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# Termosztátok

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# TC103 Electro-Mechanical Thermostat


TC103 Series thermostats are available for individual room temperature control in office, hotel and residential area. TC103 will control the fan and valve ON/OFF to reach the desired temperature by comparing the room temperature and the setpoint.

TC103 Series thermostats adopt electronic control technology, and the operations are easy and convenient. User can turn the temperature adjusting the knob to the desired temperature. User can also choose the COOL or HEAT working mode through the HEAT–OFF-COOL switch, and the fan speed (Hi, Med or Low) through the HIGH-MED-LOW fan speed switch.

## Features

- Attractive Design.
- Standard installation dimension (86mm x 86mm).
- Easy wiring with a standard plug terminal.
- Easy to install and maintain.
- Easy to read green setpoint marking indicates the energy saving range.
- To ensure energy savings, the temperature setpoint range can be locked into position.
- Nameplate available to identify thermostat location .
- Optional driver enables TC103 to control up to 8 fan coil units.

## Specification

- **Sensor: NTC**
- **Accuracy: ±1.5°C under 20°C**
- **Setpoint range: 5~30°C**
- **Operating environment: 0~45°C**
- **Storage humidity: 5~90% RH**
- **Storage temperature: -10~60°C**
- **Power supply: AC 230V±10%, 50/60Hz**

- **Switch current rating:**
  Resistive: 2 A, Inductive: 1 A
- **Protection class: IP20**
- **Housing: PC Flame Retardant**
- **Dimension: 86 x 86 x 27 mm (W x H x D)**

## Part No.

TC103 -3☐

A2/B2: Used for 2-pipe FCU system, Control Motorized Valve (A2 Control 2-wire N.C.FCU valve; B2: Control 3-wire FCU valve) and 3-speed fan; When the temperature reaches the set-point, it will close the Motorized Valve with the fan still running.

A2C/B2C: Used for 2-pipe FCU system, Control Motorized Valve (A2C Control 2-wire N.C. FCU valve; B2C: Control 3-wire FCU valve) and 3-speed fan; When the temperature reaches the set-point, it will close the Motorized Valve and the Fan.

A4: Used for 4-pipe FCU system, Control Motorized Cooling and Heating Valve ( 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.

## Accessory

STD-2/4 Driver enables one TC103 thermostat to control up to 8 fan coil units, please ask for STD driver manual for more details.

STD -☐

2: used for 2-pipe Fan coil Unit

4: used for 4-pipe Fan coil Unit

## Operations

There are temperature adjusting knob and graduation marks on the front panel. There are also the fan speed switch HIGH-MED-LOW "-"-"-"-"-"and the HEAT-OFF-COOL switch "-"-"-"-"-"on the front panel. The operation steps are as follows:

- ON/OFF: Push the switch"-"-"-"-"to "-"to turn on the heat mode, or push the switch "-"-"-"-"to"-"to turn on the cool mode. push the switch"-"-"-"-"to "-"to turn off the thermostat.

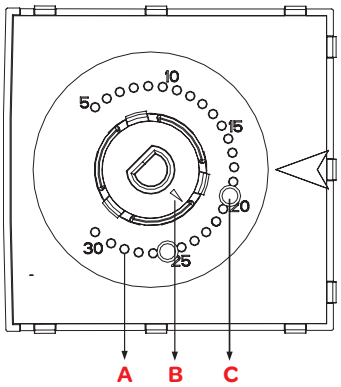
- Temperature Setting: Turn the knob and make desired temperature value match the green arrow.
- Fan Speed Selection: Push the fan speed switch"-"-"-"-"-"to"-"as high fan speed, to "-"as medium fan speed and "-"as low fan speed.
- Control Motorized Cooling/Heating Valve: under cooling or heating mode control, opens the motorized valve when the room temperature is higher/lower than the setpoint. After the room temperature reaches the setpoint, TC103-3A2/3B2 will close the valve with the fan still running, TC103-3A2C/3B2C will close the valve and the fan.
- Control Motorized Cooling and Heating Valve(TC103-3A4): the cooling valve will be opened when the room temperature is higher than the setpoint under cooling mode. the heating valve will be opened when the room temperature is lower than the setpoint under heating mode. After the room temperature reaches the setpoint, TC103-3A4 will close the valve with the fan still running.
- LED indicates operation status: In GREEN shows thermostat is under heating or cooling mode.

