

## TEMPERATURE CONTROLLER



## HIGHLIGHTS:

- Installation depth only 63 mm
- Plug-in connection terminals
- Clear visualization of the switching state
- Multifunction input
- Presetting via configuration code

## KM 3 WITH ANALOG OUTPUT

## KM

Temperature controller

## General:

Self-optimizing, microprocessor controlled digital controller with 2-, 3- point or PID control mode, timer function, programmer function, 3-point step control mode with selectable set-point gradient (ramp function)

## Application:

- industrial burner
- thermal power station
- medical technology
- plastic injection moulding
- kitchen technology

## Specifications:

## Inputs:

<b>Semiconductor:</b>	PTC KTY 81-121: -50 ... +150 °C ±0.5 % of i.v.+ 1 digit
<b>Resistance thermometer:</b>	Pt100 / 3-wire: -200 ... +850 °C ±0.5 % of i.v.+ 1 digit Pt1000 / 2-wire: -200 ... +850 °C ±0.5 % of i.v.+ 1 digit
<b>Thermocouple:</b>	Type J: -50 ... +1000 °C ±0.5 % of i.v.+ 1 digit Type K: -50 ... +1370 °C ±0.5 % of i.v.+ 1 digit Type S: -50 ... +1760 °C ±1 % of i.v.+ 1 digit Type R: -50 ... +1760 °C ±0.5 % of i.v.+ 1 digit Type T: -70 ... +400 °C ±0.5 % of i.v.+ 1 digit 0 ... 50 mV, 0(12) ... 60 mV: -1999 ... +9999 ±0.5 % of i.v.+ 1 digit
<b>Standard signal:</b>	0(4) ... 20 mA: -1999 ... +9999 ±0.5 % of i.v.+ 1 digit 0(1) ... 5 V, 0(2) ... 10 V: -1999 ... +9999 ±0.5 % of i.v.+ 1 digit

## Outputs:

<b>Output OUT1:</b>	Relay: normally-open contact, 4 A / 2 A / 240 VAC Semiconductor relay connection: 12 VDC, 12 mA Analog output: (0/4 ... 20 mA, 0/2 ... 10 V) (only KM3)
<b>Output OUT2:</b>	Relay: normally-open contact, 4 A / 2 A / 240 VAC Semiconductor relay connection: 12 VDC, 12 mA
<b>Output OUT3:</b>	Relay: normally-open contact, 4 A / 2 A / 240 VAC Semiconductor relay connection: 12 VDC, 12 mA
<b>Output OUT4:</b>	Semiconductor relay connection: 12 VDC, 12 mA (programmable)

**Control mode:** 2-point (on / off), 3-point (neutral zone), PID, double PID

**Display:** two-rowed

**7-segment LED:** 4-digit, red / green / orange, 15.5 mm

**Additional display:** set value display, green, 7 mm

## Resolution:

<b>Temperature:</b>	1 °C or 0.1 °C in range -99.9 ... +999.9 °C
<b>Current / voltage:</b>	freely scalable, decimal point settable
<b>Temperature unit:</b>	°C, °F
<b>Supply:</b>	24 VAC / DC ±10 %, 50 / 60 Hz 100 ... 240 VAC ±10 %, 50 / 60 Hz

**Configuration interface:** TTL 5-pole

**Control input:** 1 or 2 potential-free inputs

**Transmitter supply:** 12 VDC / 20 mA

**COM interface:** serial RS 485 (ModBus)

## Housing:

**Protection class (Front):** IP65

**Connection:** screw terminals (fixed)

**Dimensions:** 48 x 48 x 63 mm (W x H x D)

**Scope of supply:** Device, manual

Modell: KM - # A B C D E F G H I

KM	ordering code:
#	<b>Design type</b>
1	Controller (+ timer)
3	Controller (+ timer + programming unit)
A	<b>Additional functions</b>
-	None
T	Timer function
P	Programmer + timer function (only KM3)
B	<b>Power supply</b>
H	100 ... 240 VAC (-15 ... +10 %)
L	24 VAC (-25 ... +12 %) or 24 VDC (-15 ... +25 %)
C	<b>Input</b>
C	TC, PT100, PT1000, mA, mV, V + digital input 1
D	<b>Output OP1</b>
R	Relay (1 SPST NO, 4 A/250 VAC)
O	VDC for SSR (12 VDC/20 mA)
I	Analog output (0/4 ... 20 mA, 0/2 ... 10 V) (only KM3)
E	<b>Output OP2</b>
-	Nonexistent
R	Relay (1 SPST NO, 2 A/250 VAC)
O	VDC for SSR (12 VDC/20 mA)
M	Relay (1 SPST NO, 2 A/250 VAC) (only KM3 servomotor) (note)
F	<b>Output OP3</b>
-	Nonexistent
R	Relay (1 SPST NO, 2 A/250 VAC)
O	VDC for SSR (12 VDC/20 mA)
M	Relay (1 SPST NO, 2 A/250 VAC) (only KM3 servomotor) (note)
G	<b>Output OP4</b>
D	I/O digital
H	<b>Serial communication</b>
-	TTL
S	RS485 Modbus
I	<b>Terminal type</b>
-	Standard (no extensible screw terminal block)
E	With extensible screw terminal block
N	With extensible terminal block (only fixed part)

## Standard design types (available ex stock):

## KM-1 HCRRRD--

Art.-Nr: 605743

KM 1 with 100 ... 240 VAC (power supply), TC, Pt100, Pt1000, mA, mV, V + digital input 1 (input), relay (1 SPST NO, 2 A/250 VAC) and I/O digital (outputs)

## KM-1 LCRRRD--

Art.-Nr: 605744

KM 1 with 24 VAC (-25 ... +12 %) or 24 VDC (-15 ... +25 %), TC, Pt100, Pt1000, mA, mV, V + digital input 1 (input), relay (1 SPST NO, 2 A/250 VAC) and I/O digital (outputs)

## KM-3 HCIR-D--

Art.-Nr: 605745

KM 3 with 100 ... 240 VAC (power supply), TC, Pt100, Pt1000, mA, mV, V + digital input 1 (input), analog output (0/4 ... 20 mA, 0/2 ... 10 V), relay (1 SPST NO, 2 A/250 VAC) (outputs)

other design types upon request