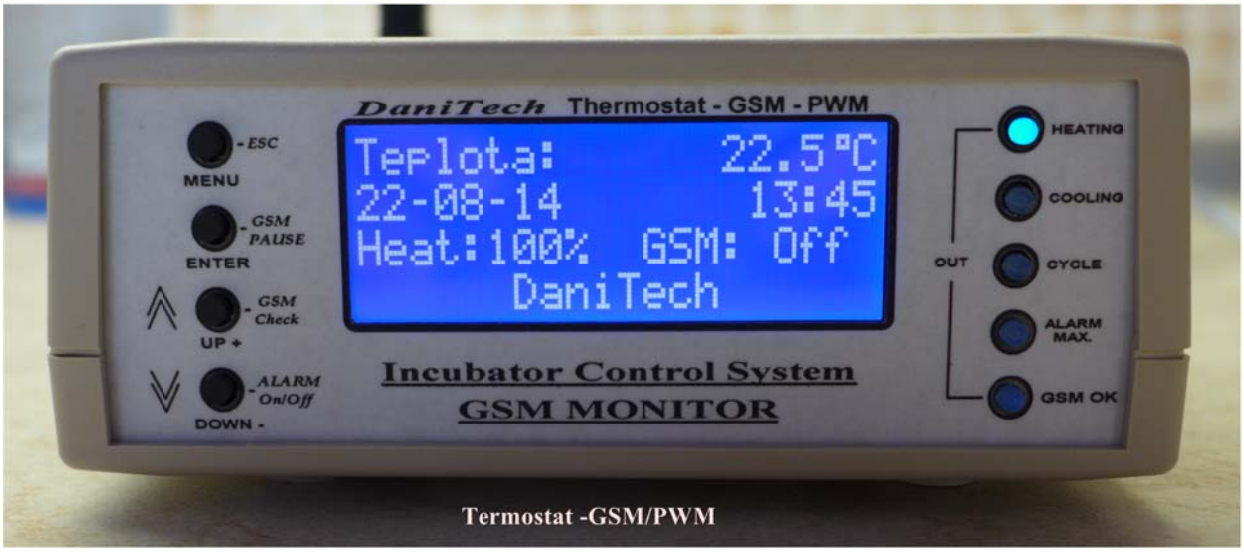
# Thermostat - Protect

# GSM / PWM



Termostat -GSM/PWM

***Device is designated for measurement and regulation of temp. and humidity***

***GSM - alarm on the cell phone***

***Usage: hatchery, incubator, terrarium, greenhouse and like that.***

***- sends SMS on the cell phone if:***

***- temperature decreases below the value alarm minimum.***

***- temperature increases above the value alarm maximum.***

***- at the loss or failure of temperature´s sensor.***

***- at the drop-out of el. power***

***- at the restoration of el. power***

***- at the failure (damage) of the output fuse.***

***- at the activation of the input alarm uni.1 and uni.2***

***- SMS sending of the current status (checking) after ringing the device***

***- In case of troubles, please contact service man.***

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# Thermostat - Protect

**Version:** Thermostat GSM  Thermostat PWM
Thermostat GSM-PWM  Thermostat 1T

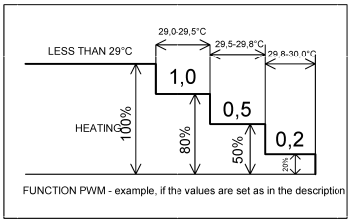
Device is designated for measurement and regulation of temperature.
GSM - alarm on the cell phone.
Usage: hatchery, incubator, terrarium, greenhouse and like that.

**Functions:**
**outputs:**
1 x thermostat - heating (difference day/night)
1 x thermostat - cooling (difference day/night)
1 x cycler
1 x protective relay, switches off during temperature exceeding alarm.max!!!!

## Function HEAT PWM -

* - Only model with PWM!

Power of heating is decreasing on a percentage basis with approaching final temp.
Maximum loading of the output 250Watt (version PWM)-electronic relay
- guarantees constant and accurate temp.