## Installation Warning

- Install the thermostat about 1.5 meter above the floor
- Make sure to power off and installation must be operated by professional technical person according to the wiring diagram
- Do not install thermostat where radiant heat from the sun or applies
- Do not install thermostat behind door or in corner
- Protect from water or mud to avoid damaging the thermostat.

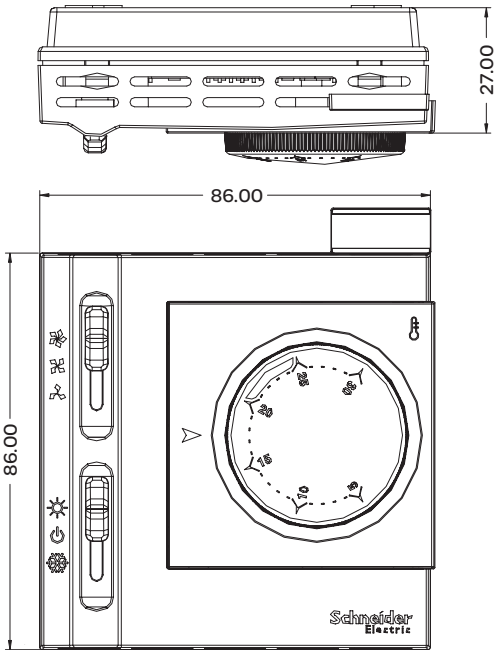
## Limit Setpoint range

- Open the grey square panel with hand or tool
- Take out the bars which are inserted on 5°C and 30°C position
- Select your desired temperature, for example 20°C **~25°C**
- Turn the knob to make the green arrow located between 20°C and 25°C
- Insert the two bars on the position of 20°C and 25°C
- Please check to confirm if the limited setpoint range has been successfully set, if not, please change the bars position and try again
- Install the grey panel back onto the thermostat




A Setpoint limited position hole
B Arrow
C Temperature setpoint stop bar

## Dimension



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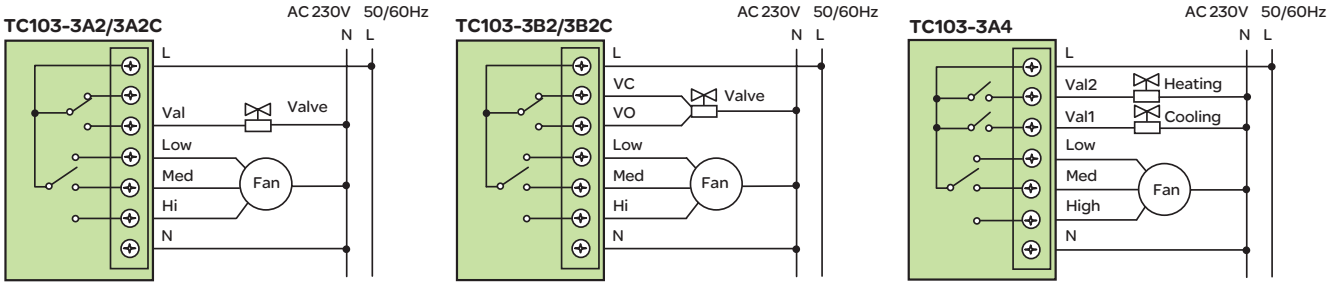
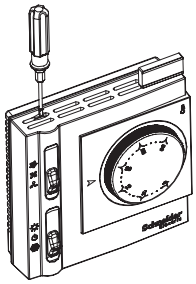
## Wiring Diagram

