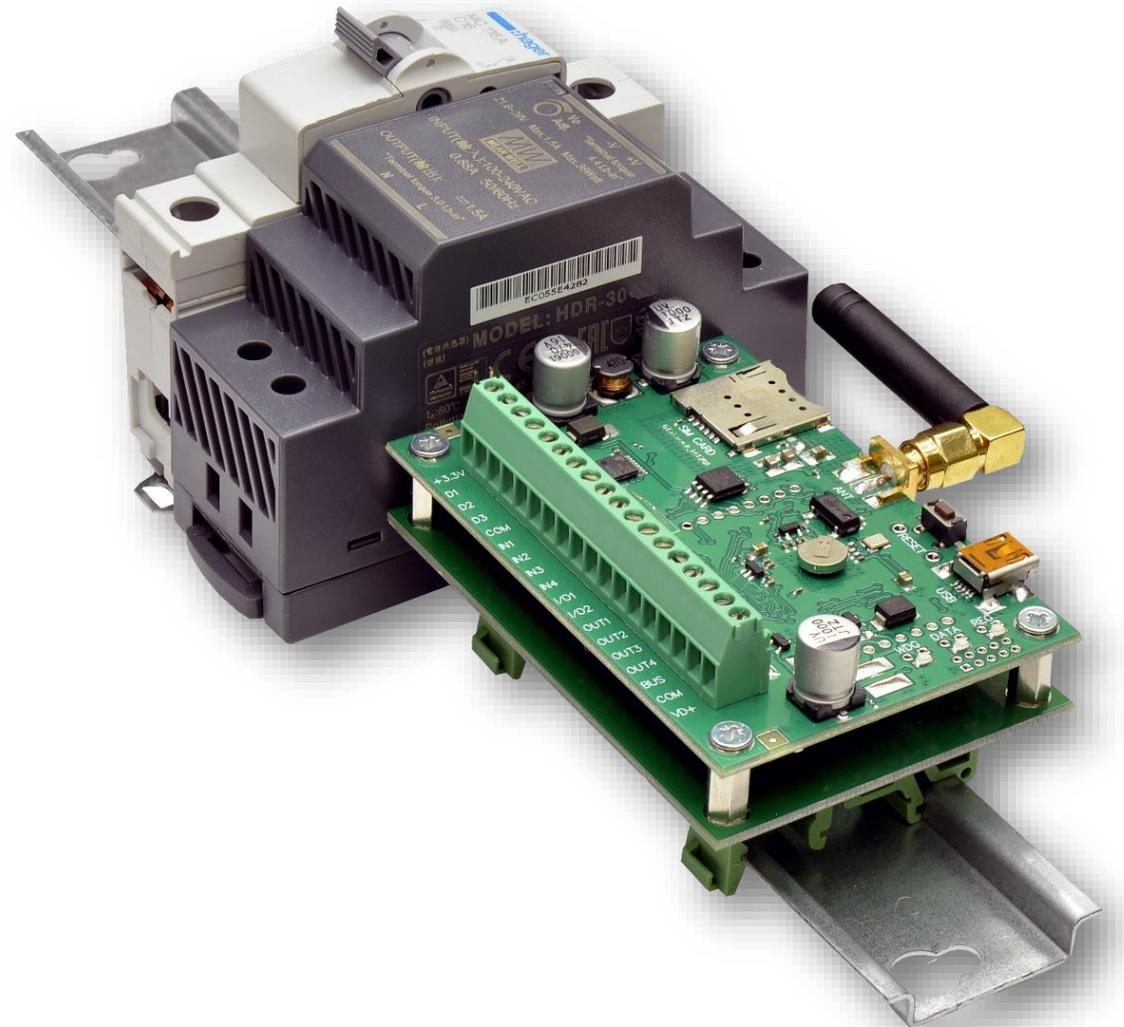


Heating automation

With the module **GTalarm2**

Website: <https://www.topkodas.lt>

Email: info@topkodas.lt

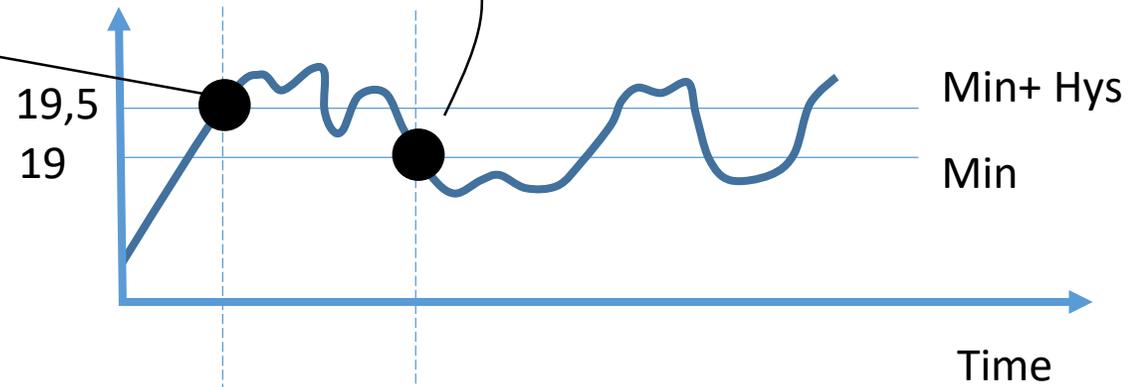


Example:

- The wanted minimum temperature is 19°C. So sensor1: Min=19 and Hysteresis=0.5