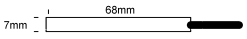
FUNCTION PWM - example, if the values are set as in the description

**Settings:**
Day´s temperature 5,0 to 99,9°C,step 0,1°C
Night´s temperature 5,0 to 99,9°C,step 0,1°C
Hysteresis 0,1 to 10,0°C,step 0,1°C
Acoustic alarm of minimum and maximum temperature
Transit time day/night
Actual time
Time of impulse repeating, impulse length
Time start/stop of cycling

## GSM - alarm

* - Only model with GSM!

Sends SMS at decreasing/exceeding the values of alarm min,max.
At the drop-out of el.power, disconnecting of the output fuse.
At the loss or failure of temperature´s sensor.
Device sends SMS message of the current status for ringing.
Possibility to choose 3 different telephone numbers on which SMS information can be sent.

**Contains:**
1 x sensor DS 18b20 on the cable of length 2m.


4 x output 230VAC, connection by means of terminal box up to $mm^2$

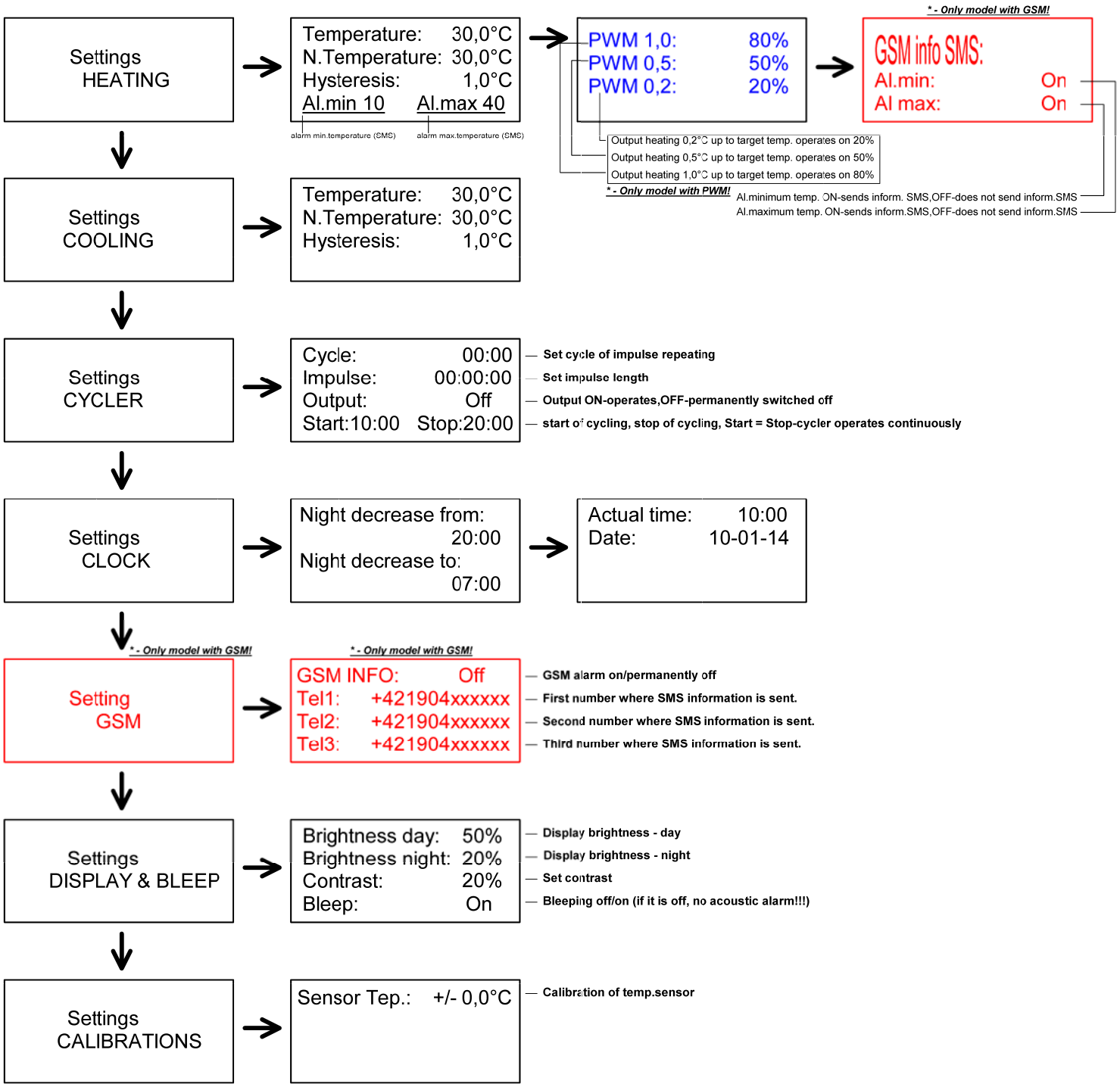
**Outputs:**
Voltage 230VAC !!!
Fuse 6,3A, it is common for all outputs!!!
Maximum current 6A
Outputs are designated for connection of 2.class devices

