Cronotermostato/Programmatore T+H KNX - da incasso

Timed thermostat / Programmer T+H KNX - flush-mounting

Thermostat programmable / Programmateur T+H KNX - à encastrer

Cronotermostato/Programador T+H KNX - de empotrar

Chronothermostat/Programmierer T+H KNX - für den Unterputz

GW 10 794H GW 12 794H GW 14 794H

MANUALE DI PROGRAMMAZIONE

PROGRAMMING MANUAL - MANUEL DE PROGRAMMATION

MANUAL DE PROGRAMACIÓN - PROGRAMMIERHANDBUCH

CONTENTS

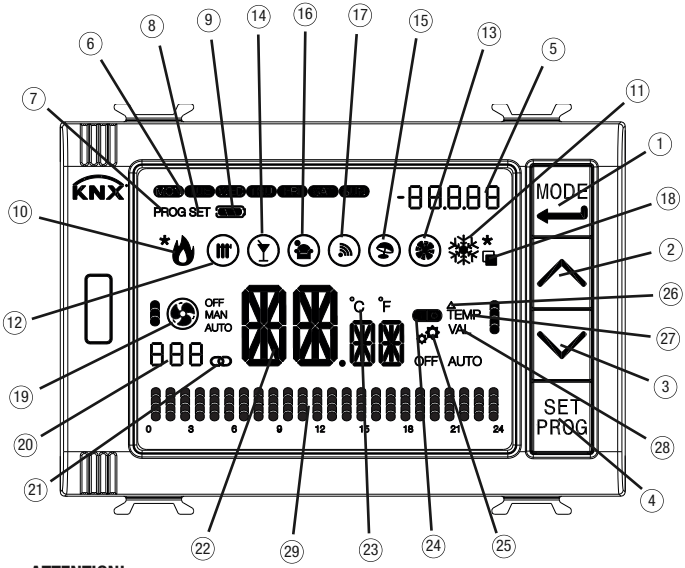
ENGLISH

Briefly

This manual explains the steps for setting the timed thermostat parameters.
All the information concerning the technical data of the product, the connection diagrams, the descriptions of the commands, and the instructions for correct assembly are contained in the installation manual supplied with the product and which can also be downloaded from the website www.gewiss.com.

Position of the commands

The timed thermostat is equipped with a backlit LCD display and four command push-buttons that can always be accessed.



ATTENTION!

If the display backlighting is enabled, only the screen will light up when any one of the 4 front button keys is pressed for the first time; press the keys again to implement the required command.

Description of the commands

	COMMAND PUSH-BUTTONS	Symbol
①	Select operating mode / Confirm	MODE
②	Adjust temperature (+) / Visualise pages	
③	Adjust temperature (-) / Visualise pages	
④	Set parameters / Program profiles	SET PROG

INFORMATION ON THE DISPLAY

Symbol

⑤ Time of day / Variable value of the hourly profile / Value shown on the humidity page (Hr = relative humidity; HA = specific humidity; tr = dew point temperature)

⑥ Day of the week

⑦ Programming mode

PROG

⑧ Settings menu

SET

⑨ Battery charge level

if the profile flashes: device powered from batteries alone (no BUS)

⑩ Heating activation - 1st stage (flame) or 2nd stage (flame+asterisk)

if the flame flashes: no/incorrect reception of heating solenoid valve (1st stage) alert

if the asterisk flashes: no/incorrect reception of heating solenoid valve (2nd stage) alert

⑪ Cooling activation - 1st stage (snowflake) or 2nd stage (snowflake+asterisk).
On the humidity page, the asterisk indicates a comfortable environment

if the snowflake flashes: no/incorrect reception of cooling solenoid valve (1st stage) alert

if the asterisk flashes: no/incorrect reception of cooling solenoid valve (2nd stage) alert

⑫ Type of operation: heating (winter)

if it flashes: floor temperature alarm in progress

⑬ Type of operation: cooling (summer)

⑭ Party function

⑮ Holiday function

⑯ Non-workday program

⑰ Remote command enabling

if it flashes: operation on basis of a remote command

⑱ Selection of display page to be viewed

⑲ Fan coil operating mode
- speed OFF
- speed 1 (automatic / manual)
- speed 2 (automatic / manual)
- speed 3 (automatic / manual)

if the fan flashes: no/incorrect reception of fan coil speed alert

if the segments flash: the speed set (manually or by algorithm) is waiting to be activated

OFF MAN AUTO

MAN AUTO

MAN AUTO

MAN AUTO

⑳ Hourly profile visualised (for hourly timer only)

㉑ Timed thermostat in “Master” mode

㉒ Temperature measured / Time of day / Relative humidity value measured / Specific humidity value / Dew point temperature value

if it flashes: manual forcing of the setpoint, or end of humidity probe monitoring time

㉓ Temperature measurement unit

°C °F

㉔ Indication of auxiliary input status (I = contact closed, O = contact open)

㉕ Thermal gradient self-learning function

㉖ Thermal residual current device

㉗ Timed thermostat mode
- Economy (in heating mode) - Comfort (in cooling mode)
- Pre-comfort (in heating mode and cooling mode)
- Comfort (in heating mode) - Economy (in cooling mode)
- Anti-freeze/High temperature protection (OFF) or Automatic (AUTO)

if the segments flash: the setpoint is temporarily forced

TEMP

TEMP

TEMP

OFF AUTO

㉘ Hourly timer mode
- Variable value 1 of hourly profile
- Variable value 2 of hourly profile
- Variable value 3 of hourly profile
- Variable value 4 of hourly profile

VAL

VAL

VAL

VAL

㉙ Visualise hourly program

Control modes

The timed thermostat can be set with 2 different control modes:

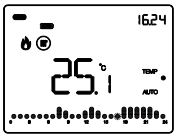
- **Master:** the timed thermostat sets the type, operating mode or setpoint of the devices configured as slaves (e.g. the KNX flush-mounting thermostats GW1x795H), on the basis of the ETS parameterisation. In the first case (modes), the thermostats use the set-points configured via ETS. These can be modified locally and via the BUS if these options are enabled in the ETS configuration. The fixed temperature setpoint can be temporarily forced, but the operating mode cannot be altered. The forced setpoint will remain valid until the master device sends a new operating mode. In the second case (set-points), the thermostats use the setpoint received from the master device (but which can always be altered locally).
- **Autonomous:** the timed thermostat type and operating mode can be set locally. Operation is not dependent on any other device. In the autonomous control mode, you can alter the setpoint as you wish, and enable the timed thermostat to receive remote commands to modify the mode setpoint (OFF/Economy/Pre-comfort/Comfort) and set the type (Heating/Cooling) received from other devices such as a push-button or the KNX GSM remote control.

Operating modes

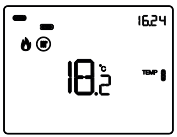
The timed thermostat has 5 different operating modes:

- AUTOMATIC
- ECONOMY
- PRE-COMFORT
- COMFORT
- OFF - ANTIFREEZE/HIGH TEMPERATURE PROTECTION

In any control mode (autonomous or master), to switch from one HVAC mode (economy, pre-comfort, comfort, off) to another, use the MODE button key: each time it is pressed, the corresponding setpoint is shown (flashing) for a moment.



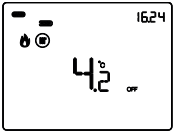
In **automatic operation mode**, the timed thermostat uses a program that can be differentiated for each day of the week. The display shows the word AUTO, the detected room temperature, and the symbol of the setpoint for the current quarter hour period. In the hourly profile, the column relating to the current hour flashes, showing the current setpoint.



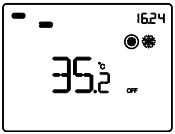
In the **economy, pre-comfort and comfort operating modes**, the timed thermostat always uses the corresponding temperature set-points.
The display shows the detected room temperature and the TEMP, TEMP or TEMP symbol.

