

AFRICA TERMO HEATING CONTROLLER

Operating manual*

* for TM Africa heaters of "X" series



- Sound indication
- Two-button control
- Indoor air temperature monitoring
- Heater surface temperature control
- Earthing control
- Time programming unit with a daily or weekly cycle
- Temperature indication
- Automatic power reduction



OPERATING MANUAL (FOR HEATERS OF THE "X" SERIES)

During the heater operation, the digital display shows the indoor air temperature (temperature measuring means with a measuring range from -9.5°C to $+99.5^{\circ}\text{C}$).

"Heating" — heating indicator (dot): When the dot is lit — full power; When the dot is flashing — 50% power.

Attention! The alternate display of temperature and time indicates that the heater is running following the program (only for heaters of "X" series).

SETTING THE INDOOR AIR TEMPERATURE

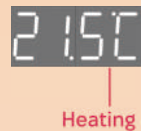
Press any button briefly. The preset "C" value of the temperature (Comfort) will appear and start flashing. While the value is flashing, a user can change the set temperature through pressing the buttons (hold the button for speeding up the process). When the buttons are not pressed for more than 5 seconds, the setting mode will be exited (flashing will stop). Herewith, if the temperature value has been changed, the program will stop (only for the heaters of "X" series) and comfortable "C" temperature will be maintained around the clock.

Attention! DO NOT set too high "C" value of the temperature in expectation of a room faster warming up, this can only lead to unjustified electrical power consumption.

BUTTON LOCK (CHILDPROOFING)

Plug the heater into the outlet while the "+" button is pressed and hold it until the indication appears (see on the right) and an audible confirmation is heard.

After that, the appliance will respond to button



pressing only through reflecting the icon “Loc” accompanied by a low sound signal.

BUTTON UNLOCKING

Plug the heater into the outlet while the “-” button is pressed and do not release it until the indication appears (see on the right) and an audible confirmation is heard.

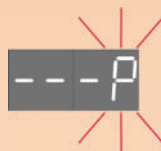


VIEWING THE HEATER SURFACE TEMPERATURE

Press both buttons briefly. The heater surface temperature will be displayed during 4 seconds (see on the right), upon which the indoor temperature indication will resume.



Attention! If the heater surface temperature is constantly displayed, it means that the remote temperature sensor is not connected or is damaged. Herewith, irrespective to the indoor air temperature, the heater surface will constantly heat up to the set “P” value (see clause 2).

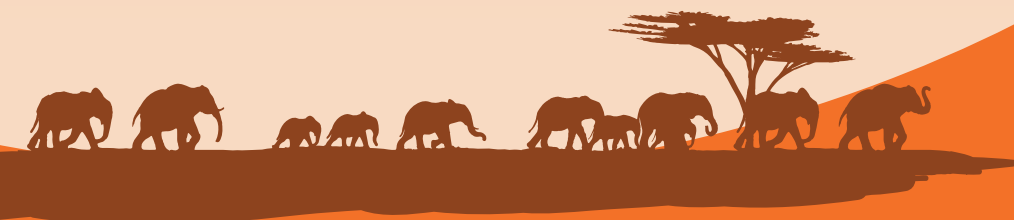


Attention! The display of the heater temperature, accompanied by a second-by-second audible alarm, indicates a malfunction. Contact the Service center.

Attention! Periodic appearance of this icon indicates the absence or damage to the internal temperature sensor of the heater surface. Contact the Service center.

REQUIREMENTS FOR EFFICIENT HEATING AND SAFETY

Install the heater. Ensure correct location of the external indoor air temperature sensor, as much as possible eliminating the influence of the heater itself and



of other surfaces and factors which temperature may be significantly higher or lower than the indoor air temperature.

SETTING THE MAXIMUM TEMPERATURE OF THE SURFACE

Under the heating mode (mode “C”, “E”, “R”), the heater surface temperature is automatically set at the indoor temperature-sensing element depending on the room heat loss. It can be in the range between the indoor temperature and the set upper limit. The manufacturer has set a maximum permitted temperature of 62/95°C, but a user can change it (children’s room, etc.). It should be taken into consideration, that the more a user limits the heater heating, the smaller is the area which the device will be capable to heat.

Press any button for setting the temperature limit.

The set “C” value of indoor air temperature will appear and start flashing. While the value is flashing, press and hold both buttons simultaneously for at least 2 seconds. After the sound signal is heard, the set “P” value of the heater’s maximum permitted surface temperature will be displayed and start flashing. Set the new value and wait for 6 seconds in order to exit the setting mode.



THE HEATING TURN OFF AND TURN ON

Press and hold any button (for more than 2 seconds) until the corresponding indication appears (see on the right) and an audible confirmation is heard (if the heating was turned on, it will turn off and vice versa).

