

H7714 Series Thermostat User and Installation Manual

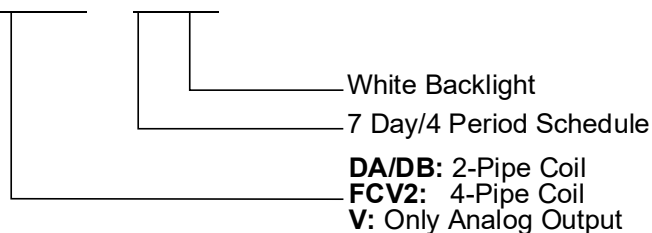
H7714 series thermostats are suitable for industrial, commercial, and room temperature control, which is applied to the 3-speed fan, DC 0-10V for the electric control valve.

H7714-MD(with Modbus) model is used to realize remote centralized control and management, especially for office buildings, apartments, hotels, and other commercial buildings.



Model Selection Guide

H7714 DA/DB - T L



Characteristics and Advantages

| Characteristics | Advantages |
|-------------------------------|---|
| Product serialization | This series of products have a variety of functional combinations, which can be suitable for different application requirements |
| Large Size LCD Screen | White back-light, clear display |
| EEPROM Memory | Auto-recovery after power failure |
| ABS+PC Plastic Cover and Base | Strong and durable Intrinsically flame retardant |
| Heavy Duty Relay Available | 7A relay optional for high static pressure FCU |

Function

- Application: 2-Pipe/4-Pipe Fan Coil Control
- Operation Mode: Cooling/Heating/Ventilation
- Display: Operation Mode, Room temperature, Fan speed, Valve Status, Clock, ECO mode
- Room Temperature Setting
- Backlight: White
- Fan Control: 3-Speed, Manual/Automatic
- Valve Control: AO 0~10VDC modulating
- Timer: Time on/off or 7 day/4 period programmable schedule
- Key Lock
- Temperature Setpoint limit
- Auto-restart after power failure
- Low-temperature protection
- External Input: Remote temperature sensor and digital switch (Hotel keycard)

Technical specifications

- Power supply: 24VAC ±10%, 50/60Hz
- Power consumption: < 2 W
- Temperature setpoint range: 5 ~ 35 °C in 0.5 °C increments
- Temperature measurement range: 0 ~ 55 °C
- Accuracy: ±1 °C
- Built-in Temperature Sensor Type: 10K NTC
- Remote Temperature Sensor Type: 10K NTC
- Terminations: Screw terminals block
- Relay Capacity: 5A (Res.) at 250 Vac (Maximum), 7A Relay optional
- Modulating Output: 0~10VDC Proportional
- Housing Material: PC + ABS plastic
- Operation Ambient Condition: 0 ~ 45°C, 90% RH Non-condensing
- Storage Ambient Condition: -10 ~ 60°C, 90% RH Non-condensing
- Dimensions: 86×86×15.5 mm (W×H×L)
- Protection class: IP20

Basic Function Setting

| Operation | Key | Setting |
|---------------------|-------|--|
| Turn On/Off | ⏻ | Turn On / Turn Off |
| Operation Mode | M | ❄️ (Cooling), ☀️ (Heating), 🌀 (Air venting) |
| Temperature Setting | ⬆️ ⬇️ | Room Temperature Setpoint |
| Fan Speed | 🌀 | 🔊 (Low), 📶 (Medium), 📶📶 (High), AUTO |

Time Setting

Turn on the thermostat and keep the power supply, press and hold the “M” key for 5 seconds, the “hh” icon will flash on the Thermostat screen, press the “M” key repeatedly, the “hh-mm-week” icon will flash cyclically, and press the “Λ” or “V” key to adjust the Hour, Minute and days of the week.

