KLETTI
FLEXIBLE ELEKTRISCHE BEHEIZUNGEN

Operation Manual
Series KM-RD5012x

1.1 Specified normal operation

The KM-RD5012 is only operated as intended if the following points are taken into account:

Only authorized and appropriately trained persons may work on the controller

The controller may only be operated within the limited range of the specified current.

The controller may only be operated in the limited range of the operating temperature

of the connected heater.

The safety and operating instructions of this operating manual must be observed.

The operating instructions of the operator must be observed.

The statutory accident prevention regulations must be adhered to.

1.2 Reasonably foreseeable misuse

Operation in systems with dust and corrosive gas.

Operation with highly flammable, explosive gases (EX areas).

Operation with mechanical vibrations and shocks.

Operation in disregard of safety regulations

Operation with deactivated, modified / defective safety devices

If a higher temperature is set than the max. Operating temperature of the connected heater, so it
can cause a considerable damage, for man and machine, building up
come to smoke or fire damage.

Outside an ambient temperature between 0 and 50 ° C and
outside not condensing ambient humidity < 90% RH.

Note:

Do not install the controller near flammable material.

Avoid direct contact of the controller with flammable material.

The controller should be protected from direct sunlight or high UV lighting.

2 Safety information

⚠️ Before putting the unit into operation, the safety information, the instructions for installation and the operating manual that is supplied with the unit must be read and observed.

Please read the safety information carefully and comply with the items stated. This is a matter of safety for personnel and equipment. The unit is predominantly designed as a temperature controller for electrical heating systems. Improper application, installation, configuration or operation of a system or that which goes against the machine's intended purpose may cause severe personal injuries and extensive property damage!

⚠️ *Important: This unit is not a safety temperature limiter according to DIN EN60730-1*

The unit must not be installed in potentially explosive atmospheres. If a process function originating from an explosion-risk area is to be processed by the unit installed outside the explosion-risk area, all supply lines of the unit leading into the explosion-risk area must be guided via safety barriers! There are other special EX temperature controller / limiter combinations that you can find in our program!!!

The prerequisite for error-free and safe operation of the unit is its careful transport and storage, as well as correct assembly and installation. This device may only be installed, configured, parameterized and commissioned by qualified persons who are familiar with installation, commissioning and maintenance of comparable devices and with the system in which the device will be applied and who have appropriate knowledge in the field of instrumentation and control. Operating staff of the system in which the device is to be used must be instructed on operation and control of the unit by qualified persons.

Please observe and comply with:

- The contents of the present manual for installation and operation of the unit, in particular the information on installation, taking into operation, any notes in bold print and adjustment of the device to suit the overall system.
- Any and all safety information attached to the unit
- Any and all relevant safety regulations for installation and operation of electrical systems
- The keeping of this manual in a safe place for future use.

The regulations stated in the present manual are applicable and valid in all EU countries. For use of the device outside an EU country, the relevant national rules and regulations must be considered.

This device has been produced and tested in accordance with DIN EN 61010 Part 1, "Safety requirements for electrical equipment for measurement", and has left our company in an error-free condition in terms of its safety and functionality.

> ⚠️ **DANGER**
>
> The controller is an electrical resource.
>
> Therefore, installation and commissioning may only be carried out by trained and qualified personnel.
>
> Connection, maintenance and repair must only be carried out by trained, competent and qualified personnel.

2.1 Place of application of the unit

The unit is designed as a temperature controller for flexible application in electrical heating systems. The place of operation or installation of the temperature controller must not be close to motors, transformers, circuit breakers or other inductive loads, it must be shock-free and vibration-free and positioned on solid ground. The ambient temperature at the place of installation must be between 0°C and 50°C, with a relative humidity of 90% (no condensation). Aggressive and corrosive gasses and vapours may damage the unit.

2.2 Instructions for installation

Please read the installation instructions carefully and comply with all conditions mentioned here during installation of the unit. In case of non-compliance with the Instructions for installation, faults or malfunctions may occur, or the unit may fail to comply with the required EMC guidelines and the conditions for CE-conformity will not be fulfilled.

Before connection of the unit and before putting it into operation, please ensure that the operating voltage and the conditions for the operating voltage required by the unit correspond to the conditions on site (cf. name plate and technical specifications). If required, take any appropriate measures.

Please make sure that the control and load voltage on site are switched off and secured against accidental reactivation during installation of the device. The electrical connections must be made on the basis of the connection diagram and the relevant national rules and regulations. The supply lines for the device must be laid such that they are free from any tensile loads and are not exposed to risks of shearing or crushing under any circumstances.

The mains connection and the connections for the loads must each be provided by suitable cables with a cross-section of a minimum of 1.5mm².

For sensor lines and signal lines, it is highly recommended to use shielded cables (especially if lines are long and/or running along potential sources of interference); for thermocouples, shielded compensation lines should be used likewise. Sensor lines and signal lines must be installed such that they are spatially separated from the load and control lines (high-voltage lines). If signs of incorrect switching behaviour are detected the circuit must be put out of service until remedial action. For intermediate clamping of compensation lines for thermocouples, no regular terminals may be used, since this would result in generation of additional thermocouples that may falsify the measuring results.

