



GECO[®]



**OPERATING MANUAL FOR
THE CONTROLLER**

GH11TA

**TO CONTROL
CENTRAL HEATING BOILERS
WITH PISTON FEEDER
PISTON FEEDER**

**Programme version
01**

SERVICE MANUAL

We strongly request that you study the instructions carefully before connecting and commissioning of each of our devices. In case of any doubt, please please contact us between 8.00 a.m. and 4.00 p.m.

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1. INTRODUCTION

1.1. Graphic designations

The symbols intended to signal and at the same time emphasise the importance of the text in which the information on the warning of a dangerous situation is contained have the following graphic form:



Warning

This symbol is used when it is necessary to follow the sequence of operations in the described instructions. If you make a mistake or do not follow the description, the device may be damaged or destroyed.



Important!

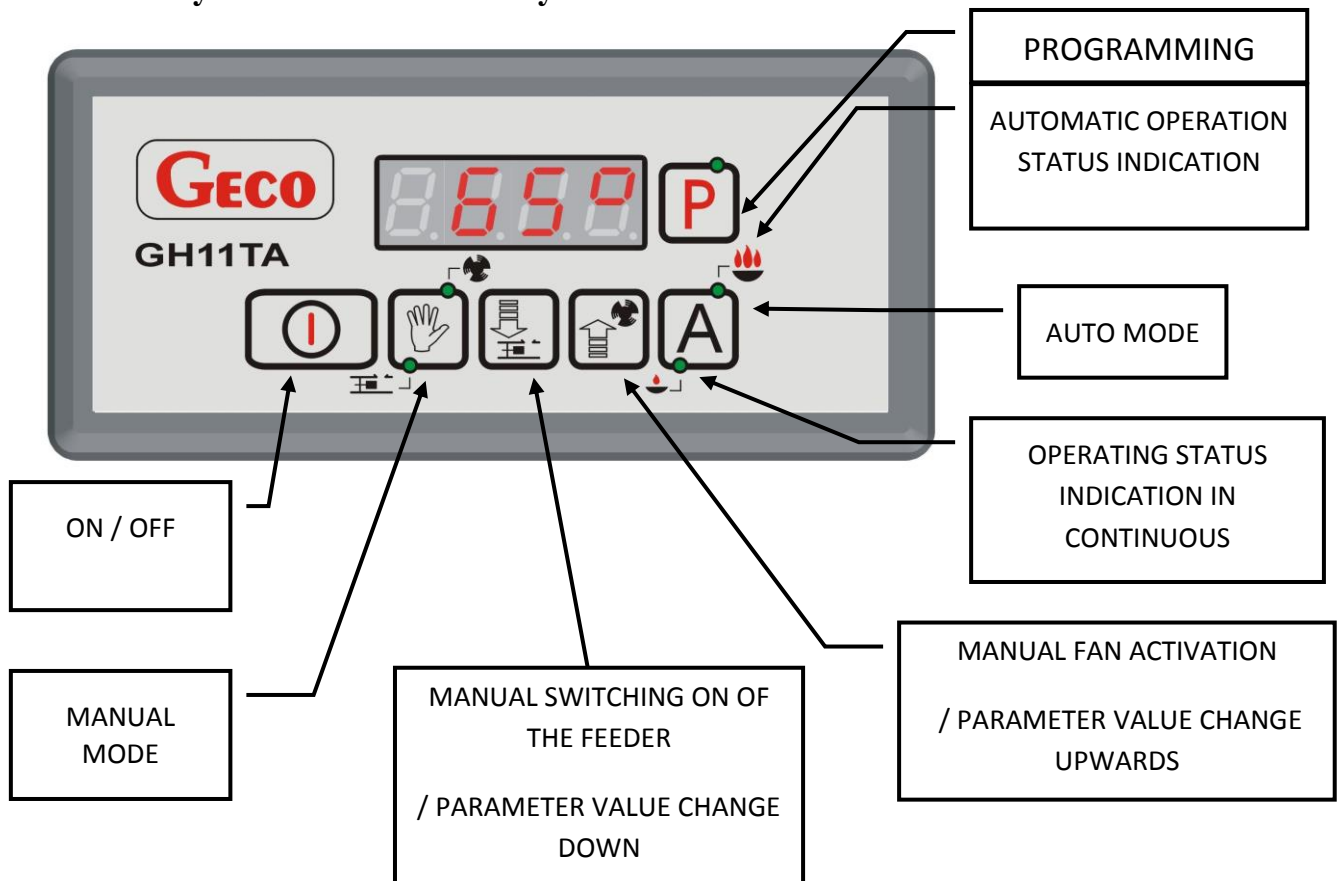
This symbol indicates information of special interest.



Reference

This symbol indicates the occurrence of additional information in the chapter.

1.2. Keyboard and function keys



2. GENERAL CHARACTERISTICS

The GH11TA controller is made using microprocessor technology with automatic surface mounting. This controller controls the process of preparation of usable hot water (DHW circuit) and enables operation of the main heating circuit (CH circuit). The control parameters can be adjusted to the current operating conditions and the type of boiler. The regulator is equipped with a protection system against power failures and various types of interference.

The GH11TA controller is equipped with:

- inputs:
 1. to measure the temperature of the boiler outlet water (NTC type sensor),
 2. to measure the fuel feeder temperature (NTC type sensor),
 3. to measure the water temperature in the DHW boiler (NTC type sensor),
- digital input:
 4. to connect a pin break sensor on the feeder - reed switch
 - input (RS485) for the connection of room panel GA01HA by GECO

It also has four outputs enabling direct connection of devices operating at 230V, i.e.: fan, fuel feeder, CH circulation pump, HUW pump or mixing pump, depending on the supported heating system (p.6.1, p.8).



**DISCONNECT THE CONTROLLER FROM THE MAIN SUPPLY
DURING A STORM**

3. TECHNICAL DATA

Supply voltage	230V ~ +10% -15%
Operating temperature	od +5°C do +40°C
Moisture	od 20% do 80% RH
Fan protection	3,15A
Sensor type	NTC 2,2kΩ
Operating range of the temperature sensor	0°C÷100°C

Output	Maximum continuous load	
DHW pump/mixing pump	1A	200W
CO Pump	1A	200W
Fuel feeder	2A	400W
Fan	1A	200W

Resistance characteristics for NTC-type sensors	
Temperature °C	Resistance Ω
0	7174,89
10	4374,83
20	2747,10
30	1774,91
40	1172,09
50	795,08
60	547,95
70	384,62
80	275,86
90	202,37
100	149,16

4. ELECTRICAL INSTALLATION AND CONNECTION RULES

1. The boiler room should be equipped with a 230V/50Hz electrical installation in accordance with the relevant regulations.
2. The electrical installation (irrespective of its type) must be terminated with a plug socket fitted with a protective contact. The use of a socket without a protective terminal connected risks an electric shock!!!
3. The controller must be connected to a separately routed power line protected with a suitably selected fast fuse and a residual current circuit breaker (anti-shock). No other devices may be connected to this line!!!

