



# THERMOSTAT TH TUNE INSTRUCTIONS

*Thank you for trust in HITECSA Product. From our company we are offering to the market, for more than 30 years, an extended range of specialized units for air conditioning and cooling installations. Our approach is based in efficiency, flexibility, manageability and practical solutions. It has built a hallmark of our product catalogue.*

*The versatility of our factories allows us to contribute solutions almost customizables in each project, searching a solution for every problem that arises in design and implementation of air conditioning installations.*

*From Hiplus Aire Acondicionado's team, once more thank you very much.*

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## INSTALLATION

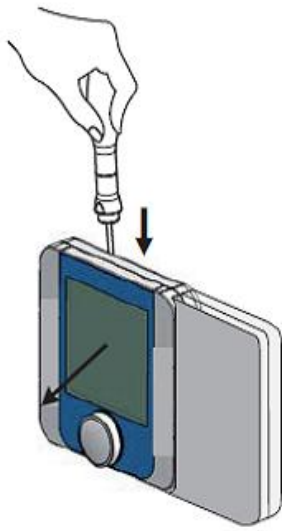


Fig. 1

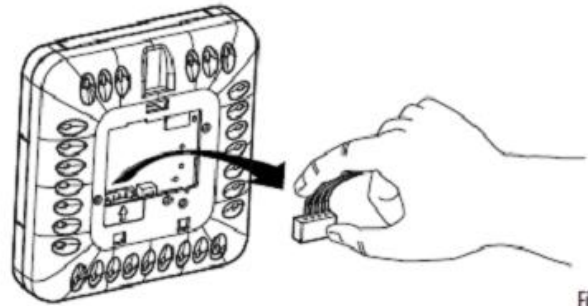


Fig. 2

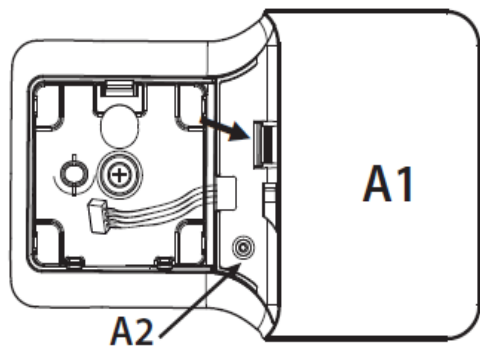


Fig. 3

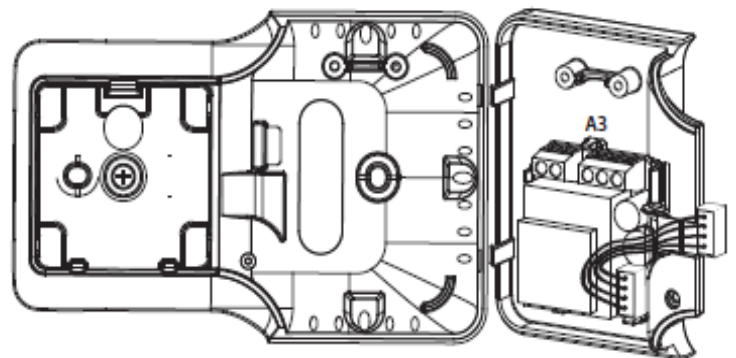
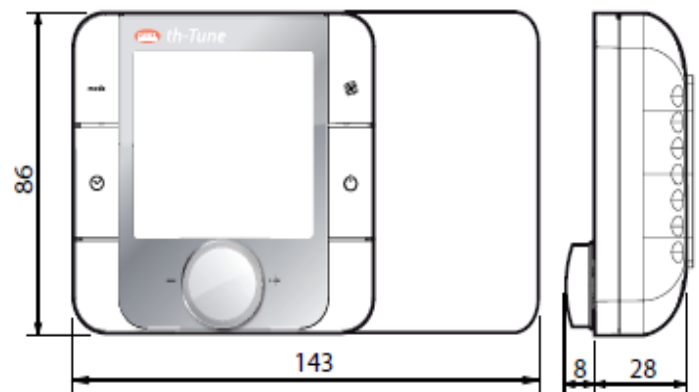
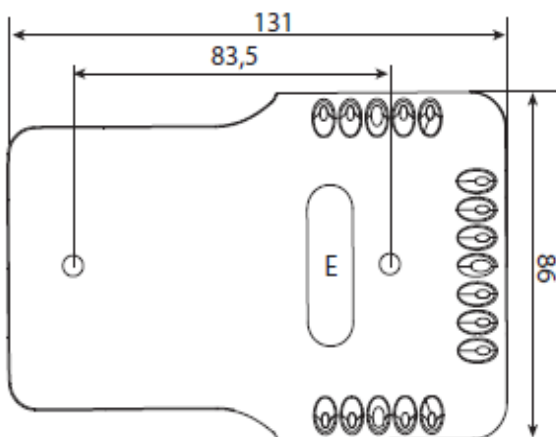
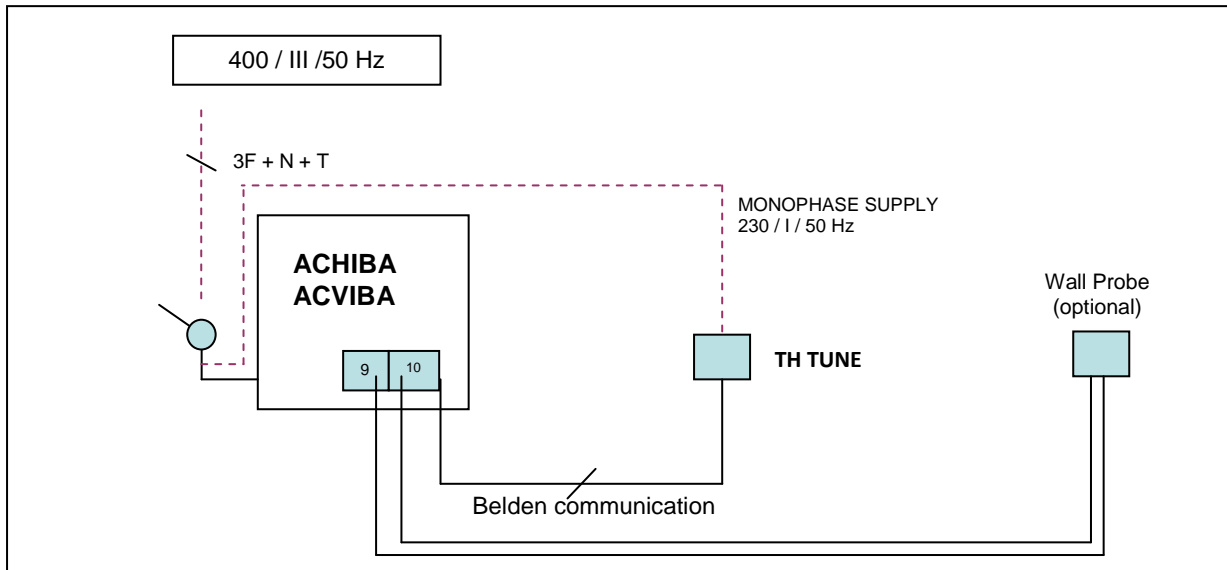


