB/N | | | | | | | | No |
| WTS3B4BME/H | | | | | | Yes | | Yes |
| WTS3B4BME/N | | | | | | | | No |
| WTS3E4BMB/H | 24VAC | | | | Black | No | | Yes |
| WTS3E4BMB/N | | | | | | | | No |
| WTS3E4BME/H | | | | | | Yes | | Yes |
| WTS3E4BME/N | | | | | | | | No |
| WTS3B4RMB/H | 100-240VAC | | | Low / High / Auto | White | No | | Yes |
| WTS3B4RMB/N | | | | | | | | No |
| WTS3B4RME/H | | | | | | Yes | | Yes |
| WTS3B4RME/N | | | | | | | | No |
| **WTS6** | | | | | | | | |
| WTS6B4WMB/H | 100-240VAC | 2/4pipe | Modulating | ECM Fan (0-10Vdc) | White | Yes | Yes | Yes |
| WTS6B4WMB/N | | | | | | | | No |
| WTS6E4WMB/H | 24VAC | | | | | | | Yes |
| WTS6E4WMB/N | | | | | | | | No |
| WTS6B4BMB/H | 100-240VAC | | | | Black | | | Yes |
| WTS6B4BMB/N | | | | | | | | No |
| WTS6E4BMB/H | 24VAC | | | | | | | Yes |
| WTS6E4BMB/N | | | | | | | | No |

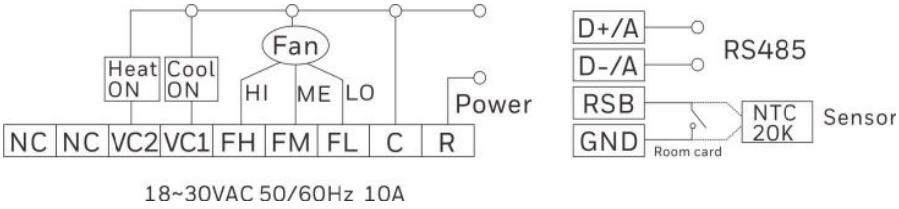
Note: The default Baud rate is 9,600bit/s.

pipsa.com.mx

# WIRING DIAGRAMS

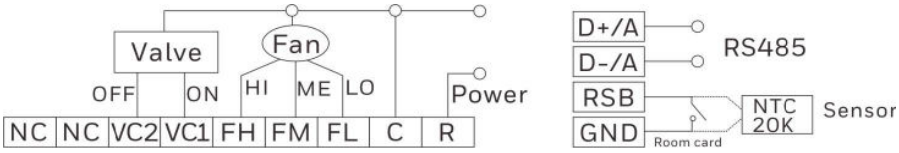
## PART NUMBER: WTS9E4XXXX WTS8E4XXXX

4-Pipe, 2-Wire Valve, 3-Speed fan, 24 VAC power supply




18~30VAC 50/60Hz 10A

2-Pipe, 3-Wire Valve, 3-Speed fan, 24 VAC power supply




18~30VAC 50/60Hz 10A

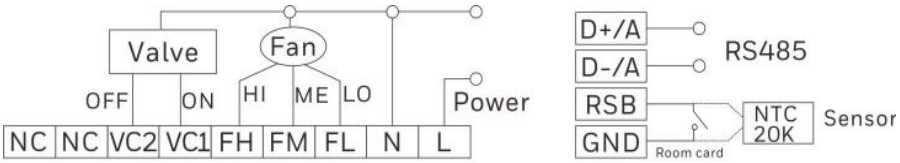
## PART NUMBER: WTS9B4XXXX WTS8B4XXXX

4-Pipe, 2-Wire Valve, 3-Speed fan, 220 VAC power supply




100~240VAC 50/60Hz 10A

2-Pipe, 3-Wire Valve/2-Wire Valve, 220 VAC power supply




100~240VAC 50/60Hz 10A

Note: WTS8 does not support RS485 communication

# TERMINAL DEFINITION

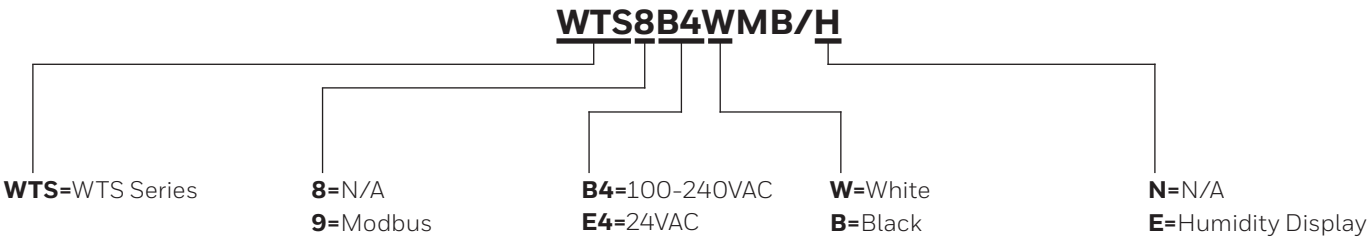
### SYMBOL DESCRIPTION

| SYMBOL | DESCRIPTION |
|---|---|
| L or R | Live Wire (220/24V) |
| N or C | Neutral Wire |
| FL | Low Fan Speed |
| FM | Medium Fan Speed |
| FH | High Fan Speed |
| VC1 | Heating / Cooling Valve On |
| VC2 | Heating / Cooling Valve Off |
| NC | Standby |
| (D+/A)/NC | RS485 A+ / Standby |
| (D-/B)/NC | RS485 B- / Standby |
| RSB | Room Card Signal / External Sensor (NTC20K) |
| GND | Room Card / Sensor Common Grounding |

pipsa.com.mx

# PART NUMBER SELECTION

## WTS8/9




| PART NUMBER | OPERATING VOLTAGE | APPLICATION | CONTROL SIGNAL | FAN SPEED | SHELL COLOR | MODBUS | HUMIDITY DISPLAY |
|---|---|---|---|---|---|---|---|
| **WTS8** | | | | | | | |
| WTS8B4WMB/H | 100-240VAC | 2/4pipe | On/Off | Low / Medium / High / Auto | White | No | Yes |
| WTS8B4WMB/N | | | | | | | No |
| WTS8E4WMB/H | 24VAC | | | | | | Yes |
| WTS8E4WMB/N | | | | | | | No |
| **WTS9** | | | | | | | |
| WTS9B4WMB/H | 100-240VAC | 2/4pipe | On/Off | Low / Medium / High / Auto | White | Yes | Yes |
| WTS9B4WMB/N | | | | | | | No |
| WTS9E4WMB/H | 24VAC | | | | | | Yes |
| WTS9E4WMB/N | | | | | | | No |

pipsa.com.mx

Note: The default Baud rate is 9,600bit/s.

pipsa.com.mx

**For more information**
www.buildings.honeywell.com

**Honeywell Building Management Systems**
Emaar Business Park,
Sheikh Zayed Road Building No. 2,
2nd floor, 201 PO Box 232362
Dubai, United Arab Emirates
Tel: +971 4 450 5800
www.honeywell.com

BMS-GFD-WST-01-ME(0322)DS-ZB
© 2022 Honeywell International Inc.

THE FUTURE IS WHAT WE MAKE IT

Honeywell