

KTX 4

User Manual

Electric Heating KTX 1, KTX 2, KTX 3, KTX 4.

EN

Our products have been designed and manufactured in such a way to ensure that all the quality, functionality and aesthetic requirements are met. We would like to congratulate you on this great purchase and would like to wish you a pleasant use.

SAFETY REGULATIONS

Please read the below instructions thoroughly and study the images carefully.

- Never use the device that is damaged in any way.
- Please check if the tally voltage equals the voltage of the electric installation in your home prior to connecting the device.
- Please check regularly if the power wire is not damaged and if the device can be used in a safe manner.
- Power wire is not subject to repair. Damaged power wire should be replaced at the manufacturer's or specialised repair shop**
- Always connect the device to the grounded installation (socket with earthing pin).
For devices without the plug (i.e. connected directly to installation), please see below colour codes for each wire:



Colour	Letter code	Wire type
Brown	L	Live
Blue	N	Neutral
Yellow and green	PE	Earthing

- The heating element is intended to work in a liquid agent environment. It is advised not to turn the device on in dry conditions for longer than 5 seconds.
Do not touch metal parts – burning risk. Always make sure that the wire does not touch the heating element that is hot.
- The device must not be connected while being installed. Unplug the device or disconnect the power wire from electrical circuit. Put the casing on the body of the heating element unit before plugging the device. It is necessary to secure the control panel with the right tool in order for the device to work as required [4].
- Do not open the casing.

- Heating element's electric output cannot exceed 100% heating output of the radiator for the following parameters: 75/65/20°C.
- Pressure inside the radiator must not exceed the pressure value recommended by the radiator's manufacturer or the pressure of 10 atmospheres for the heating element. Exceeding of recommended pressures may result in the radiator or heating element damage and cause possible threat for health, life and property.
- An air pillow of the correct parameters should always be allowed for inside an electric radiator (see → installation).
- In case of a dual fuel radiator (connected to the central heating system) one of the valves should be left open prior to turning the heating element on and during its operation in order for the excess water created due to its heat expansiveness to be pushed out. Leaving both valves closed will result in excessive pressure growth which may lead to damaging of the heating element or radiator (see → Dual fuel radiator/ Installation)
- The device is intended for home use.
- The device is not intended for use by children, persons with limited mental capacity or those who do not have sufficient knowledge or experience required for handling this type of equipment. In such cases, control or training by persons responsible for safety of the above mentioned is required.

INTENDED USE OF DEVICE

Terma heating elements and control heads are electric heating devices and are intended for installation and use in radiators used for heating interior spaces or drying towels or clothes. Heating element and control head can be installed in a radiator connected to the central heating system for use during the heating season as well as in an individual electric radiator.

Heating elements are intended to operate in closed installation (not open to atmosphere) only.

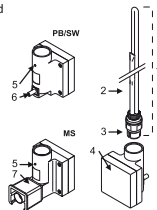
TECHNICAL INFORMATION

Model code (type of power wire)	<ul style="list-style-type: none">– PW (straight cable with plug)– PB (straight cable without plug)– SW (spiral cable with plug)– MS (masking cover + on/off switch)
Electric supply	230 V / 50 Hz
Heating output available	120, 200, 300, 400, 600, 800, 1000 W
Device protection class	Class I
Radiator connection	G 1/2"
Casing protection mark	IPx4: for: –MS IPx5: for: –PB, –PW, –SW
Electric connection type	typ X: for: –MS typ Y: for: –PW, –SW, Device permanently connected to the installation: for: –PB
Temperature measured:	inside the radiator

CONSTRUCTION OF THE HEATING ELEMENT UNIT

Complete KTX unit contains Terma-SPLIT heating element and controller for it. Depending on the model of the controller, it can also be completed by a remote programmer.

