Digital Chronothermostat
Mithos Wi-Fi

C E

VEMER SPA

Index

Mithos Wi-Fi Digital Programmable thermostat

- • **Comfort and control of consumptions are ensured both in winter and in summer (heating/air conditioning)**

- • **Power supply: 230 Vac (with backup battery)**

- • **Wall-mounting or coverage of the 503 box (3 modules)**

- • **Remote control through app for iOS systems and Android or from PC**

- • **All programming occurs remotely through app or via internet with pc/mac**

- • **Weekly programming with 7 different customizable programs and 3 temperature levels**

Profile of a program

DIMENSIONS

132

36

DAY 1 2 3 4 5 6 7 *EXT* –*188.8*

88:88))) 🔔 🔒 🗓

⏻ 🔥 ❄ *88.8* °C °F

T3
T2
T1 1 • 3 • 5 • 7 • 9 • 11 • 13 • 15 • 17 • 19 • 21 • 23

95

CONNECTION DIAGRAM

230V ~

1	L
2	N
3	COM
4	NC
5	NO

Input for
X.Temp or DIG

| 6 |
| 7 |
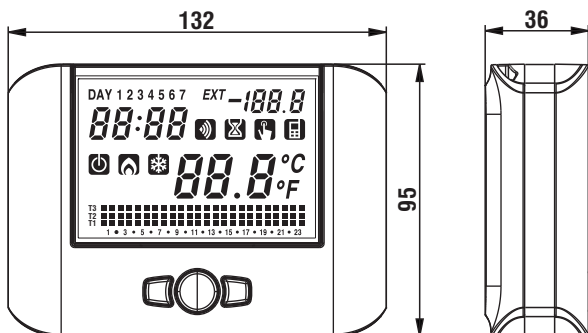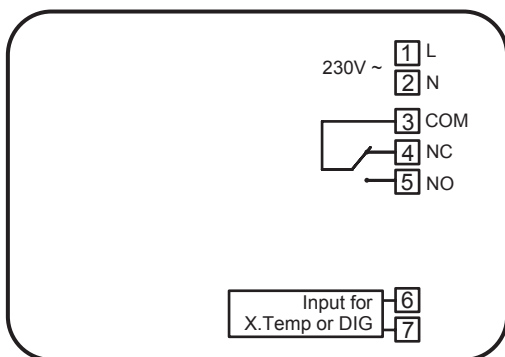
■ The **Mithos Wi-Fi** is an electronic weekly programmable thermostat with wi-fi connection to manage your heating/cooling system.

The integrated wi-fi module allows to connect the Mithos Wi-Fi to home router and so to internet. Once connected, it's possible to program the Mithos Wi-Fi also when you are out of your home through app (available for iOS-Apple systems and Android) or via internet from pc/mac.

Code	Model	Description
VE612800	Mithos Wi-Fi Bianco	White wi-fi weekly programmable thermostat
VE705000	Mithos Wi-Fi Nero	Black wi-fi weekly programmable thermostat
VE323200	FR.Mithos	Silver painted front panel

SAFETY WARNINGS

■ **During installation and operation of the product, it is necessary to comply with the following instructions:**

1) **The instrument must be installed by a skilled person, in strict compliance with the connection diagrams.**
2) **Do not power on or connect the instrument if any part of it is damaged.**
3) **After installation, inaccessibility to the connection terminals without appropriate tools must be guaranteed.**
4) **The instrument must be installed and activated in compliance with current electric systems standards.**
5) **Before accessing the connection terminals, verify that the leads are not live.**
6) **In the electrical system of the building where the instrument must be installed, a protection device from the overcurrents must be present**

TECHNICAL CHARACTERISTICS

- Power supply: 230 V AC (-15% ÷+10%) 50/60Hz
- Charge reserve: 1 hour about thanks to the backup battery
- Backup battery: rechargeable AA NiMH type, capacity 2000 mAh or higher
  ⚠ Use rechargeable NiMH batteries only
- Auxiliary configurable input to whom to connect alternatively:
  – a not powered contact (DIG)
 – an external temperature probe X.Temp

- Output:
  – bistable relay with change-over contact 8A / 250 V AC
- Type of action: 1B
- 5 temperature settings:
  - **T3**, **T2**, **T1** for automatic regulation
  - **T0** antifreeze temperature settable in advanced programming
  - **T** 👋 temperature in manual operation
- Temperature regulation:
  - ON/OFF with differential settable between 0.1°C and 1°C
  - PROPORTIONAL with settable proportional band and regulation period
- Weekly programming
- Daily resolution: 1h
- Activation delay settable between 15, 30 or 45 minutes (independent for each hour)
- Measured temperature scale:
  – 0°C ÷ +50°C (internal probe)
  – -40°C ÷ +60°C (external probe)
- Measured and displayed temperature resolution: 0.1°C
- Temperature regulation range: 2.0°C ÷ +35°C
- Measurement update: every 20 seconds
- Measurement precision: ± 0.5°C
- Heating (winter) or cooling (summer) operation
- Automatic change CET / DST
- Password protected keypad lock for installation in public places
- Wall mounting (or on 503 type box)
- Terminal strips:
  - Output: 3 poles 1.5 mm^2 for bistable relay
  - Input: 2 poles 1.5 mm^2 for external probe or digital input
             2 poles 1.5 mm^2 for power supply connection
- Operating temperature: 0 °C ÷ +50 °C
- Operating humidity: 20% ÷ 90% noncondensing
- Storage temperature -10°C ÷ +65°C
- Degree of protection: IPXXD

The preset temperature values (expressed in °C) are the following:

	funct. winter	funct. summer
T1	5.0	**OFF**
T2	15.0	23.0
T3	18.0	25.0
T$_{MANUAL}$	20.0	24.0

Regulation of temperature levels is subjected to the following condition: T1 ≤ T2 ≤T3.
In summer mode, T1 cannot be set and corresponds to the air conditioning OFF.