Attention! When the heating is turned off, the indicator brightness is lowered, and the heater operates only



under thermometer mode (when one of the buttons is pressed, the "OFF" icon is briefly displayed).

ADJUSTMENT OF THE INDICATOR BRIGHTNESS

Under the off heating mode, briefly press both buttons. During 3 seconds (while 'LIGHT' icon is displayed), a user can increase the brightness through pressing the "+" button, and decrease it through pressing the "-" button. A total of 22 degrees of brightness are provided for. One brief high-tone sound signal indicates the recommended brightness for indicators with green glow, and two sound signals — for indicators with red, amber and blue glow.

Attention! Upon exit from the "LIGHT" mode, the brightness decreases since the heating is turned off.

Brightness
under the
heating mode
enabled

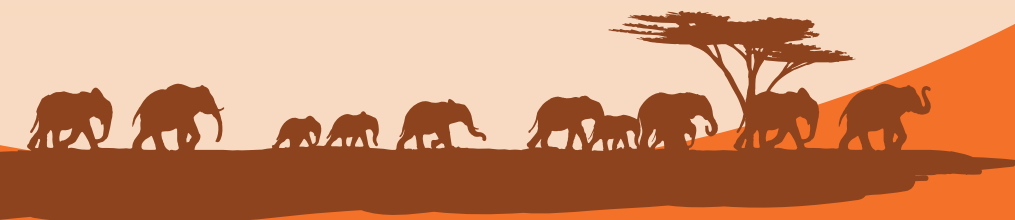
EARTHING

Thermal controller of the heater, when being connected to the electrical network, as well as throughout the entire operation cycle, controls the grounding availability and, in case of its absence, emits a warning (see on the left), upon which, depending on the set function (see below), either prohibits the heating, while waiting for the grounding recovery, or after warning permits operation without grounding.

For enabling the heating termination function in the absence of grounding, as well as for its disabling, it is required to press and hold both buttons as the "Grnd" indication appears (see above), then remove and re-insert the plug into the outlet no later than 1.5 seconds and only after the corresponding indication appears (see on the right) release the buttons.

Operation
without
grounding

Operation
only with
grounding



Attention! The heater operation without grounding is not permitted. This function is strictly reserved for checking the performance capabilities of the appliance in the absence of a grounded outlet.

AUTOMATIC POWER REDUCTION

If a user's power supply capacity is not sufficient (protective circuit breaker is tripped out), you can enable the function of automated reduction of the heater power (by 50%) when reaching the set temperature.

For enabling and disabling this function, it is required to press and hold both buttons simultaneously under the mode of setting the maximum temperature of the heater surface (see clause 2). Then, no later than upon 1.5 seconds, remove and re-insert a plug into a socket. And only after the relevant indication is displayed (see above) release the buttons.



HEATER PROGRAMMING (ONLY FOR "X" SERIES HEATERS)

Programming unit allows real-time heating of the premises in compliance with the daily or weekly schedule drawn up by a user. For example, to reduce the temperature from Monday to Friday, and to maintain a comfortable temperature the rest of the time.

For each hour of the day (24 settings) or every hour of the week (24x7 = 168 settings), depending on the set program cycle (see below), a user can set one of six heating modes:

1. Comfort. "C" temperature set by a user is maintained in the premises (see clause 1).

Attention! "C" temperature will be maintained



around the clock if the heating is not turned on following the program;

2. Economy. The set "E" temperature is maintained in the premises.

A user sets the value in degrees from -9.5°C to 9.5°C for which "E" temperature will be lower or higher than "C" temperature (with a set value of 0.0° , "E" temperature will be equal to "C" temperature);

3. Antifreezing. Indoor air temperature drops to at least $+5^{\circ}\text{C}$ ("R" value cannot be changed).

4. Heating is not being executed (the icon is missing).

5. The heater heats up to the set "P" value of the temperature (see clause 2) irrespective to the indoor air temperature (the set "C" value of the temperature is ignored).

6. Turbocomfort. Accelerated achievement of "C" temperature in the premises due to heating the heater surface to the maximum permissible ($72/95^{\circ}\text{C}$) temperature (the set "P" limit value is ignored).

Note: During setting, this mode is indicated as follows: ".C".

With the heating turned on



SETTING THE PROGRAM CYCLE (DAY/WEEK)

For changing the program cycle from daily to weekly one and vice versa, it is required to press and hold both buttons simultaneously under the time setting mode (see clause 5), then pull out and re-insert the plug into the outlet no later than upon 1.5 seconds and release the buttons only after the corresponding indication appears.

