OPERATING AND CONFIGURATION MANUAL FOR THE THERMOFOL TF-H6 WIFI THERMOSTAT

CHARACTERISTICS AND TECHNICAL DATA

Thank you for purchasing our product. We hope that you will enjoy using the TERMOFOL TF-H6 WIFI 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.



Programming the **TF-H6 WIFI** thermoregulator – instructional video on Youtube

Supply voltage: 240V AC 50/60 Hz • Colour: White – Built-in air temperature sensor: NTC • External floor air temperature sensor: NTC (optional) • Maximum switched amperage: 16A • Programmable temperature range: 1÷70 °C • Factory programmed temperature range: 5÷35 °C • Accuracy: ±0.5 °C • External dimensions (without frame): 55 mm x 55 mm • External dimensions (with frame): 82 mm External dimensions (with frame): 82 mm x 82 mm (modular system available) • Additional functions: Wi-Fi • IP31

THERMOSTAT INSTALLATION, ELECTRIC CONNECTIONS

The TERMOFOL TF-H6 WIFI is a modern, programmable thermoregulator with LED control panel intended for controlling electric heating systems. Thermoregulator works with a built-in NTC temperature sensor and an external floor NTC temperature sensor, which is included in the kit along with the thermoregulator. Wi-Fi function and the manufacturer's dedicated TERMO-FOL SMART application make it possible 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 reference.

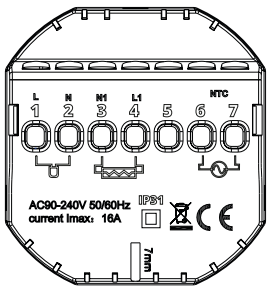


Figure 1. Description of the thermoregulator terminal block

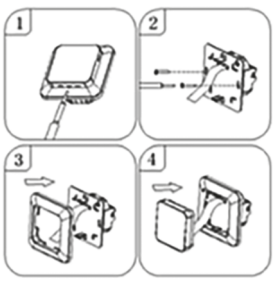


Figure 2. Disassembly of the thermoregulator

The thermoregulator is designed for the installation in a 60 mm electric installation box. For the purpose of the installing, it in the installation 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 unit according to the instructions in Figure 2 above. The installation of the thermoregulator should be planned in a place not exposed to the sunlight. Figure 1. shows the thermoregulator terminal block used to make the electric connections. The power supply line of the thermoregulator is connected to the terminals of the thermoregulator terminal block. The neutral wire (N) of the power supply line is connected to the terminal marked with number 2, and the phase wire (L) to the terminal marked with number 1. The heating device (heating mat, heating film) is connected to the terminals of the terminal block respectively, the neutral wire (N1) of the heating device power supply line is connected to the terminal marked with number 3. The external floor NTC temperature sensor should be connected to the terminals marked with numbers 6 and 7, where the polarity is irrelevant. Upon completing the installation and making the electric connections, configure the system according to the next section of this manual.

CONTROLLING – DESCRIPTION OF FUNCTIONS OF 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 the touch, 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. In the thermostat off state, touching this button switches the thermostat on. In the operating state of the thermostat, touching it displays the clock on the display of this device. In order to turn the thermostat off, touch this button for at least 3 seconds.

Menu button is used to change the operating mode of the thermoregulator from the manual to automatic schedule mode or holiday mode and vice versa while the thermostat is operating. If the thermoregulator operates in the holiday mode or automatic schedule mode, touching this button enables the manual mode and the possibility of changing the set air temperature. In the operating status of the thermoregulator touching this button and holding down the button for at least 5 seconds allows for enabling of the clock and date correction and schedule programming functions. In this case the button is also used to confirm individual changes and schedule parameters. When the thermoregulator is switched off, touching this button and holding the touch for minimum 5 seconds activates the wizard of advanced functions of the thermoregulator.

Cursor button for dialling down. When the thermoregulator is switched on, touching and holding it down for more than 3 seconds switches the child lock on and off. A single touch causes that the temperature level set in the manual mode is displayed and repeated touches decrease its value.

Cursor button for dialling up. When the thermoregulator is switched on, touching and holding 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. A single touch displays the temperature level set in the manual mode, and repeated touches increase its value.