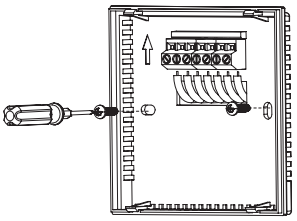



## Mounting

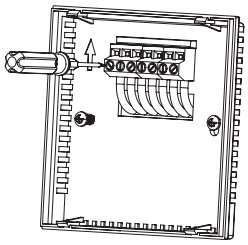
1 Open thermostat



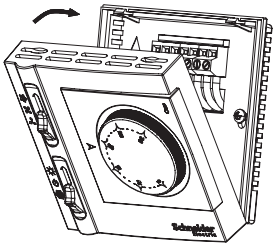
2 Install back base



3 Wire connection



4 Close front case



# TC300 Series

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The TC300 series networking digital fan coil thermostat is designed for temperature control in industrial, commercial and household environments. The thermostat improves comfort and saves energy by comparing the room termperature with the desired setting. This information is used to control the fan coil unit.

TC300 features microprocessor-based control and a large LCD screen. The LCD display modes include operation status (cooling, heating, ventilation), fan speed, room temperature, and temperature setting. The following buttons are provided: power switch/fan speed adjustment button " ", mode switching button (M), energy saving button (Eco) and temperature setting button " ".

## Features

- Modern appearance
- Large, blue backlit, LCD screen
- Eco button for energy saving
- Sleeping mode for energy saving
- Energy savings mode-external energy savings input from occupancy sensor or hotel cardkey overrides comfort setpoint with setback heating or cooling setpoint
- Energy saving input configurable, normally open or normally closed
- Real time display
- Optional remote sensor
- RS485 interface (Modbus protocol)
- Button lockout function avoids unauthorized operation
- Non-volatile memory (EEPROM) retains user setting during power loss
- Low temperature protection
- Standard 86x86mm box for installation
- Temperature sensors are provided with failure alarm function to facilitate maintenance

## Technical specifications

- **Sensing element: NTC**
- Control **accuracy: ±1°C**
- **Display accuracy: 0.5°C**
- **Setpoint range: 5 ~ 35°C**
- **Display range: 0 ~ 50°C**
- **Operating environment: 0 ~ 45°C**
- Environment humidity: **5~95% RH** (non-condensing)
- **Button: Touch button**
- **Power requirement: < 1 W**
- **Power supply: AC 85 ~ 260 V, 50/60Hz**
- **Terminals: can be connected to 2 x 1.5 mm²** or 1 x 2.5 mm² conductors
- **Communicating speed: 4800 bps**
- **Load current: 2 A (resistive load),** 1 A (inductive load)
- **Enclosure: Flame-retardant PC** engineering plastic
- **Dimensions: 88.5 x 86 x 16 mm (Wx H x D)**
- **Hole pitch: 60 mm (standard)**
- **Protection class: IP30**

## Model description

TC303 -3☐

A2DLMS: Designed for two-pipe systems and used to control two-wire motorized valves and three-speed fans. Once the temperature setting is reached, the motorized valve will be shut off and the fan will continue to run (factory default) or shut down (with configurable parameter).

A4DLMS: Designed for four-pipe systems and used to control two-wire cold/hot motorized valves and three-speed fans. Once the temperature setting is reached, the motorized valve will be shut off and the fan will continue to run (factory default) or shut down (with configurable parameter).It can also be adapted to two-pipe systems through parameter adjustment in order to control three-wire motorized valves. In this case, once the temperature setting is reached, the motorized valve will be shut off and the fan will continue to run (with configurable parameter) or shut down (with configurable parameter).

## Accessory

IR-300: Remote controller
RS-03: Remote sensor

## Operation instructions

- Power on/off: Press and hold " " button for two seconds to turn the power on. Press and hold " " button again for two seconds to turn off the power as well as the fan coil and motorized valve.

- Temperature setting: With the power on, press " " to decrease the temperature setting and " " to increase in steps of 0.5°C.

- Mode selection: During power on, press M button to switch the operation mode. The LCD indicates cooling with " " , heating with " ", and ventilation with " ".

- Air speed selection: With the power on, press " " button to select fan speed: " " (high), " " (medium), " "(low) or " "(automatic) shift.

- In automatic mode, the air speed shift changes automatically: With a 1°C, 2°C and 3°C difference between room temperature and the temperature setting, the low, medium and high air speed shift will be automatically selected respectively.

