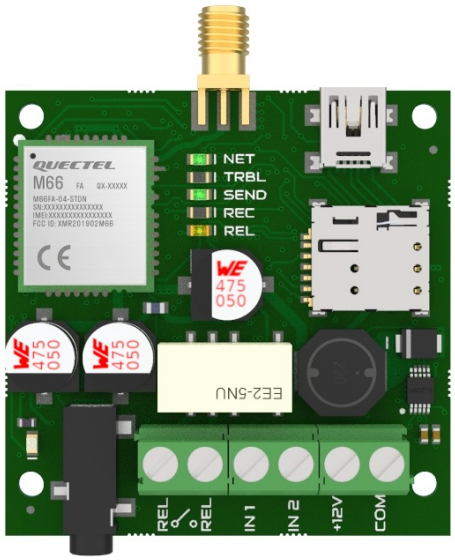
THERMOSTAR 2G

Temperature measurement and alarm indication, using a mobile App, featuring a thermostat function and the possibility of signaling to monitoring station

MAIN FUNCTIONS

- Real-time temperature measurement unit, which sends the actual temperature data, measured by the temperature measurement probe (TS-100), to the telephones of users, over the Internet.
- Adjustable (high/low) temperature threshold. If the temperature is out of range, the unit sends an immediate alarm in a “Push notification” message, with audible alarm, to the telephones of users.
- Automatic thermostat function, which can be set to COOLING and HEATING, and the function can be remotely enabled or disabled.
- Input contact signaling over 2 independent inputs, to an application or monitor.
- Signaling to monitoring station, as per the SIA DC-09 standard, when exceeding the alarm temperature threshold, and its recovery, using unique event codes.



FEATURES

- 2 contact inputs with autonomous signaling
- 1 relay output, NO potential-free contact
- External temperature probe connector, 3.5mm jack
  Measurement range: -55°C to +150°C (+/-0.5°C)
- Low supply voltage signaling
- Notification to PULOWARE application and remote monitoring
- USB connection for PC setting: USB 2.0 mini-B
- Remote management function (puloware.com)
- Communication: GSM 900/1800MHz
- SIM card: Nano-SIM (4FF)
- Power supply: 10V to 30V DC / 500mA max.
- Operating temperature: -25°C to +50°C
- Case size: 52x52x15mm

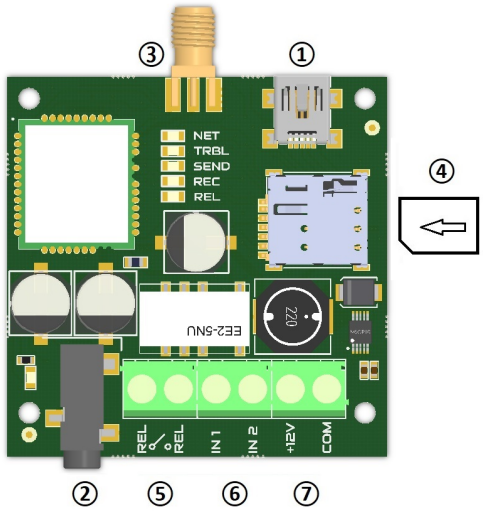
APPLICATION AREAS

- ONLINE monitoring of temperature, using an application
- Automatic control (thermostat) of cooling or heating
- Alarm on low and high temperature
- Alarm from contact input
- Registration of user acknowledgement of alarm, to event list
- Temperature control in extreme environment (IP68)
- Remote monitoring signaling on change of temperature

CONTENT OF THE PACKAGE

- THERMOSTAR 2G module
- TS-100 temperature measurement probe
- GSM antenna
- USB 2.0 mini-B cable
- Plastic spacers
- Users manual

Structure of the THERMOSTAR 2G



① **USB port**
② **Temperature probe connector**
③ **GSM antenna connector**
④ **SIM card holder**
⑤ **Relay output**
⑥ **Contact inputs**
⑦ **Supply voltage input**

