

## OPTION 955 THERMOREGULATION DEVICE FOR GAS-FIRED AIR HEATERS "COMMANDER"

The Commander is a thermoregulation device suitable for use on our complete range of gas-fired air heaters. Thanks to a user-friendly display, the user can adjust thermoregulation parameters, manage the state (ON or OFF) and select the operating mode (heating or summer ventilation). In case system is controlled by only one thermostat (OP952-GA11 thermostat) there is possibility to connect up to 10 units. Using a ModBus system (PLC), offers the possibility to connect 247 units.



### **Disclaimer :**

- The commander is operational on all our gas-fired air heaters. For units fitted with a BMBC burner relay, an additional relay (PN 36 61748) is needed when installing the Commander.
- Only the latest version of the GA11 thermostat \*(with new software) is suitable for communication with the Commander (\* indicated on box with code 1RZ004 or higher). Older versions require charging with new software.

### **GENERAL FEATURES**

- Double 7 segments led display
- 2 leds for diagnostic and operating signalling
- 4 push-buttons for settings
- 1 on-board NTC to measure the ambient temperature
- 1 input for external NTC
- 3 outputs:
  - o Heat request
  - o Summer ventilation
  - o Reset for burner control unit
- 2 inputs
  - o Burner indication
  - o Burner fault
- 2 channels OpenTherm® interface to realize cascade systems
- MODBUS-RS485 interface to realize cascade systems (on request, with option "M")

### **OPERATING**

Following operating modes are possible:

- Local mode (suitable for stand-alone appliances)
- Remote assisted mode [controlling several appliances by using 1 control device (GA11 of Master-ModBus)]
- Remote independent mode (ambient temperature is measured using the on-board or external NTC sensor)

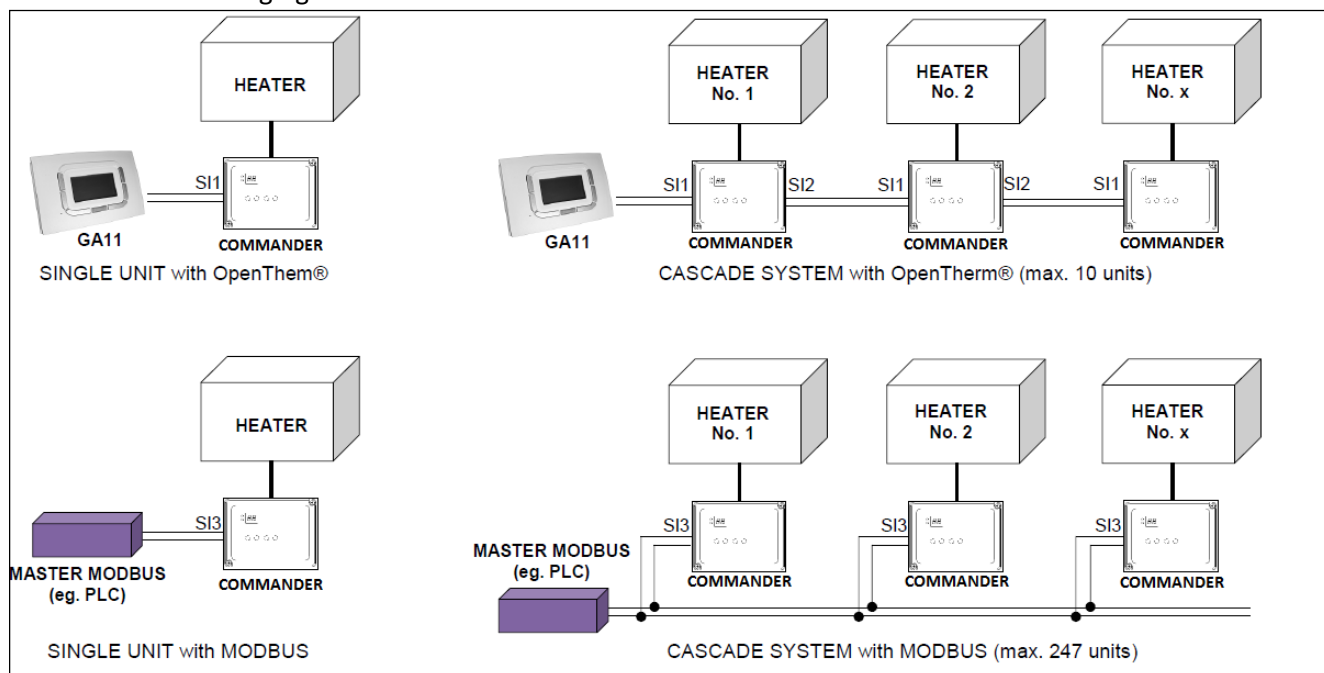
**Subject to modifications**

### ✦ Local mode

Local mode is suitable for stand-alone appliances. Using “-” and “+” push buttons it’s possible to adjust the room set point temperature (inside the range 5÷30 °C) or activate summer ventilation (below 5 °C). The ambient temperature is measured using the on board or external NTC sensor (this parameter can be adjusted, see parameters menu). It is also possible to change the differential values.

