TS600 TEMPERATURE SENSOR/THERMOSTAT
- FULL USER MANUAL
# 1. Introduction
- 1.1 Product Compliance .......................................................... 5
- 1.2 Safety Information ............................................................ 5

# 2. Product Overview
- 2.1 Montage ............................................................................ 6
- 2.2 Package content .............................................................. 6
- 2.3 Proper thermostat location ............................................... 6
- 2.4 Connection Description (TS600 thermostat) ...................... 6
- 2.5 Mounting and installation of the thermostat .................... 7

# 3. About ZigBee network
- 3.1 ZigBee network - creation and work ................................ 8
- 3.2 Compatibility with SALUS devices ................................. 9

# 4. Before you start (first power up)
- 4.1 Button operation ............................................................. 10
- 4.2 LED Indication ................................................................. 10

# 5. Installation by SALUS Smart Home application (ONLINE MODE)
- 5.1 General Information about SALUS Smart Home application 11
- 5.2 Configuration as a programmable thermostat ................ 12
  - 5.2.1 Pairing with underfloor heating wiring centre (KL08RF/Control Box) 12
  - 5.2.2 Pairing with wireless TRV radiator head ..................... 15
  - 5.2.3 Pairing with Smart Plug SPE600 .............................. 17
  - 5.2.4 Pairing with Smart Relay SR600 ............................. 19
  - 5.2.5 Pairing with RX10RF receiver ............................... 21
- 5.3 Configuration as a hot water timer ................................. 23
  - 5.3.1 Pairing with Room Extension Receiver (RX2) ............ 23

# 6. OPERATING in ONLINE MODE (by app)
- 6.1 General information ....................................................... 25
- 6.2 App icons description ..................................................... 25
  - 6.2.1 Programmable thermostat ...................................... 25
  - 6.2.2 Hot Water Timer ..................................................... 26
- 6.3 Change thermostat name (pencil icon) ......................... 27
- 6.4 Work as a programmable thermostat ............................ 28
  - 6.4.1 Setpoint temperature change ................................ 28
  - 6.4.2 Heat/Cool mode change (KL08RF connection) ........ 29
  - 6.4.3 Thermostat modes ................................................ 30
    - 6.4.3.1 Schedule mode .............................................. 30
    - 6.4.3.2 Temporary override mode ............................... 34
    - 6.4.3.3 Manual mode ................................................ 34
    - 6.4.3.4 Frost protection ........................................... 35
  - 6.4.4 Key lock function ................................................... 36
  - 6.4.5 Compatibility with window/door sensor OS600 / SW600 37
  - 6.4.6 Compatibility with Smart Plug SPE600 .................. 38
  - 6.4.7 Compatibility with Smart Relay SR600 ................. 39
- 6.5 Work as a hot water timer (work modes) ....................... 40
  - 6.5.1 Turned ON mode .................................................. 40
  - 6.5.2 AUTO mode ........................................................ 41
  - 6.5.3 Turned OFF mode .................................................. 42
  - 6.5.4 Temporarily ON mode .......................................... 43
- 6.6 Identification mode ....................................................... 44
6.7 Pinning/unpinning thermostat to/from application dashboard .................................................................45
6.8 User settings (basic settings) ......................................................................................................................46
6.9 Admin settings (installer parameters) ..........................................................................................................47
6.10 OneTouch rules (add/edit) .........................................................................................................................49
6.11 Error codes (exclamation mark in app) ......................................................................................................53
6.12 Wireless signal strength test ......................................................................................................................54
6.13 Factory reset (removing thermostat from the app and ZigBee network) ......................................................55

7. Error codes description with possible solutions .............................................................................................57
8. Cleaning and Maintenance ...............................................................................................................................59
9. Technical Informations .....................................................................................................................................59
10. Warranty .........................................................................................................................................................60
1. Introduction

1.1 Product Compliance

This product complies with the essential requirements and other relevant provisions of Directives 2014/53/EU and 2011/65/EU. The full text of the EU Declaration of Conformity is available at the following internet address: www.saluslegal.com.

1.2 Safety Informations

- Before starting installation work and before using the product, read the entire manual.
- The information contained in the instructions is essential for proper functioning.
- To avoid accidents resulting in personal injury and material damage, please follow all safety precautions, specified in this manual.
- The device should not be used by people with limited mental, sensory or mental abilities, without experience, of insufficient knowledge as well as children.
- Do not use an unassembled device (eg without a cover).
- The device may only be opened by a qualified person.
- Keep electrical devices out of the reach of children and ensure that they do not play with it. Children should not be left unattended. If necessary, disconnect the control system for the entire room.
- Do not leave the packaging, cabinet, or any loose parts of the device unattended, as they pose a risk to children.

WARNING!
- Installation must be carried out by a qualified person with appropriate electrical qualifications in accordance with standards and regulations in force in the given country and in the EU.
- Never try to connect the device other than as described in the manual.
- Before assembly, repair or maintenance as well as during any connection works it is absolutely necessary disconnect the mains supply and make sure that the terminals and electric wires are not live.
- The device may not be exposed to extreme temperatures, strong vibrations or subjected to mechanical shock.
- The device should not be used in unfavorable environmental conditions or in rooms where there is a concentration of flammable gases, fumes or dust.

WARNING!
- There may be additional protection requirements for the entire installation that the installer is responsible for maintaining.
2. Product Overview

TS600 is a surface-mounted sensor and a thermostat for wireless control of SALUS Smart Home devices. Installation and configuration are carried out using the SALUS Smart Home application, the UGE600 universal gateway is also required for operation. In Online mode it can communicate with devices such as: KL08RF wiring centre, mini TRV radiator head, RX10RF receiver, SR600 smart relay and SPE600 smart plug.

2.1 Montage

2.2 Package content

1) TS600 thermostat
2) Mounting plate
3) 2 x AA batteries
4) Short instruction
5) Mounting screws

2.3 Proper thermostat location

Please note:

The ideal position to thermostat mounting is about 1.5m under floor level far from heating or cooling sources. Thermostat can’t be exposed to sunlight or any extreme conditions like for example draft.

