GTM1 : Temperature monitoring ALARM system. Up to 32 sensors

Attention!

Disconnect power supply before wiring!

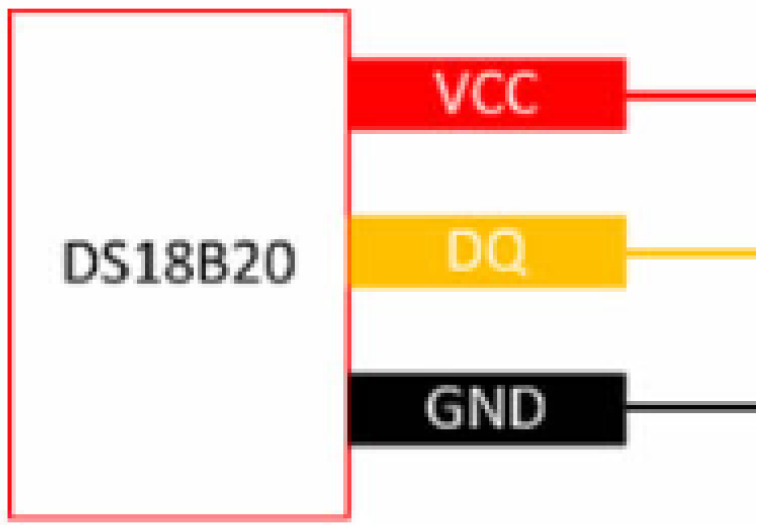
The correct wiring procedure is as follows:

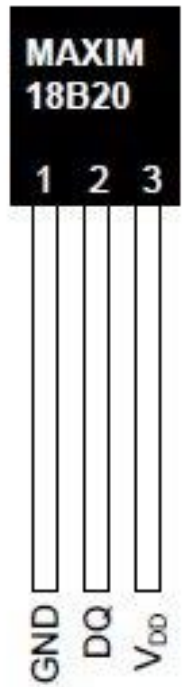
- Make sure power is turned off;
- Make wiring connections to the terminals;
- Apply power.

Prepare the module GTM1

- Insert SIM card
- Screw GSM antenna

- Connect temperature sensor DS18b20
- to the 1W according connection diagram.

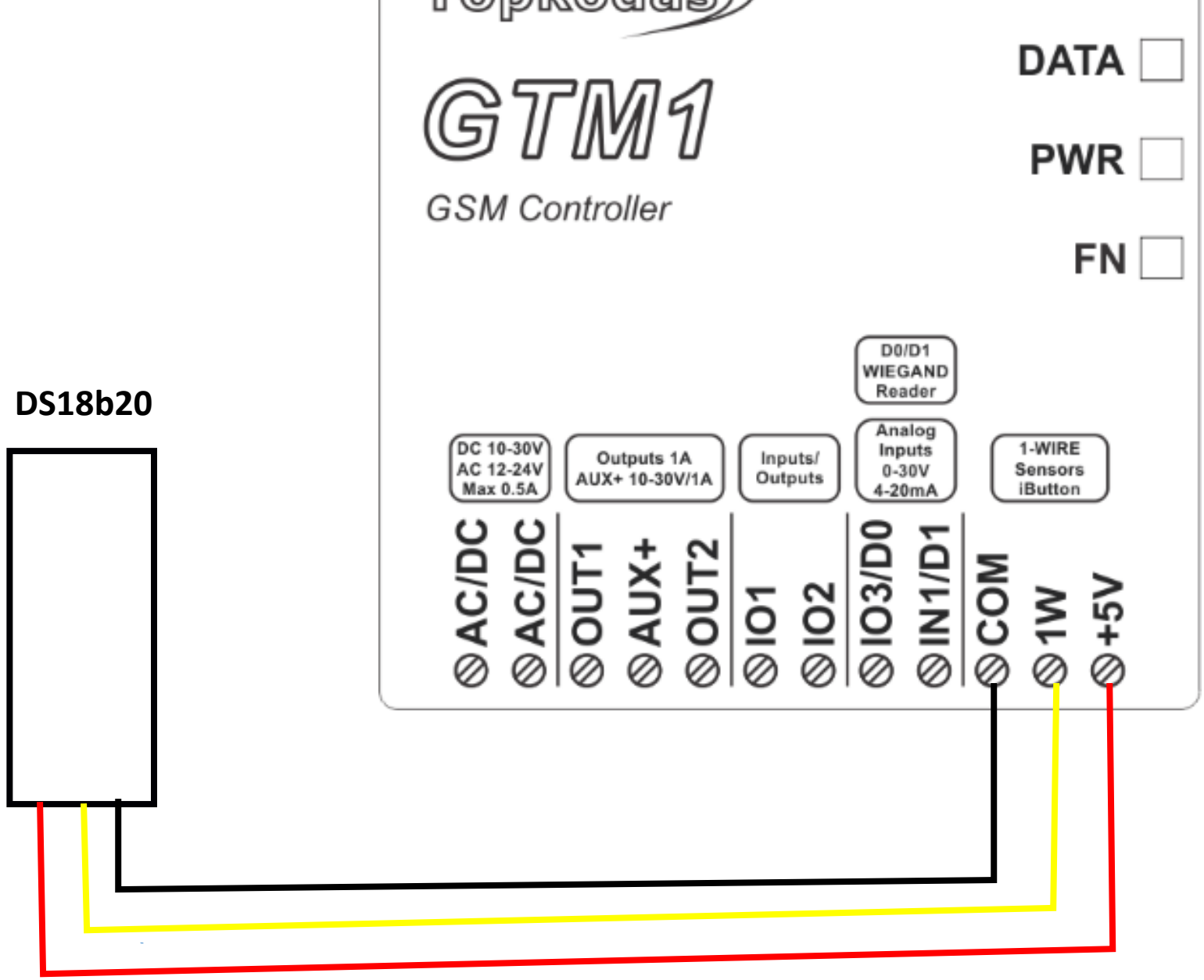

DS18B20
VCC
DQ
GND


MAXIM
18B20
1 2 3
GND
DQ
VDD

1 2 3
(BOTTOM VIEW)

