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ТЕРМОСТАТЫ И КРИОСТАТЫ

Технические характеристики на

TF428WNM/U



TF428WNM/U

Communicating Fan Coil Thermostat

SPECIFICATION DATA



Specifications

Physical Layer	EIA485	
Protocol	Modbus RTU	
Baud rate	4800/9600(Default)/19200	
Parity	None	
Error Checking Mechanism	CRC	
Rated Power & Frequency	220/230VAC, 50/60Hz	
Power consumption	<2W	
Control	PI, On/off output	
Accuracy	±1 °C at 21°C	
Auto Cycle times	100,000 times	
Manual Cycle times	10,000 times	
Protection class	IP20	
Set point range	10 ~ 32°C	
Display range	0 ~ 37°C	
Ambient operating limits	0~ +49°C	
Ambient storage limits	-30 ~ +60°C	
Humidity limits	5~90% RH, non-condensing	
Action Type:	1	
Pollution Degree	2	
Protection against electric shock class	Class II	
Electronic control software class	Class A	
Rated Impulse Voltage:	2500V	
Maximum Temperature for	155°C	
Relay wiring		
Wire Sectional area		
(Recommendation)	1.0~1.5mm ²	
Applied altitude up to	2000m above sea level	
Rating Capacity		
Working current for the whole product :	4(3)A	
4A: When the load of the thermostat is resistance		
3A: When the load of the thermostat is inductance		
For Fan load 3(2)A		
3A:when the load is resistance; 2A:When the load is inductance		
For Valve load 2(1)A		
2A: when the load is resistance;1A: when the load is inductance		
The valve need have overtravel-limit organ to turn off the load.		

General

The TF428WNM/U communicating thermostat is designed for 3-speed fan and valve control in a fan coil system, including:

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

The TF428WNM/U is available in Modbus RTU protocol and can be easily integrated into building automation system.

Features

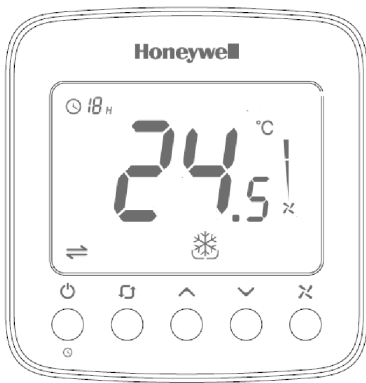
- **RS485 interface in Modbus RTU slave mode**
- **Memorized time off**
- **Cycle Per Hour (CPH)**
- **Random startup**
- **LCD display with simple user interface**
- **Room temperature or setpoint temperature display selectable**
- **Manual or automatic fan speed selectable**
- **Temperature units in either °C or °F**
- **User setting can be stored when power loss**
- **Freeze protection function available**
- **Keypad lock options**

Model Selection

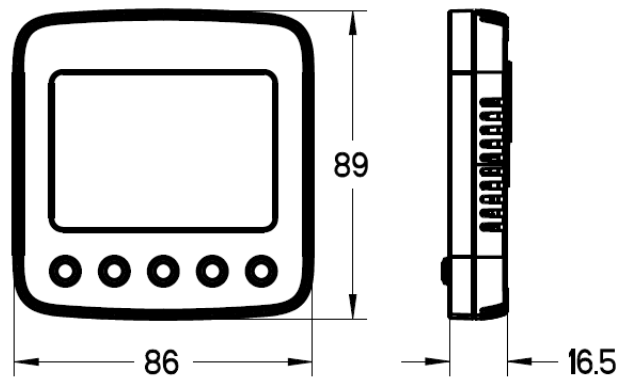
Model Number	Backlight	Application	Power Supply	Ventilation Mode	Energy Saving Mode
TF428WNM/U	White	2/4 pipe FCU	220/230Vac; 50/60Hz	Y	Y