⚠️ Thermocouples that are connected to earth on one or both sides of the sensor lead cause a sensor breakage message and cannot be operated with this controller.

Connect the shield of the sensor lines and the signal lines with the signal ground as close to the unit as possible and lay a line with a diameter of minimum 1.5mm² from this point to the PE bus bar along the shortest possible route.

Any inductive loads activated by the unit, such as contactors, valves, motors, transformers, etc. must be wired separately and interferences must be prevented using device-specific suppression devices.

The load circuit must be protected against excess current by means of a suitable external fuse.

The present manual does not contain all notes for regulations, standards, etc. that must be observed and complied with during working with the unit in connection with systems and plants. Any such regulations, standards, etc. shall be complied with and observed by the operator of the unit with regard to specific requirements of the respective system or plant.

3   Start-up and adjustment of controller

The unit is delivered with a default setup. This Setup mostly will not fit to the application. The controller has to be set to the application-specific temperature limits and sensor type.

Power-on

⚠️ ***Carefully inspect the wiring and connections once again.***

Incorrect wiring or connection of the unit may cause severe damage of the unit and the plant. Please make sure that during initial switch-on of the unit the load voltage of the plant is switched off since the unit will not yet have been adjusted to the plant and may possibly trigger faults or malfunctions.

Now, switch on the operating voltage of the unit.

Setup

Enter the Setup menu and set the Values for lower / upper limit and range. Choose the desired temperature sensor. See also chapter 6 Set-up Menu on page 27

4   General information

The KM-RD5012x is a compact FAT Temperature Controller for wall-mounting. FAT stands for Fast-Adaptive-Tuning. A novel algorithm permanently adjusts the control parameters to the control process. The common adjustment of PID controllers or the execution of an auto tuning procedure is obsolete. The self-optimizing controller logic leads to an efficient adaption to any closed-loop controlled pass and quickly reaching adjustment between set-point temperature and actual (temperature) value.

All functions are shown inside the display and can be set via the buttons on the control panel.
The KM-RD5012x is equipped with a long-life Hybrid-Relay designed for low thermal losses inside the housing. An additional Safety-Relay underlines the high standard in terms of safety and efficiency of the KM-RD5012x.
A multi-coloured LED is signalling the different operating modes.
The electronics is protected against overcurrent and high thermal load.

5   Control Panel and Overview of Functions

Display
Up ▲ / Down ▼ Buttons
Status LED
Enter Button ↵
Back Button ⏎
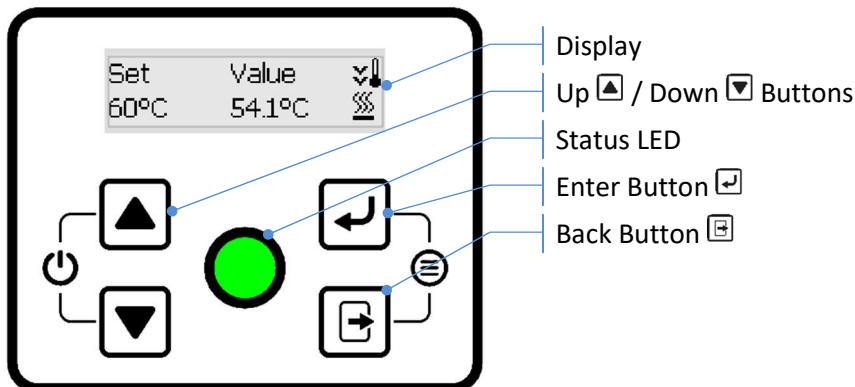
Overview of Functions

- Enter set up menu: simultaneous pressing Enter Button ↵ and Back Button ⏎
- Set-Point Temperature can be adjusted by pressing Up ▲ or Down ▼ Buttons to change value. Confirmation of entered set point temperature by pressing Enter Button ↵ or Cancel entry of new parameters by Back Button ⏎.
  Note! Set-Temperature can only be adjusted inside the set limits of temperature, which can be set-up inside the menu between 0°C and 999°C.
- Failure notes can be reset by pressing enter button ↵.
- On/ Off of controller: simultaneous pressing Up Button ▲ and Down Button ▼ for several seconds

5.1   Standard Display Information

- Set-point temperature: Temperature maintained by the controller
- Actual (temperature) value: Actual temperature measured by connected temperature sensor
- Thermometer Icon informs: Temperature above ⌃🌡 / beneath ⌄🌡 / in-between ✓🌡 range

  of tolerance at set-point temperature
- Heater-Icon ♨ visible: Heating on

5.2   Status Monitor (3-color-LED)

Starting procedure:

| Self-test, 1 sec | Done |

After connecting to power supply, the controller starts with a self-test: white LED on for 1 sec.
Self-test successfully completed and controller starts heating: green LED on for 0.3 sec.
If a failure would be detected a default signal will show up: see 5.3 Fault Detection.