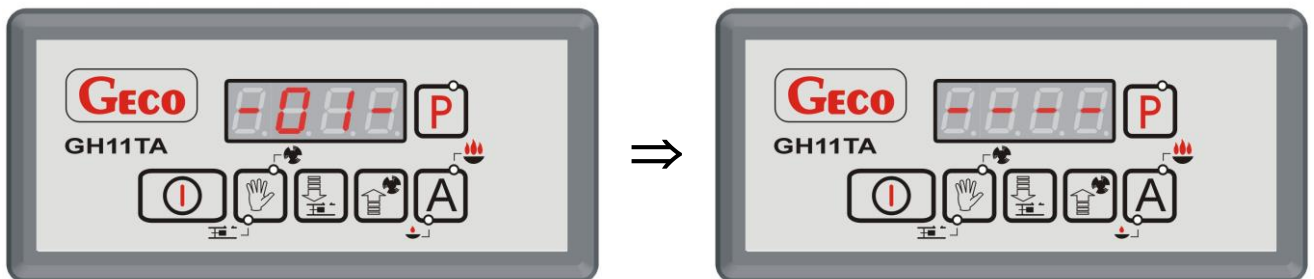


THE REGULATOR IS POWERED FROM THE MAINS 230V/50HZ ANY REPAIRS CAN ONLY BE CARRIED OUT WITH THE POWER SUPPLY DISCONNECTED AT THE FUSE

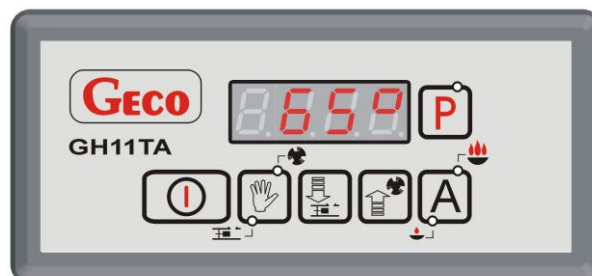
5. QUICK START

To perform a quick start-up of the GH11TA controller, perform the following steps:

1. Connect the device to the 230V mains (plug in the socket).



2. Switch on the controller using the button . The following screen will appear:



3. Press the button . The following screen will appear:



The controller will start automatic operation based on the factory-set parameters.

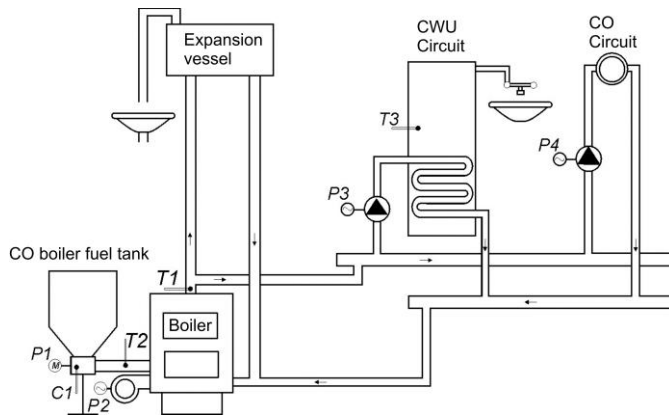
Table of factory settings

User Parameter	Description	Factory setting
U0	Prescribed boiler temperature	60°C
U1	Feeder standstill time	45 s
U2	Holding time	15 min
U3	Fan speed	5

6. OPERATION OF THE GH11TA

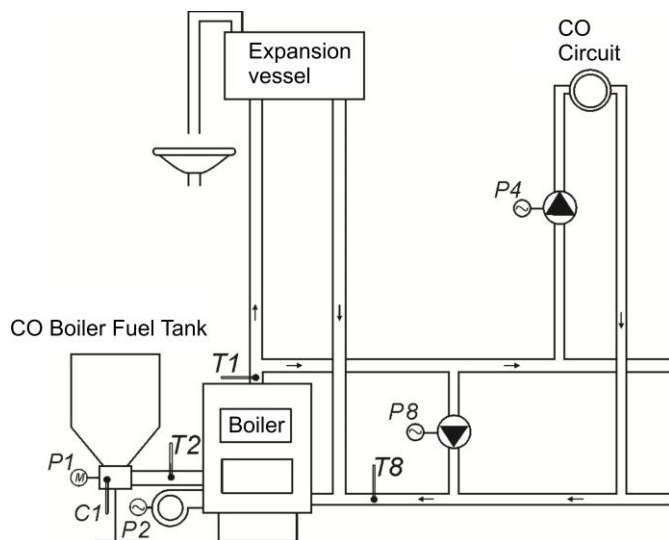
6.1. Heating system operated

6.1.1. CH + DHW circuit





INPUTS	OUTPUTS
T1 – Boiler Temp.	P1 - Feeder
T2 – Feeder Temp.	P2 - Fan
T3 – CWU Temp.	P3 – CWU Pump
C1 - Contactor	P4 – CO Pump

6.1.2. CH circuit + mixing pump



INPUTS	OUTPUTS
T1 – Boiler Temp.	P1 - Feeder
T2 – Feeder Temp.	P2 - Fan
T8 – Return Temp.	P4 – CO Pump
C1 - Contactor	P8 – Mixing Pump

6.2. Automatic operation mode

Pressing the button  enters the automatic operation mode of the controller, which is signalled by the upper indicator light on the button .

6.2.1. Fuel feeder

In automatic operation, the unit operates according to a new algorithm for feeding equal portions of fuel. The amount of fuel fed in one feeder cycle is specified in service parameter F21. The feeder is started every time set in parameter u1- "Feeder standstill time". After reaching the maximum advance position, the piston is retracted until the reed switch operates, the feeder run time is reset and the feeding cycle repeats.

After switching to AUTOMAT mode from REED MODE or after a power failure, the controller activates the feeder until reaching the maximum position of reversal (reed switch operation), then the feeder starts operating normally.

The feeder operation is suspended after the STOP&GO function is activated. The feeder and fan operation is not suspended (STOP&GO) if the temperature drop is more than 6 degrees below the setpoint. In addition, this function can be deactivated using service parameter F23.

Activation of the fuel feeder and its operation is signalled by lighting up the lower indicator on the button



(⇒ p.1.2 str.4).

6.2.2. CO Pump

In AUTOMATIC mode, the CH pump is switched on if the boiler water temperature is higher than or equal to the value set in the F06 service parameter (factory setting is 40°C).