- When the controller is switched on,
- Out1 is activated because the temperature is out of range.
- This switches the heater ON

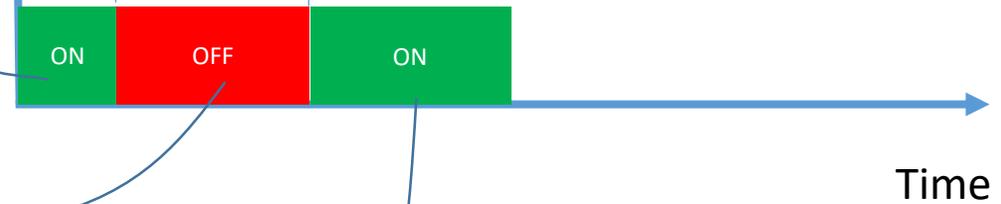
Temperature



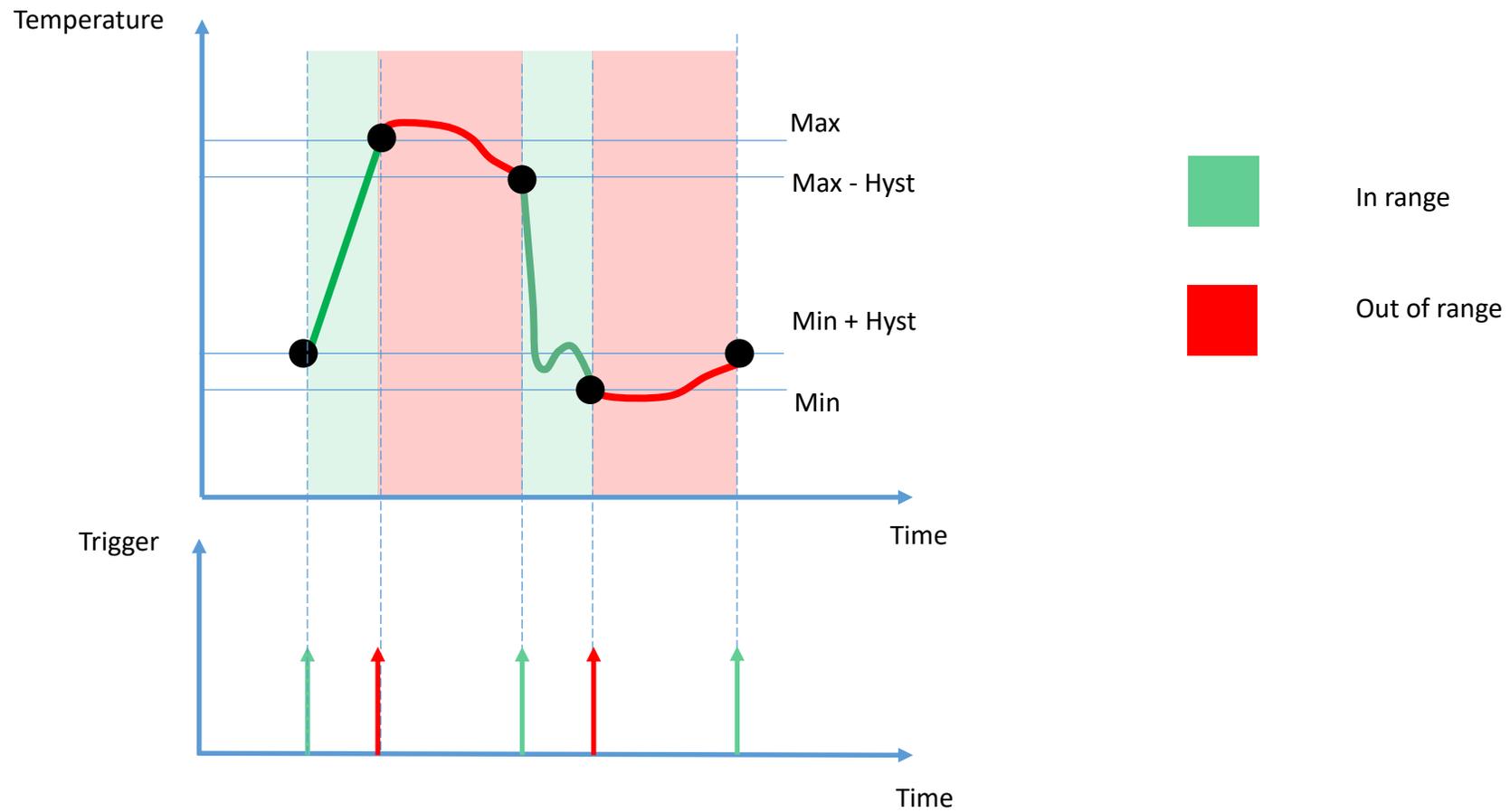
The temperature is going higher.