Fig. 4

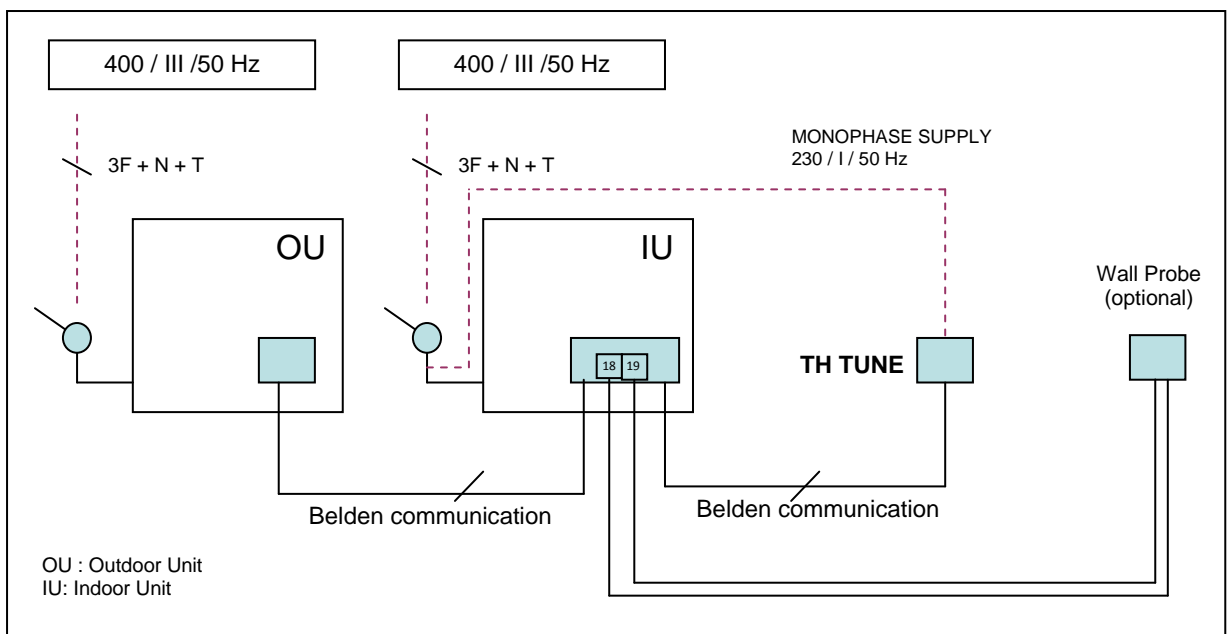


## INSTALLATION

### Diagram of installation compact units ACHIBA and ACVIBA



### Diagram of installation split units CCHIBA / ECHIBA y CCVIBA / ECVIBA



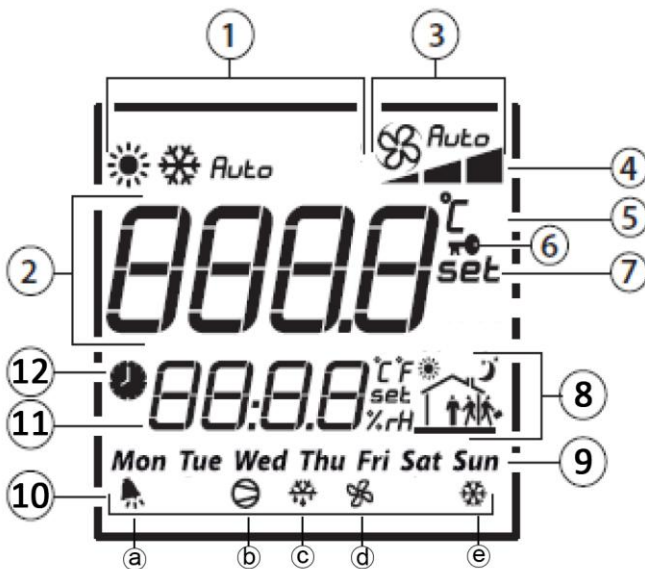
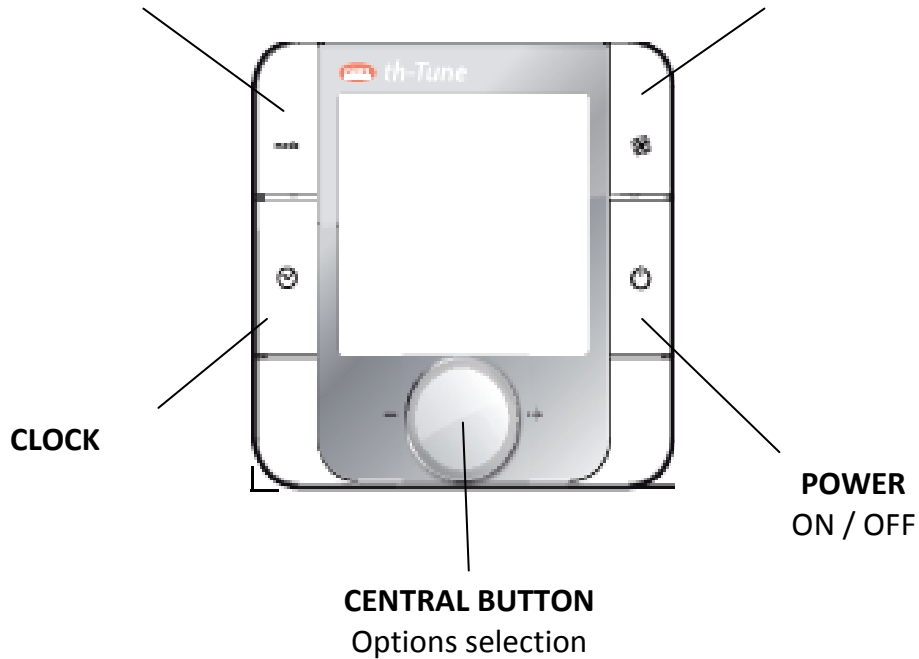
- From triphase electrical installation to power switch of each machine as well as monophasic supply of ambient thermostat, they have to effectuate it in accordance security local regulations. For this reason the installer has the responsibility to put the correct protection components.
- Triphase supply's wires for each machine can come to the same origin point or they come from independent supply points, it is caused for the distance. It can be possible only when be respected the minimum section supply, minimum tension of wires according to Requirements for electrical installations and applicable local regulations for each machine.

**To avoid power outages due to differential, it is necessary minimum 300mA**

## INSTALLATION

**MODE**  
Cool / Heat mode

**FAN**  
Indoor speed fan




- 1- Operation mode
- 2 – Temperature selection
- 3-4- Speed fan
- 5 - Temperature unit measurement (°C)
- 6 – Block operation
- 7 - Set point
- 8- Time zone activated
- 9 – Day of the week