LED indications

	Continuous	Blinking
NET (green)	Coverage OK	Coverage < 30%
TRBL (red)	Missing SIM	GSM connection
SEND (red)	-	-
REC (green)	-	-
REL (yellow)	RELAY active	-

Installation steps

- Insert SIM: contacts underneath, cut-off corner facing the SIM holder, see figure
- Connect the antenna and terminal block as per the figure
- Turn on the supply voltage
- Connect the device to PC through USB and run SecurecomConfigurator
- Setup the base settings in PC software (e.g.: SIM PIN, APN) SIM PIN not necessary if the card has no PIN code
- Load the settings to the module, using the load icon, which is indicated by the red colour!
- Test the operation of setup functions, using the STATUS INDICATOR window
- If the test is passed, the module can be installed

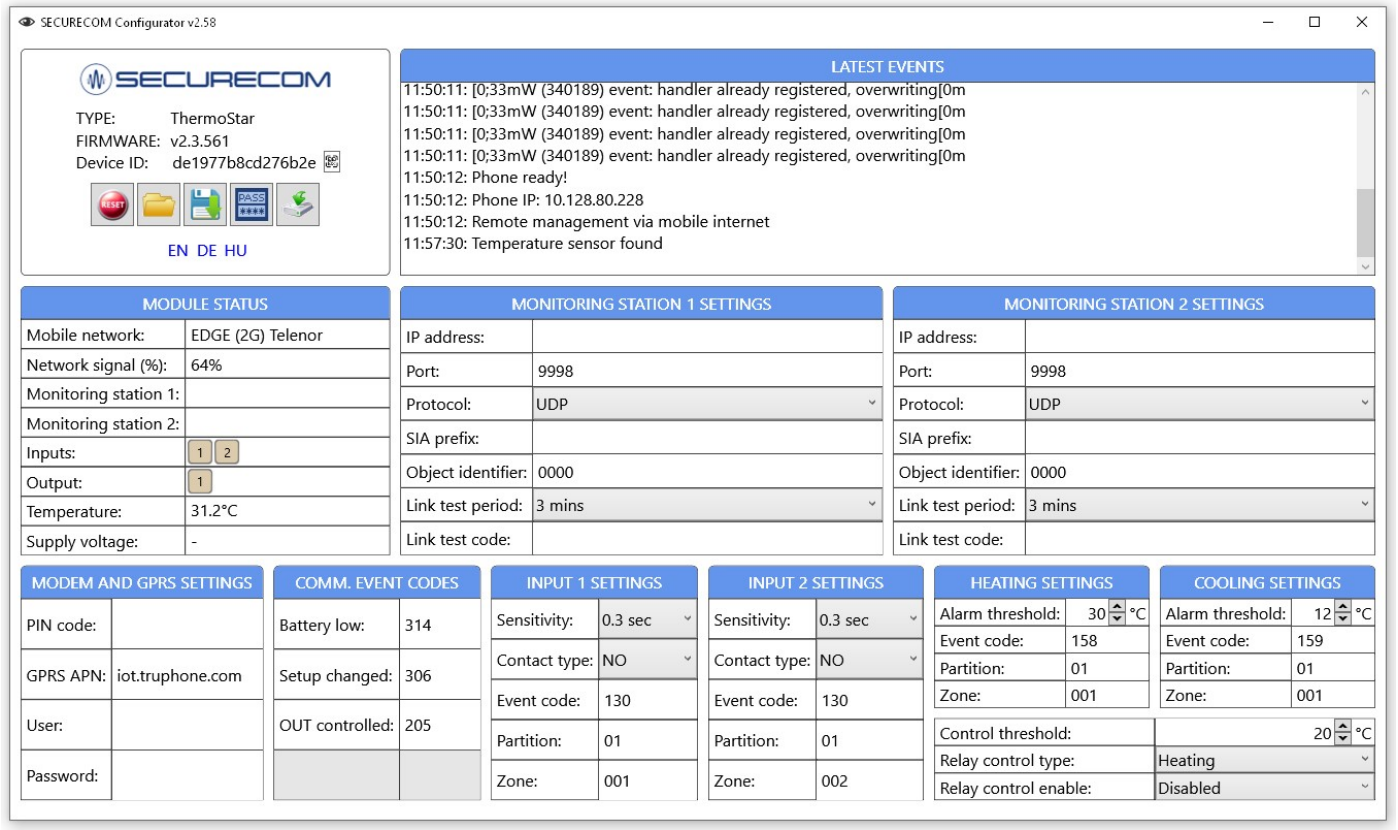
SETUP

Setup of the device is performed using the **SecurecomConfigurator** PC program, which can be downloaded from this site: https://securecom.eu
After installation and running the program, the module has to be connected to the PC via an USB port, and select the COM port activated by the device.

After starting the **SecurecomConfigurator** program (Windows XP 7,8,10 compatible), and connecting the device, it can be set up as described below.
Attention: the supply through USB connection is only sufficient for setup, therefore testing the calls requires connection of an external power supply!

Selection of communication port and connection

Once connected, parameters can be configured on the following interface.



After starting the program, it reads and displays the current settings of the device.

In order to validate the modifications, the Download button  has to be pressed, as saving settings is not automatic.

Administrative window

Re-starting the module

Opening the saved settings and loading to the screen

Saving the settings in a file on the PC

Full blocking of the access of the unit, with password protection

Downloading settings to the module

Caution:
in order for changes to the settings on the unit to be valid, the change must always be downloaded to the module!
If a change is made to the settings, the background of the download icon will turn red, indicating that a download is required.

Setting up the mobile network connection

The product communicates through mobile data connection, thus a mobile internet capable SIM card must be obtained.
In order to set up the network connection, insert a correct SIM card in the SIM card holder ④, on the side of the device, with the following requirements:
- it should be mobile data communication capable
- it should be activated and balance replenished (in case it is a prepaid one)
- the data of the APN connection should be known
- the PIN code of the card should be known, or alternatively the PIN code request should be disabled

The SIM PIN code filed has to be entered, if PIN code request is set up on the SIM card. In order to establish the data connection, the APN data have to be provided. (Generally there is no user name and password, only APN name)

