



Operating Manual
Thermo-bug® 2.0

The practical thermal exterminator for analogue single operation

Thermo-bug® 2.0 basic

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Operating Manual

Preface

Thermo-bug® 2.0 basic

Before taking this high-temperature radiator into operation, please read this operation manual with care and familiarise yourself with the operating elements.

In particular the danger notes should be given increased attention.

We assume no liability for damage from improper handling and application; the warranty claim lapses.

Before delivery, the radiator has been reviewed and tested for function. Please check the device for possible transport damage after delivery.



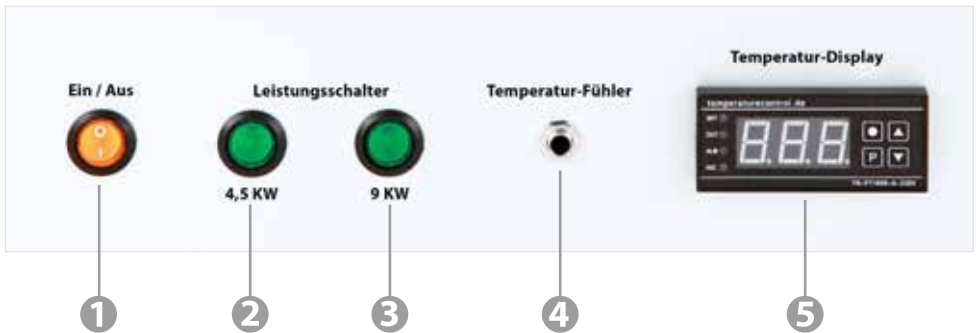
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Thermo-bug® 2.0 basic

First steps



① Main switch

② Power switch 4.5 KW

③ Power switch 9 KW

④ Sockets for temperature sensor

⑤ Display for temperature sensor



Commissioning

After connection of the **Thermo-bug® 2.0 basic** to the mains 3x400 V, fuse 16 A:

1. Switch on the main switch **1**. The fan is running.
2. Insert the temperature sensor in socket **4**.
3. Power switch **2**: The heating is running at half power 4.5 KW.
Power switch **3**: The heating is running at full power 9 KW.
The switches must be pushed in sequence in the order **2** – **3** to get full power.

The display **5** can be used to set the desired temperature and to read the current temperature. The maximum temperature can be set via the display **5** as well (see below).

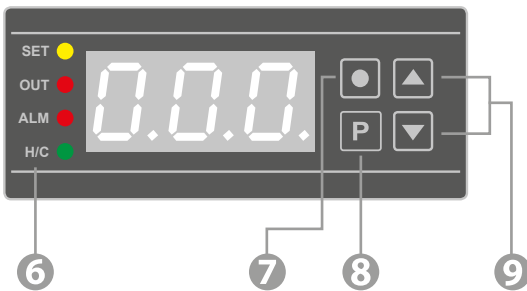
The temperature sensor should be placed at a height of approx. 1 m in open space (not covered), since the pre-set ambient air temperature will not be achieved otherwise.

To deactivate the **Thermo-bug® 2.0 basic**, observe the instructions on page 7.



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Display and target value settings



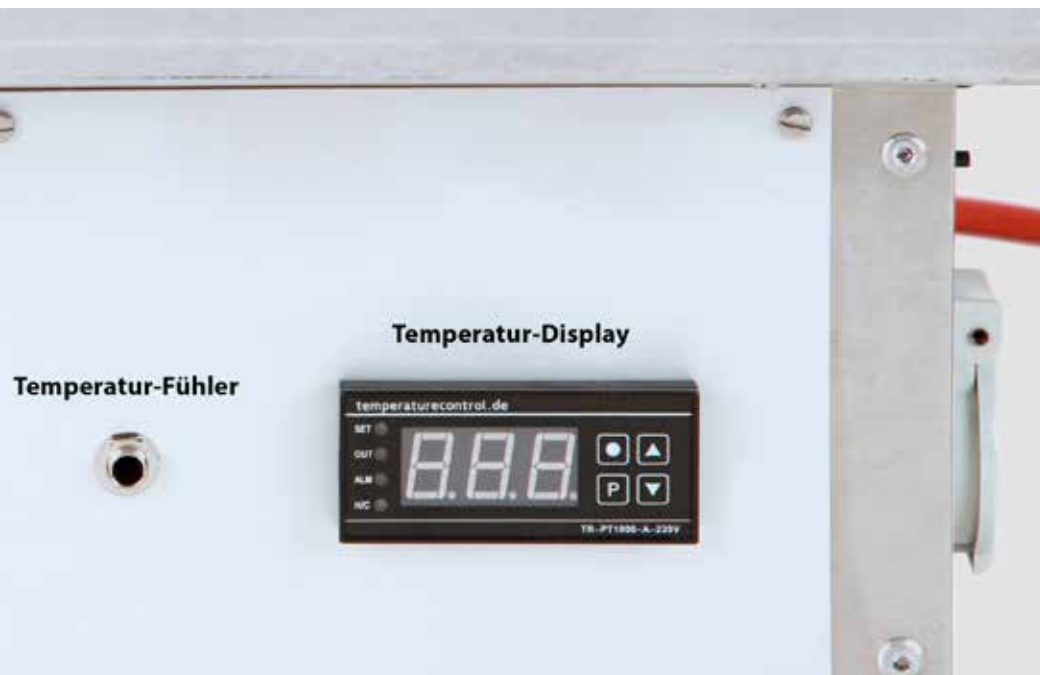
6 Indicator lamps

- SET ● = Set value setting active
- OUT ● = Output relay active
- ALM ● = Alarm relay active
- H/C ● = Cooling function active
- H/C ● = Heating function active