Activation of the CH pump and its operation is signalled by the lighting up of the vertical line on the left side of the display on the main screen of the controller.

The controller will switch off the pump if the water temperature falls to the pump cut-in temperature minus 4°C. (If the switch-on temperature of the CH pump is 40°C, then the switch-off temperature of the CH pump is 36°C).

6.2.3. Fan

In AUTOMATIC mode, the fan runs continuously until the boiler reaches the preset temperature set by the user in parameter u0. During this time, the fan operates at its maximum speed. Activation and operation of the fuel feeder is signalled by lighting up the upper indicator light on the button.





6.2.4. Contactron

The maximum piston retraction sensor (reed switch) in AUTOMAT mode operates according to the value set in service parameter F19. When the time 5/4value of F19 is exceeded and the reed switch does not operate, ALARM 9 appears. (⇒ p. **Błąd! Nie można odnaleźć źródła odwołania.** pg. **Błąd! Nie zdefiniowano zakładki.**)

6.2.5. HOLD MODE

The controller switches to this operating mode if the temperature on the boiler reaches the value set by the user in parameter u0.

This mode of boiler operation is signalled by the lighting up of the lower indicator light on the button  ().

The fuel feeder and fan remain off in this operating mode for the time set by the user in parameter u2. After this time, the controller will switch on the feeder and fan for the time set by the manufacturer in service parameter F19.

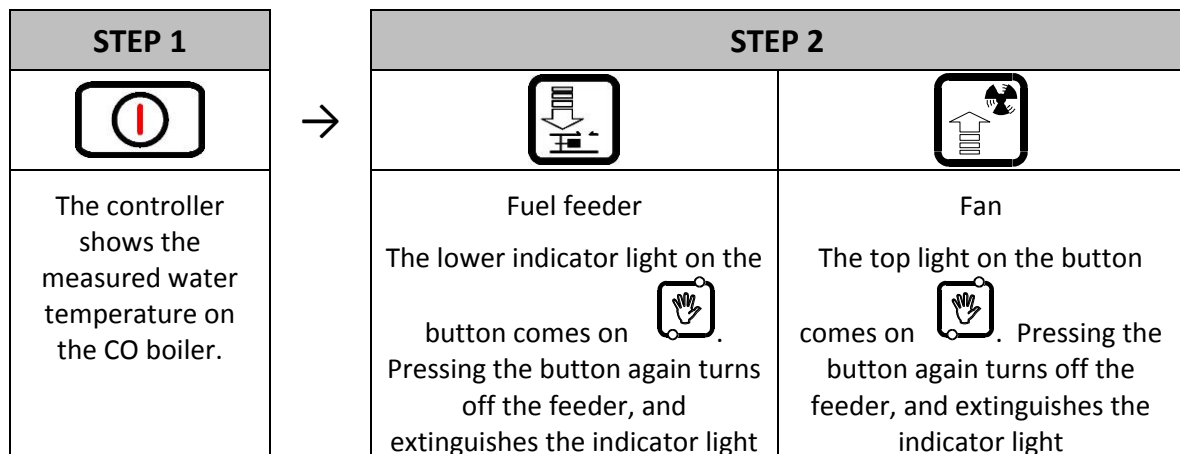
The fan will run correspondingly longer than the feeder for the time set in service parameter F18 to ignite the added coal.

The controller will exit BASIC mode and return to AUTOMAT mode if the boiler temperature drops to a value equal to u0 - F05.



The CH pump operates in the same way as in automatic operation.



6.3. Manual operation mode


In this mode of operation, the user can manually and independently switch on and off the fuel feeder and fan. To do this, follow the diagram below:




In the manual operation mode, it is also possible to switch on the C.O. and DHW pumps. To switch


on the C.O., press the key combination simultaneously:  + . Activation of the central heating pump and its operation is signaled by the appearance of a vertical dash on the left side of the display on the main screen of the controller.


To turn on the DHW pump, press the key combination simultaneously:  + . Activation of the DHW pump and its operation is signaled by the appearance of a vertical dash on the left side of the display on the main screen of the controller.

Pressing the button  enters manual operation mode from automatic operation mode and immediately stops the operation of the fan and feeder.

6.4. Temperature preview

When the button is turned on  the display shows the outlet water temperature from the boiler. Viewing temperatures: DHW/return and feeder are possible in AUTOMAT and BASIC operating modes, provided that the DHW/return or feeder sensor operation is enabled, respectively.

To preview the feeder temperature, press the button . Pressing the button again exits the preview. It also exits the preview automatically 10s after the button is pressed.

To preview the DHW/return temperature, press the button . Pressing the button again exits the preview. It also exits the preview automatically 10s after the button is pressed.

6.5. Alarms

The controller distinguishes between 8 alarm states. In each of them, the alarm number is displayed, and the acoustic alarm output is activated. In case of simultaneous occurrence of several alarm states, their numbers are displayed cyclically. Exit from the alarm state is possible only after pressing the button



Types of alarms:



- AL1 → STB tripped or fuse blown
- AL2 → Boiler outlet water temperature sensor failure
- AL3 → Feeder temperature sensor failure
- AL4 → Failure of DHW/return temperature sensor
- AL9 → No feeder rotation / faulty reed switch
- AL11 → Maximum feeder temperature exceeded
- AL12 → Overheating of the boiler
- AL13 → Boiler expiration

6.6. Power outage

After a power outage, the controller will take action depending on the state it was in before the power outage. The controller waits 1 minute for the state of the power grid to stabilize, after which it returns to operation with the previously programmed parameter values.

During the waiting time, the display shows the time in seconds remaining to its end, and the indication of the state in which the controller was before the power outage:

- The flashing letter "A" corresponds to automatic operation,
- the letter "P" corresponds to sustained operation,
- the letter "r" of manual operation.

Along with the letters, the corresponding lights also flash (AUTOMATIC  OR HOLDING .

6.7. Boiler expiration detection

6.7.1. No Fuel

If during automatic operation for the time set in parameter F09, the boiler outlet water temperature is below the value set in parameter F08, then the controller considers that the boiler has expired and AL13 appears.

6.7.2. Rapid drop in outlet water temp

If the boiler outlet water temperature decreases by 10⁰C during automatic operation and it does not increase by 4⁰C during the decrease, the CH pump and the DHW pump are turned off and the controller enters the expiration detection mode.

The controller waits for the time set in parameter F10, during which it checks whether there has been a 4⁰C temperature rise.

If YES, the expiration detection is completed, and the CH pump and DHW pump (if required) are switched on.

If NO, it means that the furnace has expired - the controller reports AL13.

6.8. Feeder maximum temperature detection

The GH11TA controller is equipped with an option for additional protection against temperature rise in the fuel feeder above the permissible value, thus preventing the flame from going back into the fuel feeder. This detection works only in the automatic boiler operation mode (AUTOMATIC, BASIC).

