

GECO[®]



Room Panel

GA01HC-02

*Operating with GH07EA
regulator for controlling
electrode boilers*

Programme version 01a

Service manual

*We request that users carefully study applicable Instructions before connecting and starting up any of our products.
Should any doubts arise, please contact our company between 8 a.m. and 4 p.m.*

Table of contents

1.	INTRODUCTION	BŁĄD! NIE ZDEFINIOWANO ZAKŁADKI.
1.1.	GRAPHIC SYMBOLS	BŁĄD! NIE ZDEFINIOWANO ZAKŁADKI.
1.2.	LCD LIGHT AND KEYBOARD FUNCTIONS	BŁĄD! NIE ZDEFINIOWANO ZAKŁADKI.
2.	OVERVIEW	BŁĄD! NIE ZDEFINIOWANO ZAKŁADKI.
3.	LOCATION AND INSTALLATION	BŁĄD! NIE ZDEFINIOWANO ZAKŁADKI.
4.	CONNECTION TO BOILER CONTROLLER	BŁĄD! NIE ZDEFINIOWANO ZAKŁADKI.
5.	QUICK START	BŁĄD! NIE ZDEFINIOWANO ZAKŁADKI.
6.	OPERATING GA01HC-01	9
6.1.	CONTROLLER MAIN SCREEN	BŁĄD! NIE ZDEFINIOWANO ZAKŁADKI.
6.2.	CONTROLLER MENU	BŁĄD! NIE ZDEFINIOWANO ZAKŁADKI.
7.	QUICK ACCESS KEYS	BŁĄD! NIE ZDEFINIOWANO ZAKŁADKI.
7.1.	INFORMATION ABOUT CONTROLLER.....	BŁĄD! NIE ZDEFINIOWANO ZAKŁADKI.
7.2.	CHECK TEMPERATURE.....	BŁĄD! NIE ZDEFINIOWANO ZAKŁADKI.
7.3.	MONITOR WORK OF EQUIPMENT IN BOILER	BŁĄD! NIE ZDEFINIOWANO ZAKŁADKI.
7.4.	FAST TEMPERATURE SET.....	BŁĄD! NIE ZDEFINIOWANO ZAKŁADKI.
8.	ADJUSTMENTS	BŁĄD! NIE ZDEFINIOWANO ZAKŁADKI.
8.1.	TIMER SETTINGS.....	BŁĄD! NIE ZDEFINIOWANO ZAKŁADKI.
8.2.	HOLIDAY PROGRAMME.....	BŁĄD! NIE ZDEFINIOWANO ZAKŁADKI.
8.3.	ANTI-LEGIONELLA.....	22
9.	SETTINGS	BŁĄD! NIE ZDEFINIOWANO ZAKŁADKI.
9.1.	TIME AND DATE	BŁĄD! NIE ZDEFINIOWANO ZAKŁADKI.
9.2.	RESTORE FACTORY SETTINGS.....	BŁĄD! NIE ZDEFINIOWANO ZAKŁADKI.
10.	LANGUAGE	BŁĄD! NIE ZDEFINIOWANO ZAKŁADKI.
11.	ALARMS	BŁĄD! NIE ZDEFINIOWANO ZAKŁADKI.
12.	INFORMATION ON LABELLING AND COLLECTION OF WORN OUT ELECTRICAL AND ELECTRONIC EQUIPMENT	BŁĄD! NIE ZDEFINIOWANO ZAKŁADKI.

1. Introduction

1.1. Graphic symbols

Symbols are intended to indicate and highlight the importance of text warning about dangerous situations, and have the following graphic forms:



Warning

This symbol is used when it is necessary to follow the sequence of operations as described in the instructions. Any error or failure to follow the description may result in damage or destruction of the unit.



Important

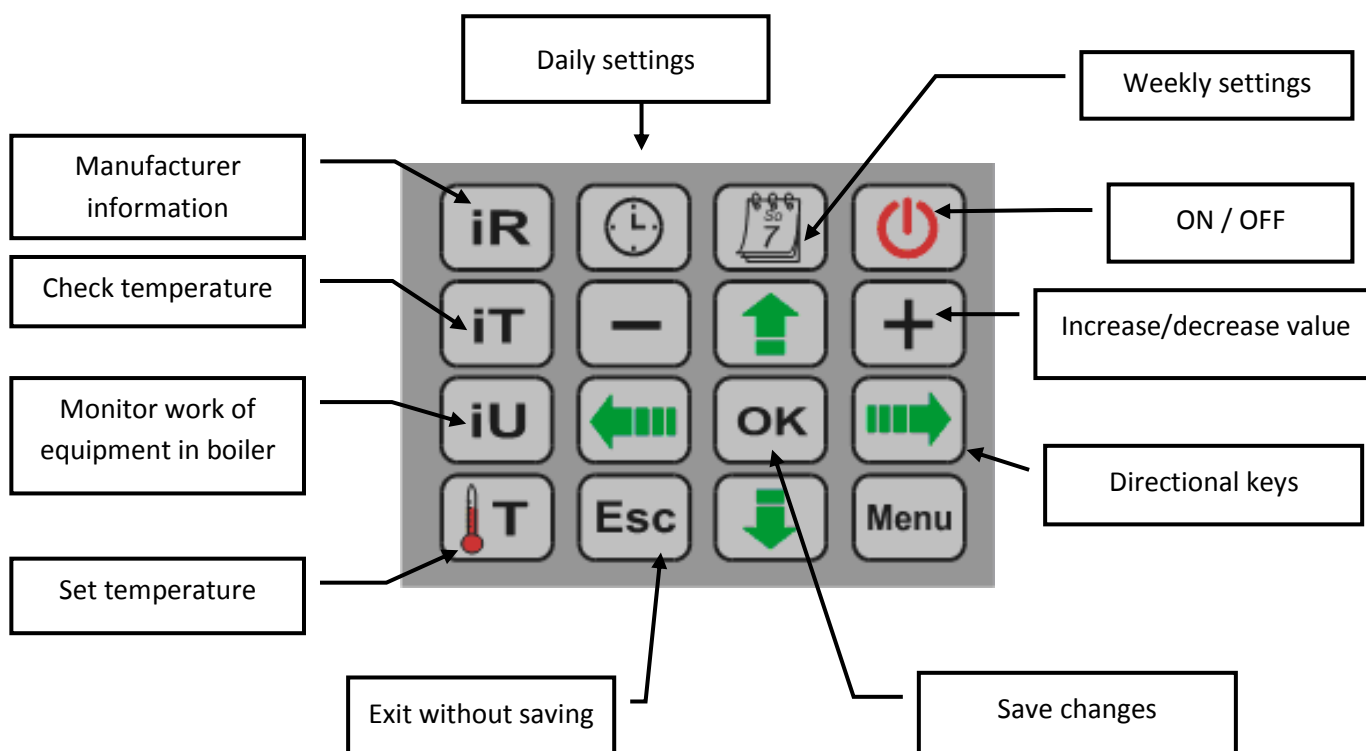
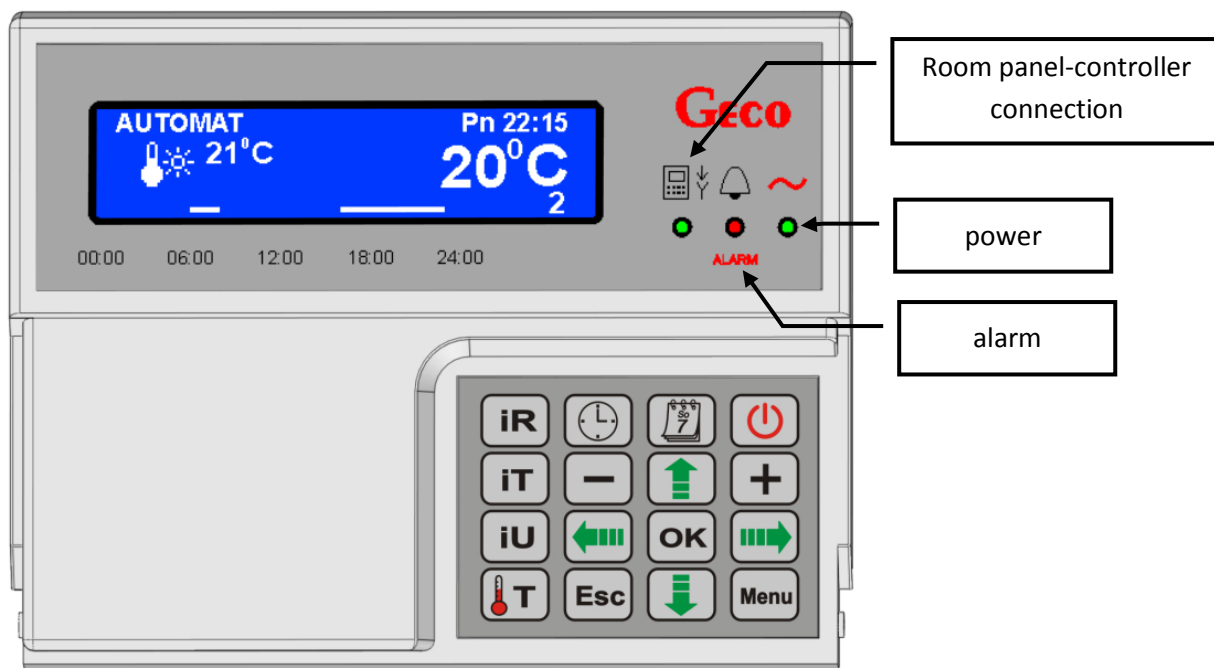
This symbol indicates information of particular importance.