DS18b20 sensor

Red wire to +5V
Yellow wire to 1W
Black wire to COM



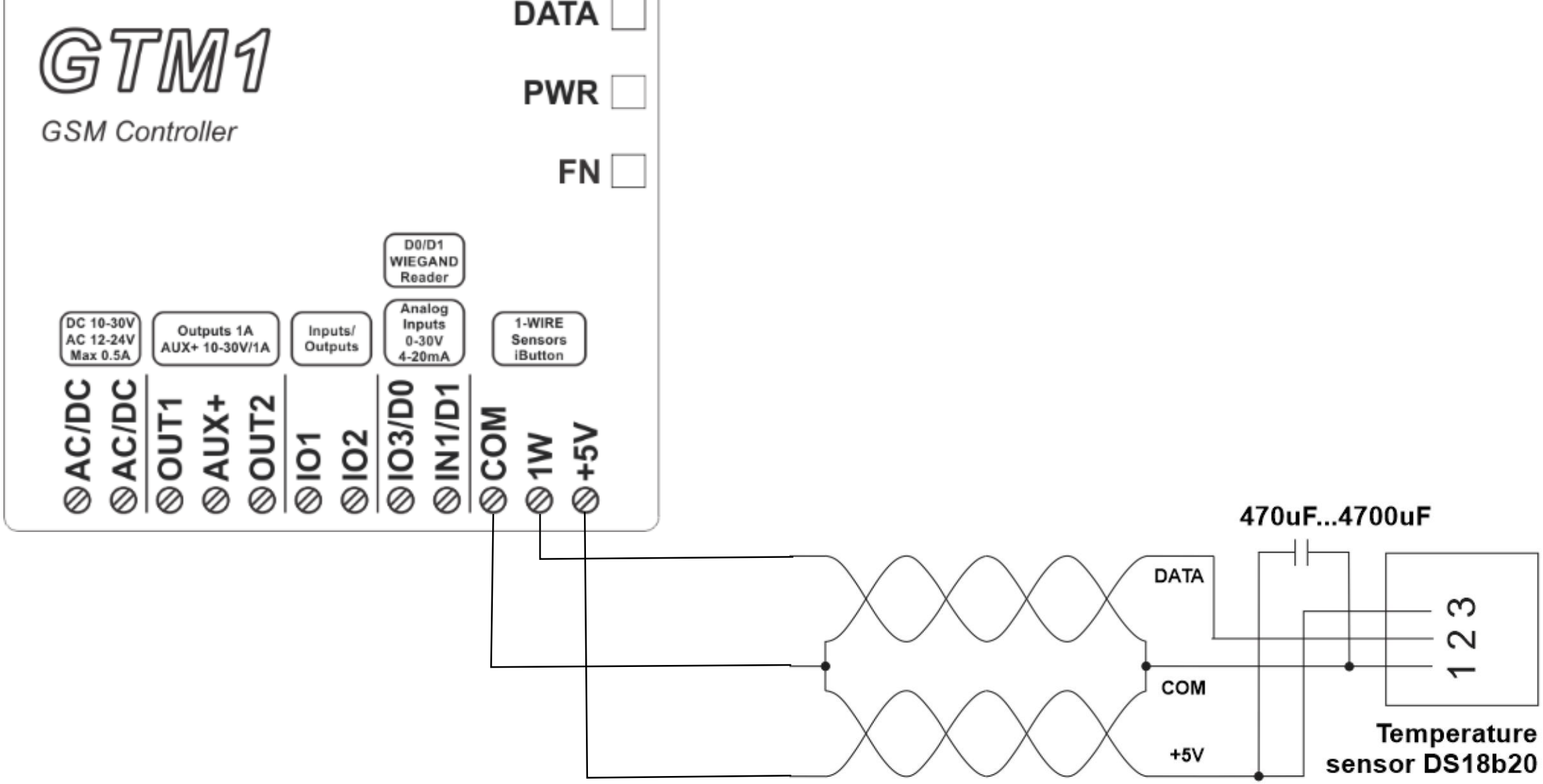
The DS18B20 digital thermometer provides

- 12-bit Celsius temperature measurements.
- The DS18B20 communicates over a 1-Wire
- Each DS18B20 has a unique 64-bit serial code,
- which allows multiple DS18B20s to function on the same 1-Wire bus