MEANING OF TEMP TEMP TEMP

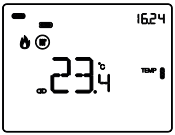
Symbol	Heating		Cooling	
	Setpoint	*Operating mode*	*Setpoint*	*Operating mode*
TEMP	TECONOMY	Economy	TCOMFORT	Comfort
TEMP	TPRE-COMFORT	Pre-comfort	TPRE-COMFORT	Pre-comfort
TEMP	TCOMFORT	Comfort	TECONOMY	Economy



The **anti-freeze function** is only active in heating mode, when the temperature adjustment system is switched OFF. In this case, the timed thermostat uses the fixed anti-freeze temperature setpoint, only reactivating the heating system if the room temperature falls below TANTIGELO (Tanti-freeze). The display shows the word OFF, along with the detected room temperature.

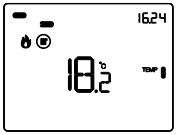


The **high temperature protection function** is only active in cooling mode, when the temperature adjustment system is switched OFF.
In this case, the timed thermostat uses the fixed high temperature protection setpoint, only reactivating the cooling system if the room temperature exceeds TPROTEZIONE ALTE TEMPERATURE (Thigh temperature protection.
The display shows the word OFF, along with the detected room temperature.

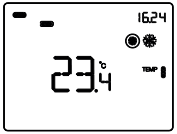


In the Master control mode, the display shows the temperature and the ∞ symbol. The slave devices use the operating mode or the setpoint value received from the timed thermostat (master device) via the BUS.

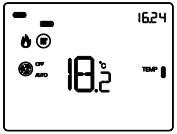
During operation, the activation of the heating or cooling mode is indicated in the following way:



Heating
The symbol indicates that the activation command has been sent to the command actuator of the boiler or area solenoid valve (1st stage of the heating system[1]). If the load notifications have been activated via ETS, and the timed thermostat does not receive confirmation of effective implementation from the actuator, the symbol will begin to flash. Subsequently, the timed thermostat sends the activation command every 60 seconds until it receives confirmation. The * symbol indicates that the 2nd stage of the heating system[1] has been activated.



Cooling
The symbol indicates that the activation command has been sent to the command actuator of the conditioner or area solenoid valve (1st stage of the cooling system[1]). If the load notifications have been activated via ETS, and the timed thermostat does not receive confirmation of effective implementation from the actuator, the symbol will begin to flash. Subsequently, the timed thermostat sends the activation command every 60 seconds until it receives confirmation. The * symbol indicates that the 2nd stage of the cooling system[1] has been activated.



Operation with active fan coil control
If the fan coil control function has been activated in the setting of the parameters via ETS, the display will show the symbol.
In addition, you will be offered the page on which you can manually alter the fan coil speed or set the AUTO mode (whereby the fan coil speed is automatically adjusted on the basis of the difference between the setpoint fixed on the device and the detected temperature).

[1] Some temperature adjustment systems (e.g. floor-mounting ones) have a very high thermal inertia level, so it takes considerable time to bring the room temperature into line with the required setpoint; in order to reduce this inertia, another system with less inertia is often installed to help the main system to heat/cool the room when the difference between the setpoint and the detected temperature is particularly marked. This system, known as 2nd stage, helps to heat/cool the room during the initial phase, then it stops working when the difference between the setpoint and the temperature can be managed in a faster way.

Timed thermostat operation statuses

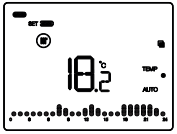
The timed thermostat has three distinct operation statuses:

- Normal operation
- Parameter setting
- Hourly profile programming

When it is switched on, the timed thermostat goes into “normal operation” status. Using the SET PROG button key, you can switch from one status to another (the switchover from “parameter setting” status or “hourly profile programming” status to “normal operation” status also comes about automatically, 30 seconds after the last pressure on the button keys).

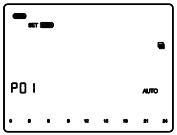
Normal operation

In normal operating conditions, the pages containing information about the timed thermostat are visualised. If the sections relating to the hourly timer and humidity were enabled during ETS programming, the relative pages will also be shown.



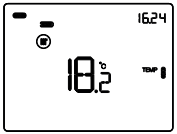
Choosing the page you want to see

To access the screen listing the pages that can be viewed (relating to the timed thermostat, hourly timer and humidity), press the SET PROG button key and keep it pressed until the ■ symbol appears.



Use the ⌃ or ⌄ button key to scroll through the sequence (if there are no hourly profiles - P01, P02, P03, etc. - and no humidity section, the main timed thermostat page will be displayed). To confirm a page, press the MODE button key or wait for the 30-second time-out period to elapse.

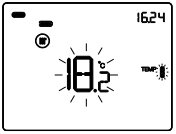
Pages relating to the timed thermostat



Choosing the HVAC mode (auto, pre-comfort, comfort, economy or OFF)

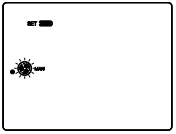
If the visible page relates to the timed thermostat, press the MODE button key to select the required HVAC mode (Auto, TEMP, TEMP, TEMP or OFF).

Each time the MODE button key is pressed, the setpoint of the selected HVAC mode is shown for a moment.



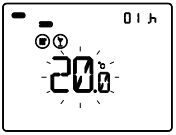
Forcing the setpoint manually

If the displayed page relates to the timed thermostat and any HVAC mode other than OFF is active, press the ∧ or ∨ button key to temporarily modify the setpoint of the active HVAC mode, then confirm with the MODE button key or wait for the 5-second time-out period to elapse. The use of the forcing option is indicated by the flashing of the ▂, ▃, ▄ symbols. It remains active until the active HVAC mode is modified or until the profile is altered (if the mode is Auto).



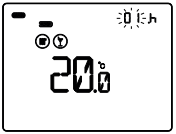
Choosing the fan coil speed

If the displayed page relates to the timed thermostat and any HVAC mode other than OFF is active, press SET PROG ∧ or SET PROG ∨ simultaneously to access the selection page (the control algorithm of the heating/cooling function must be set on "fan coil" from ETS). Use the ∧ or ∨ button key to select the required fan coil setting (▂, ▃, ▄ or ▅), then confirm with the MODE button key or wait for the 30-second time-out period to elapse.

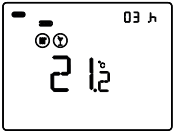


Party function

In the Auto, Economy, Pre-comfort and Comfort modes, the Party function allows you to temporarily exclude the set operating mode and activate the Comfort mode with an adjustable setpoint, for a period of time between 1 and 23 hours. This function can be used, for instance, to obtain a more appropriate temperature during a dinner, party, etc.

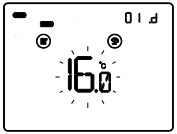


If the visible page relates to the timed thermostat and any HVAC mode other than OFF is active, keep the MODE button key pressed to activate the Party function. The display will show the Ⓨ symbol, and the Tcomfort value will flash for a few seconds. Press the ∧ and ∨ button keys to set the required temperature then, while the setpoint values are flashing, press the MODE button key and then the ∧ and ∨ button keys to set the number of hours you want the Party function to remain active (1-23). Confirm with the MODE button key or wait for the 5-second time-out period to elapse.



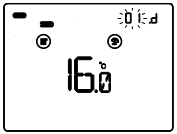
When this function is active, the values of the setpoint and activation period can be modified by means of the ∧ and ∨ button keys. The hour count is decreased during this period. The Party function remains active until the end of the set period, after which it deactivates automatically and the timed thermostat returns to the former operating mode.

To deactivate the Party function in advance, press the MODE button key and keep it pressed until the unit has returned to normal operation.

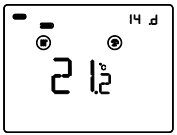


Holiday function

In the Auto, Economy, Pre-comfort and Comfort modes, the Holiday function allows you to temporarily exclude the set operating mode and activate the Economy mode with an adjustable setpoint, for a period of time between 1 and 99 days. This function can be used, for instance, to set the economic operation of the temperature adjustment system during a holiday or a long period of absence, being sure of having the required temperature on the day you return home.

