

SELFA SMART HEATER

Operating Manual

IOG 039

Series 54.XXX.XXX

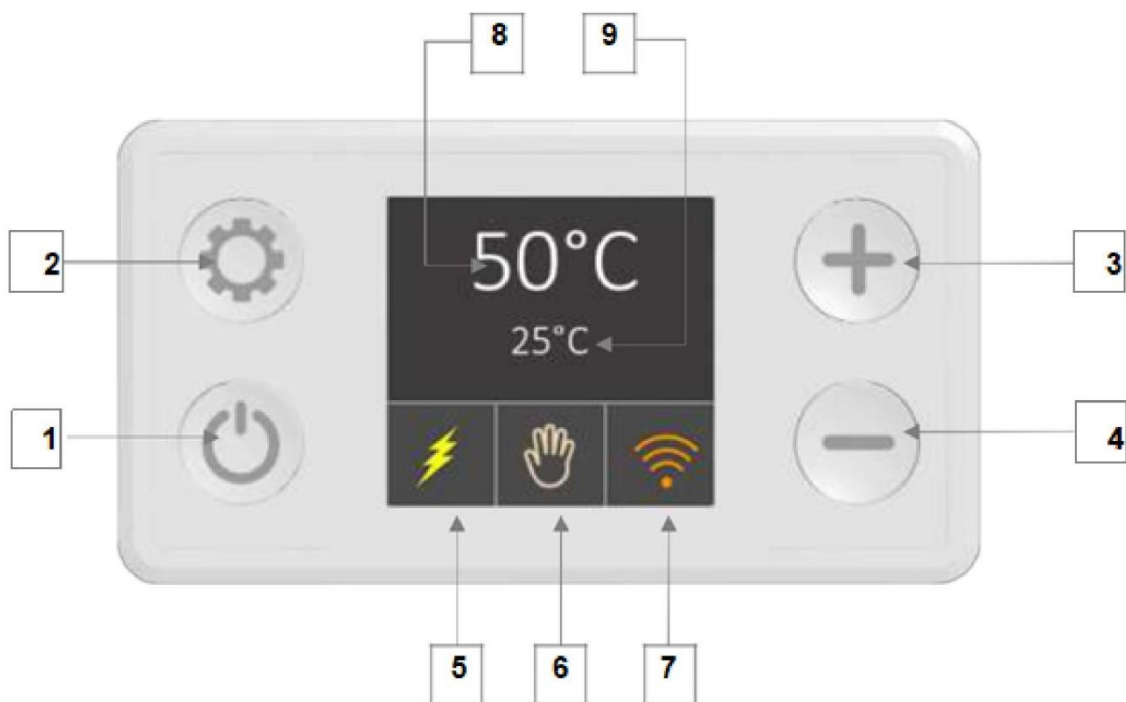


1. Display module

After the installation and first activation, the device automatically sets the target temperature and Manual work mode. The thermostat enables operation with or without mobile application. However, in order to use all the work modes, the smart water heater must be connected to a mobile device. The connection ensures complete and correct product functioning.






1.1 Display module - description

Description of buttons and elements



1. On/Off
2. Mode switch
3. Temperature increase in manual mode
4. Temperature decrease in manual mode
5. Heating (power supplied to the heater - yellow colour)
6. Current mode indicator


7. Wi-Fi connection and network status

-  -----white Wi-Fi icon - no connection
-  -----blue Wi-Fi icon - direct Wi-Fi connection
-  -----orange Wi-Fi icon - Wi-Fi router connection
-  -----yellow globe icon - Internet access
-  -----green globe icon - remote connection

8. Current target value


9. Measured temperature

Some features are time-dependent. The time is set automatically through the Internet connection of mobile application.

NOTE: Pressing and holding button  for over 3 seconds turns the heater off but does not disconnect it from power supply. Two modes remain active in the background. (ANTI-LEGIONELLA and ANTI-FREEZE)

1.2 Display module - work modes and symbols

SELFA SMART HEATER features 6 work modes selected by the user and two safety modes (standing by in the background).

Press button  to switch between the modes. All work modes and functions are specified below.



Manual Mode

In this mode, you can set the target temperature in 5°C steps. Pressing the 'plus' symbol increases the target value by 5°C and pressing - decreases the target temperature by 5°C. The temperature range is from 15°C to 75° (Figure 2 - Manual mode).



Figure 2 - Manual mode



ECO mode

In Eco mode, water temperature is maintained at 55°C (Figure 3). This temperature level enables optimal long-term operation in terms of energy saving, lower heat loss, hot water availability and heater durability.



Figure 3 - ECO mode



SMART Mode

SMART mode registers the water use habits and then optimises the heating process so that water is heated only when it is necessary. Two phases are distinguished (according to EU Regulation 812/2013 and 814/2013 implementing the Directives 2009/125/EC and 2010/30/EU):

In the first phase lasting **7 days**, the software monitors water consumption. This information is registered and then processed. Start recording by selecting SMART mode. Red icon indicated the recording phase. During this phase, the minimum temperature is automatically maintained at 60°C (Figure 4). After completion of the recording process, the second phase (SMART) starts automatically and the heater operation is adjusted to the hot water use habits.

The second phase begins the following week (after 7 days of recording), and all the data obtained in the first phase are applied and repeated. Grey icon indicates that SMART phase is on (Figure 4). The data recorded in the first week will be repeated until SMART mode reset. When is reset recommended? Only in the case of change in hot water use associated with an increase in the number of household members or the alteration of habits. Press and hold — for 3 seconds in SMART mode to reset the recorded data. (Figure 4). New recording phase starts automatically.



