TERMOFOL

THERMOREGULATOR

TERMOFOL TF-WIFI Mark II

OPERATING AND CONFIGURATION
MANUAL OF THERMOREGULATOR



Installation manual

CHARACTERISTICS AND TECHNICAL DATA

Thank you for purchasing our product. We hope that you will enjoy using the TERMOFOL TF-WI-FI Mark II thermoregulator. It is a fully functional controller of installations and heating devices providing the highest comfort of use, as well as precise and useful functions that will allow you to fully control the climate in your rooms. The display of the thermoregulator and its basic technical parameters are presented below.

Fig. 1



Technical specification:

- Power consumption < 2 W
- Supply voltage: 230 V AC 50/60 Hz
- Maximum amperage of switching current: 16A
- Programmable temperature range: 1÷70 °C
- Factory range of programmed temperature: 5÷35 °C
- Internal air temperature sensor
- Accuracy: ±0.5 °C
- Protection class IP20
- External floor temperature sensor: NTC

Characteristics:

- Manual and application-based control
- Programming
- Mounting: surface mounted in electrical box
- Colour: White/Black
- External dimensions: 86 mm x 86 mm x 27 mm
- Warranty: 24 months
- External floor sensor included

TERMOSTAT INSTALLATION, ELECTRIC CONNECTIONS

The TF-WI-FI Mark II is a modern, programmable thermoregulator equipped with LED control panel intended for controlling electric heating systems. The thermoregulator reads the temperature from the built-in sensor and external temperature sensors, which is included in the kit along with the thermoregulator. Wi-Fi function and the manufacturer's dedicated TERMOFOL SMART application enable to supervise the heating installation in the mobile manner. Prior to its installation, disassembly, cleaning, inspection or change of the configuration, always disconnect the thermoregulator from the power source, e.g., by switching off the power line in the electric switchboard.
Read the entire contents of this manual before installing the thermoregulator. In the territory of the Republic of Poland, the electric connections of the thermoregulator should be made by an electrician holding a valid SEP license for electric installations up to 1 kV. The electric installation supplying the thermoregulator should meet the requirements specified in the Regulation of the Minister of Infrastructure and Construction on technical conditions to be met by buildings and their location (Journal of Laws of 7 June 2019, item 1065) along with the reference standards.

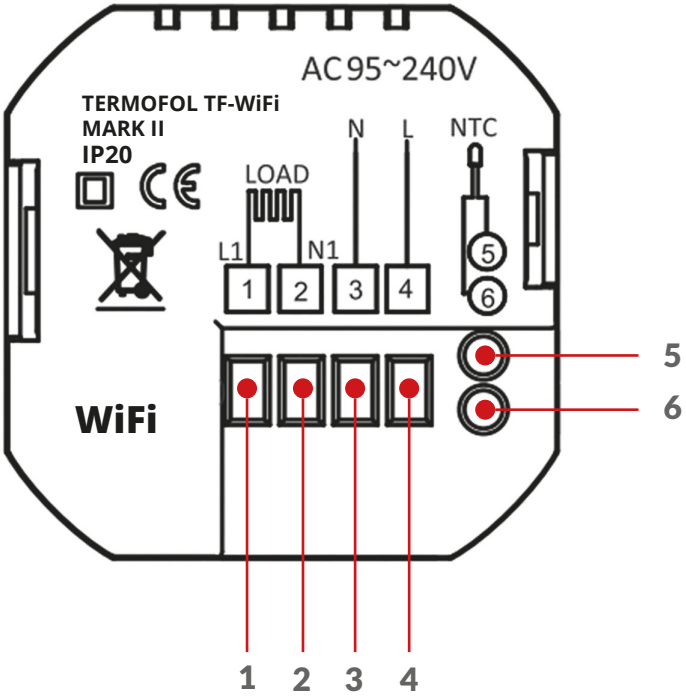
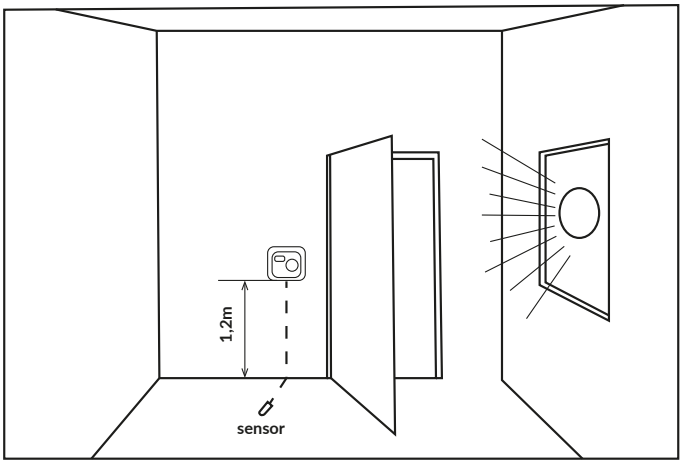