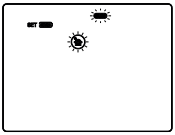


If the visible page relates to the timed thermostat and any HVAC mode other than OFF is active, keep the MODE button key pressed to activate the Party function. Press the MODE button key again briefly to activate the Holiday function. The display will show the symbol, and the Teconomy value will flash for a few seconds. Press the ∧ and ∨ button keys to set the required temperature then, while the setpoint values are flashing, press the MODE button key and then the ∧ and ∨ button keys to set the number of days you want the Holiday function to remain active (1-99). Confirm with the MODE button key or wait for the 5-second time-out period to elapse.



When this function is active, the values of the setpoint and activation period can be modified by means of the ∧ and ∨ button keys.

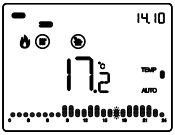
The day count is decreased during this period. The Holiday function remains active until the end of the set period, which ends at midnight. When calculating the days, always include the current day. For example, if you want to set the Holiday function on Friday evening, so it ends at midnight on Sunday, you must set 3 days (Friday, Saturday and Sunday). The Holiday function remains active until the end of the set period, after which it deactivates automatically and the timed thermostat returns to the former operating mode. To deactivate the Holiday function in advance, press the MODE button key to return to normal operation.



Copying the holiday program

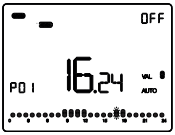
In Auto mode, you can copy the profile of the holiday day onto any day of the week. This function can be activated up to 6 days ahead of the chosen day. It is especially useful when a holiday day falls during the week.

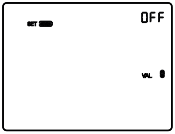
Press the ∧ and ∨ button keys simultaneously to copy the profile of the holiday day: on the display, the symbol and the bar of the holiday day will flash. Use the ∧ or ∨ button key to select the day of the week onto which you want to copy the profile, then confirm with the PROG button key.

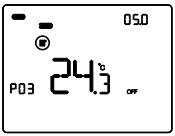


During the set day, the symbol will be lit up with a fixed light. This function is temporary: at midnight on the selected day, the unit returns to its programmed weekly profile. If you want to deactivate the function (or modify the day of the week), press the ∧ and ∨ button keys then select the holiday day (or the new day of the week). Press PROG to confirm the new setting.

Pages relating to the hourly timer







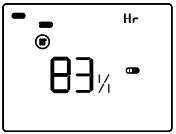
Viewing the hourly profiles

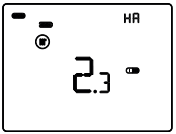
If the visible page relates to an hourly profile, press the PROG button key to activate (Auto) or deactivate (OFF) the profile.

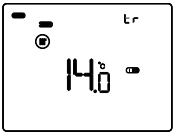
When the profile is active, you can use the ∧ or ∨ button key to modify the current value: this operation is different from the temporary forced temperature function for the timed thermostat profiles, as the modification is stored in the memory.

In addition, if the command format of the hourly profile is set in ETS as “1-byte HVAC mode” or “2-byte temperature”, the prolonged pressing of the PROG button key will temporarily bring up the input data (regarding the type of operation, HVAC mode, active setpoint and detected temperature) from the device controlled by the profile.

Pages relating to the humidity section







View the humidity parameters

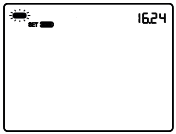
If the page displayed relates to the humidity section, press the ∧ or ∨ button key to view the relative humidity value Hr, specific humidity HA and dew point temperature tr.

To return to the screen listing the pages that can be viewed, keep the SET PROG button key pressed.
Use the ∧ or ∨ button key to scroll through the sequence. To confirm a page, press the MODE button key or wait for the 30-second time-out period to elapse.

Parameter setting

To set the operating parameters of the device, bring up the main timed thermostat page or the general hourly timer profile or the humidity page on the screen, then press the SET PROG button key.
To quit the parameter setting procedure without saving the modifications made on the current page, just press the SET PROG button key again or wait 30 seconds from the last pressure on the button keys. The parameters that can be modified will depend on the page you are viewing in normal operation status: if the visible page relates to the timed thermostat, the Set menu concerning the timed thermostat will be shown; if the visible page is that of a general hourly timer profile, the Set menu concerning the selected profile will be shown; if the visible page relates to the humidity section, the Set menu concerning the selected humidity threshold will be shown.
The parameters relating to the timed thermostat / hourly timer / humidity are collected into three functional groups: general parameters, operating parameters, and control parameters. Each group can be enabled or disabled for visualisation and/or local modification, by setting the ETS parameter “Local parameter modification” of the “General” menu.

General parameters



Setting the day

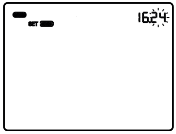
Access to the Set menu is indicated by the word SET on the display, and by the flashing of the day of the week. Set the day by means of the ▲ ▼ button keys (MON, TUE, WED, THU, FRI, SAT, SUN).

To confirm your choice and move on to the next parameter, press the MODE button key within 30 seconds.

Setting the hour

When the hour figures are flashing, set the hour using the ▲ ▼ button keys.

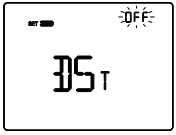
To confirm the set value and move on to the next parameter, press the MODE button key within 30 seconds.



Setting the minutes

When the minute figures are flashing, set the minutes using the ▲ ▼ button keys.

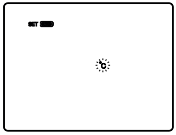
To confirm the set value and move on to the next parameter, press the MODE button key within 30 seconds.



Setting GMT / daylight-saving time

Use the ▲ or ▼ button key to choose either GMT or daylight-saving time (OFF = GMT; ON = daylight-saving time). This screen is only visible if the parameter has been enabled from ETS.

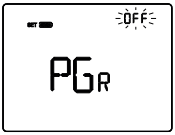
To confirm your choice and move on to the next parameter, press the MODE button key within 30 seconds.



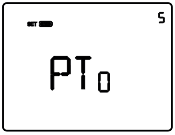
Setting the temperature measurement unit

When the °C or °F temperature symbol begins flashing, select the temperature measurement unit by means of the ▲ ▼ button keys.

To confirm your choice and move on to the next parameter, press the MODE button key within 30 seconds.

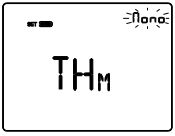


Returning to the main page
Use the ▲ or ▼ button key to set the main page that the device must automatically visualise at the end of a period of inactivity by the user (OFF = function disabled; TIMED THERMOSTAT = main page of the timed thermostat; PR001, PR002 ... PR010 = pages relating to the hourly profiles, if enabled; Hr = pages relating to humidity, if enabled).
If this function is enabled, press the MENU button key to access the page for setting the duration of the inactivity period. Use the ▲ or ▼ button key to set the gap (5 - 120 seconds). To confirm your choice and move on to the next parameter, press the MENU button key within 30 seconds.

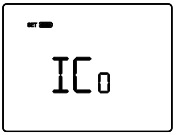


Back-lighting colour
Use the ▲ or ▼ button key to modify the colour of the display back-lighting. To confirm your choice and move on to the next parameter, press the MENU button key within 30 seconds.

NB: if red/blue is chosen, the timed thermostat background will be white during the idle phase (heating and cooling valves deactivated) of normal operation, turning red when the heating system is activated or blue when the cooling system is activated.

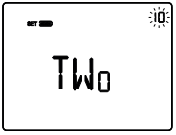


Icons theme
Use the ▲ or ▼ button key to modify the colour themes for representing the various icons shown on the display (MONO = single-colour theme; TH1, TH2, TH3, TH4, TH5 = colour themes) when the backlighting is active. The screen is only visible if the back-lighting colour is white. To confirm your choice and move on to the next parameter, press the MENU button key within 30 seconds.



Single-colour theme for icon colour
Use the ⌃ or ⌄ button key to modify the colour of the icons within a single-colour theme. This parameter is only visible if the icon theme is single-colour and the back-lighting is active. To confirm your choice and move on to the next parameter, press the ▭ button key within 30 seconds.