Reference

This symbol indicates additional information in a chapter.

1.2. LCD light and keyboard functions



2. Overview

The GA01HC-01 room panel is a microprocessor-based device manufactured using Surface Mount Technology (SMT).

The GA01HC-01 room panel has been designed to communicate fully with the GECO GH07EA electrode boiler controller, enabling comfortable control of the boiler from the home. Using the room panel as an interface with the controller mounted on the boiler makes the controller distinctly more convenient to use. The GA01HC-01 room panel has a built in sensor to measure the room temperature.

Connecting the GA01HC-01 room panel to the controller allows:

- Changing boiler input temperature
- Changing boiler output temperature
- Changing hot water temperature
- Overview of boiler operation
- Monitoring the work of equipment (Boiler, heating pump, hot water pump)
- Overview of all measured temperatures
- Information about all boiler alarms to be viewed in text format

3. Location and installation

The panel is designed to be wall mounted, using the mounting frame. The frame must be screwed to the wall, and then the panel can be snapped into the frame. Please note that the panel must be installed in a position which will allow a temperature reading applicable to the entire area to be heated.

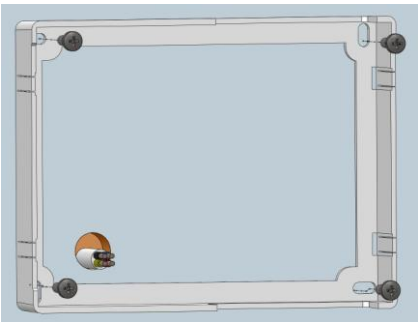
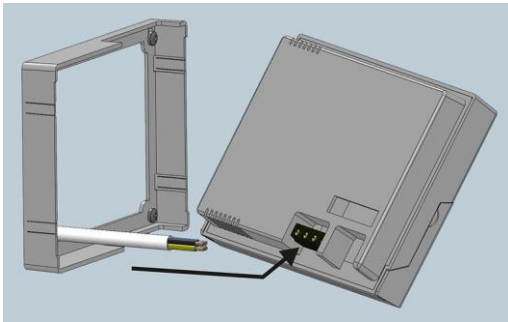



Installing the panel close to windows, radiators, or in places exposed to strong sunlight or draughts will result in inaccurate readings.



Fig. 1 Examples of correct and incorrect locations for the GA01HC-01 room panel

Installing the GA01HC-01 room panel on the wall

Step 1	Step 2	Step 3
Fit the installation frame to the wall ('Do Góry' on the inside of the frame indicates the top)	Connect the transmission cable to the panel, according to Fig.2	Snap the room panel into place on the installation frame
		

4. Connection to boiler controller

The connection between the controller and the room panel is a standard RS485 and requires four lines (two lines for RS-A and RS-B, and two to power the panel - +12v and GND).

The panel does not require a separate power source such as a switching power supply. It is powered by a safe 12V, provided via a signal from the boiler controller. The terminal to which the cable should be connected is on the back of the panel. A UTP computer cable can be used.

Connecting the GA01HC-01 room panel to the controller must be carried out in accordance with Fig 2.

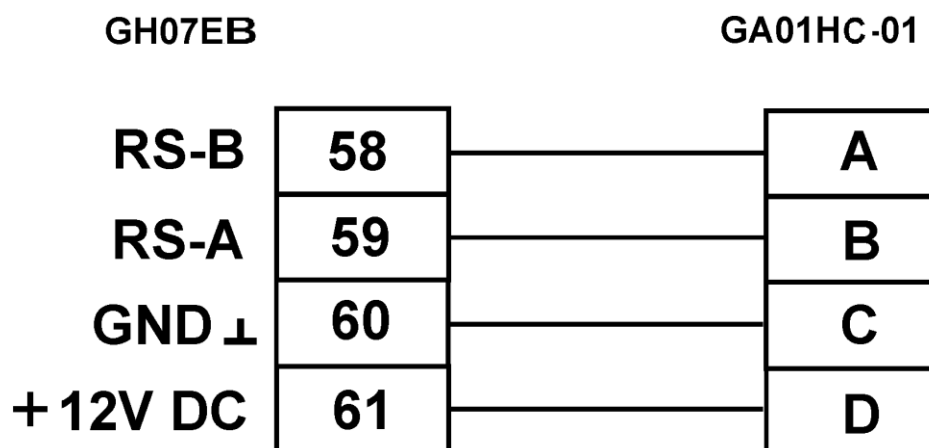




Fig. 2 Connection diagram for connecting GA01HC-01 room panel to GECO electrode boiler controller.



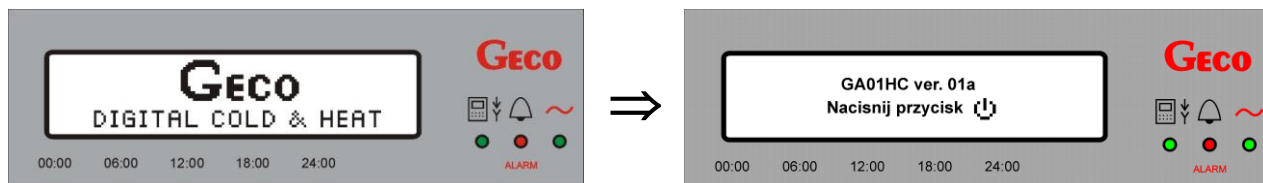
**Correct connection between the room panel and controller
is indicated by a green light behind the icon **


If the GH07EA electrode boiler controller is connected to the GA01HC-01 room panel, this will be detected automatically by the controller and activation does not require any additional steps or settings from the user. Once connected, the boiler controller operates according to the room panel settings. Disconnection or damage to the cable connecting the panel and the controller will result in the light behind the icon  going off, 15 seconds after disconnection.