CONTROL ELEMENTS / DISPLAY INDICATIONS
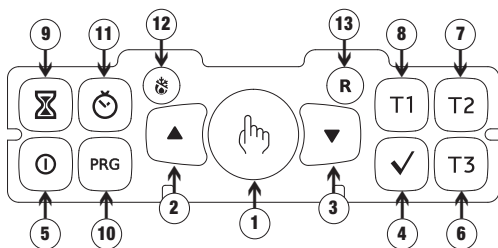
■ *Control elements*

1) " 🖐 " **Key**:   manual operation
2) " ▲ " **Key**:   increases the selected field or displays the daily maximum temperature
3) " ▼ " **Key**:   decreases the selected field or displays the daily minimum temperature
4) " ✓ " **Key**:   confirms the set data
5) " ⏻ " **Key**:   activation and deactivation of the programmable thermostat
6) " T3 " **Key**:   selects temperature **T3**
7) " T2 " **Key**:   selects temperature **T2**
8) " T1 " **Key**:   selects temperature **T1**
9) " ⧗ " **Key:**   allows to set a timer or an activation delay
10) " PRG " **Key**:   programs setting or advanced programming
11) " ⏱ " **Key**:   clock setting
12) " ❄ " **Key**:   winter operation (preset) or summer operation (the key is reachable only with a point)
13) " R " **Key**:   instrument reset (according to the type of reset it's followed by the press of another key)
                          (the key is reachable only with a point)

■ *Display indications*
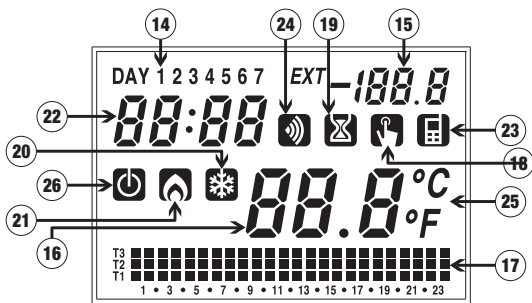
14) **"Day"** Field
15) **"External temperature"** Field
16) **"Environment temperature"** Field
17) **"Set program"** Field
18) **"Manual operation activation"** Field
19) **"Timings"** Field
20) **"Air conditioning activation"** Field
21) **"Heating activation"** Field
22) **"Clock"** Field
23) **"Data in progress updatel"** Field
24) **"Connection to internet on"** Field
25) **"Unit of measurement"** (°C only) Field
26) **"Off"** Field

- Extract the instrument from the box and fasten it to wall using the provided screws. Place it at about 150 cm from the floor at a point of the room that reflects the average conditions of the whole environment, or away from doors or windows, from heat sources away from direct radiation.
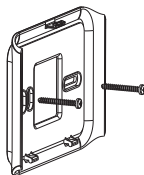
- Insert the rechargeable battery and make the connections respecting the diagram on page 3.
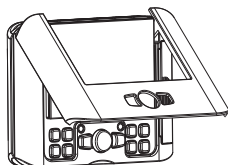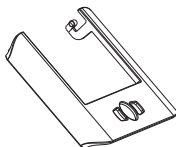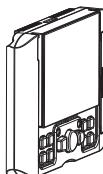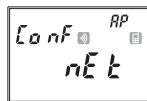
- Power the instrument.

INITIAL START-UP OF THE MITHOS Wi-Fi

The necessary procedure to prepare the Mithos Wi-Fi to remote operation consists of three steps, described below.

1. MITHOS Wi-Fi CONNECTION TO INTERNET

1.1. Press the key **"R"** and immediately after (within 3 seconds) the key **"🖑"**. The display is as follows:

1.2. Wait for the icons and stop flashing and become fixed lit (after about one minute)

```
          AP
ConF
    nEt
```

1.3. With the help of a smartphone (or pc or mac) equipped with Wi-Fi connection, start the search of Wi-Fi networks and connect to *Mithos* network

1.4. Access through browser (Internet Explorer, Safari, Mozilla,…) of your smartphone the address http://192.168.1.1.

1.5. Enter the parameters of your home network and click **"Configure"**:
   – **SSID**: name of your Wi-Fi network
   – **PSK**: password of your Wi-Fi network (requested only if the box **"Security"** is ticked)

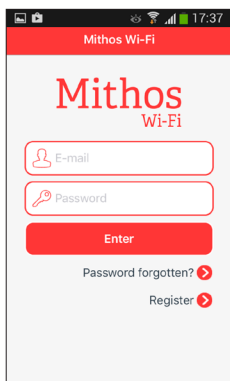| MITHOS Wi-Fi		WiSeConnect™	
SSID	network_name	Operating Mode :	0
Security	☑	BAND :	0
PSK	••••••••	SSID :	network_name
DHCP	☑	DATA Rate :	0
	Configure Delete	TX Power :	2
		PSK :	password123
Vemer S.p.A		CHANNEL :	0
		DHCP :	1
		Copyright RedPine Signals Inc. 2012	

Data insertion of home network   *Confirmation answer sent by Mithos*

1.6. Press the key **"R"**. The icon flashes: wait about 20 seconds until it stops flashing and becomes fixed lit (simultaneously the icon starts flashing). At this point the Mithos Wi-Fi is connected to internet.
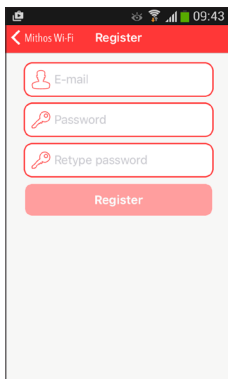
2. CREATION OF YOUR ACCOUNT

After connecting the Mithos Wi-Fi to internet it's necessary to create a personal account to which to associate all Mithos Wi-Fi that you want to control.