- Motorized valve control (A2DLMS model): In cooling (heating) mode, the motorized valve will be switched on when the room temperature is higher than (lower than) the temperature setting by 1°C and switched off when the room temperature reaches the temperature setting.

- Motorized valve control (A4DLMS model): In cooling mode, the cold water valve will be opened when the room temperature is 1°C higher than the temperature setting or closed when the room temperature drops to the setting, and the hot water valve will remain closed. In heating mode, the hot water valve will be opened when the room temperature is 1°C lower than the temperature setting or closed when the room temperature rises to the setting, and the cold water valve will remain closed.

## Energy saving mode

Press Eco button to start the energy saving mode. If the thermostat runs in cooling mode the temperature will be set to 26°C automatically and the fan will operate at low speed. If the thermostat runs in heating mode the temperature will be set to 18°C automatically and the fan will operate at low speed. To exit the energy saving mode, press Eco again or press " " or " ".

Energy-saving mode of room key: It can be switched into energy-saving mode by room card and occupancy sensor. For example, after room key is taken out, if thermostat is in cooling mode, the temperature will be automatically set at 28°C and fan is on low speed; if thermostat is on heating mode, 16°C will be set automatically with fan operating at low speed; the mode that guest has previously chosen will be switched back after the room key is plug in.

Sleeping energy-saving mode: Under this mode, thermostat will set temperature from 12pm with 1°C up or down every one hour and mode is

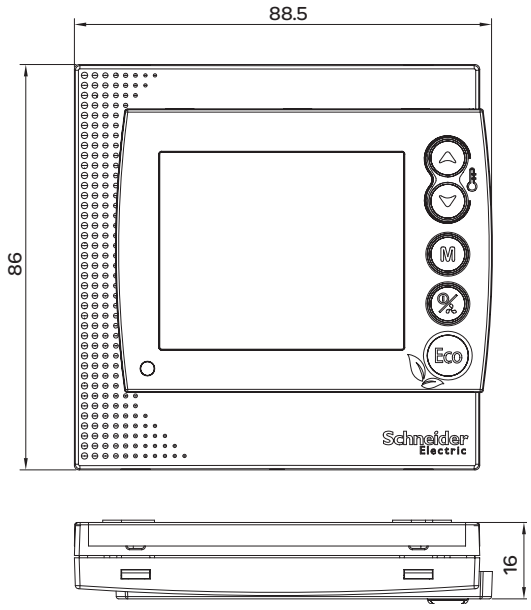
ended at 3am, with a total change of 3°C. Under cooling mode, the temperature for sleeping mode will not exceed 26°C; under heating mode, no less than 18°C will be set on. Thermostat will set temperature from 4am with 1 °C down or up every one hour, until it comes back to the degree that guest has previously chosen at 7am.

Timing setting function: During power on, press and hold M button for 3 seconds to enter the display screen. Press M button again to select hour, minute, week parameters. Press " ▲ " and " ▼ " to adjust this parameter.

## Button lockout function

Button lockout: Pressing and holding " ▲ " and " ▼ " at the same time for five seconds will activate keypad lockup function to prevent thermostat operation by others. Once this function is activated, press and hold " ▲ " and " ▼ " at the same time for five seconds to unlock the buttons.

## Dimension




## Low temperature protection function

If the thermostat is powered off and the room temperature drops below 5°C, the thermostat will start automatically for heating and display the "⚠" symbol. The fan will run at high speed automatically and the motorized valve will be opened (hot water valve will be opened for A4DLMS model). When the room temperature rises to 7°C, the thermostat will automatically switch off the output.

## Alarm

If a failure occurs in the sensor, the thermostat will shut off the fan and the motorized valve and display " 🛠 " and E1 or E2.
E1: Sensor short-circuit alarm. E2: Sensor open-circuit alarm.
HI will be displayed if the temperature is higher than 50°C. LO will be displayed if the temperature is lower than 0°C.

## Parameter setting

During power off, press and hold M button for 5 seconds to enter the display screen. Press M button again to select parameters as shown in the table below. Press " ▲ " and " ▼ " to adjust this parameter.