1. Heating element
2. Capillary with temperature sensor
3. Heating element head
4. Controller
5. Blocking thread
6. Power wire (versions –PB, –PW, –SW)
7. Masking cover for X-type connection (versions –MS)

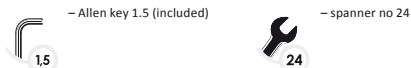


ELECTRIC RADIATOR:



1. Radiator powered by the heating element only, not connected to the central heating system.
2. Water, water with anti-freezing agent or the right type of oil should be used as a heating agent – possibility of installation and correct use is conditioned by meeting manufacturer's requirements on the radiator and heating element.
3. Filling the radiator with too much liquid leads to exceeding of acceptable pressure and damaging of the radiator or heating element. If you are filling the radiator yourself, please act strictly according to the below instructions.
4. Other methods of correct filling of radiator can be found on www.termaheat.pl. Radiator should not be filled with a heating agent of temperature higher than 65°C.
5. Heating element should not be fitted horizontally or turned downwards.

Tools required for installation of heating element unit

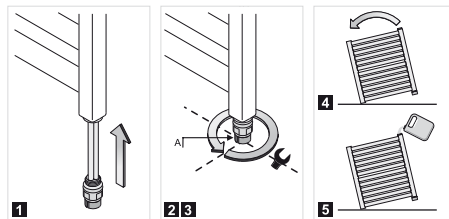


Installation of the heating element

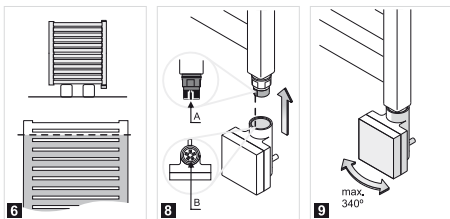


WARNING! The device must not be connected to electricity during installation. Unplug the device prior to installation.

WARNING! Please take every precaution when filling the radiator in order to avoid being burnt by hot liquid!

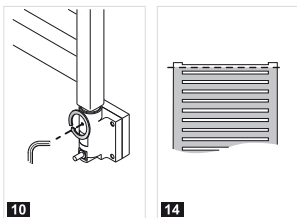


1. Insert heating element (1) into the threaded opening at the bottom end of the collector.
2. Twist the head of the heating element with a spanner no 24.
3. Position the element in such a way so that the indent in the head connection (A) is directed towards you or sideways.
4. Put the radiator in an oblique position to make sure that the upper collector opening is in the highest point.
The radiator must not be rested on the heating element controller or any other parts of the connection at any time!!!
5. Fill the radiator with the heating agent.



6. Put the radiator back in an upright position and check the level of the liquid inside it.
7. Make sure that the connection between the radiator and the heating element is tight.
8. Install the controller – fit the indents on the head (A) with the indents in the controller (B).
9. Position the controller casing in a way providing an easy and comfortable access.

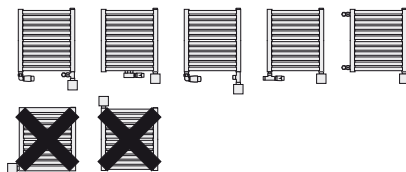
WARNING! If you feel resistance when twisting the controller it means that you have reached the maximum twisting span in that direction. Try to twist the controller in the opposite direction. Any damage to the device will result in annulment of the warranty.



10. Secure the casing at the back with Allen key.
11. Connect the device to electricity and turn on the heating element unit (upper collector opening must be open!). One can use a hot heating agent of temperature not exceeding 65°C. In such case, fill the entire radiator, put it in an upright position and turn the heating element unit on!

12. Set the maximum possible temperature required and observe the liquid level rise – the excess liquid may be slopping through the upper opening – remove excess liquid in order not to allow for the controller to be flooded or wetted.
13. When the level of the heating agent stops rising, wait another 5 minutes, turn off the heating element unit and disconnect the device from electricity.
14. Do not wait until the radiator cools down and pour a small amount of the liquid out – to the mid level of the top pipe.
15. Close the upper opening of the collector with a dedicated seal and put it back on the wall.
16. Connect the heating element unit to the socket/installation. The device is ready to work.

DUAL FUEL RADIATOR:



1. Radiator connected to the central heating system to which heating element unit is installed additionally.
2. Central heating installation must be fitted with the valves enabling disconnecting the radiator from the rest of the system.
3. Temperature of the heating agent from the central heating system inside the radiator must not exceed 82°C!
4. It is recommended to bleed the radiator after every longer interval in use. The device has a thermal fuse built in which protects the radiator from operating in dry conditions. Activation of thermal fuse means that the heating element unit will have to be returned to the Producer for servicing (not covered by warranty).
5. Heating element must not be installed horizontally or turned downwards.