When the temperature set in service parameter F14 is measured and exceeded, the fuel feeder turns on for the time set in service parameter F16 to eject the ignited fuel from the feeder. During the F16 time, the fan remains off.

After the time set in service parameter F15, the controller returns to control the max feeder temperature.

When temp. of the feeder > 90⁰C then the fan is absolutely stopped, the fuel feeder is switched on for 2xF16, and the controller display shows the AL11 alarm message The controller remains in the alarm state until the user reacts.

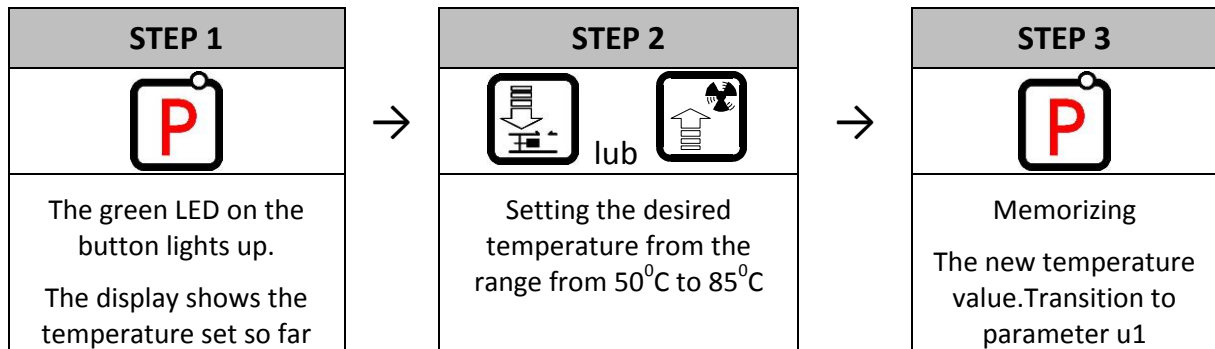


IF F14=0 THEN THE FEEDER SENSOR OPERATION IS DISABLED AND THE FEEDER MAX TEMPERATURE RISE DETECTION FUNCTION DOES NOT WORK.

7. USER SETTINGS




7.1. Boiler set temperature (u0)

Changes in the value of the boiler set temperature are made as follows:



If during the setting of the new temperature for 15 seconds none

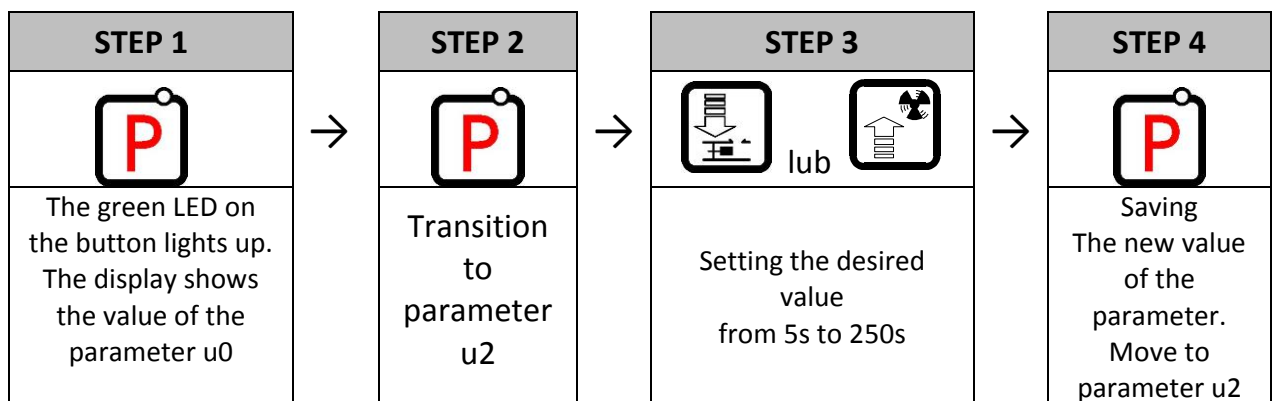


of the keys is pressed , , ,
then the new temperature will not be stored and the controller will exit programming mode.

7.2. Fuel feeder standstill time (u1)

This is the time between successive coal feeds to the CO boiler in AUTOMATIC mode (without taking into account service parameter F47). The actual value of the time between fuel feeds is: U1×F47. Its range of variation is from 5 s to 250 s.

Changing this parameter is done as follows:



7.3. Holding time (u2)

This is the time after which the controller will switch on the feeder and the fan for a manufacturer-specified time in the FIXING mode to prevent the boiler from expiring. The modification range of this parameter is from 5 min to 250 min. Modification of this parameter is carried out in the same way as described in p.7.1 and p.7.2.

7.4. Fan speed (u3)

This parameter determines the speed of the fan, that is, the amount of air supplied. It allows you to select the fan speed according to the quality and type of fuel used.

The value of this parameter can be changed in the range 1-10, where "1" means the minimum speed, and "10" is the maximum.

Modification of this parameter is carried out in the same way as described in in p.7.1 and p.7.2.

7.5. Setpoint temperature of DHW/return (u4)

This parameter is available to the user only if the user uses the the domestic hot water (DHW) heating or return temperature stabilization option and has configured the auxiliary pump by setting service parameter F00 to "01" "02", "03" or "04" (⇒ p.8.2 page 17).

Modification of this parameter is carried out in the same way as described in p.7.1 and p.7.2.

7.6. Anti-Legionella function (u5)

The GH11TA controller is equipped with an ANTI-LEGIONELLA function to reduce the growth of Legionella pneumophila bacteria in the hot water system. This function is available to the user only if the value of service parameter F00 has been set to "02", "03" or "04" (⇒ p.0 p.17).

Legionella bacteria thrive in an aqueous environment, and the optimum for their growth is at 38-42°C. The growth of these bacteria is also favored by stagnant hot water in systems, heaters and DHW tanks.

Legionella bacteria cause a non-specific form of pneumonia known as Legionnaires' disease, or Legionellosis. Legionellosis has been officially recognized by the Ministry of Health as an infectious disease. The ANTI-LEGIONELLA function implemented by the GH11TA controller ensure the creation of a in the domestic hot water system (DHW tank) such conditions that Legionella bacteria do not find favorable living conditions.

In order to activate the ANTI-LEGIONELLA function, parameter u5 should be set to 1.

Activation of this function and its duration is shown by the flashing letter "L" on the left side of the display, before the displayed temperature value.

Deactivation of this function is possible by setting the value of the parameter u5=0 or by pressing the



button. The Anti-Legionella function also terminates when the power supply fails.