5. Quick start

When the room panel is connected to the electrode boiler controller, the equipment is ready for use. Follow the steps below in order to 'quick start' the GA01HC-01 panel:

1. Connect the device to the GH07EA controller (⇒ ch.3 p.**Błąd! Nie zdefiniowano zakładki.**)



2. Switch on the panel using the button . This screen will appear:

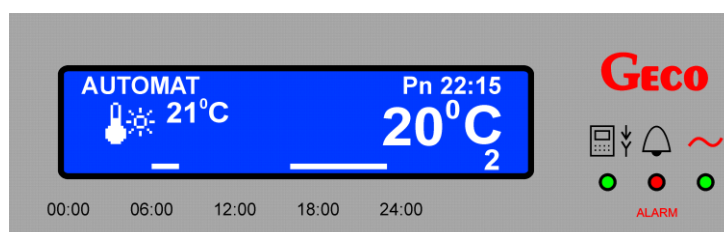



Tabela 1. Factory settings for controller

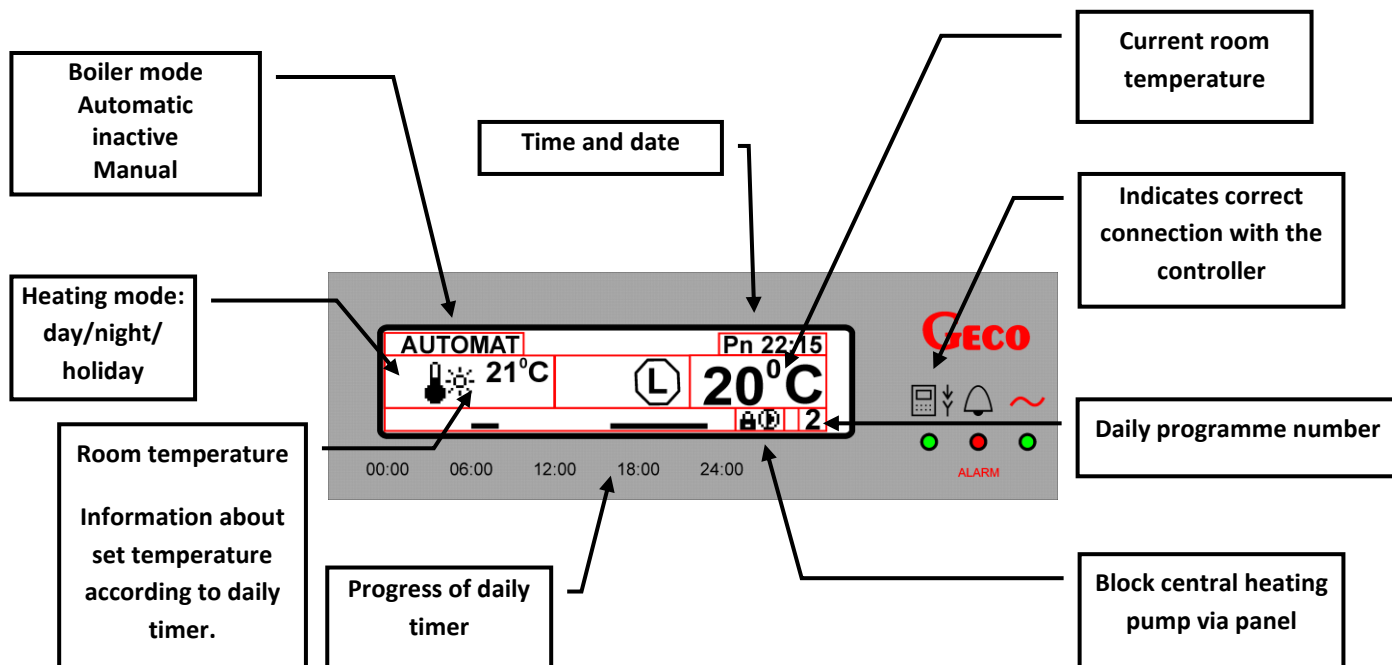
Description	Range	Factory setting
Day temperature (Comfort)	5°C - 30°C	21°C
Night temperature (Economy)	5°C - 30°C	17°C
Daily timer	1 - 6	Programme 2
Weekly timer	Pn-Nd	Mon-Sun Programme
Holiday function	Yes/No	No
Anti-legionella function	Yes/No	Yes/No*

***Defaulting to factory settings does not change the anti-legionella settings.**

6. Operating GA01HC-01

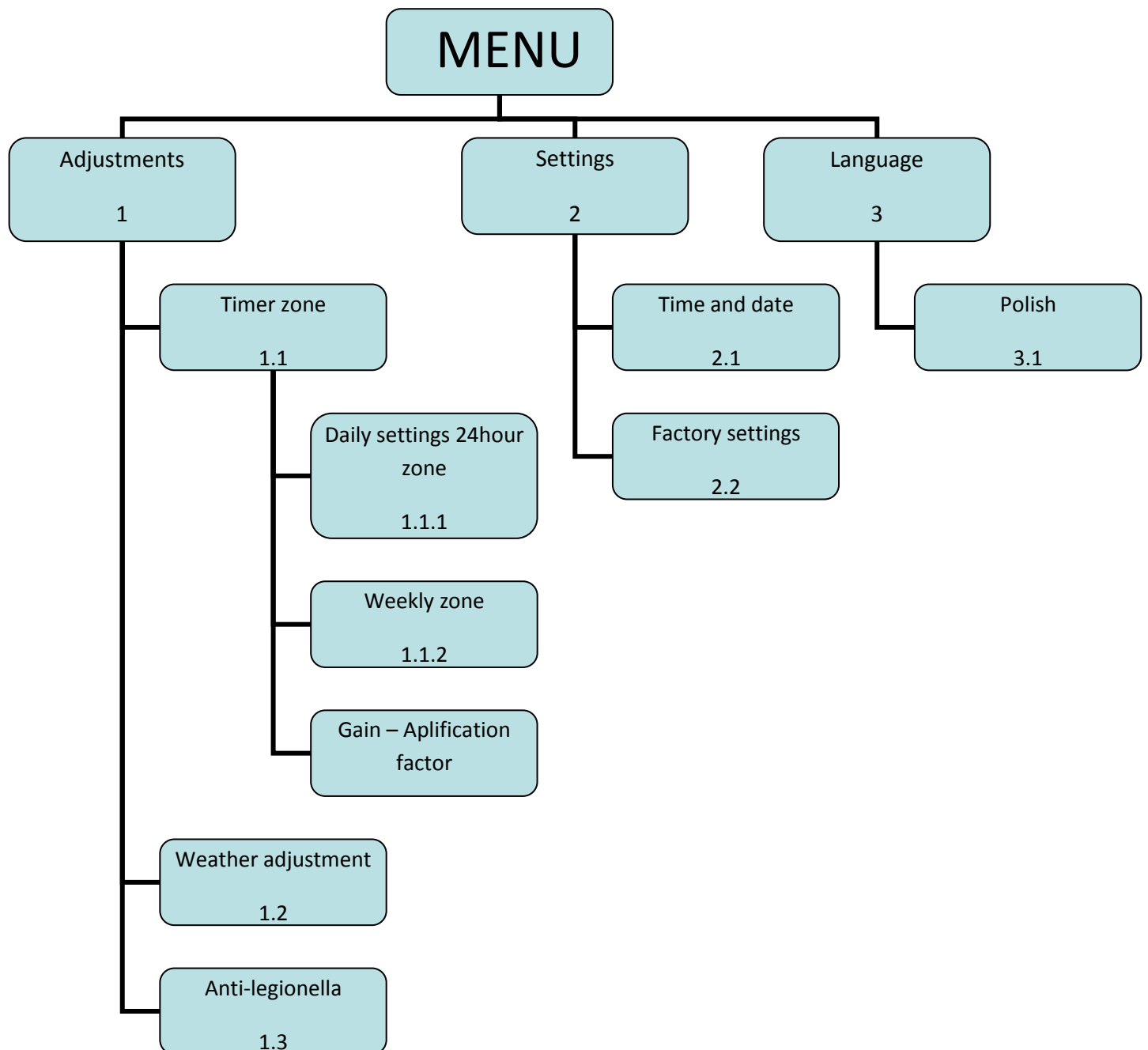
6.1. Controller main screen

After connecting the cable between the controller and the panel and pressing the button  on the controller, the home screen will present the following information.







6.2. Controller menu

Schematic drawing of the controller menu:




7. Quick access keys

The GA01HC-01 room panel has four quick access keys (, , , ) , which provide an easy and intuitive way to preview currently temperature readings from the GH07EA controller and the boiler, to set new input and output temperatures for the boiler and hot water.

The information displayed about temperatures and the status of individual devices depends on the system configuration in the boiler controller.