It is possible to connect up to 32 temperature sensors DS18b20

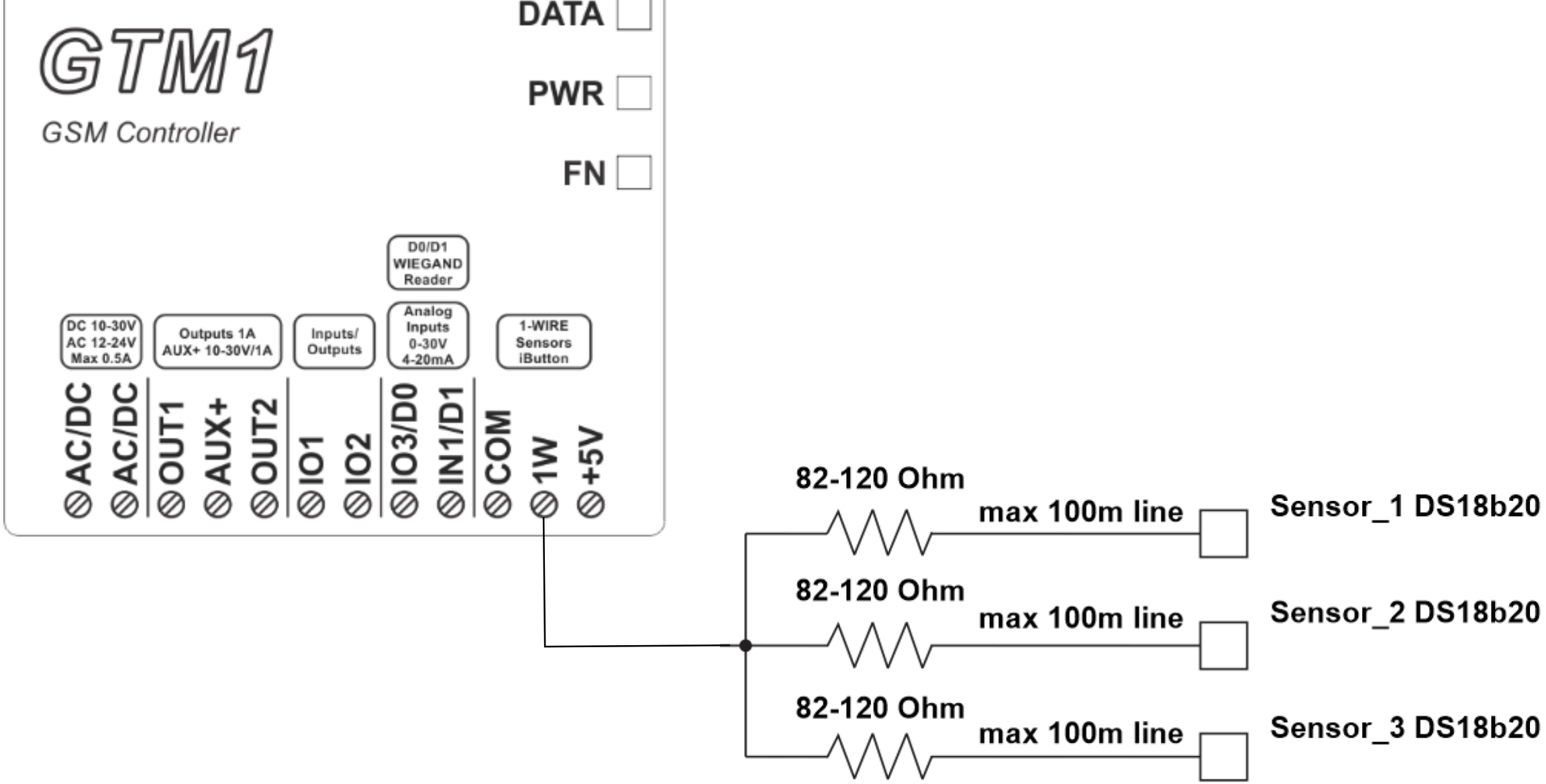
DS18b20 connection with

A long distance UTP or FTP cable


GTM1
GSM Controller
DATA
PWR
FN
D0/D1
WIEGAND
Reader
DC 10-30V
AC 12-24V
Max 0.5A
Outputs 1A
AUX+ 10-30V/1A
Inputs/
Outputs
Analog
Inputs
0-30V
4-20mA
1-WIRE
Sensors
iButton
AC/DC
AC/DC
OUT1
AUX+
OUT2
IO1
IO2
IO3/D0
IN1/D1
COM
1W
+5V
470uF...4700uF
DATA
COM
+5V
1 2 3
Temperature
sensor DS18b20

If you need to connect more sensors to 1W

- Connect them as a star or serial.
- Each line should be separated by 82-120 Ohm resistor


GTM1
GSM Controller
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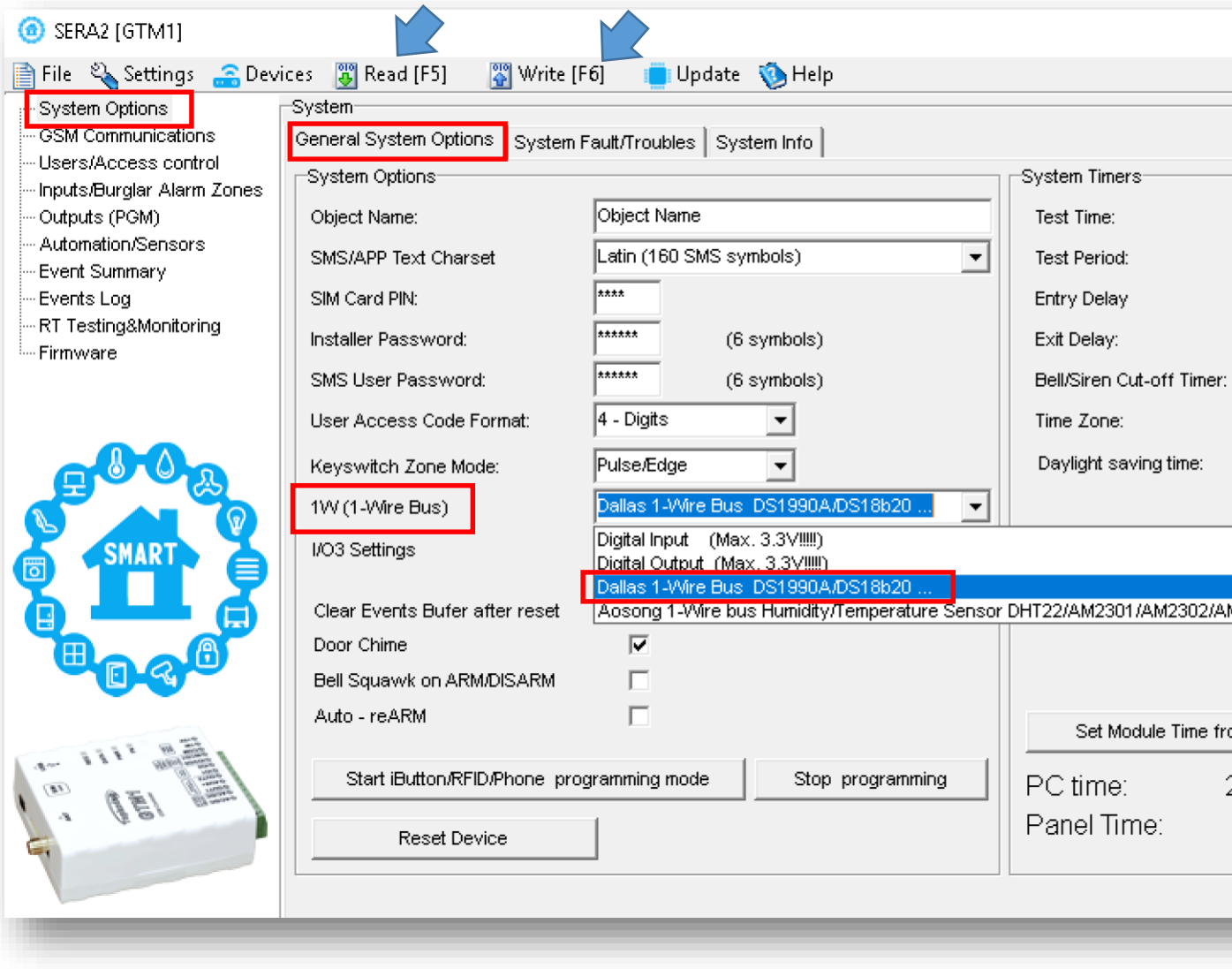
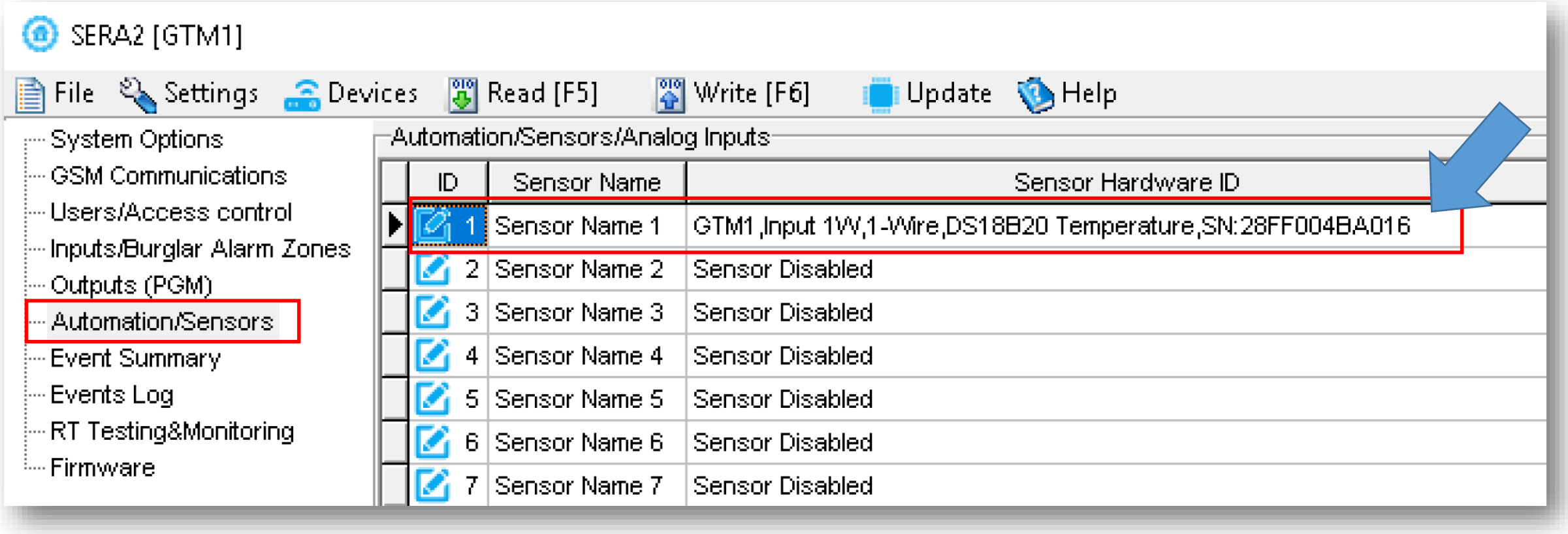
4-20mA
1-WIRE
Sensors
iButton
AC/DC
AC/DC
OUT1
AUX+
OUT2
IO1
IO2
IO3/D0
IN1/D1
COM
1W
+5V
82-120 Ohm
max 100m line
Sensor_1 DS18b20
82-120 Ohm
max 100m line
Sensor_2 DS18b20
82-120 Ohm
max 100m line
Sensor_3 DS18b20