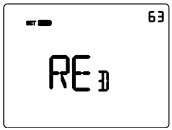
Back-lighting timing
Use the ⌃ or ⌄ button key to set the minimum duration of the inactivity time of the user before the back-lighting is automatically deactivated (the gap can be set from 10 to 180 seconds). This parameter is only visible if the back-lighting is active. To confirm your choice and move on to the next parameter, press the ▭ button key within 30 seconds.



Back-lighting intensity
Use the ⌃ or ⌄ button key to choose how to manage the back-lighting intensity (MAN = fixed value; SENS = light sensitive sensor). This parameter is only visible if the back-lighting is active. If the type of management is MAN, use the ⌃ or ⌄ button key to choose the required percentage of light intensity (the gap can be set from 30 to 100%).
If the type of management is SENS, use the ⌃ or ⌄ button key to increase (+10%), decrease (-10%) or leave unaltered (0%) the intensity value detected by the built-in light-sensitive sensor.
To confirm your choice and move on to the next parameter, press the ▭ button key within 30 seconds.

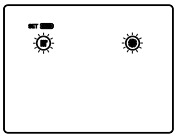
If the local modification function has been enabled from the ETS menu for the General Parameters group only, press the ▭ button key to return to the start of the parameter configuration menu. Otherwise, continue with the configuration of the next group of parameters.

Operating parameters



White balancing

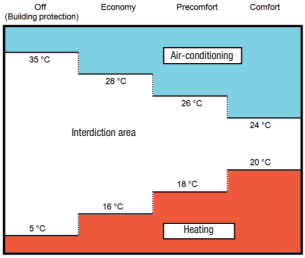
Use the button keys ∧ or ∨ to set the weight of the red (RED), green (GRE) and blue (BLU) component in the backlighting of the display (value can be set between 1 and 63). The regulation only applies to the white colour of the screen. To confirm your choice and move on to the next parameter, press the MODE button key within 30 seconds.



Heating / cooling selection

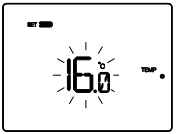
Use the ∧ or ∨ button key to select the operating type (= heating; = cooling; = auto). The auto function is visible if the timed thermostat function is active and the interdiction area[1] has been enabled via the relative ETS parameter. To confirm your choice and move on to the next parameter, press the MODE button key within 30 seconds.

[1] The operating mode of the device (heating or cooling) can be managed manually or autonomously (by the device itself). The manual method is via the local navigation menu or BUS commands that allow you to switch from one type to another, modifying the specific parameter. The automatic mode is based on the principle of an interdiction area - i.e. the temperature gap between the setpoints of the HVAC heating and cooling modes, allowing the automatic switchover from one type of operation to the other.

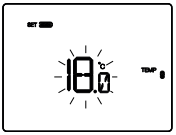


The figure shows that as long as the detected temperature is below the heating setpoint, the operating mode is “heating”; if the detected value is higher than the cooling setpoint, then the operating mode is “cooling”. If the detected value is within the interdiction area, the operating mode remains as before. The heating -> cooling switchover point corresponds to the setpoint of the HVAC mode relating to cooling; the cooling -> heating switchover point corresponds to the setpoint of the HVAC mode relating to heating.

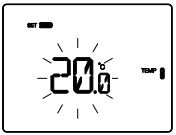
If the displayed page relates to the timed thermostat (type of operation: heating)



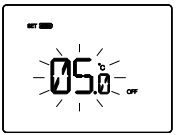
Setpoint setting TEMP
Used to modify the temperature value associated with the TEMP setpoint.
Adjust the value of TEMP (TECONOMY) with the aid of the button keys.
To confirm the set value and move on to the next parameter, press the MODE button key within 30 seconds.



Setpoint setting TEMP
Used to modify the temperature value associated with the TEMP setpoint.
Adjust the value of TEMP (TPRE-COMFORT) with the aid of the button keys. To confirm the set value and move on to the next parameter, press the MODE button key within 30 seconds.

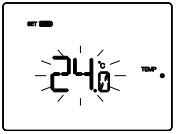


Setpoint setting TEMP
Used to modify the temperature value associated with the TEMP setpoint.
Adjust the value of TEMP (TCOMFORT) with the aid of the button keys.
To confirm the set value and move on to the next parameter, press the MODE button key within 30 seconds.



Setting the anti-freeze temperature value
Used to modify the temperature value associated with the TOFF setpoint.
Adjust the anti-freeze temperature value (TOFF) using the button keys.
To confirm the set value and move on to the next parameter, press the MODE button key within 30 seconds.

If the displayed page relates to the timed thermostat (type of operation: cooling)

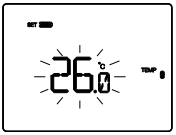


Setpoint setting TEMP ●

Used to modify the temperature value associated with the TEMP ● setpoint.

Adjust the value of TEMP ● (TCOMFORT) with the aid of the ▲ ▼ button keys.

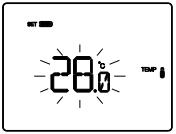
To confirm the set value and move on to the next parameter, press the MODE button key within 30 seconds.



Setpoint setting TEMP ●

Used to modify the temperature value associated with the TEMP ● setpoint.

Adjust the value of TEMP ● (TPRE-COMFORT) with the aid of the ▲ ▼ button keys. To confirm the set value and move on to the next parameter, press the MODE button key within 30 seconds.

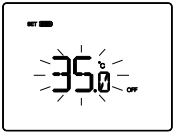


Setpoint setting TEMP ●

Used to modify the temperature value associated with the TEMP ● setpoint.

Adjust the value of TEMP ● (TECONOMY) with the aid of the ▲ ▼ button keys.

To confirm the set value and move on to the next parameter, press the MODE button key within 30 seconds.



Setting the high temperature protection value

Used to modify the temperature value associated with the TOFF setpoint.

Adjust the high temperature protection value (TOFF) using the ▲ ▼ button keys.

To confirm the set value and move on to the next parameter, press the MODE button key within 30 seconds.

If the operating type is “auto”, the setpoint setting pages visualised are those relating to the operating type active in that moment (heating or cooling).

ATTENTION!
The setpoint values are subject to the following limitations:

- HEATING
  TANTIGELO (Tanti-freeze) ≤ TEMP ● ≤ TEMP ▮ ≤ TEMP ▮
- COOLING
  TEMP ● ≤ TEMP ▮ ≤ TEMP ▮ ≤ TPROTEZIONE ALTE TEMPERATURE (Thigh temperature protection)

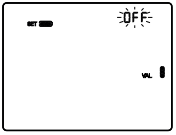
If the displayed page relates to the hourly timer

Setting VAL ●
Used to modify Value 1 (defined in ETS) of the hourly profile associated with the VAL ● status, if the control variable is other than 1 bit.

Adjust the VAL ● value using the ⋀ ⋁ button keys. To confirm the set value and move on to the next parameter, press the PROG button key within 30 seconds.

Setting VAL ▮
Used to modify Value 2 (defined in ETS) of the hourly profile associated with the VAL ▮ status, if the control variable is other than 1 bit.

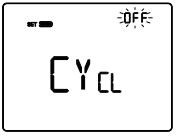
Adjust the VAL ▮ value using the ⋀ ⋁ button keys. To confirm the set value and move on to the next parameter, press the PROG button key within 30 seconds.



Setting VAL ▮
Used to modify Value 3 (defined in ETS) of the hourly profile associated with the VAL ▮ status, if the control variable is other than 1 bit.

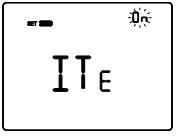
Adjust the VAL ▮ value using the ⋀ ⋁ button keys. To confirm the set value and move on to the next parameter, press the PROG button key within 30 seconds.

Setting VAL
Used to modify Value 4 (defined in ETS) of the hourly profile associated with the VAL status, if the control variable is other than 1 bit.
Adjust the VAL value using the ▲ ▼ button keys.
To confirm the set value and move on to the next parameter, press the MODE button key within 30 seconds.



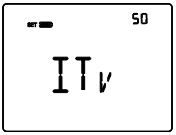
Setting the cyclical profile sending time
Used to set the frequency for sending the current hourly profile value on the BUS. This parameter is only effective when the timed thermostat / hourly timer is in Automatic mode. Use the ▲ ▼ button keys to modify the sending time (OFF = send only with hourly profile variation; 1M, 2M, 5M, 10M, 15M, 30M, 45M, 60M = values expressed in minutes).
To confirm the set value, press the MODE button key within 30 seconds.