- When temperature reaches 19.5°C (19.0 + 0.5)
- it goes in range (trigger condition)

Output status



- Out1 is deactivated.
- The heater is switched off.
- The temperature falls and
- when it reached 19°C it goes out of range (trigger conditions)
- The Out1 is activated (heater is switched on).



GTalarm2 and sensors DS18B20

When the temperature follow under 20 C we want to start the heating, but when it goes above 24 C , it should stop the same heater.

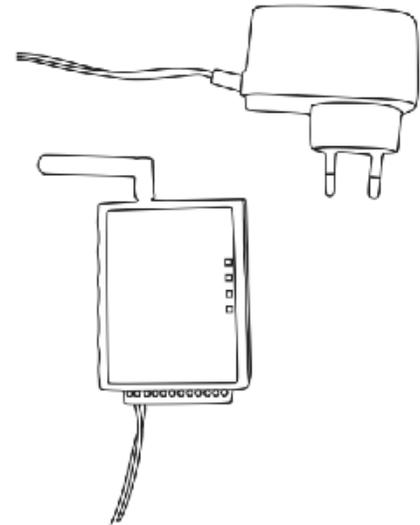
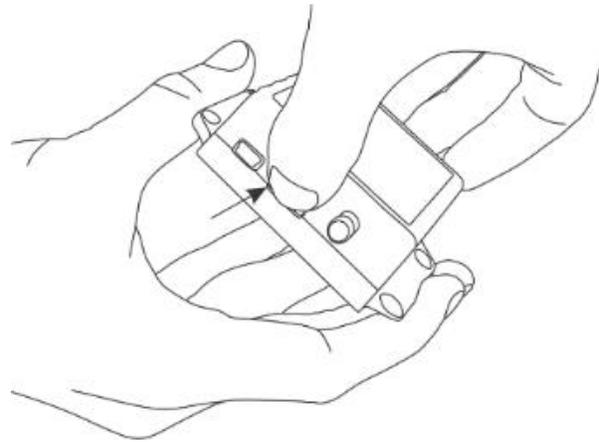
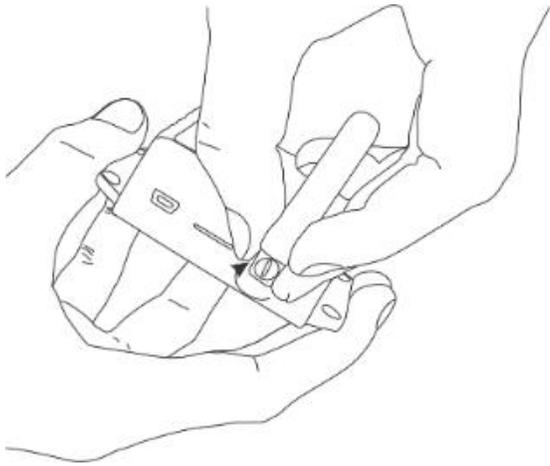
How to program that ?