- Connect the module to the computer via mini USB cable
- Connect the power supply.
- Start free configuration program SERA2
- You will find it in https://www.topkodas.lt/ website
- HELP & SUPPORT> Downloads

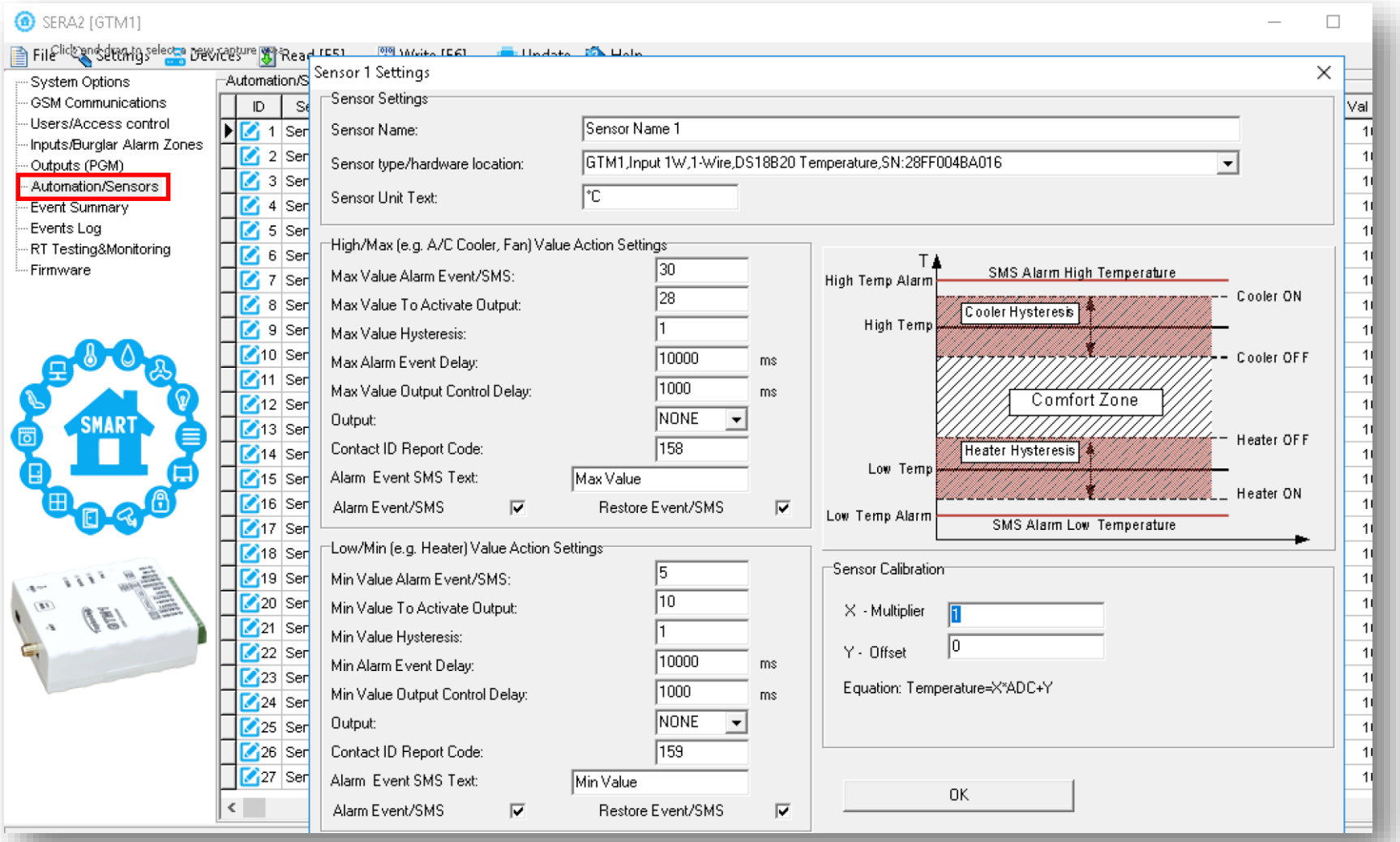
- Go to SERA2> System Options> General System Options window.
- Set 1W (1-Wire Bus)> Dallas 1-Wire Bus DS18b20…
- Press “Write” in the command line
- Press “Read” in the command line



- Go to SERA2> Automation/ Sensors window.
- The sensor will appear in the list automatically.
- Double click on the selected sensor’s line.



- Set other parameters of the sensor MIN, MAX, alarm values etc.
- Press “Write” in the command line



You can set:

- trigger conditions (“Min”, “Max” and “Hys.”) and
- wanted action.