- 10 – Activation signals
  - a) Alarme
  - b) Compressor working
  - c) Unit in defrost mode
  - d) Outdoor fan working
  - e) Free-cooling
- 11 – Secondary field
- 12 – Time programming activated

## FUNCTIONS DESCRIPTION

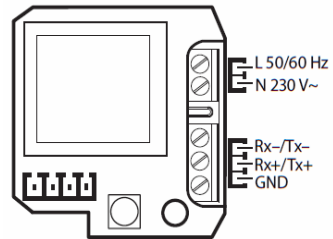
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### START OF CONTROL REMOTE

The first time that control is switch on, appears this symbol  , it keeps on the screen 2 minutes approximately  
 Passed this time control remote can be used.

---


### ON / OFF UNIT



Press minimum 2 seconds ON / OFF. When the machine starts, it is starts-up in the previously selected mode.

---

### SPEED FAN

Press to select the indoor speed fan (minimum / medium / high) or automatic operation (Auto). Press FAN button .



AUTOMATIC OPERATION



INDOOR FAN SELECTION

min

med

high

---

## FUNCTIONS DESCRIPTION

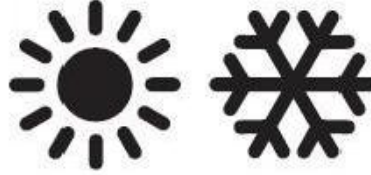
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### OPERATION MODE

It allows select cooling or heating modes

MODE

Heating mode



Cooling mode

If the machine is stopped, the preselected operation mode is changed.  
The change of mode is not allowed if the unit is working. The machine should stop previously (OFF) to change the mode.