Connect DS18B20 sensors to the module

Device power and USB must be disconnected

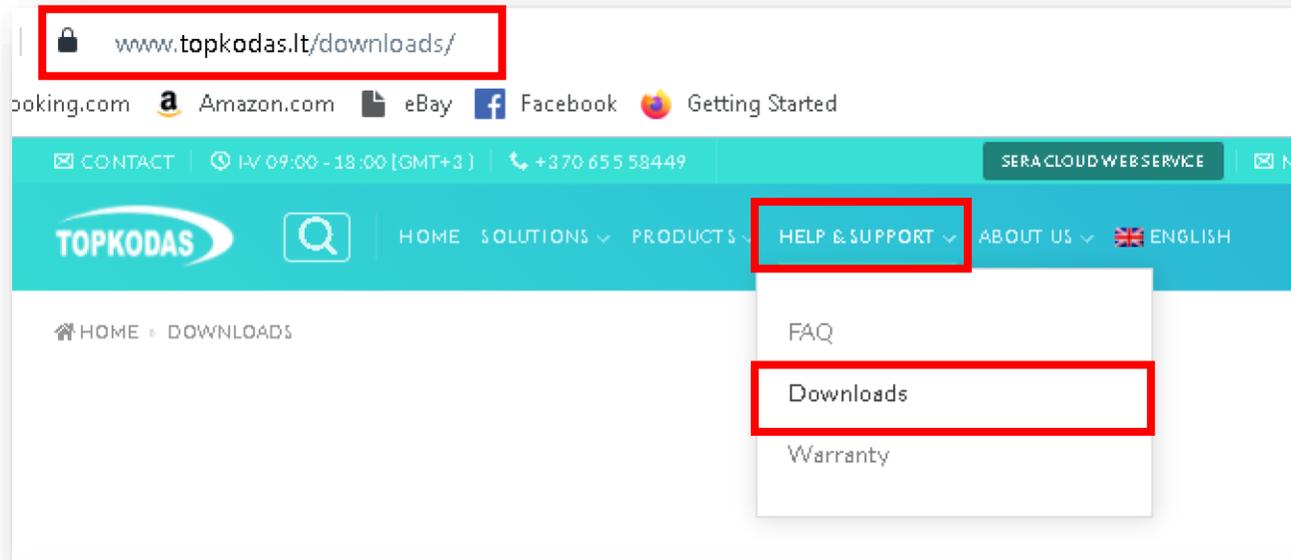
During sensors connection process

- Screw GSM antenna
- Insert SIM card
- Connect power supply



Install FREE testing, diagnostic software SERA2

- Go to <https://www.topkodas.lt/downloads/>



Software

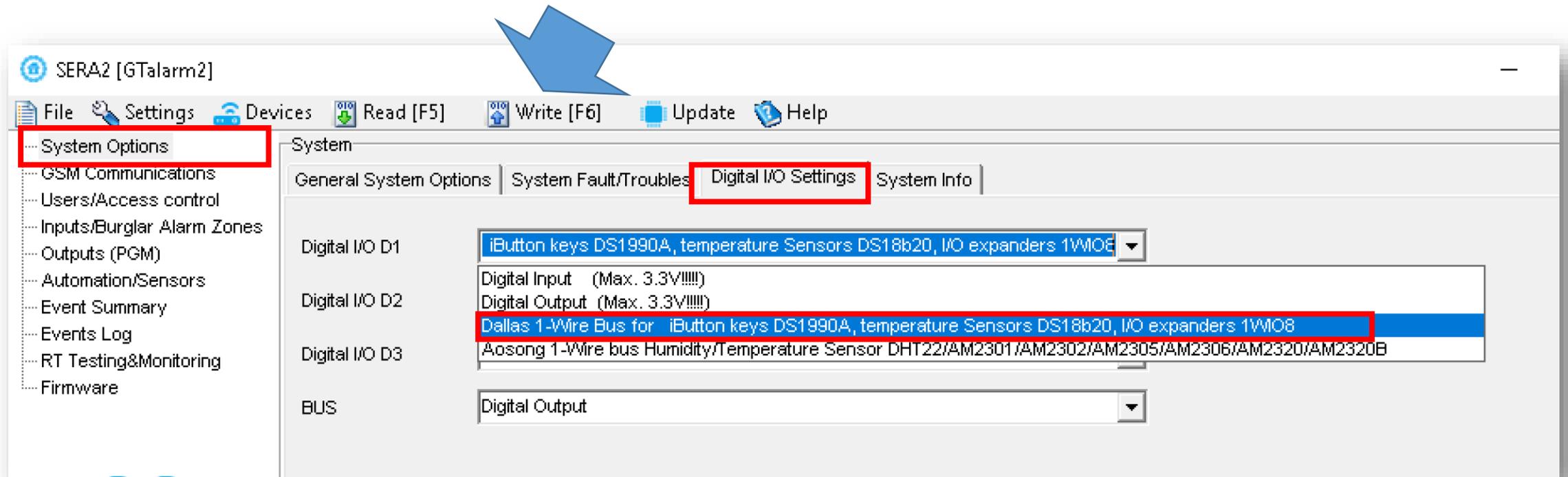


SERA2 Configuration and Diagnostic tool

Win XP/7/8.1/10 (.exe file)

- GTalarm2
- PROGATE
- GTCOM2
- GTM1

- Connect the module to the computer via mini USB cable
- SERA2> System Options> Digital I/O Settings
- Digital I/O D1> Dallas 1-Wire Bus...
- Press “Write” in the command line



- SERA2> Automation/ Sensors
- Press “Read” in the command line
- Connected sensors will appear in the list
- Double click on the selected line

The screenshot displays the SERA2 [GTalarm2] software interface. The left sidebar shows a tree view with 'Automation/Sensors' highlighted in a red box. The