- SMS alarm event values

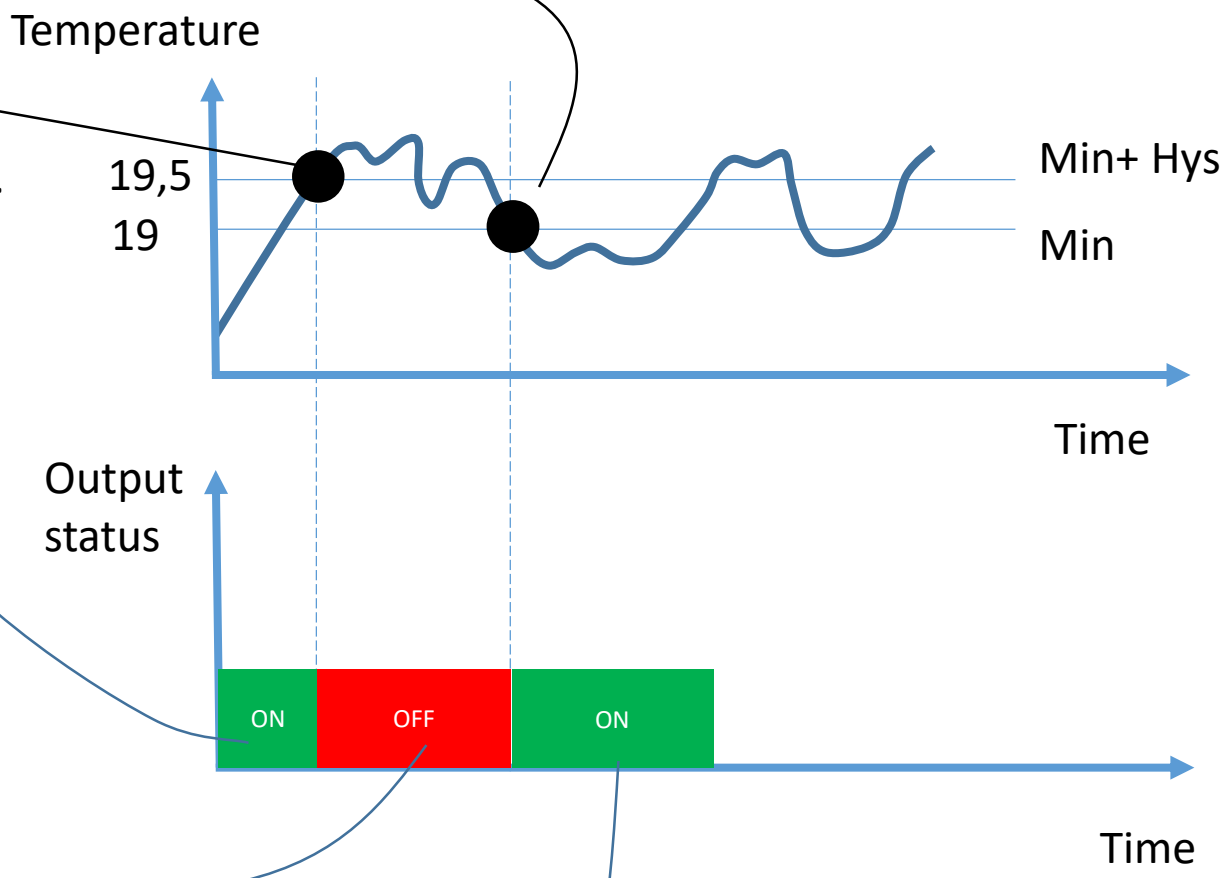
- Hysteresis (“Hys”) is used to prevent from
- excessively triggering when
- the value fluctuates around the trigger point.

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



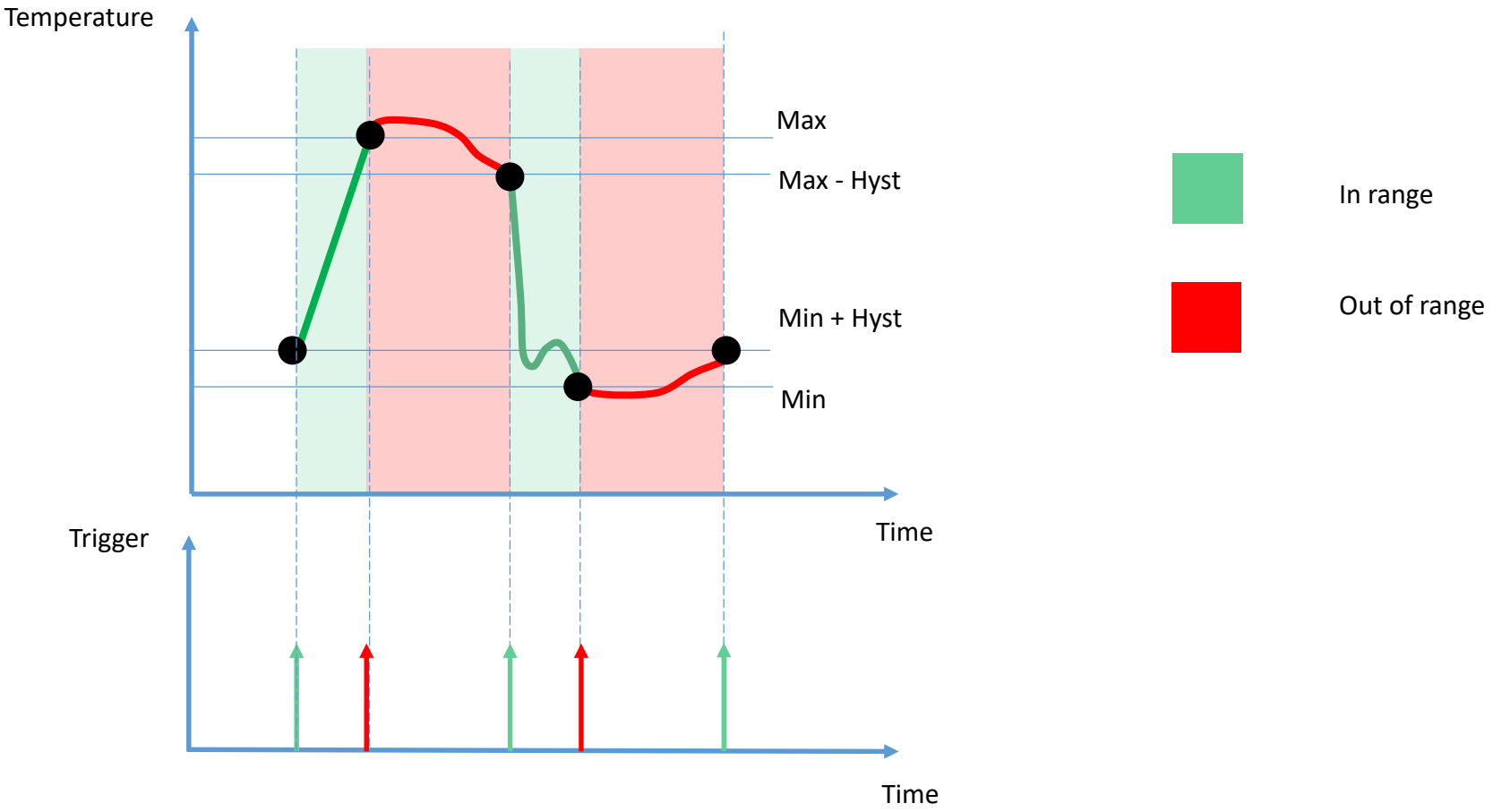
The temperature is going higher.