Because of fire and explosion risk there is not allowed to use thermostat in atmosphere of explosive gases and flammable liquids (eg coal dust). In case if any of listed dangers occur you have to use additional protection measures — anti-dust and explosive gases (tight cover) or prevent their formation. Furthermore, thermostat can’t be used in condensation of water vapor conditions and be exposed to water action.

2.4 Connection Description (TS600 thermostat)

Symbols explanation:

S — volt-free contact
T — temperature sensor eg. FS300

S1, S2 terminals:
- air or floor temperature sensor
- external volt-free contact to connect any ON/OFF switch or occupancy sensor (Hotel card)
- external hot water thermostat
2.5 Mounting and installation of the thermostat

**Mounting:** to mount thermostat you can use accessories included with the set (mounting screws). Remove back cover to mount the plate to the wall. Now please insert the batteries inside the thermostat. After this just attach thermostat to the plate right into designed holes in the plate.

1. Mount the back case on the wall.
2. An external sensor can be connected to the S1 and S2 terminals. Purchased separately.
3. Insert the batteries. TS600 will automatically go into pairing mode.
4. Add the front case.
3. About ZigBee network

3.1 ZigBee network - creation and work

ZigBee is a wireless network based on IEEE 802.15.4 standard and it’s communication takes place in the 2.4 GHz band. The network is based on a mesh topology, which allows for a very large range and high reliability. The maximum range of direct communication between two network nodes (devices) is about 100m in open space.

The devices included in the ZigBee network are divided into three types:
- **Coordinator** - there can only be one such device in each network. It acts as a connection node for all devices;
- **Router (repeater)** - this device is powered by 230VAC, with functionality similar to classic network routers, and its task is to forward data packets and increase the range of the network;
- **Terminal device** - battery powered, sends data to the coordinator (also through the router) to which it is connected. It is usually put to sleep temporarily, which helps reduce energy consumption.

Built-in security in the ZigBee protocol (ISO-27001 and SSAE16 / ISAE 3402 Type II - SOC 2 certification) ensure high transmission reliability, detection and removal of transmission errors, as well as connectivity between established priority devices.

Security measures include:
- devices authenticated using a unique key pair;
- encrypted communication between the mobile application and the device;
- data encryption - HTTPS encrypted using TLS, UDP channel with AES-128 encryption;
- layered access control to prevent tampering with one device threatening the entire system.

The ability to work many devices at a short distance from each other was achieved through the use of radio transmission of the spread spectrum signal.

The main advantages of devices working in the ZigBee system are two-way communication and minimization of energy consumption, which in many cases allows them to be powered from chemical cells (alkaline batteries).

**Four Simple steps to create ZigBee network:**

1. **Coordinator Installation - Universal Gateway** for **ONLINE** and **OFFLINE** systems with internet application or **CO10RF** for only **OFFLINE** systems without application.

2. **Now** - add any device you want **powered 230VAC**.

   **Note** to locate it as near coordinator as possible.

3. Now you can increase range of ZigBee network by adding more devices **powered 230 VAC**.

4. To extend your network you can add more battery devices and accessories.
3.2 Compatibility with SALUS devices

COMPATIBILITY WITH OTHER SALUS CONTROLS DEVICES

TS600 thermostat can work only in ONLINE mode.

ONLINE MODE

Universal Gateway is CONNECTED TO THE INTERNET
You can configure and use all your devices in the Smart Home App

Download the Smart Home App on your iOS or Android device for remote access to your SALUS equipment.

Compatibile devices:

- **SR600** Smart Relay
- **SPE600** Smart Plug
- **KL08RF** wireless wiring centre for 8-zone underfloor heating.
- **KL04RF** extension
- **TRV** (Thermostatic Radiator Valve) with wireless communication.
- **RX10RF** receiver

Other SmartHome devices/accessories

- Window/door Sensor **SW600** or **OS600**
- Smoke detector **SD600**
- Double/single OneTouch button **SB600/CSB600**
- Water leak sensor **WLS600**
- **RS600** Roller shutter
- **RE600** ZigBee network signal repeater (only with **UGE600**)
- **RE10RF** ZigBee network signal repeater
4. Before you start (first power up)

4.1 Button operation

Press the touch button to see the **status** of the device. If TS600 is calling for HEAT, the LED will be **GREEN**. If TS600 is SATISFIED, the LED will be **RED**.

**DEVICE STATUS**

If TS600 is paired, press and hold the touch button for 3 seconds. TS600 will enter **Identify** mode and will send Identify command to all related devices. To stop Identify mode press button one time.

**IDENTIFY MODE**

TS600 can be locked or unlocked via the app. To unlock the device manually, you need to power cycle device and then press and hold the touch button for 10 seconds during the first minute after reboot. The device will reset again and unlock.

**BUTTON LOCK**

To perform a **reset**, press and hold the touch button for 10 seconds. The LED will turn **red** for 5 seconds. TS600 will leave the network and reset. Once completed, the TS600 will re-enter pairing mode.

**FACTORY RESET**

### 4.2 LED Indication

<table>
<thead>
<tr>
<th>LED</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red LED on for 5 seconds</td>
<td>Factory Reset</td>
</tr>
<tr>
<td>Green LED flashes 0.25s on and 0.75s off</td>
<td>Identify Mode</td>
</tr>
<tr>
<td>Red LED flashes 0.3s on and 0.3s off (3.5s off last cycle) for 10 minutes</td>
<td>Joining network</td>
</tr>
<tr>
<td>Amber LED flashes 0.3s on and 0.3s off (3.5s off last cycle) for 10 minutes</td>
<td>Pairing device</td>
</tr>
<tr>
<td>Green LED on for 0.5 seconds</td>
<td>Calling heat / cool if the button is pressed</td>
</tr>
<tr>
<td>Red LED on for 0.5 seconds</td>
<td>No calling heat / cool if the button is pressed</td>
</tr>
<tr>
<td>Red LED flashes 3 times every 10 seconds</td>
<td>Low Battery</td>
</tr>
<tr>
<td>Red LED flashes 4 times every 10 seconds</td>
<td>Lost link with parent</td>
</tr>
<tr>
<td>Red LED flashes twice every 10 seconds</td>
<td>Error</td>
</tr>
</tbody>
</table>
5. Installation by SALUS Smart Home application (ONLINE MODE)

5.1 General informations about SALUS Smart Home application

Thanks to UGE600 Universal Gateway and SALUS Smart Home app system allows you to remote control of your heating system in any place you are in the moment by smartphone, tablet or computer with Internet connection. Then you have also access to advanced functions of TS600 thermostat. You can also create OneTouch rules to customize system to your needs.