main window shows a table titled 'Automation/Sensors/Analog Inputs' with columns for ID, Sensor Name, Sensor Hardware ID, and RT Value. A red box highlights the 'Automation/Sensors' menu item and the first two rows of the table. A blue arrow points from the top-left towards the 'Automation/Sensors' menu item.

ID	Sensor Name	Sensor Hardware ID	RT Value	Ma
1	Sensor Name 1	GTalarm v2,Input D1,1-Wire,DS18B20 Temperat	23.4	
2	Sensor Name 2	GTalarm v2,Input D1,1-Wire,DS18B20 Temperat	23.3	
3	Sensor Name 3	Sensor Disabled	°C	N/A
4	Sensor Name 4	Sensor Disabled	°C	N/A
5	Sensor Name 5	Sensor Disabled	°C	N/A
6	Sensor Name 6	Sensor Disabled	°C	N/A
7	Sensor Name 7	Sensor Disabled	°C	N/A
8	Sensor Name 8	Sensor Disabled	°C	N/A

SERA2 [GTalarm2]

File Settings Devices Read [F5] Write [F6] Update

System Options
GSM Communications
Users/Access control
Inputs/Burglar Alarm Zones
Outputs (PGM)
Automation/Sensors
Event Summary
Events Log
RT Testing&Monitoring
Firmware