---

### TEMPERATURE SELECTION

START SCREEN



Return temperature display

---



Outdoor temperature display (OT)

Press one time central button

---



Temperature display of SET cool (SET 1)  
Turn the central button to modify temp. SET cool

Press one time central button

---



Temperature display of SET heat (SET 2)  
Turn the central button to modify temp. SET heat

Press one time central button

---




EXIT and Return Temperature is displayed again

---

Press one time central button

---

### BLOCK OPERATION

This symbol  appears when the typed maneuver is not allowed. **Example: If unit is working in cool/heat mode we can not change its mode without stop the unit.**



## FUNCTIONS DESCRIPTION

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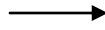
### DISPLAY / ALARM RESETS



Everytime that this icon appears on the lower left of the screen, it indicates that in any time the unit has been stopped for fail o alarm. The apparation of alarm not implies the permanent stop of the machine. All those alarms will not be serious, if the origin cause desappear, allow that the unit start-up again in the same conditions before the alarm appeared. Nevertheless, the icon remains displayed for the purpose of inform the incident.

#### Alarm code display:

Keeping pressed on the same time MODE and CLOCK buttons for three seconds, the first alarm code appears.



Different alarms are displayed (See on the posterior list)

Turn the central button

#### Code alarm reset:



Turn until this text appears

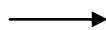
*ES*  
*ALN*

Turn central button



If the cause that originated the alarms has disappeared, they are cancelled

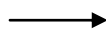
Press central button



Turn until this text appears

*ESC*

Turn central button



Leave to menu of the alarm reset  
In the case of the system does not show any alarm, the initial icon disappears of the screen.

Press central button

## FUNCTIONS DESCRIPTION

ALARM Codes	ALARM Description
AA01	Probe B1 Discharge of compressor temperature broken or disconnected. Only COMPACT Units.
AA13	Probe B1 P2 Discharge of compressor temperature broken or disconnected. Only Condensed Split Units.
AA15	Probe B3 P2 Outdoor Temperature Broken or Disconnected. Only Condensed Split Units.
AA16	Probe B4 P2 Reheating temperature HEAT broken or disconnected. Only in Condensed Split Units.
AA17	Probe B6 P2 Suction Pressure Broken or Disconnected. Only Condensed Split Units.
AA18	Probe B7 P2 Discharge Pressure Broken or Disconnected. Only Condensed Split Units.
AA03	Probe B3 Outdoor Temperature Broken or Disconnected. Only in Compact Units.
	Probe B3 Return/Outdoor Temperature Broken or Disconnected. Only in Split Evaporators
AA04	Probe B4 Reheating temperature Broken or Disconnected. Only in COMPACT Units.
	Probe B4 Reheating COOL Temperature Broken or Disconnected. Only in Split Evaporator Units.
AA05	Probe B5 Return Temperature Broken or Disconnected. Only in COMPACT Units.
AA06	Probe B6 Suction Pressure Broken or Disconnected. Only COMPACT Units.
	Probe B6 Evaporation Pressure Broken or Disconnected. Only in Split Evaporators

## FUNCTIONS DESCRIPTION

A602	Pressure HIGH
A603	Pressure LOW
AC00	Alarm Power Plus
Ad01	EEPROM
Ad04	Low Reheating (LowSH)
Ad05	Low Suction Temperature (Low_Suct)
Ad06	Low Evaporation Temperature (LOP)
Ad07	High Suction Temperatur (MOP)
AG01	Thermal Outdoor Fan
AG02	Thermal Indoor Fan
AH01	Thermal Electrical heater
Ah01	Electronic plate uPC without supply Failure communication among plates (Split units)

**All serious alarms provoke the unit stop and they activate an output signal through a relay.**

## FUNCTIONS DESCRIPTION

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### ON / OFF REMOTE

1. Previous unit activation from TH TUNE remote control (Thermostat ON). It will control startup / stoppage of the unit with switching off / switching on the contact S1.

2. Contacts remotes are:

- Terminal 30 and 31 for compact units
- Terminal 25 and 26 for split units

### ACCESS TO PROGRAMMING MENU OF TH TUNE REMOTE

Accessing to the programming menu can be changed the value in some parameters. They allow add new functions in the unit

To access to this menu we have to follow these steps:

1.- Keep press **FAN** and **POWER** buttons for 5 seconds until this message appears on the screen:



2. Turn the **CENTRL BUTTON** until the code 012 is displayed



3. Pressing the **CENTRAL BUTTON** it access in the modification of internal parametres

4. Turning the **CENTRAL BUTTON** it dispalys 3 different programming menus



and also go back to menu



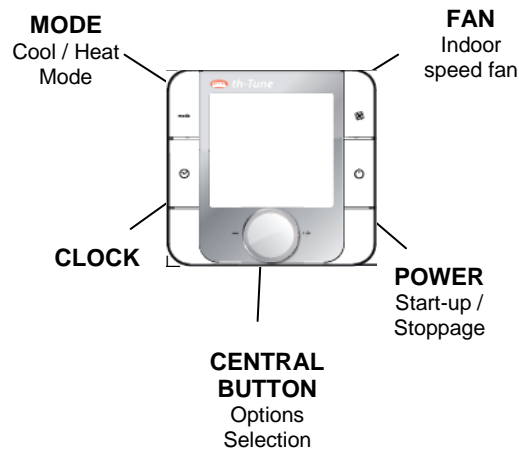
## FUNCTIONS DESCRIPTION


### ACCESS TO THE PROGRAMMING MENU OF TH TUNE REMOTE

#### 1. COOL/HEAT REMOTE

In all the range of autonomous DC Inverter (compact and split) the operation mode can change with a remote way. To accomplish, it has to set in the board the change in the mode will do automatic by external contact rather than by keyboard from TH Tune (standard mode).