1. Recording phase



2. SMART phase

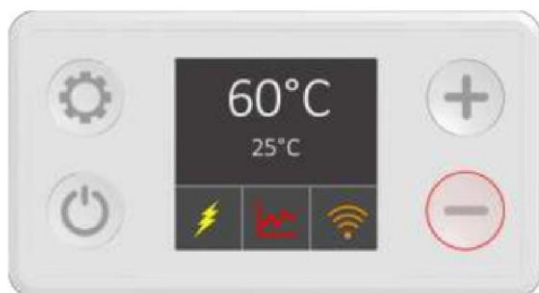


Figure 4 - Recording phase

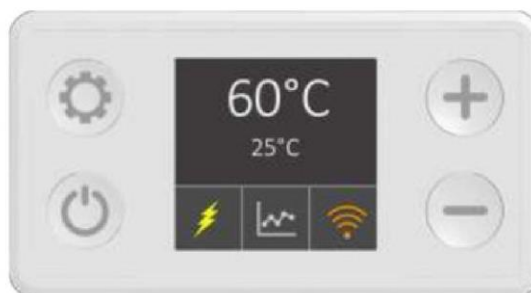


Figure 5 - SMART phase

Activation of other modes during the recording phase interrupts the process. After the interruption and return to the SMART mode, the recording process starts over. Once the (7-day) data are registered they are recorded and safe. The registered data are stored in the internal memory of the water heater, Even long power shortage cannot corrupt the stored data. However, if a power shortage occurs in the recording phase, the data are invalid and it is necessary to restart the SMART mode.

In order to use Smart mode, connect a mobile device to the SELFA SMART HEATER. If the device is not connected, N01 notification occurs.

N02 and N03 notifications occur if you interrupt the recording process.

Possible notifications:

- N01 - The device is not connected to the Internet and it is not possible to perform synchronisation
- N02 - Recording was interrupted by device shut down
- N03 - Recording was interrupted by mode change

More details regarding the Smart mode can be found in section 2.3 of this manual.



Schedule Mode

Schedule mode (Figure 6) enables water temperature planning according to the user's needs. Water temperature may be set according to a daily or weekly schedule and saved. The Schedule mode works only with SELFA SMART HEATER mobile application. More information regarding the mobile application and using the Schedule mode can be found in section 2.3 of this operating manual. If the device is not connected to the mobile application, N01 message appears (N01 - device is not connected to the Internet and time synchronisation is impossible)



Figure 6 - Schedule Mode



Away Mode

The Away mode is recommended if you are not using hot water for a longer period (e.g. when going on holiday). In this mode, water temperature is automatically set to 10°C in order to prevent potential freezing and unnecessary energy consumption while the household members are away (Figure 7).



Figure 7 - Away mode



Turbo / Boost Mode

The Boost mode is intended for heating water to the target temperature and maintaining it for a set period of time (e.g. 60°C for 30 minutes). The Boost mode is activated by pressing and holding the button **+** for more than 3 seconds, regardless of the current work mode. (Figure 8) When the set time expires, the device returns to the previous mode. You can exit the Boost mode earlier by changing the work mode using the button **⚙**.



Figure 8 - Boost mode

NOTE: If you switch to the Boost mode from Smart mode, the recording process is interrupted and all the stored data is lost. In such case, the recording phase must be started over.



Safety Modes



These features work in the background. For safety reasons, the software continuously monitors water temperature. If the heater does not reach 60°C for 15 consecutive days, the Anti-Legionella cycle is activated automatically and water is heated to 60°C for 30 minutes. This process will remove all the harmful bacteria from water. Apart from the above, SELFA SMART HEATER prevents water temperature decrease below 10°C. If the heater is off (in standby mode but with power supply), water temperature is continuously maintained at 10°C to prevent undesired freezing in winter.

IMPORTANT NOTICE: The heater must not be exposed to temperatures below +2°C.

1.3. Errors

There are 2 types of errors. Warnings (Figure 10) and critical errors (Figure 11).

Warning:

- The heater is on.
- Yellow triangle icon instead of a mode icon.
- The measured temperature value shows N/A.

Critical:

- The heater is off.
- Red "STOP" icon instead of a mode icon.
- The measured temperature value shows N/A.

A detailed specification of the warnings and errors as well as the required actions is included in the troubleshooting section of this operating manual (section 3).



Figure 10 - Warning



Figure 11 - Critical error

2. Mobile application

SELFA SMART HEATER is equipped with a wireless communication module, which enables remote control by means of mobile devices with Android and iOS systems.

3 ways to download SELFA SMART HEATER application:

1. Visit "Play Store" for Android or "App Store" for iOS and find "SELFA SMART HEATER".
2. Use the following link:
<https://selfa.pl/oprogramowanie-do-smart-heater>
3. Scan the QR code:



2.1. Mobile application (initial configuration)

After downloading and installing the application from Play Store or App Store, the following icon appears on your screen.



Before plugging the electric heater to a 230V AC outlet, make sure the DHW tank is full of water and the whole length of the heater is immersed. Only then can the heater be plugged into mains power. The power outlet shall have a PE pin wired to the mains earthing system.

Notice: Connecting the electric heater to a non-PE power outlet may result in deadly electrocution if the heater fails electrically.


1) With your SELFA SMART HEATER plugged in, find and connect to Wi-Fi network named **SELFA_(individual device number) on your mobile device** using your device. Upon establishing the connection, the Wi-Fi connection indicator in the

element lights up in blue.  **MAKE SURE TO DISABLE MOBILE DATA FOR THAT TIME.**

- In Android, it may be necessary to accept a message asking for permission to use a Wi-Fi network without Internet access.
- On iPhone, you have to wait 30-60 seconds to establish the connection.


2) Open the SELFA SMART HEATER application

3) The start screen shows a list of available heaters (Figure 12)

4) Select the available heater from the list or press the refresh button  in the top left corner to refresh the page if no elements appear on the list.