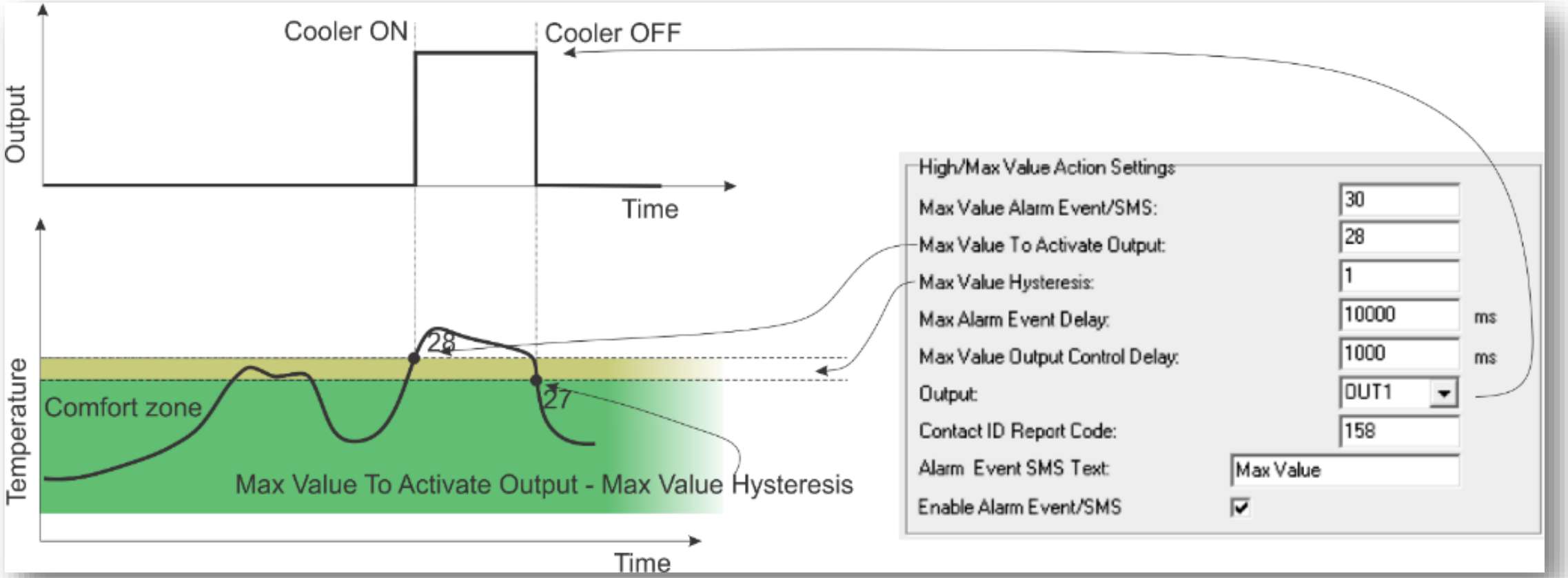
- When temperature reaches 19.5°C (19.0 + 0.5)
- it goes in range (trigger condition)

- Out1 is deactivated.
- The heater is switched off.

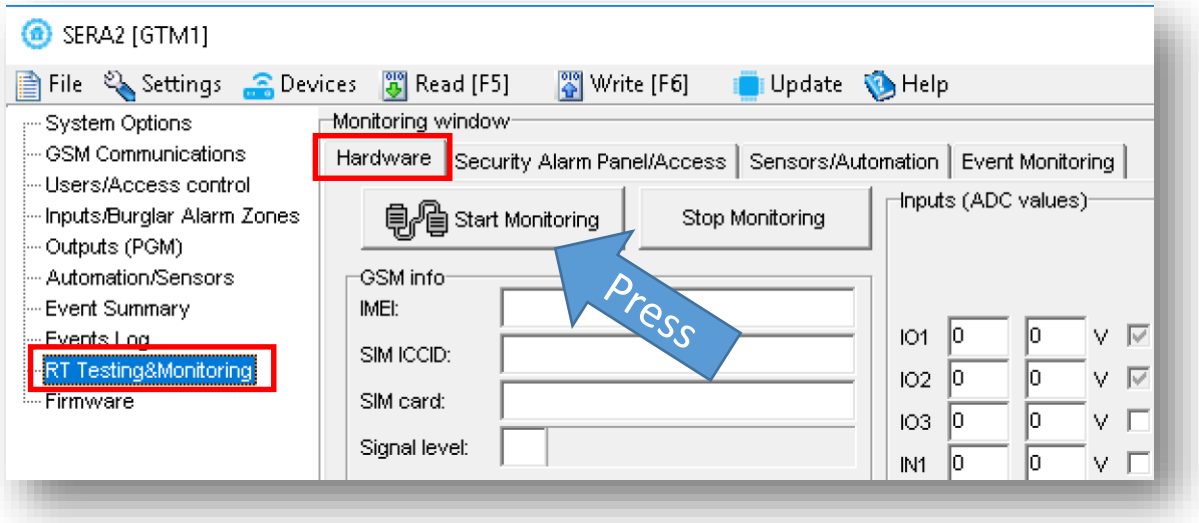
- The temperature falls and
- when it reached 19°C it goes out of range (trigger conditions)

- The Out1 is activated (heater is switched on).

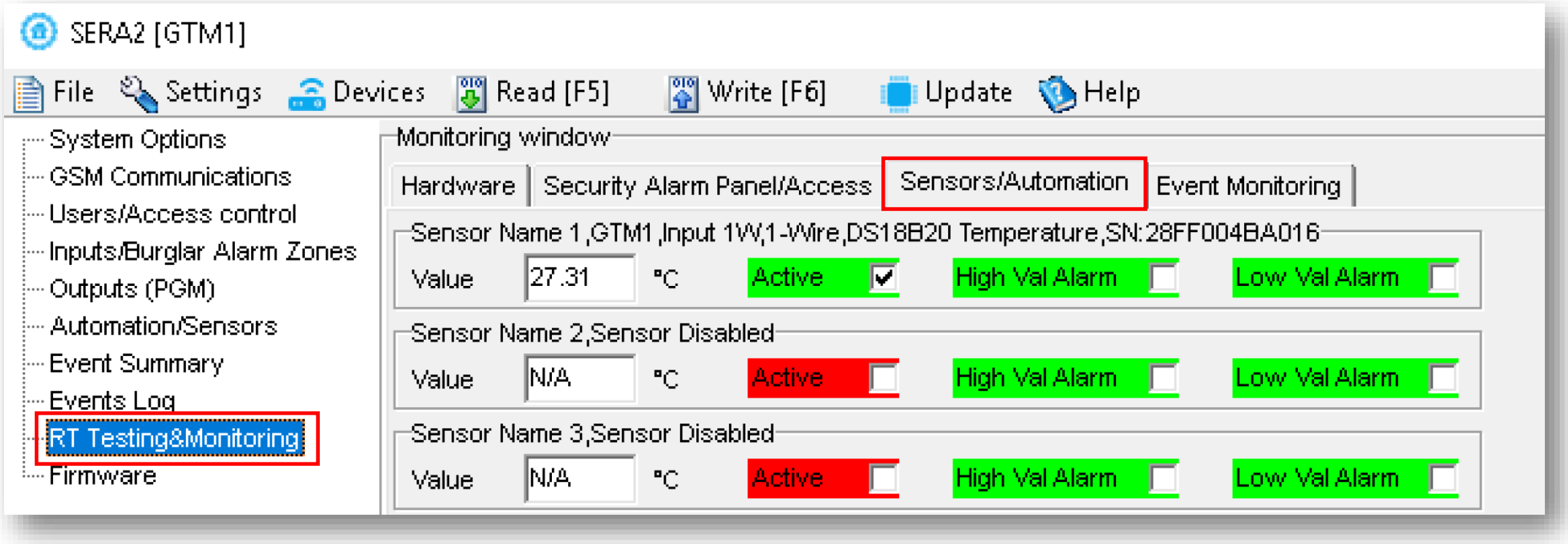

Temperature
Max
Max - Hyst
Min + Hyst
Min
Time
Trigger
Time
In range
Out of range


