



### Model Number

#### KT-LED-96-2R-24VDC

Temperature control unit with LED display and 24 V<sub>DC</sub> supply voltage

### Features

- Galvanic isolation
- Polarity reversal protected
- Protection degree IP65 (front only)

## Technical data

### General specifications

Data storage	10 <sup>6</sup> storage cycles or 10 years, EEPROM
Programming	keypad-driven menu

### Functional safety related parameters

MTTF <sub>d</sub>	350 a
Mission Time (T <sub>M</sub> )	10 a
Diagnostic Coverage (DC)	0 %

### Indicators/operating means

Type	5-digit 7-segment LED display, red
Display value	digit height 14.2 mm
Display interval	-19999 ... 99999 with suppression of leading zeros
Decimal point	0 to max 1 fractional digit
Reset	manually or external

### Electrical specifications

Fusing	250 mA/T
Operating voltage	U <sub>B</sub> 10 ... 30 V DC electrically isolated
Power consumption	P <sub>0</sub> max. 2 W

### Input 1

Input type	measurement for thermoelements B, E, J, K, N, R, S, T
Resolution	0.1 °C (0.1 °F)
Compensation (reference junction CJC)	internal or external (programmable)

### Input 2

Input type	Measurement input for resistance thermometer type Pt100, Pt1000
Resolution	0.1 °C (0.1 °F)
Connection	2-, 3- und 4-Leiter-Anschlussstechnik, programmierbar
Current	800 µA at Pt100 80 µA at Pt1000

### Input 3

Input type	Measurement input for resistance measurement
Resistor	0 ... 400 Ω 0 ... 4000 Ω
Resolution	14 Bit
Connection	2-, 3- und 4-Leiter-Anschlussstechnik, programmierbar
Current	800 µA at 400 Ω 80 µA at 4000 Ω

### Input 4

Input type	Millivolt measurement input with automatic zero adjustment
Voltage range	0 ... 100 mV DC -100 ... 100 mV DC
Resolution	14 Bit
Input resistance	≥ 2 MΩ
Measuring frequency	approx. 1 measurement per sec.

### Input 5

Input type	Digital inputs, Input MPI: Display hold or reset limit value latch Input KEY: Keyboard lock
Signal voltage	
High	4 ... 30 V DC
Low	0 ... 2 V DC
Minimum pulse duration	≥ 5 ms

### Output 1

Output type	2 limit value outputs, relay with floating changeover contact
Switching voltage	250 V AC / 300 V DC
Switching current	max. 3 A AC/DC min. 30 mA DC
Switch power	50 W / 2000 VA

### Output 2

Output type	Auxiliary power output for signal converter/measurement sensor, galvanically isolated
Output voltage	10 V DC ± 3 %, 30 mA,

### Ambient conditions

Ambient temperature	-20 ... 65 °C (253 ... 338 K)
Storage temperature	-40 ... 85 °C (233 ... 358 K)
Relative humidity	≤ 75 % (non-condensing)

### Mechanical specifications

Protection degree	IP65 (front)
Mass	approx. 212 g
Dimensions	96 mm x 48 mm x 90,7 mm

### Compliance with standards and directives

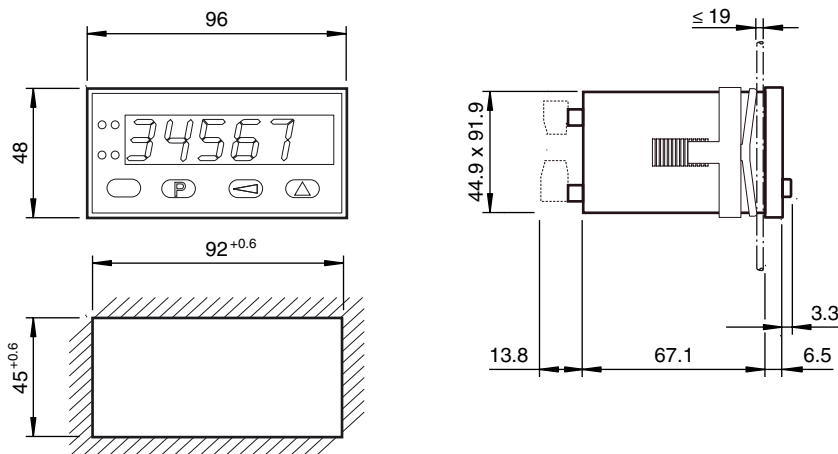
Directive conformity	
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EMC Directive 2004/108/EC	EN 61000-6-2:2005
Standard conformity	
Emitted interference	DIN EN 55011:2009, Class B

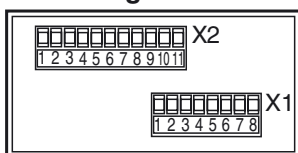
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Dimensions



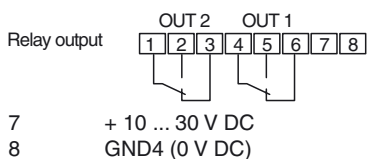
Electrical connection

Wire assignment



X1: Pin Function

Power supply and alarm outputs



X2: Pin Function

Thermocouples

- 1 Positive sensing arm
- 2 Negative sensing arm

Resistance thermometer

- 1 Pt100 or 0 ... 400  $\Omega$
- 2 Pt1000 or 0 ... 4000  $\Omega$

Voltage measurement

- 1 Voltage input (V)
- 2 GND 1 (analog)

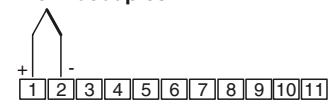
Control inputs and auxiliary power (Vout)

- 6 Keypad lock-out "Key"
- 7 GND2 Key/MPI
- 8 MP-input "Reset-alarm-latch/ Display-Hold"
- 9 GND3 (for Vout)
- 10 Vout + 10 V/30 mA
- 11 n.c.

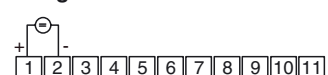
Electrical connection

Electrical connection X2

Thermocouples

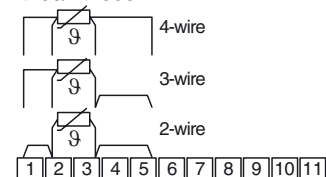


Voltage measurement



Resistance thermometer

Pt100/Pt1000



Control inputs and auxiliary power (Vout)



\* Alternatively connect directly to DC power supply (galvanic isolation of control and measurement inputs)

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