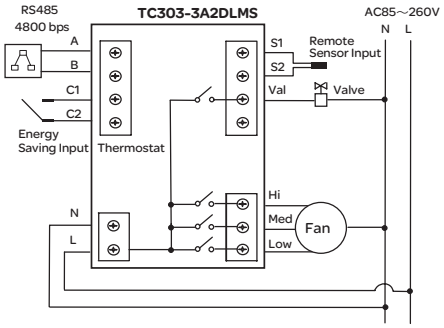
| No. | Parameter | Factory default | Function description |
|---|---|---|---|
| 01 | Low temperature protection | OF | OF: Low temperature protection deactivated;<br>On: Low temperature protection activated |
| 02 | Fan operation status after temperature setting is reached | 01 | 00: Fan off<br>01: Fan on |
| 03 | Selection between two-pipe and four-pipe system | TC303-3A2DLMS:00<br>TC303-3A4DLMS:01 | 00: Two-pipe system;<br>01: Four-pipe system |
| 04 | Address setting | 01 | 01~32 Adress selection range |
| 05 | Sleeping mode | On | On: Sleeping mode activated<br>OF: Sleeping mode deactivated |
| 06 | 12/24 hour timing setting | 24 | 24: 24 hour<br>12: 12 hour |

Note: For TC303-3A2DLMS thermostat, the 03 parameter default is for 2 pipe systems only.
For TC303-3A4DLMS thermostat, the 03 parameter default can be changed from four-pipe system with two-wire motorized valve to two-pipe system with three-wire motorized valve.

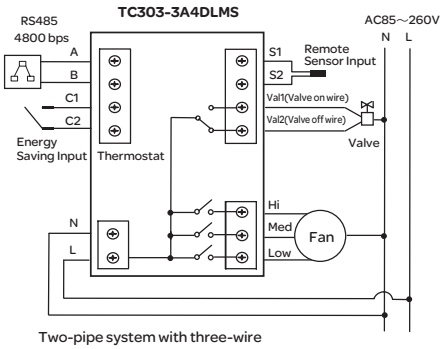
⚠ Warning: This parameter table must be set by specialized installation personnel authorized by Schneider Electric. Any inconvenience or damage caused by unauthorized operation will not be covered by warranty.

# [TC300 Series-Hotel Application Networking Digital Fan Coil Thermostat]

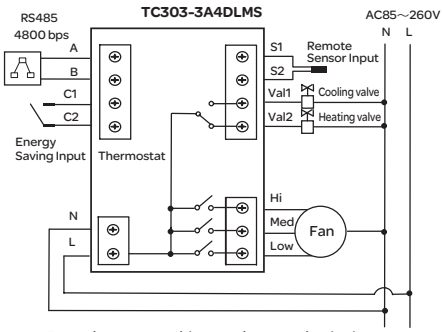
## Wiring Diagram




Two-pipe system with two-wire motorized valve

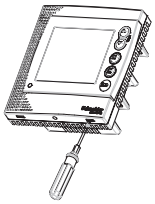



Two-pipe system with three-wire
motorized valve (parameters need resetting)

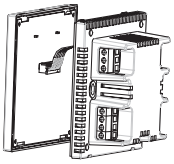



Four-pipe system with two-wire motorized valve

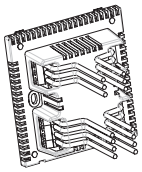
## Installation diagram



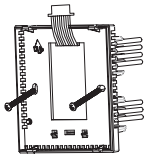
1. Remove the main control board and insert a 3.5 mm wide flatheaded screwdriver along the bevel into the slot for 4 mm. Pry it upward with a slight force to release the hook.



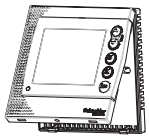
2. Completely remove the wires from the unit.



3. Connect the wires in accordance with the connection diagram shown above.



4. Use the two screws supplied in the package box to secure the wired thermostat base plate to the wall.



5. Put the two upper hooks in place at 30 degrees. Press the two lower corners of the thermostat with a slight force to lock the uper cover. The installation is now finished.