If the displayed page relates to humidity

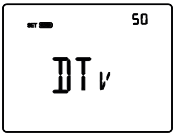


Enabling the humidity thresholds (from 1..5)
Use the ▲ ▼ button keys to enable (ON) or disable (OFF) the relative humidity thresholds (up to 5, if enabled in ETS).
To confirm your choice and move on to the next parameter, press the MODE button key within 30 seconds.

Enabling the dew point alarm threshold
Use the ▲ ▼ button keys to enable (ON) or disable (OFF) the dew point alarm threshold (if enabled in ETS).
To confirm your choice and move on to the next parameter, press the MODE button key within 30 seconds.



Humidity thresholds (from 1..5)
Use the ▲▼ button keys to modify the value of the relative humidity thresholds (up to 5, if enabled in ETS). The gap that can be set varies from 1% to 100%. To confirm the set value and move on to the next parameter, press the MODE button key within 30 seconds.



Signalling limit of the dew point alarm
Use the ▲▼ button keys to modify the value associated with the signalling limit of the dew point alarm threshold (if enabled in ETS). The gap that can be set varies from 1% to 100%.
To confirm your choice and move on to the next parameter, press the MODE button key within 30 seconds.

If the local modification function has been enabled from the ETS menu for the General Parameters and Operating Parameters groups only, press the MODE button key to return to the start of the parameter configuration menu. Otherwise, continue with the configuration of the next group of parameters.

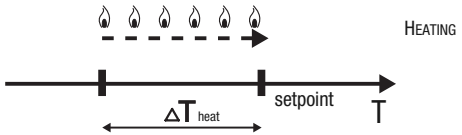
Control parameters
The screens that can be visualised will depend on the type of control logic of the temperature adjustment system that was set via ETS (with the "Heating control algorithm" and the "Cooling control algorithm" parameters of the "Timed thermostat" menu):

- two points ON-OFF
- two points 0%-100%
- PWM proportional-integral
- continuous proportional-integral
- fan coil with ON-OFF speed control
- fan coil with continuous speed control

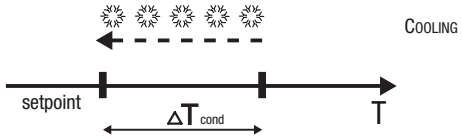
TWO POINTS ON-OFF

The operating principle manages the temperature adjustment system with two thresholds (hysteresis cycle), used to distinguish the ON or OFF status of the system.

In heating mode, when the detected temperature is lower than the "setpoint - ΔT_{heat}" value, the device activates the heating system by sending the relative command to the actuator that manages it; when the detected temperature reaches the fixed setpoint value, the device deactivates the heating system.



In cooling mode, when the measured temperature is higher than the "setpoint + ΔT_{cond}" value, the device activates the cooling system by sending the relative command to the actuator that manages it; when the measured temperature reaches the fixed setpoint value, the device deactivates the cooling system.

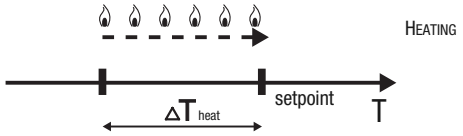


To avoid continuous solenoid valve switchovers, after an OFF-ON-OFF sequence the next ON command can only be sent after at least 2 minutes have elapsed.

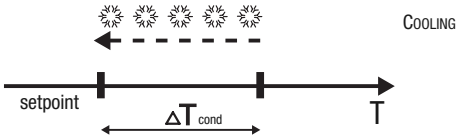
TWO POINTS 0%-100%

The operating principle is similar to that of the two points ON-OFF, but with the difference that the communication objects for temperature adjustment management are of 1 byte.

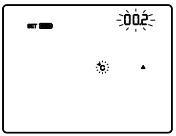
In heating mode, when the detected temperature is lower than the "setpoint - ΔT_{heat}" value, the device activates the heating system by sending the relative percentage command to the actuator that manages it; when the detected temperature reaches the fixed setpoint value, the device deactivates the heating system.



In cooling mode, when the detected temperature is higher than the "setpoint + ΔT_{cond}" value, the device activates the cooling system by sending the relative percentage command to the actuator that manages it; when the measured temperature reaches the fixed setpoint value, the device deactivates the cooling system.



To avoid the continuous switching of the solenoid valve, after a 0%-100%-0% sequence, the next 100% command can only be sent after at least 2 minutes have elapsed.



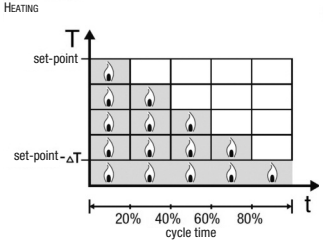
Setting the adjustment differential

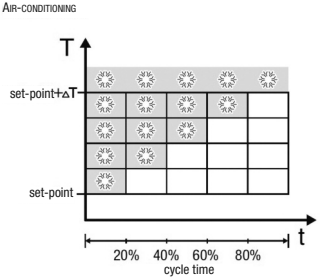
Use the ▲ ▼ button keys to set the value of the adjustment differential of the two-point control algorithm (the gap can be set from 0.1°C to 2.0°C).

To confirm your choice and move on to the next parameter, press the MODE button key within 30 seconds.

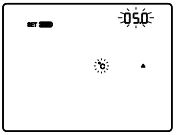
Activating the self-learning function (heating mode only)
The self-learning function allows you to optimise the heating activation advance (max. 2 hours). The timed thermostat manages the advance automatically so as to guarantee the set temperature at the start of each programmed profile period. This function can only be activated in heating mode, in automatic operation.
Use the ⌃ or ⌄ button key to activate (ON) or deactivate (OFF) the temperature degree self-learning function. To confirm your choice and move on to the next parameter, press the PROG button key within 30 seconds.

PWM PROPORTIONAL-INTEGRAL
The PWM control algorithm, used to control the temperature adjustment system, allows you to drastically reduce the times subject to thermal inertia and introduced by the two-point control. This type of control involves the modulation of the impulse duty-cycle, represented by the temperature adjustment system activation time, on the basis of the difference between the fixed setpoint and the temperature effectively detected. Two components are needed to calculate the output function: the proportional component and the integral component, used to improve the response in order to reach the temperature at the fixed setpoint. Once the proportional band has been defined (from setpoint to setpoint - ΔT for heating mode, from setpoint to setpoint + ΔT for cooling mode), its width determines the extent of the system response: if it is too narrow, the system will be more reactive but with swings; if it is too wide, the system will be slower. The ideal situation is one where the band is as narrow as possible, without swings. The integration time is the parameter that determines the action of the integral component. The longer the integration time, the slower the modification of the output and hence the slower the system response. If the time is too short, the threshold value will be exceeded, and the function will swing around the setpoint.



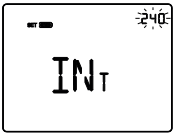


The device keeps the temperature adjustment system switched on for a cycle time percentage that depends on the output function of the proportional-integral control; the device continually adjusts the system, modulating the system ON-OFF times with a duty-cycle that depends on the value of the output function (calculated at each time gap equal to the cycle time). The cycle time is reinitialised every time the reference setpoint is modified.
With this type of algorithm, there is no longer a hysteresis cycle on the heating/cooling element, so the inertia times introduced by the two-point control are eliminated. This produces energy savings because the system does not remain switched on when it is not needed and, once the required temperature has been reached, it continues to provide a limited contribution to compensate for the environmental heat dispersion.



Setting the proportional band

Use the ⌃⌄ button keys to set the value of the proportional band of the proportional-integral control algorithm (the gap can be set from 1°C to 10°C).
To confirm your choice and move on to the next parameter, press the MODE button key within 30 seconds.



Setting the integration time

Use the ⌃⌄ button keys to set the value of the integration time of the proportional-integral control algorithm (the gap can be set from 1 to 250 seconds, OFF).
To confirm your choice and move on to the next parameter, press the MODE button key within 30 seconds.

