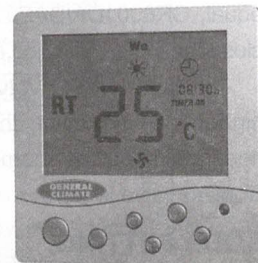


# GR8001-MD Series Network Thermostat User Manual

GR8001-MD Series Network thermostats are available for individual room temperature control in residential, industrial and business premises. Suitable for 2-pipe or 4-pipe Fan Coil configuration. Network control is available (MODBUS).

GR8001-MD adopts digital control technology with large LCD display, It shows the following items: working states (cool, heat or ventilation), the speed of fan coil, room temperature, set-point. There are following keys on the panel: On/Off "⏻", Exchange mode (cool, heat or ventilation) "M", timer "⌚", Select fan speed (high, medium, low or auto) "🌀", set-point temperature "▲" and "▼".



## MODEL DENOMINATIONS

GR8001□□□-MD

T: Clock, Sleep and timing on/off. Blank is invalid.

R: IR remote function. Blank is invalid. (Remote controller should be ordered additionally)

L: Backlight available. Blank is invalid.

E: Auto Restart. Blank is invalid.

Y: Control damper to open or close.

DA: Control Motorized Valve for 2-wire N.C. FCU valve and 3-speed fan; When the temperature reaches the set-point, it will close the Motorized Valve with the fan still running.

DB: Control Motorized Valve for 2-wire N.C. FCU valve and 3-speed fan; When the temperature reaches the set-point, it will close both of the Motorized Valve and Fan.

DA2: Control Motorized Valve for 3-wire N.C. FCU valve and 3-speed fan; When the temperature reaches the set-point, it will close the Motorized Valve with the fan still running.

DB2: Control Motorized Valve for 3-wire N.C. FCU valve and 3-speed fan; When the temperature reaches the set-point, it will close both of the Motorized Valve and Fan.

FCV2: Control 4 pipe fan coil units, Control two Motorized Valves and 3-speed fan, when the temperature reaches the set-point, it will close the Motorized Valves with the fan still running.

## BASIC FEATURES

- ▣ Room temperature setting
- ▣ Manual or Auto 3-speed changeover
- ▣ Defrost (low temperature protection)
- ▣ Auto Restart (Option)
- ▣ Clock, Sleep and Timer (Option)
- ▣ IR remote control (Option)
- ▣ Blue Backlight (Option)
- ▣ RS485 Interface (MODBUS)

## STATUS DISPLAY

- ▣ Working Status: Cool ❄️, Heat 🔥, Ventilation 🌀
- ▣ Fan Speeds: Low 🌀, Medium 🌀, High 🌀 and Auto 🌀
- ▣ Room temperature display
- ▣ Temperature setting display
- ▣ Clock week display

## SPECIFICATIONS

- ▣ Sensing element: NTC
- ▣ Accuracy: ± 1°C
- ▣ Set-point range: 5°C to 35°C
- ▣ Display range: 0~50°C
- ▣ Operation environment: 0~45°C
- ▣ Operating Humidity: 5~90%RH (non-condensing)
- ▣ Power supply: AC 12~24V or DC15~35V
- ▣ Switch current rating: Resistive: 2A, Inductive: 1A

- ▣ Rated Power: < 2 W
- ▣ Wirings: Screw-in terminals, each terminal capable of accepting 2 x 1.5 mm<sup>2</sup> or 1 x 2.5 mm<sup>2</sup> wires
- ▣ Housing: ABS + PC Flame Retardant
- ▣ Dimensions: 86 x 86 x 13 mm (W x H x D)
- ▣ Hole pitch: 60 mm (Standard)
- ▣ Protection Class: IP30
- ▣ Display: LCD

## OPERATION

☞ On/Off: Press "⏻" to turn on, press "⏻" again to turn off thermostat and its output.

☞ Setting temperature: Press "▼" to reduce set-point, press "▲" to raise set-point, and 1°C changed once.

☞ Mode Selection: Press "M" to change system working in cooling ❄️, heating 🔥 or ventilation 🌀 mode, the related icon will flash, and it will be confirmed automatically after 5 seconds. The ventilation function is invalid for GR8001Y/YE-MD.