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

DISPLAY ICONS – SPECIFICATION

P con with the numbers from 1 to 6 indicates the currently operated programme (period of one day and night -24 hrs.)

icon indicating the current day of the week within the range from 1 to 7

icon indicating enabling the child lock

icon indicating enabling the anti-freeze function

cons indicating the operation of the thermoregulator in a temporary mode within the current mode

Wi-Fi function icon

Cloud connection icon

icon confirming the thermostat operation in the automatic schedule mode

icon confirming the thermostat operation in the manual mode

icon confirming power supply to the heating device by the thermostat

icon indicating enabling the holiday mode

icon indicating the thermostat operation in the holiday mode

CONFIGURATION OF BASIC PARAMETERS (TIME, OPERATION MODE)

The basic configuration of the thermostat includes setting the time and date (in the form of the number of the day of the week), and selecting the operation mode from the available 3 modes: manual, automatic and holiday mode.
Setting the time and date is done with the thermostat switched on. Hold the button ▦ pressed for at least 3 seconds and then use the buttons ▲ ▼ to select option 01 and confirm the selection by pressing the button ▦ . Minute, hour and day of the week are selected by an approval to be edited of the successive variables by pressing the button ▦ in order to edit the selected variable and confirm the selection, as well as by pressing the buttons ▲ ▼ . Programming the schedule is also performed with the thermoregulator switched on. Press and hold the button ▦ for at least 3 seconds, then use the buttons ▲ ▼ to select option 02 and confirm by pressing the button ▦ . The next program – a time period of day, minutes, hours - is selected by means of approving for editing, as well as by pressing the button in order to edit the selected variable and approving it upon setting the proper value using the buttons ▲ ▼

P1		P2		P3		P4		P5		P6	
Wake - up		Leaving home		Returning home		Leaving home		Returning home		Sleep	
6:00	20 °C	8:00	15 °C	11:30	15 °C	13:30	15 °C	17:00	15 °C	22:00	15 °C

The holiday mode is enabled when the thermoregulator is turned on. Press and hold the button ▦ down for at least 3 seconds, then use the buttons ▲ ▼ to select option 03 and confirm the selection by pressing the button ▦ . The selection of days and temperature assigned to them is made by approving for editing the successive variables, as well as by pressing the button ▦ to edit the selected variable and confirming it upon setting the appropriate value using the buttons ▲ ▼ .

PROGRAMMING OF ADVANCED OPTIONS OF THERMOSTAT

The table below lists the advanced functions and programmable parameters of the thermostat. For the purpose of getting an access the advanced settings, turn off the thermostat by pressing the button ⏻ for more than 3 seconds. Then hold the button ▦ down for a minimum of 5 seconds until the thermostat screen is illuminated. Single touches of the button ▦ switch between successive functions/parameters and modification of the value of a given function/parameter is made using the buttons ▲ ▼ Moving to the next function/parameter saves the settings of the preceding one.

No.	Type of function / parameter	Range of parameter value / function option	Factory value
1	Calibration of air temperature sensor	-9 °C ÷ 9 °C	-1 °C
2	Hysteresis of air temperature sensor	0,5 °C ÷ 2,5 °C	1 °C
3	Hysteresis of external floor temperature sensor	1 °C ÷ 9 °C	2 °C
4	Selection of temperature sensors – Selection temperature control method	N1: only built-in temperature sensor is ON only. N2: only external floor temperature sensor is ON. N3: built-in and external floor temperature sensors are ON – maintaining the set air temperature with control of the heating device temperature	N3
5	Button locking	0: partial locking / 1: full locking	0
6	Limitation of maximum temperature of external floor sensor	20 °C ÷ 70 °C Note: setting a value below 20 °C will disable this function!	28 °C
7	Limitation of minimum air temperature	1 °C ÷ 10 °C Note: setting a value above 10 °C will disable this function!	5 °C
8	Minimum value of programmed temperature	1 °C ÷ 10 °C	5 °C
9	Maximum value of programmed temperature	20 °C ÷ 70 °C	35°C
A	Decalcification function (for water boilers)	0: enabled / 1: disabled	0
B	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
C	Type of automatic operation schedule (by weekdays)	0: 5+2 days / 1: 6+1 days / 2: 7 days	0
D	Sleep mode – configuration of display parameters	0: nothing is displayed in standby mode 1: temperature is displayed in standby mode 2: temperature is displayed – higher brightness in standby mode	2
E	Restoration of factory settings	Hold down the button ▦ for more than 5 seconds after selecting this option	Ao
F	Open window detection function (range of temperature function enable)	10°C ÷ 20 °C	10 °C
H	Period of execution open window detection function	10 min ÷ 20 min	10 min
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	2000W

Turn off thermostat, long press ▦ and ▼ to enter advance option P. Short press ▦ to choose item, short press ▲ or ▼ to change the value.