### ✦ Remote assisted mode with individual sensor or remote independent mode

In this mode it is possible to control several appliances by using 1 control device [GA11 or Master-ModBus] as illustrated in following figure.



- Possibilities :
- Set the state of the heater(s) (OFF – VENTILATION – HEATING)
  - Detect anomalies or failures
  - Perform reset in case of lockout

Attention : measuring ambient temperature

- In case of remote control without individual sensor, the ambient temperature is measured by the control device and not by the Commander.
- In case of remote control with individual sensor, the ambient temperature is measured using the on-board or external NTC sensor.



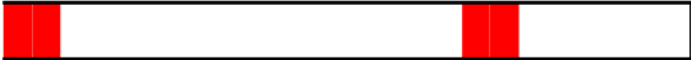

### DISPLAY

The double 7 segments LED display shows the ambient temperature, settings and anomalies as listed on the following table. It permits also to change parameters.

Message	Description
	OFF state
	Ambient temperature (measured by on-board or external NTC sensor)
	Set point temperature (pressing the – or + buttons “CL” indication is used for summer ventilation.
	ERROR n° 1 – burner failure unit
	ERROR n° 2 – anomaly NTC sensor
	ERROR n° 3 – failure after several ignition attempts
	ERROR n° 4 – 5x remote resets in 15 minutes reached

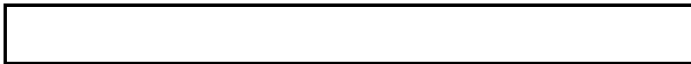

**LEDs :** The Commander is provided with 2 LED indicators.

✦ Red LED-indicator – Operating signalling (OP-led)

	Explanation
	Heating mode: Ignition cycle in progress
	Heating mode: Running position of heater
	Summer mode: Ventilation activated
	Off state

✦ Green LED-indicator – BUS signalling (COM-led)

This led indicates the presence of a serial communication (OpenTherm® or ModBus) as shown in table below. :

	Explanation
	Local mode Off state
	Remote mode (OpenTherm® or ModBus)

**PUSH BUTTONS**

The commander has 4 push buttons with following functions

Push button	Description
<b>ON/OFF</b>	ON/OFF button: On/off switching of the heater (in all operating modes)
<b>RES/FUN</b>	RESET button: <ul style="list-style-type: none"> <li>• Reset of the burner (press it min. 3 seconds)</li> <li>• Access to parameter menu (press it min. 10 seconds)</li> <li>• Continue function in parameter menu</li> </ul>
<b>-</b>	MINUS (-)button: <ul style="list-style-type: none"> <li>• Decrease set temperature (local mode)</li> <li>• Activate summer ventilation (local mode)</li> <li>• Decrease current parameter value</li> </ul>
<b>+</b>	PLUS (+) button: <ul style="list-style-type: none"> <li>• Increase set temperature (local mode)</li> <li>• Deactivate summer ventilation (local mode)</li> <li>• Increase current parameter value</li> </ul>

## PARAMETERS MENU

This menu allows you to change several parameters.. Press for at least 10 seconds on the RES/FUN button to access the parameter menu. Press shortly on the RES/FUN button for navigation between the parameters.

### 1) Setting Mode parameter (Md)

Press for at least 10s on the RES/FUN button until following message is displayed



Message will disappear after 2s and setting can be changed. Use plus or minus buttons to increase/decrease value.

<i>Default</i>	<b>0</b> (remote independent)
<i>Control range:</i>	<b>0</b> (remote independent) or <b>1</b> (remote assisted))

### 2) Probe parameter (Pb)

Press shortly on the RES/FUN button to navigate to the probe parameter – following message will be displayed



Message will disappear after 2s and setting can be changed. Use plus or minus buttons to increase/decrease value.