Cooler ON
Cooler OFF
Output
Time
Temperature
28
27
Comfort zone
Max Value To Activate Output - Max Value Hysteresis
Time
High/Max Value Action Settings
Max Value Alarm Event/SMS:
30
Max Value To Activate Output:
28
Max Value Hysteresis:
1
Max Alarm Event Delay:
10000
ms
Max Value Output Control Delay:
1000
ms
Output:
OUT1
Contact ID Report Code:
158
Alarm Event SMS Text:
Max Value
Enable Alarm Event/SMS

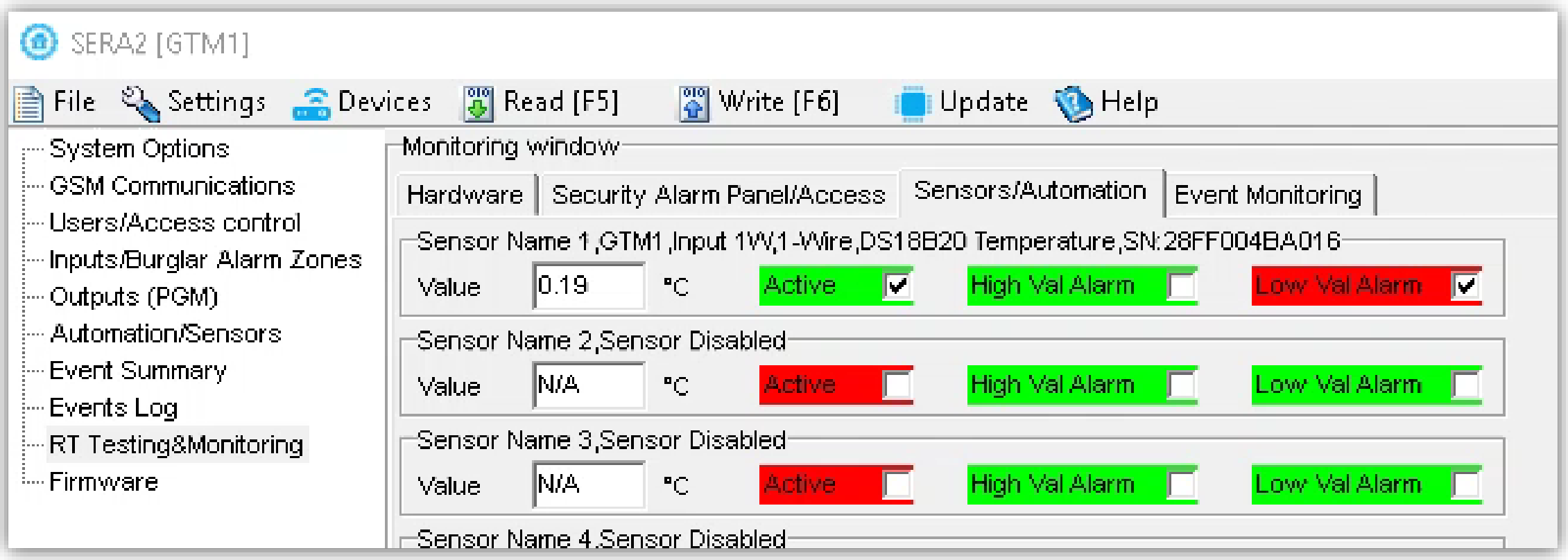
- Go to SERA2> RT Testing & Monitoring > Hardware
- Press “Start Monitoring”