NOTE: At this stage, it may be necessary to update the software, because a message about outdated software version appears. Theoretically it should be possible to complete the stage of configuration without software update. However if you cannot proceed to step 5. refer to item 2.4, where the update procedure is described in detail.

5) The main screen appears (Figure 13)

6) Press  in the top right corner and select “Settings”

7) On the “Settings” screen (Figure 14):

a) In the “Settings” sections, enter the name of the Wi-Fi network and password (Figure 15 - network name, Figure 16 - network password)

b) Set the device name in the “Device name” field (this is optional, unrelated to the process of establishing the connection)



Figure 12 - Specification of devices



Figure 13 - Main screen

c) New or updated device has a default PIN code (123456789) The PIN must include from 6 to 16 characters and may be alphanumerical (letters and digits). When a user selects a device from the list of devices, the application asks for a PIN code Device control is activated after entering a correct PIN. If the PIN is incorrect, a warning about incorrect PIN code appears and the application returns to the initial "Device list" screen The PIN code may be changed in the Settings menu at any time, but only in the local network. 📶 📶 In remote mode 🌐 it is only possible to check the PIN validity.


d) Press  in the top right corner to save your configuration.



Figure 14 - Settings screen

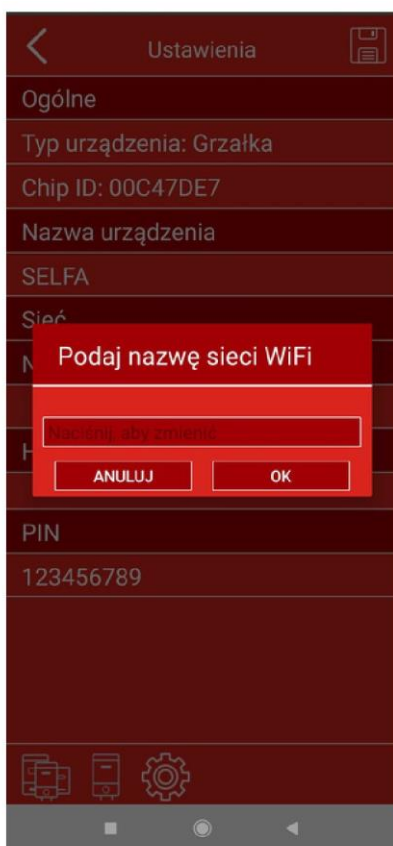


Figure 15 - Network name

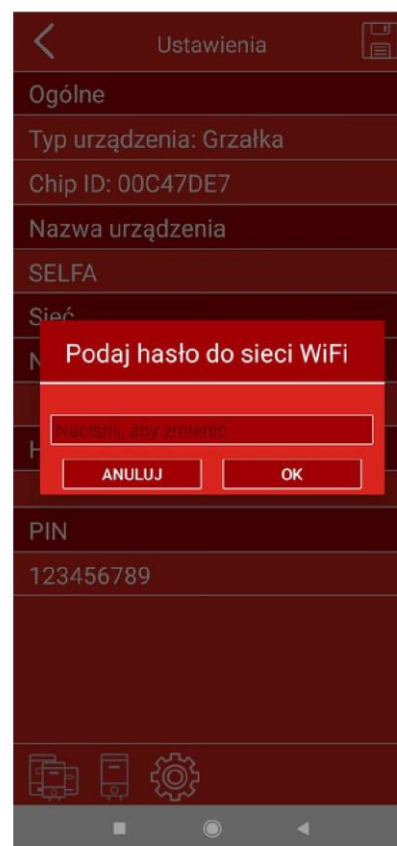


Figure 16 - Network password

NOTE: „Settings menu” is not available when using the Internet connection. Use this section, if you are connected to the local Wi-Fi network.

Once the SELFA SMART HEATER is connected to the Wi-Fi network, it automatically establishes the connection to this network. The configuration procedure must be repeated only in the case of home network name and/or password change. A single heater can be controlled using multiple mobile devices and the other way round, a single mobile device can be used to control multiple heaters.


The SELFA SMART HEATER application uses the default language of the device, if available, or English if the language selected in the mobile device is not supported.


IMPORTANT NOTICE: Make sure, that the router is located in close proximity to the heater. If the router is located far (on a different floor of the house separated by many walls etc.), the connection between the mobile device and the heater will be slow and unstable or even unavailable.

NOTE: Make sure that the saved home Wi-Fi network is connected to the Internet. Remote control of the heater is not possible, if the selected Wi-Fi network is not connected to the Internet.

2.2. Mobile application - overview

In order to obtain detailed information regarding the mobile application installation, read the section regarding initial configuration (Section 2.1). Selecting a heater from the device list opens the device control menu. (Figure 17 - Main menu description)

After turning the heater off by pressing the icon , "Off" message appears on the display. Remember that you can always check the current water temperature, as this information is being displayed even after turning the heater off (Figure 18 - heater off).

NOTE: Pressing the button turns the heater off, but it does not stop  power supply to the entire element. Two safety modes are still active, and the sensor keeps measuring the water temperature.