Cool / Heat remote operation could be available if it follows the steps, while set point temperatures only will be adaptable from this control remote.



1. According to programming mode defined before, have to select the menu. 
2. Press the **CENTRAL BUTTON** to enter in this submenu and turn this button until display.

 0  
G 185

3. Following that, press the **CENTRAL BUTTON** and turn the button until set value 1 in the parameter G185

 0  
G 185

Change COOL / HEAT  
mode for TH Tune  
control

 1  
G 185

Change COOL / HEAT  
mode for remote  
contact

4. Press the **CENTRAL BUTTON** to confirm the selection to change mode.
5. Press 2 times **POWER button** to exit of TH Tune programming menu

## FUNCTIONS DESCRIPTION

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### ACCESS TO THE PROGRAMMING MENU OF TH TUNE REMOTE


6. Having selected the change of operation remote mode, prevents the mode change from TH Tune remote, displaying a key for few seconds (protection mode sign) after each pressure on MODE key.

Cool / Heat mode is selected by terminals opening and closing:

Terminals 32 and 33 for compact units

Terminals 27 and 28 for split units

### 2. FREE-COOLING

1. According to programming menu defined before we have to select the menu 

#### a) Activation / Deactivation Freecooling

- a1. Press **CENTRAL BUTTON** to enter in this submenu and turn this button until displays:



- a2. Then, press **CENTRAL BUTTON** and turn button assigning value 1 to G415 parameter for activate freecooling



Freecooling  
deactivated



Freecooling  
activated

- a3. Press **CENTRAL BUTTON** to confirm selection

## FUNCTIONS DESCRIPTION

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### ACCESS TO THE PROGRAMMING MENU OF TH TUNE REMOTE

#### b) Differential activation Freecooling

b1. Press CENTRAL BUTTON to enter in this submenu and turn it until displays:

100  
0420

b2. Then press CENTRAL BUTTON and turn it assigning the value of the differential activation of Free-cooling.

**Note: Differential activation free-cooling ranges between min.50 (5°C) and max. 100 (10°C).**

$$\left( \begin{array}{l} T_{\text{return}} - T_{\text{out}} \geq \text{DIFFERENTIAL ACTIVATION FREE-COOLING} \\ T_{\text{SET1}} < T_{\text{return}} \end{array} \right) \text{ FREECOOLING WORKING}$$

b3. Press **CENTRAL BUTTON** to confirm selection.

#### c) Differential deactivation freecooling

c1. Press **CENTRAL BUTTON** to accede in this submenu and turn it until displays:

50  
0425

c2. Then, press **CENTRAL BUTTON** and turning the button assign the value of the differential activation of Free-cooling.

**Nota: Differential deactivation free-cooling ranges between min. 0 (0°C) and max. 100 (10°C).**

$$\left( T_{\text{return}} - T_{\text{out}} \leq \text{DIFFERENTIAL DEACTIVATION FREE-COOLING} \right) \text{ FREECOOLING OFF}$$

c3. Press **CENTRAL BUTTON** to confirm selection.

## FUNCTIONS DESCRIPTION

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### ACCESS TO THE PROGRAMMING MENU OF TH TUNE REMOTE

#### d) Minimum opening up of outdoor dampers

d1. Press CENTRAL BUTTON to accede in this submenu and turn it until displays:



The image shows a digital display with the code 'G430' on the left and the number '0' on the right, indicating the current parameter value.

d2. Using this parameter you can indicate the minimum opening up of dampers (outdoor air renewal)

The value of G430 of manufacturing defect is 0 (totally closed).

If the unit is rest (OFF), outdoor dampers will be totally closed.

If Free-cooling does not actuate but the unit is working in heating mode or cooling mode, the outdoor damper will be open min.% depending on G430 parameter.

The outdoor damper is totally opened just only if there is Freecooling actuation in cooling mode.

MIN: 0 → 0 V

MAX: 50 → 5 V

d3. Press CENTRAL BUTTON to confirm selection.

#### e) Activate free-cooling (Only reading)

e1. Press CENTRAL BUTTON to enter in this submenu and turn it until displays:



The image shows two digital displays side-by-side. The left display shows 'G435' and '0', and the right display shows 'G435' and '1'.

Freecooling not  
activated

Freecooling  
activated




## FUNCTIONS DESCRIPTION

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### ACCESS TO THE PROGRAMMING MENU OF TH TUNE REMOTE

#### 3. ELECTRICAL HEATER ACTIVATION IN DEFROST MANEUVER

For unit equipped with electrical heater, previously this operation must be activate. If it is activated during defrost maneuver, the unit provides heat of electrical heater to counteract the supplied cold.

1. Depending on defined programming mode has to select menu 
2. Press **CENTRAL BUTTON** to enter in this submenu and turn it until displays



0.0  
G 186

3. Then, press **CENTRAL BUTTON** and turning it assign value 1 to G186 parameter



0.1  
G 186

With electrical heater

**IMPORTANT:**

For an appropriate remote control of unit, is indispensable select the operating mode (cooling/heating) previously to start up unit.

Each mode change of COOLING/HEATING it have to carry out after a order to stop unit.