Heat-up phase:

■   ■   ■   1 Hz

The heat-up phase continuous until the set-point temperature has been reached: blue LED on/off with a frequency of 1 Hz

Set-point temperature reached:

■

The Controller works at set-point temperature inside the tolerance-band set by the user: green LED permanent on

Temperature monitor:

The temperature is during operation permanently under control. The LED remains green at set-point temperature in-between the band of tolerance. Above and below this temperature range the LED starts to blink with a frequency of 1Hz. Blue signals too low and red too high temperatures.
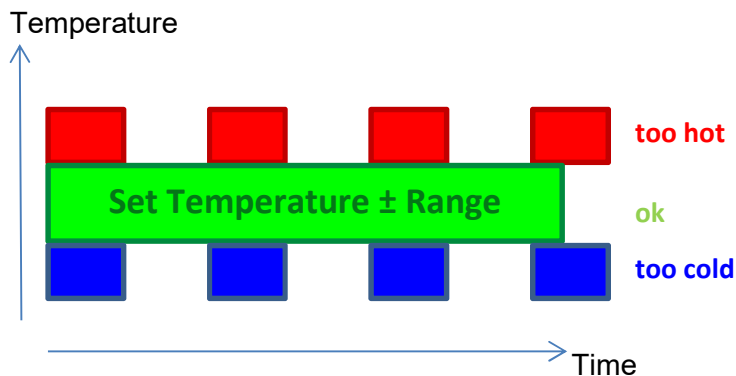
5.3   Fault Detection

From start and during operation the controller is permanently checking the following Failure:

1. PCB temperature
2. power supply
3. sensor break
4. failure of the switch.

Signal LED on failure

If any failure occurs the controller stops heating (stand-by) and the Signal LED starts fast blinking with a frequency of 4 Hz.

3. Device failure:
4. Sensor failure:

Display on failure

Additionally, the error is shown in the display. Failure notes can be reset by pressing enter button ⏎. If the failure note cannot be reset by this procedure, the occurring problem has to be solved and the controller reconnected to power supply to restart the controller.

6   Set-up Menu

Enter set-up menu by simultaneous pressing Enter Button ⏎ and Back Button ▣ .
All settings can be entered and adjusted inside the menu.
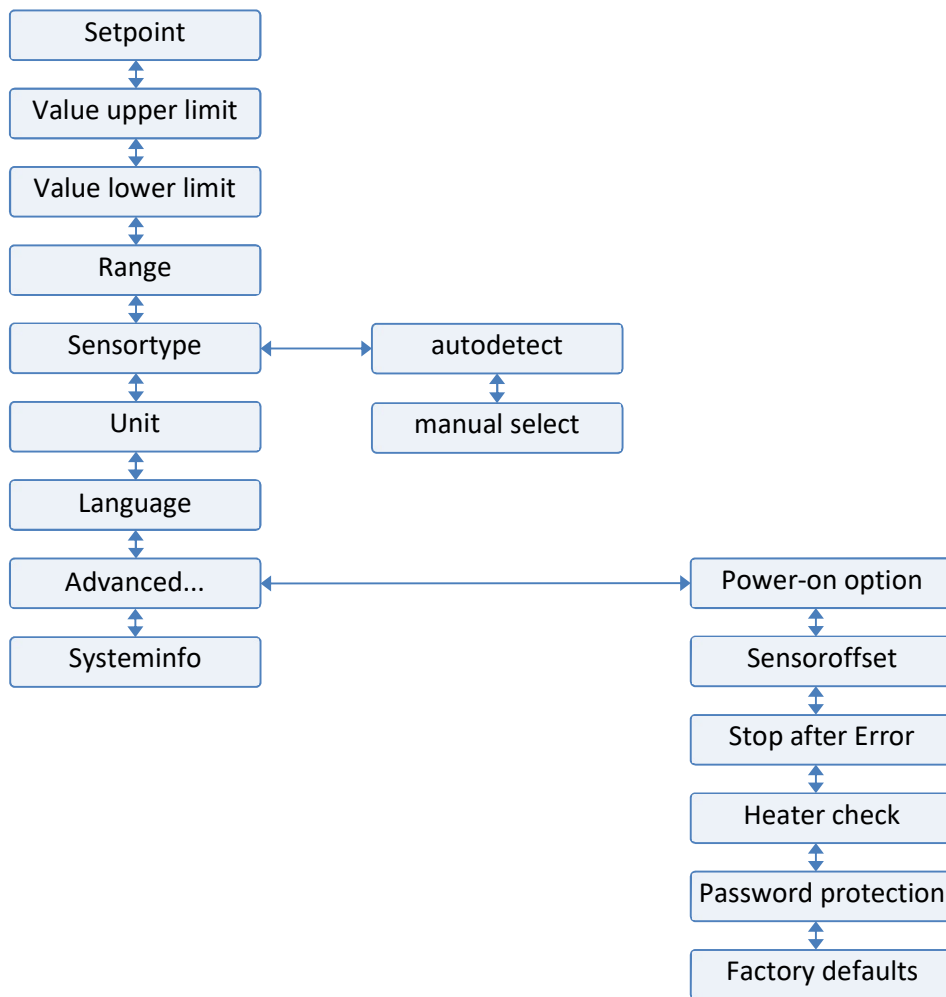
Display:

```
▲        Systeminfo
↵        Set Point
▼     Value upper Limit
```

Pressing Up ▲ or Down ▼ Buttons to navigate through the menu.
Choose any specific point inside the menu by pushing the Enter Button ⏎.
Exit or quit any specific point or entry inside the menu by pushing the Back Button ▣.