⚠ Warning: Please connect the wires in strict accordance with the connection diagram. Avoid the ingress of foreign matter such as water or slurry into the thermostat, otherwise it can be damaged!

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# TC350 Series


The TC350 series stand-alone programmable fan coil thermostat is designed for temperature control in industrial, commercial and residential environments. The thermostat improves comfort and saves energy by comparing the room temperature with the desired setting. This information is used to control the fan coil unit.
TC350 features microprocessor-based control and a large LCD screen. The LCD display modes include operation status (cooling, heating, ventilation), fan speed, room temperature, and temperature setting. The following buttons are provided: power switch/fan speed adjustment button " ", mode switching button (M) , energy saving button (Eco) and temperature setting button " ".

## Features

- Modern appearance
- Large, blue backlit, LCD screen
- Eco button for energy saving
- Weekly programmable control application
- Energy savings mode-external energy savings input from occupancy sensor overrides comfort setpoint with setback heating or cooling setpoint
- Energy saving input configurable, normally open or normally closed
- Real time display
- Optional remote sensor
- Button lockout function avoids unauthorized operation
- Non-volatile memory (EEPROM) retains user setting during power loss
- Low temperature protection
- Standard 86x86mm box for installation
- Temperature sensors are provided with failure alarm function to facilitate maintenance

## Technical specifications

- Sensing element: NTC
- Control accuracy: ±1°C
- Setpoint range: 5 ~ 35°C
- Display range: 0 ~ 50°C
- Operating environment: 0 ~ 45°C
- Environment humidity: 5~95% RH (non-condensing)
- Button: Touch button
- Power requirement: < 1 W
- Power supply: AC 85 ~ 260 V, 50/60Hz
- Terminals: can be connected to 2 x 1.5 $mm^2$ or 1 x 2.5 $mm^2$ conductors
- Load current: 2 A (resistive load), 1 A (inductive load)
- Enclosure: Flame-retardant PC engineering plastic
- Dimensions: 88.5 x 86 x 16 mm (Wx H x D)
- Hole pitch: 60 mm (standard)
- Protection class: IP30

## Model description

TC353 -3☐

A2DLS: Designed for two-pipe systems and used to control two-wire motorized valves and three-speed fans. Once the temperature setting is reached, the motorized valve will be shut off and the fan will continue to run (factory default) or shut down (with configurable parameter).

A4DLS: Designed for four-pipe systems and used to control two-wire cold/hot motorized valves and three-speed fans. Once the temperature setting is reached, the motorized valve will be shut off and the fan will continue to run (factory default) or shut down (with configurable parameter). It can also be adapted to two-pipe systems through parameter adjustment in order to control three-wire motorized valves. In this case, once the temperature setting is reached, the motorized valve will be shut off and the fan will continue to run (with configurable parameter) or shut down (with configurable parameter).

## Accessory

IR-300: Remote controller
RS-03: Remote sensor

## Operation instructions

● Power on/off: Press and hold " " button for two seconds to turn the power on. Press and hold " " button again for two seconds will turn off the power as well as the fan coil and motorized valve.

● Temperature setting: With the power on, press " " to decrease the temperature setting and " " to increase in steps of 0.5°C.

● Mode selection: With the power on, press M button to switch the operation mode. The LCD indicates cooling with " ", heating with " ", and ventilation with " " .

● Air speed selection: With the power on, press " " button to select fan speed: " " (high), " " (medium), " " (low) or " " (automatic) shift.

● In automatic mode, the air speed shift changes automatically: With a 1°C, 2°C and 3°C difference between room temperature and the ature setting, the low, medium and high air speed shift will be automatically selected respectively.

● Motorized valve control (A2DLS model): In cooling (heating) mode, the motorized valve will be switched on when the room temperature is higher than (lower than) the temperature setting by 1°C and switched off when the room temperature reaches the temperature setting.