The Anti-Legionella function is an overriding function, which means that it is executed by the controller first (priority function).

When this function is activated, the water temperature in the boiler is raised to 70°C and is maintained for a period of 10 minutes.



ACTIVATING THE ANTI-LEGIONELLA FUNCTION INCREASES THE HOT WATER TEMPERATURE TO 70°C.

USE EXTREME CAUTION WHEN USING HOT WATER.

YOU MAY RISK SCALDING !!!

8. OPERATION OF THE HOT WATER BOILER

GH11TA controller allows you to connect an additional pump to control the heating of domestic hot water (DHW) in the boiler.

8.1. Assembly and connection

If you want to use the domestic hot water (DHW) heating option, perform the following steps:

1. connect the boiler according to the attached diagram (⇒ p.6.1.1 p.8).
2. place the DHW temperature sensor inside the boiler



It is recommended to install the DHW temperature sensor in the measuring wells of the company "GECO" Ltd.

It is absolutely forbidden to place temperature sensors in wells with oil or other liquid !!!

3. connect the DHW temperature sensor to the controller under the terminals as shown in Figure 2.
4. configure the operation of the DHW pump (⇒ p.8.2 p.17).



The DHW temperature sensor is an additional sensor (option), not supplied with the GH11TA controller.

It is possible to purchase the aforementioned sensor for an additional fee from the manufacturer, i.e. "GECO" Sp. z o.o.

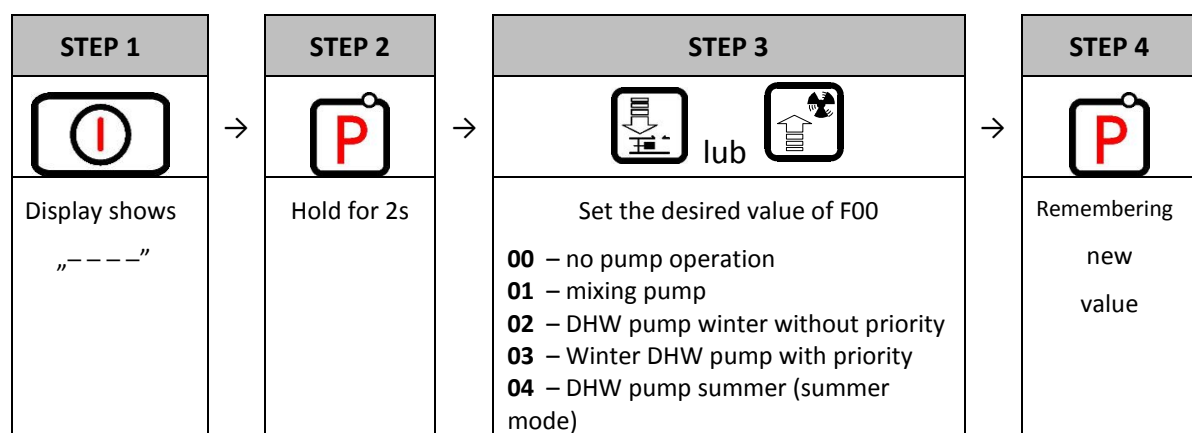
8.2. Configuration of auxiliary pump

In this parameter, the user has the option to switch on the operation of an additional pump, which can be a mixing pump or a DHW pump operating with or without priority mode.

The DHW pump is switched on when the boiler outlet water temperature is higher than 40°C and higher than the boiler water temperature (in order not to cool down the DHW boiler) and the boiler temperature is lower than the one set by the user in parameter u4 (⇒ p.7.5 p.15).
The indication of the pump operation is a dot next to the fan symbol on the display.

In the case of the boiler room configuration as shown in the diagram (⇒ p.6.1.1 p.8), the boiler controller does not have an external alarm output, but has the ability to view the DHW boiler temperature

To switch on in the controller support for an additional pump, proceed as follows:



8.3. DHW priority

In the GH11TA controller it is possible to set the operation of the DHW pump in priority mode. If you select such a mode of operation of the DHW pump, DHW heating becomes the overriding function in the controller.

To do this, set the value "3" of service parameter F00.

8.4. Summer mode

The GH11TA controller is equipped with the so-called SUMMER MODE, with the help of which it is possible to disable the CH pump for the summer period, and the boiler works only for the needs of DHW.

To do this, set the value "4" of service parameter F00.

9. Room Panel

The GH11TA regulator has been adapted for full communication with GECO's GA01HA room panel, enabling comfortable supervision of boiler operation from the apartment.

The room panel GA01HA connected to the GH11TA controller allows:

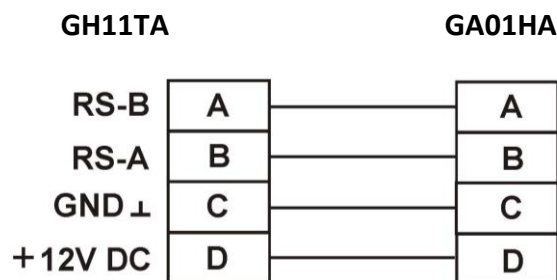
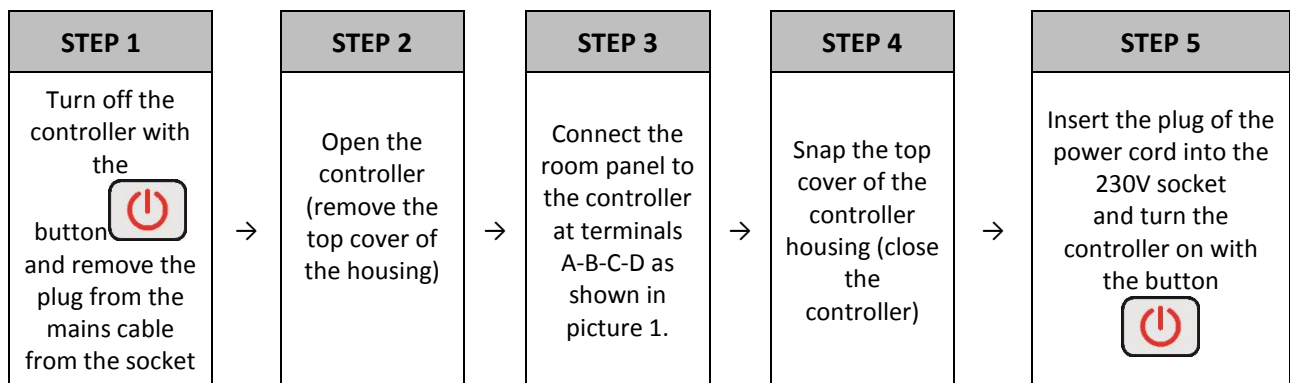
- change the preset temperature of the boiler (u0)
- change the preset DHW temperature (u4)
- appearance on the room panel of information about all alarms
- preview of boiler operation status
- preview of device operation status (fan, CH pump, HUW pump)
- preview of all measured temperatures



THE FACT THAT THE CONTROLLER OPERATES ACCORDING TO THE SETTINGS OF THE ROOM PANEL IS INDICATED BY THE LIGHTING OF A DOT ON THE LAST DISPLAY

If a GA01HA room panel is properly connected to the GH11TA controller, it will be automatically detected by the controller and no additional actions or settings are required on the part of the user. In this situation, the controller operates according to the settings set by the room panel. Disconnection of the room panel (interruption of communication) or damage to the cable connecting the panel to the controller is manifested by the disappearance of the "dot" on the last display 30s after the panel is disconnected.