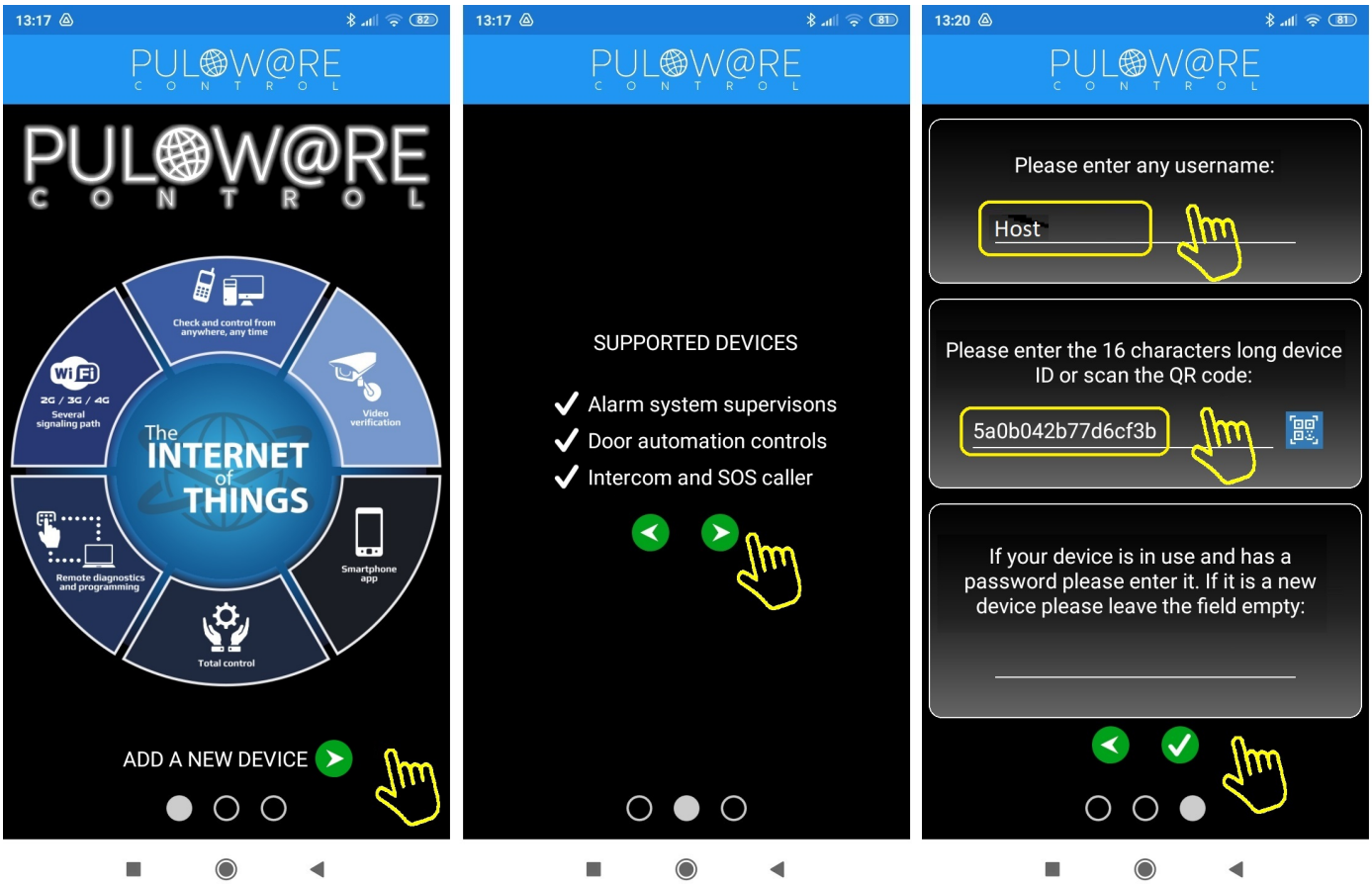
MODEM AND GPRS SETTINGS	
PIN code:	
GPRS APN:	iot.truphone.com
User:	
Password:	

If the product is only used with a mobile application, no more settings are required.

It only has to be followed by installing the mobile application, and the product is ready to be used for the given task.