1. First make sure that you have downloaded the Salus Smart Home App from the Google Play or App Store. You will need to follow a few easy steps to create an account and then link your thermostat to the Universal Gateway and to the App.

You can also access the web version on:
http://eu.salusconnect.io/

2. To begin the pairing process the Gateway should be plugged into the power supply and connected to the Internet. Also, make sure that the UGE600 is added to your Salus Smart Home App. For the installation of the Universal Gateway, please refer to the UGE600 manual on salus-manuals.com

3. Make sure that your UGE600 Universal Gateway is added to the App. The LED of the Gateway should be steady blue. Then go to TS600 thermostat and begin paring process with the UGE600 and add it to the App.
5.2 Configuration as a programmable thermostat
5.2.1 Pairing with underfloor heating wiring centre (KL08RF/Control Box)

⚠️ Please note:
For easier installation, please make sure you have already added underfloor heating wiring centre (KL08RF/Control Box) to your ZigBee network (please refer to the underfloor heating wiring centre manual instruction).

1. Press and hold the button for 10 seconds.
2. Now thermostat is looking for the signal from the coordinator... the red diode has started to blink 3 times in a row sequently.
3. Go to SALUS Smart Home app.
4. Open main menu.
5. Select „Settings“.
6. Now enter to the „Setup Equipment“.
7. Press „Scan for equipment“ button.
8. App has started scanning...
9. ...Gateway has started flashing red and searching for the thermostat...
Thermostat is connected (amber diode is blinking 3 times in a row sequentially). Go to the Smart Home app to configure it.

Select your thermostat and press "Connect equipment" button.

Name your thermostat and go "Next"...

Press gear icon.

Select option „Programmable Thermostat”.

Now choose „UFH Wiring Centre” option.
Choose “No” if you want to set your own schedule later or “Yes” if default now.

Select the zone which you want attribute to your thermostat.

Choose „No” if you want to set your own schedule later or „Yes” if default now.

Press „Finish” button to end the set up process in the app.

Gateway stop flashing and turn to steady blue color which means pair process has been finished.

You successfully configured TS600 thermostat with KL08RF Control Box.
5.2.2 Pairing with wireless TRV radiator head

⚠️ Please note:
For easier installation, please make sure you have already added wireless TRV radiator heads to your ZigBee network (please refer to the wireless TRV radiator head manual instruction).

1. Press and hold the button for 10 seconds.
2. Now thermostat is looking for the signal from the coordinator... the red diode has started to blink 3 times in a row sequently.
3. Go to SALUS Smart Home app.

4. Open main menu.
5. Select „Settings“.
6. Now enter to the „Setup Equipment“.
7. Press „Scan for equipment“ button.
8. App has started scanning...
9. ...Gateway has started flashing red and searching for the thermostat...

10. Thermostat is connected (amber diode is blinking 3 times in a row sequently). Go to the Smart Home app to configure it.
You successfully configured TS600 thermostat with Wireless TRV radiator head.

Now choose Smart Radiator Control.

Select your thermostat and press "Connect equipment" button.

Name your thermostat and go "Next"...

Select option "Programmable Thermostat".

Press gear icon.

Select your TRV radiator head from the list.

Gateway stop flashing and turn to steady blue color which means pair process has been finished.

Choose "No" if you want to set your own schedule later or "Yes" if default now.

Press "Finish" button to end the setup process in the app.

You successfully configured TS600 thermostat with Wireless TRV radiator head.
5.2.3 Pairing with Smart Plug SPE600

⚠️ Please note: For easier installation, please make sure you have already added Smart Plug SPE600 to your ZigBee network (please refer to the Smart Plug SPE600 manual instruction).

1. Press and hold the button for 10 seconds.

2. Now thermostat is looking for the signal from the coordinator... the red diode has started to blink 3 times in a row sequently.

3. Go to SALUS Smart Home app.

4. Open main menu.

5. Select „Settings“.

6. Now enter to the „Setup Equipment“.

7. Press „Scan for equipment“ button.

8. App has started scanning...

9. ...Gateway has started flashing red and searching for the thermostat...

10. Thermostat is connected (amber diode is blinking 3 times in a row sequently). Go to the Smart Home app to configure it.
Select your thermostat and press “Connect equipment” button.

Name your thermostat and go “Next”...

Press gear icon.

Select option „Programmable Thermostat”.

Now choose Smart Plug.

Select your Smart Plug from the list.

Choose „No” if you want to set your own schedule later or „Yes” if default now.

Press „Finish” button to end the set up process in the app.

Gateway stop flashing and turn to steady blue color which means pair process has been finished.

You successfully configured TS600 thermostat with Smart Plug SPE600.
5.2.4 Pairing with Smart Relay SR600

⚠️ Please note: For easier installation, please make sure you have already added Smart Relay SR600 to your ZigBee network (please refer to the Smart Relay SR600 manual instruction).

1. Press and hold the button for 10 seconds.
2. Now thermostat is looking for the signal from the coordinator... the red diode has started to blink 3 times in a row sequently.
3. Go to SALUS Smart Home app.
4. Open main menu.
5. Select „Settings“.
6. Now enter to the „Setup Equipment“.
7. Press „Scan for equipment“ button.
8. App has started scanning...
9. ...Gateway has started flashing red and searching for the thermostat...
10. Thermostat is connected (amber diode is blinking 3 times in a row sequently). Go to the Smart Home app to configure it.
Select your thermostat and press "Connect equipment" button.