Tools required for installation of heating element unit.



– Allen key 1.5 (included)

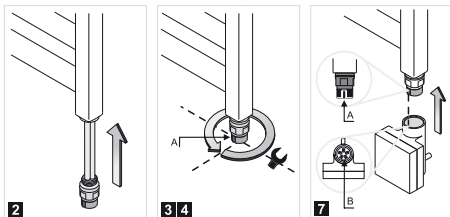


– spanner no 24

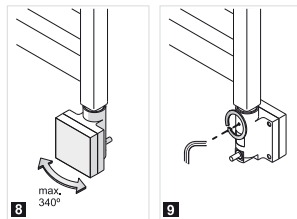
Installation of the heating element unit



WARNING! The device must not be connected to electricity during installation. Unplug the device prior to installation.



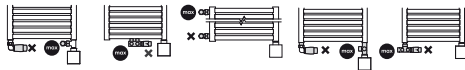
- In case of a radiator connected to the central heating system, close both valves and remove the heating agent.
- Insert the heating element (1) into the threaded opening in the tee piece, lockshield valve integrated with tee piece or directly into the radiator, depending on the required connection type.
- Twist the head of the heating element using a spanner no 24.
- Position the element in such a way so that the indent in the head connection (A) was directed towards you or sideways.
- Open the valves, fill the radiator with the heating agent from the installation and bleed it.
- Make sure that the connection between the radiator and the heating element unit is tight.
- Install the controller – fit the indents on the head (A) with the indents in the controller (B).



- Position the controller casing in a way providing an easy and comfortable access.

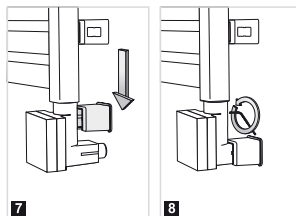
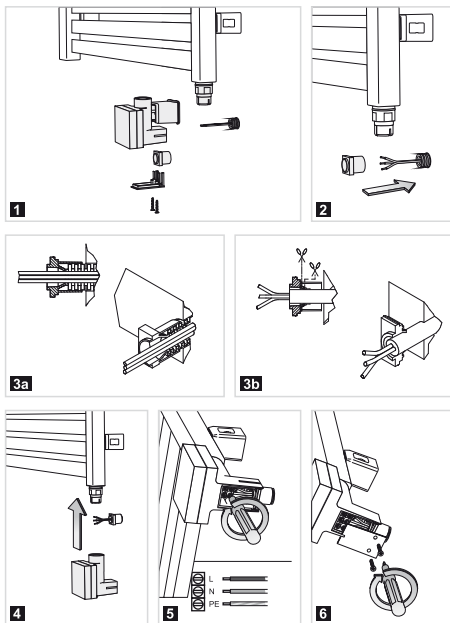
WARNING! If you feel resistance when twisting the controller that means that you have reached the maximum twisting span in that direction. Try to twist the controller in the opposite direction. Any damage to the device will result in annulment of the warranty.

- Secure the casing at the back with Allen key.
- Close one of the valves before using the heating element unit and leave the other one open (we suggest that you close the thermostatic valve). Always make sure that one of the valves is open prior to the use of heating element unit!!



- Connect the heating element unit to the socket/installation. The device is ready for use.

INSTALLATION OF THE MS VERSION OF DEVICE (WITHOUT THE POWER SUPPLY WIRE)



DEVICE DISASSEMBLY



1. Release the screw at the back of the controller casing.
2. Take off the casing.
3. In case of a radiator connected to a central heating system, close the valves and remove the heating agent. For electric radiators – take it off the wall and position it in such a way to prevent pouring the heating agent out of the radiator during disconnecting the heating element.
4. Untwist the heating element using spanner no 24.

MAINTENANCE

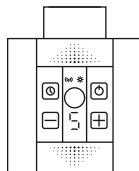
1. Disconnect the device from electricity prior to cleaning.
2. Heating element control head should be cleaned with a dry or damp cloth with a very small amount of detergents, which should never contain any solvents or abrasive agents.