Setting the cycle time

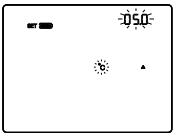
Use the ⌃⌄ button keys to set the value of the cycle time for the proportional-integral control algorithm (the possible values are: 5, 10, 15, 20, 30, 40, 50, 60 minutes).
To confirm your choice and move on to the next parameter, press the MODE button key within 30 seconds.

CONTINUOUS PROPORTIONAL-INTEGRAL

The operating principle is similar to that of the PWM proportional-integral, but with the difference that the communication objects for temperature adjustment management are of 1 byte.
This type of control involves the continuous control of the difference between the fixed setpoint and the temperature effectively detected. Two components are needed to calculate the output

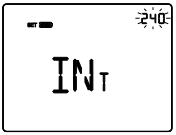
function: the proportional component and the integral component, used to improve the response in order to reach the temperature at the fixed setpoint. Once the proportional band has been defined (from setpoint to setpoint - ΔT for heating mode, from setpoint to setpoint + ΔT for cooling mode), its width determines the extent of the system response: if it is too narrow, the system will be more reactive but with swings; if it is too wide, the system will be slower. The ideal situation is one where the band is as narrow as possible, without swings. The integration time is the parameter that determines the action of the integral component. The longer the integration time, the slower the modification of the output and hence the slower the system response. If the time is too short, the threshold value will be exceeded, and the function will swing around the setpoint.

The device continually adjusts the temperature adjustment system, sending percentage activation values to the solenoid valve. With this type of algorithm, there is no longer a hysteresis cycle on the heating/cooling element, so the inertia times introduced by the two-point control are eliminated. This produces energy savings because the system does not remain switched on when it is not needed and, once the required temperature has been reached, it continues to provide a limited contribution to compensate for the environmental heat dispersion.



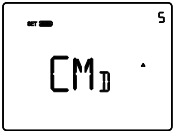
Setting the proportional band

Use the ▲▼ button keys to set the value of the proportional band of the proportional-integral control algorithm (the gap can be set from 1°C to 10°C).
To confirm your choice and move on to the next parameter, press the PROG button key within 30 seconds.



Setting the integration time

Use the ▲▼ button keys to set the value of the integration time of the proportional-integral control algorithm (the gap can be set from 1 to 250 seconds, OFF).
To confirm your choice and move on to the next parameter, press the PROG button key within 30 seconds.



Setting a command sending variation

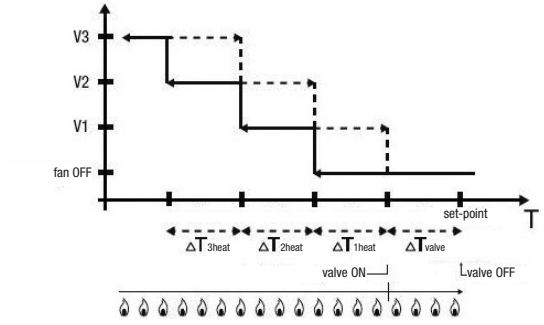
Use the ▲▼ button keys to set the minimum percentage value for sending the command of the continuous proportional control algorithm (the possible values are: 1, 2, 3, 4, 5, 10, 20%). To confirm your choice and move on to the next parameter, press the PROG button key within 30 seconds.

FAN COIL WITH ON-OFF SPEED CONTROL

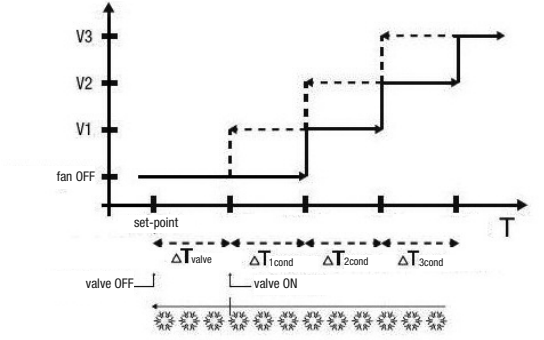
The operating principle involves activating/deactivating the fan coil speeds on the basis of the difference between the fixed setpoint and the detected temperature, using independent 1-bit communication objects to manage the individual speeds.

The figures below refer to the control of the speeds of a fan coil with three operating stages for heating and cooling. The charts show that each stage has a hysteresis cycle, and each speed is associated with two thresholds that determine its activation and deactivation.

HEATING



AIR-CONDITIONING



Speed V1 is activated when the temperature value is lower than the "setpoint - ΔT_{valve} - ΔT_{1heat}" value (in heating mode) or higher than the "setpoint + ΔT_{valve} + ΔT_{1cond}" value (in cooling mode), and deactivated when the temperature value reaches the "setpoint - ΔT_{valve}" value (in heating mode) or the "setpoint + ΔT_{valve}" value (in cooling mode). The first speed is also deactivated when a higher speed needs to be activated.

Speed V2 is activated when the temperature value is lower than the "setpoint - ΔT_{valve} - ΔT_{1heat} - ΔT_{2heat}" value (in heating mode) or higher than the "setpoint + ΔT_{valve} + ΔT_{1cond} + ΔT_{2cond}" value (in cooling mode), and deactivated when the temperature value reaches the "setpoint - ΔT_{valve} - ΔT_{1heat}" value (in heating mode) or the "setpoint + ΔT_{valve} + ΔT_{1cond}" value (in cooling mode). The second speed is also deactivated when a higher speed needs to be activated.

Speed V3 is activated when the temperature value is lower than the "setpoint - ΔT_{valve} - ΔT_{1heat} - ΔT_{2heat} - ΔT_{3heat}" value (in heating mode) or higher than the "setpoint + ΔT_{valve} + ΔT_{1cond} + ΔT_{2cond} + ΔT_{3cond}" value (in cooling mode), and deactivated when the temperature value reaches the "setpoint - ΔT_{valve} - ΔT_{1heat} - ΔT_{2heat}" value (in heating mode) or the "setpoint + ΔT_{valve} + ΔT_{1cond} + ΔT_{2cond}" value (in cooling mode).

With regards the heating (cooling) solenoid valve, you can see that once the detected temperature is lower (higher) than the "setpoint - ΔT_{valve}" ("setpoint + ΔT_{valve}") value, the timed thermostat sends the activation command to the solenoid valve that manages the heating system; the solenoid valve is deactivated when the detected temperature reaches the fixed setpoint value. In this way, the heating (cooling) of the fan coil can also be exploited for irradiation, without any speed being activated.

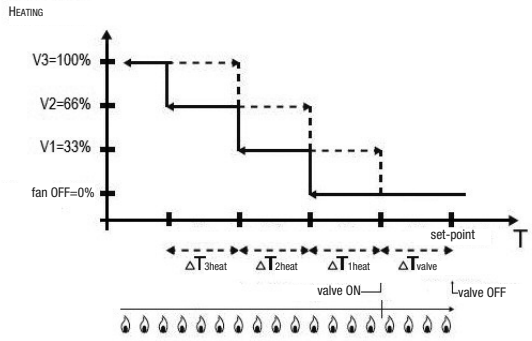
To avoid continuous switchovers, the timed thermostat can wait up to 2 minutes before sending the activation command to the actuator that controls the temperature adjustment system, or to the actuator channels that command the fan coil speeds.

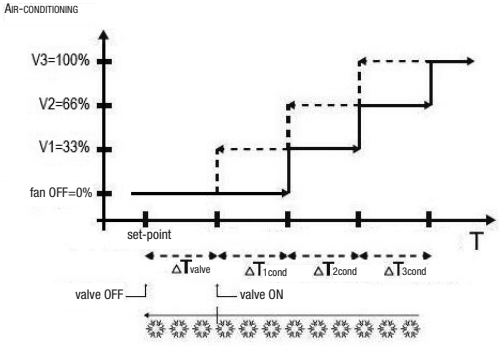
Both figures refer to the three-stage control of the fan coil, as the descriptions are complete. For two-stage or single-stage control, the logic is the same, but not all the speeds are controlled.