Name your thermostat and go "Next"...

Press gear icon.

Select option „Programmable Thermostat“.

Now choose Smart Relay.

Select your Smart Relay from the list.

Choose „No“ if you want to set your own schedule later or „Yes“ if default now.

Press „Finish“ button to end the setup process in the app.

Gateway stop flashing and turn to steady blue color which means pair process has been finished.

You successfully configured TS600 thermostat with Smart Relay SR600.
5.2.5 Pairing with RX10RF receiver

⚠️ Please note:
For easier installation, please make sure you have already added RX10RF receiver to your ZigBee network (please refer to the RX10RF receiver manual instruction).

1. Press and hold the button for 10 seconds.

2. Now thermostat is looking for the signal from the coordinator... the red diode has started to blink 3 times in a row sequently.

3. Go to SALUS Smart Home app

4. Open main menu.

5. Select „Settings“.

6. Now enter to the „Setup Equipment“.

7. Press „Scan for equipment“ button.

8. App has started scanning...

9. ...Gateway has started flashing red and searching for the thermostat...

10. Thermostat is connected (amber diode is blinking 3 times in a row sequently). Go to the Smart Home app to configure it.
Select your thermostat and press “Connect equipment” button.

Name your thermostat and go “Next”...

Press gear icon.

Select option “Programmable Thermostat”.

Choose “More” to expand the menu.

Now choose Boiler Receiver. If RX10RF is set as “RX1” then choose option “Boiler Receiver”. If as a “RX2” then select “Room Extension Receiver”.

Choose “No” if you want to set your own schedule later or “Yes” if default now.

Press “Finish” button to end the setup process in the app.

Gateway stop flashing and turn to steady blue color which means pair process has been finished.

You successfully configured TS600 thermostat with RX10RF receiver.
5.3 Configuration as a hot water timer
5.3.1 Pairing with Room Extension Receiver (RX2)

**PLEASE NOTE!**
For easier installation, please make sure you have already added other devices to your ZigBee network, such as Underfloor Heating Control Box (KL08RF) or RX10RF.

1. Press and hold the button for 10 seconds.

2. Now thermostat is looking for the signal from the coordinator... the red diode has started to blink 3 times in a row sequently.

3. Go to SALUS Smart Home app.

4. Open main menu.

5. Select „Settings“.

6. Now enter to the „Setup Equipment“.

7. Press „Scan for equipment“ button.

8. App has started scanning...

9. ...Gateway has started flashing red and searching for the thermostat...

10. Thermostat is connected (amber diode is blinking 3 times in a row sequently). Go to the Smart Home app to configure it.
Select your thermostat and press "Connect equipment" button.

Name your thermostat and go "Next"...

Press gear icon.

Press "More" to expand the menu.

Select option "Hot Water Timer".

Choose Room Extension Receiver.

Press "More" to expand the menu.

Choose "More" to expand the menu.

Gateway stop flashing and turn to steady blue color which means pair process has been finished.

You successfully configured TS600 thermostat as a hot water timer with RX10RF receiver.
6. OPERATING in ONLINE MODE (by app)

6.1 General informations

This section will show how to use your TS600 thermostat with the UGE600 Universal Gateway and the Salus Smart Home App. In order to do that, you will need a Salus UG600/UGE600 Universal Gateway, the Salus Smart Home App and Internet connection. Controlling your thermostat via the App gives you a lot of freedom and the possibilities to manage the temperature in your house/office remotely (Smart Home app is available for Android/iOS mobile devices or Internet browser).

6.2 App icons description

6.2.1 Programmable thermostat

Menu view of TS600 thermostat set as a programmable thermostat in SALUS SmartHome application:
Menu view of TS600 thermostat set as a Hot Water Timer in SALUS SmartHome application:

Hot Water Timer work mode selection tool.
- Turned ON
- AUTO mode (schedule)
- Turned OFF
- Temporarily ON mode

Identification tool
Icons of devices like window / door sensors (OS600/SW600), Smart Plug (SPE600) and SR600 smart relay. You can see them only when these devices are paired with system. Through these icons you can pair TS600 thermostat fast with selected device.
6.3 Change thermostat name (pencil icon)

1. Select the thermostat in the main app menu.

2. Press the thermostat’s name.

3. Click on the pencil icon.

4. Name your thermostat and confirm it by “Save” button.
6.4 Work as a programmable thermostat

6.4.1 Setpoint temperature change

You can change the setpoint by sliding the cursor to left/right on your App. On your App screen, the setpoint temperature is the number displayed in a larger font.

1. Select the thermostat in the main app menu.

2. Old setpoint value.

3. New setpoint value.

4. Thermostat has started heating (flame icon changed colour from white to orange).
6.4.2 Heat/Cool mode change (KL08RF connection)

TS600 thermostat could be a heating device or cooling device. Default thermostat is set for heating. To set cool mode you have to insert the jumper into „CO“ terminal on KL08RF side. Look at the instructions below:

HEATING MODE:

1. When there is no jumper at „CO“ terminal KL08RF is automatically working in heating mode.

2. In the application you will see orange thermostat tile with „Flame“ icon when heating mode is on.

COOLING MODE:

1. When there is jumper at „CO“ terminal KL08RF is automatically working in cooling mode.

2. In the application you will see blue thermostat tile with „snowflake“ icon when cooling mode is on.
6.4.3 Thermostat modes
6.4.3.1 Schedule mode

The **TS600 thermostat** gives you the possibility to programm schedule. You can choose from 3 different schedule configurations:
- Separate schedule for working days (Mo-Fri) and weekend (Sat-Sun)
- Individual schedules for each day at the week
- One schedule for whole week

To activate schedule mode:

1. Select thermostat in the main app menu.
2. Click on the work mode icon.
3. Choose „Follow Schedule“ work mode.

Additionally, you can choose to set the Default schedule that already exist in the App, or to modify it according to your preferences. The schedule is displayed at the bottom of screen of your App on the selected thermostat. You can activate the schedule by pressing the Follow Schedule icon on your App.
TO SET THE SCHEDULE IN THE APP:

1. Select thermostat in the main app menu.

2. Press thermostat’s name.

3. Scroll down and press pencil button.

4. Choose for which days you want to program your schedule:
   - Working Week / MON - FRI and SAT + SUN
   - Home most of the time / MON - SUN
   - Daily

5. After days period selection use „Add interval“ option to add your intervals to the schedule.

6. Then add a start time and temperature setpoint, after all - confirm by pressing „Add“ button.

⚠️ Please note:
You can add as many intervals as you wish by repeating the procedure described from steps 3 to 6. The procedure is the same for all 3 schedule configurations. You can customize the programs on the thermostat in any way you want.
After you’ve added all the intervals, tap “Save” to save it. Your schedule has been saved and set.

ADDITIONALLY: You can duplicate the same schedule for other thermostat’s. Click on the „Duplicate schedule” option.

Select thermostat for which you want to duplicate the schedule.

Now app is saving your choice and after it you will have the same schedule for thermostat’s you’ve selected.

**PLEASE NOTE:** To delete any interval in the schedule just use button next to selected interval.

Please note:
When thermostat has no schedule (or it has been deleted) then it maintains a constant temperature 21 °C (in „Follow Schedule” mode).
To set default schedule:

1. Select thermostat in the main app menu.

2. Press thermostat’s name.


4. To set default schedule use “Default schedule” button. It will remove all current intervals and it will set default schedule.
6.4.3.2 Temporary override mode

Temporary override mode means manual temperature change during active schedule mode:

![Image]

When „Follow schedule” mode is active, use slider to set new setpoint temperature.

When you have overwritten the temperature then hand icon will appear next to calendar which means that temporary override mode is working until next schedule program.

---

**NOTE:** Temporary override mode will be maintained until next program will come, as it has been set in the schedule.

6.4.3.3 Manual mode

If the thermostat follows a schedule or is in frost protection mode, user can change the operating mode to the manual mode. In manual mode thermostat will maintain setpoint temperature until user will manually change it to a new value or select a new operating mode. When thermostat works in manual mode, the hand icon 🧒 will be displayed in the app screen.

![Image]

Click thermostat’s work modes icon.

Select „Permanent Hold” mode.

Hand icon confirms that thermostat is in manual mode.
6.4.3.4 Frost protection

In **Frost protection mode** the thermostat is displaying actual room temperature and maintain „frost protection” setpoint temperature specified in thermostat settings. When thermostat works in **Frost protection mode** then you have no possibilities to change temperature setpoint. To activate **Frost protection mode** online please follow steps below:

1. Press thermostat’s work modes icon.
2. Select „OFF” mode.
3. Thermostat is in frost protection mode.

⚠️ **Note:** When the thermostat exits frost protection mode, previous mode will be restored.

**PLEASE NOTE:** You can change frost protection mode temperature setpoint from the application level (D08 parameter). Follow steps below:

1. Click in the thermostat’s name.
2. Select thermostat’s settings.
3. Set frost setpoint temperature and confirm by „Save” button.
6.4.4 Key lock function

You can lock/unlock buttons in your thermostat by application.

Click in the thermostat’s name.

Click on the “padlock” icon to lock/unlock thermostat buttons.
6.4.5 Compatibility with window/door sensor OS600 / SW600

**TS600 thermostat** paired with window/door sensor **OS600/SW600** allows to create OneTouch rules when window/door is opened or closed. If thermostat will receive information from window/door sensor (that window has been opened for example) then OneTouch rule will turn off heating until window close. If you want to have access to this function then first you have to add window/door sensor OS600 or SW600 (please refer to the OS600 or SW600 manual instruction).

To pair window/door sensor OS600/SW600 with TS600 thermostat please follow steps below:

1. Select the thermostat in the main app menu.
2. Press thermostat’s name.
3. Choose the window icon.
4. Mark sensors which you want to link together with the thermostat. You can additionally lock buttons on thermostat when window is opened by marking option above. Press “Save” button to finish pair process...
6.4.6 Compatibility with Smart Plug SPE600

**TS600 thermostat** paired with **SPE600 Smart Plug** allows to turn on/off any electric device eg. pump, radiator or valve with actuator. When thermostat starts heating then plug will **turn on** device (or **turn off** when there is no need to heat). If you want to have access to this function then first you have to add **SPE600 Smart Plug** to the SALUS SmartHome system (please refer to the SPE600 manual instruction).

To pair SPE600 Smart Plug with TS600 thermostat please follow steps below:

1. Select the thermostat in the main app menu.
2. Press thermostat’s name.
3. Choose the plug icon.
4. Choose plugs which you want to add to the thermostat. Press „Save” button to finish pair process...
6.4.7 Compatibility with Smart Relay SR600

TS600 thermostat paired with Smart Relay SR600 allows to wireless control of eg. radiator, pump, boiler. When thermostat start heating then SR600 Smart Relay will turn on device (or turn off when there is no need to heat). If you want to have acces to this function then first you have to add SR600 Smart Relay to the SALUS SmartHome system (please refer to the SR600 manual instruction).

To pair SR600 Smart Relay with TS600 thermostat please follow steps below:

1. Select the thermostat in the main app menu.
2. Press thermostat’s name.
3. Press the relay icon.
4. Choose SR600 relays which you want to add to the thermostat. Press „Save” button to finish pair process...
6.5 Work as a hot water timer (work modes)

TS600 thermostat has 4 work modes as a hot water timer:

1. **Turned ON** - (thermostat is manually turned on and work as long as you change this mode to another or switch it off),
2. **AUTO mode** - (thermostat is following schedule which you programmed - look at chapter 6.4.3.1 Schedule mode, page 30),
3. **Turned OFF** - (thermostat is manually turned off as long as you select other mode),
4. **Temporarily ON mode** - (you can fast set the water heating time in this mode in limited hour period (from 1 to 4 hours)).