2.1. Access the store of your smartphone/tablet, install and start the free app
Vemer-Mithos Wi-Fi

2.2. Choose **"Register"** to create a new account

2.3. Fill in the fields and confirm. The system sends an email to the specified address with the link to confirm the activation of the account.

3. ASSOCIATION MITHOS / ACCOUNT

The last phase expects to associate the Mithos Wi-Fi to the created account.

3.1. Go to the page of PIN configuration of Mithos Wi-Fi (see "What is the pin" on page 12).

3.2. Start the app, enter the username (email address) and password chosen during registration phase and press **"Access"**

3.3. Press **"Add Thermostat"** to add a new Mithos Wi-Fi.
Enter the following data and press **"Save"**:
– Serial (PIN)
– A name which identifies the Mithos Wi-Fi (enter a name you like.
  For example: if it is a Mithos Wi-Fi installed in office, a possible name could be "Mithos Office")
– An image which will appear as background during the use of the app
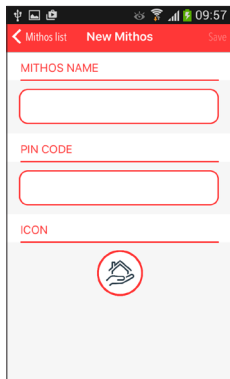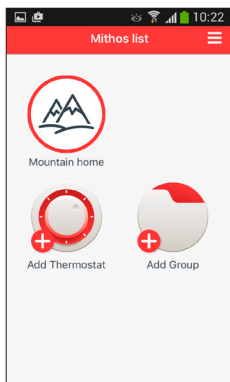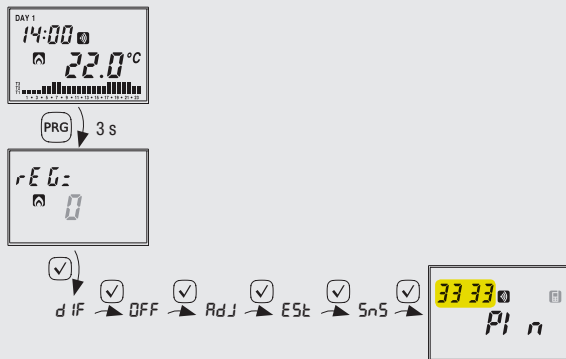
The start-up is complete. From now on the icon ⟩⟩ is on to indicate that Mithos Wi-Fi
is connected to internet while the icon ▤ lights up only during the data exchange
between Mithos Wi-Fi and app (usually once a minute).

THE APP

The APP Mithos Wi-Fi allows you to control remotely and in a simple way your chrono-thermostat Mithos Wi-Fi.

Page "Login"
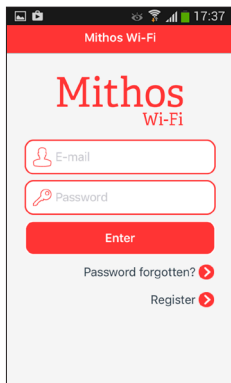
Access using the access credentials (email, password) chosen during registration phase of your account (see on page 10).

Page "Mithos List"
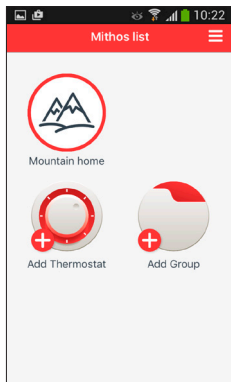
From this screen it's possible to choose which Mithos Wi-Fi to control.

 : allows you to record a new Mithos Wi-Fi to control.
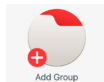
 : allows you to group several Mithos Wi-Fi in the same directory (for example it's possible to group several Mithos Wi-Fi in a building of 3 floors according to the logic "Floor 1", "Floor 2" and "Floor 3").

Main Page
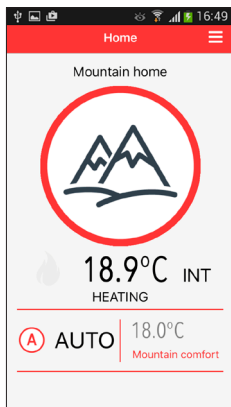
This screen shows the status of Mithos Wi-Fi:

 : indication of the measured temperature (18.9°C) by the internal probe (INT), of the operating mode (HEATING) and of the status of the heating system
(flame red = heating on,
flame grey = heating off).

 : operating mode.
Touch to change the operation (heating or cooling) and the mode (automatic, manual or off).

 : setpoint currently programmed and name of the running program.
Touch to change the running program.

Programs list
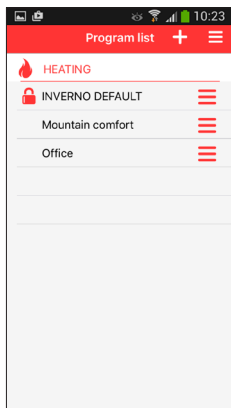
From the screen "Programs list" it's possible:

 : to create a new program

 : to select, to modify, to delete or to rename an existing program

Note: the padlock next to the program WINTER DEFAULT indicates that the program can not be modified or deleted.

Modify a program

To modify an existing program, select the day to be modified. On the screen that opens, assign at any time of day one of the three available temperature levels (marked by blue, green and red colours).

