TALOAR®

TC90 Series Room Temperature Controllers

TC 90 series is the new large-screen LCD temperature controller, mainly used for room temperature control of the fan-coil systems in industrial, commercial, and civilian central air conditioning units. It controls the terminal fan-coil control valves to perform opening and closing according to room temperature changes detected by the temperature-sensing elements of their thermometers. In that way, the room temperature is adjusted to provide a comfortable and energy-saving indoor environment.

TC90 series LCD temperature controllers adopt microcomputer control technology with large-screen LCDs. Statuses displayed on the LCD screen: Working status (cooling, heating, and ventilation), fan speed, room temperature, and set temperature. Keys: Power switch key (⏻), mode switch key (M), fan speed selection key (🌀), and temperature setting key (▲▼).

Product Features

Basic Functions

- **Mode switching of cooling, heating, and ventilation.**
- **Manually or automatically controlled three-speed switch of the fan.**
- **Large-screen blue LCD backlight.**
- **Power-off memory function.**
- **Room temperature programming function, 4 periods per day.**

Status Displayed on the Large-Screen LCD

- Working mode (cooling ❄ heating ☀, and ventilation 🔄)
- Fan speed (low speed ▂ , medium speed ▂▄ , high speed ▂▄▆, or automation **AUTO**)
- Motorized valve opening
- Room temperature display
- Temperature display setting

• Key Locking Function

The temperature controller is designed with the key locking function. It automatically locks the keys 30 seconds after the user stops operating it, restricting other people from operating the temperature controller.

• Low-Temperature Protection Function

When room temperature is below 5℃, the closed temperature controller will turn on to warm up the room automatically and display the icon on the screen. The fan will operate at high speed automatically, and then turn on the motorized valve. The temperature controller will automatically turn off when room temperature rises to 7°C.

• Temperature Adjustment

If the user wishes the temperature displayed on the temperature controller is higher or lower than the actual temperature (±5°C), the following operations can be performed:
When the temperature controller is off, press "▲" and "▼" at the same time for 3 seconds, and then "XX°C" will be displayed on the screen (the working mode of the temperature controller is not displayed). Then press "▲" or "▼" to adjust the temperature value, which will be automatically confirmed 6 seconds after the adjustment.

• Alarm Function:

When the sensor fails, the temperature controller will turn off the fan and the motorized valve, and display "E1" or "E2" on the screen.
E1: Sensor short-circuit alarm
E2: Sensor open-circuit alarm
When temperature is higher than 55°C, "HI" will be displayed on the screen; when temperature is lower than 0°C, "LO" will be displayed on the screen.

Technical Parameters

Temperature-Sensing Element: NTC
Temperature Control Accuracy: ±1℃
Temperature Setting: 5~35℃
Display Range: 0~55℃
Working Environment: 0~45℃
Humidity: 5 ~ 95% RH (no condensation)
Key: Press the keys gently.
Self-Consumed Power: ＜1W

Power Supply Voltage: AC85~260V,50/60Hz
Terminal Block: Can be connected to 2 * 1.5 mm² or 1 * 2.5 mm² wires
Load Current: 2 A (resistive load), 1 A (inductive load)
Shell: Fire-retardant PC + ABS
Dimensions: 90 * 88 * 15.5 mm (width * height * thickness)
Hole Pitch In Installation: 60 mm (standard)
Ingress Protection: IP30

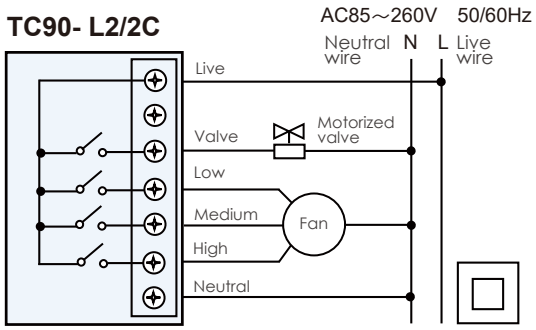
Model Descriptions

TC90 – D/L2/L3/2C/3C/F4

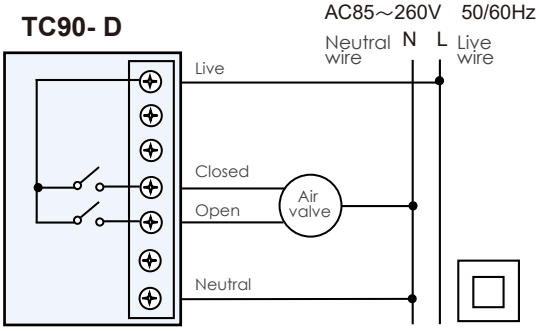
- **D** Control the motorized air valve or the motorized air outlet.
- **L2** Control the motorized valve (two-wire valve) and the three-speed fan. When temperature reaches the specified value, close the motorized valve, leaving the fan to continue to run.
- **L3** Control the motorized valve (three-wire valve) and the three-speed fan. When temperature reaches the specified value, close the motorized valve, leaving the fan to continue to run.
- **2C** Control the motorized valve (two-wire valve) and the three-speed fan. When temperature reaches the specified value. The motorized valve and the fan will be closed.
- **3C** Control the motorized valve (three-wire valve) and the three-speed fan. When temperature reaches the specified value. The motorized valve and the fan will be closed.
- **F4** Applicable to the four-pipes system. Control the cooling/heating motorized valve (two-wires valve) and the three-speed fan. When temperature reaches the specified value, close the motorized valve, leaving the fan to continue to run.

Wiring Diagram

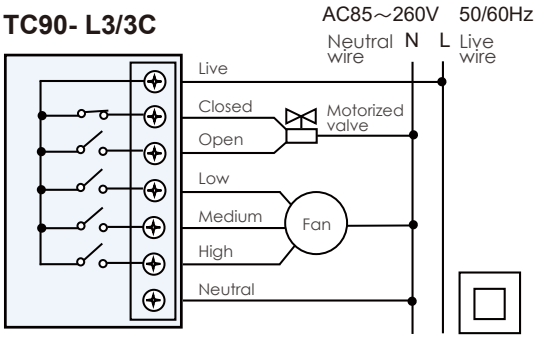
TC90- L2/2C



TC90- D



TC90- L3/3C



TC90- F4