FAN COIL WITH CONTINUOUS SPEED CONTROL

The operating principle is similar to that of the fan coil with ON-OFF speed control, but with the difference that there are no independent communication objects for managing the individual speeds - just one 1-byte object.

The figures below refer to the control of the speeds of a fan coil with three operating stages for heating and cooling. The charts show that each stage has a hysteresis cycle, and each speed is associated with two thresholds that determine the sending of the associated value.





Speed V1 is activated when the temperature value is lower than the "setpoint - ΔT_{valve} - ΔT_{1heat}" value (in heating mode) or higher than the "setpoint + ΔT_{valve} + ΔT_{1cond}" value (in cooling mode), and deactivated (sending of "fan OFF" value) when the temperature value reaches the "setpoint - ΔT_{valve}" value (in heating mode) or the "setpoint + ΔT_{valve}" value (in cooling mode). The first speed is also deactivated when a higher speed needs to be activated.

Speed V2 is activated when the temperature value is lower than the "setpoint - ΔT_{valve} - ΔT_{1heat} - ΔT_{2heat}" value (in heating mode) or higher than the "setpoint + ΔT_{valve} + ΔT_{1cond} + ΔT_{2cond}" value (in cooling mode), and deactivated (sending of value V1) when the temperature value reaches the "setpoint - ΔT_{valve} - ΔT_{1heat}" value (in heating mode) or the "setpoint + ΔT_{valve} + ΔT_{1cond}" value (in cooling mode). The second speed is also deactivated when a higher speed needs to be activated.

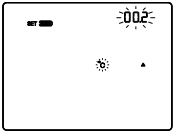
Speed V3 is activated when the temperature value is lower than the "setpoint - ΔT_{valve} - ΔT_{1heat} - ΔT_{2heat} - ΔT_{3heat}" value (in heating mode) or higher than the "setpoint + ΔT_{valve} + ΔT_{1cond} + ΔT_{2cond} + ΔT_{3cond} value (in cooling mode), and deactivated (sending of value V2) when the temperature value reaches the "setpoint - ΔT_{valve} - ΔT_{1heat} - ΔT_{2heat}" value (in heating mode) or the "setpoint + ΔT_{valve} + ΔT_{1cond} + ΔT_{2cond}" value (in cooling mode).

With regards the heating (cooling) solenoid valve, you can see that once the detected temperature is lower (higher) than the "setpoint - ΔT_{valve}" ("setpoint + ΔT_{valve}") value, the timed thermostat sends the activation command to the solenoid valve that manages the heating system; the solenoid valve is deactivated when the detected temperature reaches the fixed setpoint value. In this way, the heating (cooling) of the fan coil can also be exploited for irradiation, without any speed being activated.

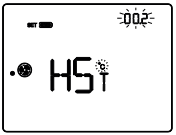
To avoid continuous switchovers, the timed thermostat can wait up to 2 minutes before sending the activation command to the actuator that controls the temperature adjustment system, or to the actuator channels that command the fan coil speeds.

Both figures refer to the three-stage control of the fan coil, as the descriptions are complete. For two-stage or single-stage control, the logic is the same, but not all the speeds are controlled.

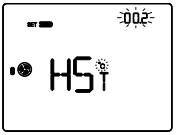
ATTENTION: To control the fan coil speeds with ON/OFF commands in the absence of an actuator with interlock, you must enable the notifications from the commanded actuator and the link of the relative objects in the configuration of the ETS project. In this case (e.g. passing from V1 to V2), the timed thermostat only sends a V2 speed activation command after receiving the notification of the opening of the speed V1 command contact (transit from speed OFF). If there is no notification, the timed thermostat repeats the contact opening command until it receives a positive result. This condition is shown on the display by the flashing ⟳ symbol.



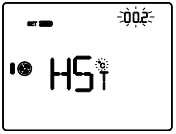
Setting the valve adjustment differential
Use the ▲ ▼ button keys to set the value of the adjustment differential of the fan coil valve control algorithm (the gap can be set from 0.1°C to 2.0°C). If the control logic is common, the parameter remains the same in both heating and cooling mode. To confirm your choice and move on to the next parameter, press the ⇔ button key within 30 seconds.



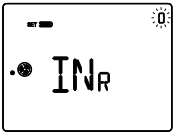
Setting the adjustment differential for speed 1
Use the ▲ or ▼ button key to set the value of the adjustment differential of fan coil speed 1 (the gap can be set from 0°C to 2.0°C). If a value of 0°C is set, then when the solenoid valve is activated fan coil speed 1 will be activated as well. To confirm your choice and move on to the next parameter, press the ⇔ button key within 30 seconds.



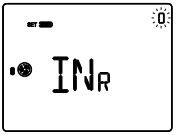
Setting the adjustment differential for speed 2
Use the ▲ or ▼ button key to set the value of the adjustment differential of fan coil speed 2 (the gap can be set from 0.1°C to 2.0°C). This parameter is visible if the fan coil speed number is higher than 1. To confirm your choice and move on to the next parameter, press the ⇔ button key within 30 seconds.



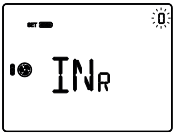
Setting the adjustment differential for speed 3
Use the ▲ or ▼ button key to set the value of the adjustment differential of fan coil speed 3 (the gap can be set from 0.1°C to 2.0°C). This parameter is visible if the fan coil speed number is 3. To confirm your choice and move on to the next parameter, press the ⇔ button key within 30 seconds.



Setting the inertia for speed 1
Use the ▲ or ▼ button key to set the value of the inertia time for fan coil speed 1 (the gap can be set from 0 to 10 seconds). To confirm your choice and move on to the next parameter, press the ⇔ button key within 30 seconds.

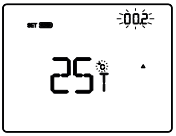


Setting the inertia for speed 2
Use the ▲ or ▼ button key to set the value of the inertia time for fan coil speed 2 (the gap can be set from 0 to 10 seconds). This parameter is visible if the fan coil speed number is higher than 1. To confirm your choice and move on to the next parameter, press the ⇔ button key within 30 seconds.

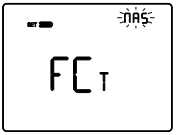


Setting the inertia for speed 3
Use the ▲ or ▼ button key to set the value of the inertia time for fan coil speed 3 (the gap can be set from 0 to 10 seconds). This parameter is visible if the fan coil speed number is 3. To confirm your choice and move on to the next parameter, press the MODE button key within 30 seconds.

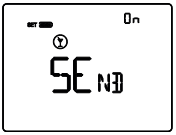
Common settings for all the control algorithms



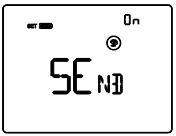
Setting the 2nd stage adjustment differential
Use the ▲ or ▼ button key to set the value of the adjustment differential of the 2nd stage control algorithm (the gap can be set from 0.1°C to 2.0°C). This screen is only visible if the second stage has been enabled from ETS. To confirm your choice and move on to the next parameter, press the MODE button key within 30 seconds.



Setting the control modes
Use the ▲ or ▼ button key to modify the operating mode of the timed thermostat from Master to autonomous and vice versa (MAS = master; AUT = autonomous). This screen is only visible if the device has been set as the master on ETS. To confirm your choice and move on to the next parameter, press the MODE button key within 30 seconds.



Sending the PARTY command to the Slave devices
Use the ▲ or ▼ button key to activate (ON) or deactivate (OFF) the extension of the PARTY command to the devices set as Slaves of the timed thermostat. This screen is only visible if the timed thermostat is set as the Master.
To confirm your choice and move on to the next parameter, press the MODE button key within 30 seconds.

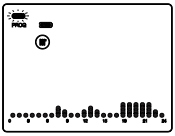


Sending the HOLIDAY command to the Slave devices
Use the ▲ or ▼ button key to activate (ON) or deactivate (OFF) the extension of the HOLIDAY command to the devices set as Slaves of the timed thermostat. This screen is only visible if the timed thermostat is set as the Master.
To confirm your choice and move on to the next parameter, press the MODE button key within 30 seconds.