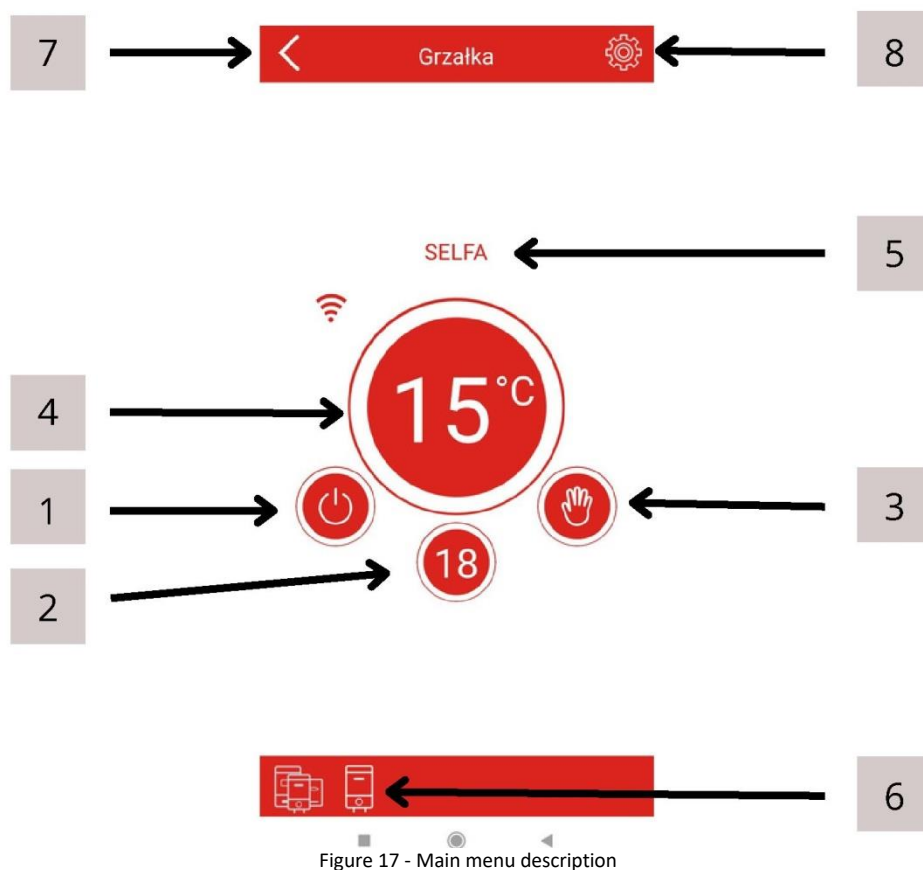


Figure 17 - Main menu description

1. Heater on/off button
2. Measured water temperature
3. Device work mode button and indicator
4. Target water temperature setting/indicating button (depending on the mode)
5. You heater's name
6. Navigation bar
7. "Back" button
8. "Settings menu" button



The navigation bar enables quick navigation through the application. It shows your current location within the application. It is especially useful if you have more than one heater in your SELFA SMART HEATER application.



Figure 18 - Heater off

2.3. Mobile application - Work modes and symbols

Mode change button (No. 3) opens the device work mode dialogue box (Figure 19). Drop-down menu enables the selection among the modes: MANUAL, ECO, SMART, SCHEDULE, AWAY and TURBO/BOOST

Manual Mode



The icon indicates that you are in the manual mode. Press the icon (No. 9) to open the drop-down menu. Scroll up or down to select the target temperature.

ECO mode



The icon indicates that you are in the ECO mode. In this mode the temperature is set and maintained at 55°C by default, as displayed. You cannot change the target temperature.

SMART Mode



The icon indicates that you are in the SMART mode. Information about both phases of the SMART mode appears under your device name.


The recording phase counts down the required time and informs you with the following message: "The remaining recording time X days Y hours" (e.g., "The remaining recording time 5 days 22 hours." 24 hours before the data recording process completion, the following message appears: "The remaining recording time X hours Y minutes" (e.g., "The remaining recording time 3 hours 45 minutes." (Figure 20)

Reminder!: Do not interrupt the recording phase (by switching to a different mode or turning the heater off).


Upon completion of the recording, a message about SMART mode activation appears automatically. Next, if you need, you can switch to other work modes. The return to SMART mode automatically activates the previously stored data. In the case of water use change (e.g., when the number of household members changes). Press the Menu button in the top right corner and select the "Reset SMART" option to reset the settings. New data recording starts automatically. (Figure 20)


NOTE: The reset process is irreversible. Remember that the Settings menu is only available in the case of direct connection and in home Wi-Fi network. It is not available in the case of cloud/remote control. The remaining recording time is available remotely only if the mobile device was connected to the thermostat when the recording was initiated.

Schedule Mode

The icon  indicates that you are in the Schedule mode. In this mode, you can create your own personalised weekly hot water use schedule.

To do this, take the following steps:

1. Go to menu, select Schedules and choose the desired schedule. You have one default schedule. In order to properly use this feature, create your own schedules.
2. In order to create your schedule, open the menu in the top right corner. Select the "Schedule list" tab A list of schedules appears, where you can see the "Basic schedule" and the "Create new schedule" option. Click the "Create new schedule" to open the "Schedule period" box. This is where the schedule start and finish time is selected (to the minute) and water temperature is set within the selected time. In order not to repeat the procedure every day (if you want to use the same settings from Monday to Friday) there is a "Apply to", where you can choose the days of the week in which the previously selected temperature settings are to be applied. (Figure 21 and 22) After clicking "OK", you can immediately see the introduced schedule modifications. Follow the same procedure and select other days of the week you wish to modify, e.g., introduce different setting for the weekend. In periods for which no heating has been set at all, the water temperature is automatically maintained at 10°C until the activation of a selected heating period with set temperature.
3. You can provide an individual name to every schedule by clicking "new schedule" in the "Schedule name" box.
4. In order to save a new schedule, click the disc icon  in the top right corner.
5. From this moment, if your schedule is marked on the "Schedule list" (Figure 21), your previously selected schedule is used after Schedule mode activation.

In order to remove one of the schedules, press and hold the box with the name of the schedule you want to remove until its colour changes and select the bin icon in the top right corner . In the case of iOS users, to remove a schedule go to the standard removal procedure in iOS: move the schedule you want to remove from right to left. The "Remove" option appears on the right. Confirm to remove.