7.1. Information about controller

After pressing the button  the screen shows information for the service company .

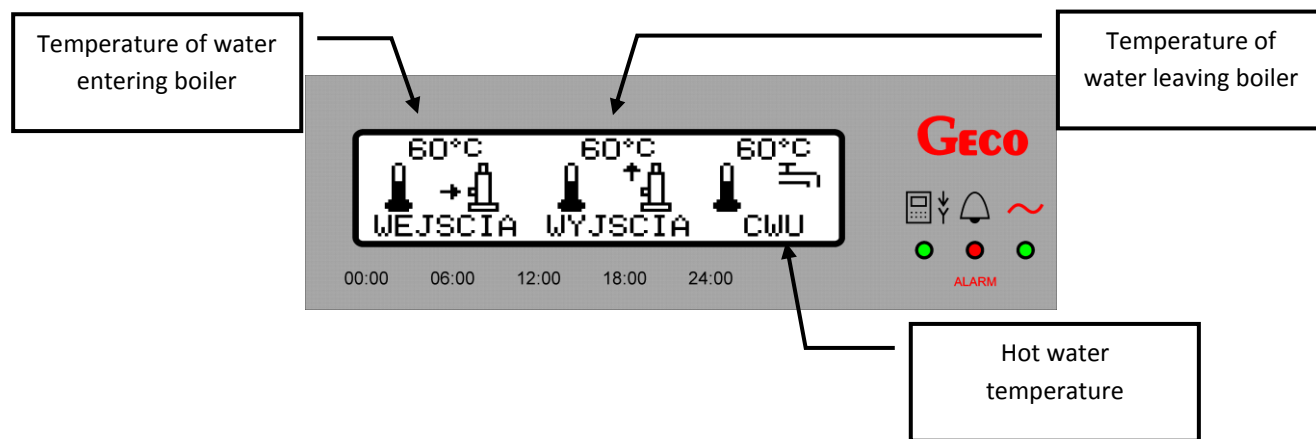
Exit this screen by pressing ,  or  .

Pressing and holding any button for 60 seconds returns to the main screen.

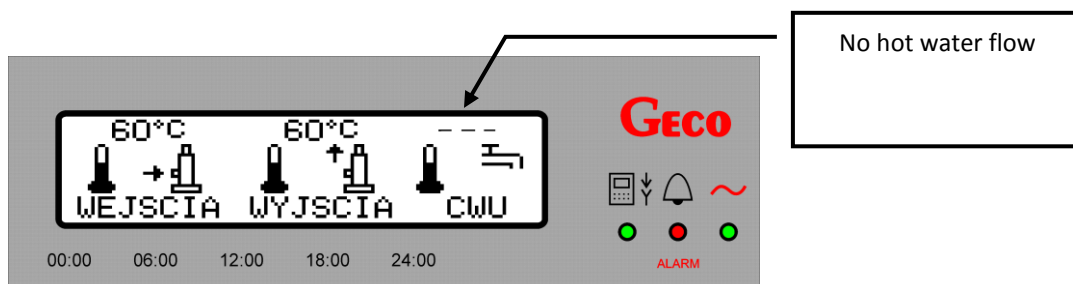
7.2. Check temperature

After pressing button  the screen shows information about the current temperature measured by the controller.

The temperature displayed depends on the configuration of the heating system.




If the selected heating system configuration does not support hot water, “---” will be displayed as the hot water temperature. For example, on the following screen, hot water has not been enabled:

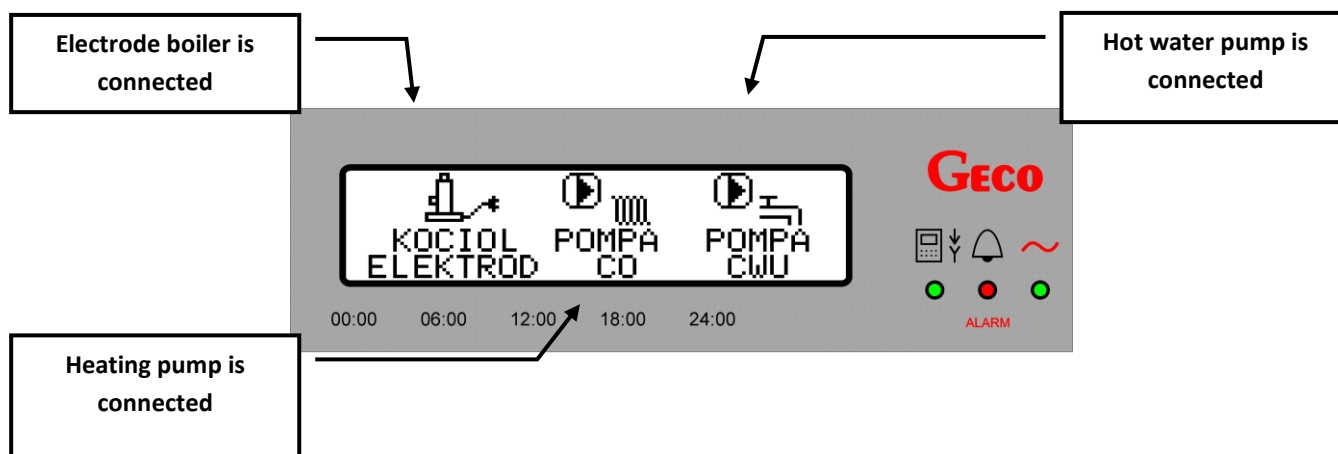


To exit this screen, press ,  or .

Pressing and holding any button for 60 seconds returns to the main screen.

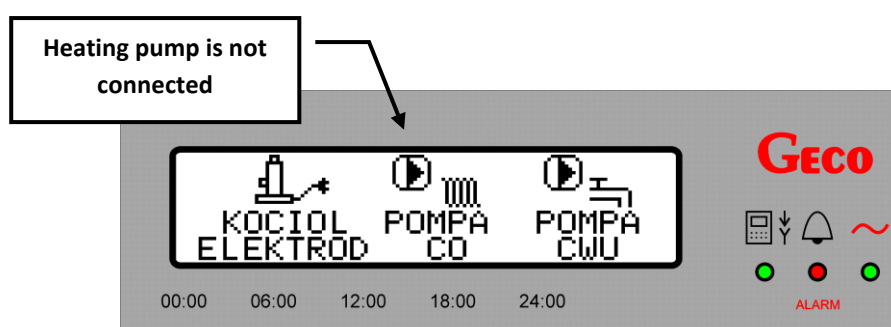
7.3. Monitor work of equipment in boiler

Pressing the button  allows the screen to show an overview of the work of equipment connected to the boiler controller, such as: electrode boiler, heating pump and hot water pump. The operation of equipment is indicated on the display by the appearance of an icon.



Przerwa w pracy (postój) lub brak obsługi danego urządzenia przez sterownik na kotle sygnalizowane jest pojawieniem się na ekranie znaku „=” w miejscu ikony.

A break from work (Park), or a device not supported by the boiler controller, is indicated by the appearance of "=" on the screen in place of the icon.



Exit this screen by pressing ,  or .

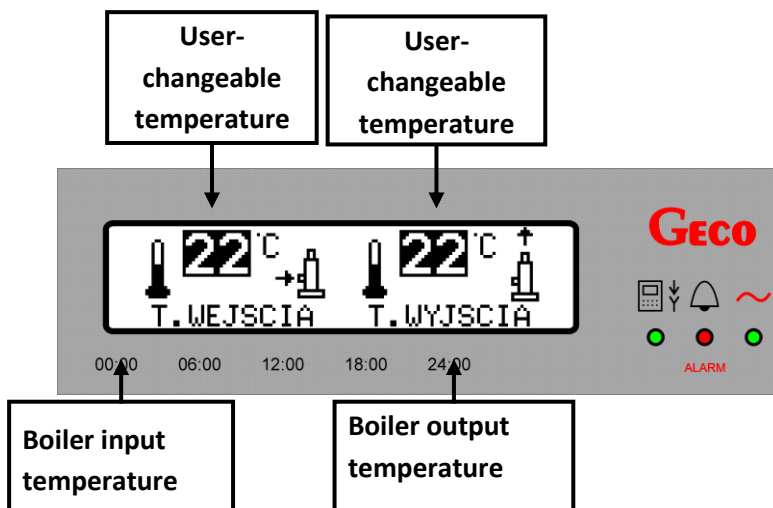
Pressing and holding any button for 60 seconds returns to the main screen.