**Dimension:** 45 x 100 x 130mm

Device can be neither covered nor built in!
Device of 2.class! ( even connected devices)
**- Only authorized personnel is allowed to connect the device!!!**

# Possibilities of settings in MENU:

| | |
|---|---|
| **MENU:** | **Menu of settings (return back)** |
| **ENTER:** | **Acknowledgement (entry)** |
| **DOWN:** | **Shift down** |
| **UP:** | **Shift down** |

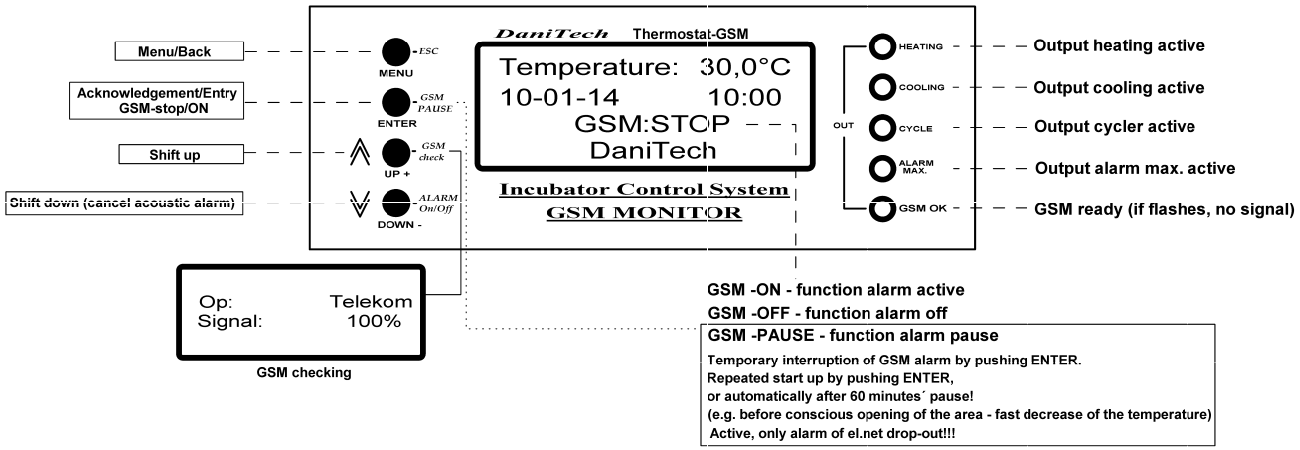



**Note:**

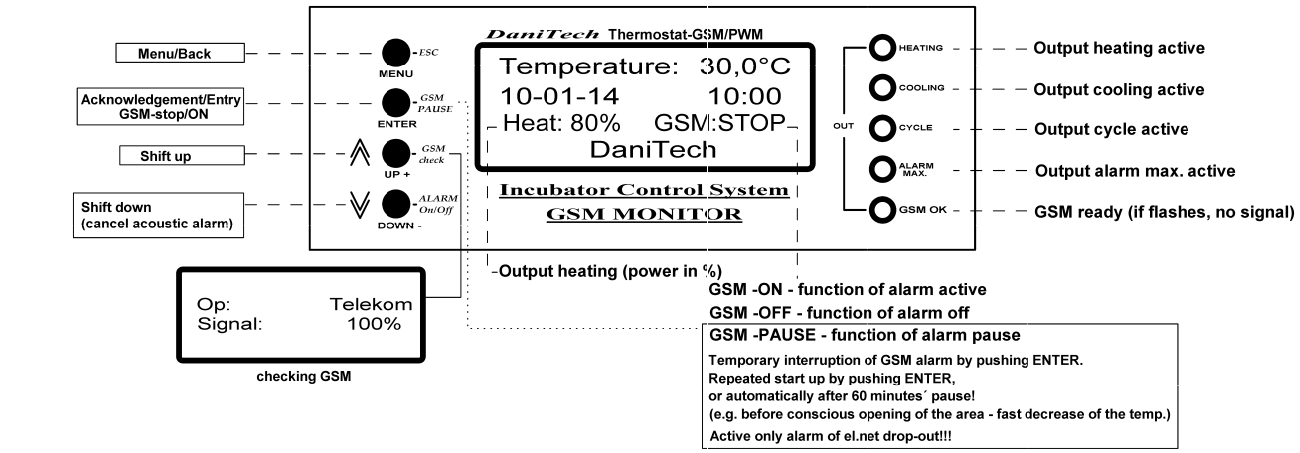
** - Only model with GSM!* **- Contains only model with GSM !!!**