Fig. 2

1. Terminal for connecting the phase wire of the controlled receiver (heating mat, heating foil) supply
2. Terminal for connecting the neutral wire of the controlled receiver (heating mat, heating foil) supply
3. Terminal for connecting the neutral wire of thermoregulator supply
4. Terminal for connecting for phase wire of thermoregulator power supply
5,6. Terminals for connecting the external temperature sensor NTC (polarity is irrelevant)

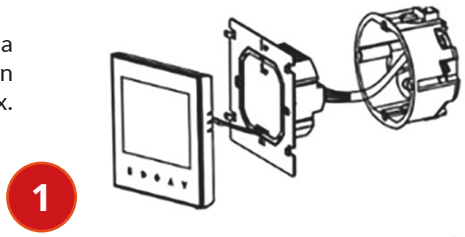
Fig. 3



Example of thermoregulator location

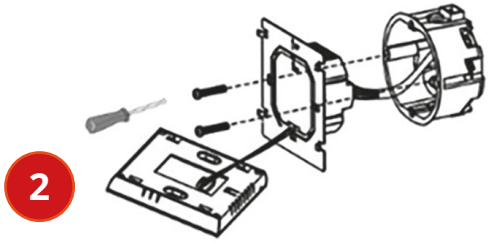
Thermoregulator can be installed in a standard 86mm wall junction box or in a 60mm European round junction box.

Fig. 4



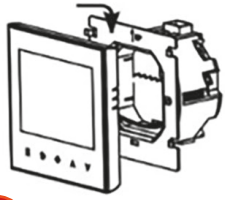
1. Connect the power supply and other wires as shown in the wiring diagram.