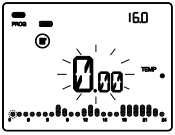
The setting of the timed thermostat parameters is now complete. Press the ESC button key to return to normal operation.

Hourly profile programming

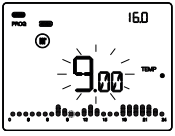
To personalise the hourly profile program of the device, call up the main page of the timed thermostat or the general hourly timer profile then press the SET/PROG button key twice. You will see the word PROG on the screen. To quit the programming procedure without saving any modifications made to the current page, just press the SET/PROG button key again or wait 30 seconds from the last pressure on the button keys. The parameters that can be modified will depend on the page you are viewing in normal operation status: if the visible page relates to the timed thermostat, the Prog menu concerning the timed thermostat will be shown; if the visible page is that of a general hourly timer profile, the Prog menu concerning the selected profile will be shown.



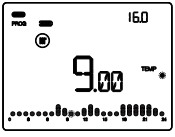
Access to the Prog menu is indicated by the word PROG on the display, and by the flashing of the day of the week. Set the day by means of the ∧ ∨ button keys (MON, TUE, WED, THU, FR, SAT, SUN). To confirm your choice and move on to the next parameter, press the OK button key within 30 seconds.



After confirming the day, the display will show the current profile for that day. The time will start flashing.
To customise the time setting, you must:
- select the temperature variation start time
- set the new temperature setpoint
- complete the customisation



Selecting the temperature variation start time
Use the ∧ or ∨ button key to modify the time band in which you want to vary the set profile: while you are selecting the hourly profile, the column relating to the selected time will flash. The time band is decreased/increased by 15-minute steps each time the ∧ or ∨ button key is pressed: you can therefore obtain up to 4 programming periods in each hour. To confirm your choice and move on to the next parameter, press the OK button key within 30 seconds.



Setting the new setpoint (TEMP)/Value (VAL)
The value corresponding to the current setpoint/value will be shown on the display by flashing spots TEMP, TEMP, TEMP (if the profile relates to the timed thermostat) or by VAL, VAL, VAL, VAL, VAL, (if the profile relates to the hourly timer). Keep the ∧ or ∨ button key pressed to select the new setpoint/value (visible in the top right corner of the screen) that will be applied to the hourly profile until the next variation in the program. To confirm your choice and return to the time selection, press the OK button key within 30 seconds.

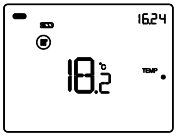
NB: if the hourly timer output object has a dimension of 1 bit, 3 values can be set:
- no action = no spots;
- action associated with value 0 = 1 spot;
- action associated with value 1 = 3 spots.

Completing the customisation
After repeating the above steps to obtain the required hourly profile, you can:
- copy the program onto the next day and confirm the programming by pressing the ∧ and ∨ button keys simultaneously within 30 seconds, or
- confirm the programming without copying it, by pressing the MODE button key within 30 seconds and keeping it pressed (you will move on automatically to the programming of the next day).

After completing the weekly programming, press the SET PROG button key to return to normal operation. To activate the program, select the Auto operating mode by pressing the MODE button key until the word Auto appears on the screen.

Battery operation

The batteries maintain the data and time settings in the event of a voltage failure on the KNX BUS (all the other settings are maintained in the non-volatile memory) or if the front is removed. When the BUS voltage is present, operation is guaranteed even if there are no batteries installed.



The battery charge status is shown by the number of bars. When the symbol appears, this means the batteries need replacing.

The device is pre-arranged to work in battery mode when it is in one of the following operating conditions:
- the front is inserted but there is no KNX BUS voltage
- the front has been removed.

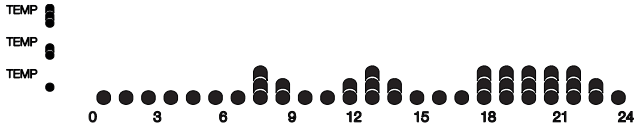
In both cases, the device is powered by the battery alone: the symbol begins flashing and the intensity of the back-lighting (if active) immediately falls to 60% and then deactivates after 15 seconds of inactivity.
During battery operation, the heating and cooling control algorithms are deactivated but you can access the Set and Prog menus, modify the HVAC mode (in the timed thermostat section), activate/deactivate the hourly profile (in the hourly timer section). The timed thermostat shows a dotted line instead of the temperature value.
If the auxiliary output is enabled and free to use, the behaviour of the incorporated relay depends on the value of the relative ETS parameter (but only if the front is inserted); otherwise, the relay remains in the same condition it was in prior to the removal of the front.

Pre-set programs

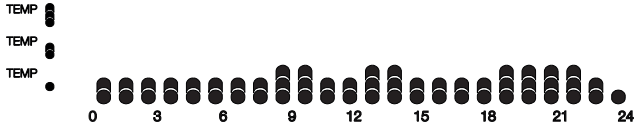
The timed thermostat has 2 pre-set programs, one for **heating** and the other for **cooling**.

HEATING PROGRAM

Monday - Friday

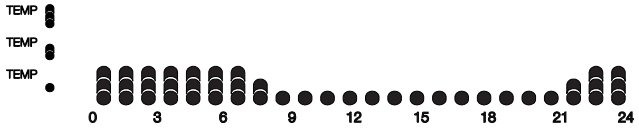


Saturday - Sunday



COOLING PROGRAM

Every day of the week



These pre-set programs can be modified and customised according to your own particular needs. To modify the pre-set parameters, follow the indications given in *Hourly profile programming*.

Day of the week		Monday
Time		0.00
Heating temperature setpoint	**T1**	16 °C
	T2	18 °C
	T3	20 °C
	TANTI-FREEZE	5 °C
Cooling temperature setpoint	**T1**	24 °C
	T2	26 °C
	T3	28 °C
	THIGH TEMPERATURE PROTECTION	35 °C
Temperature measurement unit		°C
Control logic		common, 2 ON-OFF points
Adjustment differential control with 2 points		0.2°C
2nd stage		Disabled
Control modes		Autonomous
Back-lighting colour		White
Icons theme		Monochrome
Icon colour		Black
Time-out for back-lighting deactivation		20 seconds
Light intensity adjustment		Manual (100% light intensity)

F.A.Q.

What does the temperature value on the display actually represent?

If no external temperature probe is enabled during ETS programming, the value shown on the display is the temperature detected by the sensor in the timed thermostat.
If, however, an external temperature probe (of the KNX or NTC type) has been enabled, the timed thermostat shows the average of the values detected by the probe and the sensor, using a variable weight between 10% and 100% (which can be defined via ETS).

The temperature shown on the display (measured by the internal sensor) does not vary, even in the face of heat variations. Why?

Following the intensive use of the device (e.g. during the programming phases) with the backlighting enabled, there may be slight alterations in the local temperature, so the device prevents the updating of the measurement for a few minutes in order to guarantee the accuracy of the measurement in these conditions too.

Can the temperature of an external KNX probe (e.g. temperature adjustment probe GW1x799, or the one on a 6-channel push-button panel GW1x783 or a 6-channel push-button touch panel GW10746) be visualised?

If one of the hourly profiles is configured during ETS programming in order to manage a KNX probe, the temperature measured by that probe can be viewed on the display by pressing (and holding down) the button key on the corresponding profile visualisation page, as explained in *Visualising the hourly profiles* on page 13.

How is the humidity value measured?

The timed thermostat does not have its own humidity sensor, so the relative humidity value must be supplied by an external KNX sensor (e.g. GW1x762H).

What happens to the time band set on the timed thermostat if the BUS power supply fails and is reset?

If the device is fitted with batteries, the time and date are maintained until the battery charge runs out.

Is it possible to understand whether the potential-free contact input is open or closed?

If the auxiliary input was enabled during ETS programming, the timed thermostat display shows whether the contact is closed or open .

code 7.01.7.679.7

Ai sensi dell'articolo 9 comma 2 della Direttiva Europea 2004/108/CE si informa che responsabile dell'immissione del prodotto sul mercato Comunitario è:
According to article 9 paragraph 2 of the European Directive 2004/108/EC, the responsible for placing the apparatus on the Community market is:
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