Structure of Menu:

```
                    ┌─────────────────┐
                    │    Setpoint     │
                    └─────────────────┘
                            ↕
                    ┌─────────────────┐
                    │ Value upper limit│
                    └─────────────────┘
                            ↕
                    ┌─────────────────┐
                    │ Value lower limit│
                    └─────────────────┘
                            ↕
                    ┌─────────────────┐
                    │     Range       │
                    └─────────────────┘
                            ↕
                    ┌─────────────────┐      ┌─────────────────┐
                    │   Sensortype    │←────→│   autodetect    │
                    └─────────────────┘      └─────────────────┘
                            ↕                        ↕
                    ┌─────────────────┐      ┌─────────────────┐
                    │      Unit       │      │  manual select  │
                    └─────────────────┘      └─────────────────┘
                            ↕
                    ┌─────────────────┐
                    │    Language     │
                    └─────────────────┘
                            ↕
                    ┌─────────────────┐      ┌─────────────────┐
                    │   Advanced...   │←────→│  Power-on option│
                    └─────────────────┘      └─────────────────┘
                            ↕                        ↕
                    ┌─────────────────┐      ┌─────────────────┐
                    │   Systeminfo    │      │   Sensoroffset  │
                    └─────────────────┘      └─────────────────┘
                                                     ↕
                                             ┌─────────────────┐
                                             │ Stop after Error│
                                             └─────────────────┘
                                                     ↕
                                             ┌─────────────────┐
                                             │  Heater check   │
                                             └─────────────────┘
                                                     ↕
                                             ┌─────────────────┐
                                             │Password protection│
                                             └─────────────────┘
                                                     ↕
                                             ┌─────────────────┐
                                             │ Factory defaults│
                                             └─────────────────┘
```

6.1 Adjustment of Set-Point

Set-Point Temperature entered to be achieved by the heating system. Value can be entered between upper and lower limits set by operator.

Set-Point Temperature can be adjusted by entering into the Set-Up Menu by simultaneous pressing Enter Button ⏎ and Back Button ▣ for several seconds.

Display:

Pressing Up ▲ or Down ▼ buttons to change value inside the tolerance-band set by user. Confirmation of chosen set point temperature by pressing Enter Button ⏎ or Cancel entry by Back Button ▣. By not confirmation the Set-Point stays unchanged.

Note! The Set Point-Temperature can only be adjusted inside the limits of temperatures, which can be set-up inside the menu between 0°C and 999°C. (see chapter 6.2)

6.2   Lower / Upper limits for set-point temperature

Limits for minimum and maximum temperature values of the set-point adjustment. Adjust these values according to the process environment. This avoids accidentally wrong setting of setpoint values according to used heater. Limits can be adjusted according to selected sensor type. Ranges see chapter 11 page 34, "Adjustment Range" (factory default: 200 °C)

6.3   Range

Current actual temperatures inside the Range are considered balanced to the set-point value, signaled by the green LED-light on and the symbol ✓↓ on the display. Range settings between ±0,5 °C and ±20 °C. Step width is 0.1 °C. The larger the value, the lesser switching cycles are needed. By this, the Temperature can be held closer to set point or to increase lifetime of the switch. (factory default: ±3 °C)

6.4   Type of Sensor

6.4.1   Auto detection

The auto detection recognizes the afterward following sensors:

- PT100 (2-, 3- or 4-wires)
- PT1000 (2-, 3- or 4-wires)
- Thermocouple (Type K)

The Auto detection can be started by pressing enter ⏎ inside the sensor menu.
The found sensor type has to be confirmed by pressing enter ⏎ again.

Back ▣ can stop the process of detection and parameters stay unchanged.

⚠️   ***All other types of sensors have to be chosen manually.***

6.4.2   Manual selection of sensor

List of all sensors (including auto detectible) will show up in menu. Please, select matching sensor type out of list and confirm by pressing enter ⏎.#

6.5   Units

Selection between metric units (degree Celcius) and imperial units (degree Fahrenheit)

6.6   Language

Languages available: German, English, Spanish, French and Japanese.
Hint: In every language the language menu and the languages are always labeled in English as well. This helps finding the language menu in every language.

