



THERMOSTAT TC40S - PE PROGRAMMABLE DIGITAL - WHITE

USER MANUAL

I - INTRODUCTION

Dear User:

Congratulations on choosing a **GV** thermostat. Please refer to this user manual before installing/using the thermostat.

This thermostat is used to control the temperature of heating cables or heating mats for electric underfloor heating in a given room, whether in a domestic, commercial or industrial environment.

While we try to provide the best device possible, we are always available for technical support. If you have any questions, please contact us.

II - TECHNICAL PARAMETERS AND MAIN CHARACTERISTICS

| Technical parameters | |
|--------------------------------------|---------------------------------|
| Voltage | AC 230V, 50-60Hz |
| Amperage | 16 A |
| Working environment | 0°C ~45°C |
| Consumption | <0.3 W |
| Protection index | IP20 |
| Programmable temperature | 5°C ~ 60°C |
| Temperature control precision | 0.5 °C |
| Características Principais | |
| Programs | 6 daily, 3 weeklys |
| Probe reading options | 3 (internal, external and both) |
| External dimensions | 85mm x 85mm x 14mm |
| Material | PC + ABS |
| Screen background color | Blue |
| Memory in case of electrical failure | Time and Programs |
| Child lock | Yes |
| Installation | Wall-Inserted Type |

III - CAUTIONS FOR INSTALLATION



ATTENTION!

When being installed, this thermostat may cause an electric shock. Make sure the installation is done by a qualified electrician.

1. Installation should only be done when the electric supply is off, otherwise it can damage the thermostat and cause an electric shock.
2. Choose the most suitable location for installing the thermostat (about 1,60m above the floor). It must not be installed at eye level.
3. Installation should not be made at altitudes higher than 2000m above sea level.

IV - INSTALLATION

1. Separate the thermostat from the display using a screwdriver to press the groove at the back of the thermostat and pushing the display upwards (fig.1).
2. Follow the wiring diagram (fig. 2) to connect the power, the heating cable and the floor probe.
3. Use the two screws provided to fix the outer ring and the thermostat base to the electrician's deep box previously installed (fig. 3) and make sure that it is properly installed.
4. Attach the display to the four projections on the mounting plate and push it downwards (never press the LCD display directly). The installation is complete. Turn on the power to test the thermostat.

Fig. 1 - Thermostat opening

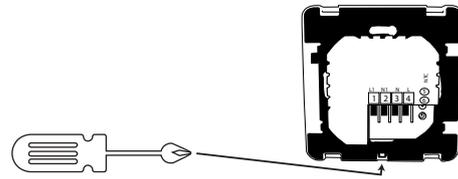


Fig. 2 - Wiring diagram

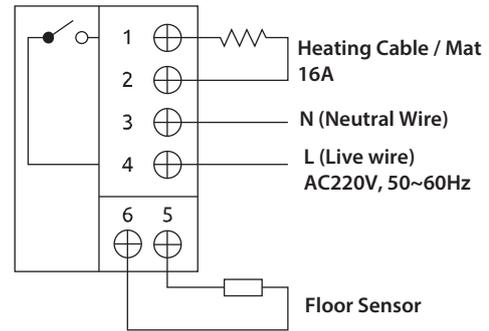
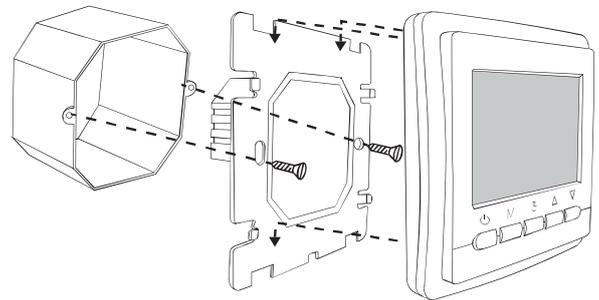
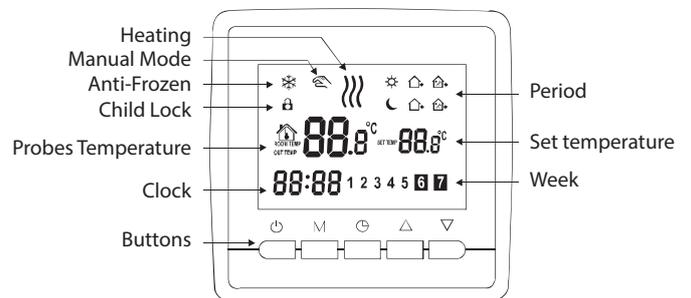