7.4. Fast temperature set

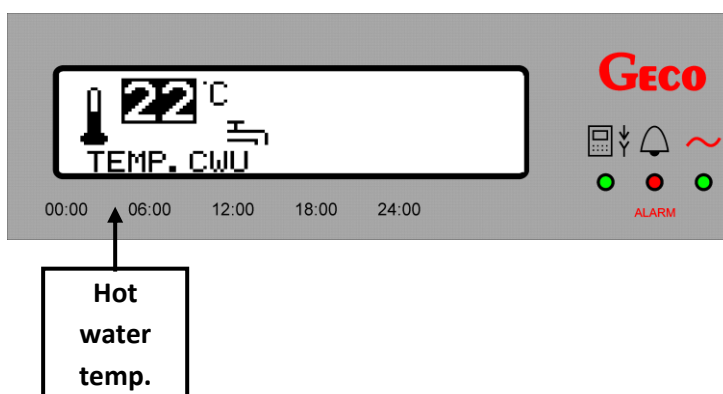
This is where all selected temperature settings can be made for the heating system:

- Temperature of water entering the boiler
- Temperature of water leaving the boiler
- Hot water temperature

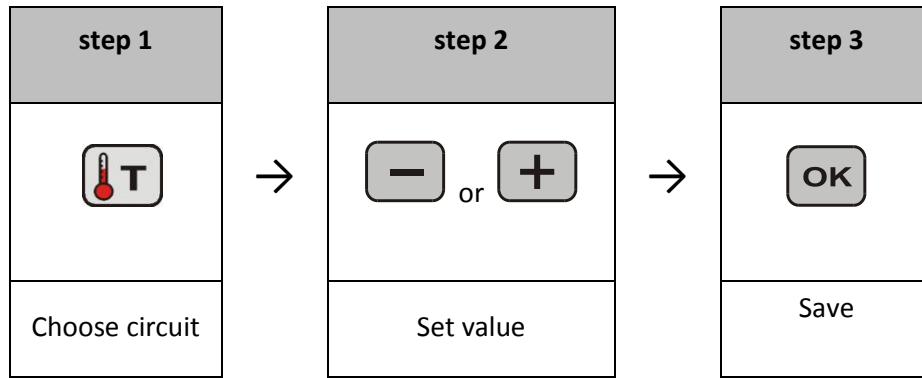
After pressing the button  the following screen is displayed:




Press  to access temperatures for the following circuits:



Set the required temperature by following the steps below:



Exit this screen by pressing  or .

Pressing and holding either button for 60 seconds returns to the main screen.

8. Adjustments

8.1. Timer settings

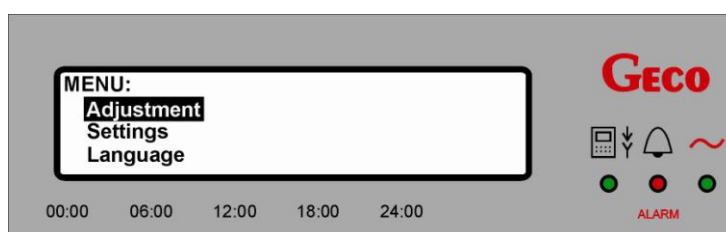
8.1.1. Daily settings

The GECO GA01HC-01 room panel allows each 24-hour period to be split into individually-controlled blocks. Using this function, a lower temperature can be maintained at night, or when nobody is at home, while at the same time setting higher temperatures at times when the home is in use. To enter this function, press Menu then „adjustments” => „timer settings” => „daily settings”. You can also enter this function quickly from the main screen, by

pressing .

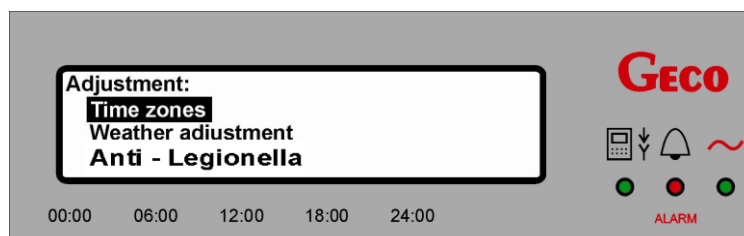
In order to set the daily settings from the menu, follow the steps below:

1. Press  to show this screen:



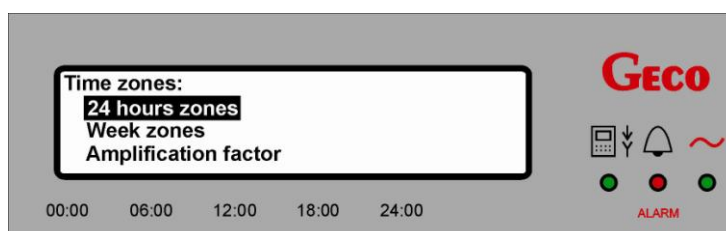
2. Using the key  or  go to „Adjustments”.

To confirm selection press  and this screen will be displayed:



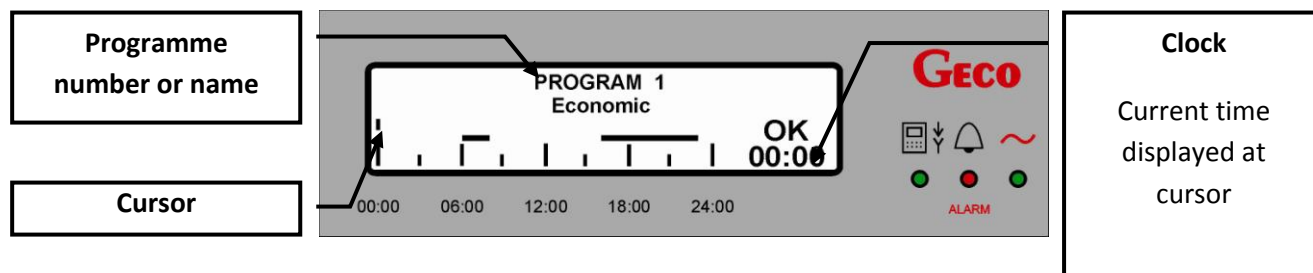
3. Using the key  or  go to „Timer settings”.

To confirm selection press  and this screen will be displayed:

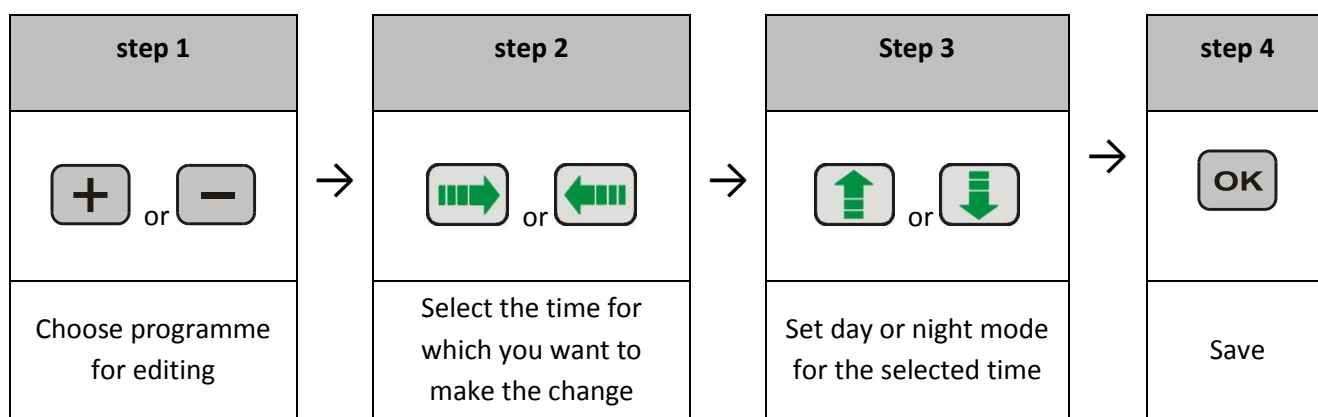




4. Using the key  or  go to „Daily settings”

5. To confirm selection press  and this screen will be displayed:






To customise individual settings (programmes 3, 4, 5 and 6), follow the steps below:



Press  for day mode and  for night mode.