Basic Parameters Setting

Turn off the thermostat and press and hold the "M" key for 6 seconds to log in to the parameter setting menu, press the "M" key to switch parameter items, and press the “Λ” or “V” key to adjust the parameter settings.

| Code | Parameters | Default | Setting Range | | |
|---------|------------------------------------|---------|---|------------|---------------------------------------|
| Addr 00 | Thermostat address | 00 | 01 ~ 250 (Only for H7714 with Modbus) | | |
| Lrch 01 | Reserved | 00 | N/A | | |
| PiPE 02 | 2 Pipe / 4 Pipe | 02 | 02: 2 Pipe; | | 04: 4 Pipe |
| dAb 03 | DA / DB | db | da: DA | | db: DB |
| bc 04 | Built-in sensor calibration | 00 | -5°C ~ +5°C | | |
| bd 05 | Dead band | 1°C | Setting range: 1 ~ 5°C | | |
| uP 06 | Upper limit of Temp. setting | 35°C | Setting range: 7°C ~ 35°C | | |
| dn 07 | Lower limit of Temp. setting | 5°C | Setting range: 5°C ~ 33°C | | |
| Lo 08 | Low Temp. protection setting | 5°C | Setting range: 5°C ~ 17°C | | |
| LoEn 09 | Low Temp. protection | 00 | 00: Disable | | 01: Enable |
| Pon 10 | Restart after power failure | 00 | 00: Off | 01: On | 02: keep the last status |
| cLoc 11 | Timer and programmable schedule | 01 | 00: Disable | | 01: Timer on/off only for one time |
| | | | 02: Timer on/off for every day | | 03: 7 day/4 period schedule |
| Loc 12 | Key Lock | 00 | 00: Disable | | 01: Enable |
| SEn 13 | Temperature Sensor selection | 00 | 00: Built-in Sensor | | 01: Remote sensor |
| bc 14 | Remote sensor calibration | 00 | -5°C ~ +5°C | | |
| Pir 15 | Signal output interval time | 10 | 10:10s, setting range: 10 ~ 300 | | |
| Pin 16 | Reserved | 00 | N/A | | |
| PiP 17 | PI Minimum Signal | 03 | Setting range: 1~10, if the room temperature is higher than the setpoint by more than 3 °C, the output signal will be 10 | | |
| Pii 18 | KI | 01 | 00 ~ 99, 0.04V/bit, 1 by step | | |
| PIC 19 | Control signal type | 00 | 00: PID, Auto output; | | 01: Non-PID, manual output |
| Pid 20 | Output signal Direction | 00 | 00: 10V On | | 01:10V Off |
| Out 21 | Output signal Proportion by Manual | 255 | when PID 20 is 0, 0 ~ 255 stands for 0 ~10v | | |
| | | | when PID 20 is 1, 0 ~ 255 stands for 10 ~ 0v | | |
| InP 22 | Hotel Card (Terminal D1&D2) | 00 | 00: Disable | | |
| | | | 01: When "D1" and "D2/G" are connected, the thermostat will turn on. When "D1" and "D2/G" are disconnected, the thermostat will turn off. | | |
| | | | 02: When "D1" and "D2/G" are connected, the thermostat will turn off. When "D1" and "D2/G" are disconnected, the thermostat will turn on. | | |
| | | | 03: When "D1" and "D2/G" are connected, the thermostat enters the ECO mode, and when "D1" and "D2/G" are disconnected, the thermostat will exit ECO mode. | | |
| | | | 04: When "D1" and "D2/G" are connected, the thermostat exits the ECO mode, and when "D1" and "D2/G" are disconnected, the thermostat will enter the ECO mode. | | |
| Coo 23 | Cooling setpoint for ECO mode | 28 | Setting range: 22 ~ 32°C. | | |
| HEA 24 | Heating setpoint for ECO mode | 16 | Setting range: 10 ~ 21°C. | | |
| bPs 25 | Baud Setting | 00 | 00: 4800bps | 01:9600bps | (Only for H7714 with Modbus) |
| CHE 26 | Parity Bite | 01 | 00: No | 01: Odd | 02: Even (Only for H7714 with Modbus) |
| vEr 27 | Firmware Version | 10 | V1.0 | | |
| dEF 28 | Restore to factory setting | 00 | 00: Disable | | 01: Enable |

