

# ***Tradeko***

***Electric heating element  
for combined heating of tube radiators***

## ***EL.05MgO***

***(Models EL.05, EL.05R, EL.05S and EL.05E)***

***INSTALLATION AND OPERATING MANUAL  
WARRANTY CERTIFICATE***



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TRADEKO, s.r.o.

## Designated use and safe operation precautions:

The electric heating element is designed for use in the direct heating of heat transfer media in tube radiators that are connected to a hot water heating system with an expansion tank. Installation of heating elements in electric radiators (not connected to a hot-water heating system) may only be completed by the producer of electric appliances.

***The output rating of the electric heating element is to be selected as per the radiator output, as advised by the radiator manufacturer. It is not permitted to use a heating element the output rating of which exceeds the recommendation made by the manufacturer of the radiator! The electric element may only be fitted pointing upwards in the vertical position, or in the horizontal position, in the lowest section of the radiator. It is forbidden to install the element in the top sections of the radiator! During installation and operation of the equipment, please be advised that the volume of liquid increases when heated. The heating media must therefore have unobstructed access to the expansion tank.***

***The tip of the heating rod is fitted with a temperature limiter switch. The limiter is fitted to protect the user from the effects of the radiator overheating when correct operating guidelines are not observed. Once the temperature of the liquid inside the radiator exceeds 90°C, the limiter disconnects the heating element circuitry to prevent a further rise in temperature.***

***The limiter may go off in these situations:***

- ***the radiator is fitted with a heating element with an output rating higher than recommended,***
- ***the radiator media circulates incorrectly in the unit – do not use oils,***
- ***air is present in the radiator or the radiator is completely drained,***
- ***the radiator cannot release heat into the environment, e.g., when drying too many towels.***

***Find the reason why the limiter has gone off and rectify the situation. The unit is ready for further operation after it has been disconnected from the mains for a period of approximately 15 minutes.***

***Remember! The temperature limiter is there to protect you from possible danger; however, it is not designed for switching the unit off during common operation.***

The EL.05MgO heating element has been tested and certified by the Electric Testing Institute in Prague.

## Technical Data:

- operative voltage	230 V 50/60 Hz
- protection class	IP44 (types EL.05 and EL.05E), IP21 (type EL.05R), IP41 (type EL.05S)
- appliance class	1
- wattage	200 – 1350 W, refer to the manufacture label
- connection cord length	1.5 m plain cord (EL.05E) or 3.5 m spiral cord (types EL.05, EL.05R, and EL.05S)
- mains plug	solid UNISCHUKO plug – only in the EL.05, a special assembled UNISCHUKO plug (types EL.05R and EL.05S), no plug – variant EL.05E
- plumbing connection thread	G 1/2" (ISO 228)
- maximum operating pressure	1.2 MPa
- operating position	vertical from the bottom of the radiator or horizontal in the lower section of the radiator

## Unit installation and installation safety guidelines:

***The unit may be installed by certified personnel only. Prior to first connection of the unit to the mains, have the electrical safety of the unit and of the power supply verified by certified personnel.***

***When located in bathrooms or showers, the unit must not be positioned within or above the bath or shower area (zones 0 and 1 as per ČSN 33 2000-7-701).***

**Furthermore, type EL.05R or EL.05S units must not be positioned within 60 cm of a bath or shower area (zone 2 as per ČSN 33 2000-7-701). The power supply of the unit must conform to regulations for the connection of Class 1 appliances and it must be protected by a functional residual current device (RCD) of appropriate rating. When the unit is not connected to the mains by a plug, the unit power supply line must be fitted with a switch to allow the user to safely disconnect the unit from the mains when necessary.**

**Prior to installation, verify whether the output rating of the heating element does not exceed the output rating recommended by the radiator manufacturer.**

Carefully insert the heating element into the lower end of one of the vertical bars of the radiator; tighten the connection with a 22 mm open-ended wrench. Never tighten the heating element by the metal bushing of the power supply cord! Should the specific installation require that the radiator input where the heating element is to be installed simultaneously serve as the tie-in for the backflow pipe of the heating system, please use a special T-junction piece (available in stores as radiator accessories, Part Number T0034).

