Honeywell

TF428/TF418 Series Digital Thermostat

Fan Coil Unit Control

SPECIFICATION DATA

General

The TF428 series digital 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 control

Besides the basic controls, TF428 series featuring **CPH (Cycle Per Hour)** better maintains the room temperature to the setpoint and **Random Start-up Function** would help to maintain power grid stability.

In addition, Honeywell **Memorized Time Off Function** can automatically turn off the thermostat to save energy.

Features

- **Memorized time off**
- **Cycle Per Hour (CPH)**
- **Random startup**
- **Remote temperature sensor optional**
- **Energy saving mode optional**
- **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 with power loss**
- **Freeze protection available**
- **Four keypad lock options**
- **Heating and cooling setpoint limitation**

Specifications

Power supply	220/230VAC, 50/60Hz
	110VAC, 60Hz
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
Remote temperature sensor	NTC20K
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	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 4(2)A

4A: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.

CE

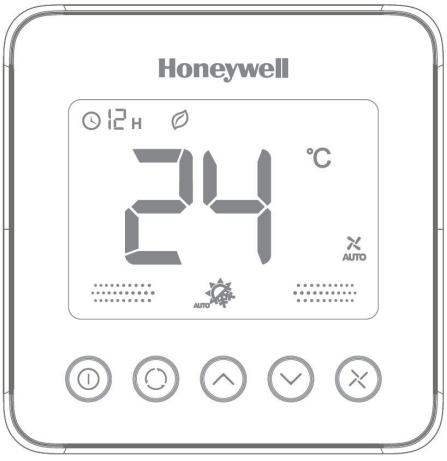
Model Selection

Product Type	Thermostat for Fan Coil Control	TF							
Application	2/4 pipes fan coil with 3-speed fan		4						
Power supply	220/230 Vac, 50/60Hz			2					
	110 Vac, 50/60Hz			1					
Valve control type	On-Off				8				
Housing color	white					W			
	Black					D			
	Sliver					S			
	Rose Gold					G			
	Copper					C			
	Sliver hairline					L			
	Gold hairline					K			
Backlight color	Default						N		
Special code	N/A								
	Customized color							- X	
Packing Type	Unit Packing								/U
	Bulk Packing								
	Single Package (thermostat with wall plate)								/S

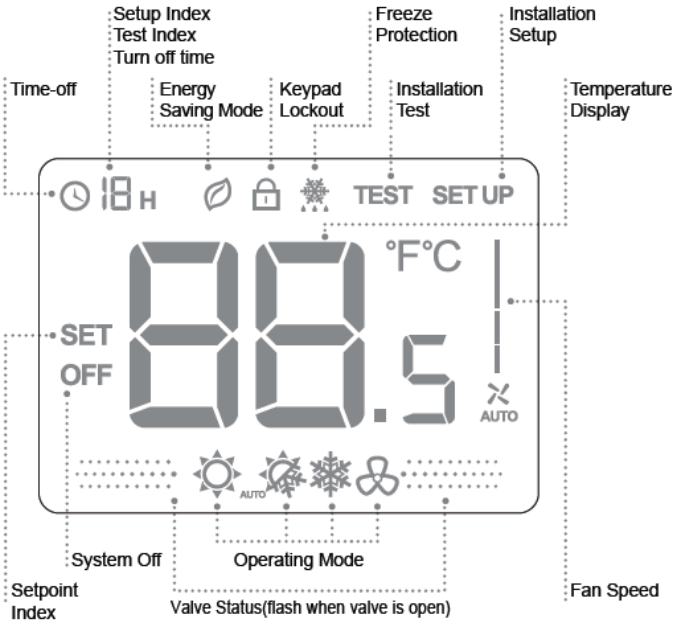
E.g.
TF428WN/U: 220/230 Vac, on-off valve control, white housing, unit packing
TF428DN: 220/230 Vac, on-off valve control, black housing, bulk packing, 40 units/ package

Product Design

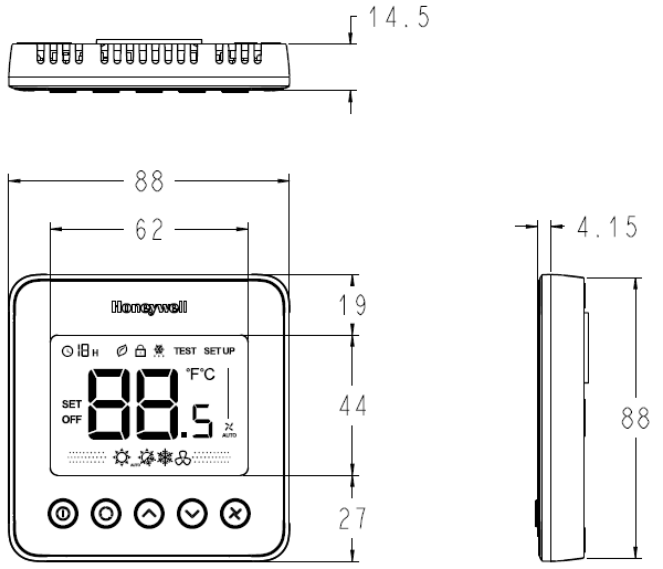
Thermostat appearance



LCD display



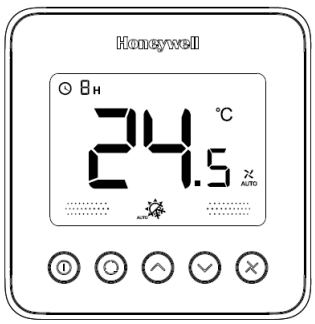
Dimensions (mm)



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 SUHVV ³XS´ DQG ³GRZQ´ EXWWRQ WR FKDQ thermostat is working .

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



Function

Valve Control

Thermostat measures the room temperature via integrated sensor or remote temperature sensor and maintains the set-point by delivering on/off valve control command outputs.

The fan setting can be selected as manual or automatic 3-VSHHG RSHUDWLRQ :KHQ LQ ³PDQXDO´ PRGH WKH IDQ LV VZLWFKHG to the selected speed via control output FH (high), FM (Medium) , FL (Low).

:KLOH LQ ³DXWRPDWLF³ PRGH IDQ VSHHG GHSHQGV RQ WKH GLIIHU ence 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.

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

.H\SDG ORFNRXW FDQ EH VHW LQ ,68 DQG NH\V DYDLODEOH .H\SDG ORFN FDQ EH RS ORFNHG´ ³)DQ DQG PRGH EXWWRQV ORFNH SRZHU EXWWRQ ORFNHG´ DQG ³DOO EXWW

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)

In order to achieve more accurate temperature control, the CPH function enables the thermostat to open the valve several times per hour as the room temperature gets close to the se-point.

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

Fig. 1. Fan Speed Ramping Control Algorithm