Fig. 5



2. Screw the mounting plate to the mounting box.

Fig. 6

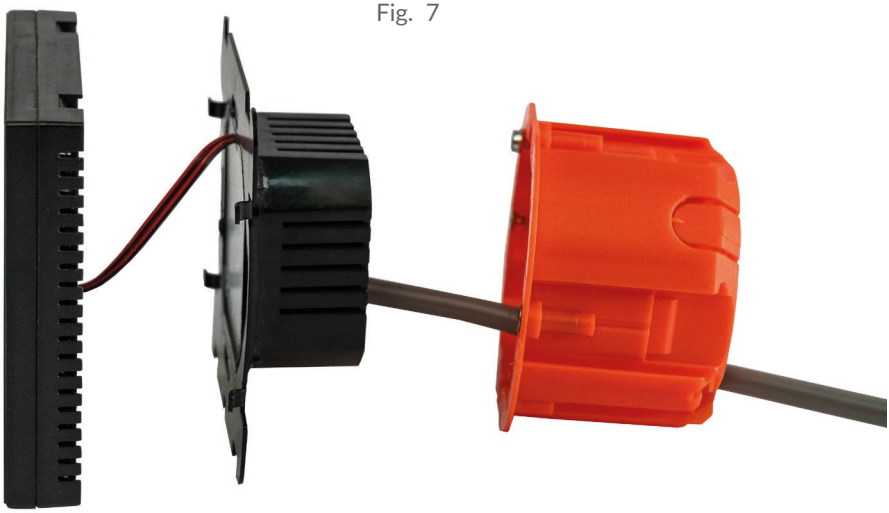


3. Connect the LCD screen with the mounting plate.



4. Ready.

Fig. 7



Example of correct connection of a thermoregulator

For the purpose installation of the thermoregulator, in the junction box and making the electric connections, you should open its housing very gently (so as not to break the connection tape) by removing the display assembly according as shown in Figure 2. The installation of the thermoregulator should be planned in a place not exposed to the sunlight. Figure 2 shows the terminal block of the thermoregulator used to make the electric connections of the device with the electric grid. Connect the wires according to the diagram given. Upon completing the installation and making the electric connections, you should configure the system according to the next section of this manual.

CONTROLLING – DESCRIPTION OF THE FUNCTIONS OF THE CONTROL BUTTONS

The graphic identification of the thermoregulator control panel buttons (display) is presented below. These buttons are multifunctional, i.e., depending on the operating status of the thermoregulator, and by varying the duration of holding them down, it is possible to give various commands to the thermoregulator. The description of the buttons and the thermoregulator functions available with their use can be found below.

Power ON/OFF button

SET In the thermoregulator is OFF, touching this button for 3-5 seconds allows you to configure the advanced A settings.

When the thermoregulator is ON, touching it activates the manual or programmable mode.

When the thermoregulator ON, touching the button SET for 3-5 seconds enables the user to program the thermoregulator operating schedule.

OK When the thermoregulator OFF, touching the button for 3-5 seconds enables the user to configure the advanced B settings.

When the thermostat is ON, a short press enables the user to set the time and day of the week. Whereas, if touched for 3-5 seconds, the holiday mode can be activated. Pressing in the OK position activates this mode. Then clicking switches the user to setting OK the number of days in this mode. Another press OK enables the user to set the temperature maintained in the above mode.

▼ Cursor button for dialling down. When the thermoregulator is switched on, pressing and holding it down for more than 3 seconds switches the child lock on and off. Repeated presses decrease a value of set temperature.

▲ Cursor button for dialling up. When the thermoregulator is switched on, pressing and holding it down for more than 3 seconds makes it possible to have a read-out of the temperature measured by an external floor NTC temperature sensor (only if, in the advanced settings B, the parameter BN is set to N3). Repeated presses increase a value of set temperature.

When the thermoregulator is operating in the automatic schedule mode, the buttons ▼ ▲ allow for a temporary temperature correction in respect of the current period of the automatic schedule of the performed by the thermostat.



DISPLAY ICONS – SPECIFICATION



icon confirming the thermo-stat operation in the automatic schedule mode



temporary manual mode


holiday mode


switching off the heating, caused by high temperature of floor


icon of Cloud connection



external temperature sensor


no Wi-fi connection


manual mode


Wi-fi



clock


button lock

SETTING THE OPERATING SCHEDULE

When the thermoregulator is on, press the button SET for 3-5 seconds. The button SET enables the user to move to the next position. Change the values with the arrows. It is possible to set the temperature for 6 periods. The factory selected schedule mode is 5+2

The table below shows the factory-set day cycle.

Programming of heating periods during a day:

Press for 3-5 sec. SET --> set the start time of the first period with the arrows --> press --> SET set the temperature for the first period. Repeat the operation for all heating periods P1-P6, then repeat the scheme for weekend days going through points 6,7.

Wake - up		Leaving home		Returning home		Leaving home		Returning home		Sleep	
06:00	20 °C	08:00	15 °C	11:30	15 °C	13:30	15 °C	17:00	15 °C	22:00	15 °C

ADVANCED SETTINGS A

When the thermoregulator is switched off, press the button SET for 3-5 sec. To go to the next parameter, press the button SET. Use the arrows to change the values. The values are saved automatically. After setting the required values, switch on the thermoregulator.