<i>Default</i>	<b>in</b> (use of internal probe)
<i>Control range</i>	<b>in</b> (use of internal probe) or <b>ou</b> (use of external probe “EP”)

### 3) Hysteresis parameter(HY)

Press shortly on the RES/FUN button to navigate to the hysteresis parameter – following message will be displayed



Message will disappear after 2s and setting can be changed. Use plus or minus buttons to increase/decrease value.

<i>Default:</i>	<b>0.5</b> (0.5 °C)
<i>Control range:</i>	<b>0.1</b> (0.1 °C) ... <b>1.0</b> (1.0 °C)

### 4) OFFSET parameter

Press shortly on the RES/FUN button to navigate to the OFFSET parameter – following message will be displayed



Message will disappear after 2s and setting can be changed. Use plus or minus buttons to increase/decrease value

<i>Default:</i>	<b>0</b> (no offset)
<i>Control range:</i>	.1 (+0.1 °C) ... .9 (+0.9 °C) -.1 (-0.1 °C) ... -.9 (-0.9 °C)

### 5) Modulation parameter (Mo)

Press shortly on the RES/FUN button to navigate to the modulation parameter – following message will be displayed



Message will disappear after 2s and setting can be changed. Use plus or minus buttons to increase/decrease value

<i>Default:</i>	<b>0</b> (modulation deactivated)
<i>Control range:</i>	0 (modulation deactivated) or 1 (modulation activated)

- 6) **Differential parameter (di)**  
 Press shortly on the RES/FUN button to navigate to the differential parameter – following message will be displayed



Message will disappear after 2s and setting can be changed.  
 Use plus or minus buttons to increase/decrease value

Default:	1.0 (1.0°C)
Control range:	0.0 (0.0°C) ... 4.0 (4.0°C)

- 7) **Address parameter (Ad)**  
Option "M" (MODBUS)  
 Press shortly on the RES/FUN button to navigate to this parameter – following message will be displayed



Message will disappear after 2s and setting can be changed.  
 Use plus or minus buttons to increase/decrease value