In order to connect the GA01HA room panel to the GH11TA controller, it is necessary:



Picture. 1 Connection diagram of room panel GA01HA to controller GH11TA

10. TEMPERATURE LIMITER (STB)

The GH11TA controller is equipped with additional mechanical protection, independent of the automation, called a safety temperature limiter (STB).

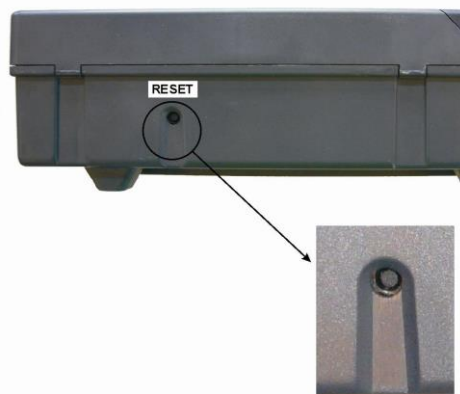
10.1. Method of operation

If the heating water reaches the temperature **95°C** the temperature limiter will operate automatically (activate the STB function) and interrupt the fuel supply and combustion air supply (turn off the fuel feeder and fan).


When the temperature on the limiter drops by about **20°C** it will be possible to activate the STB function again, only manually.




10.2. Restarting the STB function (manual)

To restart the device, press the "RESET" button located on the left side of the controller housing.



For safety reasons, the controller does not automatically return to automatic operation.

To return the controller to work again, press the button twice :

- the first press of the button  will cancel the alarm and turn off the controller
- a second press of the button  will restart the controller
- press  - the controller will go into automatic operation mode



PUNCTURE OR BREAKAGE OF THE CAPILLARY MEANS LEAKAGE OF THE TEMPERATURE LIMITER FILLED WITH LIQUID, WHICH LEADS TO INCORRECT OPERATION OF THE GH11TA CONTROLLER.

IF THE DESCRIBED MALFUNCTION IS FOUND, THE TEMPERATURE LIMITER SHOULD BE DISCONNECTED FROM THE GH11TA CONTROLLER, REMOVED AND REPLACED WITH A NEW UNIT.

11. DEALING WITH DAMAGE TO THE CONTROLLER

If you notice any irregularities in the operation of the controller, it is advisable to contact the boiler supplier/manufacturer or GECO Ltd.

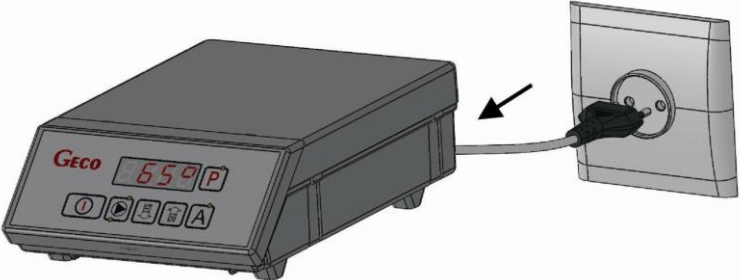
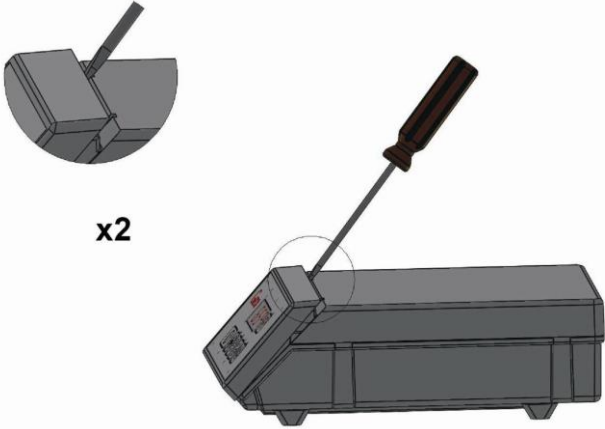
Professional technical advice will be provided there.

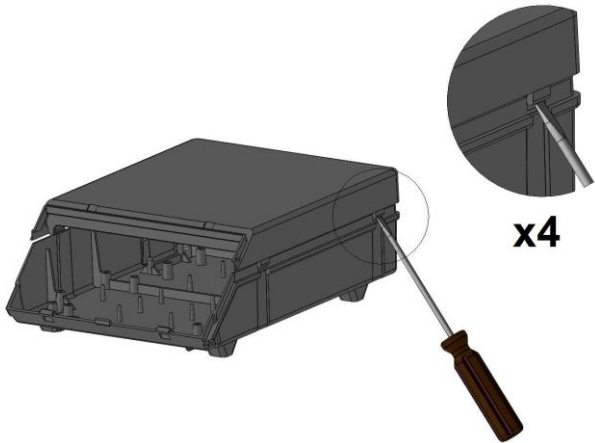
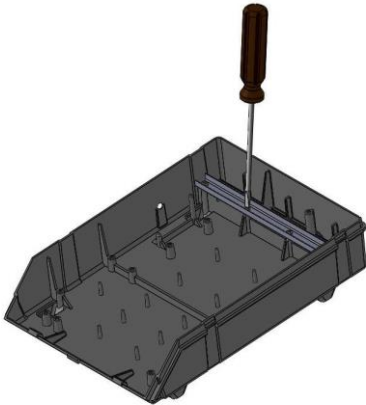
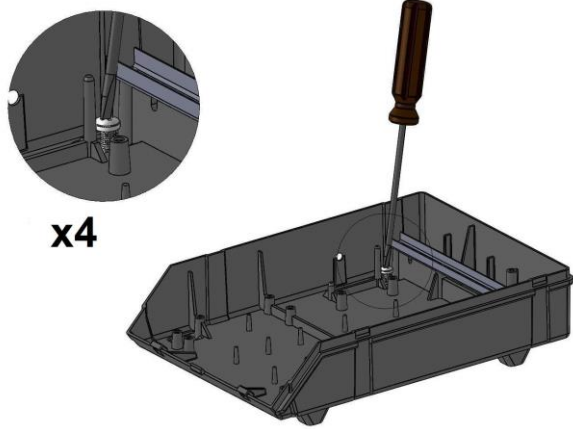
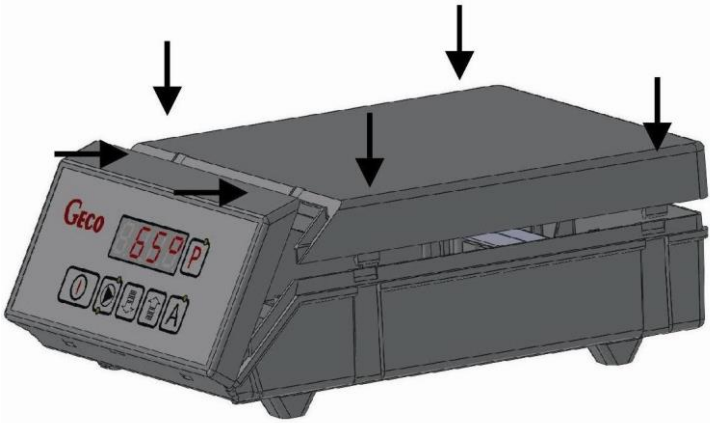
If you find it necessary to take service action to repair the controller, you should dismantle the damaged controller from the boiler and send the complete controller, including the casing, to the indicated address.