No.	Type of function / parameter	Range of parameter value / function option	Factory value
A1	Calibration of air temperature sensor	–9 °C ÷ 9 °C	–1
A2	Hysteresis	0,5–2,5 °C	1 °C
A3	Locking of buttons	0: partial locking / 1: full locking	0
A4	Memory function of device status prior to a power supply failure	0: Device restores its state prior to a power failure 1: Device remains OFF after power supply returns 2: Device remains ON after power supply returns	0
A5	Time of screen backlighting	5–30 s	10
A6	Type of automatic operation schedule (by weekdays)	0: 5+2 1: 6+1 2: 7	0
A7	Minimum programmed temperature value	1–10 °C	5 °C
A8	Maximum programmed temperature value	20–70 °C	35 °C
A9	Protection against low temperature	1–10 °C	5 °C
AA	Limitation of maximum temperature of external sensor	20–70 °C	28 °C
AB	Hysteresis of external sensor in N3 mode	1–9 °C	2 °C
AC	Function of detection of an open window (determination of minimum temperature)	10°C ÷ 20 °C	--
AD	Duration of execution of a function of an open window detection	10–20 min	10
AE	Resetting to factory settings	To enable, press and hold per 3-5 sec. OK	

ADVANCED SETTINGS B

When the thermoregulator is switched off, press the button OK for 3-5 sec. To go to the next parameter press SET. The values are saved automatically. After setting the required values, switch on the thermoregulator.

No.	Type of function / parameter	Range of parameter value / function option	Factory value
BN	Selection of temperature sensors – method of controlling the temperature	**N1**: only built-in temperature sensor is on **N2:** only external temperature sensor is on **N3:** built-in and external temperature sensor are on – maintaining a set-point air temperature with temperature control of heating device	N3
BC	Decalcification function (for water boilers)	0: turn Off 1: turn On	0
Bo	Information about product	No change possible	
P1	Power consumption of previous day	XXXX kWh, long press ▼ to clear the data	
P2	Total power consumption	XXXX kWh, long press ▼ to clear the data	
P3	Rate power of heating device	XXXX W, Setting range: 100-3500W	2000 W

Hysteresis of the external floor sensor - additional information: the limit of a temperature value measured by the external floor sensor is of 28 °C for the factory setting of the advanced options A (no. AA), and the factory value of the external floor sensor hysteresis (no. AB) is of 2 °C. When the temperature rises to 28 °C, the thermostat stops supplying the controlled heating device and reminds you of the high temperature alarm. If the temperature measured by the external floor sensor decreases to 26 °C, the thermostat will start supplying the controlled heating device again and the symbol will stop flashing (only if the air temperature in the room is lower than the set temperature).
Error codes displayed by the thermostat.
The correct configuration of the built-in and external floor temperature sensor must be selected in No. BN of the advanced settings B. Incorrect selection or a sensor failure (malfunction) will cause an error message to appear on the screen. Displaying 'E1' indicates a malfunction of the built-in temperature sensor, while displaying 'E2' indicates a malfunction of the external temperature sensor. The thermostat will not supply power to the controlled heating device until the error has been corrected!

INSTALLATION OF THE EXTERNAL SENSOR

Place the protective conduit in the groove in the floor with the sensor inside. The end of the protective conductor must be sealed. The sensor wire can be extended up to 50 metres with other wires, if necessary. If a multi-core cable is used for the extension, it must not be used for power supply (e.g., for the heating cable) in order to avoid interference of the voltage signal with the heating signal of the thermostat. The resistance of the NTC sensor must be measured.

The resistance of the NTC sensor is measured with a universal meter set to measure resistance in the range from 20 kΩ. The measurement of the floor sensor resistance is of control and informational nature, and its purpose is, similarly to the measurement of the heating system resistance, to exclude damage of the connection wire (e.g., its tearing when pulling it into the conduit) or the NTC sensor itself. Approximate resistance values, depending on the temperature of the installation base, are given in the following table. Tolerance of the measured value is +/- 10%.

Temperature of installation surface °C	Resistance kΩ
5	22
10	18
15	15
20	12
25	10



INFORMATION:

It is forbidden to connect a heating device which nominal output power exceeds 3000W to the thermoregulator. Exceeding this value may cause damage to the thermoregulator or even fire in the overloaded system. Connection of a heating device with power greater than 3000W requires the use of a contactor.
Correct configuration and operation of the thermoregulator is an obligatory condition to be able to make use of the statutory warranty and warranty rights granted by the manufacturer of the thermoregulator.