** - Only model with PWM!* **- Contains only model with PWM !!!**

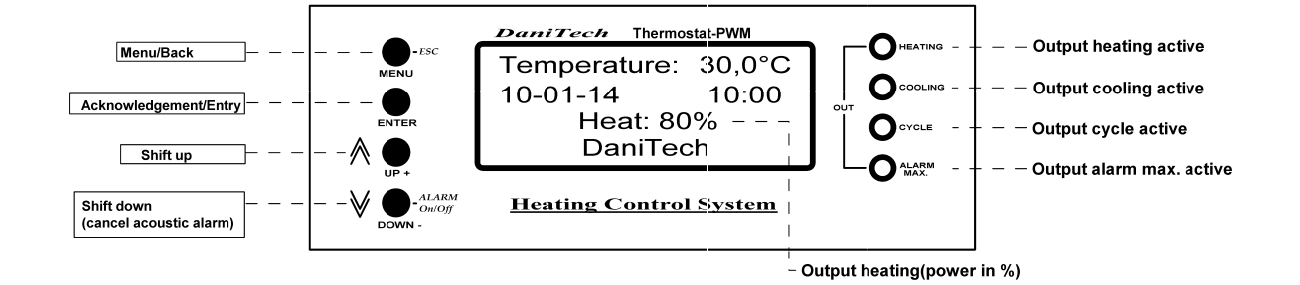
## Model: Thermostat GSM



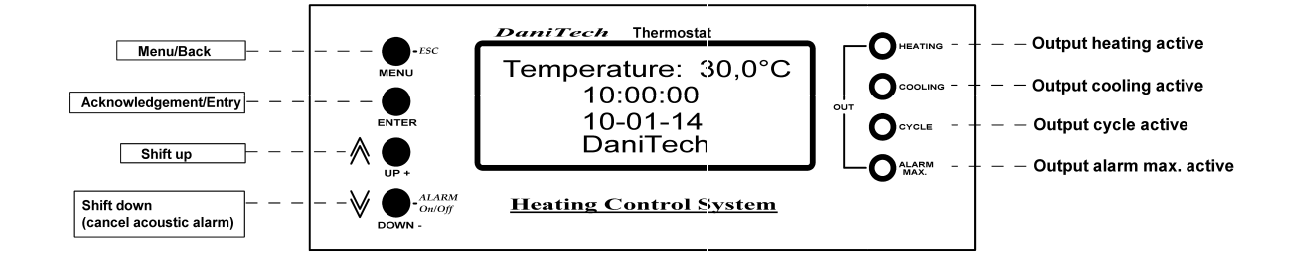

## Model: Thermostat GSM with PWM



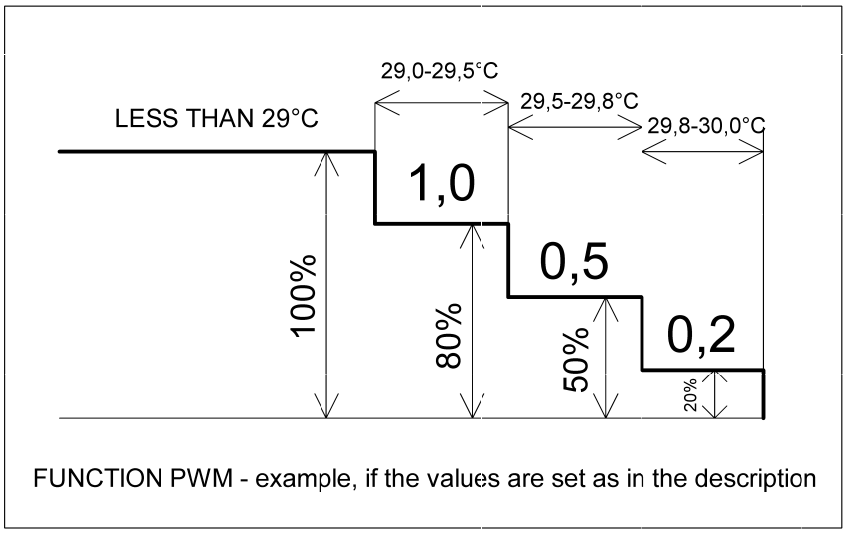