When the device is in Schedule mode, the name of the active schedule is displayed on the main screen under the heater name.

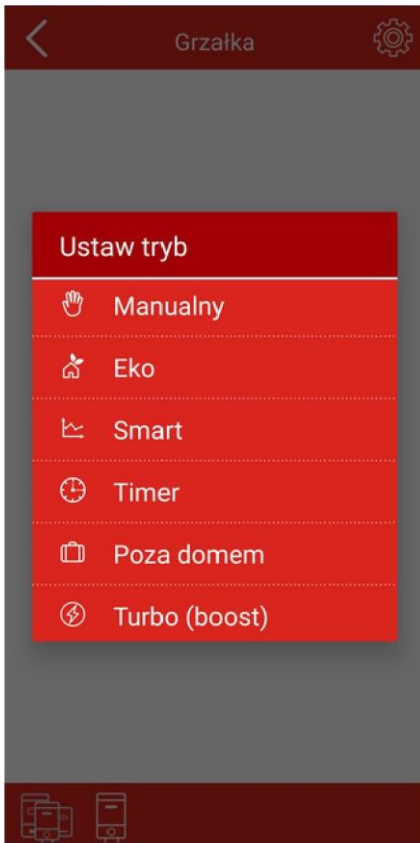


Figure 19 - Specification of modes

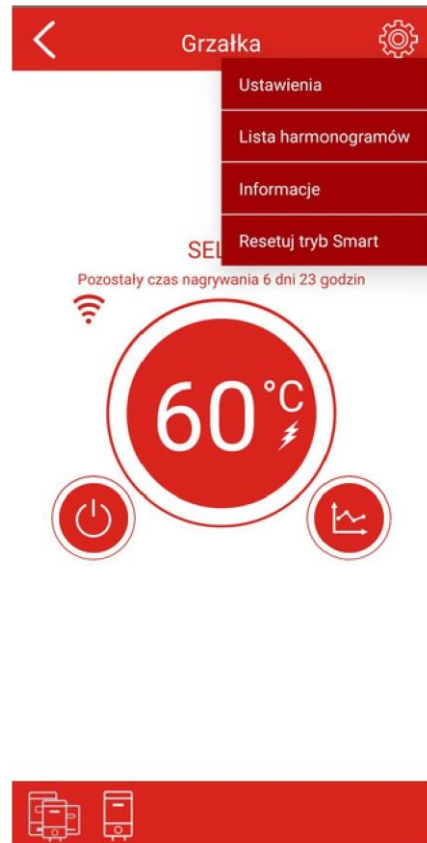


Figure 20 - SMART mode




Figure 21 - Schedule list




Figure 22 - Schedule settings

Away Mode

To select this mode, press the work mode switch button (No. 3) and choose Away from the drop-down menu. The suitcase icon  is displayed. Water temperature is automatically set to 10°C, and the heater is activated when the temperature drops below 10°C.

Turbo / Boost Mode

To select the Turbo / Boost mode, press the work mode switch button (No. 3) and select “Turbo / Boost” from the drop-down menu or press and hold the “plus” symbol for 3 seconds. Icon  is displayed. The water temperature is automatically set to 60°C and is maintained at this level for 30 minutes. When the set time expires, the device returns to the previous mode. You can exit the Turbo / Boost mode earlier by changing the work mode in the mode selection menu.

2.4. Mobile application - Update

Opening the device control panel (Figure 13) may initiate firmware update. If this happens during configuration, cancel it and update the device. The latest software version is necessary to be able to control the device, but it is not necessary for the configuration process. By downloading the latest version of the application from the Android and Apple stores, you also download the latest device firmware. These are the updates we are going to focus on in the following instructions. Updates of the application itself are carried out in accordance with the preferences of users of the mobile device operating systems, and, according to their marked choices, are carried out manually or automatically. We recommend selecting automatic update of our application so that all security updates and news are provided to our users on time. Since no Internet connection is needed during the firmware update (the update is on your smartphone), turn off mobile data and leave only a Wi-Fi connection between your mobile device and SELFA SMART HEATER.

During initial configuration, the firmware update is compulsory. If you select the “Cancel” option, you will not be able to control the heater using mobile devices. which will affect general device functionality.

When the “Firmware update” box appears, press “OK” to start firmware update. (Figure 23 - Update). A new “Update in progress” box appears (Figure 24 - Update in progress). The “Cancel” button is used to interrupt the process only in the case of unexpected problems with Wi-Fi connection. **Do not interrupt the update. as this may lead to module damage.**



Figure 23 - Update



Figure 24 - Update in progress

NOTE: Updates are not available in the case of using Internet connection and remote control. Use this function after connecting to home Wi-Fi network.

3. Troubleshooting

3.1 Solving problems with the device

The SELFA SMART HEATER features a problem detection system. After detecting a problem, depending on the type of fault, the device switches to one of two safety modes: limitation / warning or critical error. The removal of the cause of a fault and device reset enables the restoration of normal operation of the system. The device may detect the following faults and irregularities:

W01 - Faulty upper temperature sensor

W02 - Faulty lower temperature sensor

W03 - Overheating

E01 - Malfunction of both temperature sensors.

E02 - Overheating

E03 - Dry heating / Improper Installation of Component

E04/05 - Serial communication error (e.g., wire damage inside the device)

Non-critical errors are classified as warnings (W), and the device keeps working in a limited scope.

Critical errors (E) cause device shutdown and prevent its functioning. Detailed information regarding the device status may be seen in the mobile application. In the "Error list" tab in the top right corner (drop-down menu).

A list of warnings/errors, potential cause and actions to be taken:



Try to solve the problems in the following order, if there are more than one solution to a fault included in the list.