CONNECTION OF THERMOSTAT TO WIFI NETWORK SUPPORT FOR THERMOFOL SMART APPLICATION

APPLICATION SELECTION AND INSTALLATION

The thermostat works exclusively with Wi-Fi **2.4 Ghz** networks. The thermostat is controlled by the TERMOFOL SMART application available for Android and iOS platforms. For the purpose of the performance of the process of connecting the thermostat to the local Wi-Fi network, download the TERMOFOL SMART application to your mobile device using the following QR codes:

Android:

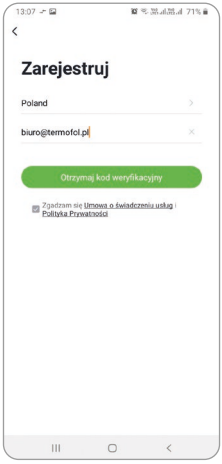
iOS:

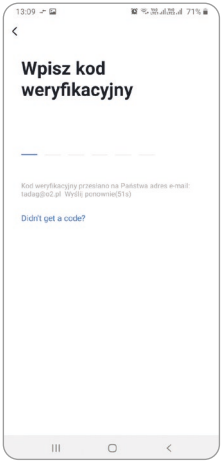
Install the downloaded application on the mobile device and activate location services and Wi-Fi connection between the device and the network to which the thermostat will be connected. Save the password to this network, as you will need it in the further configuration process.

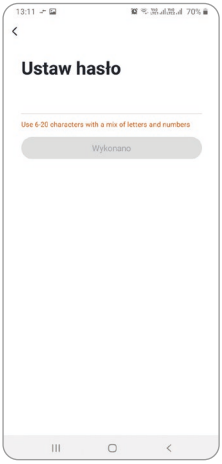
REGISTRATION OF AN ACCOUNT IN THE APPLICATION

For the purpose of using the application, you must create a user account (sign-in in the application). To do so, the user should run the application and on the first screen select the 'register' option. On the next screen









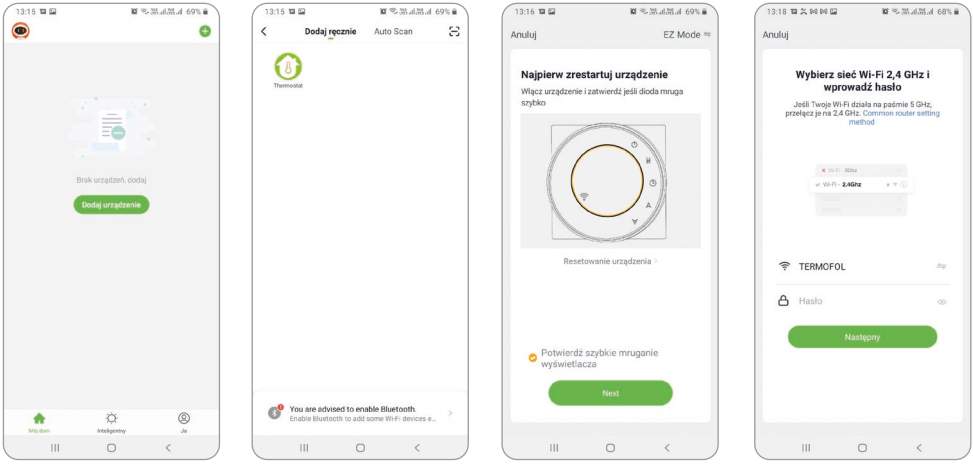
the user specifies the country of installation and enters the e-mail address or telephone number to which the verification code will be sent. After completing this data, the verification code sent should be read from the e-mail or SMS message received, and completed on the next application registration screen. The user completes the registration process by setting a password for the account, which we will use to log in to our account in the application from now on. Registration is complete and you can move on to adding the device - connecting the thermostat.