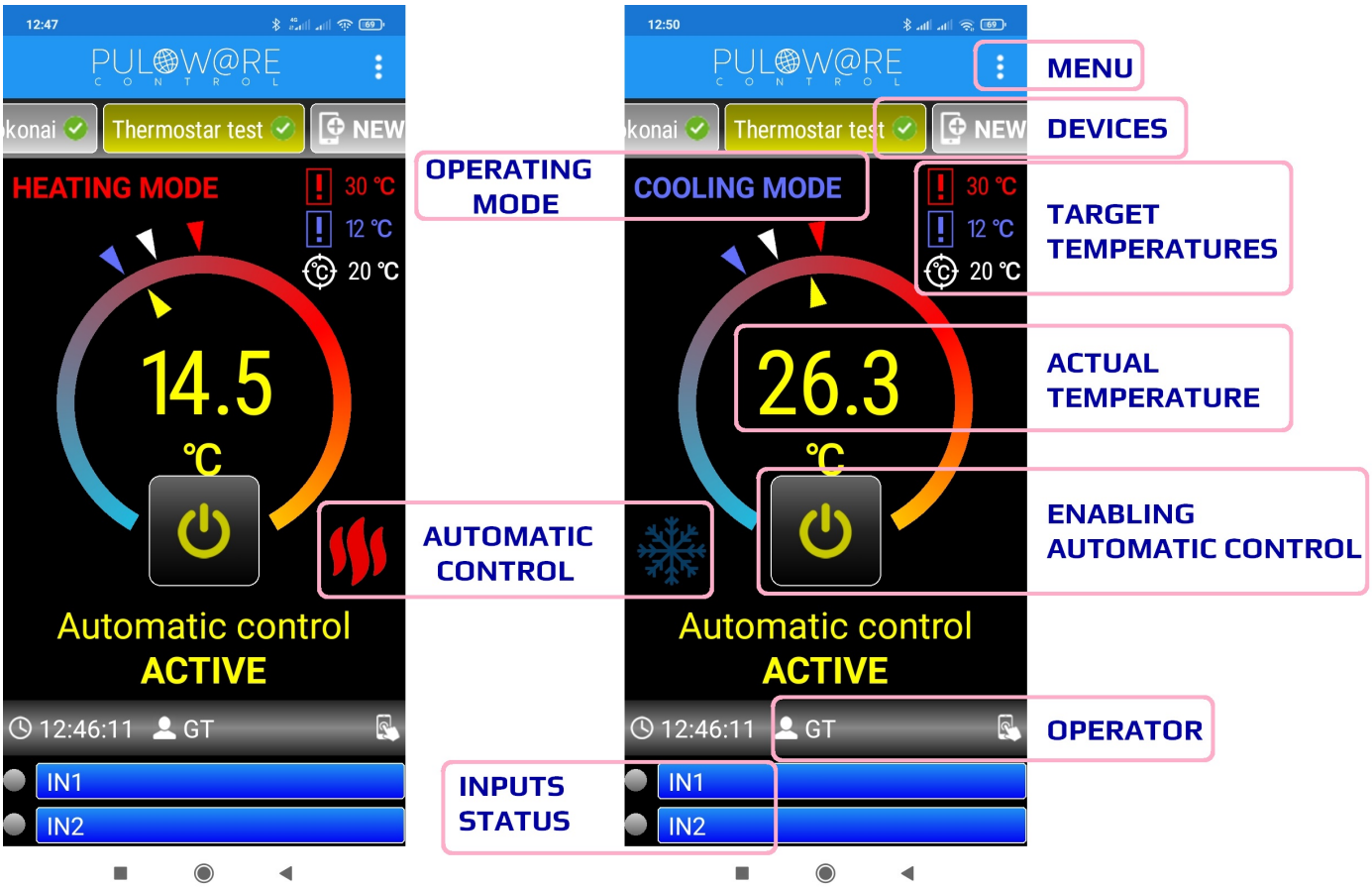
Installation of the application

The devices can be accessed and controlled remotely by the PULOWARE mobile application. Assignment to the mobile application is carried out using the unique **Device ID code**, which is shown on the data sheet of the unit, both in the form of a 16-character code, and a QR-code.
The PULOWARE mobile application can be downloaded to the device of the user from the Google Play or Apple App Store, respectively. After download and start, basic data can be entered through a Setup Wizard.



The green navigation arrows show the direction of installation. Two simple data have to be entered in the application, namely **User name** and **Device ID**. The **Device ID** can be read as a QR-code, by touching the blue QR icon, or can be entered manually. There is **no password** for a new device, this can be set in a separate account on the IoT server interface of the puloware.com server. In case the product has been entered in their own application by another user, and limited its access by a password, then assignment requires this password as well.
After entering data, touch the green check mark to proceed to the device interface of the application.