W01 - FAULTY UPPER TEMPERATURE SENSOR	
The upper temperature sensor is faulty.	Turn off the power and turn it on again. If the warning persists, call the service to replace the thermostat.
W02 - FAULTY LOWER TEMPERATURE SENSOR	
The lower temperature sensor is faulty.	Turn off the power and turn it on again. If the warning persists, call the service to replace the thermostat.

W03 - OVERHEATING	
Open tap / escaping water.	Check if there is no leakage at any point of hot water use. This may lead to constant cold water inflow and, consequently, to overheating of the heating element.
Burnt heater	Call the service to inspect the heating element in SELFA SMART HEATER and, possibly, replace the element.
Faulty thermostat relay	If the problem persists despite taking all the above steps or if the heating element is not damaged, replace the thermostat.
E01 - FAULTY SENSORS	
Both sensors do not work properly	Turn off the power and turn it on again. If the warning persists, call the service to replace the thermostat.
E02 - OVERHEATING	
Faulty thermostat relay	Call the service to inspect the thermostat and, possibly, replace it.
Scale accumulation on the heater	The scale accumulated on the heater may cause local overheating. Call the service to remove the scale.
E03 - DRY HEATING	
Excessive Sensor(s) Rapid Heating	
Incorrect Installation of Heater in the Tank	the heater must be installed in the tank in a manner specified in section 4.4. Improper installation may result in inaccurate temperature readings, and the system may register a measurement without water, even if the water level is correct.
The water tank is empty	Turn off the power. Fill the tank with water (check if water flows through the hot water tap). Restore power. If water does not flow, summon the appropriate plumbing service.
Limescale on the heating element	If the tank is not empty, the heater is installed correctly, and the error persists, the cause may be accumulated limescale on the heating element. Call the service to have the limescale removed from the heater.
E04/E05 - SERIAL COMMUNICATION ERROR	
The device is not connected properly	Request the service to inspect whether the cable between the thermostat and display module is properly connected. If the error persists, replace the thermostat

NOTIFICATIONS	
Only in SMART and SCHEDULE modes	
N01	The device is not connected to the Internet, which prevents time synchronisation.
N02	Recording was interrupted by turning the device off.
N03	Recording was interrupted by switching the mode.
BLANK DISPLAY	
DESPITE BEING CONNECTED TO POWER SUPPLY	
OFF button pressed	Try to turn the device off using display module or mobile application.
Fuse break at the main switchboard	Check the main switchboard
Overheating protection mechanism was correctly engaged	If necessary, press the reset button located under the indicator LED above the display. To perform this operation, you will need a long minimum 35mm shaft with a maximum diameter of 3mm. There is no need to open the casing for this purpose. Opening the casing may cause irreversible mechanical damage for which the manufacturer is not responsible. If you are not confident in performing this task or the provided method does not work, call a local service.
Thermostat is damaged	Call the service to replace the thermostat.

Restoration of factory settings

In order to restore the factory settings, press and hold the “mode change”  and “plus”  buttons for 3 seconds **Restoration of factory settings removes all configurations and settings, including the PIN code.**

3.2 Solving problems with connection to the mobile device



The list of problems with connection, potential cause and action to be taken:

White Wi-Fi symbol on the display	“Cannot connect to the device”
Device out of range	Check if the device is in range of the router / phone. Get closer to the device.
Poor network parameters	Check user name and password.
Blue Wi-Fi symbol on the display	“Cannot control the device” / “connection lost” message.
Device out of range	Check if the device is in range of the router / phone. Get closer to the device.
I am close to the device with active Wi-Fi connection but I cannot control it through the application.	Disable mobile data (your Internet package in you phone), refresh the application and try again.
Connection had established but it was suddenly broken.	Some Android versions (respective manufacturers’ patches) disconnect from Wi-Fi networks by default, if the network does not have Internet access and start searching for / connect to networks with Internet access. It may be necessary to give permission to a Wi-Fi network without access to the Internet.

Orange Wi-Fi symbol on the display	“Connected to router but cannot get access to the Internet”
Wi-Fi router does not have access to the Internet	Check if your router has access to the Internet
Router Wi-Fi prevents the device from access to the Internet.	If your router has access to the Internet but despite this you still cannot connect to the cloud, it may be necessary to change the router settings. Make the necessary changes or contact your Internet provider.
Yellow globe icon instead of green one when connecting to the Internet.	The device has access to the Internet but does not have remote access.
The Wi-Fi router, Internet provider or remote server prevent the device from connecting to the remote server / cloud.	Contact the customer service (the valid contact details can be found in the contact tab in drop-down menu in the top right corner of the application) to find out if everything is all right on our side of the service; if it is, contact your Internet provider.

If you lose connection between the mobile device and heater, “Connection lost” screen appears. Check if your mobile device has not been disconnected from the Internet or has lost Wi-Fi connection.

In order to restore the connection:

- 1) Select the button in the top right corner 
- 2) Device list screen appears. All disconnected devices have “Offline” status. Press the button  in the top left corner to refresh page. (this will just speed up the refresh process as the page is automatically refreshed every minute)
- 3) Your heater appears on the list with updated status.
- 4) To continue, select the heater by clicking its name.

If this does not help to reestablish the connection, contact the customer service.

4. Product installation in the tank and its operation

4.1 General

Series 54.XXX heaters are electric heating devices intended for heating domestic water in open or closed enamel tanks of storage water heaters (SWH). The stainless steel heaters may also be used in stainless tanks (see the table in item 3.2)

4.2 Design and specifications

The heating energy is output by electric tubular elements powered with single-phase 230 V AC mains. Electronic temperature controller with wireless module has 8 work modes. 6 regular modes and 2 safety modes described in item 2.3 of this manual. The bottom of the body is attached to the heating element head that features a G1¼" or G1½" thread port and hex wrench flats that facilitate insertion and tightening of the heater to the DHW tank spigot. **Do not wrench behind the box.**

The specifications are provided in the table below:

Supply voltage	230V
Rated power	1.5 kW, 2 kW or 3 kW
Heating element diameter	8.5 mm
Mounting thread	G 5/4" or 6/4"
Immersion length for 1.5 kW and 2 kW	max. 305 mm
Immersion length for 3 kW	max. 360 mm
Working pressure	max. 10 bar

Copper heaters (Cu) must not be used in stainless steel tanks !!!