PREPARING THE THERMOSTAT FOR CONNECTION TO THE WI-FI NETWORK

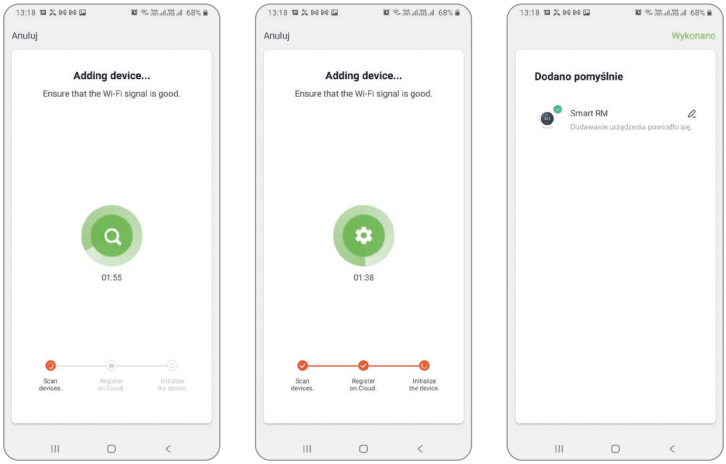
Before starting the process of adding the thermostat in the application, you need to enable Wi-Fi and Cloud synchronisation. To do this, with the thermostat switched on, press and hold the SET and OK buttons simultaneously for 5-20 seconds until the flashing symbols appear on the left-hand side of the screen: . The thermostat is ready to connect to the Wi-Fi network.

CONNECTING THE THERMOSTAT IN THE APPLICATION

Having prepared the thermostat, launch the TERMOFOL SMART application and upon logging into the application on the main screen, select the function 'add device'.



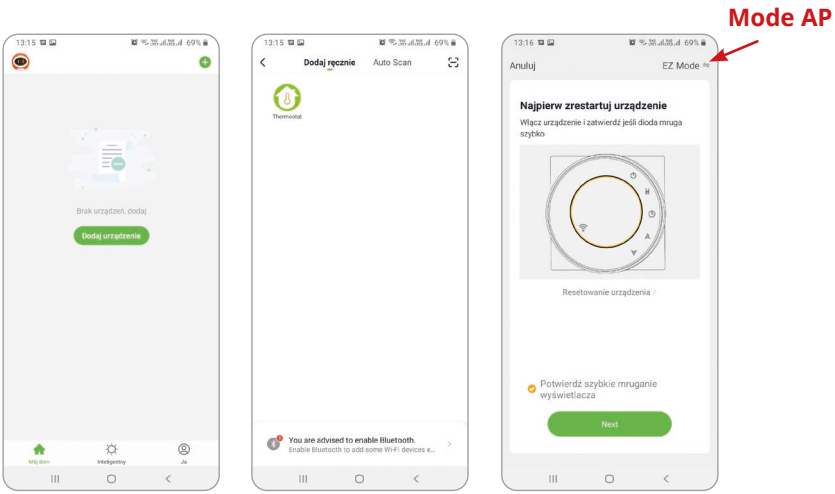
On the next screen select the thermostat icon and on the subsequent screen select the option 'confirm fast flashing of the display' and select the 'next' button. On the next screen, enter the access password to the Wi-Fi network to which you are connecting the thermostat and confirm by selecting the 'next' button. The connection process is fully automatic and its progress can be followed on the screen displaying the time progress and on the 3-point axis indicating the successive stages of the connection establishment. When the connection process is completed, the progress indicator will reach level 3 and then a screen will automatically appear informing you that the device was successfully added and allowing you to change the name of the device under which it will be displayed in the application. Confirm the process by clicking 'Done' in the upper right corner of the application screen. On the screen of the thermostat, you will notice that the previously flashing symbols: , are now displayed in a permanent manner.



This further confirms that the entire connection process has been successful and you can proceed to control and configure the thermostat with the application.