6.7   Advanced

The following options are available on devices with firmware 1.11 or later:

6.8 Power-on option

(from firmware version 1.11) This defines the behavior of the controller after connecting to mains supply. Possible options are:

- Always power on (factory default): Controller starts up every time mains supply gets connected.
- Stay off: Controller stays off after mains supply gets connected. Controller must be switched on manually by pressing the keys ▲ and ▼ simultaneously.
- Last state: Controller changes to the last state before power loss.

6.9 Sensoroffset

(from firmware version 1.11) This option adds an additional offset to the current measured temperature. So, for example, wire resistance on Pt100 2 wire sensors can be compensated. (factory default: 0.0 °C)

6.10 Stop after Error

(from firmware version 1.11) If this option is set to "yes" (factory default), the controller remains stopped after each error and shows the error permanently. Heating is deactivated.

If this option is set to "no", the controller waits till the error condition is solved and automatically continues operation.

6.11 Heater check

(from firmware version 1.11) If this option is set to "yes" (factory default), the controller checks if there is a heater present at the heater connection. A minimum of 10W is required. If no check is desired, because there is a relay or SSR present instead of a heater, please select "no" Then no check is performed.

6.12 Password protection

(from firmware version 1.11) If this option is set to "yes", then a 4-digit Password is requested. Enter a 4-digit code. This code will always be requested again, if the user wants to enter the setup menu. Set Point Temperature still can be adjusted from normal mode of operation. (see chapter 6.1 on page 28). To prevent user also from setting a new set point, please set upper limit and lower limit to the same value as Set Point. (see 6.2 page 29) So the set point cannot be changed from normal mode anymore.

To enter the password, change the current digit with ▲ and ▼. Confirm with ↵. The cursor then switches to the next digit. If all digits are set, the password is completely displayed and must be confirmed again with ↵. Please remember the password well, or note it down on a secure place. The process can be cancelled anytime with ⊟. The previous settings remain active.

Should the password get lost, please contact our service at custumercare@kletti-gmbh.de Please note: For your own safety, the request for the factory-reset-p

assword will be recorded at our service. We will only provide the factory-reset-password after receiving your full name, email and phone number.

6.13 Factory defaults

(from firmware version 1.11)

⚠️ If "yes" is selected, and confirmed with ⏎, all settings get lost!

This can be used, to set the controller to factory defaults to begin with a fresh configuration

6.14 Systeminfo

Information about the product: firmware and hardware version

7   Controller On / Off

The controller switches automatically on with the power supply connected.
By simultaneously long pressing ▲ and ▼ the controller goes to standby or can be powered on again.

8 Troubleshooting

Error:	Actions:
Display stays off	• Check power supply • press ▲ and ▼ together for a few seconds to power on. • Disconnect and reconnect controller from mains supply. • Contact Service.
Message „sensor failure"	• Press ↵ and ⊞ together to enter menu and check sensor settings (correct sensor type selected?) • Check wiring for short circuit or wire breaks, check connection in Terminal / Plug • Check resistance value of Sensor. • Replace Sensor.
Message „controller overheated!"	• Press ↵ to acknowledge error or disconnect controller from mains supply and let cool down. Then reconnect. • Check correct connection in terminals for mains supply and heater connection. • Provide better air circulation. • Check current in Heater circuit.
Message „AC line error!"	• Disconnect and reconnect controller from mains supply. • Are stable 50Hz or 60Hz available? • Power off sources of noise on mains supply like big motors or power converters. • Install suitable noise suppression measures. • Used on mobile power generator? Check voltage and Frequency. Choose suitable supply. Test on local power grid. Message still appears? Contact service.
Message „system fault"	• Disconnect and reconnect controller from mains supply. • Message still appears? Contact service. • Message does not appear? Check all settings and readjust if necessary.
Message „heater/switch broken!"	• Check wiring of heater circuit • Check heater for short circuit or wire break. • Power of heater too low? Less than 10W? • Disconnect and reconnect controller from mains supply. • Disable option Advanced->Heater check • Message still appears? Contact Service.
Message „switch broken!"	• Malfunction of shutdown relay. • Disconnect and reconnect controller from mains supply. • Message still appears? Contact Service.
Password lost	• See chapter 6.12, page 30

Service mail: customercare@kletti-gmbh.de

9 Terminal connections

For this, the front panel must be unscrewed from the housing.