Created a program for a day, it' s possible to copy it to any other day of the week ("Copy" function).
Note: the image refers to the version of the app for smartphone.
On the tablet the whole weekly programming is visible on a single screen.
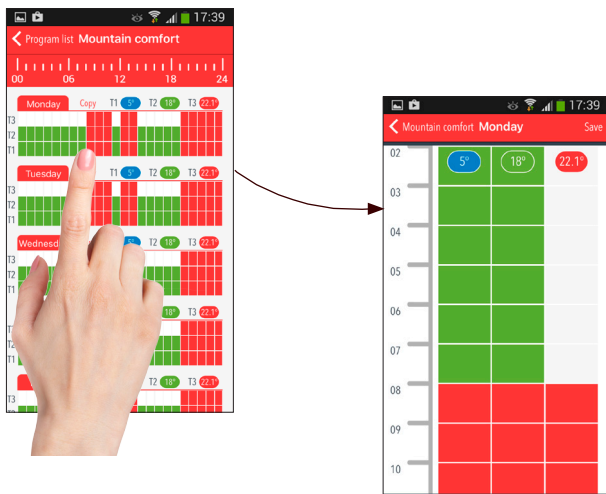
MENU
Touch the symbol in the upper right to access the advanced menu.
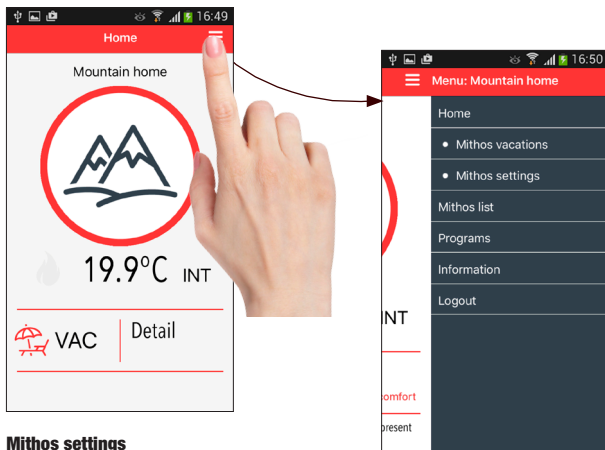
Mithos settings
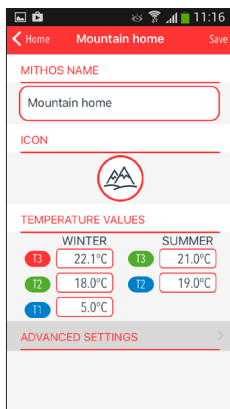
From this screen it's possible:

- to change the name of the Mithos Wi-Fi
- to change the image that identifies it
- to change the temperature values for automatic operation
- to modify advanced settings
  (alarm setting, temperature regulation mode, input configuration).

Set a holiday period
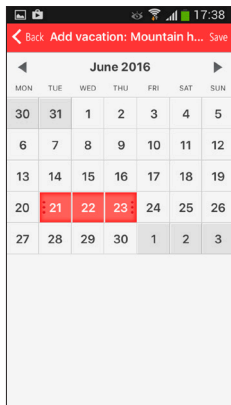
Set vacation days in which the regulation is turned off by selecting them on the calendar.
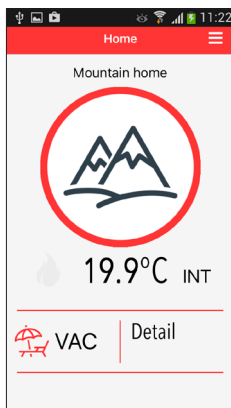
 During the holiday period the operation filed shows VAC

OFF-LINE OPERATION OF MITHOS Wi-Fi

The Mithos Wi-Fi can be off-line and operates like a normal Mithos not Wi-Fi.
In this mode all settings performed remotely through app are ignored; only the
programming made with the keyboard of Mithos Wi-Fi is taken into consideration.

To put off-line the Mithos Wi-Fi:

-   press the key **"PRG"** for at least 3 seconds to access the
    advanced programming

-   press several times the key **" ✓ "** until to reach
    the page of PIN

-   press the key **" ① "**. The display shows ¿oc

-   exit the menu by pressing several times the key **" ✓ "**.
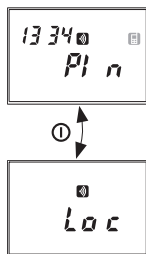
Note: in off-line mode, the icons 🔊 and 🔋 are still lit.

The Mithos Wi-Fi can be put on-line again from keyboard (following the previous procedure)
both via app (when a programming is made from app the user will be asked if he wants to
put the Mithos on-line again).

CLOCK SETTING

•   Press the **"🕐"** key; on field **(16)** seconds
    will run flashing, while field **(22)** will
    display digits of minutes and hours.
    Press the **"▲"** key to reset seconds and
    increase the minute field by 1 or **"▼"** to
    reset the seconds field.
    Press the **"✓"** key to confirm.
    (In case the setting of the clock takes
    place after a reset, the "seconds" field
    is not adjustable. Therefore, the first
    parameter to set will be the "minutes"
    field).

At this point, the minutes digits will start flashing.
Use the "▲" and "▼" keys to increase or decrease the field and press "√" to confirm.
Repeat the procedure to set the hours.

$$12{:}02$$
$$03$$

$$14{:}31$$
$$03$$
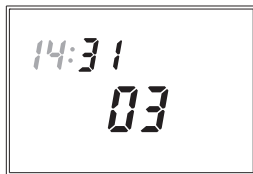
Once the value for the hours is set, field **(22)** will display a flashing value of the year, field **(15)** the value of the month and field **(16)** the value of the day.

$$20\ 14\qquad 05$$
$$13\ d$$
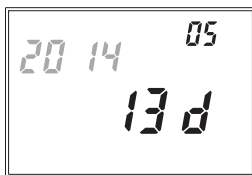
Press the "▲" and "▼" keys to modify the values and "√" to confirm.
Once the day is set, press the "⟳" key to exit the menu.
Upon exiting such procedure the clock indication will not flash any more; field **(16)** will display the environment temperature again, while, if the external probe is connected, field **(15)** will display the external temperature.