Suspend the radiator on the wall, connect it to the heating system, fill with fluid and bleed off the air. **Take care not to damage the power supply cable or the unit casing.**

To connect the heating element to the mains, the supply cord of EL.05E may be fitted with a mains plug of the desired design. It is recommended to use original heating unit accessories, that is, a VS1 type mains plug with a switch (Part Number T0255) or an R10A temperature regulator (Part Number T0134).

**Warning! Mains plugs have lower protection properties against water than the heating element itself, IPX1. Therefore, plugs may not be operated within 600 mm of a bath or a shower (zone 2 as per ČSN 33 2000-7-701). The wiring diagram of a VS1 plug is shown in Figure 1.**



Fig. 1 – VS1 mains plug with the wiring diagram

**Prior to connecting the heating element to the mains, verify the isolation resistance and protection against electric shock in the grounding wire of the heater as per current standards.** If no shortcomings are identified, the heating element may be connected to the mains. Record the installation in the Warranty Card on the rear side of this Manual and submit the Manual to the user upon handing over the work.

### **Heating element usage guidelines, safety precautions for the user:**

A radiator with a fitted electric heating unit may operate in two modes.

1. As a “common central heating radiator”, heated with hot water (without the fitted electric heater unit changing the function of the radiator).
2. As a stand-alone heating device. In periods when the central heating system is not in operation, the water contents of the radiator may be heated directly by the heating element fitted in the radiator.

In this case, close the feed valve in the radiator and power on the heater unit. In case your heating unit is fitted with a mains plug, the plug in the socket must be positioned vertically, with the cord pointing downwards at all times. No other operating position of the plug is acceptable! It is forbidden to use any extension cords! When the plug is removed from the socket, the plug must be protected against water penetration. Therefore, it is recommended that you do not pull the plug out of the socket; instead, use the plug switch to turn the heating unit off.

**In case of water penetrating the plug, never use the plug in any socket!**

**The radiator must not contain any air during operation of the heating element – danger of overheating!**

**The backflow pipe of the radiator must not be closed – imminent danger of radiator rupture by elevated pressure during heating!**

***Never rest the power supply cord on a hot radiator – a damaged power supply cord may only be replaced by the manufacturer of the heating unit, or by another person with similar qualifications, to prevent dangerous situations.***

***If the radiator often shows overheating and the temperature limiter switches off the heating unit, consult a specialist.***

***The heating unit is not designed for use by persons (including children) whose physical, sensory or mental incompetence, or lack of experience or knowledge, prevents safe operation of the device except if those persons are under supervision or have been properly instructed in safe operation of the device by a person responsible for their safety.***

***Children must never be allowed to play with the heating unit or with its accessories.***

## **WARRANTY**

The manufacturer guarantees that the product shall, for the full duration of the warranty term, have the properties prescribed by the relevant technical standards on condition it has been installed and used in accordance with the guidelines presented in this Manual. The warranty excludes mechanical damage or defects incurred by not following the installation and/or operating guidelines presented in this Manual.

When submitting the product for warranty repair, always include the stamped warranty card; the device must be packed properly. Remember to include a covering letter that states the reason for the complaint. When submitting the device for warranty repair, deal with the seller who sold the product to you, or refer directly to the manufacturer.

### ***Notice:***

***The device is protected against overheating by a temperature limiter fitted inside the heating rod. In case the liquid inside the radiator has overheated, the limiter switches off the electrical circuitry of the heater in order to prevent further rise in temperature and the creation of a dangerous situation. You may discover the radiator is cold although the heating element is powered on; this does not necessarily have to be caused by a defect in the heating element. Please read the Manual in detail and observe the instructions contained therein!***