

**Controller for central heating boilers with feeder screw**

**GH21RA**



**APPLICATION**

The GH21RA is a controller for central heating boilers with burners with feeder screw.

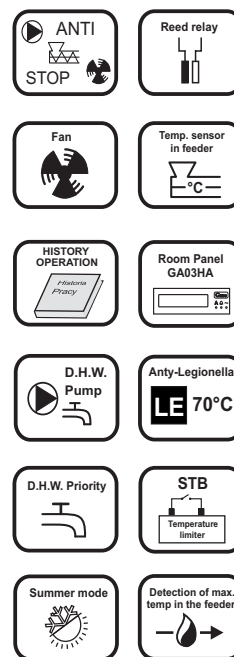
GH21RA allows the main heating circuit (central heating-CH) to operate. The controller also operates work of an additional pump. The pump supervises the process of preparing domestic hot water (DHW) or executing mixing pump work.

User has possibility of selecting type of controller regulation.

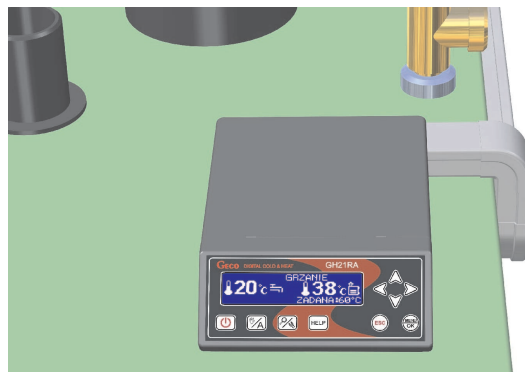
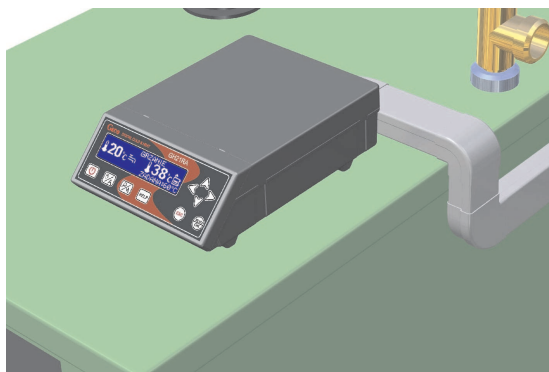
The GH21RA controller has been fitted for full communication with the GA03HA room panel (manufactured by GECO) which allows boiler operation to be controlled comfortably from user's apartment.

**PROPERTIES**

- Functional visualisation of casing, large graphic LCD display and very readable text menu;
- Single-module construction enables comfortable installation on the boiler;
- Disinfection of the DHW circulation (Anti-Legionella function);
- HUW priority function and SUMMER mode;
- Anit-stagnation protection for the executive devices - ANTI STOP function;
- Possibility of adjusting individual hysteresis value (C.H. and D.H.W.);
- Co-operation with room panel GA03HA (full control of boiler operation from apartment);
- Smooth control over fan rotations;
- Co-operation with reed relay (breaking cotter pin on the motor-reductor);
- Control temperature in the burner feeder;
- Built -in temperature limiter in standard (STB).
- Sound and text alarm signals.
- The most of language versions, possible choose main screen profile or modify existing;
- Boiler operational parameters archiving function, among others alarm controller record.
- Additional relay, which protects fan and feeder output connectors when the triacs is closed, and allows for emergency work when this is happend.
- Possibility of selecting type of controller regulation for example: FIRE GRATE MODE.