## Model: Thermostat PWM




## Model: Thermostat



# Function PWM




FUNCTION PWM - example, if the values are set as in the description

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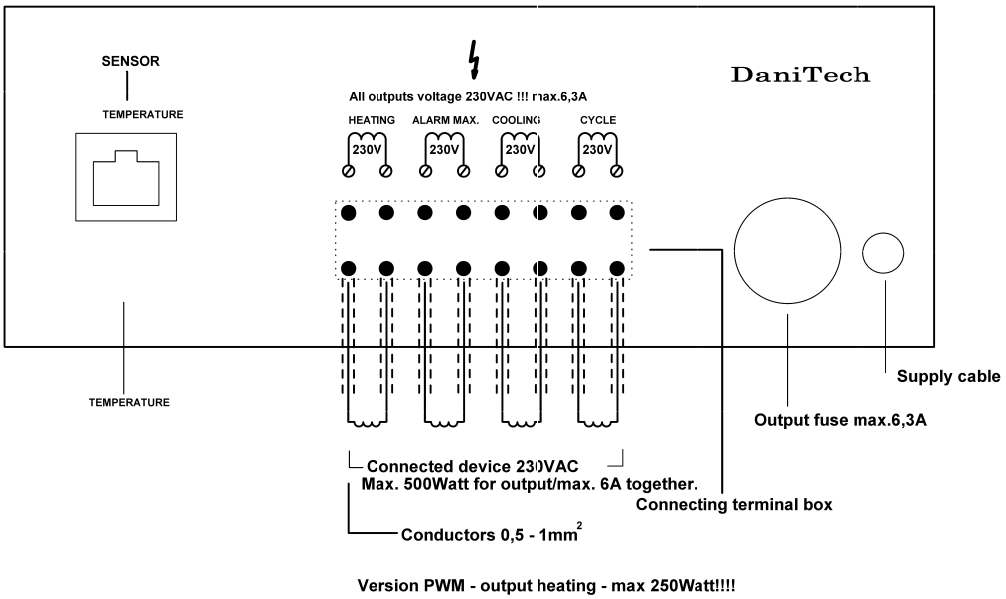
***Rear panel***