***SENDING AN INCOMPLETE CONTROLLER TO THE SERVICE WILL
AUTOMATICALLY VOID THE WARRANTY***

PREPARING THE CONTROLLER TO BE SENT FOR SERVICE

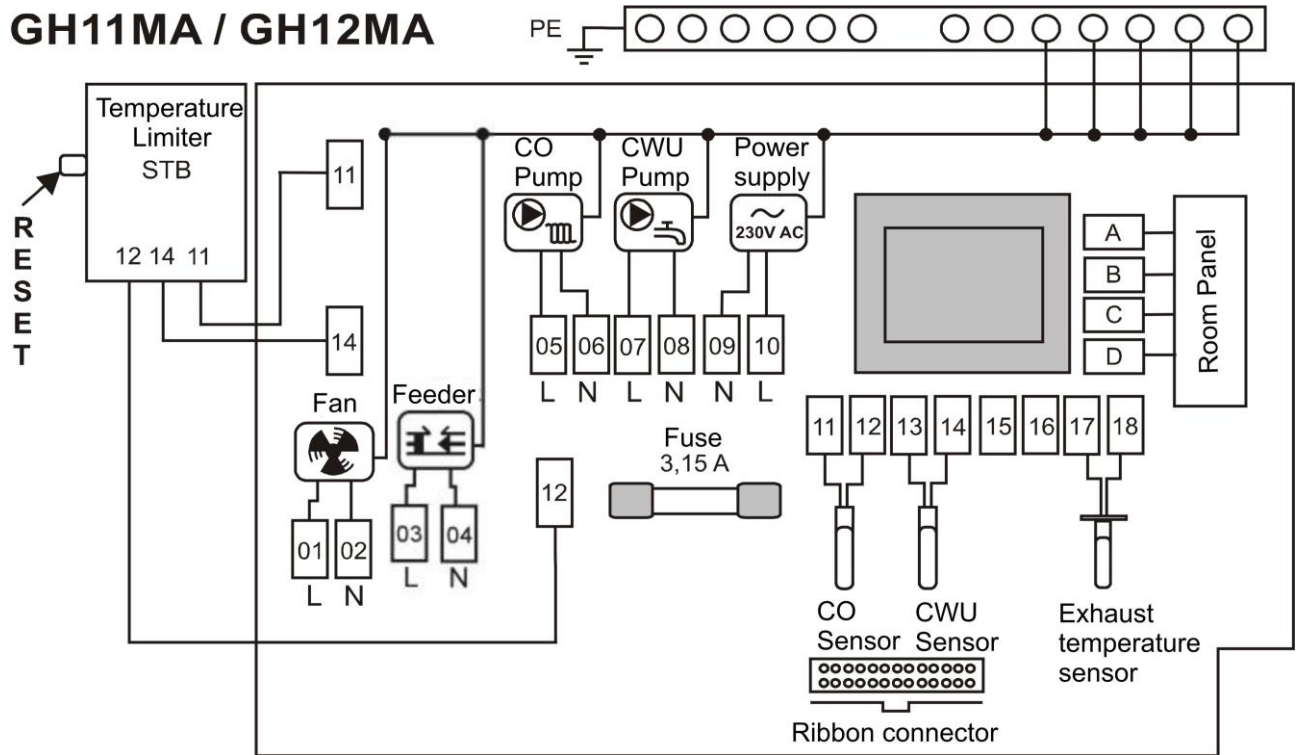
<p>STEP 1</p> <p>Disconnect the controller from the power supply voltage (remove the plug from the socket)</p>	
<p>STEP 2</p> <p>Remove the front panel using flathead screwdriver</p>	

<p>STEP 3</p> <p>Remove the housing cover by undermining the latches using flathead screwdriver</p>	
<p>STEP 4</p> <p>Remove the plug connectors with connected wires from the sockets, unscrew the ground wires from the PE strip, loosen the wire clamping strip and remove all the wires outside the controller</p>	
<p>STEP 5</p> <p>Remove the controller from the boiler by unscrewing the 4 mounting screws in the lower part of the housing of the controller</p>	
<p>STEP 6</p> <p>Replace the top cover of the housing and the front panel</p>	

12. CONNECTING DEVICES TO THE GH11TA CONTROLLER

OUTPUTS			
01	L	—	Fan (P2)
02	N	—	Fan (P2)
03	L	—	Fuel Feeder (P1)
04	N	—	Fuel Feeder (P1)
05	L	—	CO Pump (P4)
06	N	—	CO Pump (P4)
07	L	—	DHW Pump (P3) / Mixing Pump (P8)
08	N	—	DHW Pump (P3) / Mixing Pump (P8)
09	N	—	AC Supply 230V
10	L	—	AC Supply 230V

INPUTS			
11, 12	—	Boiler temperature (T1)	
13, 14	—	DHW temperature (T3) / return temperature (T8)	
15, 16	—	Contactor (C1)	
17, 18	—	Feeder Temperature (T2)	
A	—	RS-B	Room Panel GA01HA
B	—	RS-A	
C	—	GND (⊥)	
D	—	+12V AC	

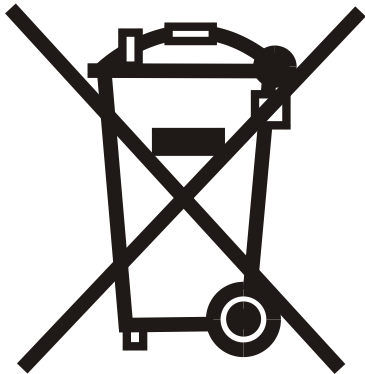


Picture 2 Diagram of connection of devices and sensors to the GH11TA controller.