Fig. 3 - Thermostat Installation



V - THERMOSTAT INTERFACE



Button functions

| | Thermostat OFF Short Press | Thermostat ON Short Press | Thermostat ON Long Press |
|------|----------------------------|--------------------------------|---|
| ⏻ | Turn on | Turn Off | --- |
| M | --- | Toggle automatic / manual mode | Daily and weekly schedule |
| ⌚ | --- | Set time and day | Child Lock |
| ⬆️ | --- | Increase temperature 0.5°C | Increase temperature 0.5°C continuously |
| ⬇️ | --- | Decrease temperature 0.5°C | Decrease temperature 0.5°C continuously |
| ⬇️+⏻ | Advanced Settings | --- | --- |
| M+⏻ | --- | Floor probe reading | --- |

VI - THERMOSTAT PROGRAMMING

▶ TURN ON/OFF

Press the button to turn on the thermostat.

Press the button again to turn off the thermostat and cut the power to the heating cable or mat.

► SETTING THE TIME AND DAY OF THE WEEK

With the thermostat on, press the symbol \ominus and the hour digits will flash. Use the Δ/∇ symbols to set the time. Press the symbol \ominus again to move to the minutes and use the Δ/∇ symbols to set the minutes. Press the symbol \ominus again and the day of the week will flash. Use the ∇/Δ symbols to define the day of the week. Press the symbol \ominus to complete the configuration.

► TOGGLE BETWEEN MANUAL AND AUTOMATIC MODE

With the thermostat on, press the symbol \mathbb{M} to switch between manual and automatic mode. When the thermostat is in automatic mode, the symbol for one of the daily settings ($\ast, \triangle, \square, \diamond, \circ, \bullet$) will appear on the display. When in manual mode, the display shows the symbol \mathbb{M} .

► SET TEMPERATURE IN MANUAL MODE

With the thermostat turned on in manual mode, press the symbol Δ to increase the temperature by 0.5°C. Press the symbol ∇ to lower the temperature by 0.5°C.

The thermostat turns on when the probe temperature is lower than the one set at 1.5°C and the symbol \lll appears on the display. The thermostat switches off when the probe temperature is higher than the one set at 1°C.

► DAILY AND WEEKLY SCHEDULE

This thermostat supports 6 daily and 3 weekly settings (5 + 2 days, 6 + 1 days or 7 days). If you choose to schedule one of the weekend days separately (5 + 2 or 6 + 1), you have only 2 daily schedules for that day (s).

With the thermostat on, press the symbol \mathbb{M} for 5 seconds. When the word "loop" is on the display, you can use the ∇/Δ symbols to define the weekly interval to be programmed.

Press the symbol \mathbb{M} again and the symbol for the first daily schedule will appear on the display (\ast) together with the temperature to be programmed for this time to flash. Use the ∇/Δ symbols to set the temperature for this time. If you want to change the time for this daily schedule, press the symbol \ominus and you will have the digit of the hours to flash. Use the ∇/Δ symbols to set the time. Press the symbol \ominus again and the minute numbers will flash. Use the ∇/Δ symbols to set the minutes. Press the symbol \ominus again if you want to change the temperature again for this daily schedule or press the symbol \mathbb{M} to move to the next daily schedule.

Repeat the same procedure for the remaining 5 daily schedules. If you have chosen the weekly mode 5 + 2 or 6 + 1, repeat the procedure described above for your daily weekend schedule.

NOTE 1: daily periods have to be programmed, none of them can be ignored.

NOTE 2: there is no opening and closing of daily periods. If you do not want heating in the room for a certain period, you must program that period with a sufficiently low temperature so that the thermostat does not start.

NOTE 3: during programming, if you do not press any button for 15 seconds, the programming process is interrupted. The display returns to the main screen and the changes made so far are saved.

NOTE 4: when the thermostat is operating in automatic mode, you can manually change the temperature for that time using the ∇/Δ symbols. In addition to the automatic mode symbol corresponding to the current daily interval ($\ast, \triangle, \square, \diamond, \circ, \bullet$), the symbol \mathbb{M} is also displayed. Changes you make manually in automatic mode are canceled when you start a new daily schedule or by pressing the symbol \mathbb{M} twice.