4.3 Table of installation methods and selection of the DHW tank in terms of its capacity

The table of heater selection for a given tank and of the installation methods is presented below.

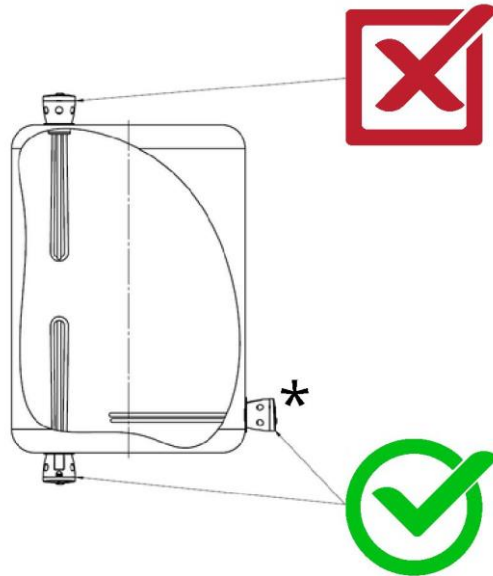
No.	Type 54.XXX	Material	POWER	Head	Lmax [mm]	Minimum tank capacity [l]
1	54.157.412	Cu	1500W	5/4"	305	60
2	54.157.212			6/4"		
3	54.157.413	AlSI 316L		5/4"		
4	54.157.213			6/4"		
5	54.157.414	Incoloy 825		5/4"		
6	54.157.214			6/4"		
7	54.207.412	Cu	2000W	5/4"	305	80
8	54.207.212	Cu		6/4"		
9	54.207.413			AlSI 316L		
10	54.207.213	6/4"				
11	54.207.414	Incoloy 825		5/4"		
12	54.207.214			6/4"		
13	54.307.412	Cu	3000 W	5/4"	360	120
14	54.307.212			6/4"		
15	54.307.413	AlSI 316L		5/4"		
16	54.307.213			6/4"		
17	54.307.414	Incoloy 825		5/4"		
18	54.307.214			6/4"		

All our installations feature a dead / non-heating zone of about 65 mm.

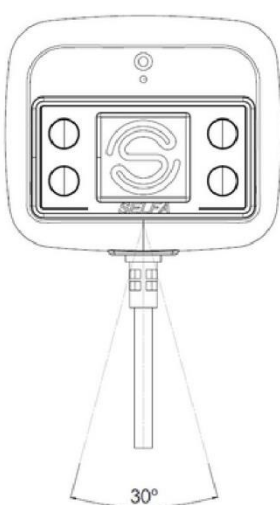
4.4 Installation

The drawings below show the correct and incorrect heater orientation in the DHW tank.

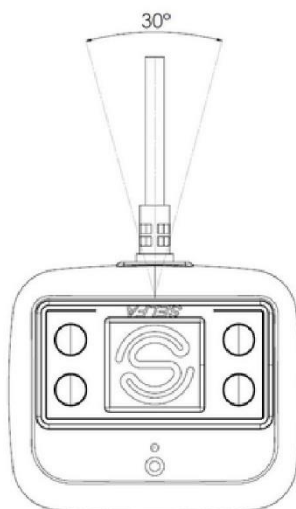
The heaters shall only be installed in an orientation which keeps them submerged at all times.



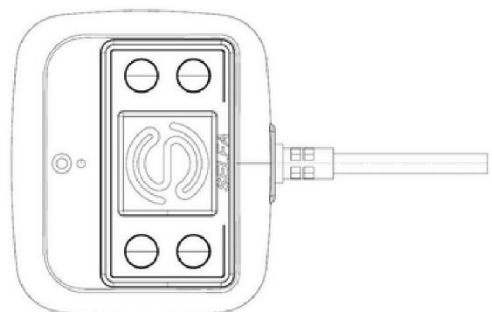
*In the case of vertical installation, the heater must be installed with the cable facing down +/- 30°, or possibly with the cable facing up +/- 30°. Any other installation may cause problems in temperature assessment. It is not admissible to install the device with the cable facing sideways. Such heater position in the tank will prevent thermostat operation.



Correct



Admissible



Incorrect

The heater can only be installed by a person with appropriate qualifications required by regulations in a given country, in accordance with applicable legal regulations regarding the safety of installation and use of this type of devices. When installing the electric heater, make sure that the tubular elements fit the internal length of the DHW tank and are clear from the inner wall surfaces (the minimum clearance shall be 30 mm). For heater installation, the spigot length cannot exceed 60 mm - the spigot must not extend beyond the non-heating zone of the heater. The heater is intended for installation in pressure tanks and hot-water boilers with the maximum permitted pressure of 10 bar. It is necessary to meet all the requirements regarding the installation and operation of these tanks, including mandatory installation of a safety valve. The tank must have a connector (spigot) with thread size conforming with the table in item 2. In order to install the heater, use a wrench to tighten the sealed connection. Be careful not to damage the seal. Next, fill the DHW tank and verify there are no leaks.

4.5 Usage / Operation

Before plugging the electric heater to a 230V AC outlet, make sure the DHW tank is full of water and the whole length of the heater is immersed. Only then can the heater be plugged into mains power. The power outlet shall have a PE pin wired to the mains earthing system.