● Motorized valve control (A4DLS model): In cooling mode, the cold water valve will be opened when the room temperature is 1°C higher than the temperature setting or closed when the room temperature drops to the setting, and the hot water valve will remain closed. In heating mode, the hot water valve will be opened when the room temperature is 1°C lower than the temperature setting or closed when the room temperature rises to the setting, and the cold water valve will remain closed.

## Energy saving mode

Press Eco button to start the energy saving mode. If the thermostat runs in cooling mode the temperature will be set to 26°C automatically and the fan will operate at low speed. If the thermostat runs in heating mode the temperature will be set to 18°C automatically and the fan will operate at low speed. To exit the energy saving mode,, press Eco again or press " " or " ".

Energy-saving mode of occupancy sensor: It can be switched into energy-saving mode and occupancy sensor. For example, after room key is taken out, if thermostat is in cooling mode, the temperature will be automatically set at 28°C and fan is on low speed; if thermostat is on heating mode, 16°C will be set automatically with fan operating at low speed; the mode that guest has previously chosen will be switched back after the room key is plug in.

## Program setting function

Program setting function:During power on, press and hold "M" and " " buttons for 3 seconds to enter programmable setting display screen. Press M button again to enter 7 days 4 phases

and temperature setpoint parameters. Press " ▲ " and " ▼ " to adjust this parameter.

## Timing setting function

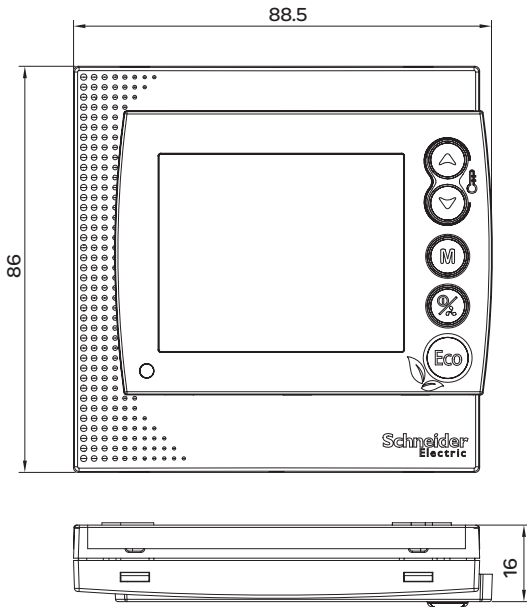
During power on, press and hold M button for 3 seconds to enter the display screen. Press "M " button again to select hour, minute, week, working day timing on, working day timing off parameters. Press " ▲ " and " ▼ " to adjust this parameter.

Factory default parameter:working day(Monday to Friday) timing on is 8:00, timing off is 18:00.

## Button lockout function

Pressing and holding " ▲ " and " ▼ " at the same time for five seconds will activate keypad lockup function to prevent thermostat operation by others. Once this function is activated, press and hold " ▲ " and " ▼ " at the same time for five seconds to unlock the buttons.

## Dimension




## Low temperature protection function

If the thermostat is powered off and the room temperature drops below 5°C, the thermostat will start automatically for heating and display the " ⚠ " symbol. The fan will run at high speed automatically and the motorized valve will be opened (hot water valve will be opened for A4DLS model). When the room temperature rises to 7°C, the thermostat will automatically switch off the output.

## Alarm

If a failure occurs in the sensor, the thermostat will shut off the fan and the motorized valve and display " 🛠 " and E1 or E2.

E1: Sensor short-circuit alarm. E2: Sensor open-circuit alarm.

HI will be displayed if the temperature is higher than 50°C. LO will be displayed if the temperature is lower than 0°C.