**INSTALATION ON THE BOILER**



# DIAGRAM OF CONNECTIONS

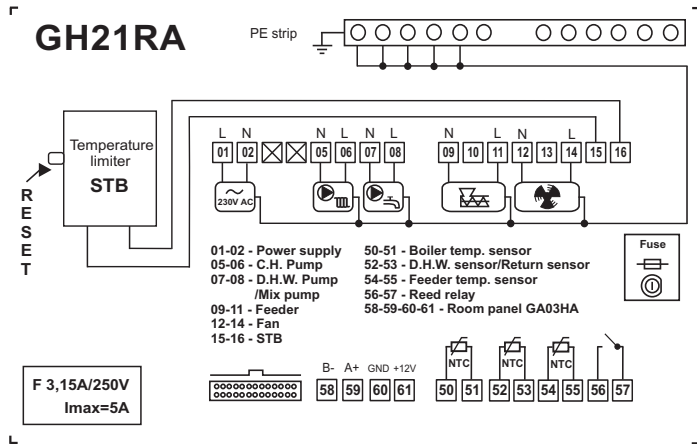
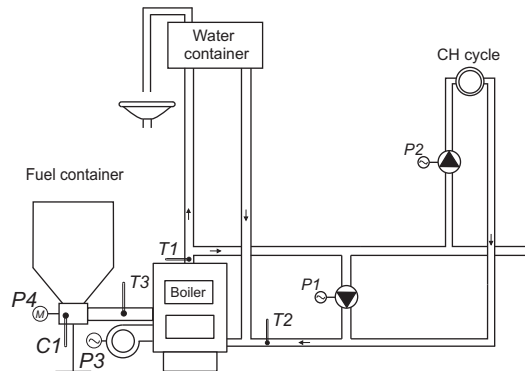
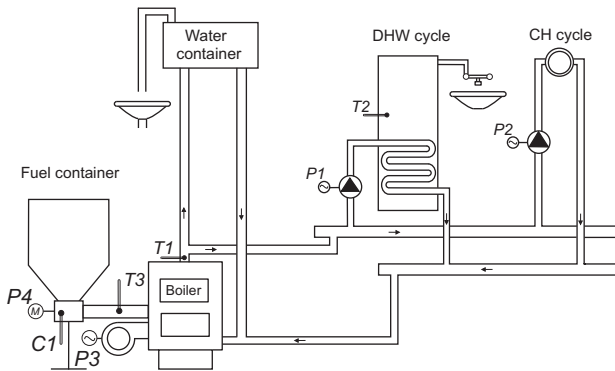


Diagram of electric connections					
Outputs			Inputs		
01	L	Power 230V	50,51	—	Boiler temp. sensor
02	N	Power 230V	52,53	—	DHW temp/Return temp.
05	N	CH pump	54,55	—	Fuel feeder temperature
06	L	CH pump	56,57	—	Reed relay
07	N	DHW/Mix pump	58	—	B-
08	L	DHW/Mix pump	59	—	A+
09	N	Fuel feeder	60	—	GND ⊥
11	L	Fuel feeder	61	—	+12 V DC
12	N	Fan			Room panel GA03HA
14	L	Fan			
15		Temp. limiter (STB)			
16		Temp. limiter (STB)			

# THE CONTROL OF HEATING SYSTEM



Controls		Sensors	
P1	DHW pump	T1	Boiler temperature
P2	CH pump	T2	DHW temperature
P3	Fan	T3	Feeder temperature
P4	Feeder	C1	Reed relay

Controls		Sensors	
P1	Return pump	T1	Boiler temperature
P2	CH pump	T2	Return temperature
P3	Fan	T3	Feeder temperature
P4	Fuel Feeder	C1	Reed relay

# TECHNICAL DATA

Power supply voltage	230V AC +10%/ -15%
Fan and feeder protection	3,15A
Working temperature	od +5°C do +40°C
Relative humidity	20% + 80% RH
Sensor type	NTC - zakres: od 0°C do +100°C

Temp. sensor (NTC) 2,2 kΩ	
°C	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

Output	Constant load	
Fuel feeder	1A	250W
CH pump	1A	250W
DHW pump	1A	250W
Fan	1A	250W

GH21RA equipment	
<b>Standard equipment:</b>	
1) boiler temperature sensor	
2) fuel feeder temperature sensor	
3) built - in temperature limiter in standard (STB)	
<b>Optional equipment:</b>	
1) DHW temperature sensor	
2) reed relay	
3) GA03HA Geco room panel	
4) supply wires	
<b>Controls:</b>	
1) fuel feeder	
2) CH pump	
3) DHW pump	
4) fan	

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