Timer on/off and 7 days / 4 Period Schedule

- ✧ **Timer on/off:** The timer on/off function can be set to single or daily repeat. (The parameter item "**Pon 11**" should be set to "**01**" or "**02**").
 - Turn on the thermostat, press and hold the "🌀" key for 5 seconds to enter the timer parameter setting menu
 - Press the "M" key repeatedly to switch the parameter options of "Timer on" and "Timer off" status, and press the "▲" or "▼" key to set the time parameters (hours and minutes) of the "Timer on" and "Timer off".
 - Wait 10 seconds after setting and the thermostat will automatically save the settings and exit the settings menu.
- ✧ **Schedule:** The schedule function can provide programmable management of room temperature for four time periods a day and seven days a week. (The parameter item "**Pon 11**" should be set to "**03**").
 - Turn on the thermostat, press and hold the "M" and "🌀" keys for 5 seconds to enter the schedule setting menu. Press the "M" key to switch the following parameter items, and press the "▲" or "▼" key to adjust the parameters in sequence.
 - ◆ Day of the week (Mon / Tues / Wed / Thu / Fri / Sat / Sun)
 - ◆ Period of daily (1 ~ 4)
 - ◆ The beginning hour of the period (0~23)
 - ◆ The beginning minute of the period (0~59)
 - ◆ The temperature setpoint of the period
 - Wait 10 seconds after setting, the thermostat will automatically save the settings and exit the setting menu.

| Day of week | Period 1 | Period 2 | Period 3 | Period 4 |
|-------------|-----------------|-----------------|-----------------|-----------------|
| | Time / Setpoint | Time / Setpoint | Time / Setpoint | Time / Setpoint |
| Mon | 6:00 / 24°C | 10:00 / 26°C | 16:00 / 24°C | 22:00 / 25°C |
| Tue | 6:00 / 24°C | 10:00 / 26°C | 16:00 / 24°C | 22:00 / 25°C |
| Wed | 6:00 / 24°C | 10:00 / 26°C | 16:00 / 24°C | 22:00 / 25°C |
| Thu | 6:00 / 24°C | 10:00 / 26°C | 16:00 / 24°C | 22:00 / 25°C |
| Fri | 6:00 / 24°C | 10:00 / 26°C | 16:00 / 24°C | 23:00 / 25°C |
| Sat | 7:00 / 24°C | 10:00 / 24°C | 16:00 / 24°C | 23:00 / 25°C |
| Sun | 7:00 / 24°C | 10:00 / 24°C | 16:00 / 24°C | 22:00 / 25°C |

Parameter Description:

- ✧ **DA/DB description**
 - DA: When the room temperature reaches the setpoint, the valve will be closed and the fan keep running.
 - DB: When the room temperature reaches the setpoint, both the valve and the fan will be closed together.
- ✧ **Low-temperature protection function:** When the room temperature is below 5°C, the thermostat automatically turns on the heating operation and the "❄️" icon will be displayed on the screen. When the room temperature rises to 7°C, the thermostat automatically turns off the heating operation.
- ✧ **Hotel card function:** adjust the setting of item "**InP 22**" in the parameter table, the setting range is 00 ~ 04.

00 Disabled

01 When "D1" and "D2/G" are connected, the thermostat will turn on. When "D1" and "D2/G" are disconnected, the thermostat will turn off. The thermostat "🔌" key not working.

02 When "D1" and "D2/G" are connected, the thermostat will turn off. When "D1" and "D2/G" are disconnected, the thermostat will turn on. The thermostat "🔌" key not working.

03 03: When "D1" and "D2/G" are connected, the thermostat enters the **ECO** mode, and the "🌀" icon is displayed on the thermostat screen. When "D1" and "D2/G" are disconnected, the thermostat will exit **ECO** mode and the "🌀" icon will disappear. In **ECO** mode, the thermostat will automatically run the fan at low speed according to the setting of the "**Coo 23**" and "**HEA 24**" items, and the user cannot manually adjust the thermostat settings.

04 04: When "D1" and "D2/G" are connected, the thermostat exits the **ECO** mode, and the "🌀" icon will disappear. When "D1" and "D2/G" are disconnected, the thermostat will enter the **ECO** mode, and the "🌀" icon will be displayed on the thermostat screen. In **ECO** mode, the thermostat will automatically run the fan at low speed according to the setting of the "**Coo 23**" and "**HEA 24**" items, and the user cannot manually adjust the thermostat settings.