☞ Fan Speed Selection (GR8001DA/DAE/DA2/DA2E/DB/DBE/DB2/DB2E/FCV2/FCV2E-MD): Press "🌀" to change fan speed among "🌀 (Hi)", "🌀 (Med)", "🌀 (Low)" or "🌀 (Auto)".

Under auto fan speed "🌀", the fan-speed will be changed automatically. Auto LOW-speed When the difference between room-temperature and set-point exceed 1°C, Auto MED-speed When exceed 2°C, Auto HI-speed When exceed 3°C.



☞ Control Damper (GR8001Y/YE-MD): The damper will be open when (1) room temperature is higher than set-point in cooling; (2) room temperature is lower than set-point in heating, Otherwise the damper will be closed.

☞ Control Motorized Valve under 2-pipe configuration (GR8001DA/DAE/DA2/DA2E/DB/DBE/DB2/DB2E-MD): If the difference between room temperature and set-point exceed 1°C, FCU valve will be open; if room temperature and set-point are equal, GR8001DA/DAE/DA2/DA2E-MD will close the FCU valve with the fan still running, GR8001DB/DBE/DB2/DB2E-MD will close the FCU valve and Fan both.

☞ Control FCU Valve under 4-pipe configuration (GR8001FCV2/FCV2E-MD): In cooling, when the room temperature is higher than set-point, the cooling valved will be opened. Otherwise it will be closed. Heating valve is always closed. In heating, When the room temperature is lower than set-point, the heating valve will be opened. Otherwise it will be closed. Cooling valve is always closed.

## CODE SETTING

☞ Turn off the thermostat, simultaneously press "M" and "⏏" for five seconds till to display "XX", temporality, press "▼" and "▲" to number them and the system will automatically confirm the codes set (The codes range from 1 to 32).

## FUNCTIONS ASSOCIATED WITH TIMER ARE IN THE FOLLOWING (-T)

☞ Clock calibration: Press "⌚" till to display "hh:mm" and "mm" flash, press "▲" or "▼" to adjust minute, press "⌚", "hh" flash, press "▲" or "▼" to adjust hour; Press "⌚", "week" flash, press "▲" or "▼" to adjust Mon to Sun.

☞ Sleep function setting: Press "⌚", till to display "⌚" and flash, press "▲" to confirm, press "▼" to cancel.

☞ Timer on /Timer off: Press "⌚" till to display "⌚" and "TIMER ON" and all flash, and also "mm" flash, press "▲" or "▼" to adjust minute, press "⌚", "hh" flash, press "▲" or "▼" to adjust hour; Press "⌚" till to display "⌚" and "TIMER OFF" and all flash, and also "mm" flash, press "▲" or "▼" to adjust minute, press "⌚", "hh" flash, press "▲" or "▼" to adjust hour.

☞ Canceling timer on / Canceling timer off: Press "⌚" till to display "⌚" and "TIMER ON" and all flash, and also "mm" flash, press "▲" or "▼" to adjust minute to "00". press "⌚", "hh" flash, press "▲" or "▼" to adjust hour to "00"; Press "⌚" till to display "⌚" and "TIMER OFF" and all flash, and also "mm" flash, press "▲" or "▼" to adjust minute to "00". press "⌚", "hh" flash, press "▲" or "▼" to adjust hour to "00".

## AUTO RESTART (Option)

☞ When the thermostat is at ON status for one minute, if power cut, it will return back to running automatically with the status how it is one minute ago after power coming back.

☞ When the thermostat is at OFF status for one minute, if power cut, it will keep OFF status after power coming back.

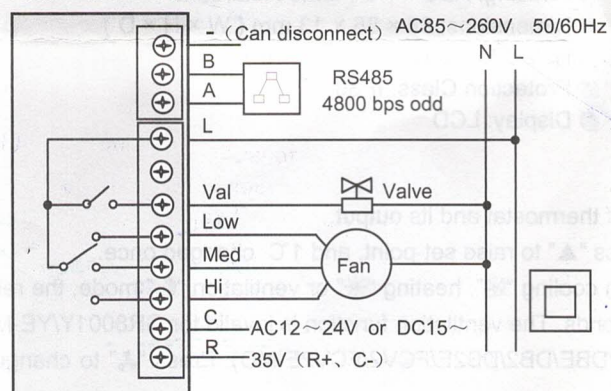
## DEFROST (LOW TEMPERATURE PROTECTION)

☞ Description: when the thermostat turns off and the room temperature is lower than 5°C, it will be turned on automatically in heating mode with "△" showing, under GR8001DA/DAE/DA2/DA2E/DB/DBE/DB2/DB2E/FCV2/FCV2E-MD models, the system will be in heat mode and fan runs in high speed. Under GR8001Y/YE-MD model, the motorized damper will be open. The thermostat will turn off when room temperature is higher than 7°C.