Notice: Connecting the electric heater to a non-PE power outlet may result in deadly electrocution if the heater fails electrically.

Apart from all the above mentioned safety modes, the heater also features a non-automatic temperature limiter, which protects the heater from overheating in the case of thermostat damage or water temperature increase over 85°C. The temperature limiter can also trip and isolate the mains power if another heat source is connected to the DHW tank of the SWH which brings the water above the thermostat control setting. Whenever the temperature trips, unplug the electric heater from the mains and troubleshoot. Repowering is possible only when the heating element has cooled down and after pressing the reset button. If necessary, press the reset button located under the signalling LED over the display. In order to perform this operation, a mandrel with the length of at least 35 mm and the diameter of 3 mm will be needed. A characteristic contact closing sound should be heard. If you are not capable to perform this operation or the provided solution is not effective, call a local service.

OPERATING HINTS

- The water parameters, such as the mineralisation level (hardness) impact the heater service life. The maximum acceptable concentration (mg/l) of chemical/mineral compounds in water heated in the tank is the following:
 - Chlorides - 250 mg/l,
 - Magnesium - 10 mg/l,
 - water pH range from 6.5 to 9.5
 - Sodium - 150 mg/l
 - General water hardness (CaCO₃) - max. 250 mg/l
 - Sulphates - 200 mg/l.
- The heaters do not require inspection during operation, but in case of hard water, the heaters should be periodically cleaned of scale, which hinders heat exchange and may damage the device.
- Mechanical removal of scale from the electric heater is prohibited; remove scale with commercially available and suitable products (e.g. citric acid, descaling agents, etc.). The presence of marks after mechanical scale removal may lead to rejection of a warranty claim.
- When setting the DHW temperature in the DHW tank, remember that the higher a temperature setting, the higher risk of water scale deposits and higher electrical power consumption.
- Do not use in water containing aggressive chemical compounds.
- Do not use in installations with stray currents or in a working environment that may cause electrolytic corrosion, as this may result in rupture of the heater's protective tube.
- Heaters made of copper or nickel-coated copper should not be installed in tanks equipped with a titanium anode. Heaters made of AISI 316L or INCOLOY stainless steel with heating elements galvanically isolated from the mounting head and the tank should be used in such tanks.
- The heater should operate with a supply voltage of 230V - at higher voltage it may wear out faster.

4.6 Environmental protection

This product does not contain any environmentally harmful materials. However, do not discard the electric heater with mixed household waste. This is prohibited and shown with the “crossed out wheellie bin” icon on the product or its packaging and in this Manual. Pursuant to the prevailing regulations, the waste electric equipment such as the heater should be taken a collection point for hazardous materials. Consult your local waste collector or administration to learn more about WEEE collection points and how to release your spent electrical product to waste.



5. Warranty Terms & Conditions

1. The manufacturer warrants correct performance of this product, provided that it is correctly installed and operated in compliance with its Operating Manual.
2. SELFA ensures its equipment is of first-class quality and warrants this for 24 months from the date of original purchase and no more than 36 months from the date of production. The warranty is valid in the Republic of Poland and EU countries.
3. Any defects found in the product during the warranty period, claimed to the manufacturer and reasonably attributable to the manufacturer will be removed free of charge, provided the product claimed to be defective is shipped to:
„Selfa” GE S.A. including the purchasing document (invoice or receipt).
4. The manufacturer will examine the warranty claim in 14 days from receiving the defective product for repair.
5. All complaints from the territory of the Republic of Poland should be submitted using the complaint form available on the website www.selfa.pl - “Quality” tab and to email address : reklamacje@selfa.pl . In order to file a complaint about a heater used outside the territory of the Republic of Poland, please contact the manufacturer's sales partner or the heater sales point appropriate for a given country.
6. The warranty period will be extended by the time the warranty claim is processed.
7. The manufacturer shall not accept any warranty liability (and the warranty will automatically be forfeited) whenever:
 - the product is damaged by poor assembly and/or operation in departure from its Operating Manual;
 - the product is damaged to an extent which makes it defective;
 - The product has defects caused by unauthorised repairs or alterations/modifications;
 - the product has failed from excessive scale build-up on the heating elements;
 - the product shows evidence of dry operation (heating without or with partial immersion in water) or operation in dirty water, e.g. muck or sludge;
8. In order to speed up the service response, the Manufacturer allows the possibility of considering complaints based on received photos. The decision regarding such complaint handling process is up to the Manufacturer.
9. This warranty for the product as sold shall not exclude, limit or suspend any statutory rights derived from non-conformity of the product with the sales contract between the seller and the buyer.

NOTE:

- WE RESERVE THE RIGHT TO INTRODUCE CHANGES, INCLUDING ONES THAT DO NOT IMPROVE THE DEVICE FUNCTIONALITY
- Always make sure that you use the latest version of the SELFA SMART HEATER application for Android or iOS.
- We reserve the right to change and add new functions in products with a built-in wireless communication module, as well as to change the operating manual in accordance with new software versions. In order to obtain the current operating manual, visit our webpage or contact the technical service.
- The customers should obtain the current and important information regarding SELFA GE S.A. products before placing an order. SELFA GE S.A. products are sold according to the SELFA GE S.A. sale conditions prevailing at the time of order confirmation.
- Buyers are solely responsible for the selection and use of SELFA GE S.A. products, and SELFA GE S.A. shall not be liable for any use beyond their proper use or for the design of the Buyers' products.
- In this document, SELFA GE S.A. does not grant any license, express or implied, to any proprietary rights, including intellectual property.
- Resale of SELFA GE S.A. products with conditions different from the information contained in this document invalidates the warranty provided by SELFA GE S.A. and their suppliers for such a product.
- The information contained in this document supersedes the information previously provided in any earlier versions of this document.

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