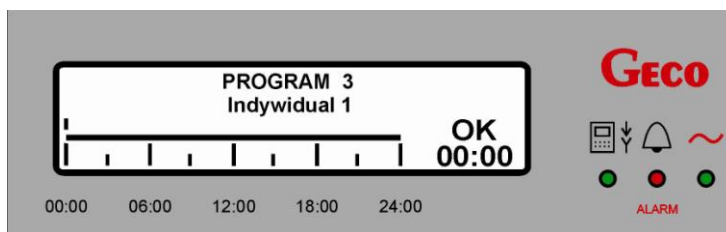
Day mode is indicated by a horizontal line for the indicated time. The time interval (unit of time) for which you can change settings is 15 minutes. To save changes, press .

In order to return to the previous screen without saving changes, press ,  or . Pressing and holding any of the buttons for 60 seconds returns to the main screen.

Below are two examples of screens with programmes for individual settings:

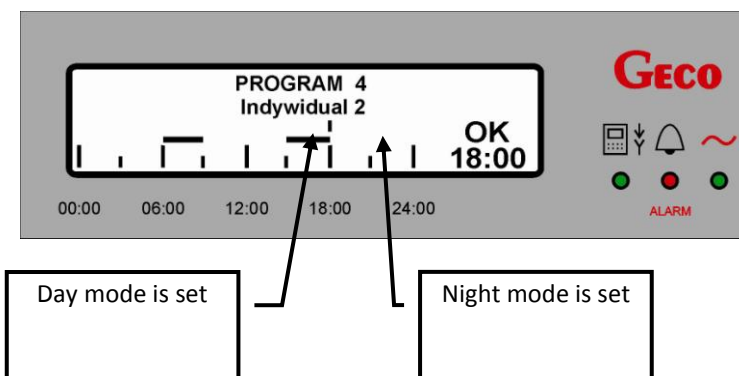
Example 1:

- Cursor is set to 00:00,
- Day mode (comfort) is selected for the whole day.



Example 2:

- Cursor is set to 18:00,
- Day mode is selected for 06:00 – 09:00 and 15:00 – 18:00.
- Night mode (economy) is set outside these times, at the selected temperature (⇒ ch. **Błąd! Nie można odnaleźć źródła odwołania. p.Błąd! Nie zdefiniowano zakładki.**).




You can select one of six heating programmes. Programmes 1 and 2 are standard programmes developed by GECO and cannot be changed. The other four, programmes 3,4,5,6, are editable and can be customised to your individual needs.

Table 2 Possible heating programme options

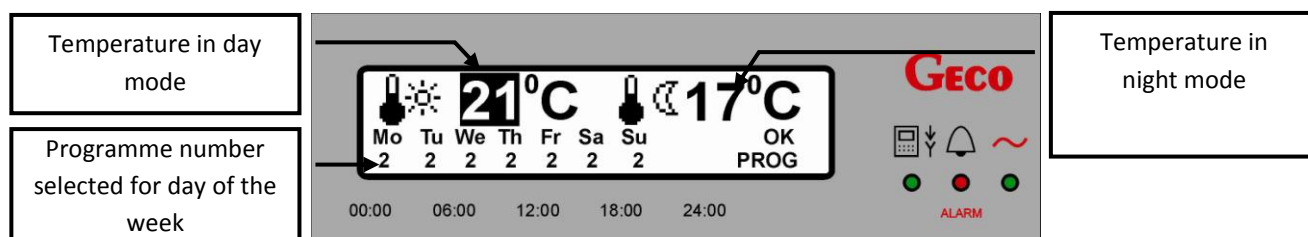
Programme number	Name	Function	Time period
1	Economy	Heating	06:00-08:15 16:00-23:15
2	Standard	Heating	06:00-23:15
3	Individual 1	Heating	00:00-24:00
4	Individual 2	Heating	00:00-24:00
5	Individual 3	Heating	00:00-24:00
6	Individual 4	Heating	00:00-24:00

8.1.2. Weekly timer

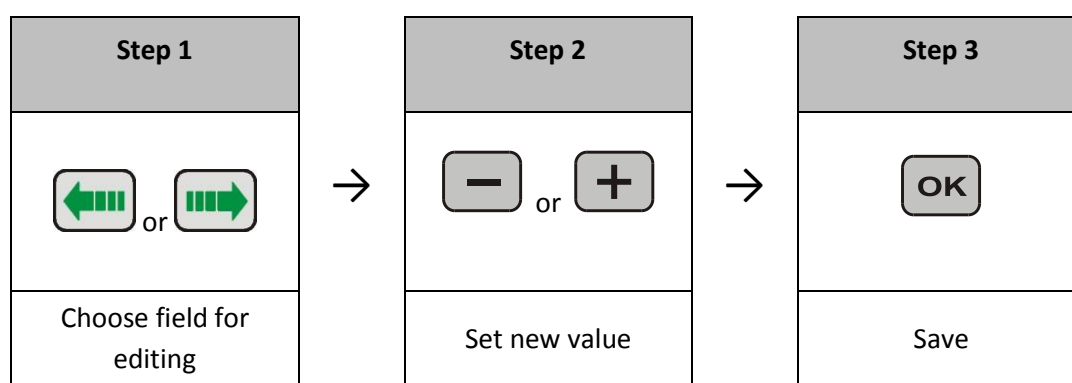
As with daily settings, access to weekly settings is via the menu, then „Adjustments” => „Time settings” =>

„Weekly settings”. Fast access is also possible from the main screen, by pressing .

The panel has a weekly setting, which can be set by the user. When you turn on the weekly setting, the cursor (backlit) indicates the first editable position, which is the temperature on a daily basis.



Change the temperature for any of the modes, or to select another programme for any day of the week as follows:



Temperature changes are in steps of 1°C, and the values for (day mode) and (night mode) are valid for the entire week. After setting new values, 'ok' will be displayed on the right hand side of the screen. To save changes, press . To return to the previous screen without saving, press . Pressing and holding any button for 60 seconds returns to the main screen.

The selected room temperature for daily timer settings is shown on the main screen (⇒ ch. **Błąd! Nie można odnaleźć źródła odwołania.**, p.**Błąd! Nie zdefiniowano zakładki.**).

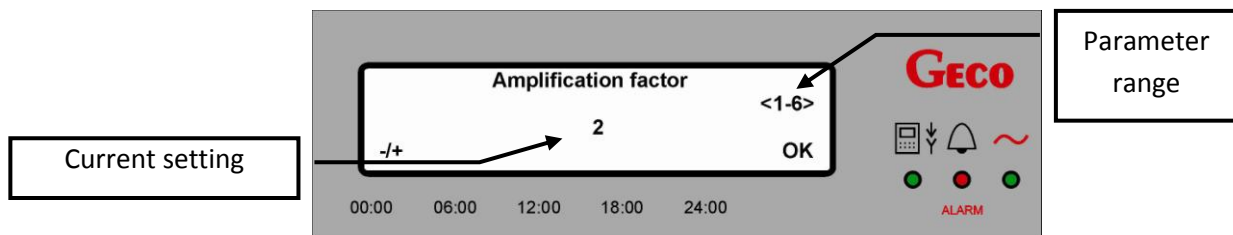
The room panel allows a different programme, from one to six, to be selected for each day of the week, including standard programmes and those set by the user. The factory timer setting for every day of the week is programme 2.

When the room temperature set on the panel is reached, the room panel will display the icon , indicating that the heating pump has stopped. Depending on the controller settings, the heating pump will stop, or operate continuously.