## FUNCTIONS DESCRIPTION

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### ACCESS TO THE PROGRAMMING MENU OF TH TUNE REMOTE

#### 4. SET DATE

1. Keep pressed **FAN** and **POWER** for 5 seconds until this message displays in the initial screen:

000  
Code

2. Turn **CENTRAL BUTTON** until code 012 displays on the screen:

012  
Code

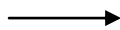
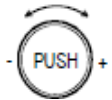
3. Pressing **CENTRAL BUTTON** you can access to modify the internal parameters.

4. Turning **CENTRAL BUTTON** you can display 3 different programming menus and Exit menu found in the previous section.

5. In this case you can select turning **CENTRAL BUTTON** and then press:

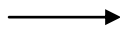
[

To change day:



Display (C001)

Turn central button



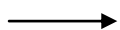
Turning central button select day

Press central button



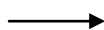
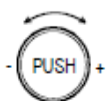
Confirm selection

Press central button



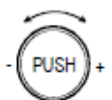
Display *ESC*

Turn central button



Exit to [

Press central button



To exit on the menu select *ESC* again and press central button

Turn central button

## DEFINITION OF THE PROGRAMMING MENU PARAMETERS

Menu	Code	Description	Default value
C	001	Operating hours of the Compressor in units of thousands.	
	010	Operating hours of the Compressor that are not a thousand yet. Operating hours of the Compressor = 1000x(G001) + (G010).	
	020	RESERVED	
	030		
	040	Operating hours of the Indoor Fan in units of thousands	
	050	Operating hours of the Indoor Fan that are not a thousand yet. Operating hours of the Indoor Fan = 1000x(G040) + ( G050).	
	060 - 090	RESERVED	
	120	Operating hours of the Outdoor Fan in units of thousands	
	130	Operating hours of the Outdoor Fan that are not a thousand yet. Operating hours of the Outdoor Fan = 1000x(G120) + ( G130).	
	140	Number of defrost maneuvers carried out.	
	150	RESERVED	
	160	Communication protocol (0=None, 1=CAREL RS485, 2=Modbus RS485, 3=PCO local).	1
	170	Baud rate (0=1200, 1=2400, 2=4800, 3=9600, 4=19200).	4
	180	Number of communication directions of the thermostat	1
	185	Change mode: 0=COOLING. 1=HEATING.	
	186	Electrical resistance activation in defrost mode: 0= OFF. 1=ON.	
	187 - 340	RESERVED	
	350	Possibility to cancel (No/Yes) the defrost maneuver depending on the outdoor temperature. 0=NO. 1=YES.	1
	360	Value of the outdoor temperature above which the defrost maneuver is not allowed to be carried out. (If G350=1)	12°C.
	370 - 400	RESERVED	
	405	Programming version of the Compact Unit or Evaporating Split Unit.	36
	410	Programming version (Condensing Split Unit). (0=Compact unit)	36
	415	Activation of the Freecooling maneuver. (0=Disabled, 1=Enabled).	0
	420	Differential activation freecooling	100
425	Differential deactivation freecooling	50	
430	% Outdoor damper opening	30	
435	Freecooling ON/OFF (reading only). (0=OFF, 1=ON).		
440	Continuous ventilation in cooling mode. (0=Deactivated, 1=Activated).	1	

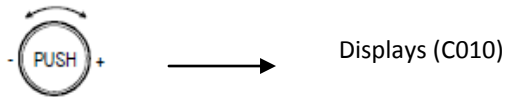
Menu	Code	Description
b	001	COOL setpoint for PGD1 thermostat.
	010	HEAT setpoint for thermostat PGD1. If we switch off the contact S3 until it appears on the thermostat Th-Tune "Cn" and then we switch on the contact, the thermostat Th-Tune assimilates the values b001 and b010 as its own heating and cooling SET of the machine.
	020	RESERVED
	030	COOL setpoint for PGD1 thermostat in Energy mode. (Only applicable to PGD1 thermostat)
	040	HEAT setpoint for PGD1 thermostat in Energy mode. (Only applicable to PGD1 thermostat)
	050 - 170	RESERVED

Menu	Code	Description
C	001	Day selection (1 to 31).
	010	Month selection (1 to 12).
	020	Year Selection (2 last numbers).
	S_U	

## FUNCTIONS DESCRIPTION

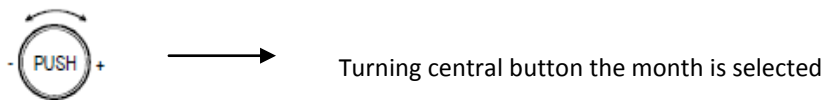
### ACCESS TO THE PROGRAMMING MENU OF TH TUNE REMOTE

To change month:



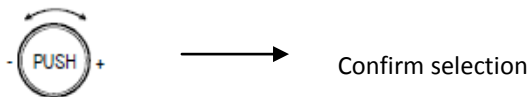
Turn central button

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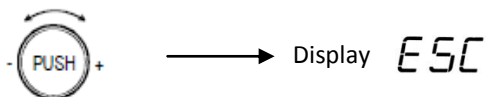
Press central button

---



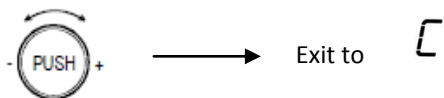
Press the central button one more time

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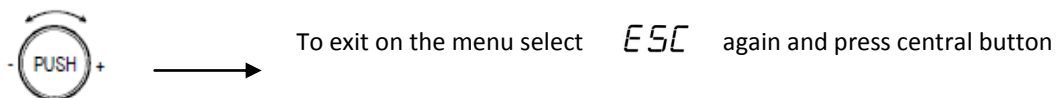
Turn central button