Hysteresis of the external floor sensor – additional information: the limit of temperature value measured by the external floor sensor is of 28 °C for the factory setting of advanced options (section 6), and the factory value of external floor sensor hysteresis (section 3) 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 by displaying the flashing symbol ⦚ . 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. A correct configuration of the built-in and external floor temperature sensors must be provided according to section 4 related to the advanced options. An incorrect selection or a sensor malfunction (failure) will cause an error message to be displayed on the screen. Displaying the message with the following content: 'E1' means a malfunction of the built-in temperature sensor, while displaying a message of the following content 'E2' means that the external floor temperature sensor has failed. The thermostat will not supply power to the controlled heating device until the fault has been rectified!

CONNECTING THE THERMOSTAT TO THE WIFI NETWORK OPERATING THE TERMOFOL SMART APPLICATION

CHOOSING PLATFORM AND INSTALLING THE APPLICATION

The thermostat works only with **2.4 GHz WiFi** networks. The thermostat is controlled via the TERMOFOL SMART application available for Android and iOS platforms. In order to carry out the process of connecting the thermostat to the local WiFi network, download the TERMOFOL SMART application to your mobile device using the following QR codes:

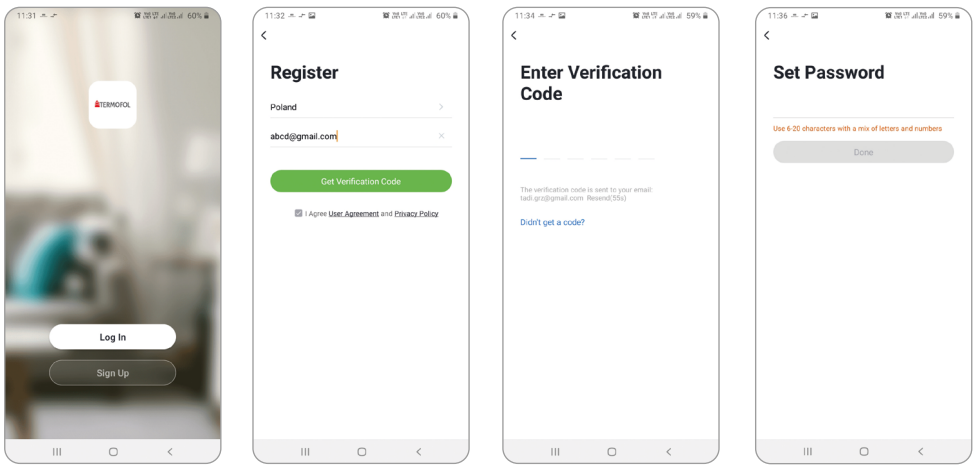
Android:

iOS:

Install the downloaded application on the mobile device and turn on the location services and WiFi connection of the device to the network to which the thermostat will be connected. Make a note of the password for this network as it will be needed in the further configuration process.

ACCOUNT REGISTRATION IN THE APP

In order to use the application, you must create a user account (register in the application). To do this, run the application, and on the first screen, select the „Sign up" option. On the next screen