6.5.1 Turned ON mode - 1

Thermostat is manually turned on and work as long as you change this mode to another or switch it off. To set this mode on, please follow steps below:

1. Select the thermostat in the main app menu.
2. Turn ON the hot water timer.
3. Close thermostat’s tile.
4. Now you can see thermostat’s tile in orange colour which means it has started call for heating.
6.5.2 AUTO mode - 

Thermostat is following schedule which you programmed - look at chapter 6.4.3.1 Schedule mode, page 30. To set this mode on, please follow steps below:

1. Select the thermostat in the main app menu.
2. Select AUTO mode.
3. Close thermostat's tile.
4. Thermostat is in auto mode (it is following schedule).
6.5.3 Turned OFF mode -

Thermostat is manually turned off as long as you select other mode. To set this mode on, please follow steps below:

1. Select the thermostat in the main app menu.
2. Turn OFF thermostat.
3. Close thermostat’s tile.
4. Thermostat is turned off. Tile is in green colour.
You can fast set the water heating time in this mode in limited hour period (from 1 to 4 hours). To set this mode on, please follow steps below:

1. Select the thermostat in the main app menu.
2. Select temporarily mode (B letter).
3. Choose hour value.
5. Thermostat is in temporarily mode (for 4 hours in this case). You can turn it off by choosing other mode.
6.6 Identification mode

Identification mode can be useful when we are pairing more than one device in one moment and we don’t know which device is which. Beyond, if our system include more than one UGE600 Universal Gateway then we can easily identify which device is paired with which gateway.

In the Identification mode thermostat's green diode is flashing.

You can also identify your device during thermostat's pairing process:

The identification mode of all devices in the network can be started on the Universal Gateway by clicking a button on it. Identification mode is active when the gateway is flashing green. Then all paired devices signal that they are assigned to the network. Exit from the identification mode by clicking on the button on the gateway again (the gate will flash with a steady light again).
6.7 Pinning/unpinning thermostat to/from application dashboard

To pin/unpin thermostat from dashboard in Smart Home application please follow steps below:

1. Open main menu in the app.
2. Select equipment.
3. Select All equipment option.
4. Select your TS600 thermostat.
5. Press on the „Pin” icon to pin/unpin thermostat to/from the app dashboard.
6.8 User settings (basic settings)

User settings of TS600 thermostat determine basic thermostat parameters. Please see below how to enter those settings:

1. Select the thermostat in the main app menu.
2. Press thermostat’s name.
3. Select thermostat’s settings.
4. Scroll down to the settings section.

**BASIC SETTINGS:**

- (D08) Frost Setpoint Temperature
  - 5 °C

- (D09) Hour Format
  - 12:00
  - 24:00

- Advanced settings
  - Installer (administration) settings

- Set the frost protection setpoint temperature.
- Select the hour format for the thermostat.
6.9 Admin settings (installer parameters)

PLEASE NOTE: Admin settings are mainly for qualified installers or knowledgeable users.

1. Select the thermostat in the main app menu.
2. Press thermostat’s name.
3. Select thermostat’s settings.
4. Scroll down to enter „Admin settings“.
Select the hour format for the thermostat.

Select the temperature unit.

Set the frost protection setpoint temperature.

Select the control algorithm for heating.

Choose the value for temperature calibration.

Set when sensor is connected to the thermostat.

Select hysteresis for cooling mode.

Enable / Disable the valve protection for the thermostat.

Set the max temperature for heating setpoint.

Set the min temperature for heating setpoint.

Set the max temperature for heating setpoint.
6.10 OneTouch rules (add/edit)

OneTouch - function that distinguish SALUS Smart Home system in terms of functionality. OneTouch rules are pre-configured set of actions defined in the interface easy in use. You can switch it on or off anytime. OneTouch informs thermostat or other device how it has to work according to pre-set settings. In application are 4 pre-defined OneTouch rules:

- **Party Mode** - set thermostat temperature to 21 °C for 2 hours
- **Comfort Temperature** - set thermostat temperature to 21°C
- **Frost Protection Mode** - set thermostat to the Frost Mode (temperature setpoint can be set in the user settings) - 5°C by default
- **Holiday Mode** - set thermostat to the Holiday Mode

⚠️ To activate OneTouch rules please follow steps below (example on Party Mode):

1. Open main menu in the app.
2. Select equipment.
3. Select OneTouch option.
4. Choose “Party Mode” as one of the built-in OneTouch rules. Click “Add OneTouch” to add it.
5. Select thermostats which you want to configure with this rule. Press “Apply” to confirm.
6. Party Mode has been activated. You can check how it works by pressing “Run now” button.
You can also create your own OneTouch rule. As an example we will create OneTouch rule which activates „send me a notification“ action under „temperature is below 10 °C“ condition. Please look at the steps below how to set this OneTouch rule.

1. Open main menu in the app.
2. Select equipment.
3. Select OneTouch option.
4. Press „Add a AND OneTouch“ button.
5. Enter OneTouch rule name.
6. At this step choose condition which have to be fulfill in order to activate the rule.
Select which thermostat you want to link up with your OneTouch rule.

Choose the condition details for your thermostat. In this case select „Temperature Below” option.

Enter a temperature setpoint trigger for your OneTouch rule. Press „Set” button to confirm.

Select „DO THIS” option to create OneTouch rule action.

Choose e-mail or SMS notification and enter the message content. Confirm by pressing „Set” button.

To finish OneTouch rule creation press „Save” button.
OneTouch rule is now activated. In this example SMS message will be send to the user.

As an option OneTouch rule tile can be pinned to the dashboard.

Newly created OneTouch rule tile can be found under OneTouch main menu...

...and on your dashboard.