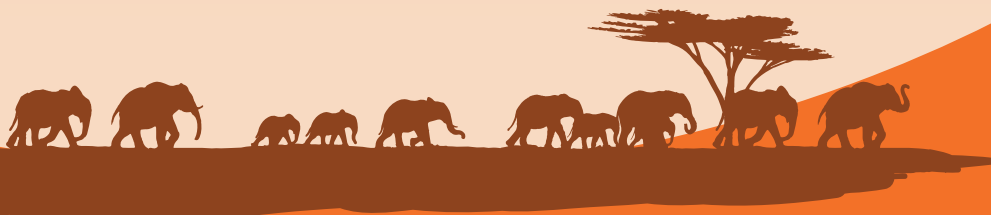
Note: When the cycle is changed the daily program becomes the program of the first day of the week and vice versa, the first day of the week becomes the daily program. Programs of the 2nd ... 7th days of the week are not broken during the transition from one cycle to another.



Daily cycle is set (24 hours)



Weekly cycle is set (168 hours)



ENABLING OPERATION FOLLOWING THE PROGRAM/SETTING THE PARAMETERS

1. Press any button briefly. The set "C" temperature will start flashing. If required, change the temperature values (within 5... 35°C).

2. While the value is flashing (during 5 seconds), press and hold both buttons simultaneously (> 2 seconds) until the sound signal is heard.

The maximum set "P" heating temperature of the heater surface will start flashing. If required, change the temperature values (within 40... 72/95°C).

3. While the value is flashing (during 6 seconds), press and hold both buttons simultaneously (> 2 seconds) until the sound signal is heard.

The set value of difference in degrees (-9.5 ... + 9.5°C) of the energy-saving temperature relative to the comfortable one will start flashing, and upon 2 seconds "E" temperature (Economy) will be automatically determined. Change it if required (the difference value will be displayed again upon changing).

4. While the value is flashing (during 7 seconds), press and hold both buttons (> 2 seconds) until the sound signal is heard.

The set time value will start flashing (herewith, the operation following the program will turn on). If necessary, set the correct time (for accelerating the setting, keep holding the "+" or "-" icons).

5a. Wait for 8 seconds for exiting the settings mode.

5b. While the value is flashing (during 8 sec.), simultaneously press and hold both buttons (> 2 sec.) until the sound signal is heard, for proceeding to the parameters.

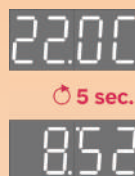
If the daily program cycle is set, it will be displayed: "h" — (hour), the next two digits (00 ... 23) — time of



day, the last symbol is set to the heating mode for the time of day, which is displayed (see the description of six modes).

For viewing the set program, as well as for selecting the desired time of day, press the "+" or "-" button in order to change the heating mode for the displayed time of day, press both buttons simultaneously. If you continue to hold the buttons, then the heating mode you have selected will be copied alternately for subsequent hours with an audible confirmation.

For turning on the heating by the program, it is required to proceed to setting the time (see clauses 1-2-3-4). The heater operation following the program is confirmed by alternating display of temperature and time (see on the right).

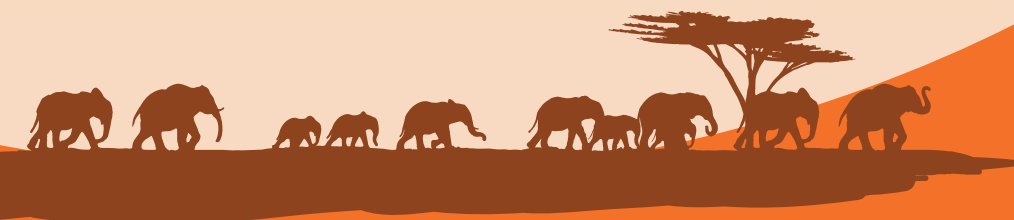


For excluding heating following the program, you just have to change "C" value of the Comfort temperature (see clause 1) and wait for 5 seconds (without proceeding to the next setting).

Brief sound signals will be heard, the clock will stop to be displayed, and the set "C" temperature will be maintained around the clock.

Attention! If you have to change "C" value of the temperature while maintaining the operation following the program, then it is quite enough immediately after setting clause 1, without waiting for auto-exit, to proceed to setting clause 2 (it is not necessary to change "P" value), then wait for 6 seconds.

Note: When the heater is unplugged from the network, all temperature settings and programs are stored in the controller's memory for an unlimited time, the clock will run for 7 days.



The manufacturer has set one of the sought-after programs (see below).

If it is suitable for you, then it is enough to set the correct time for enabling the operation under it.