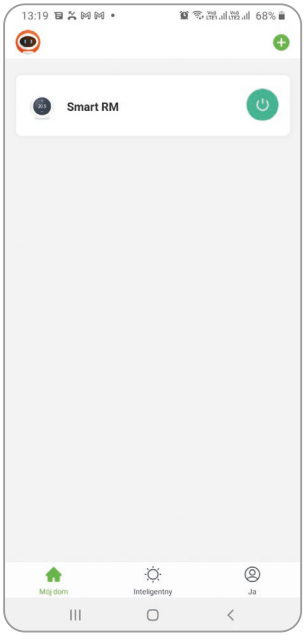
CONNECTING THE THERMOSTAT TO THE APPLICATION – METHOD 2

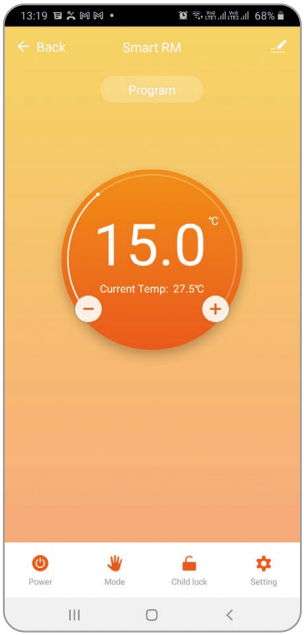
With the thermostat switched on, press and hold SET + OK until the flashing symbol . Może appears. This may take 5-20 seconds. If the symbol is also flashing, press SET + OK again until the flashing symbol appears. Having the thermostat ready, launch the TEMOFOL SMART application and after logging into the application on the main screen select the add device function. In the upper right corner change EZ Mode to AP Mode.



Select ‚Confirm slow blinking display' and press ‚Next'. In the next step, enter your network name and password. Press ‚Next' and ‚Connect now'. Select the ‚Smartlife-XXXX' Wi-Fi signal. Go back to the application and press ‚Connect'. The application will connect automatically. This may take up to 90 seconds.

After adding the device, you can edit the room name.





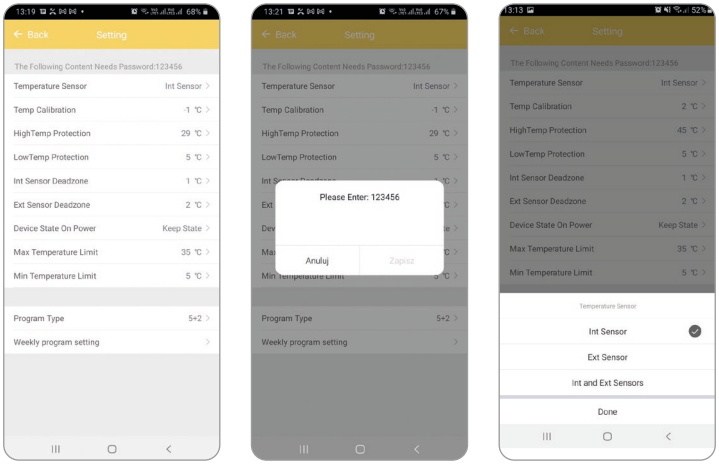
For the purpose of selecting a device to control, click on the bar with its name, which opens the device screen. The screen displays information about the current air temperature and the status of the device - the flame indicates the operating status, i.e., power supply to the heating device. Using the semi-circular slider or directly the ‚+' and ‚-' buttons, you can change the set temperature value.

The buttons on the bottom bar can be used to, respectively:

– switch the thermostat on and off, – switch the operating mode from manual to automatic and vice versa, – lock and unlock the control buttons, and – change the advanced thermostat options and parameters. To return to the main application window, press the ‚back' command in the upper left corner of the application screen.