**Version PWM - output heating - max 250Watt!!!!**

***Output voltage 230VAC !!!!! Attention!***

***- Only authorized personnel is allowed to connect the device!!!***

# Warning:

- Function GSM alarm is off by default!
- Switch on GSM alarm, only after setting of alarm values (min,max,etc.)
- You avoid undesired sending of useless SMS.
- Before sudden (desired) change of values (e.g. opening of controlled area), it is necessary to stop the function GSM alarm manually (button GSM-PAUSE)
- Before shut down (non using) of the device, it is necessary to swich off the function GSM alarm in the menu!!!
- Under the long term shut down, it is necessary to activate device in order to charge accumulator, once a month!! for approximately 24 hours
- Use only in the area with sufficient coverage of GSM signal of given operator!!!
- Insert SIM card with PIN CODE in OFF state!!!!! (firstly, it must be switched off in the cell phone.)
- Service CLIP must be activated on the SIM card, otherwise the device shall not react on ringing.
- As far as the device indicates battery charging, GSM function is not active!!! (Charg.Batt)

Recommendation:

- In order to guarantee reliability of the operation, change accumulator every 24 months.

**Example of printout on the cell phone:**

Error message always in the beginning with capital letters.

Cell phone:

ThermoHygrostat-GSM reports:

RESTORATION OF EL.POWER!
Current values:
Tep.:30,0C
Hum.:70%
Time: 10:00:00
El.power:OK
Fuse:OK
Battery:80%

Cell phone:

ThermoHygrostat-GSM reports:

ACTIVE ALARM UNI1!
ACTIVE ALARM UNI2!
Time: 10:00:00

Printout of alarms UNI1 and UNI2 on the cell phone.

**Alarm UNI 1 and 2.**

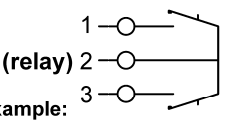
Universal alarm defined by the user.

Activated input UNI1-
(by connection of clamp 1 and 2)

Activated input UNI2-
(by connection of clamp 2 and 3)

Connection of clamps 1,2 and 3 only isolated contact (relay)

Example:



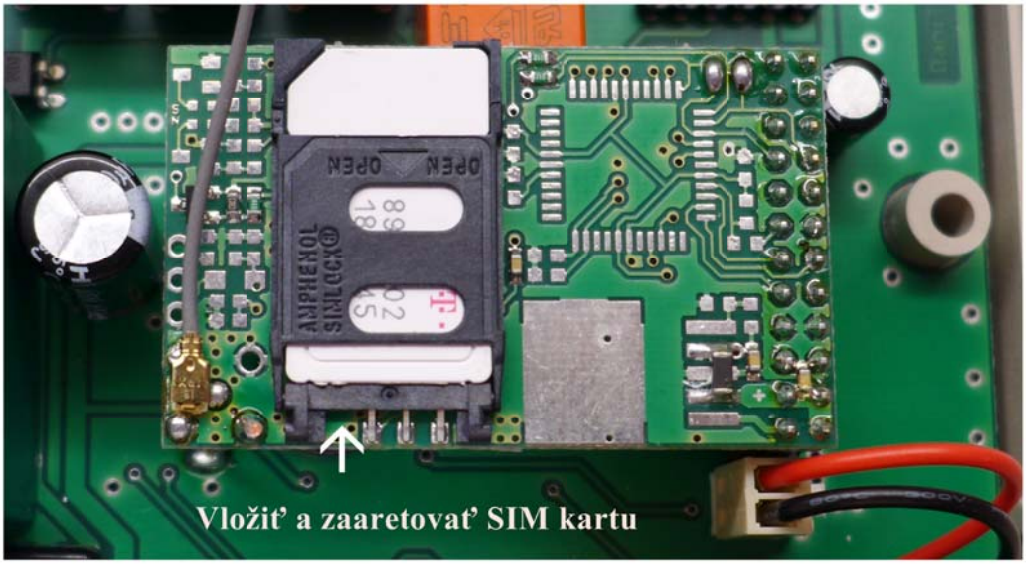
# Insertion/Change the SIM card:

## - Only SIM card with pin code in OFF state!!!

## - Change SIM, only when the device is disconnected from el.power!!!

1 - Open the device.