PRODUCT DISPOSAL



This product should not be disposed of as general waste but should be brought to the appropriate collection point for recycling of electric and electronic devices. This information is provided by the sign on the product, user manual and packaging. Information on the appropriate point for used devices can be provided by Your local distributor or manufacturer of the product. Thank You for Your effort towards environment protection.

KTX 4



⏻ button – turns the device on / off

🕒 button – TIMER programming

Buttons ◻ and ◻ – temperature regulation or modification of TIMER settings – numeric sign

★ icon – HEATING indicator

⦿ icon – icon indicating connection to a transmitter

Heating element unit heats the radiator that it is installed in and precisely controls its temperature at the same time. Buttons ◻ and ◻ are used to regulate temperature whilst the ★ icon indicates that the radiator is being preheated.

Turning the device on does not mean that it uses the same maximum power for the whole time it is on. On turning the device on, it operates with the nominal power for a short period of time in order to heat up the radiator to the set temperature. After that it turns itself on and off periodically, using only as much energy as it is required to maintain the set temperature of the radiator for current external conditions (see: *Actual working time meter*).



Construction of the heating element unit as well as physical characteristics of the heating agent cause that the bottom pipes (especially the two at the very bottom of the radiator) may have a lower temperature than the remaining parts of the radiator – this is a normal phenomenon.

KTX 4 controller installed on the SPLIT heating element is the basic configuration of this type of heating element unit which allows use of all the basic features of the device (see: *Local mode operation*).


KTX 4 controller can also cooperate with an external wall-mounted transmitter (ie. DT-IR type), which adds additional features to the basic set (see: *Remote mode operation*).

LOCAL MODE OPERATION (WITHOUT IR TRANSMITTER)

Heating mode


It is possible to set 5 temperature levels in the local mode. Settings are modified with  and  buttons. Possible working levels are as follows: 0 (does not heat) and from 1 to 5, each setting indicating a temperature range from 30 to 60 degrees Celsius accordingly. * icon indicates that the device is heating.

DRYER MODE (TIMER)




 button is used to turn the mode on and set the time after which the device is to be turned off automatically.

In order to activate the Dryer Mode:

- Press  button shortly – display panel will show dryer working time of 1H (1 hour)
- Every subsequent pressing of the  button will prolong dryer working time (2-4 hours)

In order to deactivate the Dryer Mode, set the time to 0H (press the  button a few times) or turn the device off and back on.

While the Dryer Mode is on you can modify:

- temperature of the radiator – buttons  and .
- Dryer working time left –  button


Actual working time meter

The unique feature measuring the actual working time of the heating element adds up the periods during which the device was using nominal electric power (during standard operation the device regulates the temperature and uses very little power thanks to the fact that it turns itself off for longer periods).

It can be checked at any time how much electricity has been used, ie. during all day's operation. In practice it turns out to be up to a few dozens of percent less!

The number displayed on the meter reflects the actual energy consumption, therefore you can measure the actual cost of energy used by multiplying the number on the meter by the nominal heating output of the heating element and the price of electricity (1 kW).


1. Meter reading:


Press and hold the  button – the display panel will show letter E followed by 4 digits separated by a hyphen (actual operating time of the device), ie. E..0..2...1..5 means that the device was actually working for 2 hours and 15 minutes from the last time the meter was zeroed.

2. Meter resetting:

Press and hold the  button until E 00-00 comes up.

Setting permanent local mode




The device has been designed to work in a set, therefore, it will start searching for an IR transmitter signal immediately after being turned on ( icon will start flashing). If the device does not find an active IR transmitter, the diode will keep flashing.

In order to turn it off, press and hold the  button until the diode stops flashing which will mean that the controller is no longer searching for the IR transmitter and will keep working in the local mode only.

In order to go back to work with IR transmitter, press and hold the  button.

REMOTE MODE OPERATION (WITH IR TRANSMITTER)



Controller should start searching for an IR transmitter signal immediately after it has been turned on – this is indicated by  icon flashing on the display panel. Should this not happen, press and hold the  button until the  icon starts flashing.

After being connected, the  icon will stay on and a dash will appear.




When working in the remote mode, buttons  and  are not active (except when using the *Dryer Mode*).

Button :

- press it short to turn the device off
- press and hold to switch to the *Local Mode*.

Dryer mode (timer).