Structure of the application



The main screen of the application is split into several areas, which have their own function, listed from top to bottom:

In the **MENU** block, settings, event list and other information are accessible

In the **DEVICES** field, the names of devices assigned to the application, can be seen

OPERATING MODE the application handles 2 operating modes, namely **HEATING MODE** and **COOLING MODE**

- **HEATING MODE**: if the temperature of the probe decreases below the set-up temperature, the relay contact is closed
- **COOLING MODE**: if temperature of the probe increases above the set-up temperature, the relay contact is closed

TEMPERATURE TARGET VALUES the set-up upper (red) and lower (blue) alarm threshold temperatures are shown here, as well as the expected target temperature. Until the target value is reached, an automatic function controls the output relay of the device.

ACTUAL TEMPERATURE the instantaneous value, measured by the temperature gauge

ENABLING AUTOMATIC CONTROL
”pushbutton”, where under ACTIVE the automatic thermostat function is enabled, while under INACTIVE it is disabled

AUTOMATIC CONTROL signals the need for interaction, when reaching the target temperature

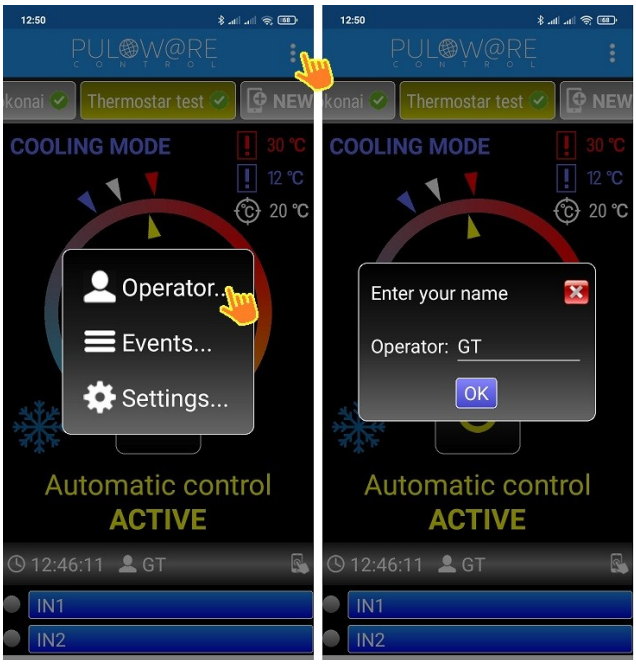
In the **OPERATOR** field the name of the person managing/modifying the control, and the name of the person acknowledging the alarm, are shown

INPUTS STATUS it shows if the contact inputs of the device are controlled

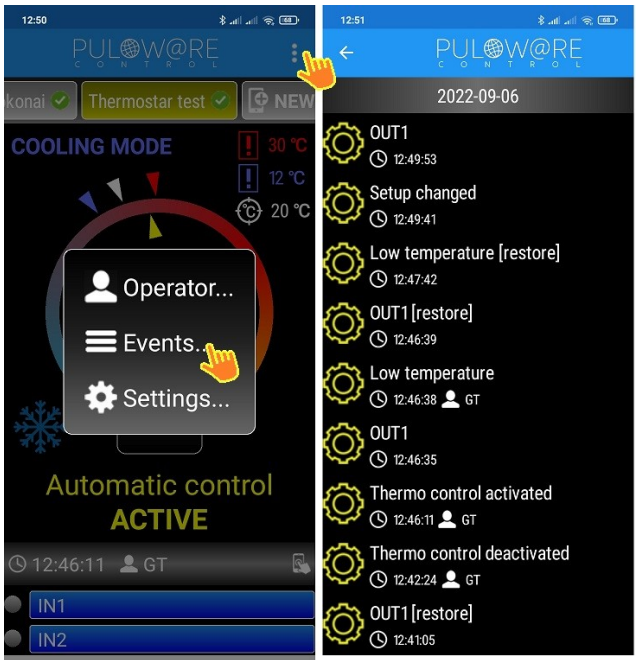
Application MENU

The menu contains 3 main parts:

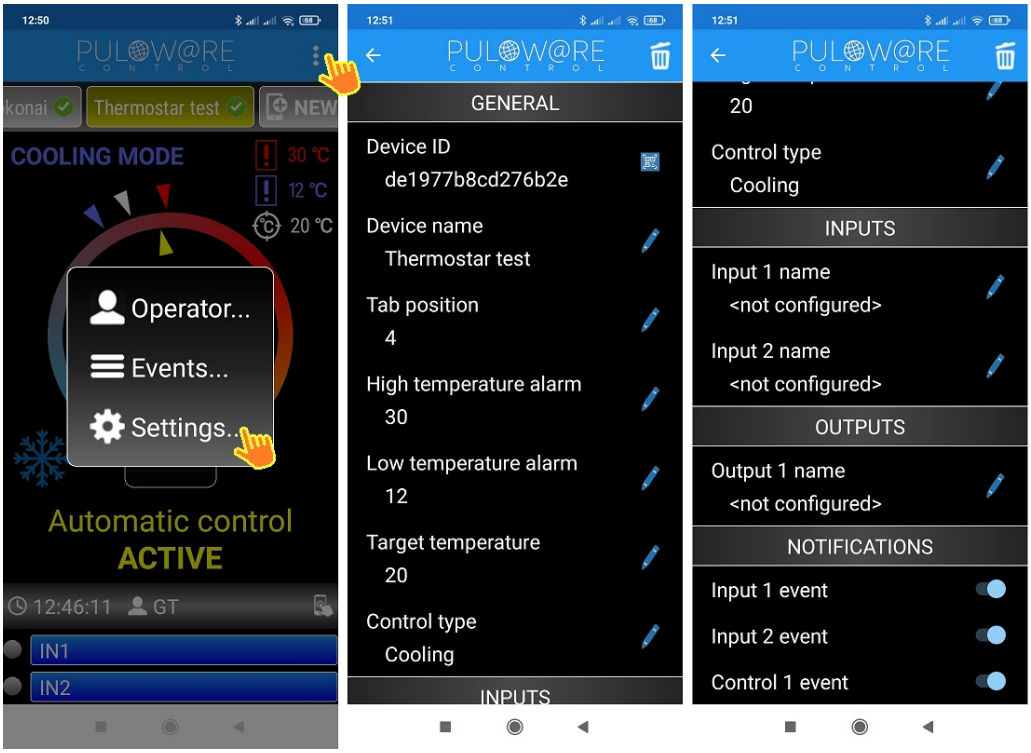
- Change operator name



- View event list



- Settings



Parts of the Settings Menu:

GENERAL

- **Device ID:** the unique, 16-character ID of the device
- **Device Name:** unique name, used by the end user to identify the object (e. g. house, workshop)
- **Device Tab Position:** position of the DEVICES, entered in the field (e. g. 1. gate opener, 2. alarm)
- **Upper Temperature Limit:** alarm is triggered above this value
- **Lower Temperature Limit:** alarm is triggered below this value
- **Target Temperature:** the expected temperature value, which is controlled by the automatic control function, using the device relay (depending on setup, relay is actuated if cooling or heating is required)
- **Control Type:** the required operating mode can be entered here **HEATING MODE** or **COOLING MODE**

INPUTS

- **1. Input Name:** the device or event, connected to the input (e. g. boiler fault)
- **2. Input Name:** the device or event, connected to the input (e. g. blackout)

NOTIFICATIONS

- **Input 1 Event:** based on status change of Input 1, an event is generated
- **Input 2 Event:** based on status change of Input 2, an event is generated
- **Control 1 Event:** generates an event based on control of the output

TS-100 temperature measurement probe

Features

- Measuring range: -55°C/+125°C
- Measurement accuracy: ±0.5°C (-10°C to +85°C)
- Probe size: 6x50mm
- Probe material: SS304 stainless steel
- Cable length: 1.5m
- Cable type: PVC sheath
- Cable connector: 3.5mm stereo audio jack