2 - Insert SIM card.

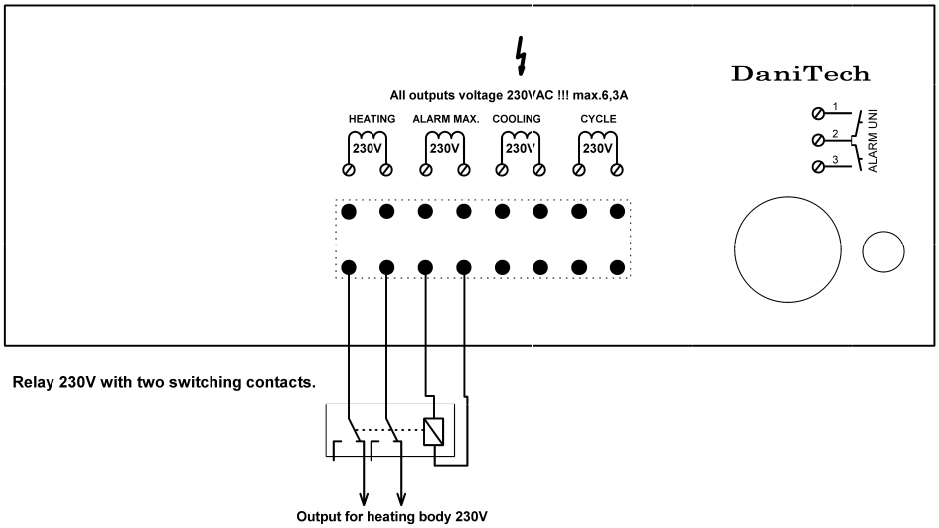



Insert and fix SIM card

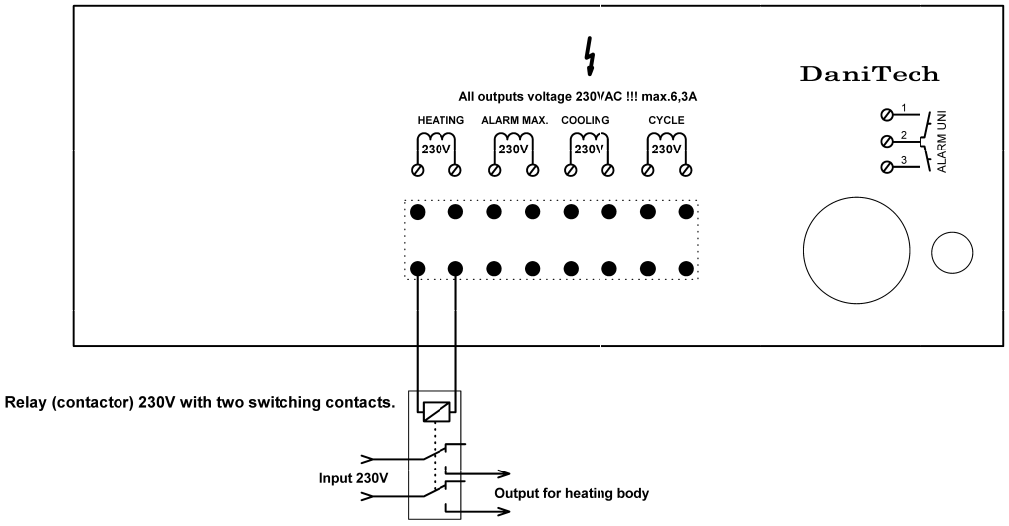
3 - Close the device the same way, just the opposite order.

# Recommendations - possibilities:

***Connection with external relay for the function ALARM.MAX***




***Connection with external additional power relay for high powers.***




***Model PWM - only SSR relay !!!***