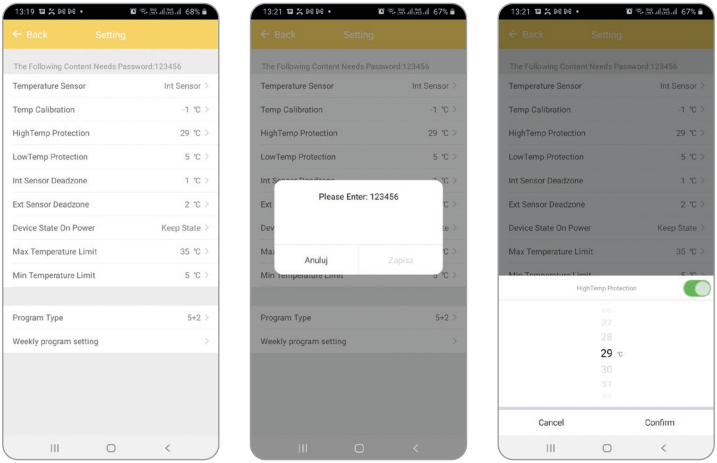
CHANGING THE CONFIGURATION OF THE TEMPERATURE SENSORS

Upon selecting the button the ‚Setting' screen appears. It contains a list of settings and advanced functions arranged in the form of horizontal bars, described with the name of a given function and information about the current value of each function, presented at the right edge of a given row. In order to change a given parameter/function click on the ‚>' sign at the end of the row of the function you want to modify. Before editing, you will be asked to confirm your permissions by entering admin password, which by default is set to ‚123456'. For example, if you want to change the configuration of temperature sensors, select the ‚Temperature sensor' line and then from the context menu developed at the bottom of the screen select for example the ‚Built-in Sensor' and click ‚Done'.



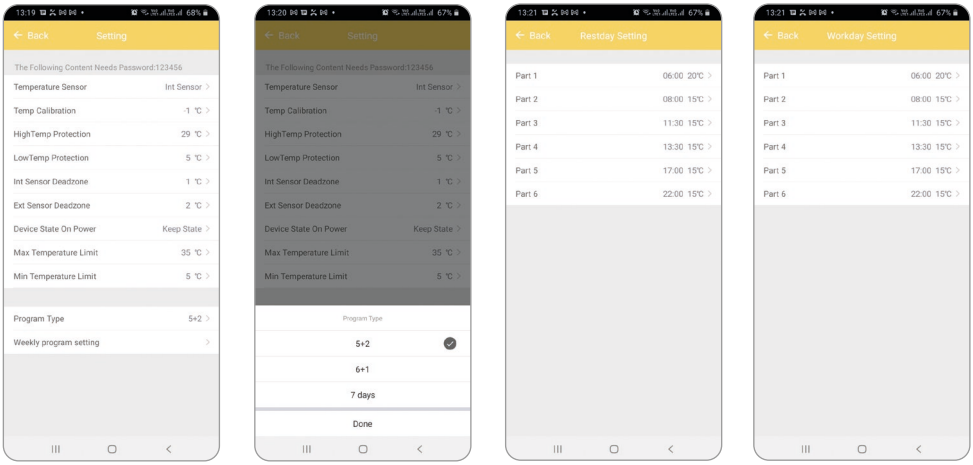
CHANGING THE MAXIMUM TEMPERATURE VALUE OF THE EXTERNAL SENSOR

Upon selecting the button, the ‚Setting' screen appears. It contains a list of settings and advanced functions arranged in the form of horizontal bars, described with the name of a given function and information about the current value of each function, presented at the right edge of a given row. In order to change a given parameter/function click on the ‚>' sign at the end of the row of the function you want to modify. Before editing, you will be asked to confirm your permissions by entering admin password, which by default is set to ‚123456'. If you wish to change the value of the maximum temperature of the heating device measured by the external temperature sensor, select the ‚High temperature protection' line and from the context menu developed at the bottom of the screen select a specific temperature level, e.g., 29°C, by moving down or up and click ‚Confirm'.



PROGRAMMING OF THE AUTOMATIC OPERATION SCHEDULE

Upon selecting the button , the ‚Setting' screen will appear. Select the ‚Program type' row and set the type of 5+2/6+1/7-day schedule while confirming your choice with ‚Done'. Then, select the ‚Weekly program setting' function and define temperature values for selected periods of a day, freely modifying both the temperature value and the time limits defining the beginning and end of subsequent periods, for the selected weekly schedule.



WARRANTY CARD

PLACE OF INSTALLATION

FITTER'S DETAILS

Name of company

Forename and surname

Address (street, no.)

Postal code

Locality

NIP

Tel.

Date

Fitter's signature

Fitter's stamp

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TERMOFOL