DAY   5   EXT   08.2
$$14{:}32$$
$$18.9\,°C$$

T3
T2
T1
1 • 3 • 5 • 7 • 9 • 11 • 13 • 15 • 17 • 19 • 21 • 23
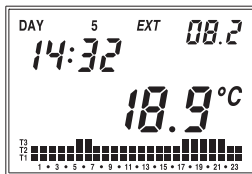
PROGRAMS SETTING

- Pressing the **"PRG"** key on field **(14)** will display the indication regarding Monday, field **(16)** will display the selected program flashing (in the example: P1), field **(15)** will display **"Pro"**, field **(17)** will display the graphic trend of the corresponding program and will activate symbol **(20)** or **(21)** depending on the set operation (summer or winter).
  If the selected program is correct, press the **"√"** key to continue to the next day.

- If the selected program is not correct for that day, you can create another one using the **"▲"** and **"▼"** keys which modify value **"Px"** contained in field **(16)**; as the program changes, so does the content of field **(17)** regarding the selected program. The default programs are listed at the end of this manual.
  Once the correct program is selected, press the **"√"** key to move on to the next day.

- If no program satisfies the user's needs, choose any program and press the **"PRG"** key again; this will bring the segment of the corresponding field **(17)** to flash.
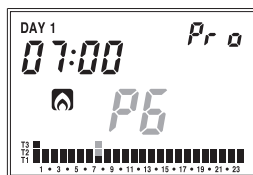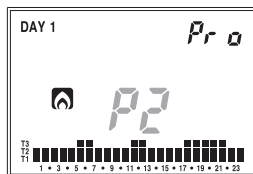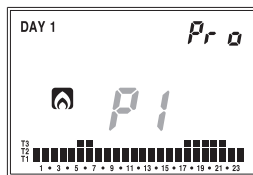
With the **T1**, **T2** and **T3** keys, it is possible to modify the temperature selected for that hour and, at the same time, move on to the next one. Using the **"▲"** and **"▼"** keys, it is possible to move from one hour to the next without modifying the set temperature.
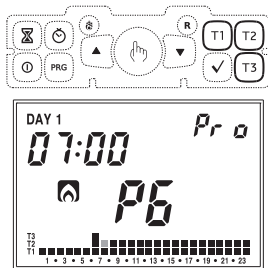
Pressing the **"⧖"** key, it is possible to set the activation delay for that specific hour. Each pressure of the **"⧖"** key increases the delay by 15 minutes.
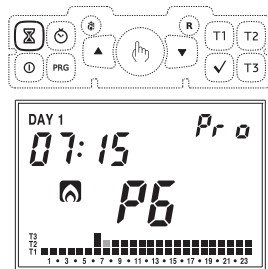
Pressing the **"✓"** key confirms the modified program and returns to the situation with **"Px"** flashing on field **(16)**.
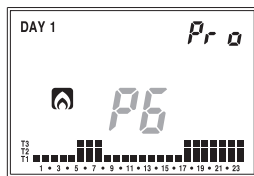
Pressing the **"✓"** key confirms the program for that day and moves on to the next until Sunday appears, after which operation goes back to normal mode.
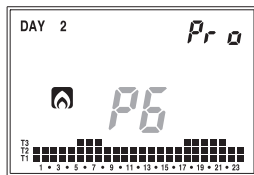
TEMPERATURES SETTING

- In any of the operation modes, pressing the **T1**, **T2** and **T3** keys will bring field **(22)** to display the writing corresponding to the temperature that is being modified; on field **(16)** the value of the aforementioned temperature will flash.
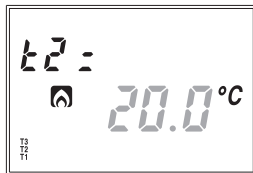
With the **"▲"** and **"▼"** keys, it is possible to modify the value and with the **"✓"** key it is possible to confirm the change and return to normal operation.
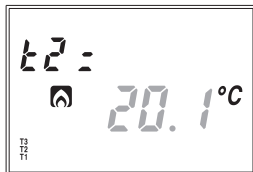
The setting limits are reported in the technical characteristics.
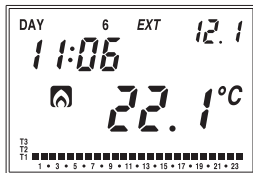
MANUAL OPERATION

- During automatic operation, when pressing the " ✋ " key, the system will act as a normal thermostat with operating temperature Tm.

Field **(22)** will show the current time.
Field **(14)** will show the current date.
Field **(15)** will display the writing **"SEt"**.
The symbol **(18)** will appear.

Field **(17)** will disappear. On field **(16)** the set manual temperature value will flash. With the **"▲"** and **"▼"** keys, it is possible to change the value from 2.0°C to 35°C.

Pressing the **"✓"** key or after 45 seconds from the last operation, field **(16)** will display the value of the environment temperature, while field **(15)** will display the external temperature value (if probe is connected).

At any time, it is possible to verify the set temperature pressing the **"▲"** key or the **"▼"** key; pressing one of the 2 keys again will allow modification of the temperature setting. To move from the manual program to the automatic one, simply press the " ✋ " key again for at least 3 seconds.
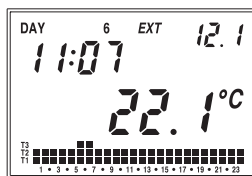
SUMMER / WINTER OPERATION

To move from winter to summer operation (or vice versa), press the **"❄"** key with a point **(12)**.

On field **(22)** the writing **"rISC"** (or **"Cond"**) will flash and the symbol **"🔥"** (or **"❄"**) will appear.
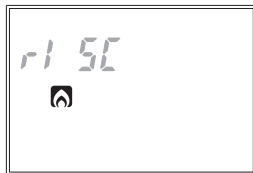
With the **"▲"** and **"▼"** keys, it is possible to select one of the two operations.