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Press central button

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Turn central button

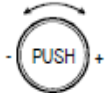
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## FUNCTIONS DESCRIPTION

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### ACCESS TO THE PROGRAMMING MENU OF TH TUNE REMOTE

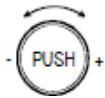
To change year:



Displays (C020)

Turn central button

---



Turning central button select month

Press central button

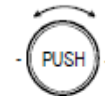
---



Confirm selection

Press the central button one more time

---



Displays *ESC*

Turn central button

---



Exit to *[*

Press central button

---



To exit on the menu select *ESC* again and press central button

Turn central button

## FUNCTIONS DESCRIPTION

---

### SET TIME



CLOCK

Keep press the button



minimum 3 seconds until

“CLOC” appears



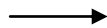
Press central button



It displays internal time:  
“08:”



Turn central button



It allows set hour  
“09”



Press central button



Set previous hour and minutes display  
09:”57”



Turn central button



It allows adjust the minutes “59”



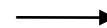
Press central button



It sets the hour and the minutes adjusted previously, display the date and the day of the week 09:59



Press central button



Displays “CLOC”



Turn central button



Until *ESC* appears



Press central button



Go back to the main menu

# FUNCTIONS DESCRIPTION

## TIME PROGRAMMING AND FUNCTIONS



### BUTTON 1:

- **Regular pulsed:**

Activation and deactivation time programming function. Appears a clock symbol when the programming is activated.

- **Prolonged pulsed:**

It has only effect when we have deactivated time programming, that is when clock icon is not shown on the screen. Its operation consists in set the thermostat on time and programme time phases.

### BUTTON 2:

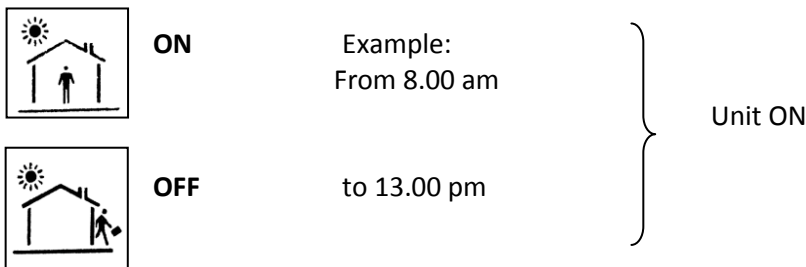
- **“Rotating” movement:** Selection operation of possible time phases values.

- **“Regular” pulsed:** Input operation of selected values (enter).

In the event that the machine has time programming deactivated, if it is in cooling mode, it will use SET 1, if it is in heating mode, it will use SET 2. In the event that the machine has time programming activated, as much in heating mode as in cooling mode, the used temperature will be defined for the user.

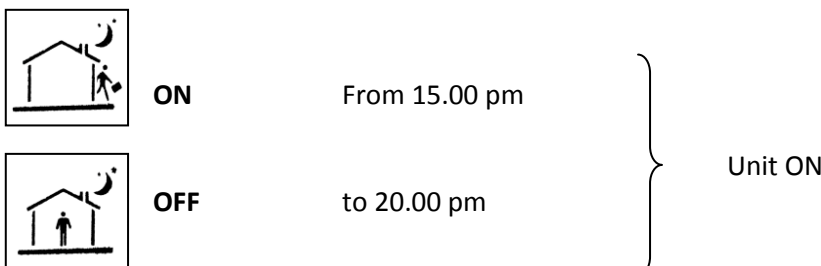
### ICONS definition of time phases programming

#### SUN → Time phase 1.



Away from phases, the unit is always OFF (time programming activated).

#### MOON → Time phase 2.



## FUNCTIONS DESCRIPTION

### Procedure time programming phases.

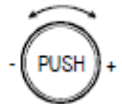


1.- We ensure that clock icon is not shown on the screen (if it is on the screen, we press quickly to remove it ). Keep **button 1** pressed (clock) minimum 3 seconds (prolonged pulsed) until "CLOCK" appears ( Ensure that thermostat time is correct).

2.- Turn the button 2 until displays:



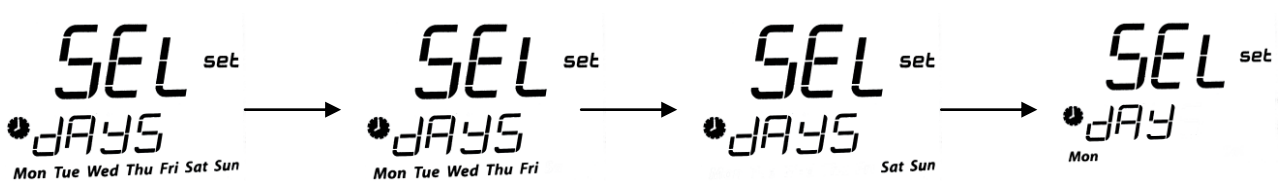
time  
band



3.- Press button 2, it accedes to days selection. We have 3 options:

- Programme time phases day to day, from Monday to Sunday. Do this option when time programming be different for each day of the week.
- Programme time phases with the same time programming from Monday to Friday, and another time programming from Saturday to Sunday.
- Programme time phases with same programation from Monday to Sunday.

Turning button 2, we select one of this three options.