► CHILD LOCK

With the thermostat on, press the symbol \ominus for 5 seconds and the symbol \mathbb{L} will appear on the display. This will block all touch functions of the thermostat and prevent its use. To unlock, press again the symbol \ominus for 5 seconds.

VII - ADVANCED SETTINGS

With the thermostat turned off, hold down the symbol ∇ and simultaneously press the symbol \ominus to enter the advanced settings menu.

► GENERAL FUNCTIONS TABLE

| | |
|-----|---|
| SEN | Probe selection |
| OSV | Floor probe temperature limit |
| DIF | Temperature differential associated with the threshold of the floor probe |
| SVH | Ambient probe high temperature limit |
| SVL | Ambient probe low temperature limit |
| ADJ | Correction of the ambient probe temperature |
| FRE | Anti-freeze function |
| PON | Memory function in case of power failure |
| FAC | Factory settings |

► SEN - PROBE SELECTION

In this function you can configure the probe to be used. Use the ∇/Δ symbols to set a value that can range from 0 to 2. Value 0 defines the exclusive use of the ambient probe (internal probe). The value 1 defines the exclusive use of the floor probe (internal probe). The value 2 defines the use of both probes (the ambient probe controls the temperature and the floor probe limits the temperature). The factory-set value is 0.

If option 2 is set (both probes in use), the thermostat screen in normal operation displays the temperature of the ambient probe. You can check the temperature of the floor probe by holding down the symbol \mathbb{M} and pressing the symbol \ominus at the same time.

► OSV - FLOOR PROBE TEMPERATURE LIMIT

This function allows you to configure the temperature limit of the floor probe. This value defines a safety temperature, from which or thermostat switches off, regardless of its programming. This setting only takes effect if used as two probes (option 2 of the probe selection - SEN). Use the ∇/Δ symbols to set the value that can range from 5°C to 99°C. The factory set value is 42°C.

► DIF - TEMPERATURE DIFFERENTIAL ASSOCIATED WITH THE THRESHOLD OF THE FLOOR PROBE

In this function you can configure the temperature differential associated with the limit of the floor probe. For example, if you have set a value of 2°C in this option, and if you have set 40°C in the previous function, the thermostat will switch off at 42°C and switch on again at 38°C. Use the ∇/Δ symbols to set the value that can go from 1°C to 9°C. The factory-set value is 2°C.

► SVH - AMBIENT PROBE HIGH TEMPERATURE LIMIT

Function to configure the high temperature limit of the ambient probe. The thermostat switches off when the ambient probe reaches this temperature. Use the ∇/Δ symbols to set the value that can range from 5°C to 99°C. The factory set value is 35°C.

► SVL - AMBIENT PROBE LOW TEMPERATURE LIMIT

Function to configure the low temperature limit of the ambient probe. The thermostat switches off when the ambient probe reaches this temperature. Use the ∇/Δ symbols to set the value that can range from 5°C to 99°C. The factory set value is 5°C.

► ADJ - CORRECTION OF THE AMBIENT PROBE TEMPERATURE

This function allows to correct the temperature of the ambient probe. This correction is applied when the temperature displayed by the room probe is not equal to the actual room temperature (measured with another external device). This can happen due to the installation or position of the thermostat. Use the ∇/Δ symbols to set this value. The factory set value is 0°C.

► FRE - ANTI-FREEZE FUNCTION

This function allows to activate or deactivate the anti-freeze function. With this function active, the thermostat starts automatically when the temperature of the ambient probe is below the low temperature limit defined in the SVL function. A value of 0 means that the function is off and a value of 1 means that the function is on.

► PON - MEMORY FUNCTION IN CASE OF CURRENT FAILURE

Here you can define whether or not the thermostat should store its settings in the event of a power failure. A value of 0 means that the function is off and a value of 1 means that the function is on.

► FAC - FACTORY SETTINGS

In this function you can reset all settings and functions to the factory default values. Use the ∇/Δ symbols to set this value. Choosing the value 00 will reset all the settings and settings to the factory value. If you do not want to make changes, select the value 08.

VIII - ERROR TABLE

| Error | Cause | Solution |
|-------|-------------------|---------------------|
| ERR | Floor Probe Error | Replace floor probe |



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