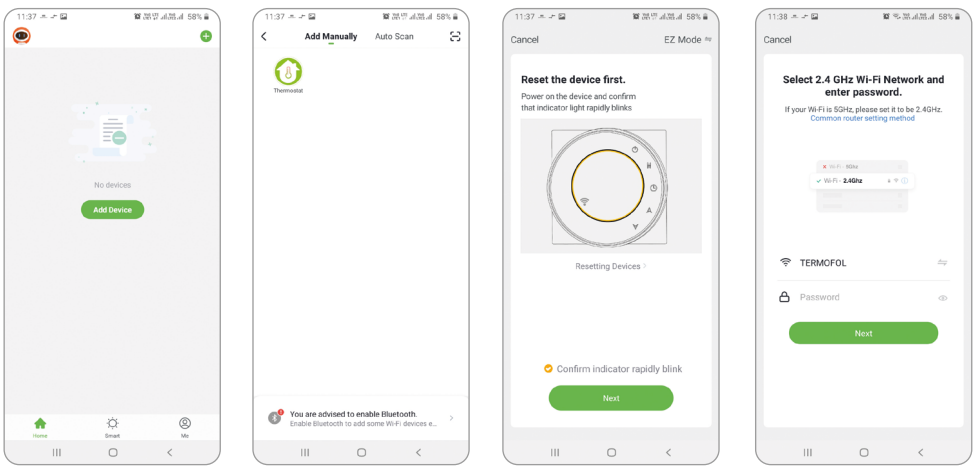
indicate the country of installation, and enter the e-mail address to which the verification code will be sent. After completing this data, read the verification code from the content of the e-mail message received and complete it on the next application registration screen. We finish the registration process by setting a password for our account, which we will log into our account in the application from now on. The registration is complete and we can proceed to adding the device - connecting the thermostat.

PREPARING THE THERMOSTAT FOR CONNECTION TO THE WIFI NETWORK

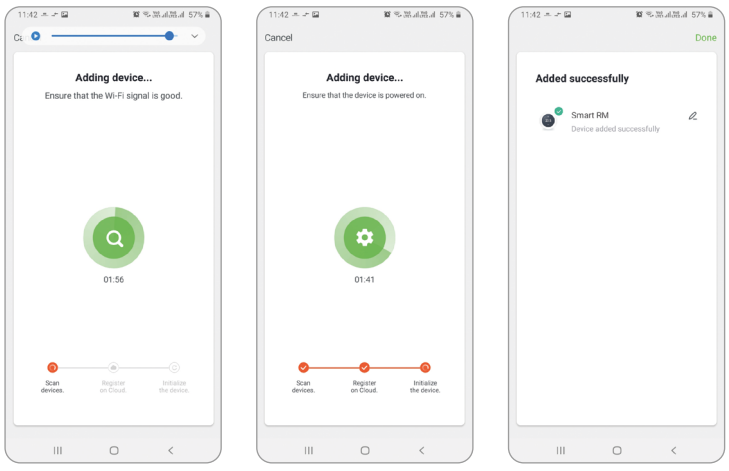
Before starting the process of adding a thermostat in the application, turn on the WiFi function and Cloud synchronization. To do this, turn on the thermostat by holding down the buton for at least 3 seconds. Then, simultaneously hold down the and buttons for 5 to 20 seconds until the flashing symbols above the buton appear in the lower right corner of the screen: . The thermostat is ready to connect to the WiFi network.

CONNECTING THE THERMOSTAT IN THE APPLICATION

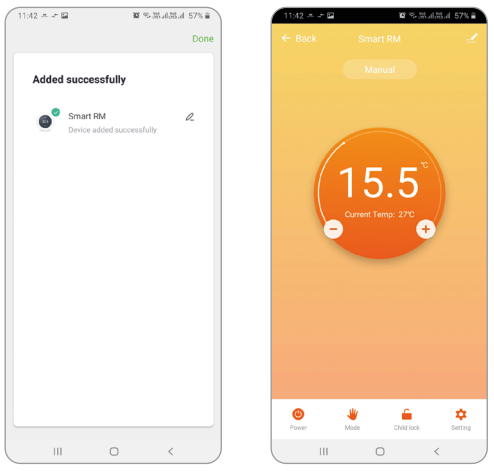
Having the thermostat ready, run the TEMOFOL SMART application and after logging into the application on the main screen, select the add device function.



On the next screen, select the thermostat icon, and on the next screen, select the „confirm fast blinking wifi icon" option and select the „next" button. On the next screen, enter the access password of the wifi network to which the thermostat is connected and confirm by selecting the „next" button. The connection process is fully automatic, and its progress can be tracked on the screen showing the progress of time and on the 3-point axis of the subsequent stages of establishing the connection. After completing the connection process, the progress indicator will reach level 3, after which a screen will automatically appear informing about the successful addition of the device and allowing for a possible change of the name of the device under which it will be displayed in the application. We approve the entire process by clicking on the „Done" in the upper right corner of the application screen. On the thermostat's screen you will notice that the previously flashing symbols: , are displayed in a constant manner.