- Go to RT Testing & Monitoring> Sensors Automation

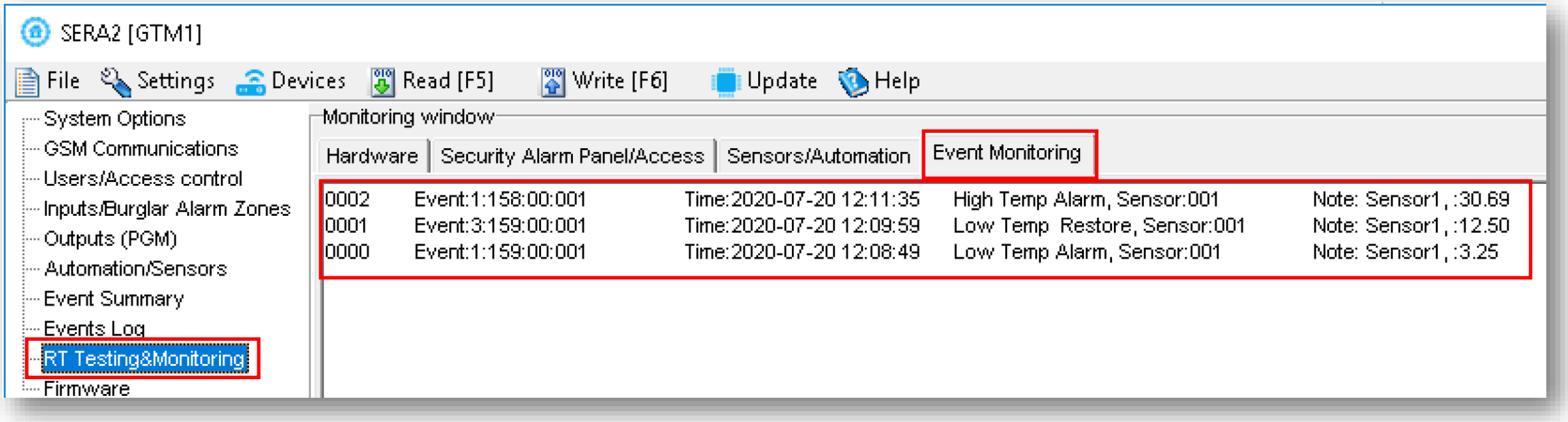


High Value Alarm



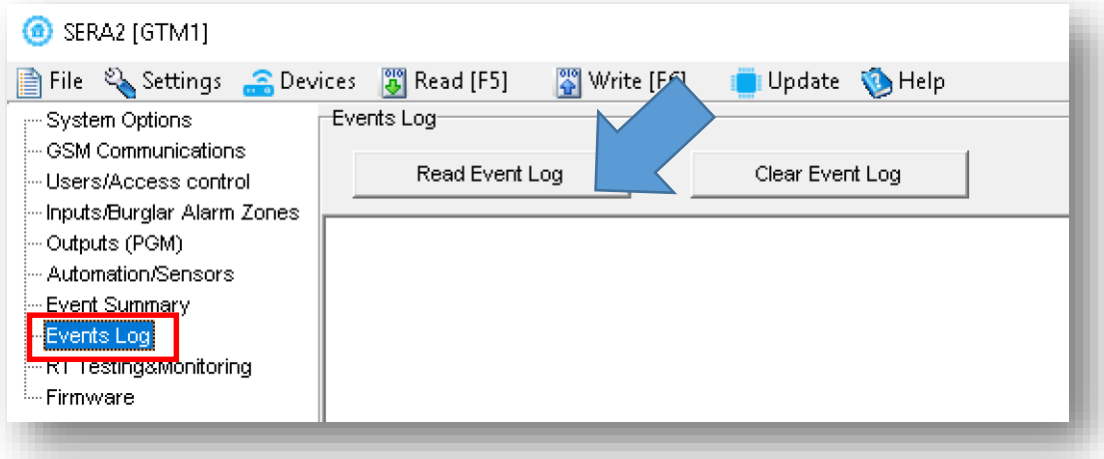
Event Monitoring

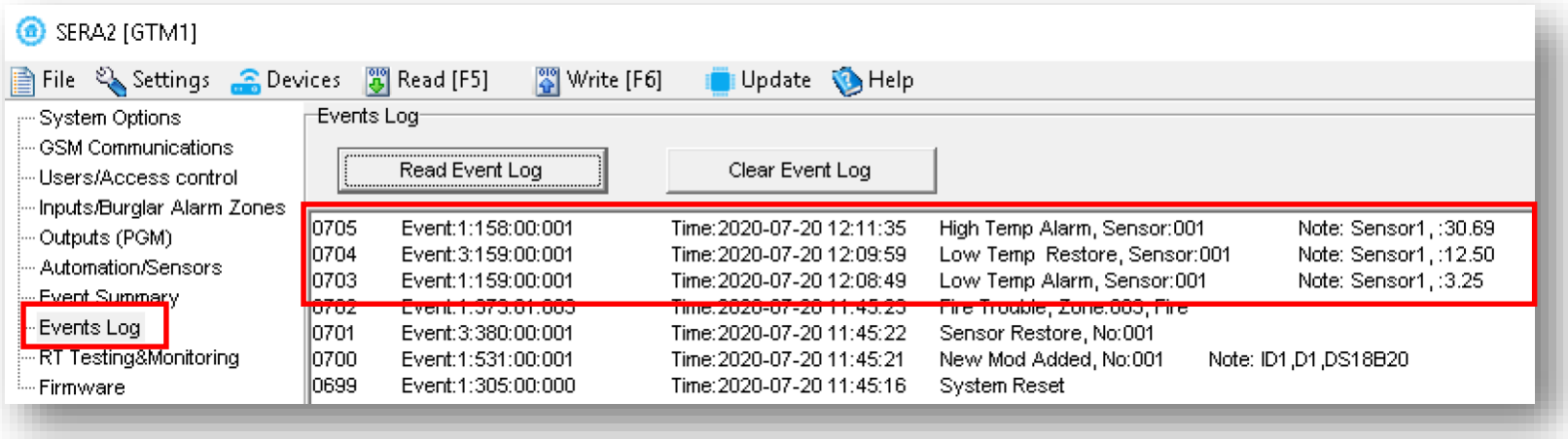
- Go to SERA2> RT Testing & Monitoring> Event Monitoring



Read Events Log

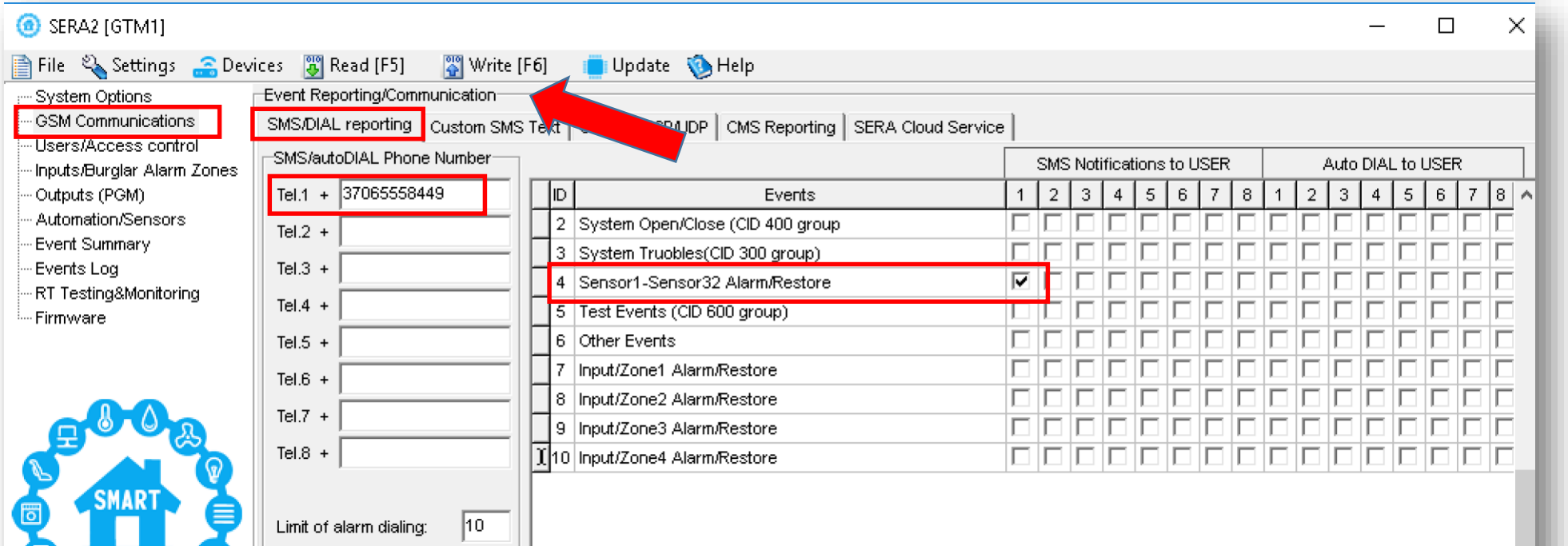
- Go to SERA2> Events Log
- Press “Read Event Log” button





Alarm SMS

- Go to SERA2> GSM Communication > SMS/ DIAL reporting
- Enter your phone number
- Mark alarm events
- Press “Write” in the command line



More information via email:

info@topkodas.lt