If you do not need the operation following the program, but you wish to see on the display not only the temperature, but the current time as well, then set the value: for "E" mode = 0.0° (if the manufacturer's program has not been changed) or for each hour of the daily cycle of "C" mode. Then set the exact time (the set "C" temperature will be maintained around the clock).

THE PROGRAM FOR TWO-ZONE ELECTRICITY BILLING SET BY THE MANUFACTURER:

"H" (hour) — means that the daily cycle program is set. In the period from 7.00 to 23.00 in the premises is maintained "C" temperature (Comfort) equal to + 22°C, in the period from 23.00 to 7.00 — "E" temperature (Economy), which exceeds the comfortable one by 2°C, for accumulation of heat energy in walls and objects under cost-effective overnight rates (below the settings corresponding to this program are given).

$$22.00 + 2.00 = 24.00$$

Setting # 1 (Comfort temperature)		Setting # 3 (Economy temperature)	
h00E from 0 ⁰⁰ to 0 ⁵⁹ Economy	h06E from 6 ⁰⁰ to 6 ⁵⁹ Economy	h12C from 12 ⁰⁰ to 12 ⁵⁹ Comfort	h18C from 18 ⁰⁰ to 18 ⁵⁹ Comfort
h01E from 1 ⁰⁰ to 1 ⁵⁹ Economy	h07C from 7 ⁰⁰ to 7 ⁵⁹ Comfort	h13C from 13 ⁰⁰ to 13 ⁵⁹ Comfort	h19C from 19 ⁰⁰ to 19 ⁵⁹ Comfort
h02E from 2 ⁰⁰ to 2 ⁵⁹ Economy	h08C from 8 ⁰⁰ to 8 ⁵⁹ Comfort	h14C from 14 ⁰⁰ to 14 ⁵⁹ Comfort	h20C from 20 ⁰⁰ to 20 ⁵⁹ Comfort
h03E from 3 ⁰⁰ to 3 ⁵⁹ Economy	h09C from 9 ⁰⁰ to 9 ⁵⁹ Comfort	h15C from 15 ⁰⁰ to 15 ⁵⁹ Comfort	h21C from 21 ⁰⁰ to 21 ⁵⁹ Comfort
h04E from 4 ⁰⁰ to 4 ⁵⁹ Economy	h10C from 10 ⁰⁰ to 10 ⁵⁹ Comfort	h16C from 16 ⁰⁰ to 16 ⁵⁹ Comfort	h22C from 22 ⁰⁰ to 22 ⁵⁹ Comfort
h05E from 5 ⁰⁰ to 5 ⁵⁹ Economy	h11C from 11 ⁰⁰ to 11 ⁵⁹ Comfort	h17C from 17 ⁰⁰ to 17 ⁵⁹ Comfort	h23E from 23 ⁰⁰ to 23 ⁵⁹ Economy

Setting # 5 — daily cycle program (switching by hours using the "+" and "-" buttons)



WEEKLY PROGRAM CYCLE

If the weekly program cycle is selected, the set value of the day of the week (d1 ... d7) will start flashing. Change it, if required. For example, set "d3" for Wednesday.

While the value is flashing (during 5 seconds), press and hold both buttons simultaneously (> 2 seconds) until the sound signal is heard.

The following will appear: the first digit (1 ... 7) means the day of the week, the next two digits (00 ... 23) mean the time of day for this day of the week, the last symbol means the set heating mode for the day and hour of the week that are displayed (description of 6 modes).

Selection of the hour, setting the mode and copying it to the next hour see in the Program setting for the day.

There is the option to copy the modes of the day (except for the 7th one) to the following days, for which: when setting the mode for the twenty-third hour, keep holding the buttons pressed until an audible confirmation is heard.

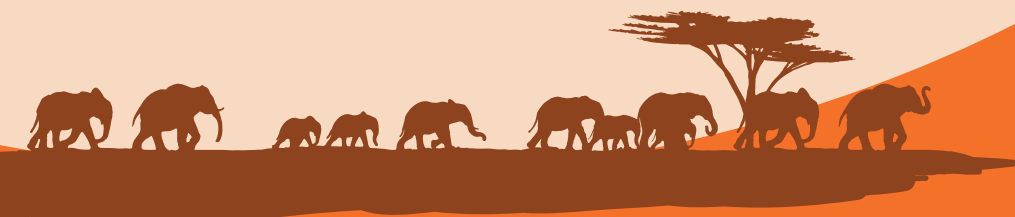
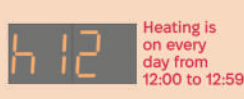
The day of the week number represents a relative parameter. You can select either Monday or any other day as the first day of the week. It is important to take this correspondence into consideration when setting the program modes.



Examples of heating mode settings for a weekly cycle program



Examples of heating mode settings for a daily cycle program



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