To force OneTouch rule activation select it tile...

...and press it’s button.

OneTouch rule is now activated. In this example SMS message will be send to the user.

Please note: SMS notifications will be send to the user only if they are activated in the OneTouch settings and UGE600 Universal Gateway is connected to the Internet.
6.11 Error codes (exclamation mark in app)

If there is any error in the Smart Home system which relates to the devices performance or functionality then the Smart Home app will inform user about it by a red exclamation mark in the upper menu. Please look at the example below:

Press the exclamation mark button. All current errors are displayed.

Main errors are also reported by thermostat’s LED diode. Please see below diode sequence descriptions:

<table>
<thead>
<tr>
<th>LED</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red LED flashes 3 times every 10 seconds</td>
<td>Low Battery</td>
</tr>
<tr>
<td>Red LED flashes 4 times every 10 seconds</td>
<td>Lost link with parent</td>
</tr>
<tr>
<td>Red LED flashes twice every 10 seconds</td>
<td>Other error</td>
</tr>
</tbody>
</table>

When problem has been solved - exclamation mark will disappear in application and thermostat will stop flashing error.

Full list of errors and possible solutions are in chapter 7.
6.12 Wireless signal strength test

Each wireless device has a limited range. Beyond distance there are many more elements which could affect on. For example - concrete walls, other wireless network interferences, wooden walls, reinforced concrete ceilings, metal construction elements, pillars, aluminium foil for underfloor heating etc.

Smart Home system has built-in function which allows to check wireless signal quality. If you want to check your system connectivity and signal’s strength please follow steps below:

1. Press the gear icon in upper right corner of the background image.
2. Select „Scan my home“ option.
3. Here you can check wireless signal quality of given devices.

Signal quality is expressed in **decibel units (db)**. Compare your value with scale below:

- **-50db to 0db** - very good quality signal
- **-75db to -50db** - good quality signal
- **-85db to -75db** - low quality signal
- **-95db to -85db** - bad quality signal, makes wireless connection nearly impossible

**PLEASE NOTE:** Every Smart Home system device which is powered 230VAC is also working as a signal repeater of ZigBee network. If system is based on battery devices there could be a need to use repeaters like Salus RE600, Salus RE10RF or any other device of Salus Smart Home series which is powered by 230V AC.
6.13 Factory reset (removing thermostat from the app and ZigBee network)

To make thermostat factory reset and remove it from the ZigBee network please follow steps below:

1. Select the thermostat in the main app menu.
2. Press thermostat’s name.
3. At the very bottom of thermostat’s menu choose „Remove“ option.
4. Press „Delete“ button to remove your thermostat from the app and confirm factory reset.

**NOTE:** Factory reset function removes thermostat from the ZigBee network. This means that thermostat is not visible anymore in the „My equipment“ list.
You can also do factory reset from the thermostat directly. It will also remove your thermostat from the Zigbee network but you still will be able to see thermostat’s tile. After factory reset thermostat tile will change to dark grey colour.

1. Press and hold the main button for 10 seconds...
2. Red diode will flash constantly for 5 seconds, which means that device has been successfully reset.
3. Select the thermostat in the main app menu.
4. Press thermostat’s name.
5. At the very bottom of thermostat’s menu choose „Remove“ option.
6. Press „Delete“ button to remove your thermostat from the app and confirm factory reset.
### 7. Error codes description with possible solutions

Thermostat constantly monitors the network status, wireless connection status and the operation paired devices. If it detects any failure then following error codes can be displayed in the app.

