WM SERIES DIGITAL THERMOSTAT



Fan Coil Unit Control

FEATURES AND BENEFITS

- 2/4-PIPE COOLING/ HEATING MANUAL/ AUTOMATIC CHANGEOVER
- MANUAL OR AUTOMATIC 3-SPEED FAN CONTROL
- TEMPERATURE DEVIATION CORRECTION FUNCTION (OFFSET ADJUSTMENT)
- LOW TEMPERATURE ANTIFREEZE FUNCTION
- KEYPAD LOCK OPTIONS
- CONFIGURABLE CONTROL ALGORITHM
- OPTION FOR SLEEP MODE

APPLICATION

The WM Series of Digital Thermostat is designed for a 3-speed fan and a motorized valve control in fan coil system. The typical application including:

- 2/4-pipe cool only/heat only/manual changeover
- Ventilation mode
- Manual or automatic 3-speed fan control
- Water valve on/off control

TECHNICAL SPECIFICATIONS	
Rated voltage & Frequency	100~240 VAC±10%, 50/60HZ
Setpoint range	5~45°C step 1°C
Control Accuracy	± 1°C at 25°C
Temperature display resolution	0.1°C
Display range	0~50°C
Built-in Temperature Sensor	NTC 10K
Working current for the whole product	5(3)A
	5A : When the load of the thermostat is resistance
	3A: When the load of the thermostat is inductance.

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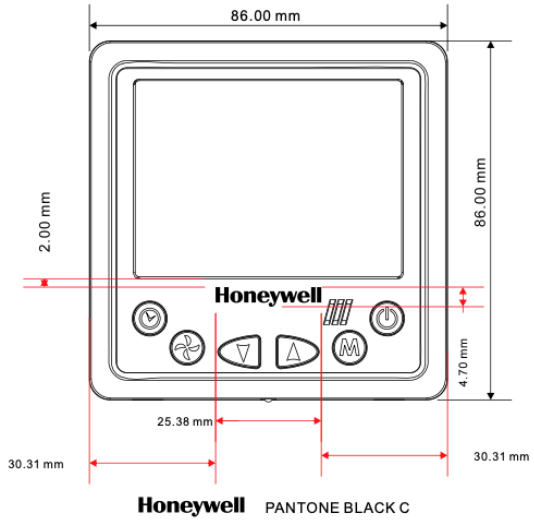
TECHNICAL SPECIFICATIONS	
	For Fan Load:
	5A: when the load is resistance
	2A: when the load is inductance
	For Valve Load:
	5A: when the load is resistance
	2A: when the load is inductance
Power consumption	<2W

MODEL SELECTION

PART NUMBER	DESCRIPTION	OPERATING VOLTAGE	APPLICATION	BACKLIGHT	VALVE CONTROL TYPE
WM428WN/U	Fain Coil Thermostat - 230V 2/4-pipe On/Off with 3 Fan speed/Auto & white backlight	100-240V AC	2/4 Pipe	White	On/Off

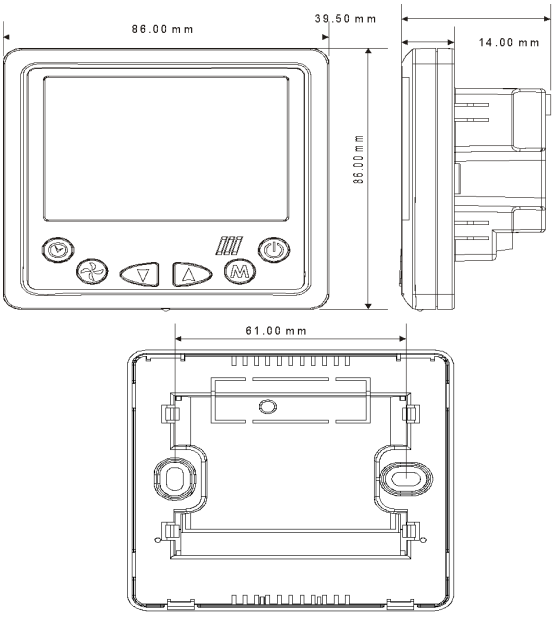
PRODUCT DESIGN

Thermostat appearance



Button:

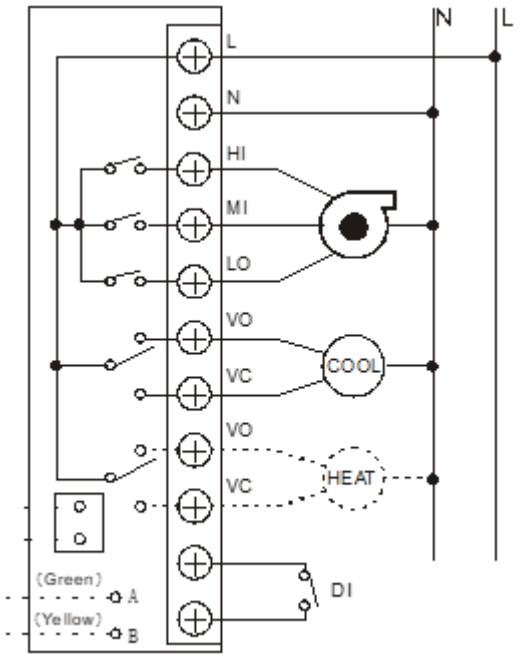
- "ON/OFF" button: Power on/off.
- "MODE" button: Adjustment Mod
- "▲"button: Increase set value.
- "▼"button: Decrease set value
- "FAN" button: Adjust fan speed.
- TIMER Key: N/A



Output:

- Valve control (Cooling): VC (Valve Close), VO (Valve Open)
- Valve control (Heating): VC (Valve Close), VO (Valve Open)
- Fan speed: High. (Relay)
- Fan speed: Middle. (Relay)
- Fan speed: Low. (Relay)

WIRING DIAGRAM



FUNCTION

VALVE CONTROL

Thermostat acquires the room temperature via itsintegrated sensor or external temperature sensor and maintains the setpoint by delivering on/off valve control commands output.

FAN OPERATION

Fan can be selected as manual or automatic 3-speed operation. In Manual mode, the fan is switched to the selected speed via control outputs. While in automatic mode, fan speed depends on the difference between room temperature and setpoint. When room temperature reaches setpoint, valve will be closed and meanwhile, fan will be closed either.

TEMPERATURE DISPLAY

The displayed temperature can be set to acquired room temperature or setpoint. The setting can be made during Installer Set-Up process.

KEYPAD LOCK

Keypad lock can be set in Installer Setup with default status is all keys available. You may change into mode button locked out, Fan and mode buttons locked out and All buttons locked out by changing the Installer Setup.

BACKLIGHT

To turn on the backlight, press any key. The backlight will timeout after the last key is pressed. When in ISU and Installation test mode, the backlight will timeout after the last key is pressed.

OPERATING MODES

The following operating modes are available:

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

Ventilation mode:
Press mode button to enter ventilation mode. In ventilation mode, no output for valve while the fan will operate according to selected fan speed.

Freezing protection mode:
Freezing protection can be selected as disabled (default) or enabled. In freezing protection mode (no such mode in cool only application), when thermostat is in OFF mode while the acquired temperature is below 6°C, the thermostat will start heat mode until the temperature rises to 8°C or the thermostat is turned on.

On/off mode:
Pressing power button can switch between on and off mode.

INSTALLER SETUP

- Press "Ⓜ" for 3s to enter Installer Setup:
- Change the ISU code by pressing "Ⓜ" button and then change the option setting by pressing the Up "Ⓐ"Down "Ⓥ" button. Refer the following instructions-

INSTALLER SETUP SETTINGS

ITEM	INSTRUCTION	DEFAULT
1	Modbus address: Range: 01~31; Step: 1	01
2	Set Temp. upper limit Range: (5~45°C); Step:1°C	30°C
3	Set temp. low limit Range: (5~45°C); Step: 1°C	10°C
4	Display Temp. Adjustment (offset) Range: (-5 ~ 5°C); Step: 0.5°C	0.0°C
5	Cool/Heat Mode 1- Cool / Heat Mode 0- Only cooling mode	1
6	Fan Operation 1- Stop the Fan when Temp. Set point is achieved 0- Never Stop the Fan	0
7	Two/ Four pipe selection: 1- Four Pipe 0- Two Pipe	0 or 1Depends on model
8	Power on States: 1-On states 0-Off States	0
9	Low Temp. freeze-proofing function: 1- ON 0- OFF	1
10	Sensor: 1- Remote sensor 0-Built-in sensor	0
11	Keypad Lockout: 1- All buttons available 2- Only Mode button locked out 3- Fan & Mode buttons locked out 4- All buttons locked out	1
12	DI (Digital Input): 1- Remote ON/OFF 0- Energy saving mode	0
13	Cool energy-saving Temp. Range: (25~30°C) Step: 1°C	25°C
14	Heat energy-saving Temp. Range: (10~20°C) Step: 1°C	15°C
15	Valve Control Z-Band (Z-Band 1): Range: (0.5~4)°C Step: 0.5°C	1°C
16	Cooling/Heating Changeover Z-Band (Z-Band 2): Range: (1~4)°C Step: 0.5°C	1°C

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