7 Quit button (exit menu)

8 Function button for target value setting and parameterisation

9 Arrows and parameterisation



Target value settings

The target value setting serves to adjust the desired value.

P = 3 Sek. - **▲** & **▼** - **0.0.0** - **P**

1. Hold the function button **P** down for 3 seconds.
2. Use the arrows **▲** & **▼** to set the desired value now.
3. Use the function button **P** bestätigen to confirm the setting.



Deactivation

Important: Switch off power switch **2** and **3** of the **Thermo-bug® 2.0 basic** and let the fan lag for **at least 5 minutes** (without heating) so that the device can cool off!

Do not simply pull the plug!

This would lead to a danger that the connection cables overheat!

Then switch off via the main switch and disconnect from the mains.



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Product properties and troubleshooting

- Power switch for 4.5 KW (half power)
- Power switch for 9 KW (full power)
- Pluggable external temperature sensor with 4 m cable
- Temperature display with adjustable temperature
- 230 V socket for the **Thermo-bug® airblower** with a 4A fuse
- High-performance fan for high temperatures
- Overheating protection with automatic resetting
- Housing protection type IP54
- Easy handling from low dead weight (15 kg)



Error diagnosis (only when the device is powered down (pull the plug))

Error	Cause	Remedy
1) Radiator without function in spite of mains connection	Plug loose or no contact, no supply voltage	Attach plug, insert again
	Fuse blown	New fuse
	Device overheated	Let cool off by 15 °C, switch on
2) Heating elements glow	Main switch off, input voltage too high	Measure mains voltage
	Air supply blocked, fan standing	Keep air supply free, cool off
3) Fan is running, but heating is not or only at half power	Temperature controller is not on or defective	Activate, replace
	PCB fuse defective	Replace fuse on the PCB
4) Fan noise	Imbalance, bearing damage	Inform manufacturer
5) Thermo-bug 2.0 basic does not work	No temperature sensor inserted	Insert temperature sensor



Troubleshooting

- If the errors continue to occur after remediation, contact the manufacturer without delay.

Safety measures

- Never work on the device while it is live!
- Note the power data of the rating plate when connecting!
- The connection line must be secured via the power switch and circuit breaker!
- Connection lines must have a corresponding line cross-section!
- Maintenance work must only be performed by qualified specialists!

Maintenance and spare parts

- At longer standstill times, remove any dust deposits on the heating rods with compressed air.
- Only use genuine spare parts.
- A damaged mains cable must only be replaced by a specialist.

Guarantee

The guarantee period shall be 12 months after the date of purchase of the device.

Any repairs will be performed free of charge during this warranty period if the defective parts show faults during our inspection.

Repair will not extend the warranty period.

The following damage shall be excluded from warranty:

- Unintended use
- Non-observation of the instructions
- Improper use
- Regular wear
- Changes to the device
- Improper repairs or maintenance work

We are not liable for costs or damage caused by use of the device.



Danger notes

- Keep small parts away from the proximity of running fans.
- Never cover the radiator in operation!
- Do not store any flammable materials near the radiator!

Applied harmonised standards, specifically:

- DIN EN 12100-1 Safety of machinery – Basic terms, general principles of design, part 1: General terminology, method
- DIN EN 12100-2 Safety of machinery – Basic terms, general principles of design, part 2: Technical leading principles and specifications:
- DIN EN 60204-1 Safety of machinery – Electrical equipment of machinery, part 1: General requirements
- DIN EN ISO13849 Safety of machinery - Safetyrelated parts of controls

Other applied technical standards and specifications:

- DIN 40719 Marking of elect. operating equipment
- VDE 0110/750 Dimensioning of creepage and air distances of elect. operating equipment
- VDE 0298 Current resilience of lines
- VDE0 0470 Part 1 Protection types through housing
- VDE 0701 Inspection of elect. devices

Storage of the documents according to annex VI.

EC declaration of conformity according to the EC machinery directive 2006/42/EC from 17 May 2006, Annex II A

We declare that the following machine is designed and built in the version marketed by us to comply with the basic safety and health requirements of the EC directive 2006/42/EC.

Any changes to the machine not coordinated with us will render this declaration void.

Description of the machine

Function: High temperature radiator

Type/Model: EL-K-9KW

Correspondence with other directives/provisions also applicable to the product is

declared: EMC directive (2004/108/EC) from 15 December 2004



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