<table>
<thead>
<tr>
<th>NO.</th>
<th>ERROR DESCRIPTION</th>
<th>TROUBLESHOOTING (app)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>TRV paired with thermostat - TRV hardware error.</td>
<td>• Reinstall the TRV head or replace it. If necessary, contact with the SALUS Technical Department.</td>
</tr>
</tbody>
</table>
| 2.  | Floor is overheated (heating mode). / Floor is overcooled (in cooling mode). | • Set the heating medium temperature or change D14 parameter.  
• Set the cooling medium temperature or change D16 parameter. |
| 3.  | Floor sensor is broken. | • If floor sensor is connected to S1/S2 input, check the wiring.  
• If floor sensor is not connected, check the D03/D04 parameters settings. |
| 4.  | Floor sensor is shorted. | • Check floor sensor wire insulation for any damages. Sensor resistance for 25°C=10kΩ. |
| 5.  | Thermostat lost contact with the CO10RF network coordinator or the UGE600 internet gateway. | • Check the coordinator/gateway power supply connection.  
• Force identification process from the coordinator/gateway or thermostat. |
| 6.  | Thermostat lost connection with the wiring centre. | Is the wiring centre turned ON and Status Network LED diode solid?  
• If yes, send the heating signal from thermostat to the wiring centre (change setpoint temperature).  
• If LED diode of the Network Status is flashing, pair the wiring centre with the system in accordance to the manual instruction and pair thermostat with wiring centre. |
| 7.  | Thermostat lost contact with the TRV head. | • Check TRV head batteries.  
• Send the heating signal from thermostat and check if the TRV head is working.  
• If the LED diode on the TRV head is flashing, repeat the pairing procedure with thermostat according to the manual instructions. |
| 8.  | Thermostat has lost connection with the RX10RF receiver (RX1 mode). | • Is the RX10RF receiver plugged to the power supply and the top LED diode is red? The Auto/Manual switch has to be set to AUTO position.  
• Force identification process from the coordinator/gateway side and check if the devices are within the network.  
• Send the heating signal from thermostat  
• If the top LED diode is flashing, perform the pairing procedure according to the RX10RF manual instruction. |
| 9.  | Thermostat has lost connection with the RX10RF receiver (RX2 mode). | • Is the RX10RF receiver plugged to the power supply and the top LED diode is red? The Auto/Manual switch has to be set to AUTO position.  
• Force identification process from the coordinator/gateway side and check if the devices are within the network.  
• Send the heating signal from thermostat  
• If the top LED diode is flashing, perform the pairing procedure according to the RX10RF manual instruction. |
| 10. | KL10RF wiring centre has lost connection with the DHW time programmer. Error is displayed on all thermostats and on the DHW programmer. | Is the wiring centre turned ON and Status Network LED diode solid?  
• If yes, send the heating signal from DHW programmer to the wiring centre.  
• If LED diode of the Network Status is flashing, pair the wiring centre with the system in accordance to the manual instruction and pair DHW timer with wiring centre. |
<table>
<thead>
<tr>
<th>NO.</th>
<th>ERROR DESCRIPTION</th>
<th>TROUBLESHOOTING (app)</th>
</tr>
</thead>
</table>
| 11-18. | Wiring centre has lost connection with thermostat of the given zone: e.g. 11 = with zone 1; 12 = with the zone 2 etc. Error is displayed on all thermostats. | • Check the thermostat power supply.  
• Send the heating signal from thermostat.  
• If necessary, reinstall the thermostat. |
| 19. | Wiring centre has lost connection with the CO10RF coordinator/UGE600 internet gateway. Error is displayed on all thermostats. | • Is the wiring centre turned ON and Status Network LED diode solid?  
• Force identification process from the coordinator/gateway side and check if wiring centre is within the network.  
• If LED diode of the Network Status is flashing, pair the wiring centre with the system in accordance to the manual instruction and pair all thermostats with wiring centre. |
| 20. | Wiring centre has lost connection with the RX10RF receiver operating in RX1 mode. Error is displayed on all thermostats. | • Is the wiring centre turned on? Status Network LED diode should be solid.  
• Force identification process from the coordinator/gateway side and check if devices are within the network.  
• If the LED diode of the AUTO/MANUAL receiver switch is flashing, follow the RX10RF manual instruction for pairing. |
| 21. | TRV head has lost connection with CO10RF coordinator/UGE600 internet gateway. | • Check TRV head batteries (replace if necessary).  
• Check if the coordinator/ internet gateway is connected to the power supply.  
• Force identification process from the coordinator/gateway side and check if devices are within the network.  
• Send the heating signal from thermostat. |
| 22. | Low battery level in the TRV head. | • Replace TRV head batteries. |
| 23. | TRV head’s pairing error or head is incompatible with the system. | • Remove TRV head from the system and repeat pairing procedure with thermostat. |
| 24. | Thermostat was rejected by the wiring centre. | • Perform the thermostat’s pairing procedure again. |
| 25. | Thermostat has lost connection with the nearest 230V powered device. | • Check the power supply of the nearest 230V device. If there is problem with RF signal range, install the ZigBee Network Repeater and pair thermostat with the receiver again (wiring centre, TRV head etc.) |
| 26-29. | Wiring centre has lost connection with thermostat. | • Check the thermostat’s power supply.  
• Send the heating signal from thermostat.  
• If necessary, reinstall the thermostat. |
| 30. | TRV head has a problem with the internal gear mechanism. | • Reinstall the TRV head or replace it. If necessary, contact with the SALUS Technical Department. |
| 31. | Adaptation error of the TRV head assembled on the radiator valve insert. | • Check assembly of the TRV head on radiator valve insert and reinstall the TRV head.  
• Check the compatibility of the TRV head and radiator valve insert; replace the valve insert if necessary. |
| 32. | Thermostat’s battery level is low. | • Replace thermostat batteries. |
| 33. | The RX10RF receiver has lost connection with thermostat. | • Force identification process from the coordinator/gateway side and check if devices are within the network.  
• Send the heating signal from thermostat side and check if RX10RF receiver is turning ON.  
• If the top LED diode is flashing, perform the pairing procedure according to the RX10RF manual instruction.  
• Pair thermostat with the RX10RF receiver again according to the thermostat’s manual instruction. |
The TS600 thermostat requires no special maintenance. Periodically, the outer casing can be wiped clean using a dry cloth (please DO NOT use solvents, polishes, detergents or abrasive cleaners, as these can damage the thermostat). There are no user serviceable parts within the unit; any servicing or repairs could only be carried out by Salus Controls or their appointed agents.

9. Technical Informations

<table>
<thead>
<tr>
<th>Power supply</th>
<th>2 x AA batteries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature range</td>
<td>5 - 35°C</td>
</tr>
<tr>
<td>Temperature measurement accuracy</td>
<td>0.5°C (only in the app)</td>
</tr>
<tr>
<td>Control algorithm</td>
<td>TPI or Hysteresis: ±0.25°C or ±0.5°C</td>
</tr>
<tr>
<td>Communication</td>
<td>ZigBee 2.4 GHz</td>
</tr>
<tr>
<td>Dimension [mm]</td>
<td>85 x 51 x 26</td>
</tr>
</tbody>
</table>
10. Warranty

SALUS Controls warrants that this product will be free from any defect in materials or workmanship, and shall perform in accordance with its specification, for a period of five years from the date of installation. SALUS Controls sole liability for breach of this warranty will be (at its option) to repair or replace the defective product.

| Customer Name: | ................................................................. |
| Customer Address: | ........................................................................ |
| | ........................................................................ |
| Post Code: | ................................................................. |
| Tel No: | ................................................................. |
| Email: | ................................................................. |

| Company Name: | ................................................................. |
| Tel No: | ................................................................. |
| Email: | ................................................................. |
| Installation Date: | ................................................................. |
| Installer Name: | ................................................................. |
| Installer Signature: | ................................................................. |
Distributor of SALUS Controls:
QL Controls Sp. z o.o., Sp. k.
Rolna 4,
43-262 Kobielice,
Poland

Importer:
SALUS Controls Plc
Units 8-10 Northfield Business Park
Forge Way, Parkgate
Rotherham
S60 1SD
United Kingdom

SALUS Controls is a member of the Computime Group.
Maintaining a policy of continuous product development SALUS Controls Plc reserve the right to change specification, design and materials of products listed in this brochure without prior notice.

Issued: 23 IX 2020
Version: 3