Protective Earth
Connection
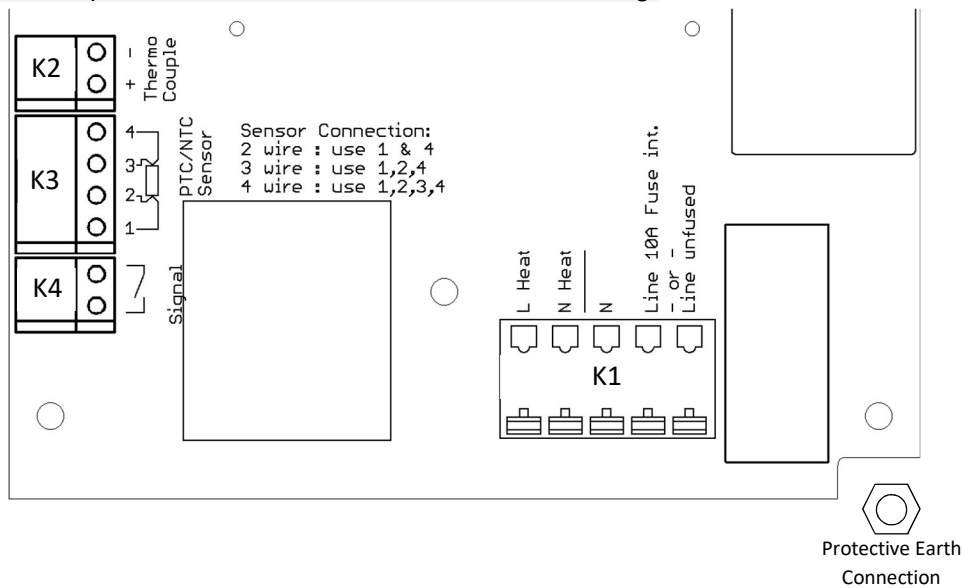
K4: Potential-free signal for external monitoring or control systems. The signal output should be connected as follows. The connection (NO contact potential-free) may be max. be connected with 45VDC and 50mA. The tap is to be inserted into the housing via the M12 cable gland and connected to the two signal terminals as per the picture. The connection (NO contact) is only activated when the setpoint and actual temperatures are the same or within the tolerances.

If an error occurs in this phase (such as sensor short-circuit, sensor break, under / overtemperature, output relay fault), the signal drops down.

10 Connector pin assignment
Binder Serie 643 4+PE
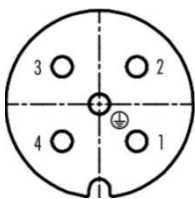
Pin	Function
1	L Heater
2	N Heater
3	Sensor Controller+
4	Sensor Controller -
PE	Earth connection

11 Technical Data

Housing:	Polycarbonate with non-detachable clear cover UL 94-V0
	Hinges for manual operation → No tools required!
	Dimensions: 151 x 125 x 90 mm
Mains supply:	90...250 VAC 50/60Hz
Load current:	max. 16 A (not fused)
Thermal protection:	cut off at +85°C PCB temperature (automatic reset)
Sensor inputs:	Pt100, Pt1000, Nickel 120 (2, 3 or 4-wire)
	NTC 10k, NTC 100k (2, 3 or 4-wire)
	Thermocouples K, J, E or N
	all inputs potential-free with sensor break detection
Adjustment range:	Pt100, Pt1000: -120...+850°C
	Ni120: -50…+250°C
	NTC: -20…+250°C
	Typ K: -200…+1350°C
	Typ J: -210…+1200°C
	Typ E: -200…+1000°C
	Typ N: -200…+1300°C
Controller type:	FAT (Fast-Adaptive-Tuning) control algorithm
Power switch:	Hybrid Relay (> 2.5 Mio. switching cycles specified) with safety-shutdown-relay (disconnects power from Heating on failure single-pole)
Display:	LCD graphic display
Operation:	via keypad and multilingual menu control.
	Optional: via IR-Control Unit 65502000 (distance up to 7m)
Languages:	English, German, Spanish, French, Japanese
Status indication:	3-colour LED for signaling of operation conditions
Signal output:	50 mA max. 45 V (potential-free) switch closed, if temperature is within range (Status LED green)
Ambient temperature:	0°C…+50°C
Relative humidity:	< 90% noncondensing
Safety class:	I
Degree of protection:	IP65 (cover closed and plug is plugin)
Weight:	0.50 kg (unit with cable glands) / 0.70 kg (unit with output socket)

12 Device versions

Typ KM-RD5012R   Item number: 65015012 = R

Mains connection via 1.5 m cable with Schuko* plug

(CEE7/7)

Heater connection via round socket 4+PE

Load current max. 16 A

Choice of resistance based sensors (R)

Typ KM-RD5012T   Item number: 65025012 = T

Mains connection via 1.5 m cable with Schuko* plug (CEE 7/7)

Heater connection via round socket 4+PE

Load current max. 16 A

thermocouples (T)

* "Schuko" = Continental two-pin earthed plug

Other heating connections can be provided on request via appropriate adapter cables

13 Repair and maintenance

Repairs may only be carried out at our factory!

If the controller shows any damage, please send the controller to us with an error description.

The device must only be checked by qualified personnel in accordance with the applicable regulations for creating and maintaining.

Test periods and test specifications according to DGUV regulation 3 must be observed.

If, during the visual inspection, it is found that the temperature controller is heavily soiled, it should be cleaned with a damp cloth when switched off. If necessary, a light commercially available dishwashing and cleaning agent should also be used.