Product Design

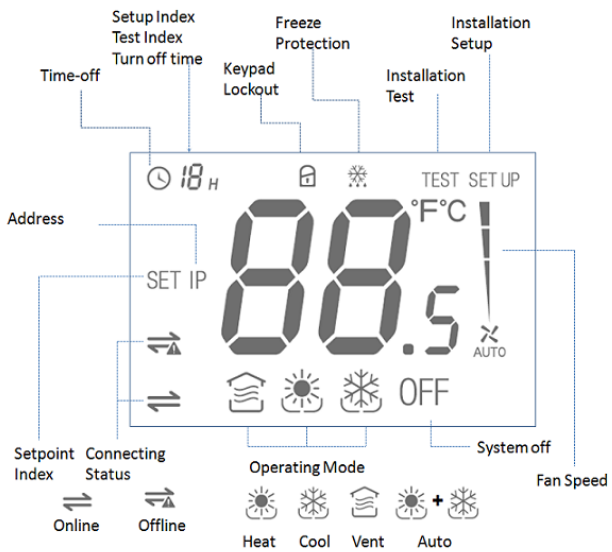
Thermostat appearance



Dimensions (mm)



LCD display



Function

Valve Control

Thermostat measures the room temperature via integrated sensor and maintains the setpoint by delivering on/off valve control command outputs.

The fan setting can be selected as manual or automatic 3-speed operation. When in “manual” mode, the fan is switched to the selected speed via control output FH (high), FM (Medium) , FL (Low).

While in “automatic” mode, fan speed depends on the difference between room temperature and setpoint. When room temperature reaches the setpoint, the valve will be closed, and the fan will be closed in the meanwhile.

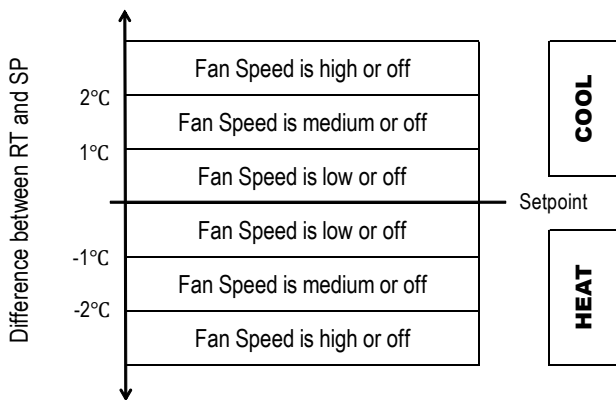
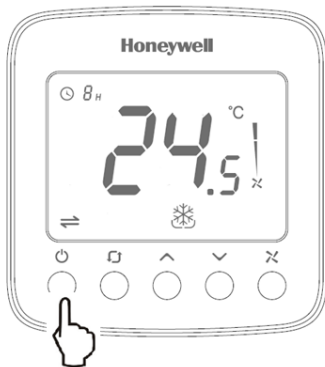


Fig. 1. Fan Speed Ramping Control Algorithm

Memorized Time Off

The time off feature will automatically turn off the thermostat after a selectable amount of time. To change the time setting, press and hold the power button for more than 3 seconds and press “up” and “down” button to change the value when the thermostat is working .

NOTE: The setting range is from 0 to 12 hours. The step is 1 hour and the default value is 0.



Backlight

To turn on the backlight, press any key. The backlight will time-out 8 seconds after the last key is pressed. When in ISU and Installation test mode, the backlight will timeout 60 seconds after the last key is pressed.

Keypad Lockout

Keypad lockout can be set in ISU or over Modbus. The default status is “all keys available”. Keypad lock can be optioned to “mode button locked”, “Fan and mode buttons locked”, “all buttons (except power button) locked” and “all buttons locked”.

Temperature Display

The displayed temperature can be set to room temperature or setpoint. The setting can be changed during ISU (Installation Set Up) process.