Dryer in the *Remote Mode* is operated in exactly the same way as in the *Local Mode*, meaning that it is operated via the KTX 4 controller:

- press  button to activate the *Dryer*
- press  button a few times to modify *Dryer* operating time
- press  buttons to set the required temperature level during *Dryer* operation (see: *Local Mode* operation – *Dryer Mode*).

The controller will automatically switch to the *Remote Mode* on expiry of the set time.


Use of the remote transmitter

Detailed description of the basic and advanced features of the IR transmitter depends on a given type (please see user manual attached to your IR transmitter).


Examples of features of an IR transmitter – type DT-IR1

- control of temperature inside the room (in *Local Mode* the device controls the temperature of the radiator)
- possibility to program two temperature settings: *Comfort* and *Economical* and easy switch from one to the other
- automatic temperature adjustment program for *Comfort* and *Economical* setting during a 24hour period (24-hour timer)
- automatic dryer program
- automatic *Anti-freeze* program with possibility to adjust the operation threshold
- possibility to adjust the temperature sensor according to the specific conditions of a given interior (calibration feature).

No signal detection (automatic feature):

The transmitter sends a controlling signal every 10 minutes in order to check the quality of communication between the two devices. Interruption or lack of 3 subsequent signals (30 minutes) will result in automatic changeover of the KTX 4 controller to the *Local Mode* with the “0” setting. The controller will wait for communication to resume (display panel will show “0” and  icon will start flashing). Having received the controlling signal, the device will automatically return to remote operation.

PROBLEM SOLVING

Problem	Possible cause	Solution
Device is connected to electricity, LED display panel is empty	Connection problem	Check the power wire connection, plug and the socket
Heating element does not heat, LED display panel shows E1 or E2 code	Device signals emergency, temperature sensor has been damaged	Disconnect the device completely from electricity, wait for the radiator to cool down and turn it back on
	Controller is incorrectly installed on the heating element	Check if the head of the heating element is completely hidden. Release the screw at the back of the controller casing, gently push the controller towards the radiator and secure the casing back
Short, single flashes of the dash on the display panel (in remote mode)	Controller is working properly – flashes indicate receipt of controlling signal from the IR transmitter	–
Device automatically switched from remote to local mode	Communication problem: sensor is inaccessible or the devices have been incorrectly set against each other	Remove any objects that may be disrupting communication between the two devices or mount the IR transmitter in a different location
Heating element is heating despite being turned off with the  button	Electronics damage	Disconnect the device completely from electricity, wait for the radiator to cool down and turn it back on
If the problem persists, please contact your local distributor		

WARRANTY

Warranty Terms & Conditions

1. The subject of this warranty is microprocessor-equipped controller for KTX heating elements, which uses the TERMA-SPLIT system. Product name and characteristics are specified on the packaging.
2. By accepting the device on purchase, the Client confirms that the product is of full value. The Client should immediately inform the Seller of any discovered faults – otherwise it will be understood that the Product was faultless at the time of purchase. This refers especially to any faults or damages of the control panel case.
3. Warranty period for the Product is 24 months from the date of purchase, but no longer than 36 months from date of production.
4. Any claims made will be processed on production of the warranty card and the evidence of purchase. Manufacturer has the right to reject any claim on the grounds of not presenting of any of the above documents.
5. This warranty does not comprise any faults that are due to:
 - incorrect (not in accordance with the manual) installation, use or disassembly,
 - incorrect use of the heating element (ie. for any purpose that is not specified by the Manufacturer as intended for this type of product),
 - Product being handled by unauthorized persons,
 - any faults or damages caused by the Client after having purchased and accepted the Product.
6. Central heating installation should be fitted with lock-shield valves, enabling disassembly of the radiator or the heating element and its control head without the necessity of emptying the whole system of the heating agent. Any problems or expenses arising from lack of such valves in the installation cannot not be used as the grounds for any claims against Terma.
7. The attached Product Manual is an integral element of the Warranty. Please read it carefully prior to the Product installation and use.
8. The Manufacturer is obliged to remove any production fault within 14 working days from receipt of the faulty device to Manufacturer's premises.
9. Should the repair turn out impossible, Manufacturer is obliged to replace the faulty Product with a new, full-value unit of identical parameters.