14 Warrenty

We assume a warranty.

o For our articles for proper execution for a period of 12 months from the date of shipment, such that we are responsible for any parts whose premature failure is due to design, work or material defects, with free return of the defective pieces to Sandhausen Germany, free replacement deliver from Sandhausen Germany, unless otherwise agreed. We are not liable for damage caused by natural wear or improper handling.

o In our articles of any kind only as far as demonstrable material defects are present. A time-limited warranty is excluded, since the durability depends essentially on the care of the handling, i. of factors that elude our influence.
However, in none of these cases will any other compensation be granted as a free replacement of defective parts; as well as other claims for damages, compensation of any expenses for wages, freight and the like are expressly rejected.

15 Disassembly and disposal

The device may only be disassembled when switched off, disconnected from the mains and secured.

The packaging protects the temperature controller from damage during transit. The packaging material is selected and recyclable according to environmental and disposal considerations.

The return of the packaging to the material cycle reduces waste and saves raw materials. Dispose of the packaging material that is no longer needed at the collection points for the recycling system "Green Point" or other national recycling systems.

The temperature controller must be recycled in accordance with the electronic waste ordinance "WEEE".

16 shipment

Check the completeness and integrity of the delivery. Contact your supplier immediately should parts be missing or defective.
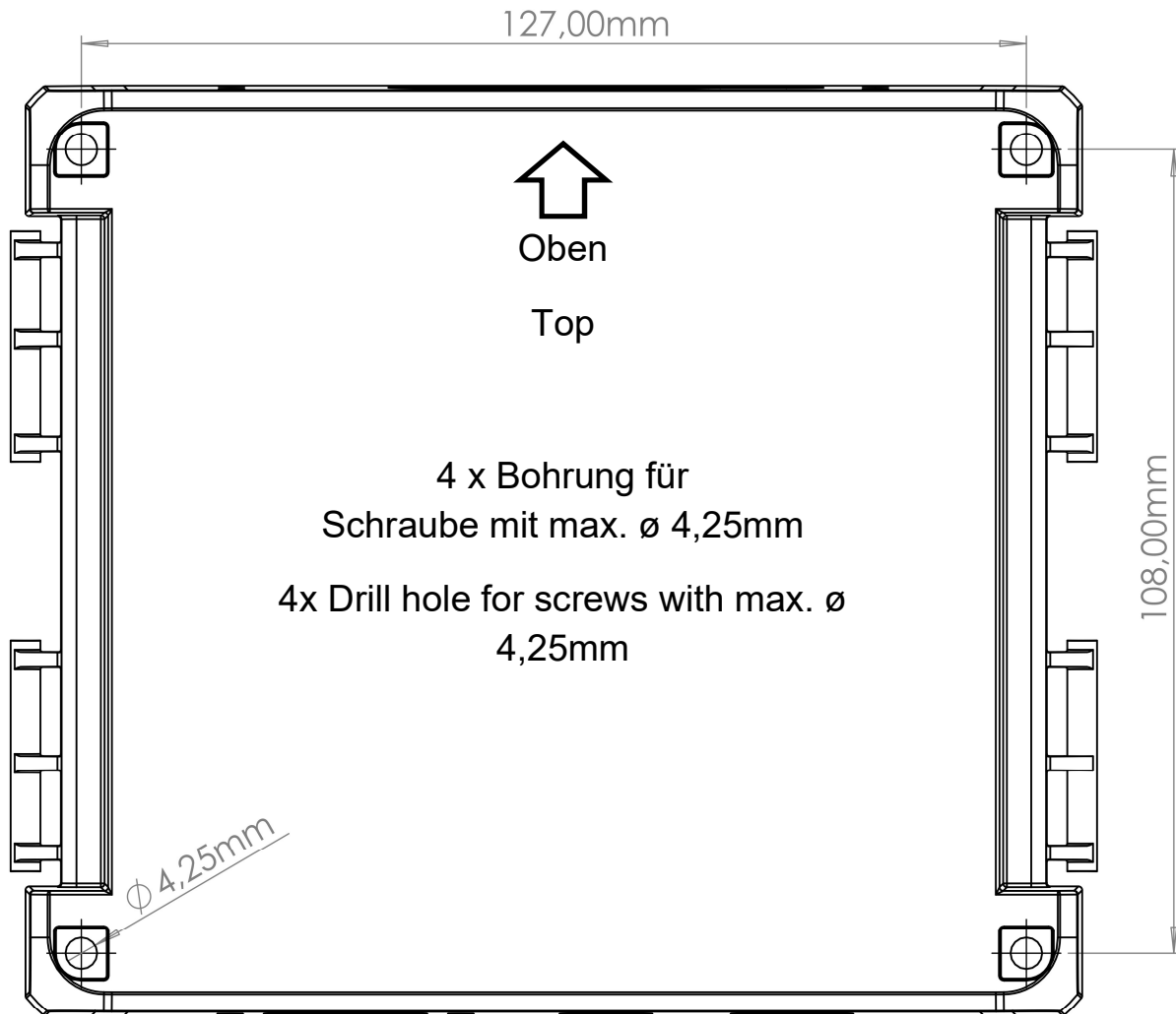
1x temperature controller KM-RD5012x

1x Operation Manual (german/english)
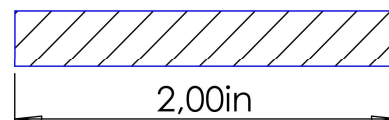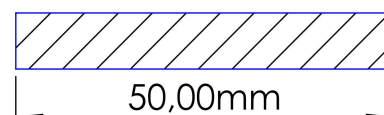
Bohrschablone, Drilling template

Hinweis: Um das Gerät herum einen Abstand von mindestens 50mm frei lassen, für einfache Deckelbetätigung und für Luftzirkulation. Nach dem Ausdrucken den Maßstab kontrollieren, für korrekte Bohrloch Positionen.