The program will go to the desired operation pressing the **"✓"** key or after 45 seconds from the last operation. The potential of the summer operation is the same as the one of the winter operation; therefore the setting of all parameters can be carried out following the procedures reported in this instructions manual.
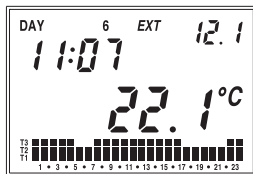
PROGRAMMABLE THERMOSTAT DEACTIVATION

- To deactivate the programmable thermostat press the **"⏻"** key. The display will show the **"⏻"** symbol. Once deactivated, during winter operation the programmable thermostat will activate the antifreeze function to ensure that the temperature does not decrease below a certain threshold. Such temperature value is set in advanced programming (see "Antifreeze temperature" page 33)
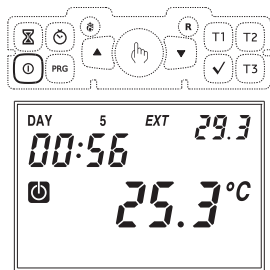
  During summer operation, instead, the deactivated system condition completely excludes the refrigeration command.
  To go back to the operating mode prior to the deactivation, press the **"⏻"** key again.

TIMINGS

The programmable thermostat allows to activate three different timed operation modes, useful when you want to maintain a certain condition for some hours/days. The three timed operations are:

Manual operation

If in manual status you set a timing, such manual status will be maintained until the end of the timing; operation will then switch to automatic. If, during the timing, operation is switched to automatic or off, the timing ends.

Automatic operation

If in automatic status you set a timing, such automatic status will be maintained until the end of the timing; operation will then switch to automatic. If, during the timing, operation is switched to manual or off, the timing ends.

Timed deactivation

If in off status you set a timing, such off status will be maintained until the end of the timing; operation will then switch to the one active before deactivation. If, during timing, the system is activated, the timing ends.

In all cases, the timing condition is signalled by the symbol " ⧖ ".

Setting a timing

To activate timing it is necessary to press the "⧖" key

The writing **"00h"** will flash, indicating the timing. With the **"▲"** and **"▼"** keys it is possible to choose a value between 0 and 99. Pressing the **"🕐"** key will allow to choose the measurement unit between hours and days.

Each change in measurement unit implies a resetting of the set timing value.
Once the value has been set, press **"√"** to confirm or wait 45 seconds.
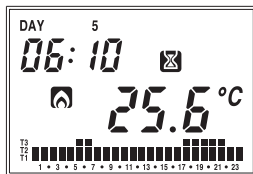
Note. In case time is modified during timing, it will not be updated.

Note. In the hour count, the hour in which programming is carried out is included. In the same way, if the measurement unit is in days, the count also includes the current one. Timings in hours terminate after end of the hour, the ones in days at midnight.

ADVANCED PROGRAMMING

- In advanced programming it is possible to access the following operation parameters:

  - regulation type
  - parameters for regulation type
  - antifreeze temperature
  - page temperature correction
  - external probe presence
  - regulation probe selection
  - PIN for Wi-Fi connection
  - keypad lock password
  - system operation hours

- To enter advanced programming, press the **"PRG"** key for more than 3 seconds. The parameter to be modified will flash; using **"▲"** and **"▼"** it is possible to modify its value. Use **"✓"** to confirm the setting and move on to the next parameter. Once the last parameter has been confirmed, you will exit the menu and the programmable thermostat will restore operation with the previously set operation.

Regulation type (only for winter operation)

- Field **(22)** will display the writing **"rEG="** and on field **(16)** letter **"0"** (ON-OFF programming) or **"P"** (proportional programming) will flash.

- Using the **"▲"** and **"▼"** keys, choose the desired regulation mode and press **"✓"** to confirm and move to the setting of the next parameter.
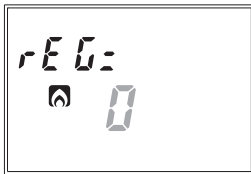
Parameters for the chosen regulation type (only for winter operation)

- In case of **"ON/OFF"** regulation type, the only parameter to be set is the differential. Field **(22)** will display the writing **"dIF="** and on field **(16)** the value currently set will flash. Press the **"▲"** and **"▼"** keys to increase or decrease the value. The range varies from 0.1°C to 1°C.

$$d \, I \, F \, :$$
$$\text{◐} \qquad 00.5 \, °C$$
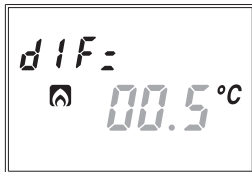
- In case of **PROPORTIONAL** regulation type, the parameters to be set are:
  - regulation band
  - regulation period

Field **(22)** will display the writing **"bnd="** and on field **(16)** the value currently set will flash. Press the **"▲"** and **"▼"** keys to increase or decrease the value. The range varies from 0.5°C to 5°C.

$$b \, n \, d \, :$$
$$\text{◐} \qquad 00.5 \, °C$$
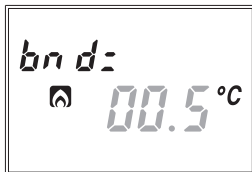
Once the band value is confirmed, field **(22)** will display the writing **"PEr="** and on field **(16)** the value currently set will flash. Press the **"▲"** and **"▼"** keys to increase or decrease the value. It is possible to choose between 10, 20 or 30 minutes.

$$P \, E \, r \, :$$
$$\text{◐} \qquad 30$$
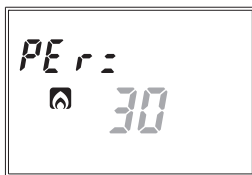
For a wider description on how to operate the regulation type choice, please refer to the chapter "REGULATION TYPE" on page 39.

Antifreeze temperature (only for winter operation)

• It is possible to set a safety temperature value (antifreeze temperature) to be maintained in case the programmable thermostat is deactivated.

Field **(22)** will display the writing **"OFF="** and on field **(16)** the antifreeze temperature value currently set will flash.