Cycle Per Hour (CPH)

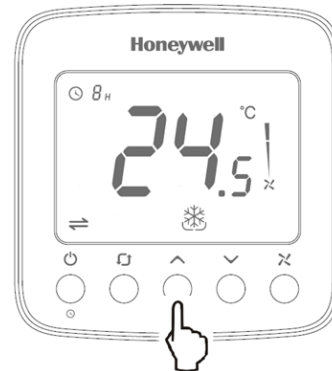
CPH function enables the thermostat to open the valve several times per hour as the room temperature gets close to the setpoint.

The value can be changed in the ISU, the default values are 4 for heating and 3 for cooling.

Operating Mode

Comfort Mode

In comfort mode, the setpoint and fan speed can be changed by pressing corresponding buttons. Comfort mode including 2-pipe cool only/heat only/manual changeover and 4-pipe manual /auto changeover applications.



Energy Saving Mode

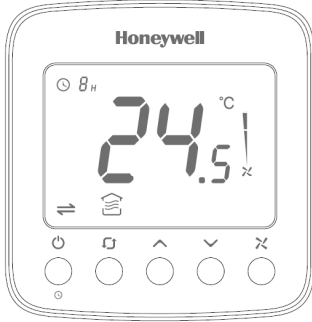
Energy saving mode can be activated over Modbus.

If energy saving mode is activated over Modbus, then all keys will be locked to prevent the individual control on site. When disable the energy saving mode over Modbus, all keys will be available.

The setpoint will change to the energy saving heating/cooling setpoint when the energy saving mode is enabled.

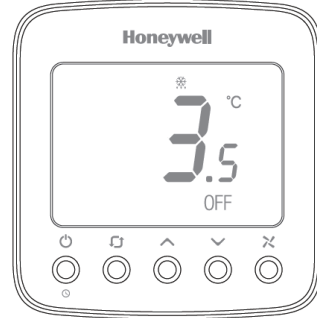
Ventilation Mode

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



Freeze Protection Mode

Freeze protection can be selected as disabled or enabled (default) in the ISU or over Modbus. In freeze protection mode (only in heating applications), when thermostat is off and the temperature is below 6°C, the thermostat will activate heating mode until the temperature rises to 8°C.



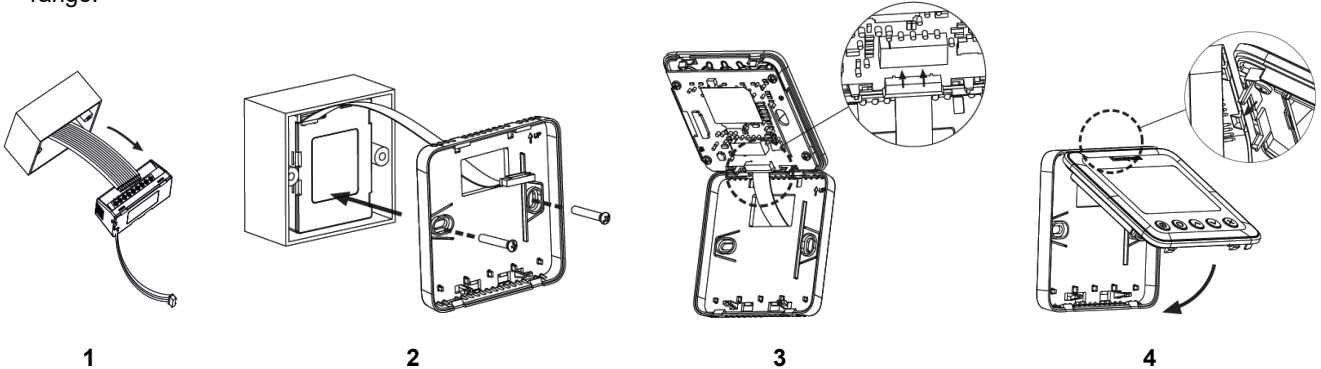
Installation and Wiring

TF428WNM/U can be installed in standard 86 size junction box directly.



The screws must be locked tightly to avoid wire break off from the terminals.

The temperature of mounting box and wall should be in the operating temperature range.



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