Important: Leave at least 50mm / 2in of free space around the controller for easy cover opening and air ventilation. Check the scale after printing for correct size, for correct drilling positions

127,00mm

Oben

Top

4 x Bohrung für
Schraube mit max. ø 4,25mm

4x Drill hole for screws with max. ø 4,25mm

108,00mm

ø 4,25mm

Kontrolle Druckmaßstab 1:1

Check printing scale 1:1

50,00mm

2,00in

Kletti GmbH - Gottlieb-Daimler-Str. 10 – 69207 Sandhausen

EU-Konformitätserklärung

Hiermit erklären wir, dass unsere nachstehend bezeichneten Produkte in ihrer Konzeption und Bauart sowie in der von uns in Verkehr gebrachten Ausführung den grundlegenden Sicherheits- und Gesundheitsanforderungen der EU-Richtlinie Niederspannung 2014/35/EU(2014) und der EU-Richlinie Elektromagnetische Verträglichkeit 2014/30/EU entsprechen. Bei einer mit uns nicht abgestimmten Änderung unserer Produkte verliert diese Erklärung ihre Gültigkeit.

Hersteller:

> Kletti GmbH
> Gottlieb-Daimler-Straße 10
> 69207 Sandhausen

Beschreibung der Produkte:

- Temperaturregler Typ KM-RD5002R/T, KM-RD5012R/T und KM-RD5202R/T zur Temperaturregelung von elektrischen Heizungen.

Es wird die Übereinstimmung mit folgenden Normen erklärt:

- EN 61000-6-4 (2011) Störaussendung
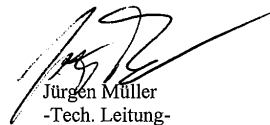- EN 61000-6-2 (2006) Störfestigkeit

Es wird die Übereinstimmung mit weiteren, ebenfalls für die vorgenannten Produkte geltenden Richtlinien des Europäischen Parlaments und des Rates erklärt:

- Richtlinie 2011/65/EU (2011) zur Beschränkung der Verwendung bestimmter gefährlicher Stoffe in Elektro- und Elektronikgeräten
- Richtlinie 2017/2102/EU zur Änderung der Richtlinie 2011/65/EU

Sandhausen, Mai 2019

Steffen Exner
-Geschäftsführer-

Jürgen Müller
-Tech. Leitung-

KLETTI Flexible elektrische Beheizungen

Hausanschrift		Geschäftsführer :	Bankverbindungen :
Gottlieb-Daimler-Str. 10	Amtsgericht Heidelberg	Bernd Kletti	H+G BANK Heidelberg Kurpfalz eG
D-69207 Sandhausen	HRB 701099	Christiane Kletti	
Telefon +49 (0)6224 / 76996-0	Finanzamt Heidelberg	Steffen Exner	BIC CODE GENO DE 61 HD 3
Telefax +49 (0)6224 / 76996-10	Steuer-Nr. 32495/15409		IBAN DE 72 6729 0100 0013 150400
www.kletti-gmbh.de	UST-ID DE250796062		
customercare@kletti-gmbh.de			

KLETTI FLEXIBLE ELEKTRISCHE BEHEIZUNGEN

KLETTI

Kletti GmbH - Gottlieb-Daimler-Str. 10 – 69207 Sandhausen

EU-Declaration of Conformity

Hereby we declare that the concept and construction of our products mentioned below as well as fulfillment of the essential safety and health demands conform to EU-Low Voltage Directive 2014/35/EU and Electromagnetic Compatibility Directive 2014/30/EU. In case of modification of our products without our authorization, this Declaration of Conformity loses its validity.

Manufacture:

Kletti GmbH
Gottlieb-Daimler-Straße 10
69207 Sandhausen

Description of the products:

- Temperature controller Typ KM-RD5002R/T, KM-RD5012R/T and KM-RD5202R/T for temperature control of electric heaters.

The agreement with the following standards is explained:

- EN 61000-6-4 (2011) Emission
- EN 61000-6-2 (2006) Immunity

It will match with others, also for the aforementioned
Products of the European Parliament and of the Council
explained:

- Directive 2011/65/EU (2011) Restricting the use of certain hazardous substances in electrical and electronic equipment
- Directive 2017/2102/EU (2017) amending Directive 2011/65/EU

Sandhausen, May 2019

Steffen Exner
-Managing Director-

Jürgen Müller
-Technical management-

KLETTI Flexible elektrische Beheizungen

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