Automation/Sensors/Analog Inputs

ID	Sensor Name	Sensor Hardware ID
<input checked="" type="checkbox"/>	1 Sensor Name 1	,DS18B20 Temperature,SN:28FF7B...
<input checked="" type="checkbox"/>	2 Sensor Name 2	GTalarm v2,Input D1,1-Wire,DS18B2
<input checked="" type="checkbox"/>	3 Sensor Name 3	Sensor Disabled
<input checked="" type="checkbox"/>	4 Sensor Name 4	Sensor Disabled
<input checked="" type="checkbox"/>	5 Sensor Name 5	Sensor Disabled
<input checked="" type="checkbox"/>	6 Sensor Name 6	Sensor Disabled
<input checked="" type="checkbox"/>	7 Sensor Name 7	Sensor Disabled
<input checked="" type="checkbox"/>	8 Sensor Name 8	Sensor Disabled
<input checked="" type="checkbox"/>	9 Sensor Name 9	Sensor Disabled
<input checked="" type="checkbox"/>	10 Sensor Name 10	Sensor Disabled
<input checked="" type="checkbox"/>	11 Sensor Name 11	Sensor Disabled
<input checked="" type="checkbox"/>	12 Sensor Name 12	Sensor Disabled
<input checked="" type="checkbox"/>	13 Sensor Name 13	Sensor Disabled
<input checked="" type="checkbox"/>	14 Sensor Name 14	Sensor Disabled
<input checked="" type="checkbox"/>	15 Sensor Name 15	Sens Disabled
<input checked="" type="checkbox"/>	16 Sensor Name 16	Sens Disabled
<input checked="" type="checkbox"/>	17 Sensor Name 17	Sens Disabled
<input checked="" type="checkbox"/>	18 Sensor Name 18	Sens Disabled
<input checked="" type="checkbox"/>	26 Sensor Name 26	Sens Disabled
<input checked="" type="checkbox"/>	27 Sensor Name 27	Sens Disabled



Heater settings

Sensor 1 Settings

Sensor Settings

Sensor Name:

Sensor type/hardware location:

Sensor Unit Text:

High/Max (e.g. A/C Cooler, Fan) Value Action Settings

Max Value Alarm Event/SMS:

Max Value To Activate Output:

Max Value Hysteresis:

Max Alarm Event Delay: ms

Max Value Output Control Delay: ms

Output:

Contact ID Report Code:

Alarm Event SMS Text:

Alarm Event/SMS Restore Event/SMS

Low/Min (e.g. Heater) Value Action Settings

Min Value Alarm Event/SMS:

Min Value To Activate Output:

Min Value Hysteresis:

Min Alarm Event Delay: ms

Min Value Output Control Delay: ms

Output:

Contact ID Report Code:

Alarm Event SMS Text:

Alarm Event/SMS Restore Event/SMS

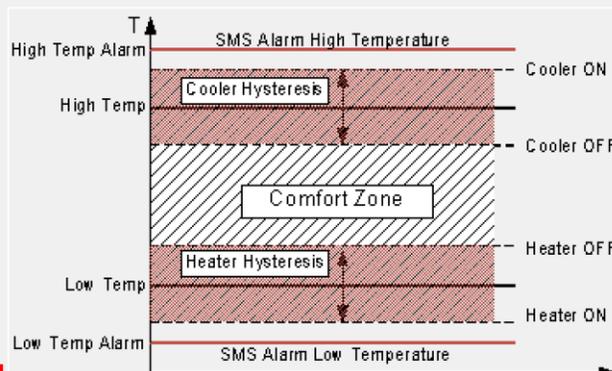
Sensor Calibration

X - Multiplier

Y - Offset

Equation: Temperature=X*ADC+Y

OK



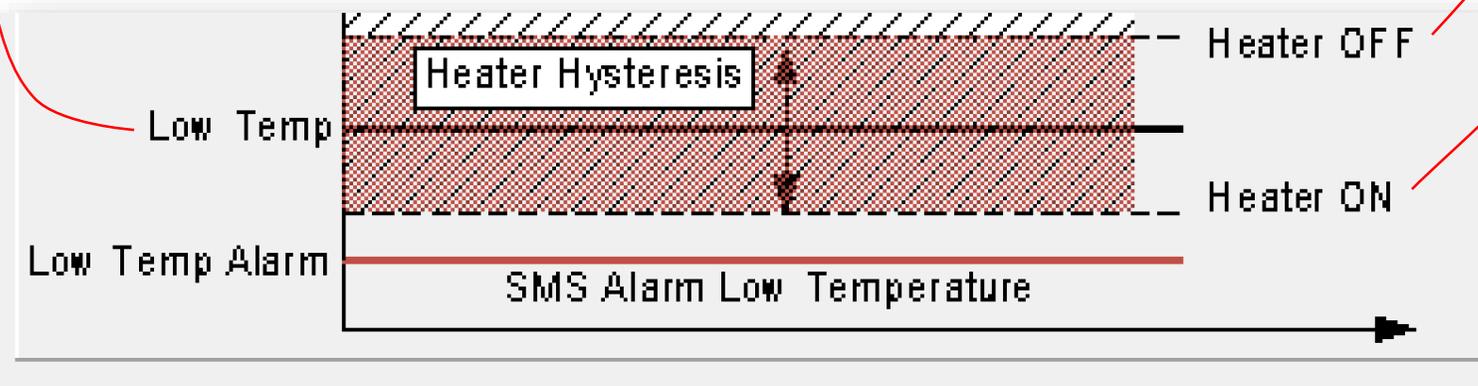
- Min Value to activate output > 22
- Min Value Hysteresis > 2