## Parameter setting

During power off, press and hold M button for 5 seconds to enter the display screen. Press M button again to select parameters as shown in the table below. Press " ▲ " and " ▼ " to adjust this parameter.

| No. | Parameter | Factory default | Function description |
|---|---|---|---|
| 01 | Low temperature protection | OF | OF: Low temperature protection deactivated;<br>On: Low temperature protection activated |
| 02 | Fan operation status after temperature setting is reached | 01 | 00: Fan off<br>01: Fan on |
| 03 | Selection between two-pipe and four-pipe system | TC353-3A2DLS:00<br>TC353-3A4DLS:01 | 00: Two-pipe system;<br>01: Four-pipe system |
| 06 | 12/24 hour timing setting | 24 | 24: 24 hour<br>12: 12 hour |
| 07 | Mode selection | 00 | 00: FCU cooling or heating<br>01: FCU cooling only<br>02: FCU heating only<br>03: Thermal valve heating |
| 08 | Working day timing +Programmable | 03 | 00: Working day timing+Programmable deactivated<br>01:Programmable activated<br>02: Working day timing activated<br>03: Working day timing+Programmable |

Note: For TC353-3A2DLS thermostat, the 03 parameter default is for 2 pipe system only.

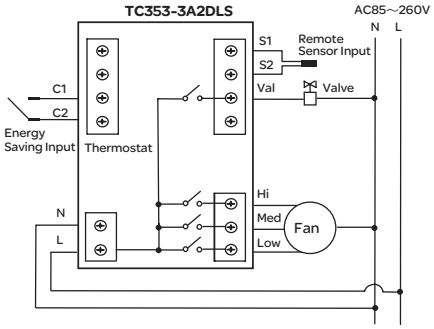
For TC353-3A4DLS thermostat, the 03 parameter default can be changed from four-pipe system with two-wire motorized valve to two-pipe system with three-wire motorized valve.

The 07 parameter change is only for two pipe system TC353-3A2DLS thermostat.

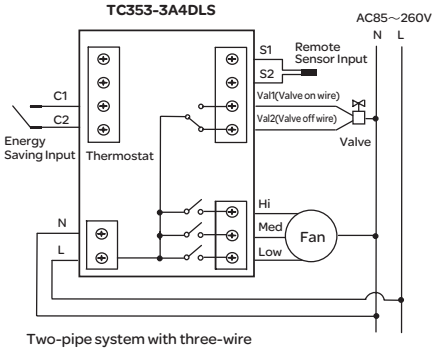
⚠ Warning: This parameter table must be set by specialized installation personnel authorized by Schneider Electric. Any inconvenience or damage caused by unauthorized operation will not be covered by warranty.

# [ TC350 Series-Office building Application Stand-alone Programmable Fan Coil Thermostat ]

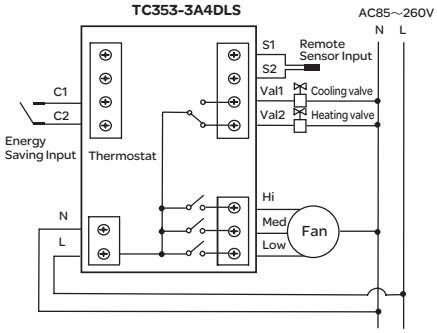
## Wiring Diagram




Two-pipe system with two-wire motorized valve

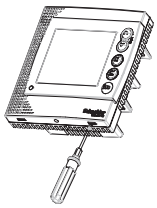



Two-pipe system with three-wire motorized valve (parameters need resetting)

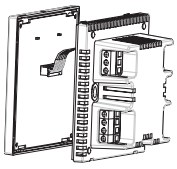



Four-pipe system with two-wire motorized valve

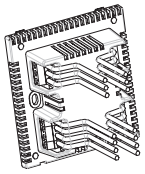
## Installation diagram



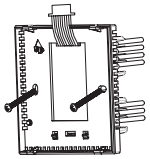
1. Remove the main control board and insert a 3.5 mm wide flatheaded screwdriver along the bevel into the slot for 4 mm. Pry it upward with a slight force to release the hook.



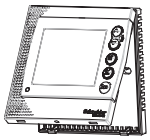
2. Completely remove the wires from the unit.



3. Connect the wires in accordance with the connection diagram shown above.



4. Use the two screws supplied in the package box to secure the wired thermostat base plate to the wall.



5. Put the two upper hooks in place at 30 degrees. Press the two lower corners of the thermostat with a slight force to lock the uper cover. The installation is now finished.

⚠ Warning: Please connect the wires in strict accordance with the connection diagram. Avoid the ingress of foreign matter such as water or slurry into the thermostat, otherwise it can be damaged!