CONNECTING ADDITIONAL DEVICES TO THE CONTROLLER GH11TA MAY ONLY BE MADE BY A PERSON WITH AUTHORIZATION TO PERFORM ELECTRICAL INSTALLATION WORK.

13. INFORMATION ON LABELING AND COLLECTION OF WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT



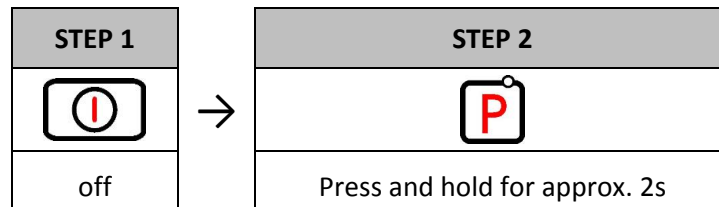
Attention!

The symbol placed on the product or its packaging indicates the selective collection of waste electrical and electronic equipment and electronic equipment. This means that the product should not be disposed of with other household waste. Proper disposal of old and used electrical and electronic equipment will help avoid potentially adverse effects on the environment and human health.

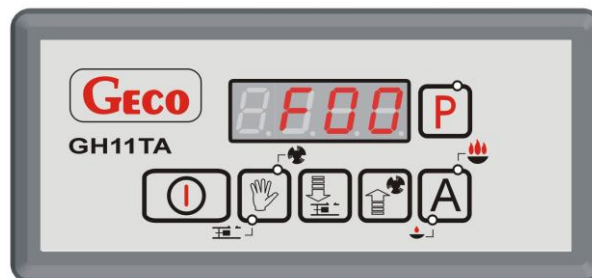
It is the responsibility of the user to selectively collect used equipment, who should return it to the waste equipment collector.

13. SERVICE MODE

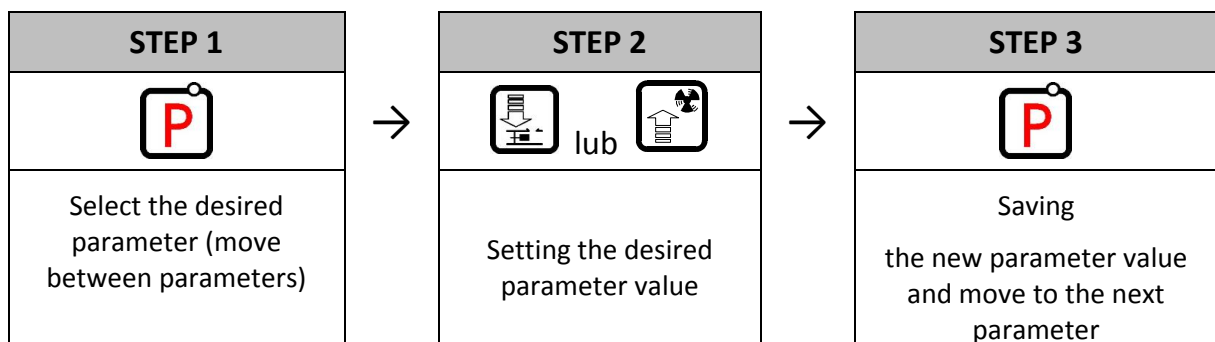
Entering the service mode is done as follows:




After entering the service mode, the controller shows the first service parameter F00



Modyfikacji parametru serwisowego dokonuje się w następujący sposób:



Exit from SERVICE MODE is only possible by pressing the  button. The controller also exits the service mode if there is a power outage.



**ENTERING CORRECT SERVICE PARAMETER VALUES IS A NECESSARY
CONDITION FOR PROPER BOILER OPERATION**

Table of service parameters

Parameter	Parameter description	Min	Max	Step	Default value
F00	Configuration of the auxiliary pump 0- No pump 1- Mixing Pump 2- DHW pump - winter without priority 3- DHW pump - winter with priority 4- DHW pump - summer	0	4	1	0
F01	Minimum fan speed	1	100	1	50
F02	Maximum fan speed	101	200	1	150
F03	The minimum temperature the customer will be able to set for himself	30	50	1°C	50°C
F04	The maximum temperature the customer will be able to set for himself	55	85	1°C	85°C
F05	Lower temperature hysteresis for exit from backup mode and return to automatic operation	1	10	1°C	2°C
F06	CO pump start-up temperature	25	80	1°C	40°C
F08	Boiler temperature for fuel burnout detection.	25	50	1°C	40°C
F09	The time after which the boiler is considered to have expired (when Tkotla < F08). If F09=0 then no boiler expiration detection related to fuel shortage.	0	250	1min	60min
F10	The time to wait for the water temperature to rise while the controller checks whether the furnace has expired. If F10=0 then there is no boiler expiration detection associated with a 10°C drop in outlet water temperature.	0	250	1min	20min
F12	Time after which the sound alarm after furnace expiration will be permanently switched off 0 - no sound signaling of the expiration alarm, 250 - sound alarm will not be turned off permanently	0	250	1	250
F13	The time at which the pump will turn on for 30 seconds when a lockout by the room thermostat is in progress. If F13 =0 the pump will not be turned on.	0	250	1min	20min
F14	Feeder temperature above which the statement of fuel ignition in the feeder. If F14=0 then feeder temperature detection and ALARM 11 alarm are disabled.	0	85	1°C	70°C
F15	The time after which the feeder temperature control returns when F14 is exceeded and the fuel is ejected.	5	250	1min	15min
F16	Time the feeder to eject burning fuel when the feeder temperature above F14.	5	250	1s	20s
F17	Increased boiler temperature for overheating alarm.	60	99	1°C	90°C
F18	Delay time for fan shutdown in sustained operation.	0	250	1s	5 s
F19	Fuel feeder rotation time.	1	250	1s (F22=1) /0.1s (F22=0)	120s
F21	Amount of fuel fed per cycle: 1 -> 1/10, 2 -> 1/5, 3 -> 1/4, 4 -> 1/2, 5 -> 1 feeder.	1	5	1	1
F22	Step of setting the feeder rotation time: 0 - step 0.1s, 1 - step 1s.	0	1	1	0
F23	Deactivation of the STOP&GO function 0 - function active; 1 - function inactive (disabled).	0	1	1	0
F47	Multiplier of feeder standstill time in AUTOMATIC mode.	1	10	1	1

The logo consists of the word "GECO" in a bold, white, sans-serif font, with a registered trademark symbol (®) to the upper right of the "O". The text is centered within a solid red rectangular background.

GECO®

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