Low/Min (e.g. Heater) Value Action Settings	
Min Value Alarm Event/SMS:	5
Min Value To Activate Output:	22
Min Value Hysteresis:	2
Min Alarm Event Delay:	10000 ms
Min Value Output Control Delay:	1000 ms
Output:	OUT1
Contact ID Report Code:	159
Alarm Event SMS Text:	Min Value
Alarm Event/SMS	<input checked="" type="checkbox"/>
Restore Event/SMS	<input checked="" type="checkbox"/>

Wanted temperature is 22 C

Temp = 20 C [22-2] > Heater ON

Temp = 24 C [22+2] > Heater OFF



Testing

- SERA2> RT Testing & Monitoring> Hardware
- Press “Start Monitoring” button

The screenshot shows the SERA2 [GTalarm2] software interface. The left sidebar contains a tree view with the following items: System Options, GSM Communications, Users/Access control, Inputs/Burglar Alarm Zones, Outputs (PGM), Automation/Sensors, Event Summary, Events Log, RT Testing&Monitoring (highlighted with a red box), and Firmware. The main window is titled 'Monitoring window' and has a menu bar with File, Settings, Devices, Read [F5], Write [F6], Update, and Help. Below the menu bar, there are tabs for Hardware (highlighted with a red box), Security Alarm, Access, Sensors/Automation, and Event Monitoring. The Hardware tab contains a 'Start Monitoring' button (highlighted with a blue arrow) and a 'Stop Monitoring' button. Below these buttons, there is a 'GSM info' section with fields for IMEI (869395038817650), SIM ICCID (8937002190800195358), SIM card (: READY), and Signal level (31). To the right of the GSM info is a table for 'Inputs (ADC values)'. At the bottom, there is a 'Registration' section with a text box containing 'Registered, home network' and an 'SMS Service Centre Address' field with the value '+37069950115' 14. A checkbox for 'D1 (I/O)' is checked.

Input	ADC Value	Voltage
IN1	3776	11.31 V
IN2	3779	11.32 V
IN3	3780	11.32 V
IN4	3781	11.33 V
I/O1	6	0.02 V
I/O2	9	0.03 V

- SERA2> RT Testing & Monitoring> Sensors/ Automation
- You will see real time sensor values

The screenshot displays the SERA2 [GTalarm2] software interface. The title bar shows the application name and a home icon. The menu bar includes File, Settings, Devices, Read [F5], Write [F6], Update, and Help. The left sidebar contains a tree view with the following items: System Options, GSM Communications, Users/Access control, Inputs/Burglar Alarm Zones, Outputs (PGM), Automation/Sensors, Event Summary, Events Log, RT Testing&Monitoring (highlighted with a red box), and Firmware. The main window is titled 'Monitoring window' and has four tabs: Hardware, Security Alarm Panel/Access, Sensors/Automation (highlighted with a red box), and Event Monitoring. The Sensors/Automation tab displays a list of four sensors with the following details:

Sensor Name	Value	Unit	Active	High Val Alarm	Low Val Alarm
Sensor Name 1,GTalarm v2,Input D1,1-Wire,DS18B20 Temperature,SN:28FF7B4BA016	23.31	°C	Active <input checked="" type="checkbox"/>	High Val Alarm <input type="checkbox"/>	Low Val Alarm <input type="checkbox"/>
Sensor Name 2,GTalarm v2,Input D1,1-Wire,DS18B20 Temperature,SN:28FF37D60217	23.19	°C	Active <input checked="" type="checkbox"/>	High Val Alarm <input type="checkbox"/>	Low Val Alarm <input type="checkbox"/>
Sensor Name 3,Sensor Disabled	N/A	°C	Active <input type="checkbox"/>	High Val Alarm <input type="checkbox"/>	Low Val Alarm <input type="checkbox"/>
Sensor Name 4,Sensor Disabled	N/A	°C	Active <input type="checkbox"/>	High Val Alarm <input type="checkbox"/>	Low Val Alarm <input type="checkbox"/>