Press the **"▲"** and **"▼"** keys to increase or decrease the temperature value. It is possible to choose a value between 01.0°C and 10.0°C.

$$OFF: \quad \boxed{6} \quad 02.0 \, °C$$
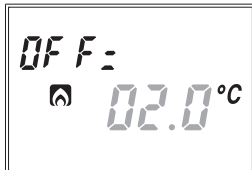
It is also possible to disable the antifreeze function holding the **"▼"** key until field **(16)** displays the symbol **"---"**. In this case, when the programmable thermostat is off, no regulation is executed.

$$OFF: \quad \boxed{6} \quad - - - °C$$

Page temperature correction

Using this parameter to make a correction to the temperature value measured by the probe.

The set value is added or subtracted to the temperature measured.
Values range from -5.0°C to +5.0°C

$$Adj: \quad 00.0$$
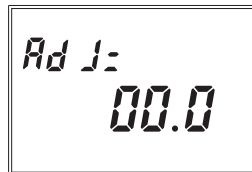
External auxiliary input configuration

The programmable thermostat allows to connect a remote external temperature probe to display (or eventually to adjust) the measured temperature where the probe is installed or a not powered contact if you want to connect an external auxiliary device (for example a gas detector, an anti-theft system, a system of boiler block detection,…).

On field **(22)** **"ESt="** appears and on field **(16)** the chosen option. Choose **"°C"** if you want to connect an external temperature probe or **"dIG"** if you want to connect an auxiliary device.
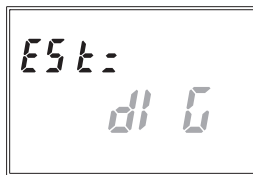
If you choose **"°C"** when you exit the menu, on field **(15)** appears **"EXT"** followed by the value of temperature measured by the probe.
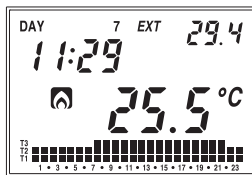
The characteristics of the probe are the following:
• Degree of protection: IP66
• Cable length: 2 meters (extensible up to 40 meters with a bipolar cable min section 1 mm^2)
• Operating temperature: -40 °C ÷ +60 °C

Code	Model	Capacity
VN883500	X.Temp	-40 °C ÷ +60 °C

Choosing the regulation probe

In case an external probe is present, it is possible to choose whether to use the internal probe or the external one as a regulation sensor.

Field **(22)** will display the writing **"SnS="** and on field **(16)** the value currently set will flash.

Using the **"▲"** and **"▼"** keys, choose **"Int"** if you want to use the internal probe or **"Est"** if you want to use the external probe and press **"√"** to confirm the choice.

$$Sn\ 5:$$
$$E5\ E$$
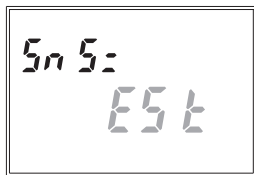
Serial (PIN)

This menu shows the pin code necessary in phase of start-up to associate the Mithos Wi-Fi to your account.
From here, it's possible to put the Mithos Wi-Fi in off-line mode or cancel the Mithos Wi-Fi from your account.

To put the Mithos Wi-Fi in off-line mode, press the key **" ① "**. The display shows *Loc*
To cancel the Mithos Wi-Fi from your account press the key **"PRG"**. The display shows *dELEtE*.

Pressing the keys **"▲"** or **"▼"** the mac address of Mithos Wi-Fi is showed and the power of the signal (between router and Mithos Wi-Fi) expressed in Db.

$$14\ 30\ \text{⟩⟩} \qquad \blacksquare$$
$$P\ I\ n$$

$$\text{①} \updownarrow$$

$$\text{⟩⟩}$$
$$Loc$$

Keypad lock password

It is possible to choose a three digits value to be used to unlock the keypad.

Field **(22)** will display the writing **"PAS="** and on field **(16)** the password value currently set will flash (the default set value is **"123"**). Using the **"▲"** and **"▼"** keys, choose a desired value and press **"√"** to confirm.
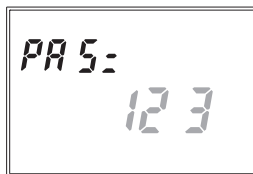
To enable/disable the keypad lock, please refer to the chapter "ADVANCED FUNCTIONS".

System operation hours

It is possible to display the system operation hours (relay in ON status).

Field **(15)** displays the writing **"tot="** while fields **(22)** and **(16)** will display the timing value (such value is of 5 digits, 3 on field **(22)** and 2 on field **(16)** and it is to be read from left to right. In the example the value is of 1274 hours).
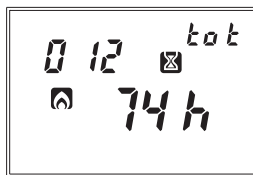
Two independent totalizers for winter and summer operation are present. The maximum memorizable value is of 65535 hours. To reset the counter, press the **"🕒"** key for about 3 seconds when you are in the counter view menu.

Automatic change CET / DST

The programmable thermostat allows to automatically move from the CET (Central European Time) to DST (Daylight Saving Time) and vice versa.

Holding the **"🕐"** key for at least 3 seconds, the display will show the writing **"Change"** and field **(15)** will flash the writing **"On"** or **"OFF"**.

Choose using the **"▲"** or **"▼"** keys and confirm with **"✓"**.

If the choice is OFF, you will exit the menu and the programmable thermostat will not execute the hour change. If the choice is ON, then two other menus will be displayed, which define respectively the hour change from

- winter → summer
- summer → winter (on field **(20)** the **"❄"** symbol will appear)
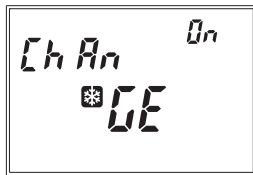
To modify the set values, press the **"PRG"** key. The parameter corresponding to the modification will start flashing. Press the **"▲"** and **"▼"** keys to modify the values and **"✓"** to confirm.