Default:	01
Control range:	01 ... F7

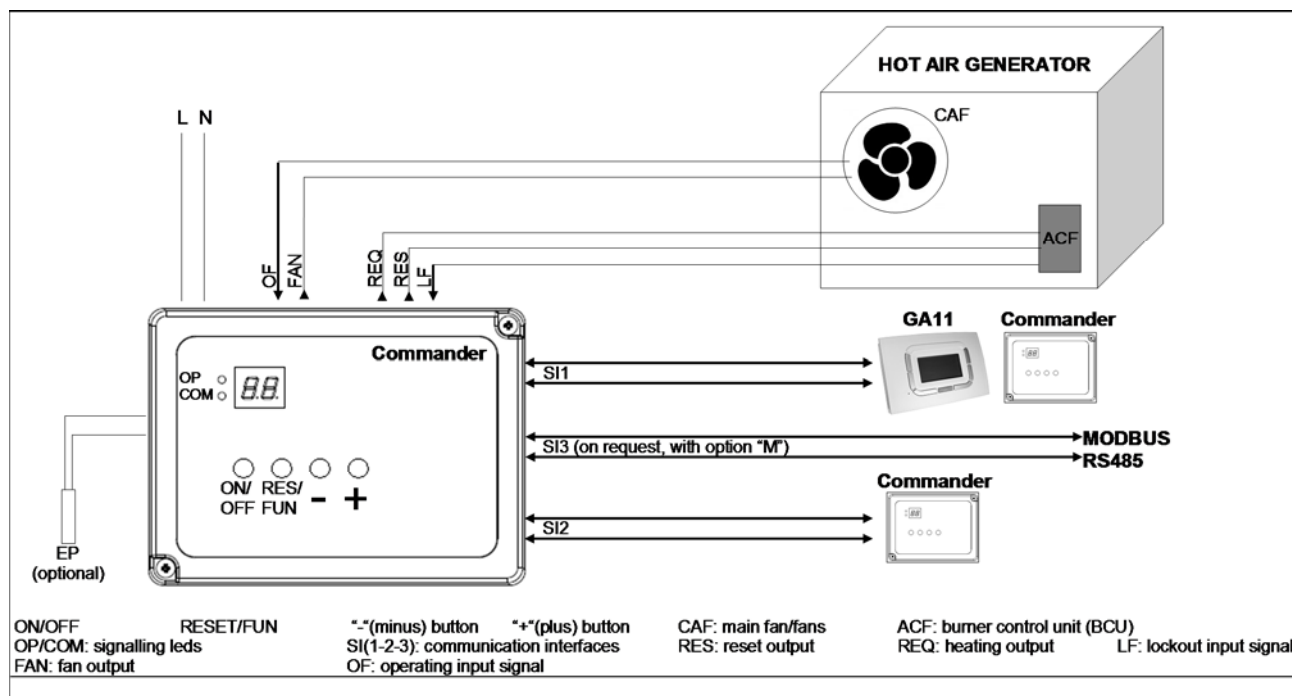


**Attention**

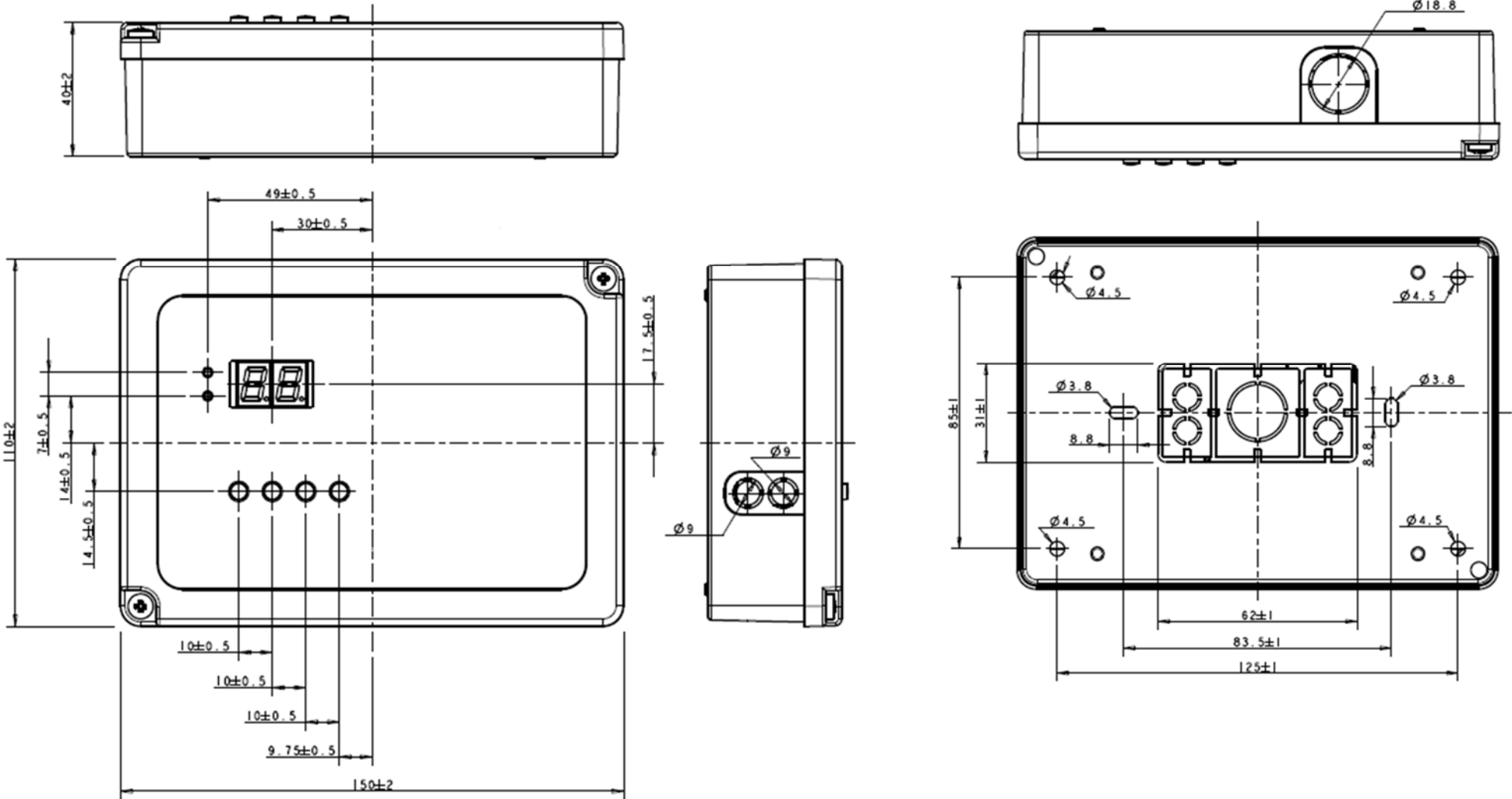
Each unit connected to a MODBUS-interface must have an unique address, different from all others..

Leave the parameter menu by pushing the "RES/FUN" button – all modifications will be automatically saved.

**CONNECTION DIAGRAM**



DIMENSIONS (MM)



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