8.1.3. Gain

This parameter allows you to enhance the effects resulting from timer settings, on the boiler temperature settings and central heating temperature settings.

It may be especially useful in buildings with poor thermal insulation where heat losses are great, and when the process of cooling is a dynamic process that occurs in a short period of time. This leads to the constant changes and fluctuations in boiler temperature, which adversely affect the operation of the boiler and stability of the combustion process.

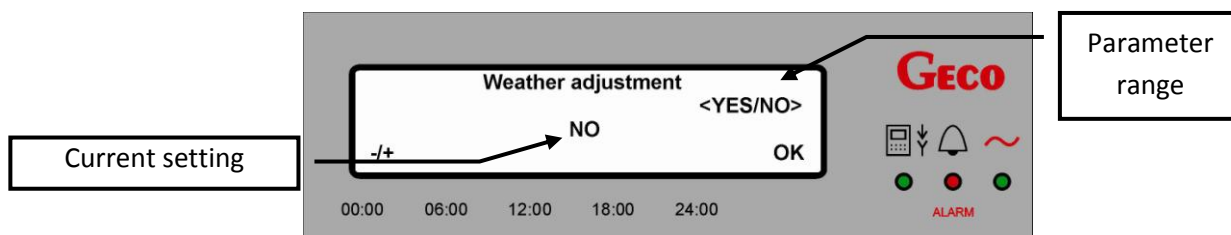


To return to the previous screen without saving, press **Esc**.

8.2. Holiday programme

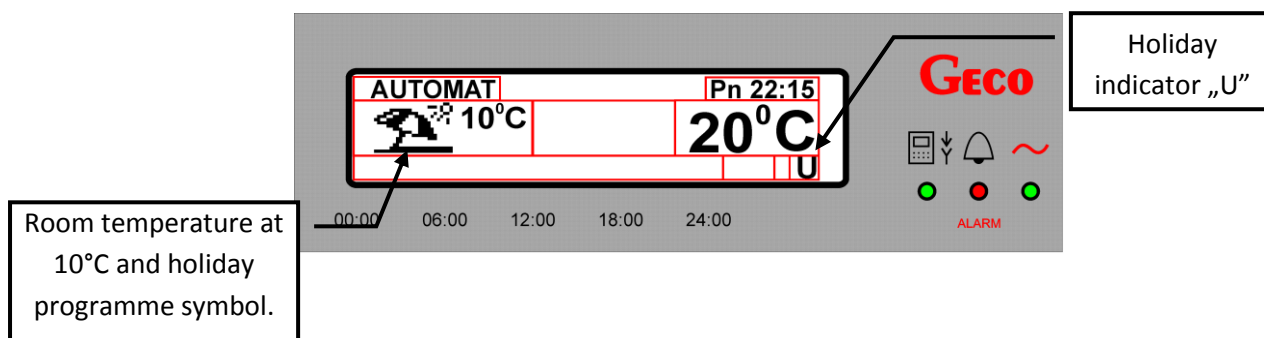
The GECO GA01HC-01 room panel includes a holiday programme.

Activating this programme fixes the daily temperature at 10°C. Access the function from the **MENU**, then „Adjustments” => „Holiday programme”.



In the figure above, the holiday programme has not been selected. Activate it using **+** and **-** to set the value „Yes”. Then, „OK” will be displayed in the bottom right of the screen. Save the change by pressing **OK**. Repeat and select ‘No’ to disable the function. To return to the previous screen without saving, press **Esc**. Pressing and holding any button for 60 seconds returns to the main screen. The factory setting for the holiday programme is „No”.

When the holiday programme is activated, a symbol in the form of a ‘U’ appears in the bottom left of the main screen and the room temperature setting change is shown as 10°C.



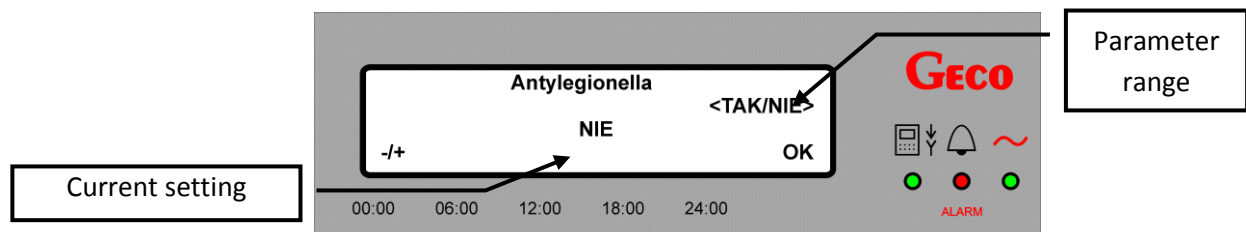
8.3. Anti-legionella.

The GECO GA01HC-01 room panel offers an anti-legionella function.

Legionella bacteria develop in aqueous environments, and the optimum temperature for their growth is from 38-42 C. These bacteria also contribute to blockages in hot water systems, hot water heaters and tanks. Legionella bacteria cause a non-specific variant of pneumonia known as Legionnaires' disease, or legionellosis. Legionellosis has been officially recognised by the Ministry of Health as an infectious disease.

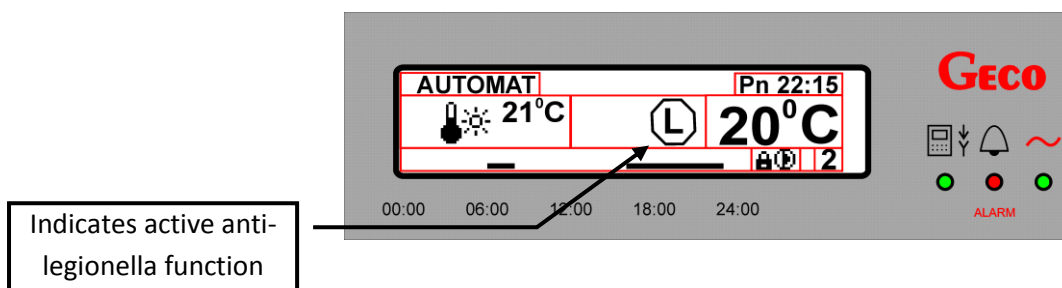
The anti-legionella function takes priority over all others, meaning that it is performed by the controller first. When this function is enabled, the temperature of the water in the boiler is raised to 70°C and this temperature is maintained for ten minutes.

Enter this function from the **MENU** using: „Adjustments” => „Anti-legionella”.



In the figure above, the holiday programme has not been selected. Activate it using **+** and **-** to set the value „Yes”. Then, „OK” will be displayed in the bottom right of the screen. Save the change by pressing **OK**. Repeat and select ‘No’ to disable the function. To return to the previous screen without saving, press **Esc**. Pressing and holding any button for 60 seconds returns to the main screen. The factory setting for this programme is „No”.

When the anti-legionella function is enabled, a letter ‘L’ will flash in the centre of the screen for the duration of its operation.


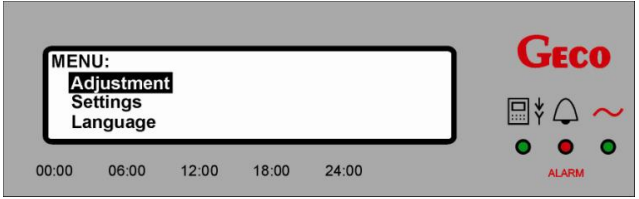



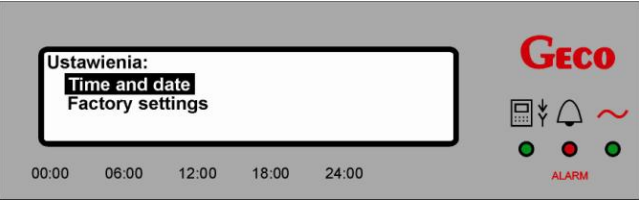



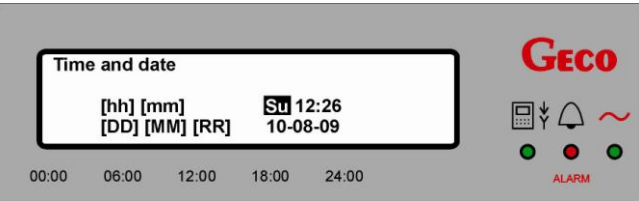





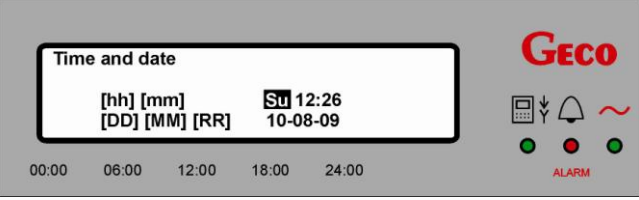



9. Settings



9.1. Time and date

For the GECO GA01HC-01 room panel settings to work correctly (such as timer settings), the correct time and date must be set.