SERA2 [GTalarm2]

File Settings Devices Read [F5] Write [F6] Update Help

System Options
GSM Communications
Users/Access control
Inputs/Burglar Alarm Zones
Outputs (PGM)
Automation/Sensors
Event Summary
Events Log
RT Testing&Monitoring
Firmware

Monitoring window

Hardware Security Alarm Panel/Access **Sensors/Automation** Event Monitoring

Sensor Name 1,GTalarm v2,Input D1,1-Wire,DS18B20 Temperature,SN:28FF7B4BA016

Value 25.25 °C Active High Val Alarm Low Val Alarm

Sensor Name 2,GTalarm v2,Input D1,1-Wire,DS18B20 Temperature,SN:28FF37D60217

Value 24.63 °C Active High Val Alarm Low Val Alarm

Sensor Name 3,Sensor Disabled

Value N/A °C Active High Val Alarm Low Val Alarm

SERA2 [GTalarm2]

File Settings Devices Read [F5] Write [F6] Update Help

System Options
GSM Communications
Users/Access control
Inputs/Burglar Alarm Zones
Outputs (PGM)
Automation/Sensors
Event Summary
Events Log
RT Testing&Monitoring
Firmware

Monitoring window

Hardware Security Alarm Panel/Access Sensors/Automation Event Monitoring

Start Monitoring Stop Monitoring

Inputs (ADC values)

IN1	3778	11.32 V		
IN2	3780	11.32 V		
IN3	3780	11.32 V		
IN4	3781	11.33 V		
I/O1	5	0.01 V	4	0.02 mA
I/O2	7	0.02 V	4	0.02 mA

Outputs states

<input type="checkbox"/>	Out1	Out1 On/Off
<input checked="" type="checkbox"/>	Out2	Out2 On/Off
<input type="checkbox"/>	Out3	Out3 On/Off
<input type="checkbox"/>	Out4	Out4 On/Off
<input type="checkbox"/>	I/O1	I/O1 On/Off
<input type="checkbox"/>	I/O2	I/O2 On/Off

GSM info

IMEI: 869395038817650

SIM ICCID: 8937002190800195358

SIM card: : READY

Signal level: 30

SERA2 [GTalarm2]

File Settings Devices Read [F5] Write [F6] Update Help

System Options
GSM Communications
Users/Access control
Inputs/Burglar Alarm Zones
Outputs (PGM)
Automation/Sensors
Event Summary
Events Log
RT Testing&Monitoring
Firmware

Monitoring window

Hardware Security Alarm Panel/Access Sensors/Automation Event Monitoring

Sensors/Automation

Sensor Name 1,GTalarm v2,Input D1,1-Wire,DS18B20 Temperature,SN:28FF7B4BA016

Value 23.25 °C Active High Val Alarm Low Val Alarm

Sensor Name 2,GTalarm v2,Input D1,1-Wire,DS18B20 Temperature,SN:28FF37D60217

Value 25.88 °C Active High Val Alarm Low Val Alarm

Sensor Name 3,Sensor Disabled

Value N/A °C Active High Val Alarm Low Val Alarm

Sensor Name 4,Sensor Disabled

Inputs (ADC values)

IN1	3778	11.32 V		
IN2	3780	11.32 V		
IN3	3780	11.32 V		
IN4	3782	11.33 V		
I/O1	5	0.01 V	4	0.02 mA
I/O2	9	0.03 V	3	0.02 mA

Outputs states

<input checked="" type="checkbox"/>	Out1	Out1 On/Off
<input checked="" type="checkbox"/>	Out2	Out2 On/Off
<input type="checkbox"/>	Out3	Out3 On/Off
<input type="checkbox"/>	Out4	Out4 On/Off
<input type="checkbox"/>	I/O1	I/O1 On/Off
<input type="checkbox"/>	I/O2	I/O2 On/Off

If you want to edit existing configuration

- You have to read configuration from the memory of the module,
- Press “Read” in the command line
- Edit it and write edited configuration to the memory
- Press “Write” in the command line



More information via email:

info@topkodas.it