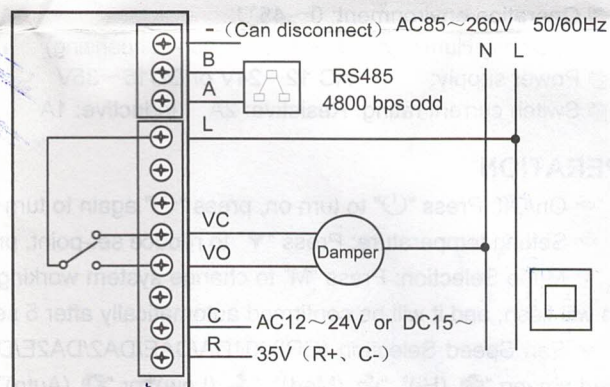
☞ Set low temperature protection: Turn off the thermostat, press "M" and hold for 5 seconds, it will display "00" or "01", press "▲" or "▼" key to adjust. "00" indicates low temperature protection invalid, "01" indicates low temperature protection function valid. The default is "00".

## WIRING DIAGRAMS

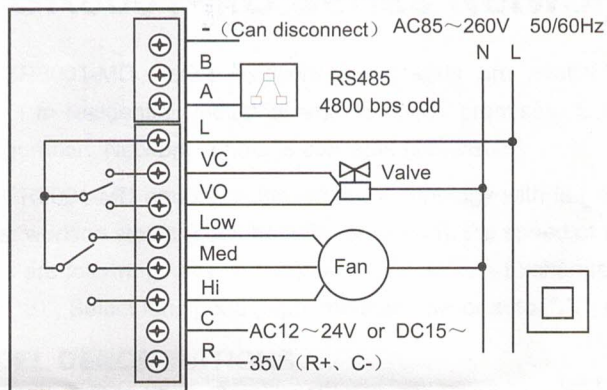
**GR8001DA/DAE/DB/DBE-MD**



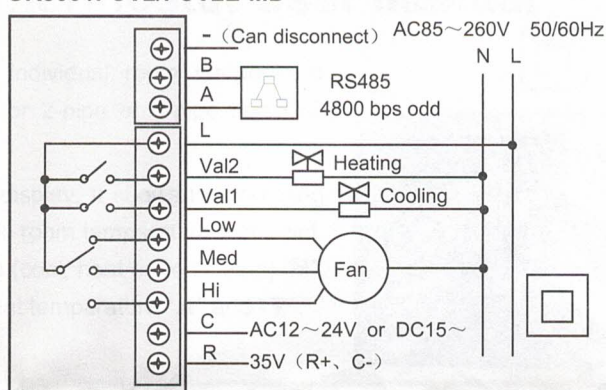
**GR8001Y/YE-MD**



### GR8001DA2/DA2E/DB2/DB2E-MD



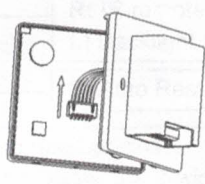
### GR8001FCV2/FCV2E-MD



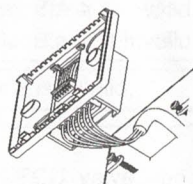
## MOUNTING



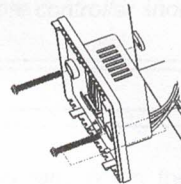
1. Open the main control panel; put the screwdriver (3.5mm) into the block 4mm along the bevel. Pry up, open the clips.



2. Take off the wires.



3. As per wiring diagram, connect it with terminals, fixed by the screwdriver.



4. Put the connected thermostat onto the back panel in the wall, then fix it with the two screws in the packing box.



5. Put the cover with 30 degree angle, then fix the up two clips;  
6. Push the places of the two down clips, fix the cover, and finish the installation.

**Note: Be sure to connect all the wires as per the wiring diagrams and keep it away from water, mud and other material so as to prevent the unit being spoiled!**