To set or change the current time or date:

step	description	button	screen
step 1	Press button		
Step 2	Go to „Settings” and press button	 or  and 	
step 3	Go to „time and date” and press button	 or  and 	
step 4	Select field for editing Set value save	 or   or  	
step 5	Press button repeatedly		Controller returns to main screen

After changing the value „OK” appears in the bottom right hand corner of the screen. Accept the change by pressing

. To return to the previous screen without saving, press .






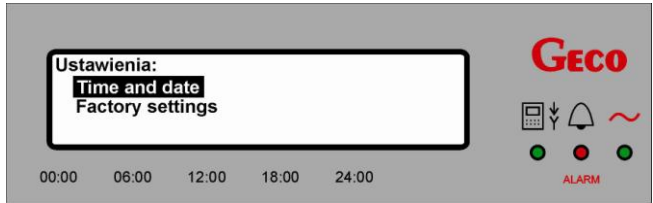






Pressing and holding any button for 60 seconds returns to the main screen.

Time and date settings are shown on the main screen in the field „Time and date” (⇒ ch. **Błąd! Nie można odnaleźć źródła odwołania.**,p.**Błąd! Nie zdefiniowano zakładki.**).

9.2. Restore factory settings

This function allows the factory settings of the panel to be restored at any time. This may be useful when changes stop the panel and controller to which it is connected from functioning correctly.

To restore factory settings, follow these steps

step	description	button	screen
step 1	Press button		
step 2	Go to „settings” and press button	 or  And 	
step 3	Go to „factory settings” and press button	 or  and 	
step 4	Press button		

At the same time, the controller shall be reset to return it to the state it was in before factory settings were restored.







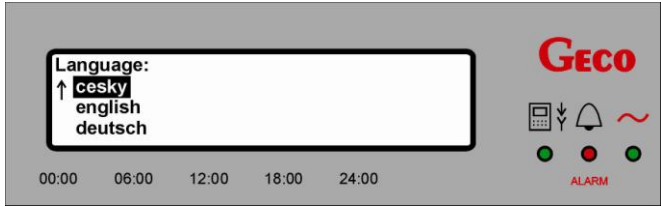






Restore factory settings does not change the language. The panel will return to factory settings using the language that was set before this function was activated.

10. Language

The panel is equipped with a choice of language versions of the software. The name of each version is presented in the corresponding language (Polski, English, etc.). The basic version of the driver software is only in Polish. The following is a simulation of changing the language, assuming the availability of new software versions for the room panel.

To change the version of the driver, proceed as follows:

Step	description	button	screen
step 1	Press button		
step 2	Go to „language”	 or 	
step 3	Press button		
step 4	Choose language	 or 	
step 5	Press button		Controller returns to main screen



The factory setting language for the driver is Polish

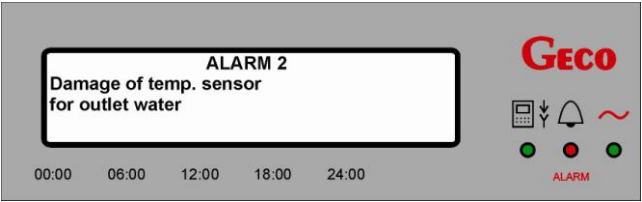
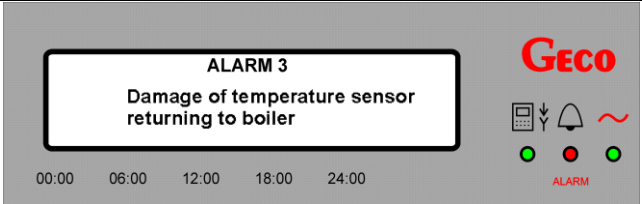
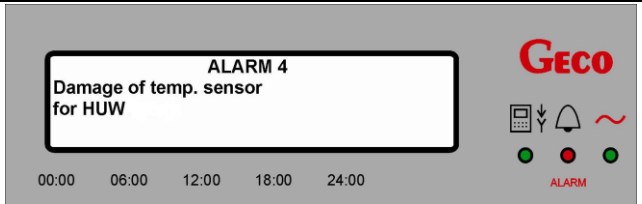
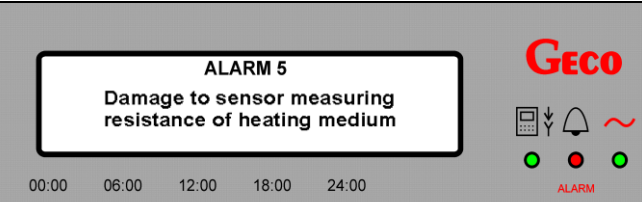
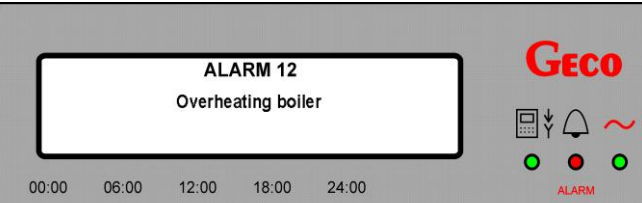
11. Alarms

If the electrode boiler controller activates any alarms, information about these will be displayed on the room panel. The panel recognises five alarms. In each state, there is an audible alarm, and a flashing red light on the panel.

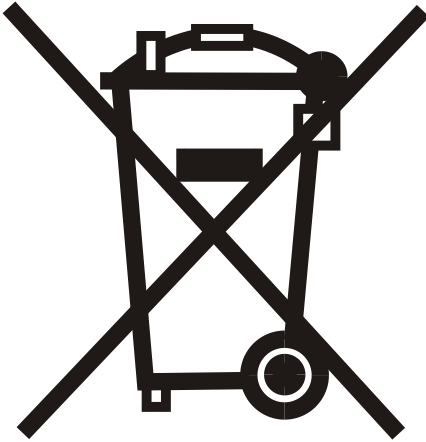
Exiting an alarm state is only possible by pressing . The exception is alarm 12, which disappears automatically without user intervention.

When an alarm occurs, the panel goes to alarm screen, and remains there until the user takes action (with the exception of alarm 12).

Table 3 Alarms recognised by the GH01HC-01 room panel

Number	Description of alarm	screen
ALARM 2	Failure of temperature sensor (boiler output)	
ALARM 3	Failure of temperature sensor (boiler input – returning to boiler)	
ALARM 4	Failure of hot water temperature sensor	
ALARM 5	Damage to sensor measuring resistance of heating medium	
ALARM 12	Overheating boiler	

12. INFORMATION ON LABELLING AND COLLECTION OF WORN OUT ELECTRICAL AND ELECTRONIC EQUIPMENT



CAUTION!

This symbol placed on the product or its packaging indicates the need for selective collection of worn out electrical and electronic equipment. It means that this product should not be disposed of with other household wastes. Proper disposal of old and worn out electrical and electronic equipment will help to avoid potentially adverse effects for environment and human health.

It is the user's responsibility to collect worn out equipment separately, and to return it to an authorised disposal company.



P.P.U.H. „Geco” Sp. z o. o.
Cholerzyn 376, 32-060 Liszki
tel. 012 6369811, 6361290
fax. 012 6362002
<http://www.geco.pl>
e-mail: geco@geco.pl