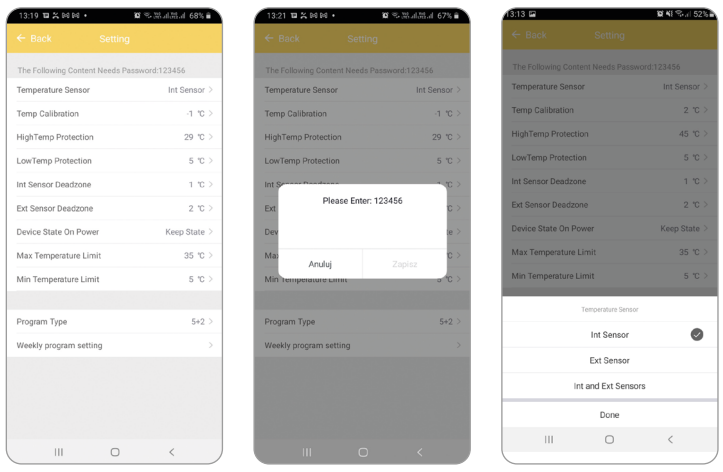
This additionally confirms that the entire connection process was successful and we can go to control and configuration of the thermostat with the participation of the application.



To select a device to control, click on the bar with its name, which starts the device screen. It displays information about the current air temperature, device status - the flame indicates the operating status, i.e. power supply to the heating device. With the semicircular slider or directly with the buttons „+" and „–" we can change the value of the set temperature. Using the buttons on the lower bar, we can: – turn 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 options and advanced parameters of the thermostat. We return to the main application window by pressing the „back" command located in the upper left corner of the application screen.

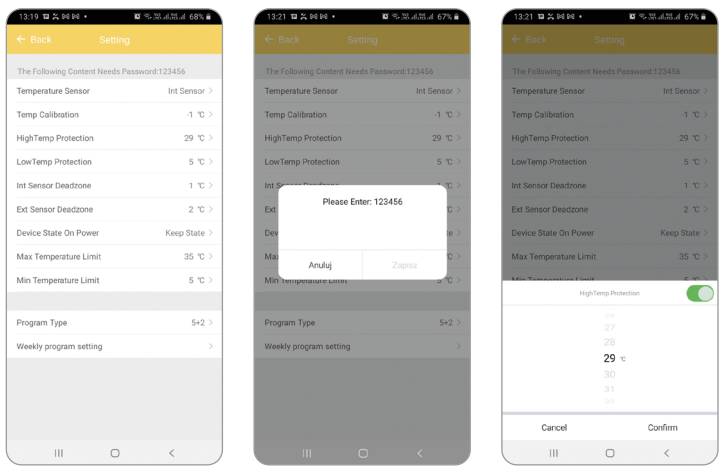
CHANGING THE CONFIGURATION OF TEMPERATURE SENSORS

After selecting the buton , the „Setting" screen appears. It contains a list of advanced settings and functions arranged in the form of horizontal bars described with the name of a given function, along with 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 line of the function whose setting you want to modify. Before editing, you will be asked to confirm the permissions by entering the administrator password, which is set to „123456" by default. And so, if you want to change, for example, the configuration of temperature sensors, select the „Temperature sensor" line and then select, for example, the internal sensor „Int. Sensor" and click „Done".



CHANGING THE MAXIMUM TEMPERATURE OF THE OUTDOOR SENSOR

After selecting the buton , the „Setting" screen appears. It contains a list of advanced settings and functions arranged in the form of horizontal bars described with the name of a given function, along with 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 line of the function whose setting you want to modify. Before editing, you will be asked to confirm the permissions by entering the administrator password, which is set to „123456" by default. If you want to change the value of the maximum temperature of the heating device measured by the external temperature sensor, select the „High temperature protection" line, then select the context menu from the context menu at the bottom of the screen by moving up or down a specific temperature level, e.g. 29 ° C and click „Confirm".



PROGRAMMING OF THE AUTOMATIC WORK SCHEDULE

After selecting the buton , the „Setting" screen appears. Select the „Program type" line by setting the type of schedule 5 + 2/6 + 1/7 days and confirm the selection with the „Done" button. Then select the „Weekly program setting" function and define the temperature values for the selected periods of the day, modifying freely both the temperature value and the time limit that define the beginning and end of subsequent periods for the selected weekly schedule.