4.- Once that choose desired option we press central button to confirm.

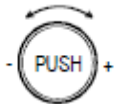
SEL set  
DAYS  
Mon Tue Wed Thu Fri

5.- The screen shown below appears:

---  
:---  
Mon Tue Wed Thu Fri

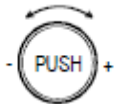


## FUNCTIONS DESCRIPTION



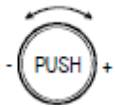
→ To change **starting hour (Phase 1)**

Press central button and turn



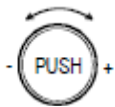
→ To change **starting minutes (Phase 1)**

Press central button and turn



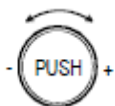
→ Remove text OFF, selecting a setpoint temperature value for **Phase 2**

Press central button and turn



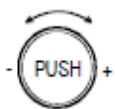
→ To programme time OFF (**Phase 1**)

Press central button and turn



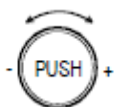
→ To change stop hour (**Phase 1**)

Press central button and turn



→ To change stop minutes in **Phase 1.**

Press central button and turn



→ To let text OFF

Press central button

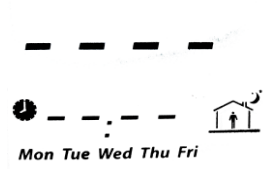


## FUNCTIONS DESCRIPTION

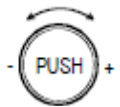
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We can programme one or two time phases per day depending on our needs.

In the event that you just want one phase per day, let 2 MOON icons (Phase 2) unprogrammed (Dashes).



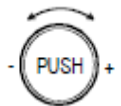
To exit on the main menu, if we have programmed the first phase, and we unprogrammed the second phase, we look for ESC option.

 → Until *ESC* appears, we repeat until you reach the first level menu.

Press central button and turn

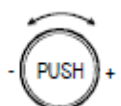
### Second time phase programming:

To programme the second phase on the same day, proceed as the first phase but programming Moon icons.

 → To change starting hour Phase 2

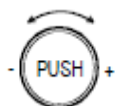
Press central button and turn



 → To change starting minutes Phase 2

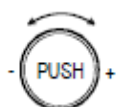
Press central button and turn



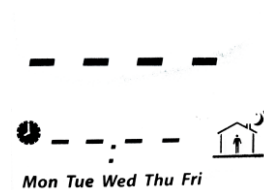
 → Remove text OFF, selecting a setpoint temperature value for Phase 1

Press central button and turn



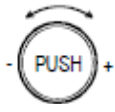
 → To programme time OFF Phase 2

Press central button and turn



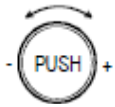
## FUNCTIONS DESCRIPTION

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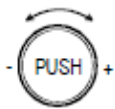
→ To change stop hour (**Phase 2**)

Press central button and turn



→ To change stop minutes in **Phase 2**.

Press central button and turn

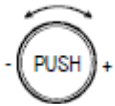


→ To let text OFF.

Press central button



When we have two time phases programmed, we have to exit from time phases programming menus by ESC.



→ Until *ESC* appears, we repeat until you reach the first level menu

Press central button and turn

## OPTIONALS

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### WALL PROBE

In those installations with Inverter units that controls temperature, we prefer use environment probe instead another type of probe that captures the return air temperature to be weatherize, we recommend using wall probe DPWT011000



This optional allows a control of indoor stable temperature, so it registers a temperature value in the control zone. In general, is reccomendable it was installed in a close position where TH TUNE remote is mounted.

#### **Assembly in compact units ( ACHIBA - ACVIBA)**

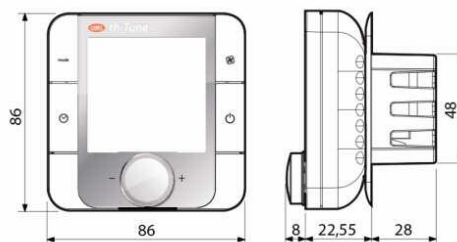
Connect them 2 internal terminals or terminals 9 and 10 of the unit's board (Wall B5)

#### **Assembly in split units ( CCHIBA/ECHIBA – CCVIBA/ECVIBA)**

Connect them 2 internal terminals or terminals 18 and 19 of the unit's board (Wall B3)

### BUILT-IN THERMOSTAT

This thermostat is an optional to standard version, it hangs on the wall if we can direct inwardly wires.



## TECHNICAL SPECIFICATIONS

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<b>Supply:</b>	Models ATA*****: 230 Vac (+10/-15%) 50/60 Hz Models ATC*****: 24 Vac (+10 to -15%), 22 to 35 Vdc
<b>Maximum current:</b>	2A
<b>Operation conditions:</b>	-10 to 60°C / 10 – 90 % HR
<b>Storage conditions:</b>	-20 to 70°C / 10 – 90 % HR
<b>Case protection IP Summary:</b>	IP20
<b>Fire resistance category</b>	D
<b>Range measurement accuracy t<sup>a</sup></b>	0 – 40 °C : +/- 1°C
<b>Humidity range measurement accuracy</b>	0 – 60°C, 20 – 80% HR

### Connections:

**Communication 485.** Shielded wire type BELDEM – 8672 o AWG 20...22. maximum length 500 metres.

**Supply.** Section 0.5 – 1.5 mm<sup>2</sup> depending on the distance

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