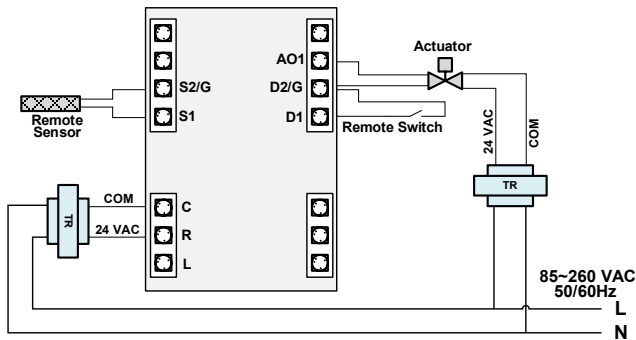
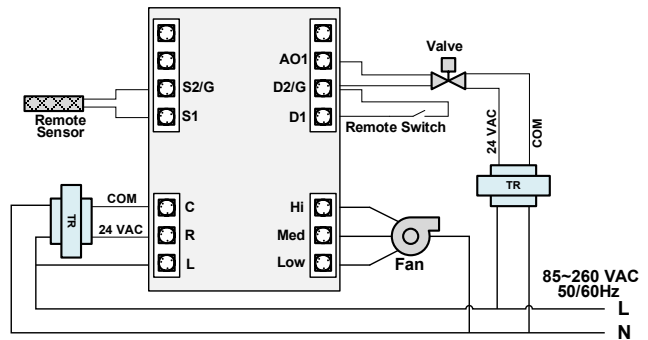
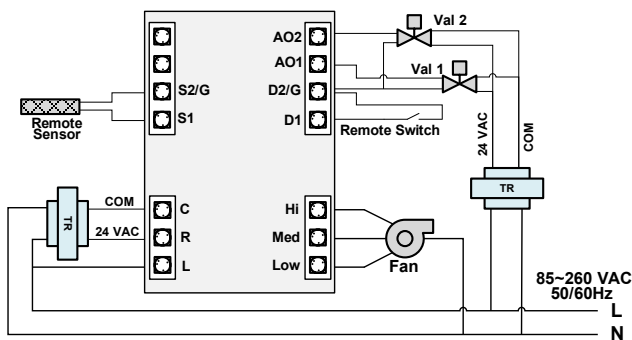
Note: When the "**InP 22**" item Setting is "**01**" or "**02**", the "**cLoc 11**" timer function and "**Pon 10**" restart function are invalid.

◇ Key lock function

- **Key lock:** Turn off the thermostat, press and hold the "M" key for 6 seconds to enter the parameter menu, and adjust the "Loc 12" item to 01 to enable the key lock function. In key lock mode, the icon "🔒" will be displayed on the thermostat screen, and all thermostat keys will not work.
- **Key unlock:** Press and hold the "▲" or "▼" keys for 6 seconds, the thermostat will enter the temporary unlock mode, and the icon "🔒" will disappear. If no key is pressed for 30 seconds, the thermostat will enter the lock mode again.

Alarm Code Description

| Code | Description |
|------|---|
| E1 | Temperature sensor short circuit warning, valve and fan will stop operation |
| E2 | Temperature sensor open circuit warning, valve and fan will stop operation |
| HI | High temperature warning. If the room temperature is >55°C (131°F) |
| LO | Low temperature warning. If the room temperature is <0°C (32°F). |
| EE | EEPROM Error |

Wiring Diagram

H7714 V-TL

H7714 DA/DB-TL

H7714 FCV2-TL

| Terminal | Description | |
|----------|--------------------------|---|
| R | Power Supply | 24VAC ±10%, 50/60Hz |
| C | | Live Wire, AC230V |
| L | | |
| Hi | Fan Control | High Speed |
| Med | | Medium Speed |
| Low | | Low Speed |
| AO1 | Analog Output (0~10 VDC) | Valve 1 Control (Heating valve when FCV2 model) |
| AO2 | | Valve 2 Control (Cooling valve when FCV2 model) |
| D1 | External Dry Contact | Remote Switch or Hotel Keycard |
| D2/G | | |
| S1 | External Input | External Temperature Sensor (NTC 10K) |
| S2 | | |

Note: Please follow the wiring diagram correctly. Do not let water, soil and other debris enter the thermostat, otherwise, it will damage the thermostat.