The settings for both menus are, in order:

- week of the month
  (**1ST** first, **2ND** second, **3RD** third,
  4TH fourth, **LST** last)
- day of the week
- month
- changing hour

At the end of each menu, press the **"✓"** key again to access the next menu or to exit and return to the normal view.
The default values set for the automatic time change are:

- winter → summer change: last Sunday of March at 02:00
- summer → winter change: last Sunday of October at 03:00

Keypad lock

In case you want to install the programmable thermostat in public environments, it is possible to lock the keypad simply by simultaneously holding the **T1**, **T2** and **T3** keys for 3 seconds. The display will show the writing **"BLOC"**.

bL OC
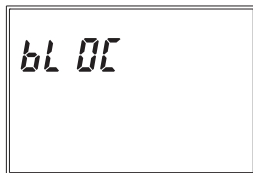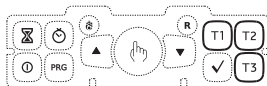
To unlock the keypad, press the **T1**, **T2** and **T3** keys again for 3 seconds and input, using the **"▲"** and **"▼"** keys, the protection password.

123
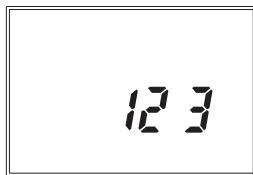
Display of max/min daily temperature

The programmable thermostat memorizes the minimum and maximum temperature values measured both from the internal probe as well as from the external one during the day. To view such values press the **"▲"** key (maximum value) or **"▼"** (minimum value). Field **(15)** will display the value relevant to the external probe while field **(16)** will display the value relevant to the internal one.
To reset the minimum/maximum value memorized, press the **"▲"**/**"▼"** key for at least 3 seconds.

HI: EXT 29.4
27.7°C

Lo: EXT 24.6
17.9°C
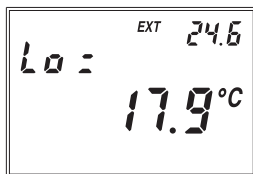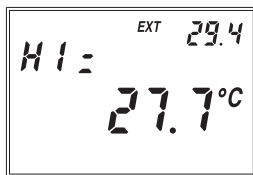
Emergency regulation

During winter operation, in case of sensor failure, in order to avoid problems regarding freezing, the programmable thermostat activates the relay for 10 minutes every 4 hours and field **(16)** will display the **"---"** symbol.

Restoring default parameters

Simply pressing the **"R"** key will not cause a total reset of the instrument. To do so and allow the loading of the default values, it is necessary to press the **"R"** key and then, within 3 seconds, the **"√"** key. The display will show the writing **"dEF"**.

REGULATION TYPE

The default regulation type is ON/OFF with deactivation in correspondence with the setpoint and with differential set to 0.3°C.
During on/off operation mode, the output relay follows the following logic:

heating mode		cooling mode	
relay ON		relay ON	
relay OFF	SET-DIFF SET	relay OFF	SET SET+DIFF
Temperature increasing →		Temperature increasing →	
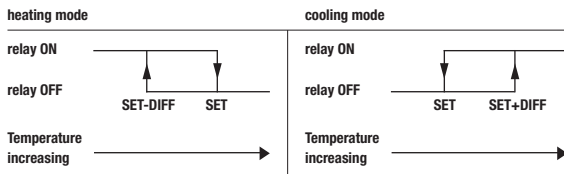
During heating mode the proportional regulation can be chosen; in certain types of systems, this allows to improve the regulation, in order to obtain a constant temperature.
This regulation activates the ON or OFF relay within a predefined regulation cycle on the basis of the gap of the temperature measured by the setpoint value.
The necessary parameters for the definition of this mode are:

• the regulation band
• the regulation period

The regulation band represents the temperature interval, centered on the setpoint, in which the proportional regulation is checked.

Half the desired regulation band is set in the device.
The range for this parameter is 0.5 ÷ 5.0°C with 0.1°C resolution

The regulation period represents the duration of the regulation cycle (activation period + deactivation period)
The value of this parameter is selectable between 10', 20' and 30'

Choose the regulation period value as follows:

• 10' for low thermal inertia systems
• 20' for medium thermal inertia systems
• 30' for high thermal inertia systems

Choose the regulation band value as follows:

• broad band (5°C) for systems with high thermal gradient
• narrow band (0.5°C) for systems with low thermal gradient

REFERENCE STANDARDS

Compliance with Community Directives
2014/35/EU (LVD)
2014/30/EU (EMCD)
2014/53/EU (RED)
is declared with reference to the following harmonized standards:
EN 60730-2-7 (LVD)
EN 60730-2-9 (LVD)
ETSI EN 300 328 (R&TTE)
ETSI EN 301 489-1 (EMC-R&TTE)
ETSI EN 301 489-17 (EMC-R&TTE)

P1

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
T3							■	■										■	■	■	■	■		
T2	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
T1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

P2

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
T3							■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
T2	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
T1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

P3

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
T3							■	■					■	■				■	■	■	■	■		
T2	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
T1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

P4

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
T3							■	■	■	■	■	■	■	■	■	■	■	■						
T2	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
T1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

P5

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
T3							■	■								■	■	■	■	■	■	■		
T2	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
T1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

P6

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
T3																								
T2	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
T1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

P7

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
T3																								
T2																								
T1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

SUMMER PROGRAMS

P1

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
T3	■	■	■	■	■	■			■	■	■	■	■	■	■	■							■	■
T2	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
T1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

P2

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
T3	■	■	■	■	■	■	■	■															■	■
T2	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
T1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

P3

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
T3	■	■	■	■	■	■			■	■	■	■			■	■	■						■	■
T2	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
T1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

P4

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
T3	■	■	■	■	■	■	■												■	■	■	■	■	■
T2	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
T1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

P5

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
T3	■	■	■	■	■	■			■	■	■	■	■	■									■	■
T2	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
T1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

P6

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
T3																								
T2	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
T1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

P7

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
T3																								
T2																								
T1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

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